



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 11:43 AM GMT

PDB ID : 3PIO
Title : Crystal structure of the synergistic antibiotic pair lankamycin and lankacidin in complex with the large ribosomal subunit
Authors : Belousoff, M.J.; Shapira, T.; Bashan, A.; Zimmerman, E.; Arakawa, K.; Kinashi, H.; Rozenberg, H.; Yonath, A.
Deposited on : 2010-11-07
Resolution : 3.25 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

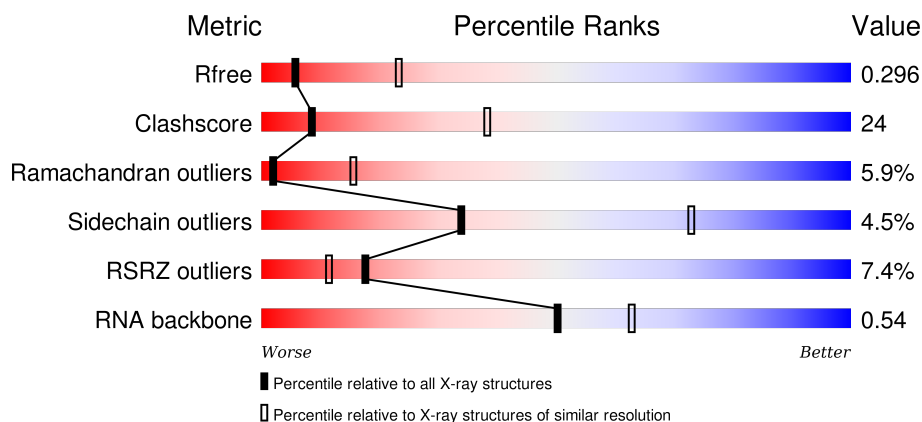
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.25 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	91344	1092 (3.28-3.20)
Clashscore	102246	1227 (3.28-3.20)
Ramachandran outliers	100387	1204 (3.28-3.20)
Sidechain outliers	100360	1203 (3.28-3.20)
RSRZ outliers	91569	1097 (3.28-3.20)
RNA backbone	2183	1001 (3.74-2.74)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	X	2880	
2	Y	123	
3	A	274	
4	B	211	

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Mol	Chain	Length	Quality of chain
5	C	205	
6	D	180	
7	E	185	
8	F	144	
9	G	174	
10	H	134	
11	I	156	
12	J	141	
13	K	116	
14	L	114	
15	M	166	
16	N	118	
17	O	100	
18	P	134	
19	Q	95	
20	R	115	
21	S	237	
22	T	91	
23	U	81	
24	V	67	
25	W	55	
26	Z	60	
27	1	55	
28	2	47	
29	3	66	

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Mol	Chain	Length	Quality of chain
30	4	37	<div> <div></div> <div>95%</div> <div>62%</div> <div>38%</div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	X	2885	-	-	-	X
32	MG	X	2886	-	-	-	X
32	MG	X	2888	-	-	-	X
32	MG	X	2890	-	-	-	X
32	MG	X	2894	-	-	-	X
32	MG	X	2896	-	-	-	X
32	MG	X	2897	-	-	-	X
32	MG	X	2898	-	-	-	X
32	MG	X	2901	-	-	-	X
32	MG	X	2904	-	-	-	X
32	MG	X	2911	-	-	-	X
32	MG	X	2914	-	-	-	X
32	MG	X	2915	-	-	-	X
32	MG	X	2920	-	-	-	X
32	MG	X	2933	-	-	-	X
32	MG	X	2941	-	-	-	X
32	MG	X	2943	-	-	-	X
32	MG	X	2944	-	-	-	X
32	MG	X	2957	-	-	-	X
32	MG	X	2960	-	-	-	X
32	MG	X	2961	-	-	-	X
32	MG	X	2964	-	-	-	X
32	MG	X	2965	-	-	-	X
32	MG	X	2967	-	-	-	X
32	MG	X	2973	-	-	-	X
32	MG	X	2974	-	-	-	X
32	MG	X	2978	-	-	-	X
32	MG	X	2979	-	-	-	X
32	MG	X	2982	-	-	-	X
32	MG	X	2995	-	-	-	X
32	MG	X	3002	-	-	-	X
32	MG	X	3004	-	-	-	X
32	MG	X	3011	-	-	-	X
32	MG	X	3016	-	-	-	X
32	MG	X	3020	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	X	3024	-	-	-	X
33	NA	X	3033	-	-	-	X
33	NA	X	3042	-	-	-	X
33	NA	X	3045	-	-	-	X
33	NA	X	3058	-	-	-	X
33	NA	Y	126	-	-	-	X
34	K	M	167	-	-	-	X
34	K	X	3070	-	-	-	X
34	K	X	3077	-	-	-	X

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 84383 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called RIBOSOMAL 23S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	X	2657	Total	C	N	O	P	0	0	0
			57035	25441	10530	18408	2656			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Y	120	Total	C	N	O	P	0	0	0
			2561	1143	471	827	120			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	253	Total	C	N	O	S	0	0	0
			1920	1196	382	340	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	194	Total	C	N	O	S	0	0	0
			1481	920	284	275	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 8 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	F	63	Total	C	N	O	S	0	0	0
			451	280	82	86	3			

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	I	134	Total	C	N	O	S	0	0	0
			1011	619	206	186				

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
15	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	P	126	Total	C	N	O	S	0	0	0
			1004	633	197	172	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	74	Total	C	N	O	S	0	0	0
			556	351	107	97	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	U	72	Total	C	N	O		0	0	0
			552	341	116	95				

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	65	Total	C	N	O	S	0	0	0
			525	322	106	95	2			

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	57	Total	C	N	O	S	0	0	0
			452	278	93	76	5			

- Molecule 27 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	53	Total	C	N	O	S	0	0	0
			431	274	80	76	1			

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	46	Total	C	N	O	S	0	0	0
			383	230	91	60	2			

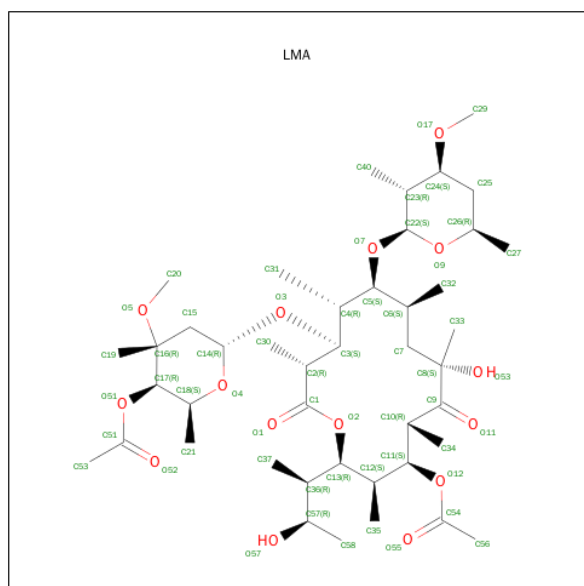
- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	59	Total	C	N	O	S	0	0	0
			462	290	95	73	4			

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	37	Total	C	N	O	S	0	0	0
			297	179	66	47	5			

- Molecule 31 is LANKAMYCIN (three-letter code: LMA) (formula: C₄₃H₇₄O₁₅).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
31	X	1	Total	C	O	0	0
			58	43	15		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	X	151	Total	Mg	0	0
			151	151		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	I	1	Total 1	Mg 1	0	0
32	C	1	Total 1	Mg 1	0	0
32	Y	1	Total 1	Mg 1	0	0

- Molecule 33 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	X	37	Total 37	Na 37	0	0
33	A	1	Total 1	Na 1	0	0
33	Z	1	Total 1	Na 1	0	0
33	Y	2	Total 2	Na 2	0	0
33	K	1	Total 1	Na 1	0	0

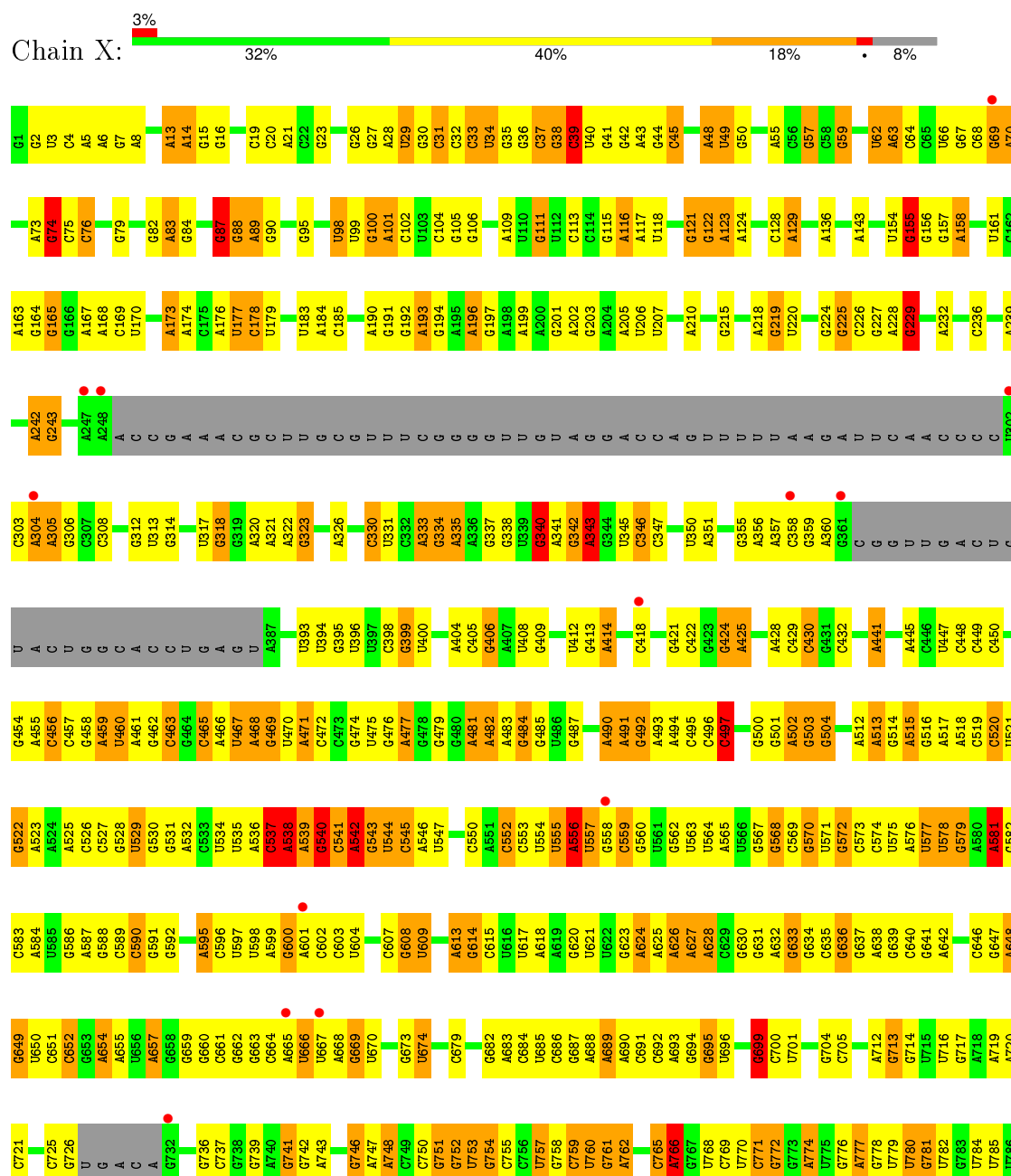
- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	X	14	Total 14	K 14	0	0
34	M	1	Total 1	K 1	0	0

3 Residue-property plots

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

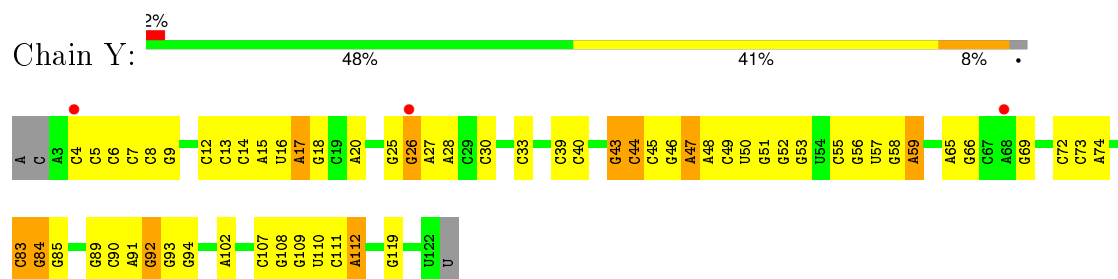
• Molecule 1: RIBOSOMAL 23S RNA



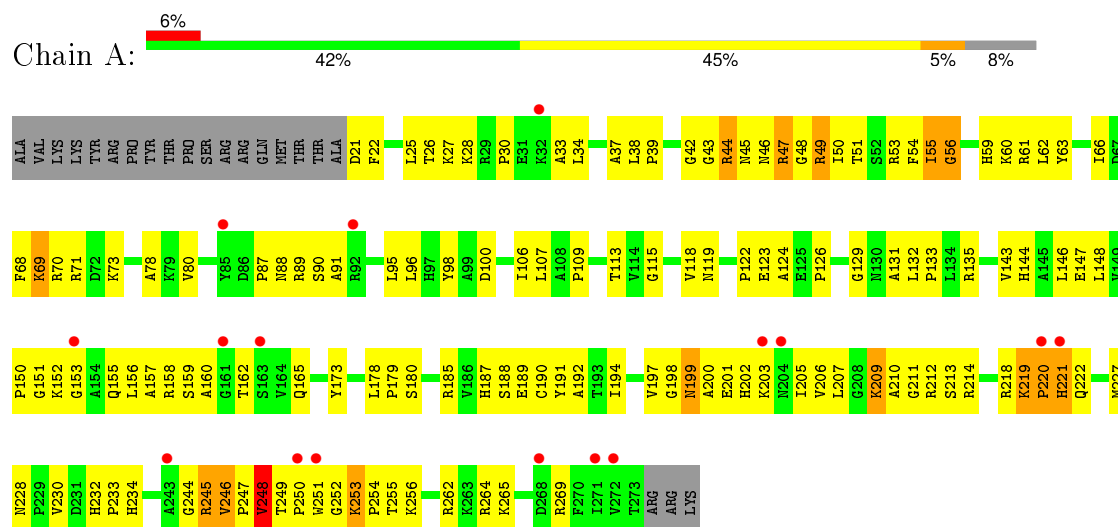
A1793	G1721	U1656	G1573	A1493	C1283	G1211	G1131	G1062	G989	A923	C853	A787
A1796	G1722	A1657	A1574	G1494	G1284	U1212	G1132	G1067	A994	C924	C854	G783
A1799	C1723	G1660	G1575	G1495	A1285	U1213	G1133	A994	A994	C925	C855	G789
A1800	C1725	G1661	G1576	G1496	U1286	C1214	G1134	A999	A999	C926	C856	G791
C1801	G1726	G1662	U1577	C1497	A1287	A1215	G1135	G1069	A999	C927	C857	G792
A1802	G1730	C1663	U1578	G1498	A1288	G1216	G1136	G1070	G1000	C928	C858	G793
A1803		G1664	G1579	A1499	A1289	U1217		U1071	A1001		C861	G794
U1733	U1733	C1665	G1584	U1505	A1290	C1218	U1141	U1072	C1002	G931	C867	A795
C1734	C1734	G1666	A1585	U1506	G1291	G1220	G1142	G1073	C1003	G932	C868	A796
A1737		A1667	G1586	C1506	A1292		G1143	G1074	A1004	G933	C869	A797
A1807	G1737	G1668	U1587	G1436	U1293	G1223	G1144	U1075	C1005	C934	C870	G798
A1808	G1741	C1669	C1593	A1437	G1294	A1224	G1145	U1076	C1006	C935	C871	G799
G1809	G1742	U1594	U1595	G1438	G1295	G1225	G1146	A1077	A936	C936	C872	U800
A1810	C1743	A1672	A1510	G1439	A1297	A1226	G1147	A1078	G1008	C937	C873	A801
A1811	G1744	A1673	A1511	G1440	G1298		G1148	G1079	C1009	G938	C874	A802
A1812	C1745	C1674	A1512	A1441	A1299	C1229	G1149	A1081	U1010	C939	C875	C803
A1813	G1746	C1675	U1513	C1442	A1300	C1230	U1151	G1082	A1011	C940	C876	C804
G1814	A1747	C1676	G1443	G1443	A1301		U1152	C1083	U1015	C941	C877	G805
G1815	G1747	C1677	C1444	C1444	U1302	C1234	A1153	C1084	C1016	C942	C878	A806
U1817	U1748	C1678	U1447	U1447	U1303	C1235	C1160	G1085	C1017	C943	C879	A807
A1821	U1751	U1680	G1610	G1450	C1304	A1242	C1164	C1086	C1018	C944	C882	C808
C1822	U1752	A1681	U1611		U1305		G1165	C1087	U1019	C945	C883	C809
C1825	A1753	A1682	U1612	A1453	U1306	G1245	G1166	C1088	A1020	C946		U810
G1826	G1754	G1683	G1613	C1454		G1246	A1167	C1089	A1021	C947		G811
G1827	C1756	A1685	C1615	U1455	G1307	G1249	G1168	C1090	A1022	C948		G812
G1830	C1757	A1686	C1616	U1456	U1308	A1250	G1169	U1093	U1023	C949		A813
C1830	C1758	C1687	A1619	U1457	C1310	G1251	U1170	C1094	A1025	C950		G814
G1831	G1761	U1688	G1622	U1458	C1311	G1252	U1171	C1095	A1026	C951		A815
G1834	C1762	U1689	C1623	U1459	G1312	C1253	U1172	C1096	C1027	C952		U816
C1835	A1763	G1691	A1624	C1461	G1313	C1254	U1173	A1097		C953		G817
C1836	G1764	C1692	A1625	C1462	G1314	A1255	G1174	C1098	C1031	C954		G818
G1837	G1765	A1693	A1626	A1463	A1315	A1256	G1175	C1099	A1032	C955		C819
G1838	U1766	A1694	C1627	A1464	G1316	C1257	U1176	A1099	G1033	C956		U820
A1839	G1767	U1695	C1628	G1465	G1317	U1257	A1179	C1100	U1034	C957		A821
A1840	U1768	C1696	G1629	C1466	U1321	G1258		G1104	G1035	C958		C822
A1841	U1769	U1697	A1630	U1467	G1322	A1259	U1182	U1105	U1036	C959		U823
G1842	U1770	C1698	C1631	U1468	U1323	G1260	C1183	A1106	G1037	C961		C824
G1849	A1771	A1699	A1632	G1470	C1324	A1261	G1184	U1107		C962		C825
G1850	C1772	C1701	C1633	C1471	U1325	G1264	C1184	U1108	G1042	C965		U826
A1851	C1773	C1702	A1634	C1472	U1326	C1265	C1185	A1109	A1043	A966		C827
G1852	A1774	C1703	G1635	U1473	G1327	G1266		U1114	C1044	C967		C830
C1853	A1775	C1704		U1474	C1328	A1267		C1115	U1045	C968		C831
G1854	A1776	G1704		U1475	U1329	U1268	A	U1046	U	C969		C832
G1855	U1779	U1710	G1642	G1476	U1330	U1269	A	G1047	U	A970		
G1856	A1780	C1711	G1643	U1477	G1331	G1270	G	U1048	A	A971		G836
G1857	A1782	G1712	U1644	U1478	U1332	C1271	G1191	C1049	C	C972		U837
G1864		G1713	G1645	G1480	G1333	G1272	G1192	U1119	G1050	U973		A838
G1865		A1714	U1481	U1481	U1334	C1273	G1193	C1120	U1051	U974		U839
G1867	U1787	A1715	A1667	U1482	A1335	G1274		G1121	C1052			U840
A1868	C1788	G1716	U1668	G1483	U1336	C1275	G1196	A1122	G1053	G977		C841
	U1789	A1717	A1669	U1484	U1337	A1276	G1200	G1123	C1054			A842
	G1790	A1718	C1652	U1490	G1338	U1277	G1201	U1124	A1055	C982		G843
	C1791	G1719	A1654	U1491	U1339	G1278	U1202	G1125	U1056	G983		G844
	C1792		C1655	A1492	C1340	G1279	U1203	A1057	A918	G984		
					U1341	A1278	A1203	G1126	U1058	G985		G849
					U1342	G1279	A1204	C1127	G1059	G986		C850
					C1343	A1280	G1205	G1128	A1060	G987		C851
					G1344	A1281		U1130	A1061	G988		U852

U2850	A2784	A2658	U2584	U2516	G2433	A2371	A2390	U2211	U	U2073	C2007	A1943	C1878
G2851	A2787	C2659	U2587	C2517	U2436	A2372	U2291	G2217	G	U2074	C2008	C1944	G1879
U2852	A2788	C2660	G2661	C2518	U2437	C2373	C2292	G2218	A	U2075	C2009	C1945	G1880
G2853	U2789	G2662	C2589	C2519	G2437	C2374	G2293	G2219	G	C2082	U2010	U1946	U1881
G2854	G2790	U2663	C2590	A2520	U2441	G2375	U2298	G2220	G	C2083	A2011	G1947	A1884
G2855	G2791	G2664	C2591	G2522	C2442	U2377	A2299	G2221	C	G2084	A2012	C1948	A1885
G2857	G2792	U2665	U2592	G2523	C2443	G2378	G2300	U2222	C	G2085	A2013	C1949	C1885
A2858	G2793	U2666	A2593	G2527	C2444	U2379	A2301	U2223	A	U2086	A2014	C1950	G1886
U2859	G2794	C2667	U2594	G2528	C2445	U2380	G2302	U2224	C	U	A2015	G1951	G1887
G2860	A2795	U2668	C2595	G2529	C2446	A2381	C2306	U2225	G	C	A2016	A1952	C1888
A2861	G2796	C2669	G2596	G2530	G2447	C2382	A2306	C2227	G	U	G2018	A1954	G
G2862	G2797	C2670	U2597	C2531	A2448	C2383	U2228	U2228	U	C	G2019	G1955	C
U2863	A2798	C2671	C2598	U2531	U2448	G2384	G2310	G2229	G	C	C2023	G1956	C
G2866	G2799	U2672	U2599	G2532	U2452	U2385	U2311	G2230	A	U	U2024	A1960	G
G2867	A2800	C2673	A2600	C2533	C2453	G2386	A2312	C2233	A	G	U2025	A1961	U
G2868	A2801	C2674	G2604	U2534	C2454	U2387	G2313	G2234	A	C	A2026	G1963	A
G2873	G2804	U2675	C2605	A2540	U2455	G2388	A2314	G2235	U	G	C2027	A1964	C
G2876	G2805	C2676	G2606	U2541	U2457	G2389	A2315	U2236	A	U	G2028	U1965	U
G2877	G2806	U2677	C2607	U2542	U2458	A2390	C2321	C2237	C	A	C2029	U1966	A
G2878	G2807	C2678	A2608	U2543	U2459	A2391	U2322	G2238	C	G	G2030	U1967	U
U2807	U2808	G2679	G2609	A2543	A2467	G2392	U2323	C2239	A	A	U2031	G1968	A
U2809	A2809	U2680	G2610	A2544	G2468	G2393	U2324	C2240	C	G	A2032	G1969	A
A2810	A2810	A2681	A2611	A2545	G2469	G2394	G2325	U2241	C	U	G2033	G1970	C
G2811	G2811	C2682	G2612	G2546	U2470	C2395	C2326	C2242	C	A	C2034	C1971	G
A2812	G2812	C2683	A2613	C2547	U2471	C2396	C2327	A2245	U	G	G2035	G1972	G
G2813	G2813	A2684	U2614	G2548	U2472	A2397	U2328	A2246	G	U	G2036	G1973	U
G2814	G2814	C2685	U2615	G2549	C2473	U2398	G2329	A2247	A	C	A2037	U1974	C
G2815	G2815	G2686	G2616	C2550	C2474	A2401	G2330	U2251	A	G	G2038	G1975	C
G2816	G2816	U2687	U2617	A2551	C2475	U2402	A2331	A2252	A	A	G2039	U1976	U1909
G2817	G2817	C2688	A2618	C2552	C2476	C2403	A2332	A2253	G	G	A2040	C1977	A1910
G2818	G2818	U2689	G2622	G2553	C2477	A2404	G2336	A2254	C	C	A2041	U1978	A1911
G2819	G2819	C2690	U2623	C2554	C2478	C2405	U2337	C2255	C	U	A2042	G1979	G1912
G2820	G2820	A2691	G2624	G2555	C2480	A2406	G2338	G2256	C	U	A2043	A1980	G1913
G2821	G2821	A2692	U2625	A2556	G2481	C2407	A2339	G2257	U	U	G2044	A1981	U1914
G2822	G2822	U2693	U2626	G2557	A2482	G2408	C2340	G2258	G	C	A2045	C1982	C1917
G2823	G2823	G2694	U2626	C2558	U2483	G2409	G2341	G2259	C	U	C2046	G1983	G1918
G2824	G2824	C2695	U2627	U2559	G2484	A2410	U2342	G2260	G	A	C2047	A1984	G1919
A2825	A2825	A2696	U2629	G2560	U2485	U2411	U2343	C2261	A	A	C2048	A1987	A1920
G2826	G2826	C2697	C2630	G2561	C2486	A2413	A2348	G2262	A	A	G2050	A1988	A1921
G2827	G2827	U2698	G2634	U2562	U2487	A2414	G2349	C2263	C	C	U2051	C1989	U1922
G2828	G2828	C2699	U2635	U2563	C2491	G2415	G2350	A2190	A	A	G2052	U1990	U1923
G2832	G2832	U2700	A2636	G2564	G2492	U2416	A2191	A2191	C	U	G2053	C1991	C1924
G2833	G2833	A2701	A2637	C2565	U2493	U2417	G2353	A2265	G	G	G2054	G1992	C1925
G2836	G2836	G2702	G2638	A2566	U2494	A2418	G2354	A2266	C	U	A2055	G1993	U1926
G2837	G2837	C2703	A2639	G2567	G2495	C2419	A2355	A2267	C	U	C2056	U1994	U1927
U2838	U2838	U2704	G2640	A2568	C2496	C2420	A2356	C2195	C	U	U2057	G1995	G1928
G2839	G2839	A2705	A2641	A2569	U2497	C2421	A2357	C2199	U	U	U2058	A1996	U1929
U2840	U2840	G2706	G2642	C2570	U2498	C2422	C2360	C2273	U	U	U2059	A1997	G1930
G2841	G2841	U2708	U2643	U2572	C2499	G2423	G2361	C2274	U	U	A2060	A1998	G1931
U2842	U2842	C2709	G2650	C2573	U2500	G2424	G2362	G2201	C	C	G2061	U1999	G1932
A2843	A2843	G2710	U2651	U2574	U2501	G2425	G2363	G2202	G	G	U2062	U2000	U1937
G2844	G2844	G2711	G2652	G2575	G2502	G2426	C2364	G2203	C	C	A2063	G2001	U1938
G2845	G2845	G2712	A2653	G2505	C2505	A2427	U2365	A2204	G	U	A2064	A2002	U1939
G2846	G2846	A2713	U2654	C2576	U2507	U2428	A2367	C2205	C	C	A2065	A2003	U1940
G2847	G2847	G2716	A2655	U2507	G2508	A2429	G2368	G2287	U	U	G2066	U2004	G1941
G2848	G2848	G2717	C2656	U2509	A2509	A2430	U2369	A2288	C	C	U2067	U2005	G1942
G2849	G2849	A2718	G2657	U2583	U2583	A2432	G2370	A2289	G	G		G2006	

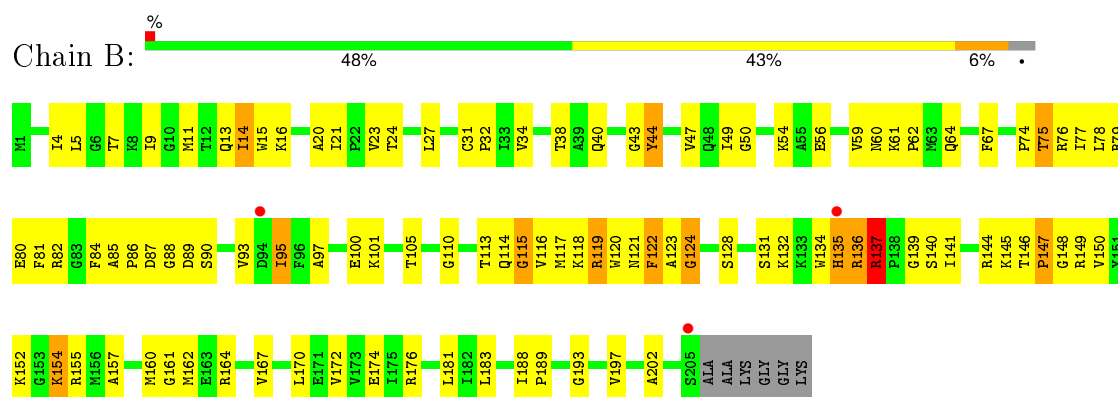
- Molecule 2: 5S ribosomal RNA



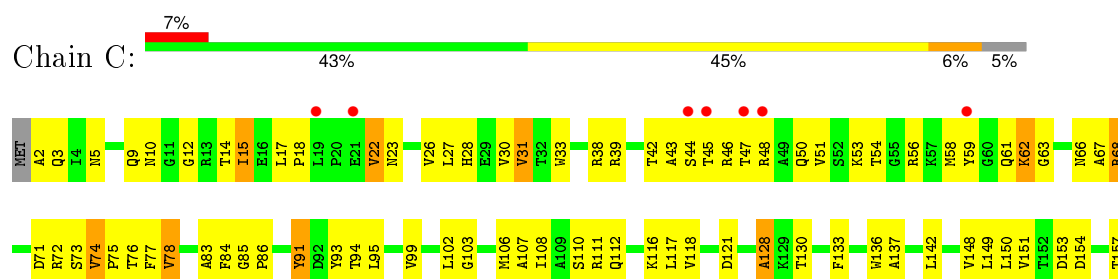
- Molecule 3: 50S ribosomal protein L2

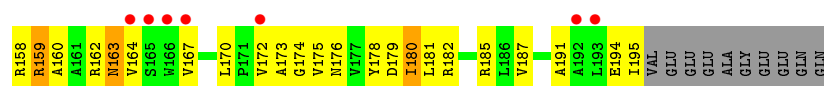


- Molecule 4: 50S ribosomal protein L3

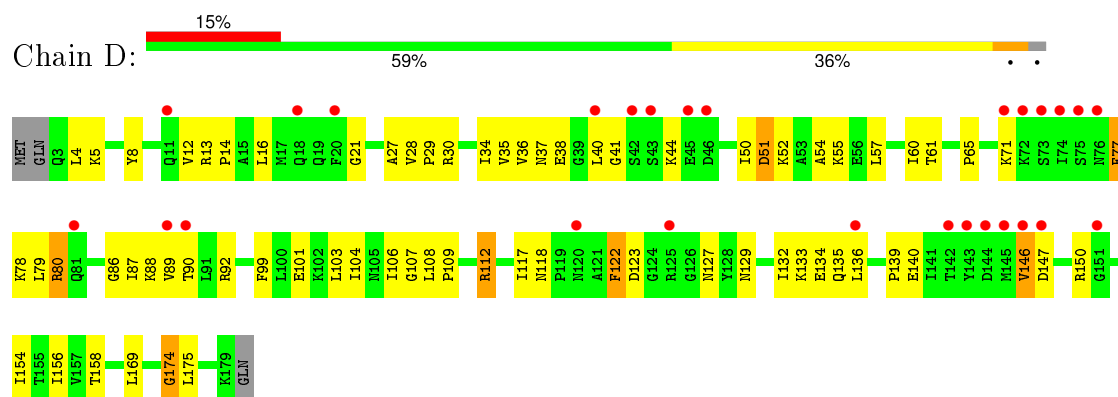


- Molecule 5: 50S ribosomal protein L4

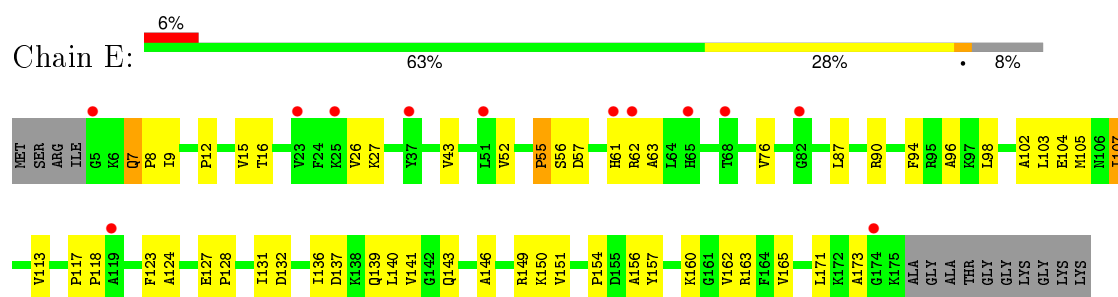




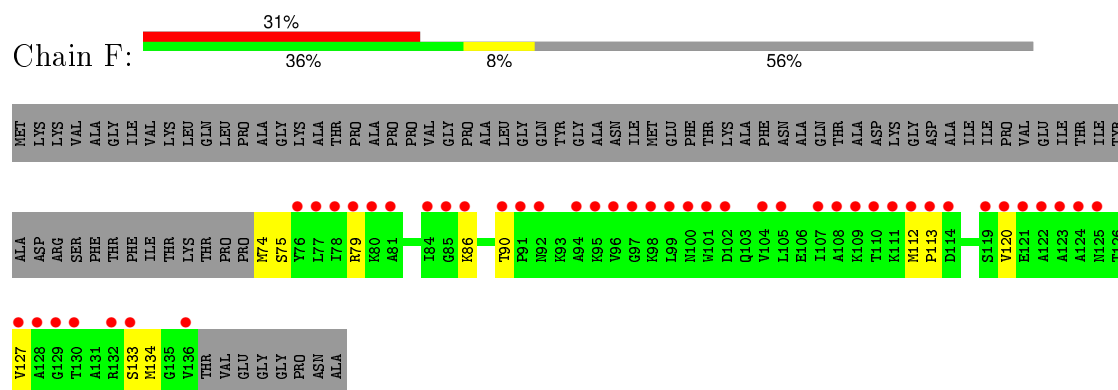
• Molecule 6: 50S ribosomal protein L5



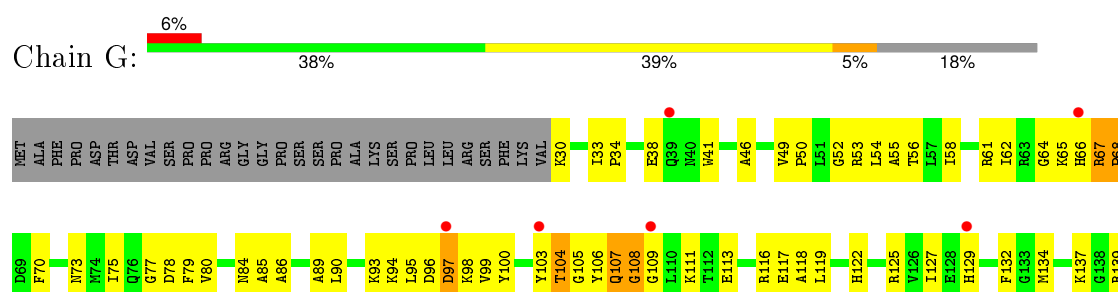
• Molecule 7: 50S ribosomal protein L6



• Molecule 8: 50S ribosomal protein L11

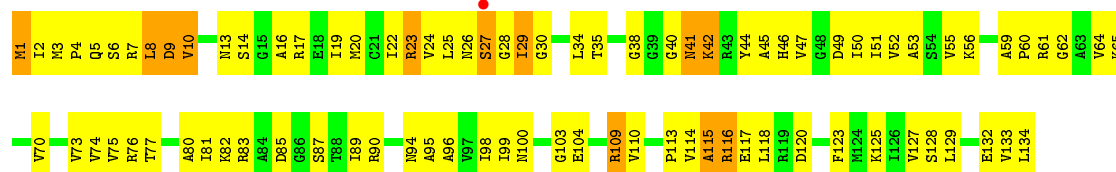


• Molecule 9: 50S ribosomal protein L13

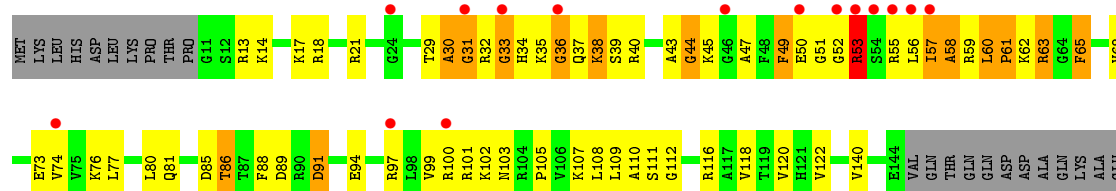




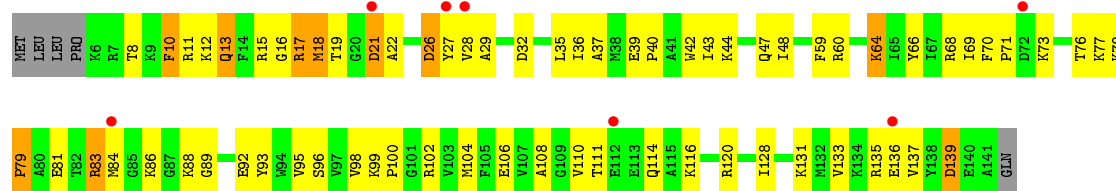
- Molecule 10: 50S ribosomal protein L14



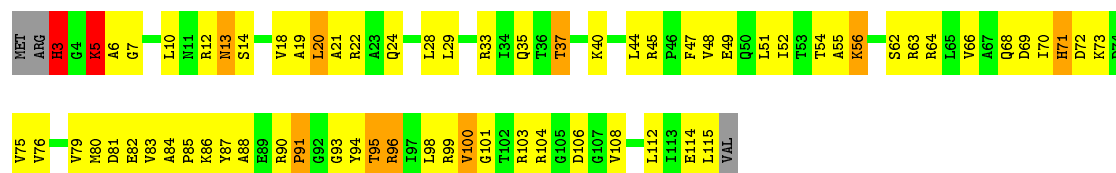
- Molecule 11: 50S ribosomal protein L15



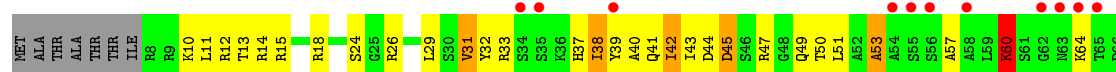
- Molecule 12: 50S ribosomal protein L16

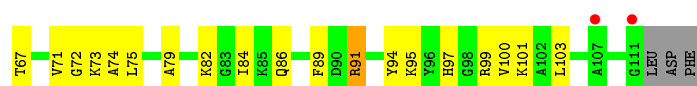


- Molecule 13: 50S ribosomal protein L17

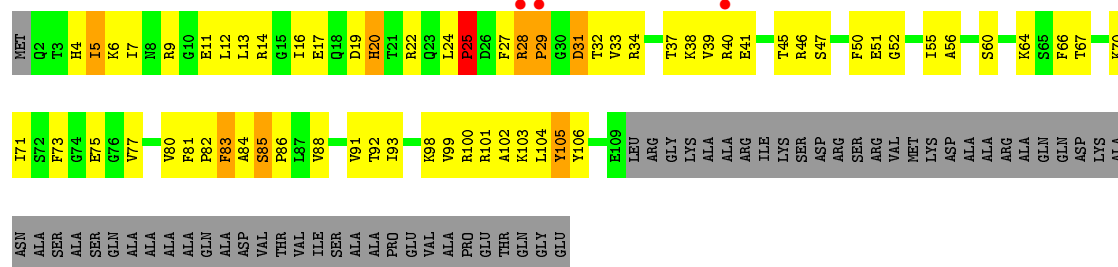
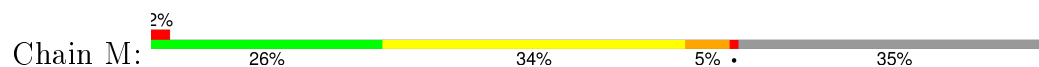


- Molecule 14: 50S ribosomal protein L18

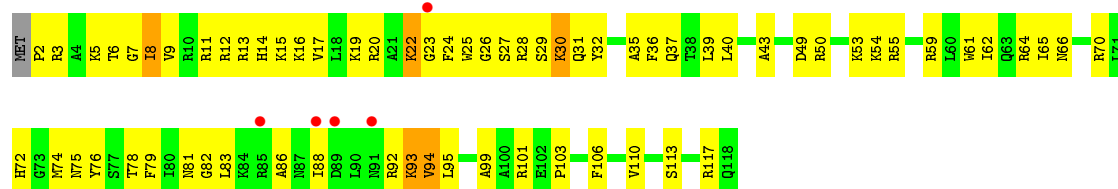




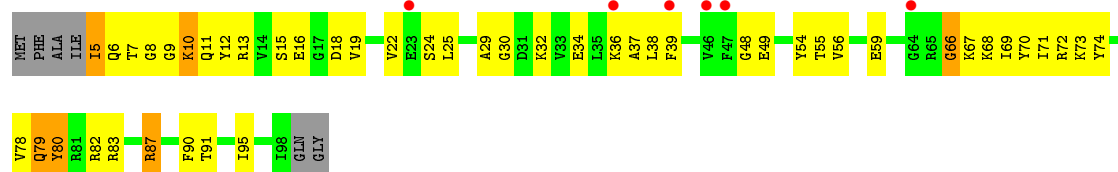
- Molecule 15: 50S ribosomal protein L19



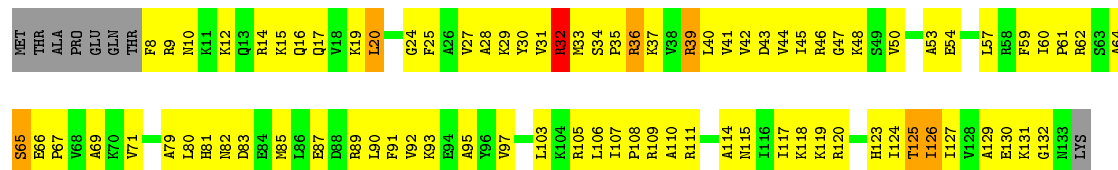
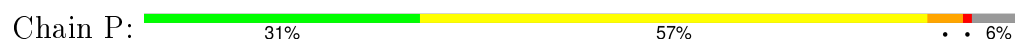
- Molecule 16: 50S ribosomal protein L20



- Molecule 17: 50S ribosomal protein L21

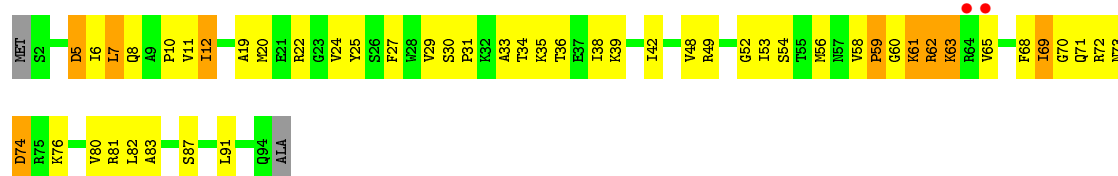


- Molecule 18: 50S ribosomal protein L22

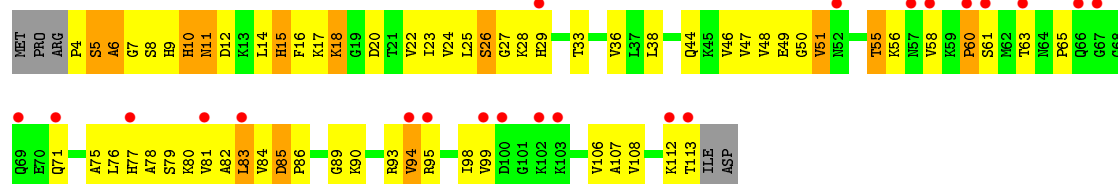


- Molecule 19: 50S ribosomal protein L23

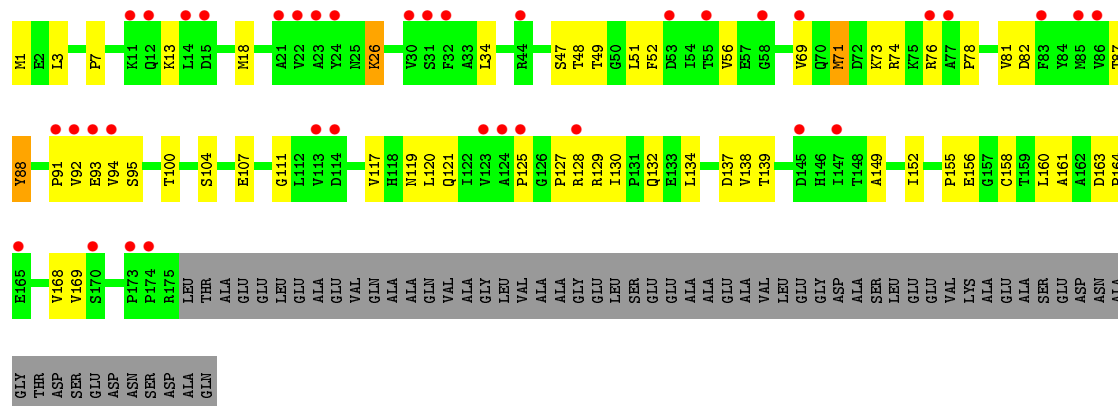




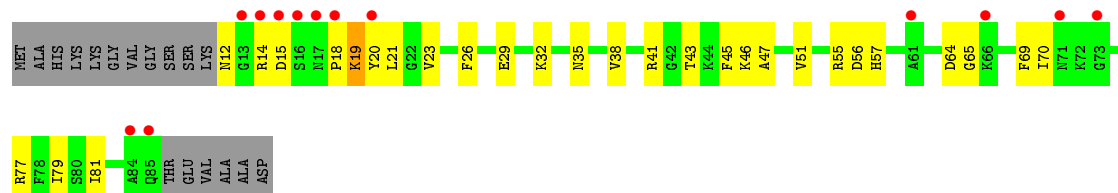
• Molecule 20: 50S ribosomal protein L24



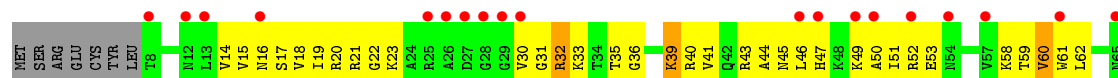
• Molecule 21: 50S ribosomal protein L25

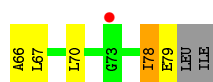


• Molecule 22: 50S ribosomal protein L27



• Molecule 23: 50S ribosomal protein L28





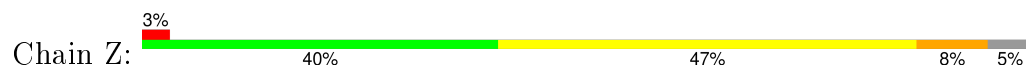
- Molecule 24: 50S ribosomal protein L29



- Molecule 25: 50S ribosomal protein L30



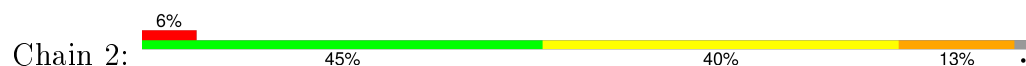
- Molecule 26: 50S ribosomal protein L32



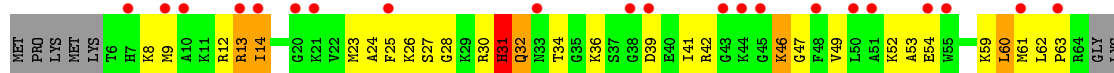
- Molecule 27: 50S ribosomal protein L33



- Molecule 28: 50S ribosomal protein L34



- Molecule 29: 50S ribosomal protein L35



- Molecule 30: 50S ribosomal protein L36



M1	R2	R3	R4	S5	S6	V7	R8	R9	M10	C11	D12	M13	C14	K15	V16	V17	R18	R19	R20	G21	R22	V23	L24	V25	I26	C27	S28	N29	V30	K31	H32	R33	Q34	R35	Q36	G37
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4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	170.59Å 410.20Å 695.08Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.25 34.75 – 3.25	Depositor EDS
% Data completeness (in resolution range)	93.3 (20.00-3.25) 93.3 (34.75-3.25)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.09 (at 3.25Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.6.4_486)	Depositor
R, R_{free}	0.252 , 0.294 0.257 , 0.296	Depositor DCC
R_{free} test set	3584 reflections (1.02%)	DCC
Wilson B-factor (Å ²)	73.8	Xtriage
Anisotropy	0.636	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.20 , 65.2	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	1 of 355752 reflections (0.000%)	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	84383	wwPDB-VP
Average B, all atoms (Å ²)	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.54% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	X	0.69	12/63867 (0.0%)	1.28	804/99618 (0.8%)
2	Y	0.46	0/2863	0.86	5/4461 (0.1%)
3	A	0.49	1/1958 (0.1%)	0.65	2/2638 (0.1%)
4	B	0.55	0/1567	0.79	0/2105
5	C	0.52	0/1504	0.67	0/2036
6	D	0.31	0/1419	0.45	0/1903
7	E	0.33	0/1308	0.48	0/1771
8	F	0.22	0/455	0.37	0/611
9	G	0.57	0/1138	0.70	0/1539
10	H	0.63	0/1007	0.84	0/1352
11	I	0.54	0/1022	0.64	0/1366
12	J	0.48	0/1113	0.63	0/1486
13	K	0.81	1/886 (0.1%)	1.06	6/1188 (0.5%)
14	L	0.40	0/785	0.56	0/1048
15	M	0.67	0/884	0.88	1/1186 (0.1%)
16	N	0.55	0/994	0.71	0/1323
17	O	0.44	0/750	0.62	0/1000
18	P	0.58	0/1017	0.79	1/1362 (0.1%)
19	Q	0.47	0/737	0.63	0/988
20	R	0.45	0/835	0.59	0/1121
21	S	0.33	0/1370	0.48	0/1862
22	T	0.43	0/563	0.56	0/747
23	U	0.40	0/556	0.58	0/741
24	V	0.31	0/529	0.47	0/704
25	W	0.39	0/426	0.65	0/568
26	Z	0.56	0/464	0.79	0/622
27	1	0.48	0/438	0.56	0/583
28	2	0.56	0/387	0.71	0/509
29	3	0.59	0/468	0.65	0/614
30	4	0.22	0/298	0.37	0/390
All	All	0.63	14/91608 (0.0%)	1.15	819/137442 (0.6%)

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1977	C	P-O5'	-7.09	1.52	1.59
1	X	774	A	N7-C5	7.06	1.43	1.39
1	X	1333	G	O3'-P	-6.43	1.53	1.61
1	X	1202	U	O3'-P	-6.42	1.53	1.61
1	X	774	A	N9-C8	6.38	1.42	1.37
1	X	1975	G	C6-N1	-6.25	1.35	1.39
1	X	1688	U	C2-N3	6.11	1.42	1.37
1	X	774	A	N3-C4	6.01	1.38	1.34
1	X	2857	C	N1-C6	-6.01	1.33	1.37
1	X	577	U	C4-O4	5.82	1.28	1.23
13	K	3	HIS	CA-C	5.60	1.67	1.52
1	X	2398	U	C2-N3	-5.53	1.33	1.37
3	A	248	VAL	CB-CG2	-5.21	1.42	1.52
1	X	1467	U	N1-C2	5.12	1.43	1.38

All (819) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1975	G	N1-C6-O6	-19.89	107.97	119.90
1	X	774	A	C5-N7-C8	-17.57	95.12	103.90
1	X	774	A	C4-C5-C6	-17.47	108.26	117.00
1	X	1670	G	C8-N9-C4	15.74	112.69	106.40
1	X	774	A	C4-C5-N7	14.89	118.15	110.70
1	X	1679	U	C5-C6-N1	-14.87	115.27	122.70
1	X	1683	G	N1-C6-O6	-14.47	111.22	119.90
1	X	1467	U	N3-C2-O2	-14.36	112.15	122.20
1	X	2480	C	N3-C2-O2	13.37	131.26	121.90
1	X	1305	C	C6-N1-C2	12.91	125.46	120.30
1	X	1683	G	C5-C6-O6	12.88	136.33	128.60
1	X	774	A	N1-C2-N3	-12.52	123.04	129.30
1	X	1670	G	N7-C8-N9	-12.50	106.85	113.10
1	X	2548	G	N1-C6-O6	-12.12	112.63	119.90
1	X	2480	C	N1-C2-O2	-11.88	111.77	118.90
1	X	774	A	N7-C8-N9	11.32	119.46	113.80
1	X	1266	G	C5-N7-C8	11.31	109.95	104.30
1	X	968	C	N1-C2-O2	11.09	125.56	118.90
1	X	989	G	C8-N9-C4	11.06	110.82	106.40
1	X	1663	C	N1-C2-O2	10.96	125.48	118.90
1	X	1975	G	C5-C6-N1	10.95	116.97	111.50
1	X	2703	C	C6-N1-C2	10.84	124.64	120.30
1	X	2634	G	C8-N9-C4	10.81	110.72	106.40
1	X	1975	G	C5-C6-O6	10.74	135.04	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1266	G	C4-C5-N7	-10.72	106.51	110.80
1	X	1982	C	C5-C6-N1	-10.67	115.67	121.00
1	X	2666	U	C5-C6-N1	-10.63	117.39	122.70
1	X	1674	C	C5-C6-N1	-10.58	115.71	121.00
1	X	1288	A	C5-C6-N1	-10.57	112.42	117.70
1	X	1467	U	N1-C2-O2	10.44	130.11	122.80
1	X	1288	A	C2-N3-C4	-10.44	105.38	110.60
1	X	527	C	N1-C2-O2	10.41	125.14	118.90
1	X	2805	G	N1-C6-O6	-10.28	113.73	119.90
1	X	1674	C	C6-N1-C2	10.24	124.40	120.30
1	X	1291	G	C8-N9-C4	10.18	110.47	106.40
1	X	559	C	C5-C6-N1	10.15	126.07	121.00
1	X	2590	U	C4-C5-C6	10.12	125.77	119.70
1	X	522	G	N1-C6-O6	10.07	125.94	119.90
1	X	2590	U	N1-C2-N3	9.93	120.86	114.90
1	X	577	U	N3-C4-C5	-9.82	108.71	114.60
1	X	2398	U	N3-C4-C5	9.73	120.44	114.60
1	X	774	A	C5-C6-N1	9.68	122.54	117.70
1	X	2590	U	N1-C2-O2	-9.54	116.12	122.80
1	X	1679	U	C2-N3-C4	-9.46	121.33	127.00
1	X	1266	G	N7-C8-N9	-9.40	108.40	113.10
1	X	1212	U	C5-C6-N1	-9.39	118.00	122.70
1	X	2618	A	N1-C2-N3	9.38	133.99	129.30
1	X	1981	A	N7-C8-N9	-9.28	109.16	113.80
1	X	1676	U	C5-C6-N1	-9.23	118.08	122.70
1	X	503	G	C8-N9-C4	9.13	110.05	106.40
1	X	1981	A	C5-N7-C8	9.13	108.46	103.90
1	X	2815	C	C6-N1-C2	9.12	123.95	120.30
1	X	789	G	N1-C6-O6	9.11	125.37	119.90
1	X	1309	G	C8-N9-C4	9.09	110.04	106.40
1	X	1211	G	C8-N9-C4	9.07	110.03	106.40
1	X	2815	C	C5-C6-N1	-9.07	116.46	121.00
1	X	796	A	N1-C6-N6	9.06	124.03	118.60
1	X	538	A	C2-N3-C4	8.99	115.09	110.60
1	X	2846	G	C8-N9-C4	8.97	109.99	106.40
1	X	1770	U	C5-C6-N1	-8.96	118.22	122.70
1	X	2665	G	N7-C8-N9	-8.95	108.63	113.10
1	X	2665	G	C8-N9-C4	8.89	109.96	106.40
1	X	2807	U	C5-C6-N1	-8.88	118.26	122.70
1	X	2553	G	C8-N9-C4	-8.88	102.85	106.40
1	X	774	A	N9-C4-C5	-8.85	102.26	105.80
1	X	2038	C	N1-C2-O2	8.83	124.20	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2548	G	C5-C6-O6	8.76	133.85	128.60
1	X	2705	A	C8-N9-C4	8.76	109.30	105.80
1	X	1702	C	C6-N1-C2	8.73	123.79	120.30
1	X	1660	G	N1-C6-O6	-8.71	114.68	119.90
1	X	559	C	C2-N3-C4	8.65	124.23	119.90
1	X	1743	C	C5-C6-N1	-8.65	116.68	121.00
1	X	1982	C	C4-C5-C6	8.63	121.72	117.40
1	X	1937	G	C8-N9-C4	8.62	109.85	106.40
3	A	248	VAL	CG1-CB-CG2	-8.59	97.16	110.90
1	X	989	G	N7-C8-N9	-8.57	108.82	113.10
1	X	2712	G	N1-C6-O6	-8.56	114.77	119.90
1	X	1279	G	N7-C8-N9	-8.53	108.83	113.10
1	X	1968	G	C8-N9-C4	8.48	109.79	106.40
1	X	2496	C	N3-C4-C5	8.46	125.28	121.90
1	X	1678	G	N1-C6-O6	-8.45	114.83	119.90
1	X	2597	G	C5-C6-O6	8.38	133.63	128.60
1	X	1662	G	N1-C6-O6	-8.37	114.88	119.90
1	X	1670	G	C5-N7-C8	8.30	108.45	104.30
1	X	2689	C	C6-N1-C2	8.23	123.59	120.30
1	X	1688	U	N3-C4-O4	8.14	125.10	119.40
1	X	1993	G	C2-N3-C4	-8.12	107.84	111.90
1	X	2792	C	C5-C6-N1	-8.08	116.96	121.00
1	X	1966	C	C5-C6-N1	-8.07	116.96	121.00
1	X	2033	C	N3-C2-O2	-8.07	116.25	121.90
1	X	1981	A	C8-N9-C4	8.05	109.02	105.80
1	X	1278	A	C8-N9-C4	-8.04	102.59	105.80
1	X	961	G	C5-C6-O6	8.03	133.42	128.60
1	X	1305	C	C5-C6-N1	-8.03	116.99	121.00
1	X	1653	C	C6-N1-C2	8.03	123.51	120.30
1	X	787	A	C2-N3-C4	-8.02	106.59	110.60
1	X	2713	A	C8-N9-C4	8.01	109.00	105.80
1	X	1978	U	N1-C2-O2	-8.01	117.19	122.80
1	X	1279	G	C5-N7-C8	7.99	108.30	104.30
1	X	538	A	C5-C6-N1	7.94	121.67	117.70
1	X	2809	A	C5-C6-N6	-7.94	117.35	123.70
1	X	1700	C	C6-N1-C2	7.92	123.47	120.30
1	X	1291	G	N7-C8-N9	-7.92	109.14	113.10
1	X	2478	C	C6-N1-C2	-7.92	117.13	120.30
1	X	741	G	N7-C8-N9	-7.91	109.15	113.10
1	X	1702	C	C5-C6-N1	-7.86	117.07	121.00
1	X	559	C	C6-N1-C2	-7.83	117.17	120.30
1	X	1680	U	C5-C6-N1	-7.83	118.78	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	689	A	C5-N7-C8	-7.83	99.99	103.90
1	X	2681	A	N1-C6-N6	7.82	123.29	118.60
1	X	741	G	C8-N9-C4	7.80	109.52	106.40
1	X	1984	A	N1-C6-N6	-7.79	113.93	118.60
1	X	2665	G	C5-N7-C8	7.78	108.19	104.30
1	X	1679	U	C6-N1-C2	7.76	125.66	121.00
1	X	1991	C	C5-C6-N1	-7.76	117.12	121.00
1	X	1984	A	N1-C2-N3	7.76	133.18	129.30
1	X	1975	G	C6-N1-C2	-7.69	120.49	125.10
1	X	2703	C	C5-C6-N1	-7.68	117.16	121.00
1	X	2590	U	C5-C6-N1	-7.67	118.86	122.70
1	X	1655	C	C5-C6-N1	-7.67	117.17	121.00
1	X	2855	C	N3-C2-O2	7.67	127.27	121.90
1	X	968	C	C2-N1-C1'	7.63	127.19	118.80
1	X	2655	C	C6-N1-C2	7.63	123.35	120.30
1	X	2247	A	N1-C6-N6	7.61	123.17	118.60
1	X	520	C	N1-C2-O2	-7.58	114.35	118.90
1	X	1642	G	C2-N3-C4	-7.57	108.11	111.90
1	X	1278	A	N7-C8-N9	7.55	117.57	113.80
1	X	1980	A	C5-N7-C8	7.54	107.67	103.90
1	X	1212	U	C5-C4-O4	7.53	130.42	125.90
1	X	2493	U	C5-C6-N1	-7.53	118.93	122.70
1	X	2023	C	C6-N1-C2	7.51	123.31	120.30
1	X	1982	C	C2-N3-C4	-7.50	116.15	119.90
1	X	1211	G	N9-C4-C5	-7.48	102.41	105.40
1	X	2701	A	N1-C2-N3	7.46	133.03	129.30
1	X	1304	U	C5-C6-N1	-7.46	118.97	122.70
1	X	1995	G	C8-N9-C4	7.46	109.38	106.40
1	X	2705	A	N9-C4-C5	-7.45	102.82	105.80
1	X	542	A	N1-C6-N6	7.44	123.07	118.60
1	X	1305	C	N3-C2-O2	7.42	127.09	121.90
1	X	2430	A	N1-C6-N6	-7.41	114.16	118.60
1	X	968	C	C6-N1-C1'	-7.40	111.92	120.80
1	X	1674	C	N3-C4-C5	7.37	124.85	121.90
1	X	1270	C	N3-C4-C5	-7.35	118.96	121.90
1	X	1674	C	C2-N3-C4	-7.34	116.23	119.90
1	X	1700	C	C5-C6-N1	-7.34	117.33	121.00
1	X	1993	G	N1-C6-O6	7.33	124.30	119.90
1	X	825	C	C6-N1-C2	7.32	123.23	120.30
1	X	1674	C	N3-C4-N4	-7.32	112.88	118.00
18	P	32	ARG	NE-CZ-NH1	7.30	123.95	120.30
1	X	1211	G	N3-C2-N2	7.30	125.01	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2805	G	C5-C6-O6	7.28	132.97	128.60
1	X	538	A	N1-C2-N3	-7.28	125.66	129.30
1	X	1683	G	C6-C5-N7	7.27	134.76	130.40
1	X	1275	A	N1-C6-N6	7.27	122.96	118.60
1	X	2766	U	C5-C6-N1	-7.26	119.07	122.70
1	X	1928	G	N1-C6-O6	-7.26	115.55	119.90
1	X	1622	G	N1-C6-O6	-7.25	115.55	119.90
1	X	787	A	C5-C6-N1	-7.25	114.08	117.70
1	X	1748	U	N3-C2-O2	7.24	127.27	122.20
1	X	1142	G	N3-C2-N2	7.23	124.96	119.90
1	X	1467	U	C4-C5-C6	7.22	124.03	119.70
1	X	1743	C	C6-N1-C2	7.22	123.19	120.30
1	X	1775	A	C8-N9-C4	7.22	108.69	105.80
1	X	527	C	C6-N1-C2	-7.21	117.42	120.30
1	X	2748	C	C6-N1-C2	7.20	123.18	120.30
1	X	1989	C	N3-C2-O2	7.17	126.92	121.90
1	X	542	A	N7-C8-N9	7.16	117.38	113.80
1	X	2671	C	C6-N1-C2	-7.14	117.44	120.30
1	X	1937	G	N7-C8-N9	-7.14	109.53	113.10
1	X	2717	G	C5-C6-N1	7.13	115.07	111.50
1	X	966	A	N1-C6-N6	7.13	122.88	118.60
1	X	1341	G	C8-N9-C4	7.12	109.25	106.40
1	X	2398	U	N3-C4-O4	-7.12	114.42	119.40
1	X	1278	A	N1-C6-N6	7.10	122.86	118.60
1	X	2611	A	C8-N9-C4	7.10	108.64	105.80
1	X	961	G	N1-C6-O6	-7.10	115.64	119.90
1	X	2040	A	C8-N9-C4	7.10	108.64	105.80
1	X	825	C	N1-C2-O2	-7.10	114.64	118.90
1	X	1305	C	N1-C2-O2	-7.08	114.65	118.90
1	X	2809	A	C5-C6-N1	7.06	121.23	117.70
1	X	1279	G	C8-N9-C4	7.06	109.22	106.40
1	X	2820	C	N3-C4-N4	-7.06	113.06	118.00
1	X	1245	G	N1-C6-O6	-7.05	115.67	119.90
1	X	545	C	C5-C6-N1	-7.04	117.48	121.00
1	X	2423	G	N1-C6-O6	-7.03	115.68	119.90
1	X	2765	C	C5-C6-N1	-7.03	117.48	121.00
1	X	1972	G	C8-N9-C4	-7.03	103.59	106.40
1	X	1289	A	N9-C4-C5	-7.02	102.99	105.80
1	X	1471	G	C5-C6-N1	7.01	115.01	111.50
1	X	2569	A	C8-N9-C4	7.01	108.60	105.80
1	X	1321	A	C8-N9-C4	7.01	108.60	105.80
1	X	883	A	C8-N9-C4	7.00	108.60	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1286	U	N1-C2-O2	-7.00	117.90	122.80
1	X	1679	U	C4-C5-C6	7.00	123.90	119.70
1	X	1663	C	N1-C2-N3	-6.99	114.31	119.20
1	X	789	G	C5-C6-O6	-6.99	124.41	128.60
1	X	799	C	C6-N1-C2	6.98	123.09	120.30
1	X	1989	C	C4-C5-C6	-6.97	113.91	117.40
1	X	2702	G	N1-C6-O6	-6.96	115.72	119.90
1	X	2551	A	C8-N9-C4	6.95	108.58	105.80
13	K	99	ARG	NE-CZ-NH1	6.94	123.77	120.30
1	X	2741	G	C8-N9-C4	6.92	109.17	106.40
1	X	2793	G	C8-N9-C4	6.91	109.16	106.40
1	X	527	C	N3-C2-O2	-6.91	117.06	121.90
1	X	1720	G	C8-N9-C4	6.91	109.16	106.40
1	X	1766	U	C5-C6-N1	-6.90	119.25	122.70
1	X	2600	A	N1-C6-N6	-6.90	114.46	118.60
1	X	2520	A	N1-C6-N6	-6.89	114.47	118.60
1	X	741	G	C5-N7-C8	6.88	107.74	104.30
1	X	2634	G	N7-C8-N9	-6.88	109.66	113.10
1	X	746	G	N1-C6-O6	-6.87	115.78	119.90
1	X	757	U	C5-C6-N1	-6.87	119.26	122.70
1	X	2807	U	C6-N1-C2	6.87	125.12	121.00
1	X	840	U	C5-C6-N1	-6.87	119.27	122.70
1	X	1633	C	C6-N1-C2	6.87	123.05	120.30
1	X	802	A	N1-C6-N6	6.86	122.72	118.60
1	X	1682	A	C2-N3-C4	6.86	114.03	110.60
1	X	542	A	C5-N7-C8	-6.86	100.47	103.90
1	X	1324	G	N1-C6-O6	6.85	124.01	119.90
1	X	545	C	C6-N1-C2	6.85	123.04	120.30
1	X	1670	G	N3-C4-C5	6.85	132.02	128.60
1	X	2559	U	N3-C4-O4	6.84	124.19	119.40
1	X	1773	C	N1-C2-O2	6.83	123.00	118.90
1	X	1471	G	N3-C4-N9	6.83	130.10	126.00
1	X	841	G	C4-C5-N7	6.82	113.53	110.80
1	X	841	G	C5-N7-C8	-6.79	100.90	104.30
1	X	1676	U	C6-N1-C2	6.77	125.06	121.00
1	X	1920	A	C8-N9-C4	6.76	108.50	105.80
1	X	1655	C	C6-N1-C2	6.76	123.00	120.30
1	X	2655	C	C5-C6-N1	-6.75	117.63	121.00
1	X	527	C	C5-C6-N1	6.73	124.36	121.00
1	X	2467	A	N1-C6-N6	-6.73	114.56	118.60
1	X	1920	A	N7-C8-N9	-6.73	110.44	113.80
1	X	2852	G	C8-N9-C4	6.71	109.08	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1966	C	C6-N1-C2	6.70	122.98	120.30
1	X	1968	G	N7-C8-N9	-6.70	109.75	113.10
1	X	577	U	C4-C5-C6	6.69	123.72	119.70
1	X	1576	G	C8-N9-C4	-6.69	103.72	106.40
1	X	1285	A	C5-C6-N1	-6.68	114.36	117.70
1	X	1339	U	N3-C2-O2	-6.67	117.53	122.20
1	X	559	C	N3-C4-C5	-6.66	119.24	121.90
1	X	1748	U	C6-N1-C2	6.66	124.99	121.00
1	X	544	U	N3-C2-O2	-6.65	117.54	122.20
1	X	1931	G	C8-N9-C4	-6.63	103.75	106.40
1	X	2007	G	C4-C5-N7	-6.63	108.15	110.80
1	X	2495	G	N1-C6-O6	-6.62	115.93	119.90
1	X	2398	U	C2-N3-C4	-6.61	123.03	127.00
1	X	1653	C	C5-C6-N1	-6.61	117.70	121.00
1	X	477	A	C8-N9-C4	6.60	108.44	105.80
1	X	1988	A	C8-N9-C4	6.60	108.44	105.80
1	X	196	A	N1-C6-N6	-6.60	114.64	118.60
1	X	1770	U	C5-C4-O4	6.60	129.86	125.90
1	X	951	G	N1-C6-O6	-6.59	115.95	119.90
1	X	936	A	N1-C6-N6	-6.59	114.65	118.60
1	X	1975	G	N1-C2-N2	-6.57	110.28	116.20
1	X	841	G	N3-C4-C5	6.57	131.88	128.60
1	X	2418	A	C8-N9-C4	-6.57	103.17	105.80
1	X	699	G	N3-C4-C5	6.57	131.88	128.60
1	X	1822	C	C5-C6-N1	-6.56	117.72	121.00
1	X	465	C	C5-C6-N1	-6.56	117.72	121.00
1	X	825	C	N3-C2-O2	6.56	126.49	121.90
1	X	747	A	C8-N9-C4	6.55	108.42	105.80
1	X	2815	C	N3-C4-N4	-6.55	113.42	118.00
1	X	2623	A	C8-N9-C4	6.54	108.42	105.80
1	X	1309	G	N7-C8-N9	-6.54	109.83	113.10
1	X	1682	A	C5-C6-N6	-6.53	118.48	123.70
1	X	2406	C	N1-C2-O2	-6.51	114.99	118.90
1	X	2792	C	C2-N3-C4	-6.50	116.65	119.90
1	X	1259	A	C8-N9-C4	6.50	108.40	105.80
1	X	1991	C	C4-C5-C6	6.48	120.64	117.40
1	X	695	G	C8-N9-C4	6.48	108.99	106.40
1	X	460	U	C5-C6-N1	6.47	125.94	122.70
1	X	1006	C	N1-C2-O2	6.47	122.78	118.90
1	X	2686	C	C4-C5-C6	6.47	120.63	117.40
1	X	340	G	C8-N9-C4	6.47	108.99	106.40
1	X	1270	C	C4-C5-C6	6.46	120.63	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	550	C	C5-C6-N1	-6.45	117.77	121.00
1	X	2559	U	C5-C4-O4	-6.45	122.03	125.90
1	X	2431	C	N1-C2-O2	6.45	122.77	118.90
1	X	520	C	C6-N1-C2	-6.45	117.72	120.30
1	X	513	A	N1-C2-N3	6.44	132.52	129.30
1	X	2701	A	C2-N3-C4	-6.44	107.38	110.60
1	X	586	G	C8-N9-C4	6.44	108.97	106.40
1	X	581	A	N1-C6-N6	6.41	122.45	118.60
1	X	832	A	N9-C4-C5	-6.40	103.24	105.80
1	X	2760	G	C8-N9-C4	6.39	108.96	106.40
1	X	1571	G	C8-N9-C4	-6.39	103.84	106.40
1	X	691	C	C6-N1-C2	6.39	122.86	120.30
1	X	853	C	C6-N1-C2	6.38	122.85	120.30
1	X	1816	G	C8-N9-C4	6.38	108.95	106.40
1	X	2711	G	C8-N9-C4	6.38	108.95	106.40
1	X	2666	U	C2-N3-C4	-6.37	123.18	127.00
1	X	806	A	N1-C6-N6	-6.37	114.78	118.60
1	X	575	U	C5-C4-O4	6.37	129.72	125.90
1	X	1324	G	C5-C6-O6	-6.36	124.79	128.60
1	X	2718	A	C5-C6-N1	6.35	120.88	117.70
1	X	2704	U	C5-C6-N1	-6.35	119.53	122.70
1	X	2492	G	N3-C4-C5	-6.34	125.43	128.60
1	X	2331	A	N1-C6-N6	-6.34	114.80	118.60
1	X	1816	G	N7-C8-N9	-6.33	109.93	113.10
1	X	1623	C	N1-C2-O2	6.33	122.70	118.90
1	X	2854	G	N1-C6-O6	6.33	123.69	119.90
1	X	1205	G	C8-N9-C4	6.32	108.93	106.40
1	X	1699	A	C2-N3-C4	-6.32	107.44	110.60
1	X	1035	G	C8-N9-C4	-6.31	103.87	106.40
1	X	822	G	N3-C4-C5	-6.31	125.44	128.60
1	X	527	C	C2-N3-C4	6.31	123.05	119.90
1	X	528	G	N1-C6-O6	-6.30	116.12	119.90
1	X	2495	G	N3-C2-N2	6.30	124.31	119.90
1	X	2314	A	C5-C6-N1	6.29	120.85	117.70
1	X	2634	G	N9-C4-C5	-6.29	102.88	105.40
1	X	1974	U	N1-C2-O2	6.29	127.20	122.80
1	X	2553	G	N7-C8-N9	6.28	116.24	113.10
1	X	542	A	C2-N3-C4	-6.28	107.46	110.60
1	X	1540	C	C6-N1-C2	-6.28	117.79	120.30
1	X	1292	A	N1-C2-N3	6.28	132.44	129.30
1	X	1289	A	N1-C6-N6	6.27	122.36	118.60
1	X	2240	C	N3-C2-O2	-6.27	117.51	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1975	G	C8-N9-C1'	-6.26	118.86	127.00
1	X	2846	G	N7-C8-N9	-6.26	109.97	113.10
1	X	1980	A	N1-C6-N6	-6.26	114.84	118.60
1	X	590	C	N3-C4-N4	-6.24	113.63	118.00
1	X	1274	C	C6-N1-C2	6.24	122.80	120.30
1	X	1277	G	C8-N9-C4	6.24	108.90	106.40
1	X	122	G	C2-N3-C4	-6.24	108.78	111.90
1	X	689	A	C4-C5-N7	6.24	113.82	110.70
1	X	1312	G	N1-C6-O6	6.24	123.64	119.90
1	X	808	C	C6-N1-C2	6.23	122.79	120.30
1	X	1981	A	C4-C5-N7	-6.23	107.58	110.70
1	X	537	C	C5-C6-N1	-6.23	117.89	121.00
1	X	2033	C	N1-C2-O2	6.23	122.64	118.90
1	X	2711	G	N7-C8-N9	-6.23	109.99	113.10
1	X	754	G	C8-N9-C4	6.22	108.89	106.40
1	X	2686	C	N3-C2-O2	-6.22	117.54	121.90
1	X	542	A	C8-N9-C4	-6.22	103.31	105.80
1	X	608	G	N7-C8-N9	-6.22	109.99	113.10
1	X	774	A	N3-C4-C5	6.21	131.15	126.80
1	X	774	A	C2-N3-C4	6.21	113.70	110.60
1	X	1996	A	N7-C8-N9	6.19	116.90	113.80
1	X	1682	A	N3-C4-C5	-6.19	122.47	126.80
1	X	1292	A	C8-N9-C4	6.18	108.27	105.80
1	X	1713	G	N1-C6-O6	-6.17	116.19	119.90
1	X	1288	A	C4-C5-C6	6.16	120.08	117.00
1	X	1285	A	C2-N3-C4	-6.15	107.52	110.60
1	X	1291	G	C6-N1-C2	-6.15	121.41	125.10
1	X	1223	G	C2-N3-C4	-6.14	108.83	111.90
1	X	689	A	N7-C8-N9	6.13	116.87	113.80
1	X	2038	C	N3-C2-O2	-6.11	117.62	121.90
1	X	1378	A	C8-N9-C4	6.11	108.24	105.80
1	X	1993	G	C5-C6-N1	-6.11	108.45	111.50
1	X	771	C	N3-C2-O2	-6.10	117.63	121.90
1	X	1288	A	N1-C2-N3	6.10	132.35	129.30
1	X	1622	G	C8-N9-C4	6.09	108.84	106.40
1	X	534	U	C5-C6-N1	-6.09	119.66	122.70
1	X	799	C	C5-C6-N1	-6.09	117.96	121.00
1	X	1266	G	C4-C5-C6	6.08	122.45	118.80
1	X	2314	A	C2-N3-C4	6.08	113.64	110.60
1	X	1663	C	C2-N3-C4	6.08	122.94	119.90
1	X	822	G	C4-C5-N7	-6.07	108.37	110.80
1	X	1622	G	C5-C6-O6	6.07	132.24	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2227	C	N1-C2-O2	-6.07	115.26	118.90
1	X	1278	A	C6-C5-N7	-6.07	128.05	132.30
1	X	1687	C	C4-C5-C6	6.07	120.43	117.40
1	X	1467	U	C5-C6-N1	-6.06	119.67	122.70
1	X	600	G	N1-C6-O6	6.06	123.54	119.90
1	X	808	C	C5-C6-N1	-6.06	117.97	121.00
1	X	522	G	C4-C5-N7	6.06	113.22	110.80
1	X	608	G	C5-N7-C8	6.06	107.33	104.30
1	X	2551	A	N7-C8-N9	-6.06	110.77	113.80
1	X	2597	G	N1-C6-O6	-6.06	116.27	119.90
1	X	522	G	C5-C6-O6	-6.06	124.97	128.60
1	X	2677	U	C5-C6-N1	-6.05	119.67	122.70
1	X	1694	A	C8-N9-C4	6.05	108.22	105.80
1	X	1260	A	C8-N9-C4	6.05	108.22	105.80
1	X	1212	U	N3-C4-O4	-6.04	115.17	119.40
1	X	1015	U	C6-N1-C2	-6.04	117.38	121.00
1	X	497	C	N1-C2-O2	-6.03	115.28	118.90
1	X	1471	G	C5-C6-O6	-6.03	124.98	128.60
1	X	2626	U	N3-C2-O2	-6.02	117.99	122.20
1	X	1676	U	C2-N3-C4	-6.02	123.39	127.00
1	X	1678	G	N7-C8-N9	-6.02	110.09	113.10
1	X	1672	A	N1-C6-N6	6.01	122.21	118.60
1	X	2707	G	N1-C2-N2	6.01	121.61	116.20
1	X	1960	A	C8-N9-C4	6.01	108.20	105.80
1	X	577	U	C2-N3-C4	6.00	130.60	127.00
1	X	957	G	N1-C6-O6	-6.00	116.30	119.90
1	X	832	A	N1-C6-N6	5.99	122.19	118.60
1	X	2629	U	C5-C6-N1	-5.99	119.71	122.70
1	X	155	G	C8-N9-C4	-5.99	104.01	106.40
1	X	974	U	C5-C6-N1	-5.98	119.71	122.70
1	X	966	A	N9-C4-C5	-5.98	103.41	105.80
1	X	713	G	N7-C8-N9	-5.98	110.11	113.10
1	X	1956	G	C8-N9-C4	5.98	108.79	106.40
1	X	2495	G	N3-C4-C5	-5.97	125.61	128.60
1	X	2001	G	C2-N3-C4	-5.97	108.92	111.90
1	X	2688	G	C8-N9-C4	5.96	108.78	106.40
1	X	2854	G	C4-C5-N7	5.96	113.18	110.80
1	X	1652	G	C2-N3-C4	-5.96	108.92	111.90
1	X	552	C	C6-N1-C2	5.96	122.68	120.30
1	X	540	G	C6-N1-C2	5.95	128.67	125.10
1	X	2666	U	C4-C5-C6	5.95	123.27	119.70
1	X	2852	G	C2-N3-C4	-5.95	108.93	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1917	C	N1-C2-O2	5.94	122.46	118.90
1	X	608	G	C8-N9-C4	5.92	108.77	106.40
1	X	1969	G	C5-C6-O6	-5.92	125.05	128.60
1	X	430	C	C6-N1-C2	-5.91	117.94	120.30
1	X	1216	G	N1-C6-O6	-5.91	116.35	119.90
1	X	713	G	C8-N9-C4	5.91	108.76	106.40
1	X	479	G	C8-N9-C4	5.91	108.76	106.40
1	X	1767	G	N1-C6-O6	5.90	123.44	119.90
1	X	1278	A	C5-N7-C8	-5.90	100.95	103.90
1	X	1981	A	C6-N1-C2	-5.90	115.06	118.60
1	X	2822	U	N3-C2-O2	5.90	126.33	122.20
1	X	2258	G	C8-N9-C4	5.90	108.76	106.40
1	X	1699	A	C5-C6-N1	-5.89	114.75	117.70
1	X	1306	U	C2-N3-C4	-5.89	123.47	127.00
1	X	2712	G	C5-C6-O6	5.89	132.13	128.60
1	X	522	G	N3-C4-C5	5.88	131.54	128.60
1	X	544	U	C5-C6-N1	-5.88	119.76	122.70
1	X	1569	A	C6-N1-C2	-5.88	115.07	118.60
1	X	1770	U	N3-C4-O4	-5.88	115.29	119.40
1	X	2791	C	C5-C6-N1	-5.88	118.06	121.00
1	X	1211	G	N1-C2-N2	-5.87	110.92	116.20
1	X	2822	U	C5-C4-O4	-5.87	122.38	125.90
13	K	96	ARG	NE-CZ-NH1	-5.87	117.37	120.30
1	X	766	A	N1-C6-N6	-5.86	115.08	118.60
1	X	1680	U	C6-N1-C2	5.86	124.51	121.00
1	X	854	G	N1-C6-O6	5.86	123.41	119.90
1	X	465	C	C4-C5-C6	5.85	120.33	117.40
1	X	716	U	C5-C6-N1	-5.85	119.78	122.70
1	X	883	A	N7-C8-N9	-5.84	110.88	113.80
1	X	2656	G	C8-N9-C4	5.84	108.74	106.40
1	X	1225	G	N1-C6-O6	-5.84	116.40	119.90
1	X	2791	C	C2-N3-C4	-5.84	116.98	119.90
1	X	1272	G	C8-N9-C4	5.84	108.73	106.40
1	X	590	C	C5-C4-N4	5.84	124.28	120.20
1	X	1468	A	N7-C8-N9	-5.83	110.89	113.80
1	X	1678	G	C5-C6-N1	5.82	114.41	111.50
1	X	2370	G	C8-N9-C4	5.82	108.73	106.40
1	X	2710	C	C4-C5-C6	5.82	120.31	117.40
1	X	1578	U	C5-C6-N1	-5.82	119.79	122.70
1	X	1678	G	C5-N7-C8	5.82	107.21	104.30
1	X	748	A	C8-N9-C4	5.81	108.12	105.80
1	X	122	G	N3-C4-C5	5.81	131.50	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	497	C	N3-C2-O2	5.80	125.96	121.90
1	X	2792	C	C4-C5-C6	5.79	120.30	117.40
1	X	1766	U	C6-N1-C2	5.79	124.48	121.00
1	X	2853	U	N3-C4-O4	-5.79	115.34	119.40
1	X	1689	U	C5-C6-N1	-5.78	119.81	122.70
1	X	1974	U	N3-C2-O2	-5.78	118.15	122.20
1	X	1317	G	N1-C6-O6	5.78	123.37	119.90
1	X	1004	A	C8-N9-C4	-5.77	103.49	105.80
1	X	2686	C	C5-C6-N1	-5.76	118.12	121.00
1	X	1998	A	N1-C6-N6	-5.76	115.14	118.60
1	X	1991	C	C5-C4-N4	5.76	124.23	120.20
1	X	1683	G	C4-C5-C6	-5.76	115.35	118.80
1	X	2484	G	C8-N9-C4	-5.76	104.10	106.40
1	X	1996	A	C8-N9-C4	-5.75	103.50	105.80
1	X	609	U	C5-C6-N1	-5.75	119.83	122.70
1	X	1816	G	C5-N7-C8	5.75	107.17	104.30
1	X	2828	C	C5-C4-N4	-5.75	116.18	120.20
13	K	3	HIS	N-CA-C	5.75	126.52	111.00
1	X	814	G	C5-C6-O6	-5.74	125.16	128.60
1	X	789	G	C4-C5-N7	5.74	113.09	110.80
1	X	540	G	N3-C4-C5	5.74	131.47	128.60
1	X	2791	C	C6-N1-C2	5.74	122.59	120.30
1	X	2480	C	C6-N1-C2	5.73	122.59	120.30
1	X	2856	U	C5-C6-N1	5.73	125.57	122.70
1	X	2306	A	N1-C6-N6	5.73	122.04	118.60
1	X	1989	C	N1-C2-O2	-5.72	115.47	118.90
1	X	2703	C	C2-N1-C1'	-5.72	112.51	118.80
1	X	609	U	C6-N1-C2	5.71	124.43	121.00
1	X	2003	A	N1-C6-N6	-5.71	115.18	118.60
1	X	1315	A	N1-C6-N6	-5.70	115.18	118.60
1	X	2637	C	C6-N1-C2	5.70	122.58	120.30
1	X	661	C	C6-N1-C2	-5.70	118.02	120.30
1	X	1291	G	N1-C2-N3	5.70	127.32	123.90
1	X	2495	G	C5-C6-N1	5.70	114.35	111.50
1	X	2655	C	C2-N3-C4	-5.70	117.05	119.90
1	X	974	U	C4-C5-C6	5.70	123.12	119.70
1	X	1270	C	C6-N1-C2	-5.70	118.02	120.30
1	X	2590	U	N3-C4-C5	-5.70	111.18	114.60
1	X	579	G	C4-C5-N7	-5.69	108.52	110.80
1	X	57	G	C8-N9-C4	-5.69	104.12	106.40
1	X	490	A	C5-C6-N1	5.69	120.55	117.70
1	X	1669	A	C8-N9-C4	5.69	108.08	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2700	U	C5-C6-N1	-5.69	119.86	122.70
1	X	1642	G	C5-C6-N1	-5.69	108.66	111.50
1	X	1290	A	C8-N9-C4	5.68	108.07	105.80
1	X	1622	G	N7-C8-N9	-5.67	110.26	113.10
1	X	1277	G	N3-C2-N2	5.67	123.87	119.90
1	X	2371	A	C8-N9-C4	-5.67	103.53	105.80
1	X	1625	A	C2-N3-C4	-5.67	107.77	110.60
1	X	2430	A	C5-C6-N6	5.67	128.23	123.70
1	X	985	G	N3-C4-C5	-5.66	125.77	128.60
1	X	590	C	N3-C2-O2	-5.66	117.94	121.90
1	X	2710	C	C5-C6-N1	-5.66	118.17	121.00
1	X	691	C	C5-C6-N1	-5.66	118.17	121.00
1	X	1288	A	N1-C6-N6	5.66	122.00	118.60
1	X	1682	A	C6-N1-C2	-5.66	115.20	118.60
1	X	2403	C	C4-C5-C6	5.66	120.23	117.40
1	X	1006	C	N3-C2-O2	-5.66	117.94	121.90
1	X	502	A	C8-N9-C4	5.65	108.06	105.80
1	X	1344	C	N3-C4-C5	5.65	124.16	121.90
1	X	2681	A	C5-C6-N6	-5.65	119.18	123.70
1	X	2592	U	C5-C6-N1	-5.64	119.88	122.70
1	X	229	G	N3-C4-C5	5.64	131.42	128.60
1	X	2756	A	C6-N1-C2	-5.64	115.22	118.60
1	X	1932	G	C4-C5-N7	-5.63	108.55	110.80
1	X	1344	C	N1-C2-O2	5.63	122.28	118.90
1	X	1665	C	N3-C4-N4	-5.63	114.06	118.00
1	X	2060	A	C2-N3-C4	5.62	113.41	110.60
1	X	1750	A	C6-N1-C2	-5.62	115.23	118.60
1	X	2223	U	C5-C6-N1	-5.62	119.89	122.70
1	X	2705	A	N1-C6-N6	5.61	121.97	118.60
1	X	1664	G	N3-C4-C5	5.60	131.40	128.60
1	X	1988	A	N7-C8-N9	-5.60	111.00	113.80
2	Y	92	G	C8-N9-C4	5.60	108.64	106.40
1	X	472	C	N1-C2-O2	-5.60	115.54	118.90
1	X	2739	G	C2-N3-C4	5.60	114.70	111.90
1	X	1256	C	C5-C6-N1	-5.60	118.20	121.00
1	X	2681	A	C4-C5-N7	5.60	113.50	110.70
1	X	2669	C	N3-C4-C5	-5.60	119.66	121.90
1	X	556	A	N1-C6-N6	5.59	121.96	118.60
1	X	1991	C	N3-C4-N4	-5.59	114.08	118.00
1	X	985	G	C8-N9-C4	-5.59	104.16	106.40
1	X	1289	A	C8-N9-C4	5.58	108.03	105.80
1	X	1745	C	N1-C2-O2	-5.58	115.55	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1672	A	C5-C6-N6	-5.58	119.24	123.70
1	X	2549	G	N7-C8-N9	-5.58	110.31	113.10
1	X	2003	A	C2-N3-C4	5.58	113.39	110.60
1	X	822	G	C5-N7-C8	5.57	107.09	104.30
1	X	503	G	N7-C8-N9	-5.57	110.31	113.10
1	X	674	U	N1-C2-O2	-5.57	118.90	122.80
1	X	2713	A	N7-C8-N9	-5.57	111.02	113.80
1	X	1688	U	N3-C4-C5	-5.56	111.26	114.60
1	X	577	U	C5-C4-O4	5.56	129.24	125.90
1	X	961	G	C4-C5-N7	-5.56	108.58	110.80
1	X	236	C	C6-N1-C2	-5.55	118.08	120.30
1	X	39	C	C6-N1-C2	-5.55	118.08	120.30
1	X	1573	G	N1-C6-O6	-5.55	116.57	119.90
1	X	766	A	C6-N1-C2	-5.55	115.27	118.60
1	X	1292	A	C2-N3-C4	-5.55	107.83	110.60
1	X	1625	A	C5-C6-N1	-5.54	114.93	117.70
1	X	1204	G	N3-C4-C5	-5.54	125.83	128.60
1	X	550	C	C2-N3-C4	-5.54	117.13	119.90
1	X	2671	C	C5-C6-N1	5.54	123.77	121.00
1	X	827	C	C6-N1-C2	5.54	122.52	120.30
1	X	1769	U	C5-C6-N1	-5.53	119.93	122.70
1	X	1142	G	N9-C4-C5	-5.53	103.19	105.40
1	X	1670	G	N9-C4-C5	-5.53	103.19	105.40
1	X	2753	C	N1-C2-O2	-5.53	115.58	118.90
1	X	460	U	C6-N1-C2	-5.53	117.68	121.00
1	X	1685	A	C5-C6-N1	5.53	120.46	117.70
1	X	343	A	C8-N9-C4	-5.52	103.59	105.80
1	X	809	C	C5-C6-N1	-5.52	118.24	121.00
1	X	2342	U	C5-C6-N1	-5.52	119.94	122.70
1	X	804	C	C5-C6-N1	-5.51	118.24	121.00
1	X	1341	G	N9-C4-C5	-5.51	103.19	105.40
1	X	1265	G	C5-N7-C8	5.51	107.06	104.30
1	X	1468	A	N1-C6-N6	-5.51	115.29	118.60
1	X	802	A	C2-N3-C4	-5.51	107.84	110.60
1	X	608	G	C4-C5-N7	-5.51	108.60	110.80
1	X	1412	C	N3-C2-O2	5.51	125.75	121.90
1	X	2475	C	C6-N1-C2	-5.51	118.10	120.30
1	X	2765	C	N3-C4-N4	-5.51	114.14	118.00
1	X	1980	A	N7-C8-N9	-5.50	111.05	113.80
1	X	577	U	C6-N1-C2	-5.49	117.70	121.00
13	K	99	ARG	NE-CZ-NH2	-5.49	117.55	120.30
1	X	165	G	C8-N9-C4	5.49	108.60	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2707	G	N1-C6-O6	5.49	123.19	119.90
1	X	37	C	C6-N1-C2	-5.49	118.11	120.30
1	X	1176	U	C5-C6-N1	-5.49	119.96	122.70
1	X	1633	C	C5-C6-N1	-5.49	118.26	121.00
1	X	2716	G	C4-C5-N7	-5.48	108.61	110.80
1	X	2432	A	N7-C8-N9	5.48	116.54	113.80
1	X	2854	G	C5-C6-O6	-5.48	125.31	128.60
1	X	814	G	N1-C6-O6	5.47	123.18	119.90
1	X	2240	C	N1-C2-O2	5.47	122.18	118.90
1	X	2685	A	C2-N3-C4	-5.47	107.87	110.60
1	X	2686	C	C2-N3-C4	-5.47	117.17	119.90
1	X	2486	C	C6-N1-C2	-5.46	118.11	120.30
1	X	1025	A	N1-C6-N6	-5.46	115.32	118.60
2	Y	83	C	N3-C4-C5	-5.46	119.72	121.90
1	X	1999	U	C6-N1-C2	5.46	124.28	121.00
1	X	741	G	C4-C5-N7	-5.46	108.62	110.80
1	X	1977	C	N3-C4-N4	5.46	121.82	118.00
1	X	1966	C	C2-N3-C4	-5.46	117.17	119.90
1	X	1226	A	C2-N3-C4	-5.45	107.88	110.60
1	X	2496	C	C6-N1-C2	5.44	122.48	120.30
1	X	1472	C	C6-N1-C2	5.43	122.47	120.30
1	X	559	C	N3-C4-N4	5.43	121.80	118.00
1	X	2793	G	N7-C8-N9	-5.43	110.39	113.10
1	X	229	G	C8-N9-C4	5.43	108.57	106.40
1	X	2663	U	C5-C4-O4	5.43	129.16	125.90
1	X	1293	A	C8-N9-C4	5.41	107.97	105.80
1	X	2787	A	N1-C2-N3	5.41	132.01	129.30
1	X	789	G	C6-C5-N7	-5.41	127.15	130.40
1	X	2331	A	C5-C6-N6	5.41	128.03	123.70
1	X	2852	G	N1-C2-N3	5.41	127.15	123.90
1	X	2851	G	C8-N9-C4	5.41	108.56	106.40
1	X	1975	G	N3-C4-N9	5.40	129.24	126.00
1	X	699	G	C5-N7-C8	-5.40	101.60	104.30
1	X	1260	A	N1-C6-N6	-5.40	115.36	118.60
1	X	1344	C	C6-N1-C2	5.39	122.46	120.30
1	X	1995	G	N7-C8-N9	-5.39	110.40	113.10
1	X	989	G	C5-N7-C8	5.39	107.00	104.30
1	X	471	A	C8-N9-C4	5.39	107.95	105.80
1	X	2716	G	C5-N7-C8	5.39	106.99	104.30
1	X	788	G	C5-C6-N1	5.38	114.19	111.50
1	X	406	G	N1-C6-O6	-5.38	116.67	119.90
1	X	1969	G	N3-C4-N9	5.37	129.22	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2567	G	C8-N9-C4	-5.37	104.25	106.40
1	X	31	C	C6-N1-C2	-5.37	118.15	120.30
1	X	1779	C	N1-C2-O2	-5.37	115.68	118.90
1	X	2800	C	C6-N1-C2	-5.37	118.15	120.30
1	X	2034	A	C2-N3-C4	5.37	113.28	110.60
1	X	762	A	N1-C6-N6	5.36	121.82	118.60
1	X	1801	C	C5-C6-N1	-5.36	118.32	121.00
1	X	1984	A	C6-N1-C2	-5.36	115.38	118.60
1	X	2699	G	C6-N1-C2	5.36	128.31	125.10
1	X	1339	U	N1-C2-O2	5.35	126.55	122.80
1	X	2591	C	N1-C2-O2	-5.35	115.69	118.90
1	X	2832	G	C5-N7-C8	-5.35	101.62	104.30
1	X	1275	A	C5-N7-C8	-5.35	101.23	103.90
1	X	1266	G	N1-C2-N3	5.34	127.11	123.90
1	X	1670	G	C2-N3-C4	-5.34	109.23	111.90
1	X	1298	G	C5-C6-O6	5.34	131.81	128.60
1	X	1312	G	N3-C2-N2	5.34	123.64	119.90
1	X	2656	G	N7-C8-N9	-5.34	110.43	113.10
1	X	832	A	C4-C5-N7	5.33	113.37	110.70
1	X	23	G	C5-C6-O6	5.33	131.80	128.60
1	X	2712	G	C8-N9-C4	5.33	108.53	106.40
1	X	527	C	C2-N1-C1'	5.33	124.66	118.80
1	X	570	G	N3-C2-N2	-5.32	116.17	119.90
1	X	1274	C	N1-C2-N3	-5.32	115.47	119.20
1	X	1442	C	N3-C4-C5	5.32	124.03	121.90
1	X	2478	C	N3-C4-N4	5.32	121.72	118.00
1	X	1246	G	N1-C6-O6	-5.32	116.71	119.90
1	X	1980	A	C4-C5-N7	-5.31	108.04	110.70
1	X	1652	G	N3-C4-C5	5.30	131.25	128.60
1	X	2519	C	N3-C4-C5	-5.30	119.78	121.90
1	X	346	C	C4-C5-C6	5.30	120.05	117.40
1	X	1685	A	N1-C6-N6	-5.30	115.42	118.60
1	X	1266	G	C5-C6-N1	-5.30	108.85	111.50
1	X	1321	A	N7-C8-N9	-5.30	111.15	113.80
1	X	754	G	N7-C8-N9	-5.30	110.45	113.10
1	X	465	C	C6-N1-C2	5.29	122.42	120.30
1	X	2478	C	C5-C6-N1	5.29	123.65	121.00
1	X	497	C	C6-N1-C2	5.29	122.42	120.30
1	X	2432	A	C8-N9-C4	-5.29	103.69	105.80
1	X	544	U	N1-C2-O2	5.28	126.50	122.80
1	X	949	G	C8-N9-C4	5.28	108.51	106.40
1	X	1939	U	N1-C2-O2	-5.28	119.11	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1763	G	N3-C2-N2	5.27	123.59	119.90
1	X	826	U	C5-C4-O4	5.27	129.06	125.90
1	X	699	G	C6-N1-C2	5.26	128.26	125.10
1	X	1742	G	C8-N9-C4	5.26	108.51	106.40
1	X	1665	C	N3-C4-C5	5.26	124.00	121.90
1	X	714	G	N1-C6-O6	-5.26	116.75	119.90
1	X	1211	G	N7-C8-N9	-5.26	110.47	113.10
1	X	796	A	C5-N7-C8	-5.25	101.27	103.90
1	X	714	G	C4-C5-N7	-5.25	108.70	110.80
13	K	10	LEU	CB-CG-CD2	5.25	119.93	111.00
1	X	2233	C	C5-C6-N1	-5.25	118.38	121.00
1	X	2809	A	C2-N3-C4	5.25	113.22	110.60
1	X	1468	A	C5-N7-C8	5.25	106.52	103.90
1	X	2717	G	N1-C6-O6	-5.25	116.75	119.90
1	X	772	G	C5-C6-N1	5.25	114.12	111.50
1	X	550	C	N1-C2-O2	-5.24	115.75	118.90
1	X	2616	U	C5-C4-O4	-5.24	122.75	125.90
1	X	1667	A	C8-N9-C4	5.24	107.90	105.80
1	X	568	G	C4-C5-N7	-5.24	108.71	110.80
1	X	2700	U	C5-C4-O4	5.24	129.04	125.90
1	X	2665	G	C4-C5-N7	-5.23	108.71	110.80
1	X	757	U	N3-C2-O2	-5.23	118.54	122.20
1	X	1662	G	C4-C5-N7	-5.23	108.71	110.80
1	X	2618	A	N9-C4-C5	5.23	107.89	105.80
1	X	2007	G	C5-N7-C8	5.23	106.91	104.30
13	K	5	LYS	CD-CE-NZ	5.23	123.72	111.70
1	X	2555	G	C8-N9-C4	5.22	108.49	106.40
1	X	1312	G	C6-C5-N7	-5.22	127.27	130.40
1	X	1931	G	N7-C8-N9	5.22	115.71	113.10
1	X	2667	C	N3-C2-O2	5.22	125.55	121.90
1	X	2807	U	N3-C4-O4	-5.22	115.75	119.40
1	X	537	C	C2-N3-C4	-5.21	117.29	119.90
1	X	1223	G	N1-C6-O6	5.21	123.03	119.90
1	X	1995	G	N1-C6-O6	-5.21	116.77	119.90
1	X	607	C	N3-C2-O2	-5.21	118.25	121.90
1	X	704	G	C5-C6-O6	5.21	131.72	128.60
1	X	2853	U	N1-C2-O2	5.21	126.45	122.80
1	X	1290	A	N1-C6-N6	5.21	121.72	118.60
1	X	2371	A	N9-C4-C5	5.20	107.88	105.80
1	X	2791	C	N3-C4-C5	5.20	123.98	121.90
1	X	121	G	C4-C5-N7	-5.20	108.72	110.80
1	X	1459	U	N3-C2-O2	5.19	125.83	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2748	C	N3-C2-O2	5.19	125.53	121.90
1	X	1662	G	C5-C6-O6	5.18	131.71	128.60
1	X	2815	C	N3-C4-C5	5.17	123.97	121.90
1	X	538	A	C5-C6-N6	-5.17	119.56	123.70
1	X	2766	U	N3-C4-O4	-5.16	115.79	119.40
1	X	2618	A	C6-N1-C2	-5.16	115.50	118.60
1	X	87	G	C8-N9-C4	-5.16	104.34	106.40
1	X	1743	C	C4-C5-C6	5.16	119.98	117.40
1	X	2683	C	C6-N1-C2	5.16	122.36	120.30
3	A	21	ASP	CB-CG-OD2	5.16	122.94	118.30
1	X	1665	C	C6-N1-C2	5.16	122.36	120.30
1	X	2796	A	C4-C5-C6	5.16	119.58	117.00
1	X	504	G	C2-N3-C4	-5.15	109.32	111.90
1	X	1278	A	C4-C5-C6	5.15	119.58	117.00
1	X	2824	C	C6-N1-C2	5.15	122.36	120.30
2	Y	84	G	C8-N9-C4	5.15	108.46	106.40
1	X	529	U	C6-N1-C2	-5.15	117.91	121.00
1	X	1694	A	C2-N3-C4	-5.15	108.03	110.60
1	X	1716	G	N1-C6-O6	-5.15	116.81	119.90
1	X	2848	A	C2-N3-C4	5.15	113.18	110.60
1	X	522	G	C5-N7-C8	-5.15	101.72	104.30
1	X	1992	G	C8-N9-C4	5.15	108.46	106.40
1	X	481	A	N1-C6-N6	5.15	121.69	118.60
1	X	1282	A	C2-N3-C4	-5.15	108.03	110.60
1	X	1764	A	N1-C2-N3	5.15	131.87	129.30
1	X	1993	G	N3-C4-C5	5.15	131.17	128.60
1	X	537	C	N3-C2-O2	-5.14	118.30	121.90
1	X	2592	U	C4-C5-C6	5.14	122.79	119.70
1	X	1260	A	N7-C8-N9	-5.14	111.23	113.80
1	X	544	U	N3-C4-O4	-5.14	115.80	119.40
1	X	1748	U	N1-C2-O2	-5.14	119.20	122.80
1	X	2594	U	C5-C6-N1	5.14	125.27	122.70
1	X	1632	A	C8-N9-C4	-5.14	103.75	105.80
1	X	1721	G	C8-N9-C4	5.14	108.45	106.40
1	X	1032	A	C8-N9-C4	-5.13	103.75	105.80
1	X	2224	U	C5-C4-O4	5.13	128.98	125.90
1	X	1467	U	C2-N1-C1'	5.13	123.85	117.70
1	X	2565	C	C6-N1-C2	-5.12	118.25	120.30
1	X	2611	A	N7-C8-N9	-5.12	111.24	113.80
1	X	2329	C	N3-C2-O2	5.12	125.48	121.90
1	X	1357	U	C5-C6-N1	-5.12	120.14	122.70
1	X	1998	A	N7-C8-N9	-5.11	111.24	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1678	G	C8-N9-C4	5.11	108.44	106.40
1	X	1770	U	N1-C2-N3	5.11	117.97	114.90
1	X	1822	C	C2-N3-C4	-5.11	117.35	119.90
1	X	2007	G	C5-C6-O6	5.10	131.66	128.60
1	X	459	A	P-O3'-C3'	5.10	125.82	119.70
1	X	1276	U	C5-C6-N1	-5.10	120.15	122.70
1	X	1305	C	C2-N3-C4	-5.10	117.35	119.90
1	X	1816	G	C4-C5-N7	-5.10	108.76	110.80
1	X	2520	A	C5-C6-N6	5.10	127.78	123.70
1	X	2815	C	C2-N3-C4	-5.10	117.35	119.90
1	X	2839	G	C8-N9-C4	5.10	108.44	106.40
1	X	2681	A	N9-C4-C5	-5.10	103.76	105.80
1	X	1281	A	N1-C2-N3	5.09	131.85	129.30
1	X	1302	C	C2-N1-C1'	-5.09	113.20	118.80
1	X	74	G	C8-N9-C4	5.09	108.44	106.40
1	X	345	U	N1-C2-O2	-5.09	119.24	122.80
1	X	2797	G	N3-C4-C5	-5.09	126.06	128.60
1	X	2590	U	C2-N3-C4	-5.09	123.95	127.00
1	X	1328	C	N3-C2-O2	-5.09	118.34	121.90
1	X	2623	A	N7-C8-N9	-5.08	111.26	113.80
1	X	2666	U	N1-C2-N3	5.08	117.95	114.90
1	X	2033	C	C6-N1-C2	-5.08	118.27	120.30
1	X	2680	U	N3-C2-O2	5.08	125.75	122.20
1	X	2764	U	C5-C6-N1	-5.08	120.16	122.70
1	X	29	U	C5-C6-N1	5.07	125.24	122.70
1	X	2008	C	N3-C4-C5	-5.07	119.87	121.90
1	X	330	C	C6-N1-C2	-5.07	118.27	120.30
1	X	695	G	N7-C8-N9	-5.07	110.57	113.10
1	X	1294	G	N1-C2-N3	5.07	126.94	123.90
1	X	2483	U	C6-N1-C2	-5.07	117.96	121.00
1	X	2556	A	N9-C4-C5	5.07	107.83	105.80
1	X	2748	C	N1-C2-O2	-5.07	115.86	118.90
1	X	190	A	C8-N9-C4	5.06	107.83	105.80
1	X	550	C	C6-N1-C2	5.06	122.33	120.30
1	X	1145	C	N1-C2-O2	-5.06	115.86	118.90
1	X	1999	U	N3-C2-O2	5.06	125.74	122.20
1	X	2408	G	C8-N9-C4	-5.06	104.38	106.40
1	X	2398	U	N3-C2-O2	-5.05	118.66	122.20
1	X	2658	A	C8-N9-C4	5.05	107.82	105.80
1	X	2760	G	N7-C8-N9	-5.05	110.57	113.10
1	X	1391	A	C8-N9-C4	5.05	107.82	105.80
2	Y	85	G	C2-N3-C4	-5.05	109.38	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1631	C	C5-C6-N1	-5.05	118.48	121.00
1	X	2804	G	C8-N9-C4	5.05	108.42	106.40
1	X	69	G	C8-N9-C4	5.05	108.42	106.40
15	M	71	ILE	CG1-CB-CG2	-5.05	100.30	111.40
1	X	2722	C	C6-N1-C2	5.04	122.32	120.30
1	X	196	A	C4-C5-N7	-5.04	108.18	110.70
1	X	1687	C	N3-C4-C5	-5.04	119.88	121.90
1	X	2260	C	N3-C4-C5	5.04	123.91	121.90
1	X	2556	A	C8-N9-C4	-5.04	103.79	105.80
1	X	340	G	N7-C8-N9	-5.03	110.58	113.10
1	X	1344	C	C5-C6-N1	-5.03	118.48	121.00
1	X	1614	C	N1-C2-O2	-5.03	115.88	118.90
1	X	2437	G	C5-C6-O6	-5.03	125.58	128.60
1	X	2005	U	C5-C6-N1	-5.03	120.19	122.70
1	X	122	G	C5-C6-N1	-5.03	108.99	111.50
1	X	542	A	C6-C5-N7	-5.03	128.78	132.30
1	X	1750	A	N1-C2-N3	5.03	131.81	129.30
1	X	1775	A	N7-C8-N9	-5.03	111.29	113.80
1	X	1979	C	N1-C2-O2	-5.03	115.88	118.90
1	X	1235	C	C6-N1-C2	5.02	122.31	120.30
1	X	2569	A	N7-C8-N9	-5.02	111.29	113.80
1	X	748	A	N1-C6-N6	5.02	121.61	118.60
1	X	966	A	C8-N9-C4	5.02	107.81	105.80
1	X	2375	G	C8-N9-C4	5.02	108.41	106.40
1	X	2545	A	N1-C6-N6	5.02	121.61	118.60
1	X	1652	G	N1-C6-O6	5.01	122.91	119.90
1	X	1660	G	C5-C6-O6	5.01	131.61	128.60
1	X	2542	U	C6-N1-C2	5.01	124.01	121.00
2	Y	20	A	C8-N9-C4	5.01	107.81	105.80
1	X	1274	C	C5-C4-N4	-5.01	116.69	120.20
1	X	2578	G	N3-C4-N9	5.01	129.01	126.00
1	X	2695	C	C6-N1-C2	-5.01	118.30	120.30
1	X	2762	G	N1-C6-O6	5.01	122.91	119.90
1	X	1339	U	C2-N1-C1'	5.01	123.71	117.70
1	X	490	A	N1-C6-N6	-5.01	115.60	118.60
1	X	1652	G	N9-C4-C5	-5.01	103.40	105.40
1	X	1687	C	C5-C6-N1	-5.01	118.50	121.00
1	X	1767	G	C5-C6-O6	-5.00	125.60	128.60
1	X	2798	A	C4-C5-N7	5.00	113.20	110.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57035	0	28741	1817	0
2	Y	2561	0	1306	48	0
3	A	1920	0	1974	176	0
4	B	1539	0	1600	147	0
5	C	1481	0	1504	120	0
6	D	1400	0	1481	61	0
7	E	1286	0	1336	44	0
8	F	451	0	474	7	0
9	G	1114	0	1144	100	0
10	H	997	0	1046	98	0
11	I	1011	0	1047	98	0
12	J	1090	0	1125	78	0
13	K	878	0	930	80	0
14	L	779	0	820	72	0
15	M	871	0	894	99	0
16	N	978	0	1020	82	0
17	O	741	0	756	45	0
18	P	1004	0	1083	88	0
19	Q	726	0	753	50	0
20	R	825	0	881	69	0
21	S	1345	0	1372	43	0
22	T	556	0	579	38	0
23	U	552	0	604	48	0
24	V	525	0	546	29	0
25	W	424	0	470	17	0
26	Z	452	0	457	53	0
27	1	431	0	456	58	0
28	2	383	0	414	52	0
29	3	462	0	506	63	0
30	4	297	0	330	23	0
31	X	58	0	69	13	0
32	C	1	0	0	0	0
32	I	1	0	0	0	0
32	X	151	0	0	0	0
32	Y	1	0	0	0	0
33	A	1	0	0	0	0
33	K	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	X	37	0	0	0	0
33	Y	2	0	0	0	0
33	Z	1	0	0	0	0
34	M	1	0	0	0	0
34	X	14	0	0	0	0
All	All	84383	0	55718	3336	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (3336) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2044:G:OP1	5:C:62:LYS:HG3	1.36	1.18
15:M:28:ARG:HB2	15:M:29:PRO:HD3	1.29	1.14
9:G:103:TYR:HB3	9:G:107:GLN:HE21	1.14	1.12
4:B:9:ILE:HD11	4:B:27:LEU:HB2	1.32	1.10
4:B:116:VAL:HG22	4:B:136:ARG:NE	1.69	1.05
9:G:67:ARG:HB3	9:G:70:PHE:HA	1.39	1.05
28:2:10:ARG:H	28:2:10:ARG:HD2	1.19	1.05
10:H:83:ARG:HD2	10:H:89:ILE:HD11	1.38	1.05
9:G:100:TYR:HB2	9:G:116:ARG:HH11	1.20	1.04
4:B:116:VAL:HG22	4:B:136:ARG:HE	1.21	1.03
23:U:17:SER:HB2	23:U:44:ALA:HA	1.36	1.03
5:C:176:ASN:HD21	5:C:178:TYR:HB3	1.22	1.03
9:G:100:TYR:HB2	9:G:116:ARG:NH1	1.71	1.02
1:X:591:G:H2'	1:X:592:G:C8	1.94	1.02
3:A:96:LEU:HD12	3:A:106:ILE:HD12	1.43	1.00
1:X:552:C:H2'	1:X:553:C:H5''	1.41	1.00
3:A:244:GLY:H	3:A:245:ARG:NH1	1.60	1.00
16:N:50:ARG:HA	16:N:53:LYS:HE2	1.43	1.00
6:D:38:GLU:HB3	6:D:87:ILE:HB	1.42	0.99
2:Y:17:A:H1'	2:Y:112:A:C8	1.97	0.99
9:G:106:TYR:CE2	9:G:108:GLY:HA3	1.99	0.98
1:X:2797:G:OP2	13:K:3:HIS:CE1	2.16	0.97
14:L:31:VAL:HG23	14:L:38:ILE:HD13	1.46	0.97
3:A:49:ARG:HD2	3:A:49:ARG:H	1.29	0.97
29:3:13:ARG:HH11	29:3:25:PHE:HB2	1.30	0.96
1:X:1466:C:H2'	1:X:1467:U:O4'	1.67	0.95
4:B:14:ILE:HG12	15:M:20:HIS:CD2	2.02	0.95
9:G:132:PHE:HD2	9:G:145:HIS:CD2	1.84	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:20:ARG:HD3	23:U:43:ARG:HH22	1.30	0.94
1:X:2592:U:H2'	26:Z:5:PRO:HG2	1.48	0.93
5:C:176:ASN:HD22	5:C:179:ASP:H	1.10	0.93
1:X:2736:U:H3	1:X:2738:A:H62	1.05	0.93
1:X:540:G:H2'	1:X:542:A:H2	1.31	0.93
1:X:760:U:C6	26:Z:3:LYS:HE2	2.04	0.92
1:X:2170:C:H3'	1:X:2171:U:H5''	1.49	0.92
9:G:132:PHE:CD2	9:G:145:HIS:CD2	2.57	0.91
1:X:2757:G:H5''	1:X:2758:A:H5'	1.49	0.91
4:B:14:ILE:HA	15:M:20:HIS:HD2	1.34	0.91
3:A:44:ARG:HD2	3:A:44:ARG:N	1.83	0.91
4:B:110:GLY:HA2	4:B:161:GLY:HA3	1.52	0.91
1:X:2044:G:OP1	5:C:62:LYS:CG	2.18	0.91
22:T:12:ASN:HB3	22:T:14:ARG:HG2	1.51	0.91
1:X:225:G:C2	1:X:2410:U:H4'	2.05	0.91
31:X:2881:LMA:H37B	31:X:2881:LMA:H35	1.52	0.91
13:K:45:ARG:HG3	13:K:95:THR:HG21	1.54	0.90
23:U:49:LYS:HB3	23:U:61:TRP:CE3	2.05	0.90
5:C:26:VAL:HG22	11:I:18:ARG:HH12	1.35	0.90
1:X:2426:G:H3'	1:X:2479:U:OP2	1.72	0.90
1:X:2447:G:HO2'	1:X:2448:A:H8	0.91	0.90
15:M:11:GLU:HG3	15:M:14:ARG:HH11	1.36	0.90
1:X:635:C:H2'	1:X:636:G:H5''	1.50	0.90
9:G:103:TYR:HB3	9:G:107:GLN:NE2	1.86	0.89
20:R:15:HIS:HD1	20:R:16:PHE:HD2	1.19	0.89
16:N:66:ASN:HB3	16:N:76:TYR:HB2	1.53	0.89
20:R:22:VAL:HG11	20:R:80:LYS:HE3	1.54	0.89
20:R:18:LYS:HD3	20:R:18:LYS:H	1.36	0.89
2:Y:119:G:H4'	14:L:57:ALA:HB3	1.55	0.89
18:P:66:GLU:HB3	18:P:67:PRO:HD3	1.53	0.88
1:X:347:C:H4'	20:R:15:HIS:CD2	2.08	0.88
1:X:870:C:H1'	22:T:26:PHE:HE2	1.39	0.88
15:M:33:VAL:HG22	15:M:51:GLU:HB2	1.53	0.88
27:1:34:LYS:HE3	27:1:34:LYS:HA	1.56	0.88
1:X:2204:A:H4'	1:X:2205:C:O5'	1.71	0.87
1:X:1296:G:H22	1:X:1299:A:H5''	1.39	0.87
12:J:15:ARG:HD3	12:J:73:LYS:HG3	1.56	0.87
7:E:103:LEU:HD21	7:E:131:ILE:HD13	1.55	0.87
13:K:84:ALA:HB3	13:K:85:PRO:HD3	1.55	0.87
3:A:44:ARG:HD2	3:A:44:ARG:H	1.34	0.87
2:Y:59:A:H1'	6:D:27:ALA:HB2	1.56	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:105:MET:HB2	7:E:113:VAL:HB	1.57	0.86
1:X:2811:G:H2'	1:X:2812:A:C8	2.11	0.86
1:X:1816:G:OP1	3:A:53:ARG:HD3	1.75	0.86
13:K:100:VAL:HG12	13:K:101:GLY:N	1.90	0.86
1:X:870:C:H4'	22:T:23:VAL:HG21	1.56	0.86
1:X:1086:C:H3'	1:X:1087:C:H5''	1.57	0.86
2:Y:33:C:H42	2:Y:53:G:H1	1.22	0.86
9:G:106:TYR:CE2	9:G:108:GLY:CA	2.59	0.85
10:H:25:LEU:HD11	10:H:52:VAL:HG23	1.55	0.85
1:X:1790:G:H4'	1:X:1791:C:O5'	1.77	0.85
1:X:1067:G:H21	1:X:1114:A:H62	1.21	0.85
1:X:313:U:H2'	1:X:314:G:H8	1.39	0.85
5:C:163:ASN:HD21	5:C:167:VAL:H	1.21	0.85
4:B:76:ARG:NH1	15:M:4:HIS:HB2	1.91	0.85
1:X:2598:C:O2'	1:X:2599:U:H5'	1.77	0.85
28:2:37:LYS:O	28:2:40:HIS:HE1	1.59	0.85
12:J:42:TRP:HB3	12:J:95:VAL:HG11	1.55	0.84
31:X:2881:LMA:H32	31:X:2881:LMA:O53	1.76	0.84
11:I:31:GLY:O	11:I:32:ARG:HG3	1.77	0.84
20:R:15:HIS:ND1	20:R:16:PHE:HD2	1.75	0.84
1:X:347:C:H4'	20:R:15:HIS:HD2	1.38	0.84
25:W:46:THR:HG22	25:W:47:VAL:HG13	1.60	0.84
1:X:918:A:H2'	1:X:919:U:H5''	1.60	0.84
3:A:173:TYR:HA	3:A:187:HIS:HA	1.60	0.84
3:A:43:GLY:C	3:A:44:ARG:HH11	1.81	0.83
1:X:1811:A:H4'	1:X:1812:U:O5'	1.78	0.83
9:G:162:LYS:H	9:G:163:PRO:HD2	1.43	0.83
1:X:504:G:H4'	18:P:27:VAL:HG13	1.60	0.83
1:X:1469:U:H5'	1:X:1470:G:OP2	1.77	0.83
13:K:49:GLU:OE1	13:K:95:THR:HG22	1.77	0.83
16:N:66:ASN:HB2	16:N:70:ARG:HH12	1.43	0.83
10:H:2:ILE:HB	10:H:45:ALA:HB3	1.60	0.83
4:B:131:SER:HB2	4:B:134:TRP:CD1	2.12	0.83
18:P:85:MET:HE3	18:P:130:GLU:HG3	1.61	0.82
1:X:165:G:H1	1:X:185:C:H42	1.27	0.82
13:K:98:LEU:HD23	26:Z:45:ILE:HD11	1.59	0.82
1:X:2266:A:O2'	1:X:2267:A:H2'	1.78	0.82
1:X:1147:G:H2'	1:X:1148:G:H8	1.45	0.82
4:B:146:THR:HB	4:B:147:PRO:HD2	1.59	0.82
1:X:1631:C:H1'	18:P:108:PRO:HG2	1.59	0.82
20:R:22:VAL:HG13	20:R:81:VAL:O	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2194:A:H3'	1:X:2195:C:H5''	1.60	0.82
1:X:595:A:H5'	5:C:83:ALA:HB3	1.62	0.81
1:X:2796:A:P	13:K:3:HIS:HE2	2.03	0.81
18:P:95:ALA:HB2	18:P:126:ILE:HD13	1.61	0.81
26:Z:42:SER:O	26:Z:44:HIS:HD2	1.63	0.81
1:X:2200:G:H2'	1:X:2201:G:C8	2.15	0.81
1:X:2289:A:H2	6:D:79:LEU:HD11	1.44	0.81
23:U:20:ARG:HD3	23:U:43:ARG:NH2	1.94	0.81
3:A:80:VAL:HB	3:A:115:GLY:H	1.46	0.81
27:1:9:ILE:HA	27:1:28:ARG:HA	1.62	0.80
14:L:37:HIS:CE1	14:L:57:ALA:HB2	2.16	0.80
1:X:938:G:O2'	1:X:939:C:H5'	1.82	0.80
3:A:25:LEU:CB	3:A:206:VAL:HG22	2.12	0.80
1:X:540:G:H2'	1:X:542:A:C2	2.16	0.80
1:X:2797:G:OP2	13:K:3:HIS:HE1	1.60	0.80
18:P:103:LEU:HB2	18:P:119:LYS:HB2	1.62	0.80
20:R:90:LYS:HB2	20:R:108:VAL:HG21	1.64	0.80
1:X:408:U:H2'	1:X:409:G:C8	2.16	0.80
1:X:1053:G:H4'	1:X:1054:C:OP1	1.80	0.80
28:2:43:THR:O	28:2:43:THR:HG22	1.78	0.79
15:M:99:VAL:HG21	15:M:104:LEU:HD21	1.62	0.79
1:X:1016:C:O2'	9:G:56:THR:HG21	1.81	0.79
4:B:174:GLU:HB3	4:B:183:LEU:HD12	1.64	0.79
1:X:37:C:H1'	5:C:44:SER:OG	1.83	0.79
10:H:13:ASN:HD21	10:H:109:ARG:HG2	1.48	0.79
10:H:116:ARG:HD2	15:M:38:LYS:NZ	1.98	0.79
1:X:2861:A:O2'	26:Z:31:THR:HG23	1.83	0.79
1:X:666:U:H2'	1:X:667:U:H5''	1.64	0.79
27:1:39:LYS:NZ	27:1:47:HIS:HA	1.98	0.79
1:X:1630:A:N1	18:P:114:ALA:HB2	1.98	0.79
13:K:49:GLU:O	13:K:52:ILE:HG12	1.83	0.79
18:P:41:VAL:O	18:P:44:VAL:HG22	1.82	0.79
22:T:43:THR:O	22:T:43:THR:HG22	1.82	0.79
1:X:1142:G:N3	9:G:103:TYR:HD2	1.80	0.78
5:C:154:ASP:O	5:C:157:THR:HG22	1.83	0.78
3:A:69:LYS:HD3	3:A:69:LYS:H	1.48	0.78
16:N:66:ASN:HB2	16:N:70:ARG:NH1	1.98	0.78
1:X:2672:U:H2'	1:X:2673:G:H8	1.49	0.78
1:X:824:U:C2'	11:I:30:ALA:HB2	2.14	0.78
1:X:1404:C:H5'	1:X:1405:A:OP2	1.84	0.78
10:H:27:SER:HA	10:H:50:ILE:HD12	1.64	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:168:A:H2'	1:X:169:C:C6	2.19	0.78
1:X:469:G:H5'	28:2:39:ARG:HB2	1.66	0.77
1:X:2796:A:OP2	13:K:3:HIS:NE2	2.16	0.77
28:2:37:LYS:O	28:2:40:HIS:CE1	2.37	0.77
27:1:14:SER:HB2	27:1:22:TYR:HA	1.67	0.77
1:X:1976:U:H4'	4:B:128:SER:OG	1.83	0.77
1:X:317:U:H2'	1:X:318:G:H5'	1.65	0.77
10:H:76:ARG:O	10:H:94:ASN:HA	1.84	0.77
1:X:2659:C:H5'	4:B:189:PRO:HA	1.65	0.77
1:X:313:U:H2'	1:X:314:G:C8	2.20	0.77
3:A:61:ARG:HD3	3:A:88:ASN:OD1	1.85	0.77
18:P:87:GLU:HA	18:P:90:LEU:HG	1.67	0.77
14:L:89:PHE:HB3	14:L:91:ARG:NH2	1.99	0.77
5:C:5:ASN:HA	5:C:118:VAL:HG23	1.67	0.77
1:X:1584:G:H5'	3:A:62:LEU:HG	1.67	0.77
27:1:39:LYS:CE	27:1:47:HIS:HA	2.15	0.76
1:X:492:G:H22	1:X:519:C:H42	1.32	0.76
16:N:6:THR:O	16:N:9:VAL:HG23	1.84	0.76
4:B:78:LEU:O	4:B:79:ARG:HD3	1.86	0.76
10:H:10:VAL:HG23	10:H:17:ARG:O	1.84	0.76
15:M:28:ARG:CB	15:M:29:PRO:HD3	2.11	0.76
11:I:74:VAL:HG13	11:I:109:LEU:HD12	1.68	0.76
1:X:2495:G:O2'	1:X:2496:C:H5'	1.85	0.76
5:C:162:ARG:HD2	5:C:162:ARG:C	2.05	0.76
13:K:98:LEU:HD21	26:Z:56:GLN:HG2	1.67	0.76
27:1:29:ARG:HA	27:1:33:ALA:CB	2.16	0.76
19:Q:53:ILE:HD13	19:Q:80:VAL:HG12	1.65	0.76
2:Y:51:G:H2'	2:Y:52:G:C8	2.21	0.76
3:A:143:VAL:HG12	3:A:194:ILE:HA	1.67	0.76
27:1:8:ILE:H	27:1:8:ILE:HD13	1.49	0.75
1:X:824:U:H2'	11:I:30:ALA:HB2	1.66	0.75
1:X:2590:U:C5	26:Z:4:HIS:NE2	2.53	0.75
1:X:1314:A:O2'	1:X:1315:A:H3'	1.86	0.75
27:1:14:SER:CB	27:1:23:THR:H	1.99	0.75
1:X:542:A:H2'	16:N:28:ARG:NE	2.01	0.75
1:X:1441:A:H4'	1:X:1442:C:O5'	1.84	0.75
10:H:99:ILE:HD12	10:H:103:GLY:HA2	1.67	0.75
3:A:71:ARG:HG2	3:A:191:TYR:CE1	2.22	0.75
1:X:1016:C:HO2'	1:X:1023:U:H5	1.34	0.75
5:C:162:ARG:O	5:C:162:ARG:HD2	1.86	0.75
11:I:43:ALA:O	11:I:45:LYS:N	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2811:G:H2'	1:X:2812:A:H8	1.49	0.75
1:X:1048:U:H3	1:X:1129:A:H61	1.33	0.75
14:L:38:ILE:HD12	14:L:39:TYR:H	1.51	0.75
27:1:29:ARG:HA	27:1:33:ALA:HB2	1.67	0.75
18:P:59:PHE:HD1	26:Z:30:LEU:HD11	1.52	0.75
1:X:128:C:H2'	1:X:129:A:H5''	1.68	0.75
21:S:51:LEU:H	21:S:51:LEU:HD23	1.51	0.75
1:X:1673:C:H2'	1:X:1674:C:H6	1.52	0.74
2:Y:51:G:H2'	2:Y:52:G:H8	1.51	0.74
12:J:99:LYS:HE3	12:J:100:PRO:HD2	1.69	0.74
4:B:11:MET:HG2	4:B:24:THR:OG1	1.87	0.74
1:X:2484:G:O2'	1:X:2485:U:H5''	1.87	0.74
1:X:1444:C:H42	1:X:1579:G:H1	1.33	0.74
21:S:100:THR:HG23	21:S:138:VAL:HG11	1.69	0.74
3:A:209:LYS:HE3	3:A:209:LYS:HA	1.68	0.74
4:B:14:ILE:HD12	4:B:23:VAL:HG21	1.70	0.74
1:X:1173:G:H4'	17:O:22:VAL:HG22	1.70	0.74
13:K:28:LEU:C	13:K:28:LEU:HD23	2.08	0.74
19:Q:62:ARG:O	19:Q:63:LYS:HB3	1.88	0.74
1:X:754:G:H2'	1:X:755:C:H6	1.52	0.74
29:3:30:ARG:HH21	29:3:31:HIS:CE1	2.06	0.74
29:3:60:LEU:HD12	29:3:63:PRO:HG2	1.69	0.74
1:X:2245:A:H4'	1:X:2246:A:N3	2.02	0.74
1:X:2590:U:C5	26:Z:4:HIS:CE1	2.76	0.73
1:X:161:U:H4'	1:X:194:G:H21	1.51	0.73
15:M:32:THR:O	15:M:51:GLU:HA	1.89	0.73
1:X:552:C:C2'	1:X:553:C:H5''	2.17	0.73
1:X:2660:C:H42	1:X:2707:G:H1	1.37	0.73
15:M:104:LEU:HA	15:M:106:TYR:CE2	2.24	0.73
26:Z:6:VAL:HG13	26:Z:7:PRO:HD2	1.70	0.73
3:A:245:ARG:C	3:A:253:LYS:HE2	2.09	0.73
29:3:13:ARG:NH1	29:3:25:PHE:HB2	2.03	0.73
3:A:54:PHE:O	3:A:55:ILE:HB	1.87	0.73
13:K:87:TYR:HE1	13:K:94:TYR:HD1	1.36	0.73
6:D:60:ILE:HG13	6:D:61:THR:HG23	1.71	0.73
1:X:590:C:H2'	1:X:591:G:H8	1.54	0.73
26:Z:52:TYR:O	26:Z:53:ASP:HB2	1.89	0.73
1:X:1542:G:H22	1:X:1562:G:H1	1.37	0.73
1:X:1336:G:H2'	1:X:1337:G:H5'	1.69	0.73
18:P:37:LYS:HE2	18:P:64:ALA:HB2	1.71	0.72
1:X:73:A:H5''	1:X:74:G:O4'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:3:13:ARG:HD2	29:3:25:PHE:N	2.04	0.72
23:U:51:ILE:HG23	23:U:59:THR:HG22	1.71	0.72
18:P:25:PHE:HD1	18:P:127:ILE:HD11	1.54	0.72
14:L:38:ILE:HD11	14:L:40:ALA:H	1.53	0.72
1:X:177:U:H3'	23:U:40:ARG:HH21	1.53	0.72
1:X:2734:U:H4'	30:4:26:ILE:HD13	1.70	0.72
11:I:58:ALA:HA	29:3:12:ARG:HH21	1.54	0.72
1:X:1278:A:H2	1:X:1997:A:H62	1.37	0.72
1:X:1277:G:OP1	26:Z:19:ARG:NH2	2.22	0.72
20:R:29:HIS:CD2	20:R:51:VAL:HG22	2.24	0.72
1:X:394:U:OP1	23:U:19:ILE:HD11	1.89	0.72
1:X:540:G:C2'	1:X:542:A:H2	2.02	0.72
1:X:2825:A:H2'	1:X:2825:A:N3	2.04	0.72
1:X:797:A:C5	3:A:230:VAL:HG21	2.24	0.72
1:X:2218:G:H5'	3:A:250:PRO:HD3	1.70	0.72
1:X:73:A:H3'	1:X:74:G:H5'	1.72	0.72
1:X:1656:U:C2'	1:X:1657:A:H5''	2.20	0.72
1:X:654:A:N3	1:X:654:A:H3'	2.04	0.72
26:Z:58:LEU:H	26:Z:58:LEU:HD12	1.54	0.72
9:G:103:TYR:CB	9:G:107:GLN:HE21	1.99	0.72
11:I:49:PHE:HD1	11:I:50:GLU:H	1.38	0.72
24:V:42:ARG:O	24:V:46:LEU:HG	1.90	0.72
1:X:2260:C:O2'	1:X:2261:G:H5'	1.89	0.72
1:X:1884:A:O2'	3:A:245:ARG:HG2	1.90	0.71
1:X:2736:U:H5''	30:4:19:ARG:HG2	1.72	0.71
1:X:2284:U:H4'	6:D:133:LYS:HG2	1.70	0.71
1:X:635:C:C2'	1:X:636:G:H5''	2.20	0.71
1:X:1714:A:H5''	1:X:1715:A:H2'	1.71	0.71
3:A:253:LYS:H	3:A:254:PRO:HD2	1.55	0.71
6:D:4:LEU:HG	6:D:5:LYS:H	1.54	0.71
1:X:841:G:H2'	1:X:842:A:C8	2.26	0.71
1:X:1688:U:HO2'	1:X:1690:U:H5	1.38	0.71
16:N:99:ALA:HB2	16:N:106:PHE:CD1	2.26	0.71
1:X:2291:U:O2'	6:D:86:GLY:HA3	1.91	0.71
13:K:45:ARG:HG3	13:K:95:THR:CG2	2.21	0.71
28:2:43:THR:O	28:2:43:THR:CG2	2.38	0.71
1:X:1745:C:H2'	1:X:1746:A:O4'	1.91	0.71
1:X:2704:U:H2'	1:X:2705:A:C2	2.26	0.71
4:B:144:ARG:HG2	4:B:145:LYS:H	1.55	0.71
3:A:45:ASN:HB3	3:A:50:ILE:HA	1.71	0.71
1:X:504:G:H4'	18:P:27:VAL:CG1	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:28:LEU:O	13:K:28:LEU:HD23	1.90	0.71
1:X:870:C:H1'	22:T:26:PHE:CE2	2.23	0.70
1:X:839:U:H5''	1:X:2408:G:OP2	1.91	0.70
9:G:132:PHE:HB2	9:G:145:HIS:CD2	2.26	0.70
1:X:1147:G:H2'	1:X:1148:G:C8	2.26	0.70
10:H:23:ARG:HB3	10:H:23:ARG:NH2	2.06	0.70
9:G:106:TYR:HE2	9:G:108:GLY:HA3	1.54	0.70
25:W:4:LYS:HG3	25:W:52:GLU:HB3	1.73	0.70
1:X:2048:C:H1'	1:X:2428:U:H3	1.56	0.70
1:X:2051:U:H3	1:X:2409:A:H62	1.38	0.70
1:X:557:U:H4'	1:X:558:G:O4'	1.92	0.70
1:X:2781:G:H2'	1:X:2782:G:H5''	1.72	0.70
15:M:34:ARG:HH21	15:M:91:VAL:HG21	1.55	0.70
1:X:590:C:H2'	1:X:591:G:C8	2.27	0.70
15:M:104:LEU:HD23	15:M:106:TYR:HE2	1.57	0.70
16:N:17:VAL:HG21	16:N:32:TYR:HE1	1.55	0.70
1:X:2592:U:H2'	26:Z:5:PRO:CG	2.21	0.70
1:X:2194:A:C3'	1:X:2195:C:H5''	2.21	0.70
1:X:242:A:O2'	1:X:243:G:H4'	1.90	0.70
19:Q:12:ILE:H	19:Q:12:ILE:HD13	1.55	0.70
14:L:38:ILE:CD1	14:L:40:ALA:H	2.05	0.70
1:X:1174:G:N2	1:X:1175:A:C4	2.60	0.70
4:B:116:VAL:HG13	4:B:136:ARG:HH21	1.57	0.70
10:H:41:ASN:O	10:H:42:LYS:O	2.10	0.70
1:X:2756:A:H4'	1:X:2757:G:O5'	1.91	0.69
20:R:23:ILE:HG22	20:R:33:THR:HB	1.73	0.69
1:X:595:A:H5'	5:C:83:ALA:CB	2.22	0.69
2:Y:39:C:H5'	2:Y:40:C:OP2	1.92	0.69
15:M:34:ARG:CZ	15:M:88:VAL:HG11	2.22	0.69
10:H:110:VAL:HG23	10:H:129:LEU:HB2	1.74	0.69
19:Q:63:LYS:HD3	19:Q:69:ILE:HA	1.73	0.69
1:X:1043:A:H5'	30:4:7:VAL:O	1.92	0.69
1:X:539:A:C5	1:X:2025:A:C2	2.80	0.69
1:X:564:U:H2'	1:X:565:A:C8	2.27	0.69
1:X:183:U:H6	1:X:183:U:O5'	1.76	0.69
1:X:2324:G:N3	1:X:2360:C:H2'	2.07	0.69
3:A:44:ARG:HH11	3:A:44:ARG:N	1.91	0.69
5:C:153:ASP:O	5:C:154:ASP:HB3	1.91	0.69
1:X:45:C:OP2	1:X:192:G:H2'	1.93	0.69
1:X:591:G:H2'	1:X:592:G:H8	1.57	0.69
1:X:1148:G:H5''	1:X:1149:G:OP2	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:543:G:H5'	16:N:24:PHE:CE1	2.28	0.69
1:X:2240:C:O2'	1:X:2241:U:H5'	1.92	0.69
9:G:70:PHE:HB3	16:N:64:ARG:HG2	1.74	0.69
1:X:538:A:N3	1:X:538:A:H2'	2.06	0.69
1:X:538:A:C4'	1:X:539:A:OP1	2.41	0.69
10:H:116:ARG:CZ	15:M:38:LYS:HE3	2.23	0.69
1:X:2660:C:N4	1:X:2707:G:H1	1.91	0.69
1:X:1656:U:H2'	1:X:1657:A:H5''	1.75	0.69
24:V:18:ILE:HG22	24:V:22:LYS:HE2	1.74	0.69
16:N:101:ARG:O	16:N:103:PRO:HD3	1.93	0.69
3:A:71:ARG:HH22	3:A:150:PRO:HA	1.57	0.69
1:X:2293:G:H5''	6:D:35:VAL:HG21	1.75	0.69
1:X:971:A:H61	12:J:83:ARG:HH22	1.40	0.69
14:L:89:PHE:HZ	14:L:103:LEU:HD22	1.58	0.69
1:X:317:U:C2'	1:X:318:G:H5'	2.22	0.69
4:B:60:ASN:HB3	4:B:62:PRO:HD2	1.74	0.69
1:X:2670:C:H4'	1:X:2846:G:O2'	1.93	0.69
4:B:131:SER:HB2	4:B:134:TRP:NE1	2.08	0.68
1:X:1442:C:O2'	1:X:1585:A:OP2	2.08	0.68
15:M:39:VAL:HG12	15:M:45:THR:HG23	1.75	0.68
10:H:47:VAL:HA	10:H:74:VAL:HG12	1.75	0.68
1:X:239:A:H5''	1:X:621:U:H5'	1.75	0.68
1:X:491:A:H4'	20:R:55:THR:HB	1.74	0.68
1:X:2293:G:H5'	6:D:35:VAL:HG11	1.76	0.68
1:X:1166:A:H5''	16:N:55:ARG:HD3	1.74	0.68
3:A:218:ARG:HG2	3:A:219:LYS:H	1.58	0.68
1:X:342:G:H4'	1:X:343:A:OP2	1.92	0.68
4:B:155:ARG:HG3	4:B:155:ARG:HH11	1.57	0.68
1:X:1096:A:H4'	1:X:1097:A:OP1	1.93	0.68
12:J:12:LYS:O	12:J:13:GLN:HB2	1.93	0.68
10:H:75:VAL:HG12	10:H:118:LEU:HD21	1.76	0.68
1:X:919:U:H2'	1:X:920:G:H8	1.59	0.68
16:N:72:HIS:HD2	16:N:110:VAL:HG21	1.58	0.68
28:2:42:LEU:HD12	28:2:42:LEU:N	2.09	0.68
1:X:1493:A:H2'	1:X:1494:G:O4'	1.94	0.68
1:X:337:G:HO2'	20:R:9:HIS:HD1	1.42	0.68
16:N:49:ASP:O	16:N:53:LYS:HG2	1.94	0.67
30:4:19:ARG:HD2	30:4:24:LEU:HD22	1.75	0.67
1:X:2447:G:O2'	1:X:2448:A:H8	1.72	0.67
13:K:51:LEU:HD21	13:K:70:ILE:HD11	1.74	0.67
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:597:U:H2'	1:X:598:U:C6	2.29	0.67
1:X:1988:A:H5''	1:X:1989:C:OP2	1.94	0.67
1:X:408:U:H2'	1:X:409:G:H8	1.59	0.67
1:X:1976:U:H4'	4:B:128:SER:CB	2.24	0.67
1:X:854:G:H1	1:X:948:C:H42	1.41	0.67
4:B:183:LEU:HD21	15:M:16:ILE:HG21	1.76	0.67
11:I:61:PRO:HD3	29:3:27:SER:HB3	1.75	0.67
9:G:84:ASN:O	9:G:152:ALA:HA	1.94	0.67
5:C:176:ASN:ND2	5:C:178:TYR:HB3	2.03	0.67
13:K:87:TYR:HE1	13:K:94:TYR:CD1	2.12	0.67
1:X:2551:A:N7	4:B:145:LYS:HB2	2.08	0.67
1:X:494:A:C8	20:R:56:LYS:HD2	2.30	0.67
12:J:64:LYS:NZ	12:J:110:VAL:HG13	2.10	0.67
12:J:66:TYR:HB2	12:J:106:GLU:HG2	1.75	0.67
17:O:34:GLU:HB2	17:O:56:VAL:CG2	2.24	0.67
1:X:1357:U:H4'	1:X:1397:A:C6	2.30	0.67
15:M:39:VAL:HG12	15:M:45:THR:OG1	1.93	0.67
1:X:923:A:H5''	1:X:924:C:H5''	1.74	0.67
23:U:23:LYS:HB2	23:U:35:THR:HG23	1.76	0.67
23:U:22:GLY:HA3	23:U:39:LYS:HG3	1.77	0.67
7:E:146:ALA:O	7:E:150:LYS:HG3	1.95	0.67
1:X:652:C:H42	1:X:657:A:H61	1.41	0.67
1:X:1991:C:H2'	1:X:1992:G:H8	1.60	0.67
1:X:1141:U:C4	4:B:147:PRO:HG3	2.29	0.66
1:X:538:A:H3'	9:G:142:ARG:HH12	1.57	0.66
1:X:2200:G:H2'	1:X:2201:G:H8	1.58	0.66
1:X:1978:U:C2	1:X:1979:C:C5	2.83	0.66
3:A:78:ALA:HB2	3:A:98:TYR:HD1	1.59	0.66
1:X:38:G:H4'	1:X:39:C:OP1	1.95	0.66
19:Q:27:PHE:CZ	19:Q:42:ILE:HD13	2.30	0.66
12:J:40:PRO:HB3	12:J:99:LYS:HZ2	1.60	0.66
4:B:120:TRP:CD2	4:B:155:ARG:HD2	2.30	0.66
20:R:75:ALA:O	20:R:76:LEU:HD23	1.95	0.66
9:G:162:LYS:N	9:G:163:PRO:HD2	2.09	0.66
10:H:1:MET:HB3	10:H:44:TYR:HB3	1.75	0.66
19:Q:10:PRO:HD3	24:V:30:PHE:CD2	2.30	0.66
6:D:65:PRO:HB3	6:D:89:VAL:HG22	1.77	0.66
1:X:1563:U:H2'	1:X:1564:U:C6	2.31	0.66
5:C:151:VAL:HG12	5:C:173:ALA:HA	1.76	0.66
1:X:2043:A:H62	5:C:68:ARG:NH1	1.93	0.66
3:A:246:VAL:HG12	3:A:252:GLY:N	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:67:PRO:O	18:P:71:VAL:HG23	1.95	0.66
1:X:2675:U:H2'	1:X:2676:G:C8	2.31	0.66
29:3:13:ARG:HD2	29:3:25:PHE:H	1.60	0.66
29:3:46:LYS:HE3	29:3:46:LYS:HA	1.77	0.66
1:X:1107:A:H3'	1:X:1108:U:H5''	1.78	0.66
1:X:1941:C:O2'	1:X:1942:G:H5'	1.96	0.66
1:X:2409:A:H4'	1:X:2410:U:OP1	1.96	0.66
5:C:163:ASN:HD21	5:C:167:VAL:N	1.93	0.66
1:X:826:U:H2'	1:X:827:C:C6	2.29	0.66
1:X:984:A:C2	1:X:1201:G:N2	2.64	0.66
16:N:61:TRP:O	16:N:65:ILE:HG13	1.96	0.66
15:M:66:PHE:HD2	15:M:83:PHE:CE1	2.14	0.66
1:X:2543:A:C2	1:X:2626:U:H4'	2.30	0.66
1:X:1343:C:O2'	1:X:1344:C:H5'	1.96	0.66
1:X:1469:U:H5	13:K:64:ARG:HH21	1.42	0.66
1:X:1683:G:O2'	1:X:1684:G:H5'	1.95	0.66
3:A:244:GLY:N	3:A:245:ARG:NH1	2.41	0.66
4:B:76:ARG:HH12	15:M:4:HIS:HB2	1.61	0.66
1:X:1968:G:H2'	1:X:1969:G:H8	1.59	0.66
22:T:23:VAL:HG13	22:T:38:VAL:HG22	1.77	0.66
29:3:9:MET:HG3	29:3:60:LEU:HD22	1.77	0.66
1:X:1300:A:H5'	13:K:103:ARG:HD2	1.78	0.66
22:T:21:LEU:HD21	22:T:41:ARG:HE	1.59	0.66
1:X:1468:A:OP2	1:X:1468:A:C8	2.49	0.66
4:B:13:GLN:O	4:B:14:ILE:HG13	1.96	0.66
27:1:39:LYS:HE2	27:1:47:HIS:HA	1.75	0.66
1:X:477:A:OP1	28:2:34:ARG:NH2	2.29	0.66
1:X:879:A:H2'	1:X:879:A:N3	2.10	0.66
9:G:132:PHE:CD2	9:G:145:HIS:CG	2.84	0.65
15:M:37:THR:CG2	15:M:39:VAL:HG13	2.26	0.65
12:J:116:LYS:O	12:J:120:ARG:HB2	1.95	0.65
3:A:219:LYS:HD2	3:A:219:LYS:C	2.17	0.65
28:2:37:LYS:C	28:2:40:HIS:HE1	2.00	0.65
1:X:1053:G:C4'	1:X:1054:C:OP1	2.43	0.65
1:X:2705:A:N3	1:X:2705:A:O4'	2.28	0.65
1:X:1128:G:H2'	1:X:1129:A:H5''	1.78	0.65
5:C:46:ARG:HB3	5:C:51:VAL:HG23	1.79	0.65
1:X:1938:U:H1'	1:X:1939:U:OP1	1.97	0.65
9:G:107:GLN:O	9:G:109:GLY:N	2.29	0.65
1:X:1299:A:O2'	1:X:1301:U:OP2	2.14	0.65
10:H:2:ILE:O	10:H:44:TYR:HA	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:42:LYS:HE3	10:H:44:TYR:O	1.96	0.65
1:X:2372:A:H5''	11:I:61:PRO:HA	1.79	0.65
12:J:76:THR:HB	12:J:88:LYS:O	1.96	0.65
13:K:33:ARG:HG3	13:K:114:GLU:HB3	1.77	0.65
1:X:591:G:C2'	1:X:592:G:C8	2.78	0.65
12:J:42:TRP:HB3	12:J:95:VAL:CG1	2.26	0.65
21:S:69:VAL:HG13	21:S:81:VAL:HG22	1.79	0.65
1:X:626:A:C8	5:C:174:GLY:HA3	2.31	0.65
18:P:59:PHE:CD1	26:Z:30:LEU:HD11	2.31	0.65
24:V:2:LYS:HA	24:V:6:MET:HE1	1.78	0.65
1:X:1673:C:H5''	4:B:136:ARG:HB3	1.79	0.65
10:H:42:LYS:NZ	10:H:46:HIS:HD2	1.95	0.65
3:A:87:PRO:O	3:A:88:ASN:HB2	1.97	0.65
5:C:95:LEU:HD21	5:C:99:VAL:HB	1.77	0.65
1:X:227:G:OP2	29:3:8:LYS:HE3	1.95	0.65
19:Q:22:ARG:NH1	19:Q:24:VAL:HG21	2.12	0.65
1:X:1270:C:H4'	5:C:77:PHE:CE2	2.32	0.65
1:X:448:C:H5	1:X:449:C:C4	2.14	0.65
4:B:141:ILE:HG22	4:B:150:VAL:HB	1.79	0.65
15:M:104:LEU:HD23	15:M:106:TYR:CE2	2.31	0.65
5:C:27:LEU:O	5:C:31:VAL:HG22	1.96	0.65
14:L:33:ARG:HG2	14:L:38:ILE:HB	1.78	0.65
1:X:603:C:H5'	29:3:62:LEU:HD22	1.79	0.65
1:X:617:U:H5	1:X:632:A:N1	1.95	0.65
12:J:77:LYS:O	12:J:79:PRO:HD3	1.97	0.65
1:X:2788:C:H2'	1:X:2789:U:H6	1.61	0.65
5:C:176:ASN:HD22	5:C:179:ASP:N	1.89	0.65
1:X:177:U:O4	1:X:225:G:C2	2.50	0.65
1:X:2441:U:H2'	1:X:2442:C:C6	2.32	0.65
15:M:103:LYS:O	15:M:104:LEU:HB2	1.95	0.64
1:X:754:G:H2'	1:X:755:C:C6	2.31	0.64
1:X:48:A:H4'	1:X:49:U:O5'	1.97	0.64
1:X:38:G:C4'	1:X:39:C:OP1	2.44	0.64
7:E:43:VAL:HG23	7:E:52:VAL:HG22	1.79	0.64
16:N:30:LYS:HB3	16:N:30:LYS:NZ	2.13	0.64
1:X:2328:G:OP2	29:3:42:ARG:HG3	1.97	0.64
1:X:1153:A:OP1	1:X:1153:A:H4'	1.97	0.64
14:L:31:VAL:HG23	14:L:38:ILE:CD1	2.24	0.64
1:X:2426:G:C3'	1:X:2479:U:OP2	2.44	0.64
24:V:37:LEU:HD23	24:V:39:GLN:H	1.62	0.64
13:K:75:VAL:O	13:K:79:VAL:HG12	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2426:G:H4'	1:X:2427:A:O5'	1.97	0.64
17:O:73:LYS:HB2	17:O:82:ARG:HB2	1.78	0.64
18:P:85:MET:CE	18:P:130:GLU:HG3	2.28	0.64
1:X:2262:C:OP1	27:1:3:LYS:HE2	1.96	0.64
4:B:49:ILE:HG22	4:B:79:ARG:O	1.97	0.64
21:S:13:LYS:HB2	21:S:13:LYS:NZ	2.13	0.64
6:D:132:ILE:HG13	6:D:154:ILE:HD13	1.79	0.64
18:P:41:VAL:HG21	18:P:64:ALA:HB3	1.79	0.64
1:X:2598:C:C4'	4:B:150:VAL:HG22	2.27	0.64
1:X:2265:A:OP1	27:1:28:ARG:HD2	1.97	0.64
1:X:346:C:H2'	1:X:347:C:H6	1.61	0.64
1:X:2660:C:N3	1:X:2707:G:N2	2.46	0.64
1:X:26:G:C6	1:X:27:G:N1	2.66	0.64
1:X:163:A:H2'	1:X:164:G:C8	2.33	0.64
4:B:116:VAL:CG2	4:B:136:ARG:HE	2.05	0.64
1:X:840:U:H4'	1:X:841:G:C2	2.33	0.64
11:I:18:ARG:HB2	11:I:21:ARG:HB2	1.80	0.64
1:X:790:A:N7	1:X:806:A:H2	1.95	0.64
1:X:459:A:C2	1:X:466:A:C8	2.86	0.64
19:Q:7:LEU:HD22	19:Q:8:GLN:N	2.12	0.64
26:Z:51:TYR:HA	26:Z:55:ARG:HA	1.78	0.64
14:L:89:PHE:CZ	14:L:103:LEU:HD22	2.32	0.64
3:A:219:LYS:O	3:A:219:LYS:HD2	1.97	0.64
12:J:40:PRO:HB3	12:J:99:LYS:HD2	1.79	0.64
15:M:34:ARG:NH1	15:M:88:VAL:HG21	2.12	0.64
1:X:2640:G:H2'	1:X:2641:A:C8	2.33	0.64
1:X:82:G:N2	1:X:83:A:H62	1.96	0.64
16:N:99:ALA:HB2	16:N:106:PHE:CE1	2.33	0.64
1:X:1182:U:H3	1:X:1193:G:H22	1.45	0.64
20:R:85:ASP:HB3	20:R:86:PRO:HD3	1.80	0.64
12:J:28:VAL:HG21	12:J:135:ARG:HA	1.80	0.64
2:Y:30:C:OP1	14:L:37:HIS:HB3	1.97	0.63
15:M:55:ILE:HB	15:M:103:LYS:O	1.99	0.63
4:B:49:ILE:HG21	4:B:81:PHE:HE2	1.62	0.63
5:C:95:LEU:CD2	5:C:99:VAL:HB	2.28	0.63
1:X:1007:A:H1'	17:O:6:GLN:HG2	1.79	0.63
1:X:2533:U:C4	1:X:2534:U:O4	2.51	0.63
28:2:14:LYS:HE3	28:2:14:LYS:HA	1.80	0.63
1:X:2043:A:O4'	1:X:2481:G:O4'	2.16	0.63
1:X:1685:A:O4'	1:X:1686:A:C2	2.51	0.63
1:X:1979:C:H4'	1:X:1980:A:OP1	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:51:G:OP1	14:L:97:HIS:HD2	1.81	0.63
19:Q:7:LEU:HD22	19:Q:7:LEU:C	2.18	0.63
1:X:1329:U:H2'	1:X:1330:G:H8	1.64	0.63
1:X:859:U:O2'	1:X:860:U:C2	2.50	0.63
4:B:176:ARG:HE	15:M:16:ILE:HG12	1.63	0.63
9:G:132:PHE:HD2	9:G:145:HIS:CG	2.16	0.63
3:A:245:ARG:O	3:A:253:LYS:HE2	1.99	0.63
18:P:126:ILE:HD12	18:P:127:ILE:H	1.63	0.63
1:X:1332:G:C6	1:X:1333:G:O6	2.51	0.63
1:X:1775:A:H4'	1:X:1776:A:O5'	1.98	0.63
1:X:822:G:C2'	1:X:823:U:H5'	2.29	0.63
18:P:35:PRO:O	18:P:39:ARG:HD3	1.98	0.63
23:U:22:GLY:HA3	23:U:39:LYS:HE3	1.81	0.63
1:X:2240:C:C2'	1:X:2241:U:H5'	2.28	0.63
1:X:617:U:H5	1:X:632:A:C2	2.16	0.63
1:X:484:G:N1	1:X:485:G:C6	2.66	0.63
1:X:16:G:C2	1:X:535:U:O2	2.51	0.63
21:S:3:LEU:HD23	21:S:56:VAL:HG22	1.81	0.63
14:L:38:ILE:HD12	14:L:39:TYR:N	2.14	0.63
1:X:1469:U:OP1	1:X:1470:G:OP2	2.17	0.63
1:X:1715:A:C8	1:X:1717:A:O4'	2.52	0.63
9:G:154:GLU:O	9:G:157:PRO:HD2	1.98	0.63
12:J:128:ILE:O	12:J:128:ILE:HD12	1.99	0.63
1:X:1392:U:OP1	1:X:1392:U:H6	1.82	0.63
1:X:2516:U:H2'	1:X:2517:C:C6	2.34	0.63
4:B:136:ARG:HG2	4:B:137:ARG:N	2.14	0.63
1:X:789:G:O2'	1:X:790:A:OP2	2.11	0.63
1:X:458:G:H4'	1:X:459:A:H5'	1.80	0.63
2:Y:17:A:H1'	2:Y:112:A:N9	2.13	0.63
9:G:85:ALA:HB1	9:G:127:ILE:HD13	1.81	0.63
5:C:176:ASN:ND2	5:C:179:ASP:H	1.91	0.62
1:X:787:A:H5''	3:A:49:ARG:HH22	1.63	0.62
13:K:73:LYS:O	13:K:76:VAL:HG12	1.98	0.62
21:S:168:VAL:HG12	21:S:169:VAL:HG13	1.80	0.62
7:E:127:GLU:HG3	7:E:128:PRO:HD2	1.79	0.62
1:X:2424:G:O2'	1:X:2425:G:H5'	1.99	0.62
1:X:968:C:N4	1:X:970:A:C6	2.67	0.62
13:K:81:ASP:O	13:K:85:PRO:HG2	1.98	0.62
15:M:37:THR:HG22	15:M:39:VAL:HG13	1.80	0.62
10:H:47:VAL:HA	10:H:74:VAL:CG1	2.29	0.62
1:X:1166:A:H5''	16:N:55:ARG:HH11	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:25:LYS:N	28:2:25:LYS:HE2	2.14	0.62
1:X:1827:G:H1'	1:X:1914:U:C2	2.34	0.62
1:X:1856:U:OP1	1:X:2389:G:O2'	2.17	0.62
27:1:34:LYS:HE2	27:1:53:LYS:NZ	2.14	0.62
10:H:109:ARG:HA	10:H:129:LEU:HD13	1.79	0.62
1:X:2039:G:H2'	1:X:2039:G:N3	2.14	0.62
1:X:1432:G:O6	1:X:1594:U:H5''	2.00	0.62
1:X:2378:G:H1	1:X:2396:C:H42	1.45	0.62
3:A:68:PHE:HE2	3:A:107:LEU:HD11	1.63	0.62
1:X:2336:G:N2	1:X:2339:A:OP2	2.32	0.62
1:X:2642:G:H2'	1:X:2643:G:O4'	1.99	0.62
10:H:125:LYS:O	10:H:128:SER:HB2	1.98	0.62
17:O:67:LYS:HD2	17:O:68:LYS:H	1.65	0.62
1:X:1919:A:N7	1:X:1928:G:C6	2.67	0.62
1:X:1837:G:H2'	1:X:1838:G:C8	2.35	0.62
1:X:931:G:H4'	2:Y:83:C:H4'	1.80	0.62
1:X:1223:G:H5'	1:X:1224:A:H3'	1.81	0.62
1:X:1420:A:C2	1:X:1612:U:O2	2.52	0.62
3:A:211:GLY:HA2	3:A:214:ARG:HG2	1.80	0.62
1:X:1779:C:H2'	1:X:1780:A:C8	2.34	0.62
22:T:23:VAL:HA	22:T:38:VAL:HG13	1.82	0.62
1:X:2705:A:N7	1:X:2707:G:C4	2.68	0.62
16:N:32:TYR:O	16:N:35:ALA:HB3	1.99	0.62
1:X:685:U:C2	1:X:822:G:N2	2.68	0.62
1:X:2379:G:H1	1:X:2395:C:H42	1.46	0.62
13:K:62:SER:O	13:K:66:VAL:HG23	2.00	0.62
1:X:2011:U:H2'	1:X:2012:A:H8	1.65	0.62
1:X:919:U:H2'	1:X:920:G:C8	2.34	0.62
1:X:2824:C:H4'	1:X:2825:A:O5'	2.00	0.62
1:X:2518:C:H4'	30:4:3:VAL:HG21	1.82	0.62
7:E:124:ALA:HB3	7:E:132:ASP:HB3	1.82	0.62
1:X:572:G:H5'	1:X:581:A:H4'	1.81	0.62
4:B:144:ARG:HG2	4:B:145:LYS:N	2.15	0.62
1:X:1837:G:H2'	1:X:1838:G:H8	1.64	0.62
1:X:1978:U:H2'	1:X:1979:C:C6	2.35	0.62
12:J:40:PRO:HB3	12:J:99:LYS:CD	2.30	0.62
1:X:467:U:O2'	1:X:468:A:O5'	2.17	0.62
1:X:100:G:H4'	1:X:101:A:OP1	2.00	0.62
4:B:147:PRO:O	4:B:149:ARG:N	2.33	0.62
20:R:15:HIS:ND1	20:R:16:PHE:CD2	2.63	0.62
20:R:16:PHE:HZ	20:R:46:VAL:HG22	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1811:A:H1'	1:X:1812:U:OP2	2.00	0.62
13:K:72:ASP:CG	13:K:75:VAL:HG23	2.20	0.62
1:X:75:C:O2	1:X:109:A:H2	1.83	0.62
1:X:757:U:O2'	1:X:758:G:H5'	2.00	0.61
1:X:2426:G:C4	1:X:2479:U:H5	2.18	0.61
10:H:42:LYS:HZ2	10:H:46:HIS:HD2	1.47	0.61
15:M:104:LEU:HA	15:M:106:TYR:HE2	1.64	0.61
1:X:334:G:H4'	1:X:335:A:O5'	1.98	0.61
5:C:128:ALA:O	5:C:130:THR:N	2.31	0.61
12:J:92:GLU:HG3	12:J:93:TYR:HD2	1.65	0.61
9:G:104:THR:OG1	9:G:105:GLY:N	2.32	0.61
10:H:116:ARG:HD2	15:M:38:LYS:HZ1	1.65	0.61
1:X:663:G:H3'	1:X:664:C:H5''	1.81	0.61
18:P:14:ARG:HA	18:P:17:GLN:HG2	1.82	0.61
1:X:2011:U:H2'	1:X:2012:A:C8	2.34	0.61
1:X:2598:C:O4'	4:B:150:VAL:HG22	1.99	0.61
1:X:334:G:C2'	5:C:162:ARG:HD3	2.29	0.61
11:I:56:LEU:HD22	29:3:52:LYS:HZ2	1.65	0.61
29:3:34:THR:OG1	29:3:41:ILE:HD11	1.99	0.61
14:L:89:PHE:HB3	14:L:91:ARG:HH21	1.64	0.61
1:X:2026:C:N4	1:X:2757:G:C2	2.69	0.61
19:Q:12:ILE:O	19:Q:12:ILE:HG12	1.99	0.61
28:2:10:ARG:H	28:2:10:ARG:CD	1.97	0.61
11:I:56:LEU:HB3	29:3:52:LYS:HE3	1.82	0.61
1:X:1164:C:H2'	1:X:1165:G:O4'	2.01	0.61
1:X:1479:G:H2'	1:X:1480:G:C8	2.35	0.61
8:F:112:MET:HB2	8:F:113:PRO:HD3	1.80	0.61
1:X:218:A:C8	1:X:220:U:C2	2.88	0.61
15:M:28:ARG:HB2	15:M:29:PRO:CD	2.19	0.61
1:X:2409:A:C4'	1:X:2410:U:OP1	2.48	0.61
1:X:1225:G:H2'	1:X:1249:G:H22	1.65	0.61
5:C:102:LEU:O	5:C:102:LEU:HD23	2.00	0.61
1:X:2604:G:H2'	1:X:2605:C:C6	2.36	0.61
1:X:2064:U:H5''	23:U:43:ARG:HH11	1.66	0.61
27:1:28:ARG:HB2	27:1:30:ASN:OD1	2.01	0.61
1:X:736:G:H2'	1:X:737:C:O4'	2.01	0.61
1:X:2690:A:OP1	1:X:2692:A:P	2.58	0.61
21:S:127:PRO:O	21:S:128:ARG:HG2	2.00	0.61
14:L:33:ARG:HE	14:L:38:ILE:HB	1.66	0.61
18:P:92:VAL:HG13	18:P:126:ILE:CD1	2.29	0.61
19:Q:35:LYS:HD3	19:Q:53:ILE:HG23	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:25:LEU:HD13	24:V:46:LEU:HD12	1.82	0.61
1:X:1096:A:C4'	1:X:1097:A:OP1	2.47	0.61
1:X:1964:A:H5''	1:X:1965:U:OP2	1.99	0.61
1:X:2064:U:H5''	23:U:43:ARG:NH1	2.16	0.61
9:G:55:ALA:C	9:G:134:MET:HE1	2.20	0.61
11:I:51:GLY:O	11:I:55:ARG:NH1	2.31	0.61
1:X:971:A:N6	12:J:83:ARG:HH22	1.99	0.61
1:X:38:G:H1'	1:X:39:C:O5'	2.01	0.61
1:X:163:A:H2'	1:X:164:G:H8	1.66	0.61
25:W:23:LEU:HD21	25:W:43:MET:HB3	1.82	0.61
11:I:62:LYS:HG2	11:I:63:ARG:H	1.66	0.61
1:X:2310:G:H4'	22:T:43:THR:H	1.66	0.61
11:I:107:LYS:HG2	11:I:109:LEU:HD21	1.83	0.61
9:G:89:ALA:C	9:G:90:LEU:HD12	2.22	0.61
1:X:529:U:H2'	1:X:530:G:H8	1.66	0.61
2:Y:9:G:H5''	14:L:32:TYR:CD1	2.36	0.60
1:X:688:A:H62	1:X:816:U:H3	1.49	0.60
1:X:2222:U:H2'	1:X:2223:U:C6	2.36	0.60
21:S:49:THR:OG1	21:S:132:GLN:HA	2.00	0.60
1:X:1438:G:C2'	1:X:1439:G:H5'	2.31	0.60
1:X:538:A:O2'	1:X:539:A:H5''	2.01	0.60
27:1:34:LYS:HE2	27:1:53:LYS:HZ2	1.66	0.60
1:X:2201:G:H5'	3:A:189:GLU:OE1	2.00	0.60
1:X:638:A:C8	11:I:74:VAL:HG11	2.36	0.60
15:M:39:VAL:HG12	15:M:45:THR:CG2	2.31	0.60
12:J:64:LYS:HZ3	12:J:110:VAL:HG13	1.66	0.60
13:K:24:GLN:HB3	13:K:44:LEU:HD22	1.83	0.60
1:X:692:C:H42	1:X:811:G:H1	1.49	0.60
1:X:613:A:C6	1:X:668:A:H1'	2.37	0.60
1:X:178:C:O5'	23:U:40:ARG:NH2	2.33	0.60
3:A:71:ARG:HH12	3:A:150:PRO:HB3	1.66	0.60
11:I:29:THR:O	11:I:30:ALA:HB3	2.01	0.60
1:X:2859:U:N3	26:Z:52:TYR:CE1	2.69	0.60
16:N:22:LYS:HG3	16:N:23:GLY:H	1.66	0.60
1:X:2662:C:O2	10:H:82:LYS:NZ	2.33	0.60
1:X:1288:A:H2	1:X:1662:G:H21	1.47	0.60
15:M:5:ILE:HD13	15:M:7:ILE:HG22	1.81	0.60
3:A:49:ARG:HD2	3:A:49:ARG:N	2.10	0.60
1:X:2016:A:O2'	1:X:2018:G:OP2	2.18	0.60
2:Y:33:C:N4	2:Y:53:G:H1	1.97	0.60
1:X:753:U:H2'	1:X:754:G:C8	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2048:C:H1'	1:X:2428:U:N3	2.17	0.60
1:X:192:G:H4'	1:X:193:A:H4'	1.83	0.60
1:X:1357:U:O2'	1:X:1358:C:P	2.59	0.60
1:X:999:A:H5''	25:W:8:SER:HB2	1.82	0.60
11:I:91:ASP:HA	11:I:94:GLU:OE2	2.01	0.60
1:X:935:C:H1'	22:T:29:GLU:HG2	1.81	0.60
5:C:15:ILE:HD11	5:C:195:ILE:H	1.67	0.60
28:2:17:GLY:O	28:2:20:ALA:HB3	2.01	0.60
31:X:2881:LMA:O55	31:X:2881:LMA:H12	2.00	0.60
7:E:87:LEU:HB2	7:E:131:ILE:HB	1.82	0.60
4:B:134:TRP:O	4:B:135:HIS:C	2.40	0.60
1:X:1744:G:N2	1:X:1747:G:OP2	2.31	0.60
29:3:31:HIS:O	29:3:32:GLN:C	2.39	0.60
15:M:34:ARG:NH1	15:M:81:PHE:HB3	2.15	0.60
4:B:155:ARG:NH1	4:B:155:ARG:HG3	2.15	0.60
7:E:154:PRO:HA	7:E:160:LYS:O	2.01	0.60
1:X:817:A:H5''	1:X:818:G:OP1	2.01	0.60
1:X:1226:A:C8	1:X:1250:A:H2	2.18	0.60
12:J:29:ALA:HB3	12:J:68:ARG:HH21	1.65	0.60
5:C:151:VAL:CG1	5:C:173:ALA:HA	2.31	0.60
1:X:521:U:H5''	1:X:522:G:OP2	2.01	0.60
1:X:455:A:H2	1:X:1258:G:N3	1.99	0.60
28:2:15:THR:O	28:2:16:HIS:HB2	2.02	0.60
1:X:2311:U:H4'	1:X:2315:A:N6	2.16	0.60
1:X:2796:A:H2'	1:X:2797:G:H8	1.66	0.60
16:N:62:ILE:HG23	16:N:76:TYR:CE1	2.37	0.60
1:X:2782:G:H2'	1:X:2783:U:O5'	2.01	0.60
17:O:36:LYS:NZ	17:O:54:TYR:HB3	2.15	0.60
1:X:1666:G:H1	1:X:1991:C:H42	1.47	0.60
13:K:73:LYS:HA	13:K:76:VAL:HG12	1.83	0.60
1:X:2229:G:H5'	12:J:84:MET:HG2	1.83	0.60
1:X:695:G:H5''	28:2:26:SER:HB2	1.83	0.60
1:X:1693:A:N3	1:X:1976:U:H5'	2.16	0.60
1:X:1977:C:O2	1:X:1977:C:H2'	2.02	0.60
1:X:48:A:H4'	1:X:49:U:C5'	2.32	0.60
1:X:1770:U:H5	1:X:1775:A:N7	2.00	0.60
1:X:1479:G:H2'	1:X:1480:G:H8	1.67	0.60
1:X:28:A:H1'	1:X:523:A:C2	2.37	0.60
1:X:2616:U:H5''	4:B:82:ARG:NH2	2.16	0.60
16:N:25:TRP:CE3	16:N:26:GLY:CA	2.85	0.60
6:D:60:ILE:HG22	6:D:140:GLU:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:5:LYS:O	6:D:8:TYR:HB3	2.01	0.60
7:E:94:PHE:HE2	7:E:160:LYS:HB3	1.66	0.60
10:H:16:ALA:HB3	10:H:98:ILE:HD11	1.82	0.60
21:S:155:PRO:HG2	21:S:158:CYS:SG	2.42	0.60
1:X:2074:U:H3'	1:X:2075:U:H5''	1.83	0.60
22:T:47:ALA:HB1	22:T:51:VAL:O	2.02	0.60
1:X:1886:G:O2'	1:X:1887:G:H5'	2.02	0.60
1:X:2700:U:H2'	1:X:2700:U:O2	2.02	0.60
1:X:760:U:C5	26:Z:3:LYS:HG3	2.37	0.59
1:X:1016:C:O2'	1:X:1023:U:C5	2.54	0.59
19:Q:68:PHE:O	19:Q:69:ILE:HD12	2.01	0.59
1:X:1468:A:H8	1:X:1468:A:OP2	1.85	0.59
26:Z:10:LYS:HG2	26:Z:11:THR:N	2.15	0.59
1:X:1399:C:H2'	1:X:1400:A:H8	1.66	0.59
1:X:1050:G:H1	1:X:1127:C:H42	1.49	0.59
5:C:176:ASN:HB3	5:C:179:ASP:OD2	2.02	0.59
1:X:2736:U:H5''	30:4:19:ARG:CG	2.32	0.59
1:X:1337:G:C2	1:X:1341:G:N1	2.70	0.59
1:X:1329:U:O2'	1:X:1330:G:H5'	2.02	0.59
16:N:79:PHE:HE2	16:N:95:LEU:HD21	1.66	0.59
19:Q:31:PRO:HA	19:Q:76:LYS:HD2	1.82	0.59
1:X:1751:A:H2'	1:X:1752:U:C6	2.37	0.59
1:X:122:G:H2'	28:2:19:ARG:HH21	1.67	0.59
1:X:1505:U:H2'	1:X:1506:C:H5''	1.85	0.59
1:X:538:A:H4'	1:X:539:A:OP1	2.02	0.59
18:P:92:VAL:HG13	18:P:126:ILE:HD11	1.83	0.59
1:X:314:G:N1	1:X:326:A:C2	2.71	0.59
5:C:27:LEU:HD23	5:C:181:LEU:HD22	1.84	0.59
18:P:39:ARG:HD2	18:P:97:VAL:HB	1.84	0.59
1:X:1925:C:H2'	1:X:1926:U:C5	2.37	0.59
1:X:699:G:C6	28:2:12:ARG:HA	2.37	0.59
9:G:61:ARG:HG2	9:G:65:LYS:HD2	1.82	0.59
18:P:106:LEU:HD23	18:P:106:LEU:C	2.23	0.59
1:X:761:G:OP2	18:P:110:ALA:CB	2.50	0.59
1:X:1314:A:H2	1:X:1642:G:H21	1.50	0.59
28:2:34:ARG:HH11	28:2:42:LEU:HG	1.67	0.59
1:X:1433:A:H62	1:X:1435:G:H1'	1.67	0.59
20:R:38:LEU:HB2	20:R:47:VAL:CG2	2.33	0.59
17:O:19:VAL:HG13	17:O:90:PHE:CD1	2.37	0.59
10:H:29:ILE:HG21	10:H:123:PHE:CE1	2.37	0.59
5:C:163:ASN:ND2	5:C:167:VAL:H	1.97	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:13:ASN:ND2	10:H:109:ARG:HG2	2.16	0.59
1:X:2350:G:O2'	27:1:46:LYS:HB3	2.03	0.59
1:X:824:U:O2'	11:I:30:ALA:HB2	2.02	0.59
1:X:1182:U:C4'	1:X:1183:C:OP1	2.50	0.59
1:X:1623:C:H4'	1:X:1624:A:O5'	2.02	0.59
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.84	0.59
1:X:1173:G:H2'	1:X:1174:G:H8	1.68	0.59
1:X:2245:A:H4'	1:X:2246:A:C2	2.37	0.59
6:D:117:ILE:HD12	6:D:175:LEU:HD11	1.83	0.59
1:X:1361:G:H1	1:X:1614:C:N4	2.01	0.59
14:L:60:LYS:HZ2	14:L:64:LYS:HE2	1.68	0.59
17:O:15:SER:HA	17:O:95:ILE:O	2.03	0.59
13:K:13:ASN:OD1	13:K:14:SER:N	2.35	0.59
1:X:2010:G:O6	1:X:2016:A:C8	2.55	0.59
20:R:81:VAL:HG11	20:R:89:GLY:CA	2.32	0.59
1:X:2845:C:H6	1:X:2845:C:H3'	1.67	0.59
1:X:597:U:H2'	1:X:598:U:H6	1.67	0.59
1:X:338:G:H1'	20:R:10:HIS:HE1	1.67	0.59
1:X:1909:U:H5	1:X:1910:A:H62	1.49	0.59
1:X:13:A:N3	1:X:15:G:C6	2.71	0.59
1:X:1310:C:H2'	1:X:1311:C:H6	1.66	0.59
17:O:11:GLN:HE22	17:O:38:LEU:HD12	1.68	0.59
4:B:14:ILE:HA	15:M:20:HIS:CD2	2.26	0.59
1:X:1976:U:H5''	4:B:128:SER:HB3	1.83	0.59
12:J:44:LYS:HD3	12:J:47:GLN:NE2	2.17	0.59
1:X:29:U:H6	1:X:29:U:O5'	1.85	0.59
1:X:762:A:H2	1:X:766:A:HO2'	1.48	0.59
10:H:133:VAL:HG12	10:H:133:VAL:O	2.01	0.59
31:X:2881:LMA:H34B	31:X:2881:LMA:C54	2.33	0.59
1:X:321:A:C2	1:X:323:G:H1'	2.38	0.59
3:A:25:LEU:CB	3:A:206:VAL:H	2.15	0.59
1:X:1665:C:H2'	1:X:1666:G:O4'	2.03	0.59
20:R:38:LEU:HB2	20:R:47:VAL:HG23	1.83	0.59
24:V:43:VAL:O	24:V:47:ARG:HG2	2.03	0.59
1:X:1996:A:C2	18:P:109:ARG:NH2	2.71	0.59
1:X:2209:G:H5''	23:U:46:LEU:HB2	1.83	0.59
1:X:1234:C:O2	1:X:1242:A:C2	2.56	0.59
1:X:40:U:H2'	1:X:41:G:O4'	2.02	0.59
7:E:7:GLN:O	7:E:9:ILE:HG13	2.02	0.59
1:X:57:G:C4	1:X:69:G:N2	2.71	0.59
1:X:1684:G:C2	1:X:1974:U:C5	2.91	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1430:G:H2'	1:X:1431:U:C6	2.38	0.58
10:H:28:GLY:O	10:H:35:THR:OG1	2.11	0.58
1:X:712:A:H2'	1:X:713:G:O4'	2.03	0.58
4:B:116:VAL:HG22	4:B:136:ARG:CD	2.32	0.58
1:X:1466:C:C2'	1:X:1467:U:O4'	2.47	0.58
5:C:26:VAL:HG22	11:I:18:ARG:NH1	2.13	0.58
12:J:40:PRO:CB	12:J:99:LYS:HZ2	2.15	0.58
1:X:2781:G:C2'	1:X:2782:G:H5''	2.32	0.58
12:J:92:GLU:HG3	12:J:93:TYR:CD2	2.38	0.58
1:X:177:U:H3'	23:U:40:ARG:NH2	2.18	0.58
1:X:2674:C:O2'	1:X:2675:U:H5'	2.03	0.58
20:R:29:HIS:HD2	20:R:51:VAL:HG22	1.67	0.58
1:X:1270:C:O2	5:C:78:VAL:HG23	2.02	0.58
21:S:120:LEU:HD23	21:S:121:GLN:N	2.18	0.58
16:N:24:PHE:HB2	16:N:29:SER:HB3	1.86	0.58
1:X:1468:A:H8	1:X:1468:A:P	2.26	0.58
9:G:62:ILE:O	9:G:77:GLY:HA3	2.03	0.58
1:X:757:U:C2'	1:X:758:G:H5'	2.33	0.58
1:X:2625:U:O5'	1:X:2625:U:H6	1.84	0.58
1:X:2256:G:OP2	12:J:86:LYS:HD2	2.04	0.58
1:X:555:U:H3'	1:X:556:A:H8	1.67	0.58
1:X:1699:A:H61	1:X:1723:U:H3	1.52	0.58
1:X:1628:C:H5'	28:2:7:PRO:HG2	1.85	0.58
16:N:40:LEU:HB3	17:O:74:TYR:CE2	2.38	0.58
1:X:540:G:C2'	1:X:542:A:C2	2.84	0.58
1:X:334:G:H2'	5:C:162:ARG:HD3	1.86	0.58
1:X:1433:A:C4	1:X:1595:A:H2	2.21	0.58
1:X:306:G:N2	1:X:355:G:H1'	2.19	0.58
1:X:547:U:H1'	9:G:73:ASN:HD21	1.68	0.58
1:X:2796:A:H2'	1:X:2797:G:C8	2.39	0.58
29:3:8:LYS:HG3	29:3:12:ARG:NH1	2.17	0.58
1:X:2323:U:O2'	27:1:38:LYS:HB3	2.04	0.58
4:B:59:VAL:HG21	4:B:74:PRO:HB3	1.85	0.58
1:X:923:A:C5	12:J:12:LYS:HE2	2.39	0.58
1:X:1304:U:O2'	1:X:1305:C:H5'	2.04	0.58
7:E:90:ARG:HH21	7:E:163:ARG:NH1	2.01	0.58
1:X:2695:C:H2'	1:X:2696:A:H8	1.69	0.58
19:Q:35:LYS:HA	19:Q:38:ILE:CG2	2.32	0.58
3:A:131:ALA:HA	3:A:192:ALA:O	2.03	0.58
27:1:14:SER:HB2	27:1:23:THR:H	1.67	0.58
1:X:2237:C:H3'	1:X:2238:G:H5'	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1919:A:H1'	1:X:1923:U:N3	2.18	0.58
1:X:721:C:H42	1:X:736:G:H1	1.52	0.58
1:X:836:G:H2'	1:X:837:U:H6	1.68	0.58
4:B:118:LYS:HG2	4:B:160:MET:SD	2.43	0.58
5:C:62:LYS:HD3	5:C:63:GLY:N	2.19	0.58
22:T:12:ASN:CB	22:T:14:ARG:HG2	2.29	0.58
1:X:2339:A:OP1	29:3:49:VAL:HG22	2.04	0.58
1:X:797:A:N7	3:A:230:VAL:HG21	2.18	0.58
1:X:839:U:H5''	1:X:2408:G:P	2.44	0.58
26:Z:51:TYR:CD2	26:Z:55:ARG:HB2	2.39	0.58
23:U:78:ILE:HD13	23:U:79:GLU:N	2.19	0.58
19:Q:61:LYS:HB2	19:Q:72:ARG:HD3	1.86	0.58
17:O:5:ILE:HD11	17:O:9:GLY:HA2	1.84	0.57
1:X:1496:G:C4'	1:X:1497:C:OP1	2.52	0.57
1:X:1469:U:C5'	1:X:1470:G:OP2	2.51	0.57
27:1:40:TYR:HB2	27:1:50:PHE:CD2	2.38	0.57
28:2:42:LEU:N	28:2:42:LEU:CD1	2.66	0.57
17:O:68:LYS:HD2	17:O:69:ILE:N	2.19	0.57
1:X:820:U:OP1	11:I:40:ARG:NH2	2.37	0.57
1:X:2522:G:C6	1:X:2523:G:C6	2.92	0.57
3:A:207:LEU:HA	3:A:212:ARG:HH11	1.69	0.57
1:X:1674:C:H2'	1:X:1675:C:C6	2.40	0.57
1:X:761:G:OP2	18:P:110:ALA:HB2	2.04	0.57
1:X:2447:G:O2'	1:X:2448:A:C8	2.51	0.57
1:X:318:G:H21	1:X:341:A:H62	1.53	0.57
18:P:37:LYS:O	18:P:40:LEU:HB2	2.04	0.57
3:A:109:PRO:HA	3:A:197:VAL:HA	1.86	0.57
1:X:2663:U:C4	1:X:2664:G:N7	2.72	0.57
4:B:100:GLU:O	4:B:172:VAL:HG23	2.03	0.57
7:E:16:THR:HB	7:E:27:LYS:HB2	1.85	0.57
1:X:1142:G:N3	9:G:103:TYR:CD2	2.68	0.57
1:X:760:U:C6	26:Z:3:LYS:CE	2.81	0.57
27:1:8:ILE:O	27:1:9:ILE:HG12	2.04	0.57
1:X:577:U:H2'	1:X:579:G:OP2	2.03	0.57
1:X:1182:U:H4'	1:X:1183:C:OP1	2.04	0.57
3:A:244:GLY:H	3:A:245:ARG:HH11	1.45	0.57
3:A:43:GLY:C	3:A:44:ARG:NH1	2.55	0.57
1:X:1224:A:H5'	18:P:10:ASN:ND2	2.19	0.57
1:X:684:C:H5	11:I:43:ALA:HA	1.69	0.57
15:M:67:THR:OG1	15:M:80:VAL:HG22	2.04	0.57
1:X:1850:G:H21	1:X:1867:A:H8	1.50	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:759:C:C2'	1:X:760:U:OP2	2.52	0.57
10:H:1:MET:N	10:H:1:MET:HE2	2.20	0.57
1:X:923:A:H5''	1:X:924:C:C5'	2.34	0.57
6:D:13:ARG:HG3	6:D:28:VAL:HG21	1.86	0.57
1:X:555:U:H3'	1:X:556:A:C8	2.39	0.57
20:R:20:ASP:O	20:R:36:VAL:HG23	2.05	0.57
1:X:2617:G:HO2'	1:X:2618:A:H8	1.51	0.57
1:X:637:G:H1	11:I:101:ARG:HD3	1.70	0.57
4:B:136:ARG:CG	4:B:137:ARG:H	2.18	0.57
9:G:70:PHE:HB2	16:N:64:ARG:NE	2.19	0.57
22:T:43:THR:HG23	22:T:46:LYS:HG2	1.86	0.57
1:X:1441:A:O4'	1:X:1442:C:C6	2.58	0.57
12:J:22:ALA:HB2	12:J:100:PRO:O	2.05	0.57
1:X:2571:G:C6	1:X:2572:U:C2	2.92	0.57
1:X:487:G:H4'	1:X:512:A:N1	2.20	0.57
23:U:17:SER:CB	23:U:44:ALA:HA	2.25	0.57
5:C:148:VAL:HG22	5:C:185:ARG:HB2	1.86	0.57
9:G:61:ARG:HE	9:G:65:LYS:CD	2.17	0.57
1:X:567:G:H5'	9:G:140:GLN:OE1	2.04	0.57
1:X:750:C:C4	1:X:751:G:N7	2.73	0.57
7:E:117:PRO:HD3	7:E:123:PHE:HE1	1.70	0.57
15:M:50:PHE:CZ	15:M:70:LYS:HB3	2.39	0.57
4:B:136:ARG:HG2	4:B:137:ARG:H	1.68	0.57
1:X:623:G:H21	1:X:626:A:H2	1.53	0.57
1:X:538:A:N6	1:X:2026:C:O5'	2.37	0.57
1:X:173:A:H2'	1:X:173:A:N3	2.18	0.57
1:X:1223:G:H4'	1:X:1224:A:O5'	2.05	0.57
1:X:2262:C:H5'	27:1:7:ARG:HH22	1.70	0.57
11:I:56:LEU:HB3	29:3:52:LYS:CE	2.34	0.57
13:K:51:LEU:CD2	13:K:70:ILE:HD11	2.34	0.57
1:X:1967:U:H2'	1:X:1968:G:H8	1.68	0.57
1:X:1773:C:O2'	1:X:2588:U:H5''	2.05	0.57
9:G:75:ILE:HG13	9:G:75:ILE:O	2.04	0.57
10:H:85:ASP:OD2	10:H:87:SER:N	2.37	0.57
1:X:2490:U:H2'	1:X:2491:C:O4'	2.05	0.57
1:X:1918:G:C4	1:X:1945:C:N4	2.73	0.57
13:K:18:VAL:HG12	13:K:19:ALA:N	2.20	0.57
1:X:2671:C:O2'	1:X:2672:U:H5'	2.05	0.57
1:X:2494:C:O2'	1:X:2495:G:H5'	2.04	0.57
19:Q:62:ARG:NH1	19:Q:73:ASN:ND2	2.52	0.57
1:X:836:G:H2'	1:X:837:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:88:G:C8	1:X:89:A:C8	2.92	0.57
1:X:2545:A:H61	10:H:40:GLY:HA3	1.69	0.57
31:X:2881:LMA:C32	31:X:2881:LMA:O53	2.50	0.56
1:X:494:A:H5'	20:R:58:VAL:HG22	1.87	0.56
15:M:34:ARG:HD3	15:M:88:VAL:HG22	1.87	0.56
1:X:1322:G:H4'	28:2:7:PRO:HB2	1.87	0.56
1:X:2728:A:O2'	7:E:63:ALA:HA	2.04	0.56
7:E:15:VAL:HG11	7:E:76:VAL:HG13	1.87	0.56
1:X:1135:C:H2'	1:X:1136:G:O4'	2.03	0.56
1:X:1696:C:C5	1:X:1697:U:C5	2.93	0.56
1:X:2757:G:C5'	1:X:2758:A:H5'	2.31	0.56
1:X:2426:G:H1'	1:X:2427:A:OP2	2.05	0.56
11:I:89:ASP:OD2	11:I:120:VAL:HA	2.05	0.56
1:X:617:U:C5	1:X:632:A:N1	2.74	0.56
1:X:1644:G:O2'	1:X:1645:U:H5'	2.05	0.56
2:Y:25:G:H2'	2:Y:26:G:C5	2.40	0.56
1:X:503:G:H2'	1:X:504:G:O4'	2.05	0.56
1:X:825:C:H5'	11:I:30:ALA:HB1	1.86	0.56
1:X:1687:C:H4'	1:X:1977:C:O2'	2.06	0.56
4:B:34:VAL:HG21	4:B:78:LEU:HD22	1.88	0.56
23:U:52:ARG:HG3	23:U:62:LEU:HD22	1.85	0.56
26:Z:58:LEU:HD12	26:Z:58:LEU:N	2.20	0.56
28:2:34:ARG:HH11	28:2:42:LEU:HA	1.70	0.56
1:X:2372:A:H5''	11:I:61:PRO:CA	2.35	0.56
1:X:1769:U:C5	1:X:1775:A:C2	2.94	0.56
9:G:141:GLY:O	9:G:144:MET:N	2.37	0.56
1:X:2728:A:C2	1:X:2737:A:C5	2.93	0.56
6:D:108:LEU:HB2	6:D:109:PRO:HD3	1.87	0.56
1:X:1033:G:H2'	9:G:97:ASP:OD1	2.04	0.56
1:X:686:C:C2'	1:X:687:G:H5'	2.35	0.56
1:X:540:G:H5''	1:X:541:C:OP2	2.05	0.56
1:X:1016:C:O2'	1:X:1023:U:H5	1.86	0.56
13:K:90:ARG:O	13:K:90:ARG:HG3	2.05	0.56
1:X:2845:C:C6	1:X:2845:C:H3'	2.40	0.56
24:V:25:LEU:HD13	24:V:46:LEU:HB2	1.87	0.56
1:X:48:A:N6	1:X:154:U:H5	2.04	0.56
1:X:459:A:H4'	1:X:461:A:C8	2.40	0.56
1:X:2634:G:O2'	1:X:2635:U:C5	2.59	0.56
5:C:102:LEU:HD21	5:C:106:MET:CE	2.35	0.56
1:X:1949:A:N6	1:X:2581:A:H62	2.03	0.56
1:X:1006:C:OP2	16:N:54:LYS:NZ	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:11:VAL:HG23	19:Q:27:PHE:HA	1.87	0.56
15:M:39:VAL:CG1	15:M:45:THR:HG23	2.35	0.56
1:X:219:G:H2'	1:X:220:U:OP2	2.05	0.56
22:T:51:VAL:HG21	22:T:79:ILE:O	2.06	0.56
1:X:1073:G:H21	8:F:133:SER:HB3	1.69	0.56
7:E:57:ASP:HB3	7:E:62:ARG:HH11	1.70	0.56
2:Y:107:C:H2'	2:Y:108:G:O4'	2.06	0.56
1:X:2262:C:H2'	1:X:2263:C:O4'	2.05	0.56
1:X:1016:C:H1'	1:X:1023:U:C5	2.41	0.56
1:X:1129:A:C6	1:X:1130:U:N3	2.74	0.56
13:K:76:VAL:O	13:K:80:MET:HB2	2.05	0.56
1:X:88:G:H3'	1:X:89:A:H5''	1.88	0.56
1:X:2383:C:H2'	1:X:2384:G:O4'	2.05	0.56
17:O:78:VAL:O	17:O:79:GLN:HB2	2.06	0.56
1:X:1218:C:H4'	11:I:13:ARG:HH11	1.69	0.56
10:H:132:GLU:HB2	15:M:73:PHE:HE1	1.71	0.56
4:B:7:THR:CG2	4:B:193:GLY:HA2	2.35	0.56
1:X:2016:A:C5	1:X:2019:C:C4	2.94	0.56
20:R:25:LEU:HD23	20:R:26:SER:HB3	1.87	0.56
24:V:25:LEU:CD1	24:V:46:LEU:HD12	2.36	0.56
4:B:56:GLU:HG2	4:B:74:PRO:HG2	1.87	0.56
1:X:1478:U:H2'	1:X:1479:G:H8	1.70	0.56
1:X:1712:G:H2'	1:X:1713:G:H5'	1.88	0.56
11:I:85:ASP:HA	11:I:116:ARG:HH12	1.71	0.56
5:C:187:VAL:HG12	5:C:187:VAL:O	2.05	0.56
1:X:1834:G:N2	1:X:1884:A:C6	2.73	0.56
1:X:760:U:HO2'	1:X:761:G:P	2.28	0.56
1:X:2170:C:H3'	1:X:2171:U:C5'	2.32	0.56
26:Z:31:THR:HG22	26:Z:32:GLU:N	2.21	0.56
1:X:2844:G:C2	1:X:2845:C:O2	2.58	0.56
1:X:877:G:H1	1:X:924:C:H42	1.54	0.56
1:X:1967:U:H2'	1:X:1968:G:C8	2.40	0.56
1:X:2073:A:H61	1:X:2208:U:H3	1.52	0.56
14:L:37:HIS:NE2	14:L:39:TYR:CZ	2.74	0.56
12:J:42:TRP:CB	12:J:95:VAL:HG11	2.31	0.56
1:X:2323:U:H3'	27:I:39:LYS:O	2.05	0.56
1:X:1407:G:H4'	1:X:1619:A:H4'	1.87	0.56
1:X:2734:U:H4'	30:4:26:ILE:CD1	2.35	0.56
10:H:75:VAL:HG12	10:H:118:LEU:CD2	2.36	0.56
1:X:101:A:H2'	1:X:102:C:O4'	2.06	0.56
1:X:1310:C:H2'	1:X:1311:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:7:GLN:HB2	7:E:8:PRO:HD3	1.88	0.56
1:X:1423:A:C2	1:X:1609:G:C2	2.94	0.56
1:X:305:A:C2	1:X:356:A:C2	2.94	0.56
1:X:1068:A:H2'	1:X:1069:G:C8	2.41	0.56
2:Y:90:C:H2'	2:Y:91:A:O4'	2.06	0.56
1:X:1810:U:OP2	3:A:158:ARG:HD3	2.06	0.56
1:X:2666:U:O2'	1:X:2667:C:H5'	2.06	0.56
4:B:85:ALA:N	4:B:86:PRO:HD3	2.21	0.56
1:X:1310:C:C2	1:X:1311:C:C5	2.94	0.56
1:X:2499:C:C2'	1:X:2500:C:H5'	2.35	0.56
1:X:177:U:C4'	23:U:40:ARG:HE	2.19	0.55
3:A:159:SER:O	3:A:197:VAL:HG21	2.06	0.55
27:1:14:SER:HB3	27:1:50:PHE:CZ	2.41	0.55
25:W:4:LYS:CG	25:W:52:GLU:HB3	2.36	0.55
12:J:32:ASP:H	12:J:108:ALA:HB2	1.70	0.55
19:Q:20:MET:HA	19:Q:24:VAL:O	2.06	0.55
17:O:13:ARG:HD2	17:O:95:ILE:HG13	1.88	0.55
26:Z:14:SER:O	26:Z:18:MET:HG3	2.06	0.55
1:X:2397:A:H2'	1:X:2398:U:O4'	2.06	0.55
6:D:118:ASN:HB3	6:D:122:PHE:HZ	1.69	0.55
14:L:38:ILE:HD11	14:L:40:ALA:N	2.21	0.55
1:X:538:A:H5''	9:G:142:ARG:HH12	1.72	0.55
2:Y:58:G:H4'	2:Y:59:A:H8	1.70	0.55
1:X:2672:U:H2'	1:X:2673:G:C8	2.38	0.55
1:X:516:G:H4'	1:X:519:C:O2	2.07	0.55
21:S:51:LEU:CD2	21:S:51:LEU:H	2.18	0.55
1:X:1329:U:H2'	1:X:1330:G:C8	2.41	0.55
1:X:393:U:H1'	23:U:18:VAL:HG21	1.88	0.55
1:X:1466:C:C5	1:X:1467:U:O2	2.59	0.55
1:X:1333:G:C2	1:X:1342:U:H5'	2.41	0.55
26:Z:31:THR:O	26:Z:39:LYS:HA	2.06	0.55
1:X:1643:A:H61	1:X:1656:U:H3	1.54	0.55
16:N:93:LYS:O	16:N:94:VAL:HB	2.06	0.55
1:X:521:U:O4	1:X:522:G:N2	2.40	0.55
1:X:967:G:O6	12:J:17:ARG:NH2	2.38	0.55
10:H:80:ALA:HB2	10:H:90:ARG:HD3	1.87	0.55
1:X:760:U:C5	26:Z:3:LYS:HE2	2.41	0.55
5:C:26:VAL:O	5:C:30:VAL:HG23	2.06	0.55
1:X:2426:G:C4	1:X:2479:U:C5	2.94	0.55
15:M:102:ALA:O	15:M:103:LYS:HD2	2.06	0.55
1:X:969:U:O4	12:J:18:MET:HA	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:496:C:C2'	1:X:497:C:H5'	2.35	0.55
1:X:807:A:H2'	1:X:808:C:H6	1.71	0.55
6:D:38:GLU:HG2	6:D:57:LEU:HD11	1.88	0.55
3:A:218:ARG:HG2	3:A:219:LYS:N	2.21	0.55
3:A:44:ARG:HE	3:A:56:GLY:HA2	1.71	0.55
1:X:1299:A:HO2'	1:X:1301:U:P	2.29	0.55
1:X:1684:G:N3	1:X:1974:U:C5	2.75	0.55
21:S:100:THR:CG2	21:S:138:VAL:HG11	2.36	0.55
1:X:2274:C:OP2	14:L:11:LEU:HD21	2.06	0.55
14:L:43:ILE:HG23	14:L:49:GLN:O	2.06	0.55
1:X:70:A:OP2	1:X:111:G:H4'	2.06	0.55
1:X:2251:U:H5''	1:X:2252:A:OP1	2.06	0.55
1:X:1474:A:H2'	1:X:1474:A:N3	2.22	0.55
1:X:794:A:H5'	3:A:219:LYS:NZ	2.22	0.55
29:3:8:LYS:HG3	29:3:12:ARG:HH12	1.71	0.55
13:K:84:ALA:HB3	13:K:85:PRO:CD	2.32	0.55
1:X:1974:U:H2'	1:X:1975:G:H5'	1.87	0.55
2:Y:50:U:H2'	2:Y:51:G:C8	2.41	0.55
13:K:79:VAL:HG13	13:K:80:MET:N	2.21	0.55
1:X:822:G:O2'	1:X:823:U:H5'	2.07	0.55
21:S:120:LEU:C	21:S:120:LEU:HD23	2.27	0.55
20:R:48:VAL:HG12	20:R:50:GLY:H	1.72	0.55
21:S:95:SER:HB3	21:S:119:ASN:HD21	1.72	0.55
11:I:31:GLY:HA3	11:I:34:HIS:ND1	2.22	0.55
28:2:34:ARG:NH1	28:2:42:LEU:HG	2.21	0.55
1:X:218:A:C8	1:X:220:U:O2	2.60	0.55
1:X:1699:A:H2'	1:X:1700:C:C6	2.41	0.55
1:X:2728:A:C2	1:X:2737:A:C6	2.95	0.55
1:X:1655:C:H4'	1:X:2689:C:O2	2.06	0.55
1:X:1031:C:H1'	1:X:1032:A:OP2	2.06	0.55
9:G:103:TYR:CE1	9:G:111:LYS:HB2	2.41	0.55
1:X:1673:C:H42	1:X:1987:G:H1	1.54	0.55
3:A:252:GLY:HA3	3:A:256:LYS:NZ	2.21	0.55
1:X:1744:G:H2'	1:X:1746:A:OP2	2.07	0.55
1:X:2705:A:C8	1:X:2707:G:C5	2.95	0.55
1:X:839:U:OP1	1:X:2408:G:OP1	2.24	0.55
15:M:66:PHE:CD2	15:M:83:PHE:CE1	2.94	0.55
10:H:29:ILE:HG12	10:H:30:GLY:N	2.19	0.55
22:T:65:GLY:HA3	22:T:81:ILE:HG22	1.88	0.55
1:X:2013:A:H4'	1:X:2014:A:H8	1.71	0.55
1:X:2013:A:H4'	1:X:2014:A:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:174:A:H2	1:X:2413:A:N6	2.05	0.55
1:X:2453:C:H5'	1:X:2454:C:OP2	2.07	0.55
1:X:115:G:C6	1:X:117:A:N6	2.75	0.55
1:X:1141:U:H3	1:X:2008:C:H5''	1.72	0.55
2:Y:8:C:H1'	14:L:39:TYR:OH	2.07	0.55
20:R:15:HIS:CE1	20:R:16:PHE:CD2	2.94	0.55
1:X:2404:A:C4'	1:X:2405:A:OP2	2.55	0.55
1:X:2821:G:C6	1:X:2846:G:N2	2.75	0.55
1:X:1507:A:O4'	3:A:100:ASP:HB3	2.06	0.55
1:X:807:A:H2'	1:X:808:C:C6	2.42	0.55
14:L:42:ILE:HD13	14:L:43:ILE:N	2.22	0.55
1:X:2375:G:H2'	1:X:2376:G:H8	1.72	0.55
17:O:6:GLN:O	17:O:7:THR:OG1	2.19	0.55
1:X:2235:G:N2	1:X:2254:C:N4	2.55	0.55
1:X:1182:U:O2'	1:X:1183:C:H5''	2.07	0.54
1:X:1769:U:H5	1:X:1775:A:C2	2.25	0.54
10:H:127:VAL:HG13	10:H:133:VAL:HG21	1.88	0.54
1:X:2477:C:OP2	1:X:2478:C:OP2	2.26	0.54
1:X:2751:C:H2'	1:X:2752:C:C6	2.42	0.54
1:X:1272:G:H2'	1:X:1273:G:C8	2.42	0.54
4:B:93:VAL:C	4:B:95:ILE:H	2.10	0.54
1:X:2557:G:N7	4:B:140:SER:HB3	2.22	0.54
3:A:26:THR:HG22	3:A:27:LYS:N	2.21	0.54
1:X:1447:U:H1'	1:X:1577:G:N2	2.22	0.54
1:X:958:G:H2'	1:X:959:C:C6	2.42	0.54
9:G:103:TYR:CZ	9:G:111:LYS:HB2	2.42	0.54
9:G:94:LYS:HG2	9:G:117:GLU:HB2	1.89	0.54
19:Q:29:VAL:HG11	19:Q:38:ILE:HD11	1.89	0.54
19:Q:62:ARG:O	19:Q:70:GLY:HA3	2.07	0.54
12:J:16:GLY:O	12:J:17:ARG:HB3	2.06	0.54
23:U:32:ARG:NE	23:U:32:ARG:H	2.05	0.54
1:X:2031:A:C2	1:X:2600:A:C2	2.94	0.54
1:X:1062:G:H4'	1:X:2732:C:O2'	2.07	0.54
1:X:2355:A:H2'	1:X:2356:A:O4'	2.07	0.54
1:X:1813:A:H2'	1:X:1814:G:C8	2.43	0.54
1:X:2674:C:H2'	1:X:2675:U:H6	1.73	0.54
1:X:2660:C:C2	1:X:2704:U:O4	2.60	0.54
1:X:1981:A:O3'	1:X:2704:U:H4'	2.07	0.54
1:X:962:C:H42	1:X:977:G:H1	1.56	0.54
1:X:883:A:H5'	12:J:10:PHE:O	2.06	0.54
1:X:1922:U:O4'	1:X:1922:U:O2	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:16:ALA:CB	10:H:98:ILE:HD11	2.36	0.54
25:W:13:PRO:O	25:W:17:VAL:HG23	2.07	0.54
1:X:2542:U:H2'	1:X:2544:A:OP2	2.07	0.54
3:A:245:ARG:HA	3:A:253:LYS:HZ1	1.71	0.54
18:P:57:LEU:HD13	18:P:69:ALA:HA	1.89	0.54
1:X:2201:G:H2'	1:X:2202:G:H8	1.72	0.54
1:X:1974:U:H2'	1:X:1975:G:C5'	2.38	0.54
1:X:1978:U:H2'	1:X:1979:C:C5	2.42	0.54
1:X:2570:C:H2'	1:X:2571:G:C8	2.43	0.54
19:Q:48:VAL:CG2	19:Q:82:LEU:HD22	2.38	0.54
17:O:10:LYS:HD2	17:O:37:ALA:HB3	1.90	0.54
20:R:106:VAL:O	20:R:107:ALA:HB2	2.06	0.54
1:X:2791:C:O2'	1:X:2792:C:H5'	2.07	0.54
14:L:51:LEU:HD12	14:L:51:LEU:N	2.23	0.54
1:X:2044:G:N7	1:X:2482:A:O4'	2.40	0.54
4:B:9:ILE:HG22	15:M:13:LEU:HD11	1.90	0.54
18:P:37:LYS:HE2	18:P:64:ALA:CB	2.36	0.54
1:X:494:A:N7	20:R:56:LYS:NZ	2.50	0.54
16:N:17:VAL:HG21	16:N:32:TYR:CE1	2.40	0.54
1:X:1478:U:H2'	1:X:1479:G:C8	2.43	0.54
1:X:536:A:N6	1:X:2605:C:H4'	2.22	0.54
1:X:2836:U:C2	1:X:2837:G:C8	2.95	0.54
1:X:742:G:C4	1:X:1766:U:O2	2.61	0.54
2:Y:56:G:H2'	2:Y:57:U:O4'	2.08	0.54
27:1:51:ARG:HD2	27:1:51:ARG:C	2.28	0.54
6:D:112:ARG:H	6:D:112:ARG:HD2	1.73	0.54
9:G:117:GLU:C	9:G:119:LEU:H	2.11	0.54
1:X:225:G:N7	1:X:227:G:N3	2.55	0.54
10:H:46:HIS:HB2	10:H:49:ASP:OD2	2.08	0.54
21:S:100:THR:HG23	21:S:138:VAL:CG1	2.38	0.54
1:X:2074:U:H3'	1:X:2075:U:C5'	2.37	0.54
1:X:1356:G:N2	1:X:1418:C:C2	2.76	0.54
14:L:43:ILE:HD12	14:L:43:ILE:N	2.21	0.54
1:X:1607:A:H1'	1:X:1608:U:O5'	2.08	0.54
1:X:1212:U:H2'	1:X:1213:U:C6	2.43	0.54
1:X:1076:U:OP1	8:F:86:LYS:HD3	2.07	0.54
23:U:17:SER:OG	23:U:45:ASN:N	2.40	0.54
14:L:33:ARG:HE	14:L:38:ILE:CB	2.21	0.54
29:3:13:ARG:CD	29:3:25:PHE:H	2.20	0.54
11:I:57:ILE:O	11:I:58:ALA:O	2.25	0.54
27:1:9:ILE:HG22	27:1:28:ARG:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2262:C:H5'	27:1:7:ARG:NH2	2.22	0.54
27:1:14:SER:HB3	27:1:50:PHE:HZ	1.72	0.54
1:X:1337:G:OP2	18:P:105:ARG:NH1	2.41	0.54
1:X:2292:C:H5'	6:D:37:ASN:ND2	2.23	0.54
13:K:103:ARG:CG	13:K:104:ARG:N	2.70	0.54
1:X:2616:U:H5'	4:B:44:TYR:CE1	2.43	0.54
9:G:61:ARG:HA	9:G:65:LYS:HB2	1.88	0.54
20:R:17:LYS:O	20:R:36:VAL:HG11	2.07	0.54
1:X:1644:G:H2'	1:X:1645:U:C6	2.43	0.54
1:X:1283:C:H5''	1:X:1284:G:O5'	2.08	0.54
1:X:456:C:OP2	16:N:2:PRO:HD3	2.08	0.54
9:G:137:LYS:O	9:G:137:LYS:HG2	2.07	0.54
1:X:623:G:N2	1:X:626:A:H2	2.05	0.54
14:L:89:PHE:O	14:L:91:ARG:NH2	2.41	0.54
16:N:25:TRP:CE3	16:N:26:GLY:N	2.75	0.54
1:X:1074:G:H1	1:X:1086:C:N4	2.05	0.54
1:X:2696:A:H2'	1:X:2697:G:H8	1.72	0.54
10:H:17:ARG:HE	10:H:59:ALA:HB2	1.73	0.54
1:X:754:G:C4	1:X:755:C:C5	2.96	0.54
1:X:1336:G:O6	1:X:1337:G:C6	2.61	0.54
1:X:999:A:OP2	25:W:8:SER:HB3	2.08	0.54
10:H:29:ILE:HB	10:H:34:LEU:CD2	2.37	0.54
10:H:117:GLU:HA	10:H:120:ASP:OD2	2.08	0.54
1:X:1179:A:C2	1:X:1196:G:C2	2.95	0.54
1:X:2507:U:OP1	30:4:31:LYS:HE3	2.08	0.54
1:X:2043:A:N6	5:C:68:ARG:NH1	2.56	0.54
1:X:537:C:H1'	1:X:538:A:C6	2.43	0.54
1:X:666:U:C2'	1:X:667:U:H5''	2.35	0.54
27:1:41:ASP:HB3	27:1:47:HIS:H	1.72	0.54
16:N:8:ILE:O	16:N:12:ARG:HG3	2.08	0.54
1:X:2837:G:H2'	1:X:2838:U:H6	1.72	0.54
4:B:116:VAL:HG22	4:B:136:ARG:CG	2.38	0.54
11:I:62:LYS:HD2	29:3:25:PHE:CE1	2.43	0.54
20:R:15:HIS:CE1	20:R:16:PHE:HD2	2.26	0.54
1:X:471:A:C2	1:X:481:A:C4	2.96	0.54
10:H:24:VAL:HG12	10:H:42:LYS:HG2	1.88	0.54
1:X:1337:G:C4	1:X:1341:G:O6	2.61	0.54
1:X:26:G:C6	1:X:27:G:C6	2.96	0.54
1:X:699:G:O6	28:2:12:ARG:HA	2.08	0.54
9:G:41:TRP:CZ3	9:G:79:PHE:CG	2.96	0.54
1:X:623:G:H3'	1:X:624:A:H5''	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:62:LYS:HD2	29:3:25:PHE:HE1	1.73	0.53
1:X:2218:G:OP1	3:A:250:PRO:HB3	2.09	0.53
3:A:44:ARG:CD	3:A:44:ARG:N	2.64	0.53
4:B:154:LYS:HG3	4:B:155:ARG:N	2.21	0.53
1:X:1607:A:C4'	1:X:1608:U:OP1	2.55	0.53
5:C:43:ALA:HB1	5:C:86:PRO:O	2.08	0.53
18:P:32:ARG:NH2	18:P:120:ARG:O	2.41	0.53
1:X:954:U:OP2	11:I:38:LYS:NZ	2.38	0.53
1:X:2218:G:H5'	3:A:250:PRO:CD	2.38	0.53
1:X:2593:A:H5'	26:Z:5:PRO:HB3	1.90	0.53
23:U:21:ARG:C	23:U:39:LYS:HD2	2.28	0.53
1:X:2045:A:O2'	1:X:2046:C:C5'	2.56	0.53
12:J:15:ARG:CD	12:J:73:LYS:HG3	2.32	0.53
1:X:1810:U:C5	3:A:158:ARG:HD2	2.43	0.53
4:B:4:ILE:HG12	4:B:31:CYS:SG	2.48	0.53
1:X:1337:G:C5	1:X:1341:G:O6	2.61	0.53
24:V:37:LEU:C	24:V:37:LEU:HD23	2.29	0.53
1:X:1773:C:H2'	1:X:2587:G:O2'	2.07	0.53
1:X:1923:U:H1'	1:X:1924:C:OP2	2.08	0.53
7:E:107:ILE:HD11	7:E:151:VAL:HG11	1.90	0.53
1:X:637:G:N1	11:I:101:ARG:HD3	2.22	0.53
1:X:2554:C:O2'	4:B:140:SER:HB3	2.08	0.53
1:X:1265:G:H22	16:N:37:GLN:NE2	2.06	0.53
18:P:8:PHE:O	18:P:9:ARG:HB2	2.09	0.53
1:X:544:U:H2'	1:X:545:C:C6	2.43	0.53
29:3:24:ALA:O	29:3:47:GLY:N	2.42	0.53
1:X:2026:C:C4	1:X:2757:G:C2	2.97	0.53
1:X:2598:C:C2'	1:X:2599:U:H5'	2.37	0.53
1:X:334:G:N2	5:C:162:ARG:NH2	2.55	0.53
1:X:2292:C:H5'	6:D:37:ASN:HD22	1.73	0.53
1:X:1392:U:C6	1:X:1392:U:OP1	2.61	0.53
1:X:1420:A:H2	1:X:1612:U:O2	1.90	0.53
1:X:1944:C:H2'	1:X:1945:C:O4'	2.07	0.53
3:A:37:ALA:HB1	3:A:63:TYR:O	2.07	0.53
3:A:246:VAL:C	3:A:253:LYS:HD3	2.29	0.53
1:X:2041:A:N1	31:X:2881:LMA:H40A	2.24	0.53
3:A:109:PRO:HB3	3:A:144:HIS:CE1	2.44	0.53
1:X:1744:G:OP1	15:M:100:ARG:CD	2.57	0.53
1:X:1407:G:H3'	1:X:1407:G:N3	2.24	0.53
1:X:1173:G:H4'	17:O:22:VAL:CG2	2.36	0.53
15:M:34:ARG:HE	15:M:91:VAL:HG22	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2282:G:O2'	6:D:129:ASN:HB2	2.08	0.53
4:B:121:ASN:O	4:B:122:PHE:C	2.47	0.53
1:X:652:C:N4	1:X:657:A:H61	2.06	0.53
1:X:38:G:N2	5:C:42:THR:HG22	2.23	0.53
1:X:1182:U:H1'	1:X:1183:C:O5'	2.08	0.53
18:P:106:LEU:O	18:P:106:LEU:HD23	2.08	0.53
15:M:27:PHE:HB3	15:M:93:ILE:HD12	1.90	0.53
24:V:31:GLN:HA	24:V:34:ALA:HB3	1.90	0.53
20:R:44:GLN:O	20:R:77:HIS:HA	2.08	0.53
10:H:65:LYS:HD2	10:H:65:LYS:N	2.24	0.53
21:S:130:ILE:HD12	21:S:130:ILE:N	2.23	0.53
1:X:224:G:C2	1:X:229:G:C6	2.96	0.53
27:1:9:ILE:HG22	27:1:28:ARG:CB	2.37	0.53
12:J:40:PRO:HB3	12:J:99:LYS:NZ	2.23	0.53
1:X:99:U:H3'	1:X:100:G:H5''	1.90	0.53
1:X:867:G:C2	1:X:936:A:C2	2.96	0.53
1:X:1257:U:H2'	1:X:1258:G:C8	2.44	0.53
6:D:104:ILE:HD13	6:D:174:GLY:HA3	1.91	0.53
9:G:96:ASP:O	9:G:98:LYS:N	2.41	0.53
1:X:559:C:H2'	1:X:560:G:O4'	2.08	0.53
1:X:1677:C:H42	1:X:1983:G:H1	1.56	0.53
27:1:11:LYS:N	27:1:11:LYS:HD2	2.24	0.53
14:L:37:HIS:CG	14:L:37:HIS:O	2.61	0.53
1:X:2664:G:C6	1:X:2705:A:N6	2.76	0.53
13:K:28:LEU:HD21	13:K:115:LEU:HD21	1.90	0.53
13:K:87:TYR:OH	13:K:115:LEU:HB3	2.08	0.53
1:X:2366:U:H1'	22:T:41:ARG:NH1	2.24	0.53
13:K:55:ALA:HB2	13:K:66:VAL:HG21	1.91	0.53
1:X:57:G:OP1	19:Q:74:ASP:HB2	2.09	0.53
14:L:42:ILE:O	14:L:50:THR:HG23	2.08	0.53
1:X:2392:G:H2'	1:X:2393:G:H8	1.74	0.53
1:X:589:C:H4'	16:N:31:GLN:NE2	2.24	0.53
1:X:673:G:H2'	1:X:674:U:C6	2.43	0.53
1:X:2217:G:H2'	1:X:2217:G:N3	2.23	0.53
1:X:1810:U:C6	3:A:158:ARG:HD2	2.44	0.53
1:X:1002:C:H6	1:X:1002:C:O5'	1.92	0.53
28:2:42:LEU:H	28:2:42:LEU:CD1	2.22	0.53
29:3:41:ILE:HG22	29:3:42:ARG:HD3	1.91	0.53
17:O:68:LYS:HD2	17:O:69:ILE:H	1.74	0.53
1:X:668:A:H2'	1:X:669:G:O4'	2.09	0.53
1:X:999:A:H5''	25:W:8:SER:CB	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1544:A:C2	1:X:1560:A:C2	2.96	0.53
10:H:19:ILE:O	10:H:19:ILE:HG13	2.08	0.53
17:O:70:TYR:CD2	17:O:83:ARG:NH1	2.73	0.53
1:X:2598:C:H4'	4:B:150:VAL:HG22	1.91	0.53
4:B:31:CYS:HB3	4:B:49:ILE:CG1	2.39	0.53
12:J:99:LYS:CE	12:J:100:PRO:HD2	2.38	0.53
11:I:49:PHE:CD1	11:I:50:GLU:N	2.76	0.53
1:X:1357:U:C2'	1:X:1358:C:OP1	2.56	0.53
1:X:2039:G:C8	1:X:2556:A:C6	2.97	0.53
1:X:591:G:H1	1:X:1271:C:H42	1.57	0.53
1:X:760:U:O2'	1:X:761:G:P	2.66	0.53
10:H:51:ILE:HD12	10:H:52:VAL:O	2.08	0.53
4:B:134:TRP:CD1	4:B:134:TRP:N	2.74	0.53
1:X:1938:U:H4'	1:X:1939:U:OP2	2.08	0.53
1:X:1433:A:H62	1:X:1435:G:C1'	2.22	0.53
1:X:1949:A:H61	1:X:2581:A:H62	1.56	0.53
1:X:304:A:C6	1:X:359:G:N2	2.77	0.53
1:X:2486:C:C2	1:X:2562:G:C2	2.96	0.53
21:S:149:ALA:O	21:S:160:LEU:HD11	2.08	0.53
1:X:1888:C:H2'	1:X:1913:G:N7	2.23	0.53
1:X:746:G:O6	1:X:774:A:C8	2.62	0.53
7:E:137:ASP:HB3	7:E:140:LEU:HD12	1.91	0.53
1:X:500:G:H2'	1:X:501:G:O4'	2.09	0.53
9:G:100:TYR:CB	9:G:116:ARG:HH11	2.08	0.53
3:A:66:ILE:HD11	3:A:107:LEU:HD12	1.89	0.53
18:P:25:PHE:CD1	18:P:127:ILE:HD11	2.40	0.53
1:X:1688:U:O2'	1:X:1690:U:H5	1.90	0.53
1:X:474:G:N2	1:X:477:A:OP2	2.38	0.53
13:K:103:ARG:CG	13:K:104:ARG:H	2.22	0.53
3:A:73:LYS:HE2	3:A:98:TYR:CD2	2.44	0.53
1:X:455:A:H1'	1:X:1215:A:O4'	2.09	0.53
1:X:1257:U:H2'	1:X:1258:G:H8	1.73	0.53
1:X:2311:U:C4'	1:X:2315:A:N6	2.71	0.53
1:X:1399:C:O2'	1:X:1400:A:H5'	2.09	0.53
1:X:746:G:C5	1:X:774:A:C5	2.97	0.53
5:C:74:VAL:HG23	5:C:76:THR:H	1.74	0.53
1:X:1370:U:H2'	1:X:1371:G:O4'	2.08	0.53
1:X:518:A:N6	18:P:30:TYR:CD1	2.77	0.53
1:X:1174:G:C2	1:X:1175:A:C5	2.96	0.52
13:K:90:ARG:HD2	13:K:94:TYR:HB2	1.92	0.52
4:B:116:VAL:H	4:B:136:ARG:CD	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:43:ILE:HG13	12:J:98:VAL:HG21	1.91	0.52
10:H:2:ILE:CB	10:H:45:ALA:HB3	2.37	0.52
1:X:1145:C:C6	1:X:1147:G:OP2	2.62	0.52
1:X:1053:G:H1'	1:X:1054:C:O5'	2.08	0.52
1:X:75:C:N3	1:X:109:A:C2	2.77	0.52
1:X:1218:C:H4'	11:I:13:ARG:NH1	2.23	0.52
3:A:28:LYS:NZ	3:A:30:PRO:HG3	2.23	0.52
1:X:2528:G:C2	1:X:2529:G:N7	2.77	0.52
24:V:17:GLU:HB3	24:V:21:ARG:NH1	2.24	0.52
2:Y:9:G:H5''	14:L:32:TYR:CE1	2.44	0.52
1:X:762:A:H2	1:X:766:A:O2'	1.91	0.52
11:I:43:ALA:O	11:I:45:LYS:CB	2.57	0.52
30:4:15:LYS:HB2	30:4:26:ILE:HG13	1.90	0.52
28:2:25:LYS:NZ	28:2:28:ARG:HG3	2.24	0.52
1:X:463:C:C2	1:X:465:C:C5	2.97	0.52
1:X:810:U:H2'	1:X:811:G:O4'	2.09	0.52
9:G:61:ARG:NE	9:G:65:LYS:HD2	2.24	0.52
1:X:1429:A:H1'	1:X:1603:A:C6	2.43	0.52
10:H:26:ASN:HB3	10:H:38:GLY:H	1.73	0.52
3:A:247:PRO:C	3:A:249:THR:H	2.12	0.52
1:X:758:G:C2'	1:X:759:C:OP1	2.57	0.52
1:X:1811:A:H2'	3:A:179:PRO:HG2	1.91	0.52
1:X:1746:A:C2	1:X:2696:A:H1'	2.44	0.52
1:X:2664:G:N2	1:X:2665:G:H1'	2.23	0.52
18:P:80:LEU:HD11	18:P:87:GLU:HB3	1.91	0.52
3:A:38:LEU:HB3	3:A:39:PRO:HD2	1.92	0.52
1:X:1010:U:O2'	1:X:1011:A:H5'	2.09	0.52
12:J:64:LYS:HD3	12:J:108:ALA:O	2.09	0.52
1:X:2468:G:O2'	1:X:2469:G:H5'	2.09	0.52
12:J:69:ILE:HD13	12:J:104:MET:HB3	1.90	0.52
18:P:110:ALA:O	18:P:111:ARG:HB2	2.08	0.52
1:X:1976:U:C5	1:X:1977:C:C5	2.97	0.52
1:X:513:A:C6	1:X:516:G:C6	2.97	0.52
16:N:24:PHE:CB	16:N:29:SER:HB3	2.40	0.52
1:X:2340:C:OP1	29:3:27:SER:N	2.36	0.52
1:X:1433:A:C4	1:X:1595:A:C2	2.98	0.52
17:O:13:ARG:HD3	17:O:16:GLU:HB2	1.90	0.52
1:X:2815:C:H42	1:X:2852:G:H1	1.57	0.52
6:D:40:LEU:HD11	6:D:50:ILE:HA	1.91	0.52
21:S:47:SER:OG	21:S:48:THR:N	2.42	0.52
1:X:538:A:H3'	9:G:142:ARG:HH22	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2289:A:C2	6:D:79:LEU:HD11	2.34	0.52
16:N:16:LYS:O	16:N:19:LYS:HG2	2.09	0.52
3:A:78:ALA:HB2	3:A:98:TYR:CD1	2.43	0.52
1:X:968:C:N4	1:X:970:A:C5	2.78	0.52
28:2:19:ARG:NH1	28:2:19:ARG:HB2	2.24	0.52
1:X:795:A:H5'	1:X:796:A:C2	2.44	0.52
1:X:793:G:H21	1:X:796:A:H62	1.57	0.52
10:H:9:ASP:HB2	10:H:95:ALA:HB2	1.90	0.52
13:K:85:PRO:O	13:K:88:ALA:HB2	2.10	0.52
9:G:162:LYS:N	9:G:163:PRO:CD	2.72	0.52
1:X:1976:U:C5'	4:B:128:SER:HB3	2.39	0.52
16:N:7:GLY:O	16:N:9:VAL:HG23	2.10	0.52
1:X:659:G:H1'	29:3:46:LYS:HG3	1.92	0.52
1:X:983:G:H3'	1:X:984:A:C5'	2.39	0.52
1:X:15:G:H4'	26:Z:21:SER:HB2	1.91	0.52
1:X:1867:A:O2'	1:X:1868:A:C8	2.63	0.52
16:N:11:ARG:HB3	16:N:15:LYS:HZ1	1.75	0.52
4:B:115:GLY:HA3	4:B:136:ARG:HD2	1.92	0.52
1:X:2736:U:H3	1:X:2738:A:N6	1.89	0.52
1:X:399:G:H4'	23:U:21:ARG:HH12	1.75	0.52
1:X:2422:C:O2'	1:X:2423:G:H5'	2.10	0.52
3:A:148:LEU:CD2	3:A:156:LEU:HD11	2.40	0.52
19:Q:29:VAL:HG11	19:Q:38:ILE:CD1	2.40	0.52
1:X:1355:A:HO2'	1:X:1357:U:P	2.32	0.52
1:X:1963:G:O2'	1:X:1965:U:OP2	2.28	0.52
1:X:2234:G:H2'	1:X:2235:G:O4'	2.09	0.52
1:X:1920:A:H5''	1:X:1921:A:OP2	2.09	0.52
22:T:45:PHE:HA	22:T:77:ARG:HB2	1.92	0.52
1:X:2736:U:C5'	30:4:19:ARG:HG2	2.40	0.52
1:X:2722:C:OP1	30:4:35:ARG:HD2	2.10	0.52
1:X:537:C:O2'	1:X:538:A:C4	2.61	0.52
1:X:689:A:H1'	1:X:2422:C:O4'	2.10	0.52
1:X:1224:A:H4'	1:X:1225:G:OP2	2.10	0.52
4:B:131:SER:HB2	4:B:134:TRP:HE1	1.74	0.52
1:X:2264:C:OP2	27:1:28:ARG:HD3	2.10	0.52
1:X:2706:U:OP1	1:X:2706:U:C6	2.63	0.52
1:X:215:G:H21	1:X:632:A:H8	1.57	0.52
21:S:128:ARG:HG3	21:S:129:ARG:HG3	1.91	0.52
1:X:13:A:N3	1:X:15:G:O6	2.43	0.52
1:X:57:G:N3	1:X:69:G:N2	2.58	0.52
18:P:45:ILE:O	18:P:48:LYS:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:941:U:H2'	1:X:942:U:O4'	2.09	0.52
1:X:203:G:H1'	1:X:205:A:H61	1.75	0.52
2:Y:9:G:H21	14:L:41:GLN:HE22	1.58	0.52
1:X:1467:U:H6	1:X:1467:U:H3'	1.74	0.52
1:X:603:C:H5''	29:3:62:LEU:HD13	1.92	0.52
6:D:4:LEU:CG	6:D:5:LYS:H	2.23	0.52
6:D:36:VAL:HB	6:D:89:VAL:HB	1.90	0.52
1:X:659:G:O2'	1:X:660:G:H5'	2.09	0.52
28:2:19:ARG:HB2	28:2:19:ARG:CZ	2.40	0.52
1:X:1505:U:O2	1:X:1506:C:H5	1.92	0.52
27:1:51:ARG:HD2	27:1:51:ARG:O	2.10	0.52
1:X:1255:A:H2'	1:X:1256:C:C6	2.44	0.52
1:X:1290:A:H5''	13:K:40:LYS:HZ3	1.75	0.52
1:X:2180:U:H5	1:X:2203:G:C5	2.28	0.52
2:Y:44:C:H42	6:D:88:LYS:NZ	2.07	0.52
21:S:134:LEU:HD21	21:S:152:ILE:HG21	1.91	0.52
1:X:787:A:H5''	3:A:49:ARG:NH2	2.26	0.51
1:X:178:C:OP2	23:U:40:ARG:CZ	2.58	0.51
1:X:882:C:H42	1:X:920:G:H1	1.59	0.51
1:X:1351:G:O2'	1:X:1352:G:H5'	2.10	0.51
1:X:2839:G:H2'	1:X:2840:U:C6	2.46	0.51
1:X:540:G:C6	1:X:2005:U:H5''	2.45	0.51
1:X:2674:C:H2'	1:X:2675:U:C6	2.46	0.51
1:X:2338:C:H2'	1:X:2339:A:O4'	2.09	0.51
1:X:2782:G:C2'	1:X:2783:U:O5'	2.57	0.51
1:X:652:C:H42	1:X:657:A:N6	2.06	0.51
24:V:2:LYS:CG	24:V:3:PRO:HD3	2.40	0.51
1:X:613:A:O4'	1:X:668:A:H2	1.92	0.51
16:N:79:PHE:O	16:N:83:LEU:HD13	2.11	0.51
27:1:11:LYS:H	27:1:11:LYS:HD2	1.75	0.51
1:X:2382:C:N4	1:X:2393:G:H1	2.08	0.51
17:O:66:GLY:O	17:O:87:ARG:NH2	2.43	0.51
1:X:2457:A:N7	1:X:2458:U:C5	2.78	0.51
1:X:2033:C:N4	1:X:2034:A:C6	2.78	0.51
20:R:93:ARG:O	20:R:94:VAL:C	2.48	0.51
9:G:95:LEU:HD21	9:G:117:GLU:OE1	2.10	0.51
11:I:32:ARG:HH22	17:O:82:ARG:HE	1.58	0.51
1:X:1724:C:N3	1:X:1747:G:C6	2.78	0.51
1:X:753:U:H2'	1:X:754:G:H8	1.76	0.51
1:X:618:A:C2	1:X:632:A:C5	2.99	0.51
1:X:1644:G:H2'	1:X:1645:U:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2368:G:H5''	1:X:2369:U:O4'	2.10	0.51
1:X:542:A:H2'	16:N:28:ARG:HE	1.73	0.51
20:R:16:PHE:CZ	20:R:46:VAL:HG22	2.44	0.51
4:B:188:ILE:CG2	4:B:189:PRO:CD	2.88	0.51
3:A:22:PHE:O	3:A:209:LYS:HG3	2.11	0.51
24:V:6:MET:CE	24:V:56:VAL:HG21	2.41	0.51
1:X:2424:G:C2'	1:X:2425:G:H5'	2.40	0.51
1:X:1923:U:OP2	1:X:2582:G:N2	2.35	0.51
1:X:2314:A:O2'	1:X:2315:A:C8	2.64	0.51
1:X:356:A:H2'	1:X:357:A:C8	2.46	0.51
1:X:2046:C:O2	1:X:2430:A:C2	2.64	0.51
1:X:2426:G:C5	1:X:2479:U:C5	2.99	0.51
1:X:1332:G:O6	1:X:1333:G:O6	2.28	0.51
12:J:96:SER:O	12:J:98:VAL:HG23	2.11	0.51
1:X:469:G:H3'	28:2:39:ARG:O	2.10	0.51
1:X:1685:A:H4'	1:X:1686:A:O5'	2.11	0.51
1:X:2238:G:C2	1:X:2261:G:C6	2.98	0.51
1:X:1941:C:C2'	1:X:1942:G:H5'	2.41	0.51
28:2:25:LYS:HZ2	28:2:28:ARG:HG3	1.75	0.51
1:X:219:G:C2'	1:X:220:U:OP2	2.59	0.51
1:X:525:A:C2'	1:X:526:C:H5'	2.40	0.51
6:D:80:ARG:H	6:D:80:ARG:HD2	1.75	0.51
1:X:778:G:H2'	1:X:779:U:H6	1.75	0.51
9:G:58:ILE:HG23	9:G:80:VAL:HG11	1.92	0.51
1:X:2623:A:C2'	1:X:2624:G:H5'	2.41	0.51
11:I:57:ILE:HG22	11:I:58:ALA:N	2.25	0.51
1:X:2653:A:O3'	10:H:42:LYS:HA	2.11	0.51
27:1:8:ILE:H	27:1:8:ILE:CD1	2.23	0.51
1:X:2629:U:H2'	1:X:2630:C:H6	1.76	0.51
7:E:90:ARG:NH2	7:E:163:ARG:HH12	2.08	0.51
1:X:1781:C:C6	1:X:1781:C:H5'	2.46	0.51
16:N:81:ASN:ND2	16:N:117:ARG:NH2	2.58	0.51
1:X:626:A:O2'	5:C:176:ASN:HB2	2.10	0.51
14:L:29:LEU:HD23	14:L:89:PHE:CE1	2.45	0.51
1:X:603:C:C5'	29:3:62:LEU:HD22	2.40	0.51
1:X:48:A:H8	1:X:50:G:H21	1.57	0.51
28:2:19:ARG:O	28:2:23:LYS:HG3	2.09	0.51
1:X:121:G:H2'	1:X:122:G:O4'	2.10	0.51
1:X:1496:G:O2'	1:X:1497:C:H5''	2.10	0.51
11:I:85:ASP:HA	11:I:116:ARG:NH1	2.25	0.51
1:X:2014:A:C6	1:X:2477:C:H1'	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:45:THR:HG21	5:C:86:PRO:HD2	1.93	0.51
24:V:49:GLU:O	24:V:53:LEU:HG	2.11	0.51
1:X:1787:U:H2'	1:X:1788:C:C6	2.46	0.51
14:L:79:ALA:HB1	14:L:84:ILE:HB	1.92	0.51
18:P:126:ILE:HD12	18:P:127:ILE:N	2.25	0.51
11:I:49:PHE:CZ	29:3:59:LYS:HE3	2.46	0.51
5:C:137:ALA:HB1	5:C:142:LEU:CB	2.41	0.51
13:K:103:ARG:HG3	13:K:104:ARG:H	1.76	0.51
1:X:75:C:C2	1:X:109:A:H2	2.28	0.51
10:H:14:SER:OG	10:H:98:ILE:HD12	2.11	0.51
1:X:303:C:N3	1:X:360:A:H2	2.08	0.51
1:X:746:G:C8	1:X:774:A:N6	2.79	0.51
1:X:2033:C:C4	1:X:2034:A:C6	2.99	0.51
11:I:57:ILE:HG22	29:3:12:ARG:NH2	2.25	0.51
20:R:18:LYS:HD3	20:R:18:LYS:N	2.13	0.51
1:X:2617:G:O2'	1:X:2618:A:H8	1.93	0.51
1:X:2806:G:O4'	1:X:2858:A:C2	2.63	0.51
1:X:1607:A:H4'	1:X:1608:U:OP1	2.11	0.51
1:X:746:G:N7	1:X:774:A:N7	2.58	0.51
1:X:62:U:H4'	1:X:63:A:OP1	2.10	0.51
6:D:34:ILE:HD12	6:D:156:ILE:HG12	1.92	0.51
10:H:3:MET:O	10:H:6:SER:HB2	2.11	0.51
15:M:75:GLU:O	15:M:77:VAL:HG23	2.10	0.51
1:X:350:U:O5'	1:X:350:U:H6	1.94	0.51
3:A:247:PRO:O	3:A:249:THR:N	2.44	0.51
26:Z:3:LYS:HB3	26:Z:5:PRO:HD2	1.93	0.51
1:X:2310:G:H4'	22:T:43:THR:N	2.25	0.51
5:C:117:LEU:HD23	5:C:118:VAL:N	2.26	0.51
1:X:330:C:H2'	1:X:331:U:O4'	2.11	0.51
1:X:459:A:H1'	1:X:461:A:N6	2.26	0.51
4:B:84:PHE:CE2	4:B:86:PRO:CD	2.94	0.51
1:X:2364:C:H2'	1:X:2365:U:C6	2.46	0.51
1:X:482:A:C6	1:X:483:A:C2	2.99	0.51
13:K:69:ASP:O	13:K:71:HIS:ND1	2.44	0.51
1:X:2329:C:N4	1:X:2330:G:C6	2.79	0.51
21:S:94:VAL:HG23	21:S:125:PRO:HG3	1.93	0.51
1:X:1223:G:C5'	1:X:1224:A:H3'	2.41	0.50
17:O:80:TYR:HE2	17:O:82:ARG:CZ	2.24	0.50
1:X:1631:C:H5	1:X:1633:C:C2	2.29	0.50
1:X:1744:G:OP1	15:M:100:ARG:HD2	2.10	0.50
4:B:181:LEU:HD13	15:M:16:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2705:A:C4'	1:X:2706:U:OP1	2.59	0.50
4:B:78:LEU:O	4:B:79:ARG:CD	2.59	0.50
1:X:838:A:H4'	1:X:2407:G:C5	2.47	0.50
1:X:2238:G:N1	1:X:2261:G:C6	2.79	0.50
1:X:558:G:N3	1:X:558:G:H3'	2.26	0.50
1:X:2475:C:OP1	12:J:83:ARG:HB3	2.11	0.50
1:X:1300:A:C5'	13:K:103:ARG:HD2	2.41	0.50
5:C:48:ARG:HB2	5:C:51:VAL:HG22	1.93	0.50
5:C:111:ARG:O	5:C:116:LYS:HB3	2.11	0.50
5:C:130:THR:O	5:C:133:PHE:HB3	2.10	0.50
1:X:751:G:O2'	1:X:752:G:O5'	2.29	0.50
1:X:1069:G:H3'	1:X:1070:G:H5''	1.92	0.50
1:X:2210:C:OP1	23:U:45:ASN:HA	2.11	0.50
1:X:2016:A:C5	1:X:2019:C:N4	2.80	0.50
1:X:538:A:C2	1:X:2025:A:C5	3.00	0.50
18:P:41:VAL:O	18:P:44:VAL:CG2	2.58	0.50
7:E:96:ALA:HB2	7:E:105:MET:HE1	1.92	0.50
3:A:71:ARG:NH2	3:A:150:PRO:HA	2.25	0.50
1:X:2265:A:P	27:1:28:ARG:HD2	2.51	0.50
15:M:104:LEU:C	15:M:106:TYR:H	2.13	0.50
1:X:1404:C:H41	1:X:1407:G:P	2.34	0.50
1:X:877:G:C6	1:X:878:C:N4	2.79	0.50
16:N:61:TRP:CZ3	16:N:94:VAL:N	2.75	0.50
1:X:2634:G:H2'	1:X:2643:G:O6	2.11	0.50
1:X:2375:G:H4'	23:U:32:ARG:O	2.11	0.50
1:X:2329:C:H6	1:X:2329:C:H3'	1.76	0.50
1:X:2373:C:C5	1:X:2374:C:C5	2.99	0.50
11:I:58:ALA:C	11:I:60:LEU:H	2.14	0.50
18:P:66:GLU:HB3	18:P:67:PRO:CD	2.32	0.50
1:X:2262:C:OP1	27:1:3:LYS:HB3	2.10	0.50
1:X:1692:C:C5	1:X:1693:A:C5	2.98	0.50
1:X:2659:C:C5'	4:B:189:PRO:HA	2.37	0.50
1:X:2372:A:OP1	11:I:61:PRO:HB3	2.12	0.50
1:X:789:G:C2	1:X:2220:A:OP1	2.64	0.50
1:X:2379:G:N2	1:X:2380:U:O2	2.44	0.50
21:S:121:GLN:O	21:S:161:ALA:HB3	2.10	0.50
4:B:20:ALA:HB2	10:H:85:ASP:O	2.11	0.50
1:X:2180:U:O4	1:X:2203:G:H2'	2.11	0.50
1:X:95:G:H4'	24:V:41:HIS:CG	2.46	0.50
1:X:2796:A:O3'	4:B:162:MET:HE1	2.12	0.50
16:N:25:TRP:CE3	16:N:26:GLY:HA3	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2598:C:H5'	4:B:150:VAL:O	2.11	0.50
4:B:61:LYS:N	4:B:62:PRO:CD	2.74	0.50
11:I:61:PRO:HG3	29:3:27:SER:HA	1.93	0.50
1:X:1945:C:O2'	1:X:1946:U:C5	2.65	0.50
1:X:573:C:H2'	1:X:574:C:H6	1.77	0.50
15:M:25:PRO:O	15:M:27:PHE:CD2	2.64	0.50
1:X:1787:U:H4'	3:A:255:THR:H	1.76	0.50
1:X:633:G:H2'	1:X:634:G:C8	2.46	0.50
1:X:765:C:C5	1:X:1772:C:C2	2.99	0.50
1:X:1020:A:H4'	16:N:59:ARG:HG3	1.92	0.50
1:X:1324:G:HO2'	1:X:1325:U:H5	1.60	0.50
1:X:1987:G:C6	1:X:1988:A:C5	3.00	0.50
31:X:2881:LMA:C37	31:X:2881:LMA:H35	2.30	0.50
1:X:1145:C:C5	1:X:1147:G:P	3.05	0.50
1:X:966:A:N6	1:X:967:G:C6	2.80	0.50
1:X:465:C:O2	1:X:467:U:C6	2.65	0.50
25:W:40:VAL:HA	25:W:43:MET:CG	2.41	0.50
1:X:1050:G:H2'	1:X:1051:U:H5'	1.93	0.50
1:X:958:G:H2'	1:X:959:C:H6	1.76	0.50
1:X:2562:G:C6	1:X:2563:U:N3	2.79	0.50
3:A:95:LEU:O	3:A:95:LEU:HG	2.11	0.50
31:X:2881:LMA:H57	31:X:2881:LMA:O55	2.11	0.50
15:M:11:GLU:HG3	15:M:14:ARG:NH1	2.18	0.50
20:R:23:ILE:HD12	20:R:23:ILE:O	2.11	0.50
18:P:95:ALA:HB2	18:P:126:ILE:CD1	2.37	0.50
4:B:188:ILE:CG2	4:B:189:PRO:HD2	2.41	0.50
1:X:1007:A:N6	1:X:1171:A:C6	2.79	0.50
1:X:2729:A:C6	1:X:2730:A:N6	2.80	0.50
1:X:1354:A:O3'	19:Q:54:SER:HB2	2.12	0.50
1:X:562:G:H2'	1:X:563:U:O4'	2.11	0.50
1:X:2016:A:C6	1:X:2019:C:C4	2.99	0.50
1:X:1629:G:C6	1:X:1633:C:C5	2.99	0.50
27:1:39:LYS:HZ3	27:1:41:ASP:HB3	1.76	0.50
18:P:87:GLU:HA	18:P:90:LEU:CG	2.39	0.50
5:C:48:ARG:O	5:C:51:VAL:HG22	2.11	0.50
1:X:459:A:N6	1:X:484:G:H1'	2.27	0.50
21:S:88:TYR:C	21:S:127:PRO:HG2	2.31	0.50
6:D:134:GLU:HG2	6:D:136:LEU:H	1.76	0.50
1:X:2722:C:H2'	1:X:2723:C:H6	1.76	0.50
1:X:2409:A:O2'	1:X:2410:U:C5	2.65	0.50
1:X:841:G:H4'	1:X:844:G:N1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:52:TYR:O	26:Z:53:ASP:CB	2.58	0.50
1:X:986:A:C2	1:X:1001:A:C8	2.99	0.50
7:E:94:PHE:CG	7:E:107:ILE:HG22	2.46	0.50
14:L:14:ARG:O	14:L:18:ARG:HB2	2.12	0.50
23:U:66:ALA:O	23:U:70:LEU:HB2	2.12	0.50
6:D:106:ILE:HG21	6:D:139:PRO:HB3	1.94	0.50
1:X:1457:A:C2	1:X:1565:G:C2	2.99	0.50
1:X:158:A:H2	1:X:447:U:O2'	1.95	0.50
4:B:14:ILE:CA	15:M:20:HIS:HD2	2.14	0.50
1:X:2757:G:OP2	1:X:2761:A:O2'	2.26	0.50
1:X:2551:A:H62	4:B:145:LYS:HD2	1.77	0.50
13:K:63:ARG:HA	13:K:80:MET:HE1	1.94	0.50
1:X:2571:G:C6	1:X:2572:U:N3	2.79	0.50
1:X:795:A:C2	3:A:227:MET:HE2	2.47	0.50
1:X:320:A:N3	1:X:340:G:O2'	2.42	0.50
1:X:588:G:N2	1:X:1275:A:C4	2.80	0.50
1:X:642:A:O2'	11:I:65:PHE:HB3	2.12	0.50
12:J:35:LEU:HD12	12:J:131:LYS:O	2.11	0.50
3:A:43:GLY:H	3:A:44:ARG:NH1	2.10	0.49
7:E:103:LEU:HD21	7:E:105:MET:HE3	1.94	0.49
1:X:1469:U:H5''	1:X:1470:G:N7	2.27	0.49
1:X:1747:G:H5'	1:X:1748:U:OP1	2.12	0.49
1:X:754:G:C6	1:X:755:C:N4	2.80	0.49
1:X:2282:G:C2	1:X:2293:G:C2	3.00	0.49
1:X:1774:A:H5'	1:X:2587:G:H4'	1.93	0.49
16:N:40:LEU:O	16:N:43:ALA:HB3	2.12	0.49
1:X:1255:A:H2'	1:X:1256:C:H6	1.76	0.49
13:K:68:GLN:O	13:K:71:HIS:CE1	2.65	0.49
1:X:79:G:H1	1:X:104:C:H42	1.58	0.49
4:B:147:PRO:O	4:B:149:ARG:HG3	2.12	0.49
1:X:2016:A:O4'	1:X:2016:A:OP2	2.30	0.49
1:X:537:C:H1'	1:X:538:A:N1	2.27	0.49
23:U:49:LYS:HB3	23:U:61:TRP:CZ3	2.47	0.49
1:X:409:G:O3'	23:U:47:HIS:HE1	1.95	0.49
15:M:104:LEU:O	15:M:106:TYR:N	2.44	0.49
1:X:490:A:C4	1:X:492:G:O4'	2.65	0.49
11:I:80:LEU:HD13	11:I:120:VAL:HG22	1.94	0.49
1:X:2338:C:H42	1:X:2407:G:H1	1.60	0.49
1:X:1336:G:C2'	1:X:1337:G:H5'	2.39	0.49
1:X:26:G:C5	1:X:27:G:C6	3.00	0.49
1:X:969:U:H4'	1:X:970:A:OP2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1926:U:O4'	1:X:1928:G:H5'	2.13	0.49
11:I:94:GLU:HB2	11:I:97:ARG:HH11	1.76	0.49
18:P:34:SER:HA	18:P:120:ARG:HB2	1.94	0.49
1:X:1351:G:C2	1:X:1352:G:C4	3.01	0.49
1:X:1056:U:H1'	1:X:1058:G:C2	2.47	0.49
9:G:99:VAL:HG12	9:G:99:VAL:O	2.11	0.49
1:X:2045:A:O2'	1:X:2046:C:O4'	2.30	0.49
5:C:148:VAL:HB	5:C:167:VAL:HG12	1.94	0.49
1:X:471:A:C2	1:X:481:A:C5	3.00	0.49
1:X:1145:C:C6	1:X:1147:G:P	3.06	0.49
1:X:595:A:OP1	5:C:83:ALA:HB3	2.12	0.49
1:X:334:G:C3'	5:C:162:ARG:HD3	2.42	0.49
19:Q:5:ASP:O	19:Q:6:ILE:HB	2.12	0.49
5:C:14:THR:O	5:C:15:ILE:HB	2.11	0.49
1:X:2369:U:H5'	29:3:36:LYS:NZ	2.27	0.49
1:X:33:C:H4'	1:X:34:U:OP1	2.10	0.49
1:X:2053:G:N2	1:X:2054:A:N3	2.61	0.49
3:A:89:ARG:HG2	3:A:91:ALA:HB3	1.94	0.49
4:B:114:GLN:OE1	4:B:114:GLN:HA	2.11	0.49
14:L:37:HIS:CD2	14:L:39:TYR:CZ	3.01	0.49
14:L:91:ARG:H	14:L:91:ARG:NE	2.11	0.49
1:X:346:C:H2'	1:X:347:C:C6	2.44	0.49
16:N:66:ASN:CB	16:N:76:TYR:HB2	2.36	0.49
1:X:1976:U:OP2	1:X:1976:U:H3'	2.13	0.49
16:N:61:TRP:HZ3	16:N:94:VAL:H	1.54	0.49
24:V:52:GLN:O	24:V:56:VAL:HG23	2.12	0.49
5:C:14:THR:HG22	5:C:15:ILE:H	1.75	0.49
1:X:2569:A:H2'	1:X:2570:C:C6	2.47	0.49
1:X:2490:U:O2	4:B:139:GLY:HA3	2.12	0.49
1:X:2499:C:H2'	1:X:2500:C:H5'	1.93	0.49
1:X:116:A:OP2	1:X:117:A:H2'	2.12	0.49
1:X:2730:A:H5''	1:X:2731:G:OP1	2.12	0.49
1:X:20:C:O2'	1:X:21:A:H5'	2.12	0.49
1:X:105:G:C2'	1:X:106:G:H5'	2.42	0.49
1:X:124:A:OP2	28:2:44:VAL:CG1	2.60	0.49
18:P:19:LYS:O	18:P:20:LEU:HB3	2.12	0.49
20:R:98:ILE:HG22	20:R:99:VAL:HG13	1.94	0.49
1:X:173:A:O2'	1:X:818:G:O6	2.30	0.49
1:X:2045:A:O2'	1:X:2046:C:O5'	2.30	0.49
18:P:64:ALA:O	18:P:67:PRO:HD2	2.12	0.49
1:X:2262:C:P	27:1:7:ARG:HH22	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:56:LEU:HD22	29:3:52:LYS:NZ	2.26	0.49
21:S:13:LYS:HG3	21:S:18:MET:HB2	1.94	0.49
1:X:668:A:O2'	1:X:669:G:O4'	2.31	0.49
1:X:1202:U:H5'	17:O:78:VAL:HG22	1.93	0.49
1:X:2836:U:O2'	1:X:2837:G:H5'	2.12	0.49
5:C:28:HIS:ND1	11:I:17:LYS:HA	2.27	0.49
9:G:38:GLU:HG3	9:G:68:PRO:HB3	1.94	0.49
29:3:14:ILE:O	29:3:14:ILE:HG12	2.13	0.49
1:X:1142:G:C8	1:X:2008:C:H4'	2.48	0.49
1:X:759:C:O2'	1:X:760:U:OP2	2.30	0.49
11:I:58:ALA:CA	29:3:12:ARG:HH21	2.23	0.49
12:J:95:VAL:HG12	12:J:96:SER:N	2.27	0.49
1:X:1693:A:C2	1:X:1976:U:H5'	2.47	0.49
4:B:188:ILE:HG23	4:B:189:PRO:HD2	1.94	0.49
1:X:334:G:H3'	5:C:162:ARG:HD3	1.93	0.49
1:X:1997:A:H5'	18:P:115:ASN:ND2	2.27	0.49
6:D:4:LEU:HD22	6:D:101:GLU:HB2	1.94	0.49
7:E:127:GLU:CG	7:E:128:PRO:HD2	2.43	0.49
1:X:525:A:C8	1:X:526:C:C6	3.01	0.49
1:X:717:G:H1'	1:X:739:G:N2	2.27	0.49
1:X:2015:G:O4'	1:X:2015:G:OP1	2.30	0.49
1:X:2044:G:N7	1:X:2480:C:H4'	2.27	0.49
10:H:1:MET:H3	10:H:1:MET:HE2	1.76	0.49
13:K:28:LEU:CD2	13:K:28:LEU:C	2.77	0.49
29:3:30:ARG:HH21	29:3:31:HIS:HE1	1.60	0.49
1:X:67:G:N2	1:X:73:A:C4	2.81	0.49
1:X:2845:C:C6	1:X:2845:C:C3'	2.95	0.49
5:C:172:VAL:O	5:C:173:ALA:C	2.50	0.49
1:X:484:G:C2	1:X:485:G:C5	3.01	0.49
25:W:16:GLN:O	25:W:20:VAL:HG23	2.13	0.49
1:X:2657:G:H2'	1:X:2658:A:O4'	2.12	0.49
6:D:51:ASP:O	6:D:55:LYS:HG2	2.12	0.49
1:X:2797:G:H2'	1:X:2798:A:H5''	1.93	0.49
1:X:502:A:H2'	1:X:503:G:O4'	2.12	0.49
19:Q:35:LYS:HG2	19:Q:35:LYS:O	2.13	0.49
1:X:2404:A:H4'	1:X:2405:A:OP2	2.11	0.49
17:O:34:GLU:HB2	17:O:56:VAL:HG23	1.93	0.49
13:K:106:ASP:OD1	13:K:108:VAL:HG23	2.12	0.49
1:X:2583:U:O2'	1:X:2584:U:H5'	2.12	0.49
1:X:693:A:C4	1:X:811:G:N2	2.81	0.49
1:X:2553:G:C2	1:X:2554:C:O2	2.66	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:64:VAL:C	10:H:65:LYS:HD2	2.33	0.49
1:X:725:C:H2'	1:X:726:G:C8	2.47	0.49
6:D:123:ASP:OD2	6:D:127:ASN:HB2	2.13	0.49
1:X:945:G:H2'	1:X:946:U:H6	1.76	0.49
1:X:705:C:H4'	3:A:42:GLY:O	2.13	0.49
2:Y:73:C:H2'	2:Y:74:A:O4'	2.12	0.49
29:3:13:ARG:CD	29:3:25:PHE:HD1	2.25	0.49
4:B:4:ILE:HG12	4:B:5:LEU:H	1.78	0.49
29:3:62:LEU:HB3	29:3:63:PRO:HD3	1.95	0.49
1:X:2407:G:H21	11:I:59:ARG:HH22	1.61	0.49
1:X:2291:U:P	6:D:71:LYS:HD2	2.53	0.49
1:X:1096:A:H1'	1:X:1097:A:O5'	2.13	0.49
1:X:485:G:C6	1:X:520:C:N4	2.81	0.49
1:X:1770:U:C5	1:X:1775:A:N7	2.81	0.49
17:O:67:LYS:HD2	17:O:68:LYS:N	2.27	0.49
18:P:24:GLY:O	18:P:127:ILE:HA	2.13	0.49
1:X:1811:A:H4'	1:X:1812:U:C5'	2.42	0.49
4:B:183:LEU:HD21	15:M:16:ILE:HD13	1.95	0.49
15:M:16:ILE:HG22	15:M:16:ILE:O	2.13	0.49
4:B:188:ILE:HG23	4:B:189:PRO:CD	2.43	0.49
3:A:222:GLN:OE1	3:A:222:GLN:HA	2.13	0.49
1:X:36:G:N2	1:X:457:C:C2	2.81	0.49
1:X:648:A:H4'	1:X:649:G:H5'	1.94	0.49
1:X:1398:G:H4'	1:X:1398:G:OP1	2.13	0.49
1:X:346:C:C6	1:X:347:C:H5	2.30	0.48
1:X:1226:A:C8	1:X:1250:A:C2	3.01	0.48
1:X:1052:C:H42	1:X:1125:G:H1	1.58	0.48
1:X:1836:C:H42	1:X:1879:G:H1	1.61	0.48
1:X:1429:A:O2'	1:X:1430:G:H4'	2.13	0.48
1:X:2629:U:H2'	1:X:2630:C:C6	2.48	0.48
11:I:73:GLU:OE1	11:I:73:GLU:N	2.46	0.48
1:X:596:C:H5'	5:C:84:PHE:HE1	1.78	0.48
4:B:116:VAL:H	4:B:136:ARG:NE	2.12	0.48
1:X:2796:A:C2	1:X:2797:G:C4	3.01	0.48
1:X:178:C:H2'	1:X:179:U:H6	1.78	0.48
1:X:224:G:H4'	1:X:399:G:C4	2.48	0.48
1:X:2654:A:H5'	10:H:41:ASN:HB2	1.95	0.48
1:X:1629:G:C6	1:X:1633:C:C6	3.01	0.48
1:X:1054:C:H42	1:X:1123:G:H1	1.61	0.48
1:X:1685:A:C5	1:X:1691:G:C5	3.01	0.48
1:X:2665:G:C5	1:X:2666:U:C4	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:38:ILE:O	19:Q:42:ILE:HG22	2.13	0.48
19:Q:68:PHE:O	19:Q:69:ILE:C	2.51	0.48
12:J:110:VAL:HB	12:J:114:GLN:HB2	1.94	0.48
24:V:2:LYS:HG3	24:V:3:PRO:HD3	1.94	0.48
5:C:2:ALA:N	5:C:12:GLY:O	2.46	0.48
5:C:102:LEU:HD21	5:C:106:MET:HE3	1.95	0.48
1:X:1032:A:C2	1:X:1034:U:C2	3.01	0.48
10:H:19:ILE:HG22	10:H:55:VAL:HA	1.95	0.48
1:X:2622:G:H2'	1:X:2623:A:O4'	2.13	0.48
1:X:2387:U:H2'	1:X:2388:G:H8	1.78	0.48
1:X:1003:C:O3'	17:O:71:ILE:HD13	2.13	0.48
25:W:5:LEU:HA	25:W:51:LEU:HD23	1.94	0.48
1:X:1911:A:H2'	1:X:1912:G:O4'	2.12	0.48
1:X:874:A:H2'	1:X:875:G:O4'	2.13	0.48
1:X:781:G:H2'	1:X:782:U:C6	2.48	0.48
4:B:115:GLY:O	4:B:119:ARG:HB2	2.12	0.48
1:X:2695:C:O2'	1:X:2696:A:H5'	2.13	0.48
27:1:38:LYS:HD3	27:1:40:TYR:HE1	1.78	0.48
4:B:49:ILE:HG21	4:B:81:PHE:CE2	2.45	0.48
1:X:1128:G:C2'	1:X:1129:A:H5''	2.42	0.48
1:X:73:A:H3'	1:X:74:G:C5'	2.42	0.48
1:X:1656:U:O2'	1:X:1657:A:H5''	2.12	0.48
1:X:1992:G:H1'	13:K:106:ASP:O	2.12	0.48
1:X:860:U:C2'	1:X:860:U:O2	2.61	0.48
1:X:692:C:N4	1:X:811:G:H1	2.10	0.48
16:N:20:ARG:HH12	17:O:83:ARG:NH2	2.11	0.48
4:B:88:GLY:O	4:B:89:ASP:OD1	2.31	0.48
5:C:47:THR:HG23	5:C:85:GLY:H	1.78	0.48
1:X:1851:A:H2'	1:X:1852:G:O4'	2.12	0.48
20:R:11:ASN:ND2	20:R:11:ASN:O	2.36	0.48
14:L:31:VAL:CG2	14:L:33:ARG:HG3	2.44	0.48
18:P:25:PHE:CD2	18:P:25:PHE:C	2.87	0.48
1:X:1631:C:H5	1:X:1633:C:C6	2.31	0.48
19:Q:62:ARG:O	19:Q:70:GLY:CA	2.61	0.48
1:X:2237:C:C4	1:X:2405:A:H5'	2.48	0.48
1:X:465:C:O2	1:X:467:U:H6	1.96	0.48
10:H:113:PRO:HD3	15:M:73:PHE:HB2	1.95	0.48
1:X:795:A:C2	3:A:227:MET:HG2	2.49	0.48
1:X:1008:G:C2	1:X:1170:U:O2	2.66	0.48
11:I:86:THR:OG1	11:I:118:VAL:HG12	2.12	0.48
1:X:2299:A:H4'	1:X:2300:G:C2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:91:PHE:CD1	18:P:129:ALA:O	2.66	0.48
1:X:1118:G:C2'	1:X:1119:U:H5'	2.44	0.48
1:X:1796:A:H1'	3:A:51:THR:HG23	1.94	0.48
4:B:116:VAL:N	4:B:136:ARG:HE	2.11	0.48
3:A:244:GLY:C	3:A:245:ARG:NE	2.67	0.48
1:X:2064:U:H5'	23:U:41:VAL:HG21	1.96	0.48
1:X:2757:G:H5''	1:X:2758:A:C5'	2.33	0.48
31:X:2881:LMA:C54	31:X:2881:LMA:C34	2.91	0.48
3:A:109:PRO:HB3	3:A:144:HIS:HE1	1.78	0.48
1:X:1980:A:C2	1:X:1981:A:C5	3.01	0.48
19:Q:63:LYS:HD3	19:Q:69:ILE:CA	2.43	0.48
1:X:1968:G:H2'	1:X:1969:G:C8	2.45	0.48
1:X:76:C:O4'	24:V:55:THR:HG21	2.13	0.48
4:B:44:TYR:HB2	4:B:82:ARG:HH12	1.79	0.48
1:X:819:C:H2'	1:X:820:U:H6	1.77	0.48
1:X:573:C:H2'	1:X:574:C:C6	2.49	0.48
1:X:746:G:H3'	1:X:774:A:H61	1.78	0.48
1:X:2527:G:C6	1:X:2540:A:N1	2.82	0.48
1:X:2762:G:N2	1:X:2763:U:C2	2.82	0.48
1:X:2800:C:C5	1:X:2801:A:C8	3.01	0.48
1:X:1674:C:H2'	1:X:1674:C:O2	2.14	0.48
1:X:538:A:N6	1:X:2025:A:H2'	2.28	0.48
11:I:31:GLY:C	11:I:32:ARG:HG3	2.33	0.48
1:X:334:G:H2'	5:C:162:ARG:CD	2.44	0.48
26:Z:58:LEU:H	26:Z:58:LEU:CD1	2.24	0.48
1:X:1357:U:H4'	1:X:1397:A:N6	2.27	0.48
1:X:75:C:H2'	1:X:76:C:H5'	1.94	0.48
1:X:1033:G:C6	1:X:1151:U:C5	3.01	0.48
1:X:304:A:H62	1:X:356:A:N6	2.11	0.48
23:U:32:ARG:CZ	23:U:32:ARG:H	2.27	0.48
1:X:778:G:H2'	1:X:779:U:C6	2.48	0.48
4:B:105:THR:CG2	4:B:197:VAL:HB	2.44	0.48
3:A:201:GLU:HG3	3:A:203:LYS:H	1.78	0.48
1:X:2796:A:H5''	4:B:162:MET:HE1	1.95	0.48
1:X:2426:G:C8	1:X:2479:U:C6	3.02	0.48
27:1:34:LYS:HE3	27:1:34:LYS:CA	2.37	0.48
1:X:2812:A:H2'	1:X:2813:G:C8	2.49	0.48
1:X:1813:A:OP1	3:A:160:ALA:HB3	2.14	0.48
27:1:9:ILE:HD12	27:1:26:LYS:HD2	1.94	0.48
1:X:1782:A:O3'	3:A:206:VAL:O	2.31	0.48
27:1:39:LYS:HD3	27:1:39:LYS:C	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1762:C:C2	1:X:1763:G:C8	3.00	0.48
12:J:39:GLU:HB3	12:J:128:ILE:CG2	2.43	0.48
1:X:476:G:H4'	28:2:16:HIS:CG	2.48	0.48
1:X:1560:A:C2'	1:X:1561:A:H5'	2.44	0.48
9:G:49:VAL:HG21	9:G:170:PRO:HG2	1.95	0.48
2:Y:65:A:H2'	2:Y:66:G:C8	2.48	0.48
1:X:1871:G:N3	1:X:1871:G:H3'	2.28	0.48
1:X:321:A:O2'	1:X:322:A:H2'	2.14	0.48
28:2:40:HIS:O	28:2:41:GLN:CD	2.52	0.48
1:X:1469:U:H5	13:K:64:ARG:NH2	2.10	0.48
6:D:79:LEU:HD12	6:D:79:LEU:N	2.29	0.48
17:O:36:LYS:HZ1	17:O:54:TYR:HB3	1.78	0.48
19:Q:19:ALA:O	19:Q:24:VAL:HB	2.13	0.48
1:X:1774:A:N1	1:X:2566:A:H2'	2.29	0.48
1:X:1836:C:C2	1:X:1880:G:N2	2.82	0.48
7:E:117:PRO:HD3	7:E:123:PHE:CE1	2.49	0.48
1:X:1283:C:H5'	1:X:1284:G:C5'	2.44	0.48
6:D:103:LEU:HD12	6:D:107:GLY:HA3	1.95	0.48
20:R:23:ILE:HD12	20:R:23:ILE:C	2.34	0.48
20:R:22:VAL:HG12	20:R:23:ILE:N	2.28	0.48
13:K:84:ALA:N	13:K:85:PRO:HD2	2.29	0.48
28:2:40:HIS:O	28:2:41:GLN:OE1	2.31	0.48
9:G:56:THR:N	9:G:134:MET:HE1	2.28	0.48
4:B:60:ASN:O	4:B:64:GLN:HG3	2.13	0.48
1:X:477:A:H4'	28:2:30:ILE:HD13	1.95	0.48
1:X:2690:A:OP1	1:X:2692:A:OP2	2.31	0.48
1:X:2329:C:H2'	1:X:2330:G:O4'	2.14	0.48
1:X:596:C:H5'	5:C:84:PHE:CE1	2.49	0.48
18:P:60:ILE:HA	18:P:61:PRO:HD3	1.63	0.48
1:X:2795:A:H1'	13:K:5:LYS:NZ	2.29	0.48
1:X:1482:U:H2'	1:X:1483:G:H8	1.78	0.48
15:M:60:SER:HA	15:M:64:LYS:HB2	1.95	0.48
1:X:412:U:H2'	1:X:413:G:O4'	2.13	0.48
14:L:33:ARG:HH21	14:L:38:ILE:HG21	1.78	0.48
1:X:2265:A:H61	27:1:25:THR:HG21	1.79	0.48
15:M:103:LYS:HG3	15:M:105:TYR:CZ	2.48	0.48
27:1:41:ASP:HB2	27:1:46:LYS:HA	1.96	0.48
2:Y:50:U:H2'	2:Y:51:G:H8	1.78	0.48
1:X:1175:A:C2	1:X:1176:U:C2	3.02	0.48
23:U:23:LYS:HA	23:U:36:GLY:O	2.14	0.48
1:X:1779:C:H2'	1:X:1780:A:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:107:ILE:HD11	7:E:151:VAL:CG1	2.44	0.48
1:X:2552:C:H5''	1:X:2553:G:H5''	1.96	0.48
1:X:34:U:H1'	20:R:4:PRO:HA	1.96	0.48
1:X:2192:U:C4	1:X:2193:C:C4	3.02	0.48
1:X:814:G:OP1	5:C:50:GLN:OE1	2.32	0.48
21:S:104:SER:HA	21:S:139:THR:HA	1.95	0.48
1:X:1229:C:H2'	1:X:1230:C:H6	1.79	0.48
4:B:136:ARG:CG	4:B:137:ARG:N	2.75	0.47
15:M:19:ASP:C	15:M:20:HIS:ND1	2.68	0.47
1:X:538:A:H5''	9:G:142:ARG:NH1	2.29	0.47
3:A:44:ARG:HH21	3:A:56:GLY:HA2	1.79	0.47
1:X:224:G:H4'	1:X:399:G:C5	2.49	0.47
1:X:815:A:C6	1:X:816:U:C4	3.01	0.47
1:X:1223:G:C6	1:X:1250:A:N7	2.82	0.47
1:X:1810:U:O4	3:A:155:GLN:HG2	2.14	0.47
11:I:32:ARG:HD2	11:I:32:ARG:O	2.14	0.47
27:1:45:LYS:O	27:1:46:LYS:HB2	2.13	0.47
27:1:40:TYR:H	27:1:50:PHE:HB3	1.79	0.47
16:N:7:GLY:O	16:N:8:ILE:HG12	2.14	0.47
1:X:1441:A:H1'	1:X:1442:C:OP2	2.14	0.47
1:X:2821:G:H2'	1:X:2822:U:C6	2.48	0.47
1:X:2273:C:H2'	1:X:2274:C:C6	2.49	0.47
16:N:88:ILE:HA	17:O:49:GLU:HG3	1.96	0.47
5:C:158:ARG:O	5:C:160:ALA:N	2.47	0.47
7:E:139:GLN:O	7:E:143:GLN:HG3	2.14	0.47
5:C:107:ALA:HB1	5:C:180:ILE:HD13	1.96	0.47
1:X:1142:G:C2	9:G:103:TYR:HD2	2.31	0.47
1:X:2860:C:H2'	1:X:2861:A:O4'	2.14	0.47
1:X:161:U:H4'	1:X:194:G:N2	2.26	0.47
1:X:640:C:H4'	1:X:660:G:N3	2.29	0.47
1:X:2639:A:H2'	1:X:2640:G:O4'	2.13	0.47
22:T:65:GLY:HA3	22:T:81:ILE:CG2	2.44	0.47
1:X:2285:U:C2	6:D:150:ARG:NH2	2.82	0.47
1:X:2401:A:N3	1:X:2403:C:C4	2.82	0.47
2:Y:16:U:H4'	2:Y:72:C:O2	2.14	0.47
1:X:308:C:H4'	20:R:95:ARG:CZ	2.44	0.47
9:G:132:PHE:CE2	9:G:145:HIS:HB2	2.48	0.47
1:X:2324:G:C2	1:X:2360:C:H2'	2.48	0.47
22:T:43:THR:HG22	22:T:46:LYS:HE2	1.96	0.47
1:X:1979:C:O2	1:X:1980:A:H1'	2.15	0.47
1:X:983:G:O2'	1:X:984:A:OP1	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:102:LEU:HD21	5:C:106:MET:HE1	1.96	0.47
20:R:106:VAL:HG23	20:R:113:THR:HG21	1.96	0.47
1:X:1781:C:H1'	3:A:210:ALA:HB2	1.95	0.47
7:E:137:ASP:OD2	7:E:140:LEU:HG	2.13	0.47
1:X:1326:U:H4'	1:X:1345:G:H4'	1.97	0.47
1:X:1025:A:H2	1:X:1160:C:C2	2.32	0.47
17:O:30:GLY:O	17:O:32:LYS:HG2	2.15	0.47
12:J:133:VAL:HG12	21:S:76:ARG:HE	1.80	0.47
1:X:1074:G:H4'	8:F:134:MET:HG3	1.97	0.47
1:X:2825:A:N7	1:X:2843:A:O2'	2.32	0.47
1:X:2237:C:O2'	1:X:2406:C:OP2	2.18	0.47
15:M:34:ARG:HH11	15:M:88:VAL:HG21	1.77	0.47
10:H:115:ALA:HB3	10:H:118:LEU:HD13	1.96	0.47
1:X:521:U:C5	1:X:522:G:C2	3.03	0.47
10:H:62:GLY:O	10:H:65:LYS:NZ	2.43	0.47
1:X:2053:G:C2	1:X:2054:A:C4	3.01	0.47
18:P:107:ILE:HG21	18:P:117:ILE:HG12	1.96	0.47
1:X:1755:G:C6	1:X:1972:G:C2	3.01	0.47
23:U:22:GLY:HA3	23:U:39:LYS:CG	2.44	0.47
10:H:41:ASN:HB2	10:H:42:LYS:H	1.53	0.47
1:X:977:G:O4'	1:X:2246:A:N6	2.48	0.47
1:X:467:U:HO2'	1:X:468:A:P	2.37	0.47
1:X:1482:U:H2'	1:X:1483:G:C8	2.49	0.47
1:X:888:G:N2	1:X:915:C:C2	2.82	0.47
20:R:23:ILE:HD11	20:R:81:VAL:HB	1.97	0.47
1:X:1813:A:H2'	1:X:1814:G:H8	1.78	0.47
1:X:2673:G:C4	1:X:2674:C:C5	3.03	0.47
3:A:45:ASN:CB	3:A:50:ILE:HA	2.39	0.47
1:X:2541:U:O2'	10:H:23:ARG:NH1	2.47	0.47
1:X:193:A:C4	1:X:445:A:C2	3.03	0.47
10:H:115:ALA:HB3	10:H:118:LEU:CD1	2.45	0.47
17:O:36:LYS:HE3	17:O:55:THR:CA	2.44	0.47
1:X:1780:A:H5''	3:A:222:GLN:OE1	2.15	0.47
1:X:694:G:H2'	1:X:695:G:O4'	2.15	0.47
4:B:97:ALA:HB3	4:B:100:GLU:HG3	1.96	0.47
17:O:10:LYS:HD2	17:O:37:ALA:CB	2.45	0.47
1:X:525:A:H2'	1:X:526:C:H5'	1.96	0.47
1:X:1802:A:H2'	1:X:1803:G:O4'	2.15	0.47
13:K:21:ALA:HB1	13:K:47:PHE:CD2	2.50	0.47
1:X:55:A:C2	1:X:113:C:O2	2.67	0.47
1:X:1830:C:H42	1:X:1881:U:H3'	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:56:LYS:HG2	13:K:56:LYS:O	2.15	0.47
3:A:247:PRO:C	3:A:249:THR:N	2.68	0.47
14:L:31:VAL:HG11	14:L:89:PHE:HE2	1.80	0.47
1:X:2171:U:H4'	1:X:2171:U:OP1	2.13	0.47
1:X:1087:C:OP1	8:F:90:THR:HG22	2.14	0.47
1:X:1791:C:OP1	3:A:264:ARG:HG3	2.14	0.47
3:A:162:THR:OG1	3:A:197:VAL:HG22	2.15	0.47
1:X:2199:C:H2'	1:X:2200:G:H5'	1.96	0.47
1:X:2264:C:H42	1:X:2362:G:H1	1.63	0.47
1:X:2675:U:H2'	1:X:2676:G:H8	1.79	0.47
11:I:29:THR:O	11:I:30:ALA:CB	2.63	0.47
1:X:1974:U:O2'	1:X:1975:G:H5''	2.14	0.47
1:X:2237:C:C3'	1:X:2238:G:H5'	2.44	0.47
1:X:1919:A:H2	1:X:1925:C:H42	1.62	0.47
1:X:668:A:C2'	1:X:669:G:O4'	2.62	0.47
20:R:10:HIS:ND1	20:R:10:HIS:N	2.63	0.47
1:X:819:C:C2	1:X:820:U:C5	3.01	0.47
1:X:305:A:N1	1:X:356:A:C2	2.83	0.47
1:X:573:C:H2'	1:X:574:C:O4'	2.14	0.47
18:P:29:LYS:HB3	18:P:30:TYR:CD2	2.50	0.47
1:X:2387:U:H2'	1:X:2388:G:C8	2.48	0.47
9:G:122:HIS:HB3	9:G:125:ARG:HG2	1.96	0.47
1:X:2769:C:H2'	1:X:2770:A:C8	2.49	0.47
26:Z:16:ARG:NH1	26:Z:17:ASP:OD1	2.47	0.47
14:L:26:ARG:HD3	14:L:86:GLN:HB3	1.96	0.47
1:X:19:C:O2	1:X:532:A:C2	2.68	0.47
12:J:137:VAL:CG1	12:J:139:ASP:OD2	2.63	0.47
1:X:2327:U:O4	1:X:2361:G:N2	2.47	0.47
7:E:98:LEU:HD12	7:E:102:ALA:O	2.15	0.47
14:L:91:ARG:HB2	14:L:94:TYR:HD1	1.79	0.47
2:Y:7:C:H2'	2:Y:8:C:H6	1.80	0.47
1:X:537:C:C5	1:X:2759:U:H2'	2.50	0.47
20:R:81:VAL:HG11	20:R:89:GLY:HA2	1.97	0.47
18:P:66:GLU:O	18:P:69:ALA:HB3	2.15	0.47
2:Y:58:G:C4'	2:Y:59:A:H8	2.28	0.47
3:A:150:PRO:HD3	3:A:187:HIS:NE2	2.29	0.47
18:P:59:PHE:CD1	26:Z:30:LEU:CD1	2.97	0.47
16:N:14:HIS:HD2	16:N:32:TYR:CE1	2.33	0.47
4:B:84:PHE:CD2	4:B:86:PRO:HD3	2.50	0.47
12:J:44:LYS:HB2	12:J:47:GLN:HG3	1.96	0.47
1:X:555:U:O2'	1:X:1234:C:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:20:LEU:O	13:K:22:ARG:N	2.48	0.47
14:L:100:VAL:HG13	14:L:101:LYS:N	2.29	0.47
21:S:1:MET:H1	21:S:52:PHE:HE2	1.63	0.47
2:Y:94:G:H5''	21:S:74:ARG:HH12	1.78	0.47
1:X:591:G:C2'	1:X:592:G:H8	2.21	0.47
14:L:31:VAL:HG11	14:L:89:PHE:CE2	2.50	0.47
7:E:103:LEU:HD12	7:E:104:GLU:N	2.30	0.47
1:X:1978:U:H3'	1:X:1979:C:H5''	1.97	0.47
1:X:2705:A:H62	1:X:2707:G:N2	2.13	0.47
11:I:55:ARG:O	11:I:56:LEU:HB2	2.15	0.47
1:X:2407:G:H21	11:I:59:ARG:HH12	1.61	0.47
15:M:34:ARG:HH21	15:M:91:VAL:CG2	2.23	0.47
16:N:22:LYS:C	16:N:24:PHE:H	2.19	0.47
4:B:67:PHE:CE1	4:B:75:THR:HG22	2.50	0.47
12:J:76:THR:HA	12:J:89:GLY:O	2.15	0.47
1:X:1438:G:H2'	1:X:1439:G:H5'	1.97	0.47
1:X:1496:G:H1'	1:X:1497:C:O5'	2.14	0.47
1:X:647:G:O2'	1:X:649:G:H4'	2.14	0.47
1:X:1025:A:C2	1:X:1160:C:C2	3.03	0.47
5:C:22:VAL:HG21	5:C:110:SER:HA	1.97	0.47
1:X:1725:C:C2	1:X:1742:G:N2	2.83	0.47
1:X:2793:G:O2'	1:X:2794:G:H5'	2.14	0.47
10:H:70:VAL:HG13	10:H:70:VAL:O	2.15	0.47
11:I:14:LYS:O	11:I:14:LYS:HG3	2.15	0.47
9:G:132:PHE:HB2	9:G:145:HIS:NE2	2.30	0.47
1:X:2026:C:N3	1:X:2757:G:N2	2.63	0.47
1:X:1811:A:C4'	1:X:1812:U:O5'	2.58	0.47
1:X:492:G:O2'	1:X:516:G:N2	2.48	0.47
16:N:7:GLY:O	16:N:8:ILE:CG1	2.63	0.47
1:X:2494:C:O2	1:X:2549:G:C2	2.68	0.47
1:X:2055:G:O2'	1:X:2056:C:H5'	2.15	0.47
1:X:461:A:C5	1:X:462:G:C5	3.03	0.47
1:X:1950:C:N4	1:X:1951:G:C6	2.83	0.47
17:O:19:VAL:CG1	17:O:90:PHE:CD1	2.98	0.47
1:X:393:U:O2'	23:U:18:VAL:HB	2.15	0.47
1:X:115:G:C6	1:X:117:A:C6	3.03	0.47
1:X:31:C:O2'	1:X:32:C:H5'	2.15	0.47
1:X:2505:G:H1'	30:4:1:MET:HB3	1.97	0.47
3:A:118:VAL:HG13	3:A:129:GLY:O	2.15	0.47
7:E:149:ARG:HA	7:E:162:VAL:HB	1.97	0.47
21:S:71:MET:SD	21:S:71:MET:N	2.88	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2560:G:N2	1:X:2560:G:OP2	2.47	0.47
1:X:760:U:C4	26:Z:3:LYS:HG3	2.50	0.46
1:X:538:A:O4'	1:X:539:A:OP1	2.33	0.46
1:X:165:G:H1	1:X:185:C:N4	2.04	0.46
13:K:98:LEU:CD2	26:Z:56:GLN:HG2	2.41	0.46
1:X:2659:C:H2'	1:X:2660:C:C6	2.50	0.46
1:X:638:A:N7	11:I:74:VAL:HG11	2.31	0.46
1:X:2256:G:P	12:J:86:LYS:HD2	2.55	0.46
1:X:618:A:C2	1:X:632:A:N7	2.82	0.46
1:X:1950:C:C4	1:X:1951:G:C5	3.03	0.46
1:X:695:G:H5''	28:2:26:SER:CB	2.44	0.46
1:X:306:G:H22	1:X:355:G:H1'	1.78	0.46
16:N:86:ALA:C	16:N:88:ILE:N	2.69	0.46
1:X:514:G:H2'	1:X:514:G:N3	2.30	0.46
9:G:104:THR:H	9:G:107:GLN:HG3	1.79	0.46
31:X:2881:LMA:O55	31:X:2881:LMA:C34	2.64	0.46
1:X:2447:G:C8	1:X:2455:A:C2	3.03	0.46
13:K:84:ALA:N	13:K:85:PRO:CD	2.78	0.46
1:X:1790:G:C5	3:A:178:LEU:HD13	2.50	0.46
5:C:163:ASN:HD22	5:C:164:VAL:N	2.13	0.46
20:R:84:VAL:HA	20:R:90:LYS:HE2	1.97	0.46
29:3:31:HIS:O	29:3:32:GLN:O	2.33	0.46
1:X:654:A:N6	1:X:2348:A:O2'	2.48	0.46
1:X:2282:G:C2	1:X:2293:G:N2	2.82	0.46
1:X:2379:G:C2	1:X:2380:U:O2	2.68	0.46
19:Q:25:TYR:HE2	19:Q:82:LEU:HD12	1.80	0.46
1:X:1730:G:C2	1:X:1737:G:C2	3.02	0.46
10:H:100:ASN:OD1	10:H:100:ASN:C	2.54	0.46
5:C:179:ASP:O	5:C:182:ARG:HB3	2.16	0.46
1:X:591:G:H1	1:X:1271:C:N4	2.13	0.46
22:T:43:THR:CG2	22:T:46:LYS:HG2	2.45	0.46
1:X:491:A:H3'	1:X:492:G:H5''	1.97	0.46
1:X:1312:G:H5''	1:X:1313:U:OP1	2.15	0.46
12:J:40:PRO:HB3	12:J:99:LYS:CE	2.46	0.46
1:X:797:A:H5''	3:A:228:ASN:OD1	2.15	0.46
1:X:45:C:N4	1:X:191:G:OP2	2.48	0.46
1:X:2240:C:C4	1:X:2259:G:N1	2.84	0.46
1:X:48:A:N6	1:X:154:U:C5	2.81	0.46
4:B:84:PHE:CZ	4:B:86:PRO:HG2	2.51	0.46
16:N:81:ASN:HD22	16:N:117:ARG:NH2	2.14	0.46
15:M:60:SER:CA	15:M:64:LYS:HB2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:102:LYS:O	11:I:103:ASN:HB3	2.15	0.46
10:H:7:ARG:C	10:H:8:LEU:HD23	2.36	0.46
2:Y:89:G:C6	2:Y:93:G:C6	3.03	0.46
1:X:170:U:H5''	1:X:816:U:H1'	1.97	0.46
10:H:22:ILE:HB	10:H:52:VAL:HG12	1.97	0.46
17:O:22:VAL:HA	17:O:91:THR:HG22	1.96	0.46
11:I:51:GLY:HA3	29:3:59:LYS:NZ	2.30	0.46
1:X:2371:A:O2'	11:I:59:ARG:O	2.23	0.46
16:N:13:ARG:O	16:N:17:VAL:HG23	2.16	0.46
10:H:47:VAL:HG22	10:H:77:THR:HG23	1.97	0.46
1:X:42:G:H2'	1:X:43:A:O4'	2.16	0.46
13:K:79:VAL:HA	13:K:83:VAL:CG2	2.45	0.46
1:X:1514:C:H4'	1:X:1592:U:O2'	2.15	0.46
1:X:476:G:H4'	28:2:16:HIS:ND1	2.31	0.46
9:G:141:GLY:O	9:G:144:MET:HB2	2.15	0.46
1:X:633:G:H2'	1:X:634:G:H8	1.79	0.46
7:E:157:TYR:O	7:E:171:LEU:HD23	2.15	0.46
25:W:12:ARG:HG2	25:W:12:ARG:HH11	1.81	0.46
3:A:246:VAL:HG12	3:A:251:TRP:H	1.80	0.46
1:X:1835:C:H5'	3:A:256:LYS:HE2	1.98	0.46
1:X:317:U:C3'	1:X:318:G:H5'	2.46	0.46
1:X:1981:A:H4'	1:X:2704:U:O2'	2.15	0.46
1:X:2664:G:N2	1:X:2665:G:C1'	2.78	0.46
1:X:82:G:N2	1:X:83:A:N6	2.60	0.46
28:2:15:THR:O	28:2:16:HIS:CB	2.61	0.46
9:G:61:ARG:HE	9:G:65:LYS:HD2	1.78	0.46
1:X:2522:G:H2'	1:X:2523:G:C8	2.50	0.46
1:X:832:A:C4	1:X:1203:A:C2	3.04	0.46
1:X:303:C:H2'	1:X:304:A:H5''	1.98	0.46
1:X:742:G:N7	3:A:210:ALA:O	2.49	0.46
5:C:45:THR:HB	5:C:86:PRO:HG2	1.98	0.46
1:X:518:A:C6	18:P:30:TYR:CE1	3.04	0.46
1:X:518:A:N6	18:P:30:TYR:CE1	2.83	0.46
3:A:135:ARG:HB3	3:A:188:SER:HB2	1.97	0.46
1:X:2819:G:H2'	1:X:2820:C:H6	1.79	0.46
1:X:1840:A:H2'	1:X:1841:G:O4'	2.15	0.46
9:G:132:PHE:CD2	9:G:145:HIS:HB2	2.51	0.46
1:X:2726:U:O5'	1:X:2726:U:H6	1.98	0.46
7:E:103:LEU:HD12	7:E:104:GLU:H	1.81	0.46
3:A:80:VAL:HB	3:A:115:GLY:N	2.21	0.46
15:M:55:ILE:HG22	15:M:104:LEU:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:61:LYS:HB3	4:B:62:PRO:HD3	1.97	0.46
4:B:120:TRP:O	4:B:121:ASN:HB2	2.15	0.46
4:B:44:TYR:HD1	4:B:82:ARG:NH1	2.14	0.46
1:X:1672:A:O4'	4:B:113:THR:HG22	2.16	0.46
1:X:1467:U:C3'	1:X:1467:U:C6	2.99	0.46
1:X:2026:C:C4	1:X:2757:G:N3	2.83	0.46
1:X:178:C:H2'	1:X:179:U:C6	2.50	0.46
18:P:37:LYS:HE2	18:P:64:ALA:H	1.80	0.46
1:X:1469:U:H5'	1:X:1470:G:P	2.55	0.46
10:H:2:ILE:HD12	10:H:2:ILE:HG23	1.69	0.46
1:X:2704:U:C2'	1:X:2705:A:C2	2.98	0.46
4:B:31:CYS:HB3	4:B:49:ILE:HG12	1.97	0.46
1:X:2677:U:H2'	1:X:2678:C:C6	2.51	0.46
15:M:24:LEU:HD11	15:M:34:ARG:HH22	1.81	0.46
1:X:640:C:H4'	1:X:660:G:H21	1.81	0.46
15:M:82:PRO:O	15:M:84:ALA:N	2.48	0.46
1:X:1050:G:C2'	1:X:1051:U:H5'	2.45	0.46
1:X:1496:G:H4'	1:X:1497:C:OP1	2.15	0.46
1:X:2327:U:H5'	27:1:21:TYR:CE1	2.50	0.46
10:H:7:ARG:O	10:H:8:LEU:HD23	2.16	0.46
5:C:58:MET:HG2	5:C:59:TYR:N	2.31	0.46
1:X:1347:C:O2'	1:X:1348:C:H5'	2.16	0.46
1:X:568:G:H2'	1:X:569:C:O4'	2.15	0.46
3:A:33:ALA:O	3:A:34:LEU:HB3	2.15	0.46
1:X:2445:C:H2'	1:X:2446:C:C6	2.51	0.46
15:M:6:LYS:HD2	15:M:6:LYS:N	2.31	0.46
1:X:1141:U:N3	1:X:2008:C:H5''	2.30	0.46
1:X:1790:G:C6	1:X:1811:A:N7	2.83	0.46
1:X:1469:U:H5''	1:X:1470:G:C8	2.51	0.46
27:1:28:ARG:NH1	27:1:28:ARG:HB3	2.30	0.46
1:X:513:A:C5	1:X:516:G:C6	3.04	0.46
4:B:4:ILE:HD11	4:B:90:SER:O	2.16	0.46
1:X:1641:C:H2'	1:X:1642:G:O4'	2.16	0.46
1:X:2484:G:O2'	1:X:2485:U:C5'	2.61	0.46
1:X:1444:C:N4	1:X:1579:G:H1	2.08	0.46
12:J:86:LYS:O	12:J:88:LYS:HG3	2.16	0.46
1:X:1270:C:H4'	5:C:77:PHE:CD2	2.51	0.46
1:X:2442:C:H2'	1:X:2443:C:C6	2.51	0.46
1:X:699:G:H4'	1:X:700:C:OP2	2.15	0.46
1:X:1628:C:H5'	28:2:7:PRO:CG	2.46	0.46
1:X:820:U:H2'	1:X:821:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1712:G:C2'	1:X:1713:G:H5'	2.45	0.46
1:X:2837:G:H2'	1:X:2838:U:C6	2.50	0.46
14:L:82:LYS:HB2	14:L:84:ILE:CD1	2.45	0.46
1:X:1326:U:H3'	1:X:1326:U:O2	2.16	0.46
13:K:20:LEU:HA	13:K:20:LEU:HD12	1.70	0.46
1:X:1841:G:C2'	1:X:1842:G:H5'	2.46	0.46
3:A:147:GLU:HB2	3:A:190:CYS:HB3	1.97	0.46
1:X:1854:G:H1'	1:X:1864:G:N2	2.31	0.46
1:X:2082:C:H2'	1:X:2083:G:H5'	1.96	0.46
1:X:2736:U:OP2	30:4:17:VAL:HG11	2.16	0.46
16:N:70:ARG:HH11	16:N:70:ARG:HG3	1.80	0.46
1:X:1790:G:N2	3:A:156:LEU:HD23	2.31	0.46
10:H:116:ARG:CG	10:H:116:ARG:O	2.64	0.46
1:X:2324:G:HO2'	1:X:2360:C:HO2'	1.46	0.46
19:Q:34:THR:O	19:Q:38:ILE:HG22	2.16	0.46
19:Q:39:LYS:HA	19:Q:42:ILE:HG22	1.98	0.46
9:G:84:ASN:O	9:G:85:ALA:HB3	2.16	0.46
1:X:579:G:OP1	1:X:983:G:O3'	2.34	0.46
16:N:94:VAL:O	16:N:94:VAL:HG12	2.15	0.46
1:X:1922:U:H3'	1:X:1923:U:H5''	1.98	0.46
1:X:1837:G:C2	1:X:1879:G:C2	3.04	0.46
1:X:2581:A:N3	1:X:2581:A:H5''	2.31	0.46
1:X:1061:A:C2	1:X:2731:G:N1	2.84	0.46
1:X:531:G:H2'	1:X:532:A:C8	2.50	0.46
3:A:118:VAL:HG22	3:A:129:GLY:HA3	1.97	0.46
19:Q:58:VAL:HA	19:Q:59:PRO:HD2	1.61	0.46
4:B:16:LYS:HB3	4:B:21:ILE:HD11	1.97	0.46
13:K:82:GLU:O	13:K:86:LYS:HG3	2.16	0.46
4:B:9:ILE:HD13	15:M:12:LEU:HD13	1.98	0.46
29:3:13:ARG:NH1	29:3:26:LYS:N	2.64	0.46
1:X:168:A:H2'	1:X:169:C:H6	1.73	0.46
1:X:689:A:C2	1:X:690:A:C8	3.04	0.46
1:X:321:A:P	20:R:27:GLY:H	2.40	0.46
1:X:1790:G:C6	3:A:178:LEU:HD13	2.50	0.46
1:X:314:G:C2	1:X:326:A:C2	3.04	0.46
1:X:2707:G:C8	1:X:2708:U:C5	3.04	0.46
1:X:2495:G:C2'	1:X:2496:C:H5'	2.45	0.46
13:K:87:TYR:CE1	13:K:94:TYR:HB3	2.51	0.46
1:X:242:A:N7	1:X:441:A:C6	2.84	0.46
1:X:193:A:N3	1:X:445:A:C2	2.84	0.46
1:X:1941:C:H2'	1:X:1942:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:51:TYR:CE2	26:Z:55:ARG:HB2	2.51	0.46
1:X:1947:G:O2'	1:X:1950:C:OP2	2.31	0.46
1:X:219:G:N2	1:X:232:A:OP2	2.45	0.46
1:X:2014:A:C5	1:X:2477:C:H1'	2.51	0.46
11:I:73:GLU:OE1	11:I:105:PRO:O	2.34	0.46
9:G:125:ARG:HD2	9:G:129:HIS:CE1	2.50	0.46
1:X:2862:G:H1'	26:Z:29:ASN:HD21	1.81	0.46
15:M:9:ARG:HA	15:M:12:LEU:HD12	1.98	0.45
1:X:2722:C:H2'	1:X:2723:C:C6	2.51	0.45
1:X:177:U:H4'	23:U:40:ARG:HE	1.81	0.45
1:X:812:G:H3'	1:X:813:A:H2'	1.97	0.45
1:X:1790:G:H21	3:A:156:LEU:HD23	1.82	0.45
1:X:825:C:H2'	1:X:826:U:H6	1.81	0.45
12:J:99:LYS:CD	12:J:100:PRO:HD2	2.45	0.45
1:X:2048:C:O2'	1:X:2049:C:H5'	2.16	0.45
21:S:117:VAL:HG22	21:S:168:VAL:HA	1.98	0.45
25:W:40:VAL:HA	25:W:43:MET:HG3	1.98	0.45
1:X:2477:C:H6	1:X:2477:C:H5'	1.81	0.45
1:X:1289:A:C2	1:X:1290:A:C8	3.04	0.45
2:Y:72:C:H42	2:Y:109:G:H1	1.63	0.45
1:X:1573:G:O6	1:X:1574:A:N6	2.49	0.45
27:1:18:THR:O	27:1:20:PHE:CE1	2.68	0.45
3:A:244:GLY:O	3:A:245:ARG:NE	2.49	0.45
1:X:321:A:OP1	20:R:26:SER:HA	2.15	0.45
1:X:1226:A:N1	1:X:1250:A:H1'	2.31	0.45
1:X:1086:C:H3'	1:X:1087:C:C5'	2.36	0.45
1:X:1791:C:N4	1:X:1810:U:O2'	2.49	0.45
29:3:59:LYS:O	29:3:60:LEU:HB2	2.16	0.45
11:I:56:LEU:HD13	29:3:52:LYS:HE3	1.98	0.45
1:X:2245:A:H4'	1:X:2246:A:C4	2.50	0.45
26:Z:6:VAL:HG13	26:Z:7:PRO:CD	2.43	0.45
16:N:30:LYS:HB3	16:N:30:LYS:HZ2	1.81	0.45
1:X:1166:A:C5'	16:N:55:ARG:HH11	2.27	0.45
1:X:883:A:H1'	12:J:11:ARG:HH21	1.80	0.45
1:X:696:U:O5'	1:X:696:U:H6	1.99	0.45
1:X:1438:G:O2'	1:X:1439:G:H5'	2.16	0.45
1:X:1505:U:O2	1:X:1506:C:C5	2.68	0.45
1:X:15:G:O2'	26:Z:18:MET:HA	2.15	0.45
1:X:15:G:C4'	26:Z:21:SER:HB2	2.45	0.45
10:H:28:GLY:O	10:H:35:THR:N	2.31	0.45
6:D:135:GLN:CD	6:D:150:ARG:H	2.19	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2444:C:O2'	1:X:2445:C:H5'	2.16	0.45
1:X:333:A:C5	1:X:351:A:C2	3.05	0.45
1:X:2685:A:C2	1:X:2686:C:H1'	2.51	0.45
1:X:1022:A:OP1	16:N:75:ASN:ND2	2.50	0.45
5:C:39:ARG:HH21	5:C:91:TYR:CB	2.29	0.45
4:B:116:VAL:H	4:B:136:ARG:HE	1.65	0.45
9:G:70:PHE:CB	16:N:64:ARG:HG2	2.44	0.45
14:L:37:HIS:CD2	14:L:39:TYR:CE1	3.05	0.45
1:X:2218:G:O4'	3:A:250:PRO:HG3	2.15	0.45
1:X:538:A:C2	1:X:2025:A:C6	3.04	0.45
1:X:1631:C:H5	1:X:1633:C:C4	2.34	0.45
1:X:1978:U:H2'	1:X:1979:C:H6	1.80	0.45
1:X:1643:A:H1'	1:X:1657:A:C2	2.50	0.45
24:V:14:PHE:O	24:V:18:ILE:HG13	2.16	0.45
1:X:484:G:N1	1:X:485:G:C5	2.83	0.45
10:H:29:ILE:HB	10:H:34:LEU:HD23	1.97	0.45
14:L:42:ILE:HG22	14:L:53:ALA:N	2.31	0.45
3:A:90:SER:O	3:A:199:ASN:OD1	2.34	0.45
25:W:18:LYS:O	25:W:21:GLN:HB3	2.16	0.45
18:P:79:ALA:HA	18:P:83:ASP:HB2	1.99	0.45
13:K:35:GLN:HB3	13:K:112:LEU:HD23	1.98	0.45
1:X:493:A:OP2	1:X:517:A:N6	2.42	0.45
12:J:26:ASP:HB3	12:J:27:TYR:H	1.61	0.45
11:I:35:LYS:O	11:I:36:GLY:O	2.34	0.45
9:G:117:GLU:C	9:G:119:LEU:N	2.69	0.45
3:A:246:VAL:HG12	3:A:252:GLY:H	1.78	0.45
16:N:50:ARG:O	16:N:54:LYS:HE2	2.16	0.45
1:X:635:C:O2'	1:X:670:U:OP1	2.30	0.45
1:X:2265:A:H3'	27:1:32:GLN:HB2	1.97	0.45
11:I:56:LEU:HB3	29:3:52:LYS:HZ1	1.81	0.45
1:X:2843:A:H2'	1:X:2844:G:O4'	2.15	0.45
15:M:22:ARG:NH1	15:M:24:LEU:HD21	2.31	0.45
9:G:84:ASN:C	9:G:86:ALA:H	2.20	0.45
1:X:1756:C:O2'	1:X:1757:C:H5'	2.16	0.45
14:L:67:THR:O	14:L:71:VAL:HG12	2.16	0.45
8:F:75:SER:O	8:F:79:ARG:HG3	2.16	0.45
1:X:1414:G:C6	1:X:1415:C:N3	2.85	0.45
24:V:7:ARG:HD2	24:V:7:ARG:C	2.37	0.45
19:Q:91:LEU:N	19:Q:91:LEU:HD22	2.31	0.45
4:B:116:VAL:CG1	4:B:136:ARG:HH21	2.29	0.45
1:X:1834:G:N2	1:X:1884:A:C5	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2201:G:H2'	1:X:2202:G:C8	2.51	0.45
1:X:2594:U:C6	26:Z:7:PRO:HA	2.52	0.45
1:X:883:A:C5'	12:J:10:PHE:O	2.65	0.45
1:X:1941:C:H2'	1:X:1942:G:C8	2.51	0.45
1:X:1200:G:H2'	1:X:1201:G:O4'	2.17	0.45
1:X:1514:C:O4'	1:X:1593:C:H4'	2.16	0.45
19:Q:61:LYS:HG2	19:Q:61:LYS:O	2.15	0.45
1:X:304:A:C5	1:X:359:G:N2	2.85	0.45
1:X:957:G:H2'	1:X:958:G:C8	2.51	0.45
1:X:719:A:H2'	1:X:720:A:O4'	2.17	0.45
1:X:2087:U:H3	1:X:2169:A:H2	1.65	0.45
1:X:1987:G:C5	1:X:1988:A:C8	3.04	0.45
1:X:1673:C:N4	1:X:1987:G:H1	2.15	0.45
1:X:1791:C:P	3:A:264:ARG:HG3	2.56	0.45
9:G:55:ALA:HB1	9:G:134:MET:CE	2.46	0.45
1:X:2708:U:H2'	1:X:2709:C:C6	2.52	0.45
1:X:1174:G:C2	1:X:1175:A:C8	3.05	0.45
11:I:49:PHE:CE1	29:3:59:LYS:HE3	2.51	0.45
1:X:1437:A:H2'	1:X:1438:G:C8	2.52	0.45
1:X:455:A:C2	1:X:1258:G:N3	2.83	0.45
1:X:1752:U:O5'	1:X:1752:U:H6	2.00	0.45
1:X:495:C:H2'	1:X:496:C:C6	2.52	0.45
21:S:71:MET:HA	21:S:78:PRO:HA	1.98	0.45
25:W:14:GLY:O	25:W:18:LYS:HG2	2.17	0.45
11:I:53:ARG:C	11:I:53:ARG:HD2	2.37	0.45
1:X:207:U:O4	1:X:432:C:H4'	2.16	0.45
1:X:2002:A:H62	26:Z:9:LYS:NZ	2.14	0.45
20:R:60:PRO:HB2	20:R:61:SER:H	1.61	0.45
1:X:537:C:H5	1:X:2759:U:H2'	1.82	0.45
1:X:1226:A:C5	1:X:1250:A:N3	2.85	0.45
18:P:71:VAL:HG12	18:P:126:ILE:CG2	2.47	0.45
18:P:40:LEU:HD22	26:Z:25:LEU:CD1	2.46	0.45
1:X:1332:G:C6	1:X:1333:G:C6	3.05	0.45
12:J:71:PRO:HA	12:J:96:SER:HB2	1.99	0.45
11:I:107:LYS:HG3	11:I:108:LEU:N	2.32	0.45
11:I:45:LYS:HD3	11:I:45:LYS:C	2.37	0.45
6:D:61:THR:HG22	6:D:99:PHE:CD1	2.51	0.45
1:X:854:G:H2'	1:X:855:G:C8	2.52	0.45
1:X:982:C:C4	1:X:983:G:N7	2.85	0.45
1:X:1763:G:C2'	1:X:1764:A:H5'	2.46	0.45
5:C:72:ARG:HG3	5:C:77:PHE:CD2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:27:G:N2	1:X:522:G:H1'	2.32	0.45
1:X:1770:U:O2	1:X:1774:A:C6	2.70	0.45
1:X:487:G:O4'	1:X:515:A:C2	2.70	0.45
1:X:686:C:O2'	1:X:687:G:H5'	2.17	0.45
14:L:11:LEU:HD23	14:L:14:ARG:NH1	2.31	0.45
1:X:2299:A:H3'	1:X:2299:A:N3	2.31	0.45
1:X:1805:G:N3	3:A:51:THR:HG21	2.31	0.45
21:S:73:LYS:O	21:S:74:ARG:HB2	2.16	0.45
1:X:167:A:C4	1:X:184:A:C2	3.04	0.45
7:E:56:SER:H	7:E:61:HIS:CD2	2.35	0.45
30:4:22:ARG:HD2	30:4:37:GLY:HA3	1.99	0.45
1:X:2066:G:C6	1:X:2067:U:N3	2.85	0.45
30:4:9:LYS:HD2	30:4:9:LYS:N	2.32	0.45
2:Y:17:A:C1'	2:Y:112:A:C8	2.86	0.45
1:X:571:U:C4	1:X:2019:C:O4'	2.69	0.45
1:X:2409:A:O2'	1:X:2410:U:C6	2.70	0.45
12:J:48:ILE:HD12	12:J:71:PRO:HG3	1.99	0.45
11:I:43:ALA:O	11:I:45:LYS:HB2	2.17	0.45
1:X:2551:A:C8	4:B:144:ARG:HD3	2.52	0.45
4:B:117:MET:HA	4:B:121:ASN:O	2.17	0.45
1:X:771:C:O2	1:X:1964:A:H2	1.99	0.45
1:X:1507:A:H5'	3:A:100:ASP:OD1	2.17	0.45
1:X:2702:G:H4'	13:K:5:LYS:HE2	1.99	0.45
1:X:2651:U:H2'	1:X:2652:G:O5'	2.17	0.45
1:X:1710:U:H5'	1:X:1711:C:C5	2.51	0.45
25:W:41:ARG:HB3	25:W:45:LYS:NZ	2.32	0.45
5:C:33:TRP:HD1	5:C:93:TYR:CE1	2.35	0.45
1:X:2321:C:O2'	1:X:2353:G:H5''	2.17	0.45
1:X:571:U:C2	1:X:581:A:C8	3.05	0.45
1:X:609:U:H4'	11:I:18:ARG:CZ	2.47	0.45
16:N:66:ASN:N	16:N:66:ASN:OD1	2.47	0.45
15:M:99:VAL:CG2	15:M:100:ARG:N	2.79	0.45
1:X:2780:A:O2'	1:X:2781:G:H5'	2.16	0.45
12:J:39:GLU:HB3	12:J:128:ILE:HB	1.99	0.45
1:X:1391:A:C4'	1:X:1392:U:OP1	2.64	0.45
1:X:1849:G:C6	1:X:1850:G:N1	2.85	0.45
6:D:34:ILE:HD13	6:D:156:ILE:HA	1.99	0.45
1:X:2769:C:H1'	1:X:2866:A:H2	1.82	0.45
3:A:122:PRO:HG2	3:A:123:GLU:CD	2.38	0.45
1:X:1017:C:H2'	1:X:1018:C:H6	1.82	0.45
23:U:67:LEU:HD23	23:U:67:LEU:C	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:116:ARG:HD2	9:G:119:LEU:HD12	1.99	0.45
1:X:757:U:H3	1:X:766:A:H61	1.65	0.45
20:R:25:LEU:HB2	20:R:81:VAL:HG23	1.98	0.45
3:A:133:PRO:HD3	3:A:191:TYR:CE2	2.51	0.45
10:H:24:VAL:CG1	10:H:42:LYS:HG2	2.46	0.45
1:X:1631:C:H5	1:X:1633:C:C5	2.34	0.45
10:H:116:ARG:NE	15:M:38:LYS:HE3	2.32	0.45
1:X:2825:A:C2	1:X:2826:C:C2	3.05	0.45
1:X:2260:C:C2'	1:X:2261:G:H5'	2.47	0.45
16:N:106:PHE:O	16:N:110:VAL:HG23	2.17	0.45
9:G:154:GLU:OE2	9:G:155:THR:HG22	2.16	0.45
1:X:1678:G:H4'	1:X:2691:C:N4	2.31	0.45
4:B:82:ARG:C	4:B:84:PHE:H	2.19	0.45
9:G:61:ARG:HE	9:G:65:LYS:HD3	1.80	0.45
1:X:832:A:N3	1:X:1203:A:C2	2.85	0.45
19:Q:48:VAL:HG22	19:Q:49:ARG:O	2.16	0.45
1:X:124:A:OP2	28:2:44:VAL:HG11	2.17	0.45
1:X:1008:G:O2'	1:X:1009:C:H5'	2.16	0.45
1:X:1381:G:H2'	1:X:1382:G:H8	1.82	0.45
1:X:1884:A:O2'	3:A:245:ARG:CG	2.64	0.44
29:3:13:ARG:HD3	29:3:25:PHE:HD1	1.83	0.44
4:B:11:MET:HA	4:B:23:VAL:O	2.16	0.44
5:C:163:ASN:HD22	5:C:163:ASN:C	2.21	0.44
1:X:2673:G:H2'	1:X:2674:C:H6	1.82	0.44
1:X:1405:A:N6	1:X:1406:A:N6	2.65	0.44
12:J:29:ALA:HB3	12:J:68:ARG:NH2	2.30	0.44
1:X:2499:C:O2'	1:X:2500:C:H5'	2.17	0.44
1:X:1213:U:H2'	1:X:1214:C:C6	2.52	0.44
1:X:1283:C:H5''	1:X:1284:G:H5'	1.99	0.44
1:X:940:G:O6	1:X:941:U:O4	2.35	0.44
1:X:648:A:H5''	11:I:110:ALA:O	2.17	0.44
1:X:1710:U:H5'	1:X:1711:C:H5	1.82	0.44
5:C:53:LYS:O	5:C:54:THR:OG1	2.30	0.44
1:X:830:C:O2'	1:X:852:U:H5''	2.17	0.44
18:P:118:LYS:HE3	18:P:118:LYS:HB2	1.80	0.44
12:J:36:ILE:CG2	12:J:37:ALA:N	2.80	0.44
1:X:1674:C:C2'	1:X:1674:C:O2	2.64	0.44
9:G:66:HIS:O	9:G:70:PHE:CE1	2.70	0.44
4:B:14:ILE:HD12	4:B:23:VAL:CG2	2.43	0.44
22:T:12:ASN:C	22:T:14:ARG:H	2.20	0.44
1:X:918:A:C2'	1:X:919:U:H5''	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:120:VAL:HB	11:I:140:VAL:HG22	1.98	0.44
1:X:2494:C:H2'	1:X:2495:G:C8	2.52	0.44
1:X:2825:A:C6	1:X:2826:C:C4	3.05	0.44
1:X:1656:U:H4'	1:X:2678:C:H4'	1.99	0.44
1:X:2340:C:P	29:3:27:SER:OG	2.75	0.44
17:O:36:LYS:HE2	17:O:56:VAL:HG13	1.99	0.44
1:X:693:A:C5	1:X:811:G:N2	2.85	0.44
1:X:867:G:H1	1:X:935:C:H42	1.65	0.44
1:X:820:U:H2'	1:X:821:A:H8	1.81	0.44
1:X:430:C:H1'	1:X:2386:G:N2	2.32	0.44
1:X:627:A:H2'	1:X:628:A:C8	2.52	0.44
1:X:641:G:H4'	1:X:651:C:O2'	2.18	0.44
15:M:31:ASP:HA	15:M:52:GLY:O	2.18	0.44
1:X:538:A:H62	1:X:2026:C:C5'	2.30	0.44
3:A:56:GLY:H	3:A:218:ARG:H	1.65	0.44
1:X:2200:G:O2'	3:A:150:PRO:HG2	2.17	0.44
9:G:162:LYS:H	9:G:163:PRO:CD	2.20	0.44
15:M:104:LEU:HA	15:M:106:TYR:CD2	2.51	0.44
20:R:51:VAL:HG12	20:R:51:VAL:O	2.17	0.44
1:X:43:A:C6	1:X:44:G:C6	3.05	0.44
1:X:459:A:N6	1:X:484:G:C4	2.85	0.44
1:X:822:G:H2'	1:X:823:U:H5'	1.99	0.44
1:X:1923:U:H4'	1:X:1924:C:O5'	2.17	0.44
1:X:1924:C:C2	1:X:1948:C:C2	3.05	0.44
1:X:546:A:H2'	1:X:547:U:C6	2.53	0.44
13:K:71:HIS:HD1	13:K:71:HIS:N	2.15	0.44
18:P:19:LYS:O	18:P:20:LEU:CB	2.66	0.44
1:X:1567:A:H2'	1:X:1568:A:O4'	2.16	0.44
20:R:6:ALA:C	20:R:8:SER:H	2.21	0.44
4:B:32:PRO:HD2	4:B:50:GLY:O	2.16	0.44
1:X:2173:G:H2'	1:X:2174:G:C8	2.52	0.44
12:J:22:ALA:HA	12:J:99:LYS:HB3	2.00	0.44
12:J:99:LYS:HG3	12:J:100:PRO:HD2	2.00	0.44
5:C:3:GLN:HB2	5:C:116:LYS:HD2	1.99	0.44
1:X:1437:A:C2	1:X:1592:U:O2	2.70	0.44
1:X:1722:G:C6	1:X:1723:U:N3	2.86	0.44
1:X:2754:C:H2'	1:X:2755:A:O4'	2.17	0.44
22:T:45:PHE:CD2	22:T:77:ARG:HB3	2.52	0.44
6:D:78:LYS:HG2	6:D:80:ARG:NH1	2.32	0.44
6:D:29:PRO:HB2	6:D:169:LEU:HD22	2.00	0.44
1:X:1453:A:C2	1:X:1569:A:C6	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:60:PRO:O	10:H:61:ARG:HB2	2.17	0.44
2:Y:47:A:C8	6:D:92:ARG:NH1	2.85	0.44
9:G:132:PHE:CB	9:G:145:HIS:CD2	2.99	0.44
28:2:41:GLN:HA	28:2:41:GLN:OE1	2.17	0.44
3:A:71:ARG:HH12	3:A:150:PRO:CB	2.30	0.44
3:A:69:LYS:CD	3:A:69:LYS:H	2.23	0.44
1:X:2494:C:C2	1:X:2549:G:C2	3.06	0.44
1:X:2495:G:C6	1:X:2496:C:N4	2.86	0.44
19:Q:53:ILE:CD1	19:Q:80:VAL:HG12	2.42	0.44
1:X:2616:U:H5'	4:B:82:ARG:HH22	1.80	0.44
1:X:819:C:H2'	1:X:820:U:C6	2.53	0.44
1:X:637:G:H1	11:I:101:ARG:CD	2.30	0.44
9:G:93:LYS:HB3	9:G:97:ASP:HB3	1.99	0.44
1:X:779:U:O4	1:X:780:U:O4	2.36	0.44
13:K:12:ARG:NH2	13:K:20:LEU:HD22	2.32	0.44
1:X:1450:G:N3	1:X:1573:G:C2	2.85	0.44
1:X:395:G:C2	1:X:406:G:C2	3.05	0.44
3:A:47:ARG:HD3	3:A:47:ARG:C	2.38	0.44
21:S:107:GLU:HA	21:S:111:GLY:O	2.17	0.44
1:X:1817:U:H4'	3:A:253:LYS:HZ2	1.82	0.44
1:X:538:A:C2'	1:X:538:A:N3	2.79	0.44
1:X:843:G:O4'	1:X:2427:A:N1	2.51	0.44
7:E:105:MET:CE	7:E:131:ILE:HD11	2.47	0.44
11:I:43:ALA:O	11:I:44:GLY:C	2.55	0.44
1:X:2670:C:O3'	1:X:2846:G:H4'	2.18	0.44
1:X:576:A:O3'	11:I:40:ARG:NH1	2.51	0.44
1:X:2235:G:N2	1:X:2254:C:C4	2.86	0.44
3:A:151:GLY:O	3:A:153:GLY:N	2.51	0.44
5:C:191:ALA:HA	5:C:194:GLU:HB3	1.99	0.44
1:X:861:G:N2	1:X:943:U:H1'	2.33	0.44
14:L:37:HIS:HE1	14:L:57:ALA:HB2	1.76	0.44
4:B:14:ILE:HG12	15:M:20:HIS:HD2	1.76	0.44
1:X:541:C:N3	1:X:572:G:C8	2.86	0.44
1:X:538:A:H4'	9:G:139:ARG:NE	2.33	0.44
1:X:1692:C:H2'	1:X:1693:A:O4'	2.18	0.44
11:I:107:LYS:HB2	11:I:107:LYS:HE2	1.84	0.44
1:X:2245:A:H5'	1:X:2246:A:C4	2.53	0.44
23:U:59:THR:O	23:U:60:VAL:C	2.56	0.44
1:X:2780:A:H2'	1:X:2781:G:C8	2.53	0.44
1:X:1001:A:H1'	1:X:1167:A:C2	2.53	0.44
1:X:459:A:C2	1:X:466:A:H2'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:935:C:C1'	22:T:29:GLU:HG2	2.46	0.44
1:X:13:A:C2	1:X:15:G:C6	3.06	0.44
1:X:2490:U:H2'	1:X:2491:C:C6	2.52	0.44
1:X:1422:C:H2'	1:X:1423:A:C8	2.53	0.44
1:X:2554:C:O2'	4:B:140:SER:CB	2.66	0.44
29:3:36:LYS:HE2	29:3:36:LYS:HB2	1.83	0.44
1:X:2329:C:C6	1:X:2329:C:H3'	2.53	0.44
1:X:155:G:O2'	1:X:156:G:H5'	2.17	0.44
5:C:38:ARG:NH2	5:C:178:TYR:CE2	2.84	0.44
1:X:2026:C:H2'	1:X:2027:C:H6	1.82	0.44
1:X:813:A:O4'	1:X:815:A:H5'	2.17	0.44
1:X:317:U:O2'	1:X:1224:A:N7	2.50	0.44
1:X:2289:A:N3	6:D:79:LEU:HD21	2.33	0.44
1:X:409:G:O3'	23:U:47:HIS:CE1	2.71	0.44
1:X:2659:C:H2'	1:X:2660:C:H6	1.82	0.44
4:B:67:PHE:CD2	4:B:74:PRO:HA	2.53	0.44
1:X:1007:A:C5	1:X:1171:A:C2	3.06	0.44
1:X:1070:G:H5'	1:X:1071:U:H2'	1.99	0.44
1:X:1255:A:C6	1:X:1256:C:C4	3.06	0.44
14:L:99:ARG:HG3	14:L:100:VAL:H	1.82	0.44
14:L:72:GLY:O	14:L:75:LEU:HB3	2.18	0.44
1:X:2436:U:O2'	1:X:2437:G:H5'	2.18	0.44
9:G:111:LYS:O	9:G:111:LYS:HG3	2.17	0.44
1:X:688:A:H5'	5:C:61:GLN:OE1	2.18	0.44
1:X:815:A:C6	1:X:816:U:N3	2.86	0.44
20:R:16:PHE:HZ	20:R:46:VAL:CG2	2.31	0.44
1:X:313:U:O2'	1:X:314:G:H5'	2.18	0.44
9:G:55:ALA:HB1	9:G:134:MET:HE1	1.98	0.44
1:X:1974:U:C2'	1:X:1975:G:C5'	2.96	0.44
1:X:1313:U:H4'	1:X:1314:A:H5''	2.00	0.44
1:X:1173:G:H2'	1:X:1174:G:C8	2.52	0.44
1:X:1335:A:C2	1:X:1346:C:O2'	2.69	0.44
1:X:2821:G:H2'	1:X:2822:U:O4'	2.18	0.44
10:H:114:VAL:O	10:H:115:ALA:O	2.36	0.44
5:C:102:LEU:C	5:C:102:LEU:HD23	2.37	0.44
21:S:127:PRO:C	21:S:129:ARG:H	2.21	0.44
1:X:1506:C:H2'	1:X:1507:A:H5'	1.99	0.44
1:X:1361:G:C6	1:X:1362:A:C6	3.06	0.44
1:X:555:U:HO2'	1:X:556:A:P	2.41	0.44
3:A:89:ARG:O	3:A:90:SER:C	2.55	0.44
6:D:51:ASP:HA	6:D:54:ALA:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:913:A:N7	1:X:914:C:C4	2.86	0.44
22:T:18:PRO:O	22:T:19:LYS:HG2	2.17	0.44
1:X:2057:U:C2	1:X:2415:G:N2	2.86	0.44
1:X:768:U:C4	1:X:769:C:C4	3.05	0.44
1:X:987:G:C2	1:X:988:G:C8	3.05	0.44
1:X:2210:C:C4	1:X:2211:U:C4	3.06	0.43
3:A:245:ARG:HD3	3:A:245:ARG:N	2.33	0.43
2:Y:8:C:O2'	14:L:39:TYR:CE1	2.70	0.43
1:X:542:A:OP1	1:X:570:G:N2	2.49	0.43
1:X:538:A:N3	1:X:2025:A:C6	2.86	0.43
23:U:22:GLY:HA3	23:U:39:LYS:CE	2.46	0.43
10:H:22:ILE:HG21	10:H:22:ILE:HD13	1.76	0.43
1:X:1812:U:O2	3:A:160:ALA:O	2.34	0.43
12:J:70:PHE:HA	12:J:71:PRO:HD3	1.66	0.43
4:B:176:ARG:HH21	15:M:16:ILE:HA	1.83	0.43
1:X:1686:A:OP2	1:X:1687:C:H5	2.01	0.43
5:C:111:ARG:HH12	5:C:181:LEU:HD12	1.82	0.43
1:X:1922:U:OP1	1:X:2583:U:O2'	2.32	0.43
1:X:2700:U:C2'	1:X:2700:U:O2	2.64	0.43
1:X:122:G:H2'	28:2:19:ARG:NH2	2.33	0.43
1:X:1356:G:O5'	1:X:1356:G:H8	2.01	0.43
1:X:2285:U:O2	6:D:44:LYS:HD2	2.18	0.43
13:K:20:LEU:O	13:K:21:ALA:C	2.55	0.43
5:C:54:THR:HB	5:C:73:SER:HB3	1.99	0.43
1:X:2668:U:O2	1:X:2693:U:O4'	2.36	0.43
1:X:1026:U:O2'	1:X:1027:C:H5'	2.18	0.43
1:X:599:A:H61	1:X:679:C:N4	2.16	0.43
1:X:1835:C:C5'	3:A:256:LYS:HE2	2.48	0.43
1:X:2065:A:C2	1:X:2218:G:N3	2.86	0.43
1:X:1223:G:C5	1:X:1250:A:N6	2.86	0.43
1:X:1223:G:H5'	1:X:1225:G:O4'	2.18	0.43
1:X:1223:G:H4'	1:X:1224:A:C5'	2.48	0.43
1:X:1631:C:C5	1:X:1633:C:C2	3.06	0.43
1:X:1724:C:C4	1:X:1747:G:C6	3.05	0.43
3:A:69:LYS:N	3:A:69:LYS:HD3	2.25	0.43
1:X:1405:A:C6	1:X:1406:A:C6	3.05	0.43
1:X:2705:A:N7	1:X:2707:G:C5	2.85	0.43
1:X:620:G:N2	1:X:630:G:H1'	2.32	0.43
1:X:1991:C:H2'	1:X:1992:G:C8	2.46	0.43
1:X:1838:G:N2	1:X:1878:C:C2	2.86	0.43
10:H:82:LYS:HE3	10:H:82:LYS:HB2	1.78	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:207:LEU:C	3:A:212:ARG:HD3	2.38	0.43
1:X:2815:C:N4	1:X:2852:G:H1	2.16	0.43
1:X:2053:G:C2	1:X:2421:C:C2	3.05	0.43
1:X:1381:G:H2'	1:X:1382:G:C8	2.53	0.43
1:X:1511:A:N6	1:X:1512:A:N6	2.66	0.43
1:X:869:C:H4'	22:T:69:PHE:HB2	1.98	0.43
1:X:2043:A:N6	5:C:68:ARG:HH12	2.16	0.43
3:A:106:ILE:HG22	3:A:107:LEU:N	2.34	0.43
23:U:49:LYS:HB3	23:U:61:TRP:CD2	2.53	0.43
1:X:1342:U:H3'	1:X:1343:C:H6	1.82	0.43
7:E:105:MET:HE2	7:E:105:MET:HA	2.01	0.43
26:Z:42:SER:O	26:Z:44:HIS:CD2	2.55	0.43
1:X:2664:G:N3	1:X:2664:G:H2'	2.32	0.43
1:X:1336:G:C2	1:X:1346:C:H1'	2.53	0.43
1:X:1346:C:O5'	1:X:1346:C:H6	2.02	0.43
4:B:54:LYS:HD2	4:B:59:VAL:HG22	1.99	0.43
3:A:214:ARG:HA	3:A:214:ARG:HD2	1.84	0.43
16:N:86:ALA:C	16:N:88:ILE:H	2.21	0.43
17:O:48:GLY:O	17:O:49:GLU:HB2	2.19	0.43
1:X:799:C:O2'	1:X:800:U:H5'	2.19	0.43
1:X:475:U:C2	1:X:801:A:C6	3.06	0.43
2:Y:12:C:H2'	2:Y:13:C:O4'	2.18	0.43
1:X:2062:U:H2'	1:X:2063:A:C8	2.54	0.43
9:G:30:LYS:HE3	9:G:30:LYS:HB2	1.68	0.43
3:A:247:PRO:HD3	3:A:253:LYS:CG	2.49	0.43
30:4:24:LEU:HD23	30:4:35:ARG:CZ	2.49	0.43
3:A:148:LEU:HD21	3:A:156:LEU:HD11	1.98	0.43
19:Q:35:LYS:HA	19:Q:38:ILE:HG22	1.98	0.43
1:X:1441:A:O4'	1:X:1442:C:C5	2.71	0.43
24:V:56:VAL:O	24:V:59:GLU:HB2	2.18	0.43
24:V:6:MET:HE3	24:V:56:VAL:HG21	2.01	0.43
3:A:27:LYS:HE2	3:A:205:ILE:HD13	2.01	0.43
18:P:30:TYR:H	18:P:123:HIS:CE1	2.36	0.43
1:X:320:A:H1'	1:X:340:G:N3	2.34	0.43
1:X:2445:C:C4	1:X:2446:C:N4	2.86	0.43
7:E:56:SER:HB2	7:E:61:HIS:CE1	2.54	0.43
9:G:33:ILE:HB	9:G:34:PRO:HD2	2.01	0.43
22:T:32:LYS:H	22:T:35:ASN:HD22	1.65	0.43
1:X:1252:C:H6	1:X:1252:C:H3'	1.83	0.43
17:O:29:ALA:HA	17:O:59:GLU:HB3	1.99	0.43
1:X:1673:C:O2'	1:X:1674:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1467:U:H3'	1:X:1467:U:C6	2.53	0.43
1:X:2064:U:O2'	1:X:2065:A:H5'	2.18	0.43
1:X:608:G:H2'	1:X:609:U:C6	2.53	0.43
1:X:470:U:OP1	28:2:40:HIS:HA	2.18	0.43
1:X:684:C:C5	11:I:43:ALA:HA	2.53	0.43
1:X:1002:C:O2	1:X:1175:A:C2	2.72	0.43
1:X:2370:G:H2'	1:X:2371:A:H2	1.83	0.43
1:X:797:A:O2'	1:X:798:G:H8	2.02	0.43
10:H:23:ARG:CZ	10:H:23:ARG:HB3	2.48	0.43
16:N:29:SER:C	16:N:30:LYS:HG2	2.38	0.43
19:Q:10:PRO:HD3	24:V:30:PHE:HD2	1.83	0.43
1:X:2565:C:O2	1:X:2565:C:H2'	2.18	0.43
7:E:137:ASP:O	7:E:141:VAL:HG23	2.18	0.43
1:X:2300:G:H3'	1:X:2300:G:N3	2.34	0.43
12:J:36:ILE:HG22	12:J:37:ALA:N	2.33	0.43
3:A:46:ASN:O	3:A:47:ARG:C	2.55	0.43
1:X:1220:G:N2	1:X:1253:C:C4	2.86	0.43
1:X:635:C:C3'	1:X:636:G:H5''	2.49	0.43
1:X:1810:U:H5	3:A:158:ARG:NH1	2.16	0.43
12:J:21:ASP:C	12:J:99:LYS:HG2	2.38	0.43
4:B:59:VAL:HG12	4:B:64:GLN:HG3	1.99	0.43
1:X:854:G:H1	1:X:948:C:N4	2.12	0.43
9:G:156:HIS:N	9:G:157:PRO:CD	2.82	0.43
18:P:14:ARG:HA	18:P:17:GLN:CG	2.48	0.43
1:X:1965:U:H2'	1:X:1966:C:H6	1.83	0.43
1:X:957:G:H2'	1:X:958:G:H8	1.84	0.43
24:V:17:GLU:O	24:V:21:ARG:HD3	2.18	0.43
1:X:916:U:C4	1:X:917:U:C4	3.07	0.43
3:A:185:ARG:HH21	3:A:269:ARG:HH11	1.66	0.43
1:X:66:U:H1'	1:X:87:G:N2	2.33	0.43
1:X:1411:C:H2'	1:X:1412:C:H5'	2.00	0.43
9:G:103:TYR:CE1	9:G:111:LYS:C	2.92	0.43
1:X:1817:U:C4'	3:A:253:LYS:HD2	2.49	0.43
14:L:33:ARG:NH2	14:L:103:LEU:HD12	2.34	0.43
4:B:14:ILE:CG1	15:M:20:HIS:CD2	2.88	0.43
1:X:227:G:C6	1:X:228:A:C6	3.07	0.43
1:X:2426:G:C2'	1:X:2479:U:OP2	2.66	0.43
13:K:79:VAL:HG13	13:K:80:MET:H	1.83	0.43
19:Q:48:VAL:HG21	19:Q:82:LEU:HD22	2.00	0.43
1:X:2791:C:C2	1:X:2806:G:N2	2.86	0.43
16:N:20:ARG:HD2	16:N:39:LEU:HD13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:77:PHE:HB3	6:D:78:LYS:H	1.58	0.43
11:I:52:GLY:O	11:I:53:ARG:HB3	2.19	0.43
1:X:2742:G:O2'	1:X:2743:G:H5'	2.18	0.43
1:X:2766:U:O2'	1:X:2767:C:H5'	2.19	0.43
8:F:74:MET:SD	8:F:127:VAL:HG22	2.59	0.43
1:X:64:C:H3'	1:X:64:C:H6	1.82	0.43
29:3:13:ARG:C	29:3:23:MET:O	2.56	0.43
15:M:103:LYS:O	15:M:104:LEU:CB	2.65	0.43
1:X:2696:A:H2'	1:X:2697:G:C8	2.52	0.43
1:X:618:A:OP1	5:C:94:THR:HG21	2.19	0.43
1:X:83:A:H1'	1:X:84:G:O4'	2.18	0.43
9:G:156:HIS:HB2	9:G:157:PRO:HD3	2.01	0.43
10:H:104:GLU:HG2	10:H:125:LYS:NZ	2.33	0.43
1:X:1439:G:C2	1:X:1440:G:C2	3.07	0.43
1:X:637:G:H1	11:I:101:ARG:CG	2.32	0.43
1:X:2391:A:C8	1:X:2392:G:C8	3.07	0.43
18:P:107:ILE:O	18:P:107:ILE:HG23	2.18	0.43
15:M:46:ARG:HG2	15:M:47:SER:N	2.34	0.43
1:X:1673:C:H5'	4:B:136:ARG:HD3	2.01	0.43
1:X:538:A:H3'	9:G:142:ARG:NH1	2.30	0.43
1:X:321:A:OP1	20:R:27:GLY:N	2.47	0.43
5:C:163:ASN:ND2	5:C:163:ASN:C	2.72	0.43
10:H:116:ARG:NH1	15:M:38:LYS:HE3	2.33	0.43
21:S:137:ASP:OD2	21:S:138:VAL:N	2.52	0.43
1:X:239:A:H5'	1:X:620:G:O2'	2.18	0.43
22:T:41:ARG:HD3	22:T:41:ARG:HA	1.76	0.43
28:2:14:LYS:HD3	28:2:14:LYS:O	2.19	0.43
21:S:88:TYR:O	21:S:127:PRO:HG2	2.19	0.43
9:G:61:ARG:HH22	9:G:78:ASP:HB2	1.84	0.43
1:X:1356:G:N2	1:X:1418:C:N3	2.67	0.43
1:X:1069:G:C3'	1:X:1070:G:H5''	2.49	0.43
23:U:32:ARG:HB2	23:U:33:LYS:H	1.63	0.43
20:R:77:HIS:C	20:R:79:SER:H	2.22	0.43
1:X:482:A:N6	1:X:483:A:C2	2.87	0.43
1:X:872:G:OP2	1:X:872:G:C8	2.72	0.43
1:X:1047:G:N2	1:X:1131:G:C4	2.87	0.43
1:X:1226:A:C4	1:X:1250:A:N3	2.87	0.43
1:X:2323:U:O2'	27:1:40:TYR:CE1	2.71	0.43
1:X:1313:U:H4'	1:X:1314:A:O5'	2.18	0.43
1:X:2594:U:H2'	1:X:2595:C:H6	1.83	0.43
1:X:2238:G:C5	1:X:2406:C:N4	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1166:A:C2'	1:X:1167:A:H5''	2.49	0.43
1:X:1779:C:C5	1:X:1780:A:N7	2.87	0.43
1:X:940:G:C6	1:X:941:U:C4	3.07	0.43
13:K:5:LYS:HB2	13:K:5:LYS:HE2	1.78	0.43
1:X:1345:G:C5	1:X:1625:A:C5	3.07	0.43
3:A:262:ARG:O	3:A:265:LYS:HB3	2.19	0.43
2:Y:5:C:H2'	2:Y:6:C:O4'	2.19	0.43
6:D:12:VAL:O	6:D:16:LEU:HG	2.19	0.43
18:P:16:GLN:H	18:P:16:GLN:HG2	1.70	0.43
29:3:13:ARG:HD2	29:3:25:PHE:CD1	2.54	0.42
23:U:22:GLY:HA3	23:U:39:LYS:CD	2.49	0.42
1:X:840:U:C5	1:X:2409:A:C5	3.07	0.42
1:X:314:G:C6	1:X:326:A:C2	3.06	0.42
5:C:148:VAL:HG12	5:C:149:LEU:N	2.34	0.42
10:H:116:ARG:HD2	15:M:38:LYS:CE	2.49	0.42
1:X:1166:A:H2'	1:X:1167:A:H5''	2.01	0.42
1:X:922:A:N7	1:X:923:A:C6	2.86	0.42
1:X:43:A:H2	1:X:448:C:H41	1.65	0.42
18:P:29:LYS:O	18:P:30:TYR:HB2	2.19	0.42
11:I:77:LEU:HB3	11:I:112:GLY:H	1.84	0.42
1:X:1453:A:C8	1:X:1454:U:C6	3.07	0.42
1:X:943:U:O2'	1:X:944:A:O4'	2.34	0.42
1:X:196:A:O2'	1:X:197:G:H5'	2.19	0.42
1:X:2301:A:H2'	1:X:2302:G:O4'	2.19	0.42
1:X:396:U:C4	1:X:398:C:C5	3.07	0.42
18:P:31:VAL:O	18:P:33:MET:N	2.43	0.42
4:B:38:THR:HG22	4:B:40:GLN:H	1.84	0.42
1:X:701:U:O5'	1:X:701:U:H6	2.01	0.42
14:L:40:ALA:HB2	14:L:103:LEU:HD11	2.01	0.42
18:P:25:PHE:HD1	18:P:127:ILE:CD1	2.28	0.42
1:X:2697:G:H2'	1:X:2698:G:O4'	2.20	0.42
1:X:1407:G:O6	1:X:1408:A:N6	2.52	0.42
1:X:2705:A:H4'	1:X:2706:U:OP1	2.18	0.42
1:X:334:G:N2	5:C:162:ARG:HH22	2.17	0.42
1:X:2407:G:N2	11:I:59:ARG:HH22	2.18	0.42
1:X:2293:G:C5'	6:D:35:VAL:HG11	2.45	0.42
5:C:172:VAL:O	5:C:172:VAL:HG12	2.19	0.42
24:V:6:MET:HE2	24:V:56:VAL:HG21	2.02	0.42
13:K:73:LYS:O	13:K:76:VAL:CG1	2.67	0.42
1:X:1836:C:N3	1:X:1880:G:N2	2.67	0.42
9:G:61:ARG:CD	9:G:65:LYS:HD2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:637:G:H8	1:X:637:G:O5'	2.02	0.42
14:L:42:ILE:C	14:L:42:ILE:HD13	2.39	0.42
1:X:2053:G:C2	1:X:2054:A:N3	2.88	0.42
3:A:91:ALA:HA	3:A:199:ASN:OD1	2.19	0.42
18:P:117:ILE:HD12	18:P:117:ILE:HG23	1.72	0.42
1:X:531:G:O2'	1:X:532:A:H5'	2.19	0.42
1:X:2327:U:H6	1:X:2327:U:O5'	2.02	0.42
2:Y:93:G:OP1	12:J:19:THR:HB	2.19	0.42
7:E:55:PRO:HB2	7:E:61:HIS:CD2	2.54	0.42
1:X:1462:C:H2'	1:X:1463:A:C8	2.54	0.42
1:X:7:G:H2'	1:X:8:A:O4'	2.19	0.42
1:X:2363:G:OP1	22:T:55:ARG:HD2	2.19	0.42
1:X:1508:G:H5'	1:X:1509:A:H5''	2.00	0.42
1:X:2045:A:C6	31:X:2881:LMA:H27	2.54	0.42
18:P:47:GLY:HA2	18:P:92:VAL:O	2.19	0.42
13:K:100:VAL:HG12	13:K:101:GLY:H	1.75	0.42
10:H:116:ARG:HH22	15:M:41:GLU:HG2	1.83	0.42
10:H:27:SER:HB3	10:H:50:ILE:H	1.82	0.42
1:X:1685:A:C4	1:X:1691:G:N7	2.87	0.42
1:X:331:U:H1'	5:C:162:ARG:HH21	1.84	0.42
1:X:1615:C:OP1	19:Q:35:LYS:HB2	2.20	0.42
1:X:2594:U:C2	26:Z:7:PRO:HA	2.54	0.42
1:X:971:A:H5''	1:X:972:C:OP2	2.19	0.42
28:2:34:ARG:HH11	28:2:42:LEU:CA	2.32	0.42
12:J:78:LYS:HE2	12:J:81:GLU:HA	2.01	0.42
5:C:3:GLN:O	5:C:12:GLY:HA3	2.18	0.42
1:X:700:C:O4'	28:2:4:THR:HA	2.18	0.42
1:X:68:C:H2'	1:X:69:G:O4'	2.19	0.42
6:D:112:ARG:H	6:D:112:ARG:CD	2.30	0.42
1:X:1058:G:H2'	1:X:1121:G:O6	2.19	0.42
1:X:2497:A:H2'	1:X:2497:A:N3	2.34	0.42
1:X:1672:A:O4'	4:B:113:THR:O	2.37	0.42
1:X:318:G:N1	1:X:321:A:OP2	2.52	0.42
1:X:341:A:H2	1:X:1223:G:C8	2.37	0.42
23:U:50:ALA:HB1	23:U:52:ARG:NH2	2.33	0.42
1:X:860:U:H2'	1:X:860:U:O2	2.17	0.42
1:X:487:G:H4'	1:X:512:A:H61	1.84	0.42
9:G:140:GLN:O	9:G:144:MET:HG3	2.19	0.42
1:X:1326:U:C2'	1:X:1326:U:O2	2.65	0.42
1:X:1710:U:H4'	1:X:1711:C:OP2	2.20	0.42
1:X:1279:G:O2'	1:X:1995:G:O6	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2740:C:O2'	1:X:2741:G:H5'	2.19	0.42
1:X:1363:C:O2'	1:X:1364:C:H5'	2.20	0.42
1:X:604:U:H5''	29:3:61:MET:SD	2.59	0.42
1:X:404:A:C2	1:X:424:G:C2	3.08	0.42
1:X:623:G:C3'	1:X:624:A:H5''	2.50	0.42
3:A:251:TRP:O	3:A:256:LYS:NZ	2.41	0.42
3:A:252:GLY:HA3	3:A:256:LYS:CE	2.49	0.42
14:L:29:LEU:HD23	14:L:89:PHE:CD1	2.55	0.42
30:4:19:ARG:HD2	30:4:24:LEU:HD13	2.01	0.42
1:X:688:A:H4'	5:C:61:GLN:CG	2.49	0.42
1:X:470:U:O4	1:X:481:A:C8	2.72	0.42
25:W:47:VAL:HB	25:W:50:LEU:HD12	2.01	0.42
1:X:1036:G:C4	1:X:1145:C:H1'	2.54	0.42
1:X:2291:U:HO2'	6:D:86:GLY:HA3	1.83	0.42
15:M:82:PRO:C	15:M:84:ALA:N	2.70	0.42
1:X:1623:C:C4'	1:X:1624:A:O5'	2.67	0.42
1:X:1203:A:OP1	11:I:33:GLY:O	2.38	0.42
1:X:357:A:H2'	1:X:358:C:H5'	2.02	0.42
6:D:118:ASN:HB3	6:D:122:PHE:CZ	2.52	0.42
1:X:2852:G:O2'	1:X:2853:U:H5'	2.20	0.42
1:X:781:G:H2'	1:X:782:U:O4'	2.19	0.42
1:X:413:G:O2'	1:X:414:A:H5''	2.19	0.42
1:X:5:A:O2'	1:X:6:A:H5'	2.19	0.42
3:A:119:ASN:HD22	3:A:124:ALA:HB2	1.85	0.42
1:X:421:G:O2'	1:X:422:C:H5'	2.19	0.42
1:X:805:G:C5	1:X:2419:C:C6	3.07	0.42
11:I:99:VAL:HG23	11:I:99:VAL:O	2.19	0.42
9:G:106:TYR:O	9:G:106:TYR:CD2	2.73	0.42
30:4:19:ARG:HD2	30:4:24:LEU:CD2	2.46	0.42
18:P:28:ALA:HB2	18:P:71:VAL:HG22	2.02	0.42
1:X:933:G:H2'	1:X:934:G:C8	2.55	0.42
1:X:1053:G:C6	1:X:1125:G:C2	3.08	0.42
1:X:1174:G:C2	1:X:1175:A:C4	3.07	0.42
13:K:94:TYR:CD2	13:K:115:LEU:O	2.72	0.42
23:U:51:ILE:O	23:U:52:ARG:HD3	2.18	0.42
1:X:2825:A:N3	1:X:2825:A:C2'	2.80	0.42
16:N:14:HIS:CD2	16:N:32:TYR:CE2	3.07	0.42
1:X:1970:G:O2'	1:X:1971:C:H5'	2.20	0.42
5:C:48:ARG:H	5:C:48:ARG:HD2	1.84	0.42
1:X:806:A:OP2	1:X:2055:G:H5'	2.19	0.42
19:Q:5:ASP:O	19:Q:7:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:61:ARG:NH2	9:G:61:ARG:HB3	2.35	0.42
1:X:2629:U:OP1	10:H:35:THR:HG21	2.19	0.42
14:L:47:ARG:C	14:L:49:GLN:H	2.23	0.42
1:X:2790:C:H42	1:X:2806:G:H1	1.66	0.42
1:X:454:G:C2	1:X:456:C:C2	3.07	0.42
18:P:93:LYS:HB2	18:P:129:ALA:HB3	2.01	0.42
26:Z:16:ARG:HD2	26:Z:16:ARG:C	2.40	0.42
7:E:171:LEU:N	7:E:171:LEU:HD12	2.35	0.42
1:X:396:U:C4	1:X:398:C:C6	3.07	0.42
1:X:1499:A:C6	1:X:1500:U:N3	2.88	0.42
1:X:1045:G:N2	1:X:1133:G:H1'	2.34	0.42
1:X:224:G:N2	1:X:229:G:C6	2.87	0.42
1:X:2426:G:H4'	1:X:2427:A:C5'	2.49	0.42
1:X:843:G:O4'	1:X:2427:A:C2	2.73	0.42
1:X:1631:C:C5	1:X:1633:C:C6	3.07	0.42
15:M:99:VAL:HG22	15:M:100:ARG:N	2.34	0.42
1:X:1129:A:N6	1:X:1130:U:H3	2.18	0.42
1:X:128:C:C2'	1:X:129:A:H5''	2.46	0.42
29:3:60:LEU:HA	29:3:63:PRO:HG2	2.00	0.42
1:X:659:G:C1'	29:3:46:LYS:HG3	2.49	0.42
15:M:82:PRO:O	15:M:83:PHE:C	2.58	0.42
1:X:98:U:N3	1:X:100:G:N2	2.67	0.42
17:O:11:GLN:HA	17:O:38:LEU:O	2.20	0.42
15:M:56:ALA:HB3	15:M:67:THR:H	1.84	0.42
14:L:44:ASP:HB3	14:L:47:ARG:O	2.20	0.42
1:X:2508:G:H5''	1:X:2509:A:H5''	2.01	0.42
1:X:456:C:P	16:N:2:PRO:HD3	2.60	0.42
9:G:170:PRO:HB2	9:G:171:LEU:H	1.64	0.42
1:X:2685:A:N1	1:X:2686:C:C2	2.87	0.42
1:X:424:G:H4'	1:X:425:A:OP1	2.19	0.42
1:X:2768:C:O2	1:X:2784:A:H2	2.02	0.42
9:G:52:GLY:O	9:G:53:ARG:C	2.55	0.42
23:U:53:GLU:HA	23:U:58:LYS:HB2	2.02	0.42
3:A:248:VAL:H	3:A:248:VAL:HG13	1.40	0.42
14:L:38:ILE:CD1	14:L:39:TYR:N	2.82	0.42
1:X:177:U:O4	1:X:225:G:N1	2.53	0.42
1:X:816:U:C4	1:X:817:A:N7	2.88	0.42
22:T:23:VAL:HA	22:T:38:VAL:HG22	2.02	0.42
15:M:104:LEU:C	15:M:106:TYR:N	2.73	0.42
1:X:334:G:H2'	5:C:162:ARG:NH1	2.35	0.42
1:X:2036:G:OP1	4:B:144:ARG:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1357:U:C4'	1:X:1397:A:C6	3.01	0.42
22:T:20:TYR:O	22:T:21:LEU:HB2	2.20	0.42
1:X:2788:C:O2'	1:X:2789:U:H5'	2.19	0.42
1:X:1928:G:C6	1:X:1929:U:C4	3.07	0.42
17:O:38:LEU:HD13	17:O:39:PHE:N	2.35	0.42
16:N:27:SER:HB2	16:N:31:GLN:HG3	2.02	0.42
18:P:107:ILE:CG2	18:P:117:ILE:HG12	2.50	0.42
11:I:76:LYS:HG3	11:I:111:SER:HB2	2.02	0.42
1:X:1099:A:O3'	1:X:1100:G:H8	2.03	0.42
1:X:2004:U:P	26:Z:12:SER:HG	2.42	0.42
1:X:1386:A:H2'	1:X:1387:G:O4'	2.19	0.42
21:S:26:LYS:HB2	21:S:26:LYS:HE3	1.80	0.42
5:C:62:LYS:HD3	5:C:62:LYS:C	2.39	0.42
1:X:1988:A:C5'	1:X:1989:C:OP2	2.64	0.42
3:A:252:GLY:HA3	3:A:256:LYS:HZ1	1.84	0.42
9:G:106:TYR:CZ	9:G:108:GLY:CA	3.03	0.42
1:X:759:C:H1'	1:X:761:G:N2	2.35	0.42
1:X:817:A:C5'	1:X:818:G:OP1	2.68	0.42
2:Y:58:G:H5''	2:Y:59:A:OP1	2.19	0.42
18:P:27:VAL:HG23	18:P:125:THR:HG22	2.01	0.42
1:X:1666:G:H1	1:X:1991:C:N4	2.14	0.42
1:X:1081:A:H62	1:X:1108:U:H4'	1.84	0.42
1:X:1969:G:N2	1:X:1970:G:C4	2.88	0.42
1:X:42:G:N2	1:X:450:C:C2	2.88	0.42
1:X:448:C:H5	1:X:449:C:C5	2.37	0.42
10:H:104:GLU:OE2	10:H:125:LYS:NZ	2.53	0.42
20:R:38:LEU:H	20:R:47:VAL:HB	1.84	0.42
1:X:589:C:H4'	16:N:31:GLN:CD	2.40	0.42
10:H:9:ASP:O	10:H:95:ALA:HB1	2.19	0.42
2:Y:43:G:H5'	2:Y:44:C:H5'	2.01	0.42
1:X:1703:C:H2'	1:X:1704:G:O4'	2.19	0.42
19:Q:30:SER:O	19:Q:33:ALA:HB3	2.19	0.42
1:X:1492:A:N6	1:X:1531:C:C4	2.87	0.42
4:B:167:VAL:HG11	4:B:170:LEU:HD21	2.02	0.42
2:Y:48:A:N6	2:Y:49:C:C4	2.88	0.42
3:A:245:ARG:HA	3:A:253:LYS:NZ	2.35	0.42
1:X:2722:C:P	30:4:35:ARG:HH11	2.43	0.42
1:X:1299:A:N6	1:X:1342:U:C2	2.88	0.42
5:C:149:LEU:HD11	5:C:170:LEU:HD22	2.02	0.42
17:O:72:ARG:HA	17:O:82:ARG:O	2.20	0.42
3:A:71:ARG:HH22	3:A:150:PRO:CA	2.30	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1744:G:N2	1:X:1746:A:H3'	2.35	0.42
11:I:43:ALA:C	11:I:45:LYS:N	2.72	0.42
1:X:971:A:H61	12:J:83:ARG:NH2	2.13	0.42
1:X:1947:G:HO2'	1:X:1950:C:P	2.42	0.42
5:C:14:THR:HG22	5:C:15:ILE:N	2.33	0.42
1:X:1886:G:H2'	1:X:1887:G:C8	2.55	0.42
20:R:10:HIS:C	20:R:12:ASP:H	2.22	0.42
19:Q:61:LYS:HA	19:Q:71:GLN:O	2.20	0.42
16:N:39:LEU:HD23	16:N:39:LEU:HA	1.83	0.42
1:X:1255:A:C5	1:X:1256:C:C5	3.08	0.42
1:X:2329:C:C3'	1:X:2329:C:C6	3.03	0.42
3:A:198:GLY:O	3:A:200:ALA:N	2.53	0.42
1:X:1379:A:H2'	1:X:1380:C:O4'	2.20	0.42
1:X:1674:C:H2'	1:X:1675:C:H6	1.84	0.41
1:X:591:G:C3'	1:X:592:G:H8	2.33	0.41
1:X:791:G:H5'	3:A:49:ARG:NH2	2.35	0.41
1:X:758:G:H2'	1:X:759:C:OP1	2.20	0.41
10:H:116:ARG:NH1	15:M:38:LYS:CE	2.83	0.41
10:H:10:VAL:HG23	10:H:17:ARG:C	2.39	0.41
26:Z:4:HIS:CD2	26:Z:4:HIS:H	2.38	0.41
15:M:39:VAL:HG12	15:M:45:THR:CB	2.50	0.41
17:O:12:TYR:HB2	17:O:39:PHE:HB2	2.02	0.41
1:X:1455:C:H4'	1:X:1644:G:OP1	2.20	0.41
1:X:2273:C:OP2	14:L:15:ARG:NH2	2.53	0.41
14:L:43:ILE:HG22	14:L:44:ASP:N	2.34	0.41
18:P:89:ARG:HG2	18:P:131:LYS:H	1.84	0.41
1:X:2312:A:H4'	1:X:2313:G:O5'	2.19	0.41
1:X:2417:U:O2'	1:X:2418:A:H5''	2.20	0.41
14:L:91:ARG:CD	14:L:91:ARG:H	2.33	0.41
2:Y:7:C:H2'	2:Y:8:C:C6	2.56	0.41
29:3:13:ARG:NE	29:3:25:PHE:H	2.17	0.41
20:R:18:LYS:H	20:R:18:LYS:CD	2.21	0.41
1:X:2263:C:OP2	27:1:9:ILE:HD13	2.20	0.41
1:X:1750:A:H4'	1:X:2695:C:O4'	2.20	0.41
1:X:664:C:C6	1:X:666:U:H5	2.38	0.41
1:X:2324:G:OP2	27:1:40:TYR:CD2	2.73	0.41
21:S:51:LEU:N	21:S:51:LEU:HD23	2.28	0.41
1:X:1175:A:C2	1:X:1176:U:N3	2.88	0.41
1:X:192:G:C4'	1:X:193:A:H4'	2.49	0.41
16:N:24:PHE:O	16:N:29:SER:HB3	2.21	0.41
1:X:448:C:C5	1:X:449:C:C5	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:25:LYS:HE2	28:2:25:LYS:CA	2.51	0.41
1:X:1826:U:H4'	1:X:1952:A:C5	2.55	0.41
1:X:1922:U:H5	1:X:1950:C:HO2'	1.66	0.41
21:S:120:LEU:CD2	21:S:120:LEU:C	2.88	0.41
1:X:751:G:O2'	1:X:752:G:P	2.78	0.41
1:X:2737:A:OP1	1:X:2737:A:H8	2.02	0.41
16:N:36:PHE:O	16:N:39:LEU:HB2	2.20	0.41
3:A:198:GLY:O	3:A:199:ASN:C	2.58	0.41
1:X:1830:C:N3	1:X:1881:U:C5	2.88	0.41
3:A:147:GLU:HG2	3:A:153:GLY:O	2.19	0.41
1:X:861:G:C2	1:X:943:U:H1'	2.55	0.41
1:X:1509:A:N7	1:X:1510:A:C5	2.88	0.41
1:X:615:C:H41	11:I:100:ARG:NH1	2.18	0.41
16:N:82:GLY:HA3	16:N:113:SER:OG	2.20	0.41
1:X:803:C:H4'	1:X:804:C:OP2	2.19	0.41
18:P:50:VAL:O	18:P:53:ALA:HB3	2.20	0.41
4:B:47:VAL:O	4:B:80:GLU:HA	2.20	0.41
19:Q:52:GLY:HA3	19:Q:81:ARG:HB3	2.02	0.41
18:P:81:HIS:HD2	18:P:82:ASN:ND2	2.18	0.41
29:3:53:ALA:O	29:3:54:GLU:C	2.58	0.41
15:M:85:SER:HA	15:M:86:PRO:HD3	1.89	0.41
1:X:428:A:H2'	1:X:429:C:C6	2.55	0.41
5:C:17:LEU:HA	5:C:18:PRO:HD3	1.81	0.41
18:P:12:LYS:O	18:P:15:LYS:HB2	2.20	0.41
4:B:116:VAL:HG13	4:B:136:ARG:HE	1.85	0.41
1:X:1834:G:C2	1:X:1884:A:C6	3.08	0.41
1:X:2695:C:H2'	1:X:2696:A:C8	2.52	0.41
10:H:116:ARG:HH21	15:M:40:ARG:HB2	1.85	0.41
1:X:2665:G:C2	1:X:2704:U:O2	2.73	0.41
1:X:2660:C:C2	1:X:2707:G:N2	2.88	0.41
6:D:4:LEU:O	6:D:5:LYS:HB3	2.21	0.41
1:X:2340:C:O3'	29:3:28:GLY:HA2	2.20	0.41
1:X:1769:U:C5	1:X:1775:A:C4	3.08	0.41
10:H:29:ILE:HG21	10:H:123:PHE:HE1	1.84	0.41
14:L:60:LYS:HG3	14:L:64:LYS:HZ3	1.85	0.41
1:X:2617:G:C5	1:X:2755:A:C6	3.07	0.41
13:K:18:VAL:O	13:K:19:ALA:C	2.56	0.41
2:Y:91:A:H2'	2:Y:92:G:C8	2.55	0.41
18:P:50:VAL:O	18:P:54:GLU:HG3	2.21	0.41
5:C:108:ILE:HG23	5:C:112:GLN:HE21	1.85	0.41
1:X:169:C:H2'	1:X:170:U:H5'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2426:G:C8	1:X:2479:U:H6	2.39	0.41
5:C:150:LEU:HD13	5:C:167:VAL:HB	2.03	0.41
1:X:1744:G:HO2'	1:X:1745:C:H6	1.67	0.41
1:X:825:C:C5'	11:I:30:ALA:HB1	2.49	0.41
1:X:1277:G:H8	1:X:1277:G:O5'	2.02	0.41
1:X:578:U:H5''	1:X:579:G:OP2	2.20	0.41
13:K:76:VAL:O	13:K:79:VAL:HG13	2.20	0.41
1:X:459:A:H2	1:X:466:A:H2'	1.84	0.41
1:X:968:C:C4	1:X:970:A:C5	3.09	0.41
1:X:99:U:H3'	1:X:100:G:C5'	2.50	0.41
1:X:771:C:O2'	1:X:772:G:H5'	2.21	0.41
1:X:476:G:O4'	28:2:16:HIS:CE1	2.73	0.41
1:X:2000:U:O2	26:Z:10:LYS:HB2	2.19	0.41
1:X:1356:G:H5'	1:X:1614:C:OP2	2.20	0.41
1:X:686:C:H2'	1:X:687:G:H5'	2.02	0.41
1:X:742:G:O2'	1:X:776:G:H4'	2.20	0.41
1:X:1061:A:C2	1:X:2731:G:C2	3.08	0.41
1:X:1354:A:H4'	19:Q:56:MET:HG2	2.02	0.41
27:1:17:GLY:O	27:1:18:THR:HB	2.21	0.41
1:X:2651:U:C2'	1:X:2652:G:O5'	2.68	0.41
21:S:92:VAL:HG22	21:S:93:GLU:N	2.36	0.41
16:N:74:MET:HE3	16:N:78:THR:HG22	2.02	0.41
3:A:232:HIS:CG	3:A:233:PRO:HD2	2.55	0.41
2:Y:45:C:O2	6:D:90:THR:HB	2.20	0.41
3:A:59:HIS:O	3:A:60:LYS:C	2.58	0.41
22:T:56:ASP:O	22:T:57:HIS:HB2	2.21	0.41
1:X:1937:G:H1'	1:X:2530:C:H4'	2.02	0.41
15:M:28:ARG:CB	15:M:29:PRO:CD	2.88	0.41
1:X:1885:C:C4'	3:A:245:ARG:HD2	2.50	0.41
16:N:25:TRP:O	16:N:28:ARG:HB2	2.21	0.41
31:X:2881:LMA:C12	31:X:2881:LMA:O55	2.68	0.41
20:R:14:LEU:HD22	20:R:16:PHE:CZ	2.56	0.41
15:M:33:VAL:CG2	15:M:51:GLU:HB2	2.36	0.41
17:O:80:TYR:CE2	17:O:82:ARG:CZ	3.03	0.41
4:B:124:GLY:HA3	4:B:135:HIS:O	2.20	0.41
1:X:1313:U:H4'	1:X:1314:A:C5'	2.50	0.41
1:X:1128:G:H3'	1:X:1129:A:C5'	2.51	0.41
12:J:11:ARG:HB3	12:J:12:LYS:H	1.48	0.41
1:X:30:G:C6	1:X:521:U:O2	2.74	0.41
18:P:36:ARG:O	18:P:39:ARG:HB2	2.21	0.41
5:C:133:PHE:O	5:C:136:TRP:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2572:U:H2'	1:X:2573:C:C6	2.56	0.41
1:X:88:G:C8	1:X:89:A:H8	2.37	0.41
1:X:788:G:C4	1:X:807:A:C8	3.09	0.41
5:C:158:ARG:O	5:C:159:ARG:C	2.58	0.41
3:A:122:PRO:HG2	3:A:123:GLU:OE1	2.20	0.41
22:T:69:PHE:C	22:T:70:ILE:HG13	2.40	0.41
1:X:404:A:N7	1:X:405:C:C4	2.89	0.41
1:X:1380:C:H42	1:X:1799:A:H2	1.68	0.41
12:J:59:PHE:O	12:J:60:ARG:C	2.59	0.41
1:X:201:G:H2'	1:X:202:A:C8	2.55	0.41
1:X:2796:A:C2	1:X:2797:G:C5	3.08	0.41
1:X:1467:U:H6	1:X:1467:U:C3'	2.34	0.41
1:X:539:A:C6	1:X:2025:A:N3	2.88	0.41
1:X:614:G:C4	1:X:636:G:C2	3.09	0.41
20:R:22:VAL:HG13	20:R:81:VAL:C	2.38	0.41
1:X:1810:U:OP1	3:A:159:SER:HB3	2.21	0.41
1:X:2664:G:C2	1:X:2665:G:C8	3.09	0.41
5:C:117:LEU:HD23	5:C:117:LEU:C	2.41	0.41
4:B:5:LEU:HD13	4:B:49:ILE:HD13	2.03	0.41
1:X:1049:C:C2	1:X:1129:A:C2	3.08	0.41
30:4:15:LYS:HB2	30:4:26:ILE:CG1	2.50	0.41
24:V:15:ALA:O	24:V:18:ILE:HB	2.21	0.41
12:J:78:LYS:HA	12:J:88:LYS:NZ	2.36	0.41
1:X:459:A:H1'	1:X:461:A:H62	1.85	0.41
1:X:1770:U:O2	1:X:1774:A:N6	2.54	0.41
1:X:931:G:H2'	1:X:932:G:O4'	2.20	0.41
1:X:2221:G:H2'	1:X:2222:U:O5'	2.20	0.41
7:E:7:GLN:H	7:E:8:PRO:CD	2.34	0.41
1:X:1607:A:HO2'	1:X:1608:U:H6	1.68	0.41
1:X:2382:C:N3	1:X:2394:G:C2	2.88	0.41
9:G:49:VAL:HG12	9:G:50:PRO:O	2.20	0.41
1:X:814:G:OP2	5:C:56:ARG:CZ	2.69	0.41
1:X:1830:C:C4	1:X:1881:U:C5	3.09	0.41
1:X:1742:G:C6	1:X:1743:C:N4	2.89	0.41
20:R:24:VAL:HG11	20:R:28:LYS:O	2.20	0.41
1:X:1373:G:H2'	1:X:1374:G:H5'	2.02	0.41
4:B:116:VAL:CG2	4:B:136:ARG:CG	2.99	0.41
3:A:247:PRO:HD3	3:A:253:LYS:HG3	2.03	0.41
3:A:220:PRO:O	3:A:221:HIS:O	2.38	0.41
1:X:173:A:O2'	1:X:2051:U:H5	2.03	0.41
1:X:1312:G:H5"	1:X:1313:U:P	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2405:A:H4'	1:X:2406:C:OP2	2.21	0.41
1:X:2291:U:H2'	6:D:37:ASN:HD21	1.86	0.41
1:X:1932:G:N2	1:X:1941:C:C2	2.89	0.41
1:X:1970:G:N2	1:X:1971:C:C2	2.89	0.41
1:X:1926:U:C1'	1:X:1928:G:H5'	2.51	0.41
3:A:211:GLY:C	3:A:213:SER:N	2.68	0.41
1:X:777:A:N3	3:A:214:ARG:NH1	2.68	0.41
1:X:1276:U:C1'	26:Z:10:LYS:HG3	2.51	0.41
14:L:60:LYS:HZ2	14:L:64:LYS:CE	2.33	0.41
7:E:16:THR:O	7:E:26:VAL:HA	2.21	0.41
5:C:74:VAL:HA	5:C:75:PRO:HD3	1.84	0.41
1:X:1290:A:H5''	13:K:40:LYS:NZ	2.35	0.41
7:E:156:ALA:O	7:E:157:TYR:CG	2.74	0.41
1:X:1757:C:O2'	1:X:1758:C:H5'	2.20	0.41
4:B:15:TRP:CD1	15:M:86:PRO:HD3	2.56	0.41
1:X:1268:U:H2'	5:C:66:ASN:HA	2.03	0.41
1:X:646:C:O2'	1:X:650:U:H5''	2.21	0.41
1:X:2:G:O2'	1:X:3:U:H5'	2.20	0.41
1:X:2863:U:O5'	1:X:2863:U:H6	2.04	0.41
7:E:136:ILE:N	7:E:136:ILE:HD12	2.35	0.41
15:M:101:ARG:HH21	15:M:101:ARG:HG2	1.85	0.41
2:Y:58:G:H5''	2:Y:59:A:P	2.60	0.41
3:A:178:LEU:C	3:A:180:SER:H	2.24	0.41
22:T:43:THR:O	22:T:43:THR:CG2	2.55	0.41
1:X:1974:U:C2'	1:X:1975:G:H5''	2.51	0.41
3:A:87:PRO:O	3:A:88:ASN:CB	2.65	0.41
19:Q:68:PHE:O	19:Q:69:ILE:O	2.38	0.41
11:I:61:PRO:CD	29:3:27:SER:HB3	2.46	0.41
1:X:2441:U:H2'	1:X:2442:C:H6	1.83	0.41
13:K:72:ASP:OD2	13:K:72:ASP:C	2.59	0.41
1:X:1773:C:H1'	1:X:2588:U:C5'	2.51	0.41
1:X:967:G:O6	12:J:17:ARG:CZ	2.69	0.41
13:K:54:THR:HG22	13:K:55:ALA:N	2.36	0.41
1:X:465:C:C2	1:X:467:U:C5	3.08	0.41
14:L:10:LYS:O	14:L:14:ARG:HG3	2.20	0.41
1:X:1031:C:O2'	1:X:1032:A:OP2	2.30	0.41
1:X:2454:C:H42	1:X:2508:G:H22	1.68	0.41
1:X:1265:G:O2'	1:X:1266:G:C8	2.73	0.41
13:K:37:THR:OG1	13:K:40:LYS:HG3	2.20	0.41
1:X:2445:C:N4	1:X:2446:C:N4	2.69	0.41
1:X:395:G:N3	1:X:406:G:N2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2668:U:O2	1:X:2693:U:O5'	2.39	0.41
4:B:101:LYS:HA	4:B:170:LEU:O	2.20	0.41
14:L:12:ARG:HG3	14:L:13:THR:HG23	2.02	0.41
1:X:600:G:H2'	1:X:601:A:OP1	2.21	0.41
1:X:849:G:C5	1:X:850:C:C4	3.09	0.41
14:L:73:LYS:O	14:L:74:ALA:C	2.59	0.41
15:M:13:LEU:HD12	15:M:13:LEU:N	2.35	0.41
1:X:123:A:C2	28:2:10:ARG:HA	2.56	0.41
1:X:2736:U:C3'	30:4:19:ARG:HA	2.51	0.41
22:T:12:ASN:HD22	22:T:14:ARG:HD3	1.86	0.41
18:P:37:LYS:O	18:P:40:LEU:N	2.54	0.41
3:A:146:LEU:HB3	3:A:156:LEU:HB2	2.02	0.41
1:X:2194:A:H3'	1:X:2195:C:C5'	2.41	0.41
1:X:1745:C:C2'	1:X:1746:A:O4'	2.66	0.41
27:1:14:SER:HB2	27:1:23:THR:N	2.35	0.41
1:X:2673:G:N3	1:X:2674:C:C6	2.89	0.41
1:X:1976:U:H4'	4:B:128:SER:HB3	2.02	0.41
1:X:1978:U:C2	1:X:1979:C:H5	2.34	0.41
3:A:39:PRO:HA	3:A:62:LEU:HD22	2.03	0.41
1:X:638:A:H4'	1:X:639:G:OP1	2.21	0.41
1:X:334:G:C2	5:C:162:ARG:NH2	2.89	0.41
1:X:1129:A:C5	1:X:1130:U:N3	2.89	0.41
26:Z:30:LEU:HA	26:Z:30:LEU:HD23	1.91	0.41
19:Q:62:ARG:HB2	19:Q:63:LYS:H	1.74	0.41
11:I:56:LEU:HB3	29:3:52:LYS:NZ	2.35	0.41
1:X:2594:U:H2'	1:X:2595:C:C6	2.56	0.41
16:N:14:HIS:CD2	16:N:32:TYR:CD2	3.09	0.41
1:X:696:U:H5'	28:2:30:ILE:HD11	2.02	0.41
1:X:579:G:H1'	1:X:994:A:N6	2.36	0.41
15:M:83:PHE:N	15:M:83:PHE:HD1	2.19	0.41
1:X:1938:U:O2'	1:X:2531:U:H5'	2.21	0.41
21:S:13:LYS:HB2	21:S:13:LYS:HZ2	1.82	0.41
1:X:1770:U:C2	1:X:1774:A:N7	2.89	0.41
1:X:1478:U:C2	1:X:1479:G:C8	3.09	0.41
1:X:14:A:C6	1:X:536:A:C2	3.08	0.41
1:X:2691:C:O2'	1:X:2692:A:C5'	2.69	0.41
15:M:5:ILE:N	15:M:5:ILE:HD12	2.36	0.41
1:X:1399:C:H2'	1:X:1400:A:C8	2.50	0.41
1:X:1433:A:C5	1:X:1595:A:H2	2.39	0.41
1:X:496:C:H2'	1:X:497:C:H5'	2.02	0.41
1:X:2477:C:O2'	1:X:2478:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2031:A:C6	1:X:2600:A:N1	2.89	0.41
21:S:149:ALA:HB1	21:S:160:LEU:HD13	2.02	0.41
1:X:105:G:H2'	1:X:106:G:H5'	2.02	0.41
1:X:2015:G:O4'	1:X:2015:G:P	2.79	0.41
1:X:2762:G:H2'	1:X:2762:G:N3	2.35	0.41
1:X:1345:G:C5	1:X:1625:A:C6	3.08	0.41
14:L:24:SER:C	14:L:26:ARG:H	2.23	0.41
1:X:2505:G:H1'	30:4:1:MET:CB	2.51	0.41
4:B:50:GLY:HA2	4:B:77:ILE:O	2.21	0.41
22:T:18:PRO:O	22:T:19:LYS:O	2.38	0.41
1:X:872:G:O2'	1:X:928:G:O6	2.36	0.41
1:X:1042:G:H4'	30:4:6:SER:OG	2.21	0.41
1:X:2827:G:C6	1:X:2828:C:N3	2.88	0.41
1:X:1550:C:O2'	1:X:1551:U:H5''	2.20	0.41
6:D:146:VAL:HB	6:D:147:ASP:H	1.62	0.41
1:X:2432:A:H2'	1:X:2433:G:C8	2.55	0.41
4:B:146:THR:CB	4:B:147:PRO:HD2	2.41	0.41
14:L:29:LEU:HD12	14:L:41:GLN:O	2.20	0.41
29:3:13:ARG:HG3	29:3:13:ARG:O	2.21	0.41
3:A:219:LYS:HD2	3:A:220:PRO:O	2.20	0.41
20:R:16:PHE:HB3	20:R:82:ALA:HB1	2.02	0.41
18:P:40:LEU:HD23	18:P:40:LEU:HA	1.87	0.41
1:X:934:G:H1'	22:T:26:PHE:CD1	2.56	0.41
1:X:2182:A:C2	1:X:2204:A:C2	3.09	0.41
1:X:1147:G:C4	1:X:1148:G:C8	3.09	0.41
27:1:41:ASP:OD2	27:1:46:LYS:HD2	2.21	0.41
24:V:25:LEU:HD13	24:V:46:LEU:CD1	2.48	0.41
12:J:68:ARG:O	12:J:102:ARG:NH2	2.54	0.41
5:C:95:LEU:C	5:C:95:LEU:HD23	2.40	0.41
1:X:82:G:H21	1:X:83:A:N6	2.20	0.41
12:J:17:ARG:O	12:J:18:MET:HB2	2.21	0.41
1:X:1923:U:C4'	1:X:1924:C:O5'	2.69	0.41
2:Y:83:C:H2'	2:Y:84:G:O4'	2.21	0.41
1:X:1698:C:H1'	1:X:1753:A:H2'	2.03	0.41
1:X:965:G:O2'	1:X:2253:A:N1	2.45	0.41
10:H:20:MET:O	10:H:53:ALA:HB1	2.21	0.41
1:X:2043:A:C1'	1:X:2481:G:O4'	2.69	0.40
1:X:1672:A:O2'	4:B:115:GLY:HA2	2.20	0.40
4:B:152:LYS:HB2	9:G:106:TYR:HB3	2.01	0.40
2:Y:26:G:N3	2:Y:58:G:C6	2.90	0.40
1:X:2705:A:N6	1:X:2707:G:N2	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:55:THR:OG1	20:R:56:LYS:N	2.53	0.40
1:X:1174:G:N3	1:X:1175:A:C8	2.89	0.40
16:N:72:HIS:CD2	16:N:110:VAL:HG21	2.45	0.40
16:N:13:ARG:O	16:N:16:LYS:HB2	2.21	0.40
1:X:1300:A:C8	13:K:106:ASP:OD2	2.74	0.40
1:X:1761:G:H2'	1:X:1762:C:H6	1.86	0.40
17:O:5:ILE:HB	17:O:6:GLN:H	1.67	0.40
1:X:1950:C:C4	1:X:1951:G:N7	2.89	0.40
1:X:1033:G:N2	1:X:1035:G:N2	2.69	0.40
1:X:1625:A:H1'	1:X:1632:A:H1'	2.02	0.40
20:R:5:SER:O	20:R:6:ALA:O	2.39	0.40
10:H:73:VAL:O	10:H:96:ALA:HB1	2.21	0.40
6:D:30:ARG:O	6:D:158:THR:HB	2.20	0.40
1:X:2043:A:O2'	1:X:2044:G:H5'	2.20	0.40
1:X:760:U:C5	26:Z:3:LYS:CE	3.03	0.40
1:X:2756:A:OP1	1:X:2756:A:H3'	2.21	0.40
3:A:54:PHE:HA	3:A:218:ARG:HH21	1.86	0.40
1:X:2041:A:N1	31:X:2881:LMA:C40	2.84	0.40
5:C:23:ASN:HB3	5:C:26:VAL:CG2	2.52	0.40
20:R:16:PHE:CZ	20:R:46:VAL:CG2	3.04	0.40
1:X:824:U:H1'	1:X:1264:C:O4'	2.21	0.40
1:X:1978:U:C2'	1:X:1979:C:OP1	2.69	0.40
1:X:334:G:H4'	1:X:335:A:C5'	2.51	0.40
1:X:2282:G:N3	1:X:2293:G:N2	2.69	0.40
15:M:66:PHE:HD2	15:M:83:PHE:HE1	1.65	0.40
1:X:1202:U:O2'	1:X:1203:A:H5'	2.21	0.40
1:X:573:C:HO2'	1:X:1266:G:H1	1.69	0.40
1:X:59:G:O6	1:X:62:U:N3	2.55	0.40
14:L:99:ARG:HG3	14:L:100:VAL:N	2.36	0.40
1:X:2002:A:N7	26:Z:9:LYS:NZ	2.63	0.40
1:X:769:C:C4	1:X:770:U:C4	3.09	0.40
18:P:62:ARG:O	18:P:65:SER:HB2	2.20	0.40
1:X:1281:A:H2'	1:X:1282:A:O4'	2.21	0.40
27:1:12:MET:HB2	27:1:27:ASN:OD1	2.20	0.40
1:X:1475:U:H3'	1:X:1475:U:H6	1.86	0.40
4:B:136:ARG:NH2	4:B:157:ALA:HB2	2.37	0.40
1:X:1814:G:H2'	1:X:1815:G:H8	1.86	0.40
20:R:83:LEU:O	20:R:90:LYS:HE2	2.20	0.40
1:X:2665:G:C6	1:X:2666:U:C4	3.09	0.40
11:I:108:LEU:HD22	11:I:120:VAL:HG11	2.03	0.40
15:M:24:LEU:HD11	15:M:34:ARG:NH2	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:29:ALA:O	12:J:106:GLU:HG3	2.21	0.40
24:V:2:LYS:N	24:V:3:PRO:CD	2.84	0.40
1:X:617:U:O4'	1:X:617:U:O2	2.40	0.40
1:X:75:C:C2'	1:X:76:C:H5'	2.51	0.40
1:X:2273:C:OP1	14:L:95:LYS:HG2	2.21	0.40
1:X:2013:A:H5''	1:X:2014:A:OP1	2.21	0.40
1:X:514:G:N3	1:X:514:G:C2'	2.84	0.40
1:X:2765:C:O2'	1:X:2766:U:H5'	2.21	0.40
1:X:2753:C:H5''	4:B:164:ARG:HG2	2.02	0.40
21:S:163:ASP:HA	21:S:164:PRO:HD3	1.88	0.40
1:X:2609:G:N3	1:X:2868:G:C2	2.89	0.40
13:K:29:LEU:HD23	13:K:29:LEU:HA	1.90	0.40
3:A:234:HIS:CE1	3:A:253:LYS:NZ	2.90	0.40
29:3:13:ARG:HH12	29:3:26:LYS:N	2.19	0.40
23:U:39:LYS:O	23:U:40:ARG:HB2	2.22	0.40
1:X:688:A:N6	1:X:689:A:N6	2.69	0.40
5:C:149:LEU:HD11	5:C:170:LEU:HB2	2.02	0.40
1:X:2264:C:C4	27:1:28:ARG:NH2	2.89	0.40
3:A:69:LYS:HG2	3:A:70:ARG:N	2.36	0.40
1:X:1683:G:C2'	1:X:1684:G:H5'	2.51	0.40
1:X:2348:A:O2'	1:X:2349:G:H5'	2.21	0.40
12:J:64:LYS:HZ1	12:J:110:VAL:HG13	1.84	0.40
17:O:36:LYS:HE3	17:O:55:THR:C	2.41	0.40
1:X:2625:U:H2'	1:X:2626:U:O4'	2.21	0.40
1:X:1468:A:O5'	1:X:1468:A:H8	2.05	0.40
1:X:448:C:C5	1:X:449:C:C4	3.03	0.40
1:X:521:U:C4	1:X:522:G:C2	3.10	0.40
1:X:1947:G:N1	1:X:1950:C:C4	2.89	0.40
9:G:90:LEU:HD12	9:G:90:LEU:N	2.36	0.40
3:A:207:LEU:O	3:A:212:ARG:HB3	2.21	0.40
1:X:1609:G:H2'	1:X:1610:A:O4'	2.21	0.40
20:R:48:VAL:O	20:R:50:GLY:N	2.54	0.40
2:Y:55:C:H2'	2:Y:56:G:O4'	2.21	0.40
20:R:44:GLN:HE21	20:R:78:ALA:HB2	1.86	0.40
1:X:1725:C:H42	1:X:1741:G:H1	1.70	0.40
1:X:2819:G:H2'	1:X:2820:C:C6	2.55	0.40
1:X:1841:G:H2'	1:X:1842:G:H5'	2.04	0.40
5:C:39:ARG:HH21	5:C:91:TYR:HB2	1.87	0.40
22:T:32:LYS:N	22:T:35:ASN:HD22	2.20	0.40
1:X:1537:U:O2'	1:X:1538:A:H5'	2.22	0.40
1:X:2817:A:C2	1:X:2851:G:C2	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2614:A:C2	1:X:2764:U:N3	2.90	0.40
1:X:1652:G:H2'	1:X:1653:C:C6	2.56	0.40
1:X:2059:U:H5	1:X:2575:U:O2	2.05	0.40
9:G:46:ALA:HB1	9:G:54:LEU:HD22	2.03	0.40
1:X:784:U:H2'	1:X:785:U:C6	2.57	0.40
10:H:4:PRO:O	10:H:5:GLN:CB	2.69	0.40
3:A:132:LEU:HD23	3:A:132:LEU:N	2.36	0.40
10:H:134:LEU:HD23	10:H:134:LEU:HA	1.81	0.40
4:B:116:VAL:CG2	4:B:136:ARG:HG3	2.52	0.40
1:X:177:U:H4'	23:U:40:ARG:HG3	2.03	0.40
1:X:2046:C:C5	1:X:2047:C:C4	3.09	0.40
18:P:42:VAL:O	18:P:44:VAL:N	2.55	0.40
1:X:2659:C:C2	1:X:2660:C:C5	3.09	0.40
4:B:49:ILE:HD13	4:B:49:ILE:HG21	1.85	0.40
11:I:45:LYS:HE3	11:I:47:ALA:HB3	2.03	0.40
29:3:49:VAL:HB	29:3:52:LYS:HG2	2.03	0.40
28:2:34:ARG:HH11	28:2:42:LEU:CG	2.34	0.40
12:J:64:LYS:CD	12:J:108:ALA:O	2.70	0.40
1:X:1951:G:O2'	1:X:1952:A:O5'	2.30	0.40
9:G:75:ILE:HG23	9:G:140:GLN:HE21	1.86	0.40
1:X:2751:C:H2'	1:X:2752:C:H6	1.87	0.40
1:X:2557:G:O2'	1:X:2558:C:H5'	2.21	0.40
10:H:55:VAL:HG12	10:H:56:LYS:N	2.36	0.40
11:I:77:LEU:HD22	11:I:110:ALA:HA	2.03	0.40
6:D:41:GLY:HA2	6:D:44:LYS:O	2.21	0.40
1:X:1742:G:C2	1:X:1743:C:N3	2.89	0.40
1:X:5:A:C2	1:X:2873:G:C2	3.10	0.40
1:X:1261:G:O2'	16:N:3:ARG:HA	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	251/274 (92%)	195 (78%)	44 (18%)	12 (5%)	3	21
4	B	203/211 (96%)	160 (79%)	29 (14%)	14 (7%)	1	10
5	C	192/205 (94%)	143 (74%)	37 (19%)	12 (6%)	2	13
6	D	175/180 (97%)	137 (78%)	32 (18%)	6 (3%)	5	30
7	E	169/185 (91%)	142 (84%)	20 (12%)	7 (4%)	3	25
8	F	61/144 (42%)	48 (79%)	12 (20%)	1 (2%)	12	52
9	G	140/174 (80%)	104 (74%)	27 (19%)	9 (6%)	2	12
10	H	132/134 (98%)	111 (84%)	17 (13%)	4 (3%)	5	33
11	I	132/156 (85%)	82 (62%)	31 (24%)	19 (14%)	0	1
12	J	134/141 (95%)	96 (72%)	27 (20%)	11 (8%)	1	7
13	K	111/116 (96%)	89 (80%)	14 (13%)	8 (7%)	1	9
14	L	102/114 (90%)	73 (72%)	26 (26%)	3 (3%)	6	34
15	M	106/166 (64%)	82 (77%)	18 (17%)	6 (6%)	2	17
16	N	115/118 (98%)	95 (83%)	16 (14%)	4 (4%)	4	29
17	O	92/100 (92%)	68 (74%)	17 (18%)	7 (8%)	1	8
18	P	124/134 (92%)	101 (82%)	18 (14%)	5 (4%)	4	25
19	Q	91/95 (96%)	63 (69%)	19 (21%)	9 (10%)	1	4
20	R	108/115 (94%)	70 (65%)	26 (24%)	12 (11%)	0	3
21	S	173/237 (73%)	135 (78%)	32 (18%)	6 (4%)	4	29
22	T	72/91 (79%)	53 (74%)	18 (25%)	1 (1%)	14	55
23	U	70/81 (86%)	50 (71%)	13 (19%)	7 (10%)	1	4
24	V	63/67 (94%)	55 (87%)	5 (8%)	3 (5%)	3	21
25	W	53/55 (96%)	47 (89%)	6 (11%)	0	100	100
26	Z	55/60 (92%)	42 (76%)	9 (16%)	4 (7%)	1	9
27	1	51/55 (93%)	30 (59%)	15 (29%)	6 (12%)	0	2
28	2	44/47 (94%)	37 (84%)	5 (11%)	2 (4%)	3	22
29	3	57/66 (86%)	34 (60%)	18 (32%)	5 (9%)	1	5
30	4	35/37 (95%)	29 (83%)	6 (17%)	0	100	100
All	All	3111/3558 (87%)	2371 (76%)	557 (18%)	183 (6%)	2	15

All (183) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	220	PRO
3	A	221	HIS
3	A	248	VAL
4	B	135	HIS
4	B	147	PRO
4	B	148	GLY
4	B	202	ALA
5	C	9	GLN
5	C	68	ARG
10	H	42	LYS
10	H	115	ALA
11	I	36	GLY
11	I	58	ALA
12	J	21	ASP
13	K	6	ALA
13	K	91	PRO
13	K	100	VAL
15	M	17	GLU
16	N	5	LYS
16	N	94	VAL
19	Q	59	PRO
19	Q	61	LYS
19	Q	69	ILE
19	Q	83	ALA
20	R	6	ALA
20	R	60	PRO
24	V	3	PRO
27	1	9	ILE
27	1	30	ASN
28	2	42	LEU
29	3	14	ILE
29	3	60	LEU
3	A	47	ARG
3	A	48	GLY
3	A	152	LYS
4	B	123	ALA
4	B	132	LYS
5	C	22	VAL
5	C	121	ASP
7	E	165	VAL
8	F	120	VAL
9	G	68	PRO
9	G	170	PRO

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Mol	Chain	Res	Type
11	I	38	LYS
11	I	44	GLY
11	I	53	ARG
11	I	86	THR
11	I	88	PHE
12	J	13	GLN
12	J	26	ASP
12	J	83	ARG
12	J	136	GLU
13	K	20	LEU
13	K	93	GLY
14	L	45	ASP
15	M	28	ARG
15	M	105	TYR
16	N	8	ILE
17	O	8	GLY
17	O	80	TYR
18	P	32	ARG
18	P	46	ARG
19	Q	63	LYS
19	Q	74	ASP
19	Q	87	SER
20	R	26	SER
20	R	63	THR
20	R	94	VAL
21	S	26	LYS
21	S	91	PRO
22	T	19	LYS
23	U	16	ASN
23	U	31	GLY
23	U	60	VAL
26	Z	37	HIS
27	1	34	LYS
27	1	42	PRO
29	3	31	HIS
3	A	157	ALA
5	C	128	ALA
5	C	159	ARG
7	E	55	PRO
7	E	173	ALA
10	H	27	SER
10	H	116	ARG

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Mol	Chain	Res	Type
11	I	33	GLY
12	J	10	PHE
12	J	17	ARG
13	K	7	GLY
15	M	29	PRO
16	N	92	ARG
17	O	25	LEU
17	O	79	GLN
18	P	43	ASP
20	R	5	SER
21	S	87	THR
21	S	88	TYR
23	U	15	VAL
27	1	31	THR
28	2	8	ASN
29	3	32	GLN
3	A	56	GLY
3	A	126	PRO
3	A	253	LYS
4	B	14	ILE
4	B	122	PHE
4	B	137	ARG
5	C	10	ASN
5	C	67	ALA
6	D	146	VAL
7	E	7	GLN
7	E	12	PRO
9	G	67	ARG
9	G	97	ASP
11	I	30	ALA
11	I	65	PHE
11	I	81	GLN
11	I	91	ASP
12	J	79	PRO
12	J	139	ASP
13	K	13	ASN
14	L	60	LYS
15	M	25	PRO
17	O	24	SER
19	Q	65	VAL
20	R	49	GLU
20	R	85	ASP

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Mol	Chain	Res	Type
21	S	7	PRO
21	S	156	GLU
23	U	30	VAL
23	U	39	LYS
24	V	10	GLN
3	A	55	ILE
3	A	113	THR
4	B	43	GLY
4	B	95	ILE
4	B	115	GLY
4	B	136	ARG
5	C	15	ILE
6	D	21	GLY
6	D	52	LYS
9	G	107	GLN
9	G	108	GLY
9	G	118	ALA
9	G	163	PRO
11	I	37	GLN
11	I	57	ILE
11	I	68	VAL
12	J	111	THR
13	K	56	LYS
14	L	53	ALA
17	O	10	LYS
18	P	20	LEU
20	R	7	GLY
20	R	83	LEU
29	3	13	ARG
6	D	77	PHE
6	D	122	PHE
11	I	63	ARG
12	J	18	MET
15	M	83	PHE
17	O	66	GLY
26	Z	53	ASP
11	I	31	GLY
11	I	61	PRO
18	P	132	GLY
4	B	124	GLY
5	C	78	VAL
6	D	174	GLY

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Mol	Chain	Res	Type
7	E	118	PRO
9	G	64	GLY
23	U	14	VAL
24	V	18	ILE
5	C	175	VAL
20	R	51	VAL
20	R	65	PRO
26	Z	4	HIS
26	Z	5	PRO
5	C	103	GLY
7	E	107	ILE
11	I	122	VAL
19	Q	60	GLY
27	1	49	VAL

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	A	194/215 (90%)	184 (95%)	10 (5%)	29	68
4	B	155/157 (99%)	149 (96%)	6 (4%)	39	76
5	C	154/163 (94%)	147 (96%)	7 (4%)	34	73
6	D	153/156 (98%)	150 (98%)	3 (2%)	63	87
7	E	136/144 (94%)	136 (100%)	0	100	100
8	F	46/107 (43%)	46 (100%)	0	100	100
9	G	118/146 (81%)	115 (98%)	3 (2%)	55	84
10	H	103/103 (100%)	94 (91%)	9 (9%)	13	45
11	I	101/121 (84%)	97 (96%)	4 (4%)	38	76
12	J	110/115 (96%)	108 (98%)	2 (2%)	66	88
13	K	90/93 (97%)	82 (91%)	8 (9%)	12	43
14	L	74/82 (90%)	68 (92%)	6 (8%)	15	50
15	M	94/134 (70%)	87 (93%)	7 (7%)	17	55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	N	96/97 (99%)	93 (97%)	3 (3%)	47	80
17	O	75/79 (95%)	72 (96%)	3 (4%)	38	76
18	P	108/115 (94%)	101 (94%)	7 (6%)	21	60
19	Q	75/76 (99%)	70 (93%)	5 (7%)	20	59
20	R	91/96 (95%)	84 (92%)	7 (8%)	16	52
21	S	149/192 (78%)	146 (98%)	3 (2%)	63	87
22	T	55/67 (82%)	53 (96%)	2 (4%)	42	77
23	U	57/66 (86%)	55 (96%)	2 (4%)	43	78
24	V	53/55 (96%)	53 (100%)	0	100	100
25	W	48/48 (100%)	48 (100%)	0	100	100
26	Z	51/53 (96%)	47 (92%)	4 (8%)	16	52
27	1	46/48 (96%)	41 (89%)	5 (11%)	8	33
28	2	39/40 (98%)	33 (85%)	6 (15%)	3	16
29	3	46/52 (88%)	43 (94%)	3 (6%)	21	60
30	4	35/35 (100%)	35 (100%)	0	100	100
All	All	2552/2855 (89%)	2437 (96%)	115 (4%)	34	73

All (115) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	44	ARG
3	A	49	ARG
3	A	69	LYS
3	A	165	GLN
3	A	199	ASN
3	A	202	HIS
3	A	209	LYS
3	A	219	LYS
3	A	245	ARG
3	A	246	VAL
4	B	44	TYR
4	B	75	THR
4	B	87	ASP
4	B	119	ARG
4	B	137	ARG
4	B	154	LYS
5	C	31	VAL

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Mol	Chain	Res	Type
5	C	62	LYS
5	C	71	ASP
5	C	74	VAL
5	C	91	TYR
5	C	163	ASN
5	C	180	ILE
6	D	51	ASP
6	D	80	ARG
6	D	112	ARG
9	G	104	THR
9	G	113	GLU
9	G	154	GLU
10	H	1	MET
10	H	8	LEU
10	H	9	ASP
10	H	10	VAL
10	H	23	ARG
10	H	29	ILE
10	H	41	ASN
10	H	81	ILE
10	H	109	ARG
11	I	39	SER
11	I	49	PHE
11	I	53	ARG
11	I	60	LEU
12	J	8	THR
12	J	64	LYS
13	K	3	HIS
13	K	5	LYS
13	K	37	THR
13	K	48	VAL
13	K	71	HIS
13	K	91	PRO
13	K	95	THR
13	K	96	ARG
14	L	31	VAL
14	L	38	ILE
14	L	42	ILE
14	L	45	ASP
14	L	60	LYS
14	L	91	ARG
15	M	5	ILE

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Mol	Chain	Res	Type
15	M	20	HIS
15	M	25	PRO
15	M	31	ASP
15	M	85	SER
15	M	92	THR
15	M	98	LYS
16	N	22	LYS
16	N	30	LYS
16	N	93	LYS
17	O	5	ILE
17	O	18	ASP
17	O	87	ARG
18	P	32	ARG
18	P	36	ARG
18	P	39	ARG
18	P	65	SER
18	P	124	ILE
18	P	125	THR
18	P	126	ILE
19	Q	5	ASP
19	Q	7	LEU
19	Q	12	ILE
19	Q	36	THR
19	Q	62	ARG
20	R	10	HIS
20	R	11	ASN
20	R	15	HIS
20	R	18	LYS
20	R	55	THR
20	R	71	GLN
20	R	112	LYS
21	S	34	LEU
21	S	71	MET
21	S	82	ASP
22	T	15	ASP
22	T	64	ASP
23	U	32	ARG
23	U	78	ILE
26	Z	12	SER
26	Z	23	HIS
26	Z	41	LEU
26	Z	58	LEU

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Mol	Chain	Res	Type
27	1	8	ILE
27	1	15	SER
27	1	34	LYS
27	1	51	ARG
27	1	54	LYS
28	2	5	TYR
28	2	10	ARG
28	2	12	ARG
28	2	14	LYS
28	2	15	THR
28	2	44	VAL
29	3	31	HIS
29	3	39	ASP
29	3	46	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	155	GLN
3	A	167	GLN
3	A	199	ASN
5	C	132	ASN
5	C	163	ASN
5	C	176	ASN
6	D	37	ASN
7	E	61	HIS
9	G	73	ASN
9	G	107	GLN
9	G	129	HIS
9	G	145	HIS
10	H	46	HIS
12	J	46	ASN
12	J	47	GLN
13	K	24	GLN
14	L	41	GLN
14	L	97	HIS
16	N	14	HIS
16	N	37	GLN
16	N	72	HIS
16	N	81	ASN
17	O	88	GLN
18	P	73	ASN

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Mol	Chain	Res	Type
18	P	81	HIS
18	P	82	ASN
20	R	29	HIS
20	R	71	GLN
21	S	121	GLN
22	T	12	ASN
22	T	35	ASN
26	Z	29	ASN
26	Z	44	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2647/2880 (91%)	473 (17%)	54 (2%)
2	Y	119/123 (96%)	18 (15%)	0
All	All	2766/3003 (92%)	491 (17%)	54 (1%)

All (491) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	4	C
1	X	13	A
1	X	14	A
1	X	34	U
1	X	35	G
1	X	39	C
1	X	45	C
1	X	49	U
1	X	59	G
1	X	63	A
1	X	70	A
1	X	74	G
1	X	76	C
1	X	83	A
1	X	87	G
1	X	88	G
1	X	89	A
1	X	90	G
1	X	98	U
1	X	100	G
1	X	101	A

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Mol	Chain	Res	Type
1	X	111	G
1	X	116	A
1	X	118	U
1	X	123	A
1	X	129	A
1	X	136	A
1	X	143	A
1	X	155	G
1	X	157	G
1	X	158	A
1	X	173	A
1	X	176	A
1	X	177	U
1	X	178	C
1	X	193	A
1	X	199	A
1	X	206	U
1	X	210	A
1	X	219	G
1	X	225	G
1	X	226	C
1	X	229	G
1	X	242	A
1	X	243	G
1	X	304	A
1	X	305	A
1	X	312	G
1	X	318	G
1	X	323	G
1	X	333	A
1	X	334	G
1	X	335	A
1	X	340	G
1	X	342	G
1	X	343	A
1	X	399	G
1	X	400	U
1	X	414	A
1	X	418	C
1	X	424	G
1	X	425	A
1	X	441	A

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Mol	Chain	Res	Type
1	X	456	C
1	X	460	U
1	X	463	C
1	X	467	U
1	X	468	A
1	X	469	G
1	X	482	A
1	X	484	G
1	X	491	A
1	X	492	G
1	X	497	C
1	X	515	A
1	X	537	C
1	X	538	A
1	X	539	A
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	572	G
1	X	578	U
1	X	581	A
1	X	582	G
1	X	583	C
1	X	584	A
1	X	587	A
1	X	595	A
1	X	602	C
1	X	613	A
1	X	614	G
1	X	624	A
1	X	625	A
1	X	626	A
1	X	627	A
1	X	628	A
1	X	631	G
1	X	633	G
1	X	636	G

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Mol	Chain	Res	Type
1	X	648	A
1	X	649	G
1	X	652	C
1	X	654	A
1	X	655	A
1	X	657	A
1	X	662	G
1	X	665	A
1	X	666	U
1	X	669	G
1	X	682	G
1	X	683	A
1	X	699	G
1	X	741	G
1	X	743	A
1	X	748	A
1	X	751	G
1	X	752	G
1	X	753	U
1	X	759	C
1	X	760	U
1	X	761	G
1	X	765	C
1	X	766	A
1	X	777	A
1	X	781	G
1	X	789	G
1	X	790	A
1	X	795	A
1	X	797	A
1	X	798	G
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	818	G
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	859	U

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Mol	Chain	Res	Type
1	X	919	U
1	X	921	A
1	X	922	A
1	X	926	C
1	X	939	C
1	X	940	G
1	X	944	A
1	X	952	A
1	X	956	A
1	X	957	G
1	X	969	U
1	X	970	A
1	X	972	C
1	X	983	G
1	X	984	A
1	X	985	G
1	X	994	A
1	X	1006	C
1	X	1007	A
1	X	1016	C
1	X	1019	U
1	X	1023	U
1	X	1032	A
1	X	1033	G
1	X	1037	U
1	X	1044	U
1	X	1051	U
1	X	1054	C
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1060	C
1	X	1070	G
1	X	1078	A
1	X	1081	A
1	X	1082	G
1	X	1087	C
1	X	1090	C
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1108	U

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Mol	Chain	Res	Type
1	X	1119	U
1	X	1123	G
1	X	1128	G
1	X	1129	A
1	X	1142	G
1	X	1145	C
1	X	1146	G
1	X	1148	G
1	X	1149	G
1	X	1152	C
1	X	1153	A
1	X	1167	A
1	X	1168	G
1	X	1183	C
1	X	1192	A
1	X	1220	G
1	X	1223	G
1	X	1224	A
1	X	1249	G
1	X	1250	A
1	X	1266	G
1	X	1269	G
1	X	1275	A
1	X	1278	A
1	X	1279	G
1	X	1282	A
1	X	1284	G
1	X	1285	A
1	X	1288	A
1	X	1289	A
1	X	1299	A
1	X	1301	U
1	X	1313	U
1	X	1314	A
1	X	1325	U
1	X	1326	U
1	X	1340	C
1	X	1342	U
1	X	1345	G
1	X	1358	C
1	X	1359	G
1	X	1378	A

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Mol	Chain	Res	Type
1	X	1381	G
1	X	1391	A
1	X	1392	U
1	X	1393	G
1	X	1398	G
1	X	1405	A
1	X	1409	U
1	X	1413	U
1	X	1428	G
1	X	1430	G
1	X	1432	G
1	X	1434	U
1	X	1440	G
1	X	1442	C
1	X	1443	G
1	X	1460	G
1	X	1465	G
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1475	U
1	X	1476	G
1	X	1482	U
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1506	C
1	X	1528	C
1	X	1551	U
1	X	1552	C
1	X	1553	G
1	X	1554	G
1	X	1562	G
1	X	1563	U
1	X	1570	C
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1585	A
1	X	1601	U
1	X	1602	G
1	X	1608	U

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Mol	Chain	Res	Type
1	X	1619	A
1	X	1624	A
1	X	1625	A
1	X	1626	A
1	X	1632	A
1	X	1634	A
1	X	1635	G
1	X	1648	C
1	X	1651	U
1	X	1656	U
1	X	1657	A
1	X	1665	C
1	X	1668	G
1	X	1677	C
1	X	1686	A
1	X	1691	G
1	X	1692	C
1	X	1701	C
1	X	1710	U
1	X	1712	G
1	X	1714	A
1	X	1717	A
1	X	1718	A
1	X	1747	G
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1775	A
1	X	1782	A
1	X	1790	G
1	X	1791	C
1	X	1793	A
1	X	1801	C
1	X	1802	A
1	X	1807	A
1	X	1808	C
1	X	1812	U
1	X	1821	A
1	X	1825	C
1	X	1831	G
1	X	1842	G
1	X	1868	A

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Mol	Chain	Res	Type
1	X	1884	A
1	X	1910	A
1	X	1919	A
1	X	1920	A
1	X	1921	A
1	X	1922	U
1	X	1923	U
1	X	1924	C
1	X	1927	U
1	X	1928	G
1	X	1938	U
1	X	1939	U
1	X	1947	G
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1965	U
1	X	1975	G
1	X	1976	U
1	X	1979	C
1	X	1980	A
1	X	1988	A
1	X	2006	G
1	X	2009	U
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2017	U
1	X	2019	C
1	X	2026	C
1	X	2029	G
1	X	2038	C
1	X	2039	G
1	X	2043	A
1	X	2044	G
1	X	2045	A
1	X	2046	C
1	X	2052	G
1	X	2075	U
1	X	2083	G

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Mol	Chain	Res	Type
1	X	2171	U
1	X	2181	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2195	C
1	X	2199	C
1	X	2200	G
1	X	2205	C
1	X	2218	G
1	X	2238	G
1	X	2241	U
1	X	2242	C
1	X	2246	A
1	X	2247	A
1	X	2259	G
1	X	2262	C
1	X	2265	A
1	X	2266	A
1	X	2272	A
1	X	2284	U
1	X	2285	U
1	X	2286	G
1	X	2287	G
1	X	2288	A
1	X	2298	U
1	X	2300	G
1	X	2301	A
1	X	2306	A
1	X	2313	G
1	X	2315	A
1	X	2324	G
1	X	2325	A
1	X	2326	C
1	X	2362	G
1	X	2364	C
1	X	2386	G
1	X	2396	C
1	X	2398	U
1	X	2402	U
1	X	2404	A
1	X	2405	A

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Mol	Chain	Res	Type
1	X	2407	G
1	X	2410	U
1	X	2418	A
1	X	2420	C
1	X	2426	G
1	X	2427	A
1	X	2452	U
1	X	2455	A
1	X	2458	U
1	X	2470	U
1	X	2471	U
1	X	2477	C
1	X	2481	G
1	X	2482	A
1	X	2483	U
1	X	2484	G
1	X	2485	U
1	X	2497	A
1	X	2498	U
1	X	2501	U
1	X	2528	G
1	X	2545	A
1	X	2546	G
1	X	2548	G
1	X	2553	G
1	X	2561	G
1	X	2564	U
1	X	2565	C
1	X	2581	A
1	X	2582	G
1	X	2588	U
1	X	2591	C
1	X	2594	U
1	X	2608	A
1	X	2609	G
1	X	2613	A
1	X	2634	G
1	X	2650	G
1	X	2664	G
1	X	2668	U
1	X	2691	C
1	X	2692	A

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Mol	Chain	Res	Type
1	X	2693	U
1	X	2694	G
1	X	2706	U
1	X	2713	A
1	X	2730	A
1	X	2731	G
1	X	2732	C
1	X	2737	A
1	X	2744	A
1	X	2745	A
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2760	G
1	X	2761	A
1	X	2770	A
1	X	2771	C
1	X	2782	G
1	X	2783	U
1	X	2792	C
1	X	2795	A
1	X	2796	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2814	G
1	X	2825	A
1	X	2842	C
1	X	2847	G
1	X	2850	U
1	X	2867	G
1	X	2868	G
2	Y	4	C
2	Y	14	C
2	Y	15	A
2	Y	17	A
2	Y	18	G
2	Y	26	G
2	Y	27	A
2	Y	28	A
2	Y	43	G
2	Y	44	C

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Mol	Chain	Res	Type
2	Y	46	G
2	Y	47	A
2	Y	59	A
2	Y	69	G
2	Y	102	A
2	Y	110	U
2	Y	111	C
2	Y	112	A

All (54) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	33	C
1	X	38	G
1	X	48	A
1	X	62	U
1	X	334	G
1	X	342	G
1	X	467	U
1	X	538	A
1	X	751	G
1	X	759	C
1	X	760	U
1	X	780	U
1	X	788	G
1	X	789	G
1	X	969	U
1	X	983	G
1	X	984	A
1	X	1031	C
1	X	1053	G
1	X	1096	A
1	X	1141	U
1	X	1182	U
1	X	1223	G
1	X	1312	G
1	X	1313	U
1	X	1357	U
1	X	1391	A
1	X	1441	A
1	X	1442	C
1	X	1496	G

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Mol	Chain	Res	Type
1	X	1601	U
1	X	1607	A
1	X	1623	C
1	X	1685	A
1	X	1781	C
1	X	1790	G
1	X	1811	A
1	X	1923	U
1	X	1938	U
1	X	1975	G
1	X	2015	G
1	X	2018	G
1	X	2044	G
1	X	2045	A
1	X	2204	A
1	X	2312	A
1	X	2404	A
1	X	2409	A
1	X	2426	G
1	X	2692	A
1	X	2705	A
1	X	2736	U
1	X	2756	A
1	X	2824	C

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 212 ligands modelled in this entry, 211 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length

(or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
31	LMA	X	2881	-	59,60,60	4.60	24 (40%)	76,90,90	1.29	6 (7%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
31	LMA	X	2881	-	-	0/80/115/115	0/3/3/3

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	X	2881	LMA	C30-C2	-18.34	1.10	1.53
31	X	2881	LMA	C2-C1	-16.09	1.13	1.51
31	X	2881	LMA	O53-C8	-9.82	1.25	1.43
31	X	2881	LMA	C33-C8	-7.75	1.41	1.52
31	X	2881	LMA	C35-C12	-7.57	1.36	1.53
31	X	2881	LMA	C7-C6	-6.90	1.44	1.54
31	X	2881	LMA	C19-C16	-5.85	1.38	1.52
31	X	2881	LMA	C32-C6	-5.73	1.38	1.53
31	X	2881	LMA	C16-C17	-5.06	1.41	1.53
31	X	2881	LMA	O5-C16	-4.90	1.34	1.44
31	X	2881	LMA	C40-C23	-4.48	1.43	1.53
31	X	2881	LMA	O51-C17	-3.98	1.37	1.45
31	X	2881	LMA	C12-C13	-3.39	1.44	1.54
31	X	2881	LMA	O57-C57	-2.36	1.37	1.43
31	X	2881	LMA	O7-C5	2.06	1.49	1.43
31	X	2881	LMA	O4-C18	2.13	1.49	1.44
31	X	2881	LMA	O3-C3	2.82	1.50	1.43
31	X	2881	LMA	O17-C24	2.99	1.51	1.43
31	X	2881	LMA	C2-C3	3.57	1.63	1.55
31	X	2881	LMA	O2-C1	3.70	1.43	1.34
31	X	2881	LMA	C6-C5	4.27	1.61	1.53
31	X	2881	LMA	O52-C51	4.32	1.37	1.20
31	X	2881	LMA	O55-C54	4.65	1.38	1.20
31	X	2881	LMA	O2-C13	8.33	1.57	1.44

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	X	2881	LMA	C3-C2-C1	-2.80	104.38	109.86
31	X	2881	LMA	C25-C24-C23	-2.46	106.55	113.55
31	X	2881	LMA	C13-C12-C11	-2.01	108.54	113.05
31	X	2881	LMA	O7-C5-C4	3.74	112.90	108.19
31	X	2881	LMA	O51-C51-C53	4.44	119.48	111.10
31	X	2881	LMA	O12-C54-C56	4.46	119.52	111.10

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	X	2881	LMA	13	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	X	2657/2880 (92%)	-0.11	79 (2%) 54 42	32, 91, 207, 392	0
2	Y	120/123 (97%)	0.11	3 (2%) 61 49	85, 155, 211, 300	0
3	A	253/274 (92%)	0.46	16 (6%) 23 15	54, 119, 183, 297	0
4	B	205/211 (97%)	-0.32	3 (1%) 76 65	22, 64, 130, 298	0
5	C	194/205 (94%)	0.22	14 (7%) 18 12	44, 117, 220, 268	0
6	D	177/180 (98%)	0.92	27 (15%) 3 2	146, 209, 280, 370	0
7	E	171/185 (92%)	0.27	12 (7%) 19 12	86, 149, 209, 245	0
8	F	63/144 (43%)	3.18	45 (71%) 0 0	180, 261, 394, 440	0
9	G	142/174 (81%)	0.30	10 (7%) 19 12	55, 101, 188, 266	0
10	H	134/134 (100%)	-0.47	1 (0%) 89 83	35, 61, 108, 204	0
11	I	134/156 (85%)	0.69	15 (11%) 7 5	64, 145, 237, 367	0
12	J	136/141 (96%)	0.20	7 (5%) 32 21	76, 108, 190, 272	0
13	K	113/116 (97%)	-0.64	0 100 100	27, 46, 79, 105	0
14	L	104/114 (91%)	0.58	13 (12%) 5 4	117, 160, 248, 306	0
15	M	108/166 (65%)	-0.31	3 (2%) 56 44	36, 60, 135, 241	0
16	N	117/118 (99%)	-0.11	5 (4%) 39 27	44, 88, 156, 279	0
17	O	94/100 (94%)	0.18	6 (6%) 23 14	58, 119, 195, 238	0
18	P	126/134 (94%)	-0.39	0 100 100	29, 59, 118, 200	0
19	Q	93/95 (97%)	0.06	2 (2%) 65 54	59, 107, 182, 273	0
20	R	110/115 (95%)	0.70	22 (20%) 1 1	68, 127, 234, 359	0
21	S	175/237 (73%)	0.98	37 (21%) 1 1	112, 169, 237, 314	0
22	T	74/91 (81%)	0.66	13 (17%) 2 1	82, 123, 199, 271	0
23	U	72/81 (88%)	1.85	20 (27%) 1 1	89, 155, 302, 332	0
24	V	65/67 (97%)	0.31	4 (6%) 24 15	94, 126, 205, 256	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å ²)	Q<0.9
25	W	55/55 (100%)	0.10	3 (5%)	29 18	73, 102, 166, 177	0
26	Z	57/60 (95%)	-0.13	2 (3%)	48 35	31, 63, 108, 191	0
27	1	53/55 (96%)	1.61	18 (33%)	0 1	106, 171, 261, 319	0
28	2	46/47 (97%)	0.25	3 (6%)	22 14	56, 85, 154, 195	0
29	3	59/66 (89%)	1.64	21 (35%)	0 1	97, 150, 276, 316	0
30	4	37/37 (100%)	6.56	35 (94%)	0 0	133, 223, 289, 323	0
All	All	5944/6561 (90%)	0.19	439 (7%)	17 11	22, 105, 230, 440	0

All (439) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	U	28	GLY	26.2
30	4	17	VAL	14.6
30	4	25	VAL	14.5
8	F	113	PRO	14.1
30	4	24	LEU	13.2
30	4	13	ASN	12.8
3	A	204	ASN	12.6
8	F	114	ASP	11.2
21	S	91	PRO	10.3
30	4	6	SER	9.7
30	4	23	VAL	9.5
23	U	27	ASP	9.4
27	1	35	LEU	9.4
30	4	35	ARG	9.2
8	F	125	ASN	8.5
30	4	4	ARG	8.5
1	X	1095	A	8.5
21	S	15	ASP	8.5
6	D	43	SER	8.2
6	D	75	SER	8.2
30	4	34	GLN	8.1
23	U	26	ALA	8.1
23	U	29	GLY	8.0
8	F	112	MET	7.7
5	C	19	LEU	7.5
19	Q	64	ARG	7.2
30	4	5	SER	7.2
30	4	12	ASP	7.1
30	4	27	CYS	7.1

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Mol	Chain	Res	Type	RSRZ
8	F	97	GLY	7.1
23	U	47	HIS	7.1
30	4	26	ILE	6.9
1	X	1080	A	6.8
30	4	21	GLY	6.8
30	4	16	VAL	6.7
30	4	3	VAL	6.6
30	4	28	SER	6.4
1	X	1085	G	6.3
29	3	50	LEU	6.1
1	X	665	A	6.1
22	T	73	GLY	6.1
30	4	11	CYS	6.0
3	A	251	TRP	6.0
30	4	29	ASN	5.9
1	X	1115	C	5.9
8	F	123	ALA	5.9
30	4	1	MET	5.9
1	X	1106	A	5.9
30	4	36	GLN	5.9
4	B	205	SER	5.8
30	4	37	GLY	5.8
1	X	1107	A	5.7
6	D	145	MET	5.7
6	D	45	GLU	5.7
21	S	23	ALA	5.5
27	1	45	LYS	5.4
6	D	76	ASN	5.4
6	D	147	ASP	5.4
30	4	14	CYS	5.3
5	C	165	SER	5.3
30	4	10	MET	5.3
1	X	248	A	5.2
30	4	20	HIS	5.2
30	4	33	LYS	5.2
11	I	56	LEU	5.2
21	S	92	VAL	5.2
30	4	22	ARG	5.2
30	4	7	VAL	5.2
9	G	156	HIS	5.1
27	1	32	GLN	5.1
20	R	57	ASN	5.0

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Mol	Chain	Res	Type	RSRZ
30	4	15	LYS	5.0
6	D	142	THR	5.0
6	D	71	LYS	5.0
8	F	120	VAL	5.0
12	J	84	MET	5.0
6	D	143	TYR	4.9
20	R	102	LYS	4.9
29	3	9	MET	4.9
22	T	85	GLN	4.9
21	S	31	SER	4.9
1	X	2287	G	4.8
1	X	1086	C	4.8
11	I	54	SER	4.8
27	1	23	THR	4.8
3	A	250	PRO	4.8
8	F	136	VAL	4.7
3	A	243	ALA	4.7
3	A	161	GLY	4.7
24	V	66	GLN	4.7
8	F	101	TRP	4.6
6	D	74	ILE	4.6
16	N	88	ILE	4.6
20	R	67	GLY	4.6
23	U	12	ASN	4.5
1	X	1114	A	4.5
1	X	1104	G	4.5
22	T	18	PRO	4.5
21	S	12	GLN	4.5
17	O	64	GLY	4.5
27	1	47	HIS	4.4
8	F	85	GLY	4.4
21	S	128	ARG	4.4
29	3	55	TRP	4.3
21	S	76	ARG	4.3
1	X	1072	U	4.3
30	4	32	HIS	4.3
22	T	15	ASP	4.3
22	T	16	SER	4.2
27	1	27	ASN	4.2
11	I	36	GLY	4.2
27	1	52	GLU	4.2
21	S	94	VAL	4.1

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Mol	Chain	Res	Type	RSRZ
23	U	52	ARG	4.1
1	X	558	G	4.1
9	G	97	ASP	4.1
8	F	76	TYR	4.1
21	S	30	VAL	4.1
6	D	120	ASN	4.1
23	U	30	VAL	4.0
1	X	1089	C	4.0
23	U	13	LEU	4.0
1	X	2190	A	4.0
14	L	35	SER	4.0
22	T	13	GLY	3.9
20	R	58	VAL	3.9
8	F	90	THR	3.9
8	F	94	ALA	3.9
7	E	25	LYS	3.9
21	S	22	VAL	3.8
1	X	1068	A	3.8
1	X	1079	G	3.8
27	1	13	GLU	3.8
8	F	99	LEU	3.7
20	R	112	LYS	3.7
21	S	55	THR	3.7
16	N	91	ASN	3.7
23	U	46	LEU	3.7
11	I	74	VAL	3.7
29	3	33	ASN	3.7
1	X	1057	A	3.7
12	J	27	TYR	3.7
5	C	44	SER	3.7
1	X	1077	U	3.7
30	4	2	LYS	3.7
6	D	42	SER	3.6
1	X	358	C	3.6
27	1	14	SER	3.6
3	A	220	PRO	3.6
3	A	85	TYR	3.6
29	3	44	LYS	3.6
1	X	1081	A	3.6
8	F	111	LYS	3.5
8	F	132	ARG	3.5
8	F	121	GLU	3.5

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Mol	Chain	Res	Type	RSRZ
27	1	36	GLU	3.5
24	V	4	SER	3.5
6	D	125	ARG	3.5
21	S	113	VAL	3.4
5	C	48	ARG	3.4
29	3	21	LYS	3.4
6	D	81	GLN	3.4
22	T	71	ASN	3.4
8	F	119	SER	3.4
21	S	14	LEU	3.4
5	C	193	LEU	3.4
11	I	52	GLY	3.3
5	C	167	VAL	3.3
1	X	1108	U	3.3
29	3	61	MET	3.3
10	H	27	SER	3.3
6	D	18	GLN	3.3
21	S	21	ALA	3.3
23	U	16	ASN	3.3
27	1	31	THR	3.3
8	F	129	GLY	3.3
6	D	144	ASP	3.3
20	R	66	GLN	3.3
20	R	52	ASN	3.3
3	A	268	ASP	3.3
20	R	100	ASP	3.3
20	R	94	VAL	3.2
8	F	92	ASN	3.2
21	S	83	PHE	3.2
8	F	91	PRO	3.2
14	L	63	ASN	3.2
9	G	159	SER	3.2
1	X	2290	A	3.2
29	3	43	GLY	3.2
1	X	1552	C	3.2
1	X	1105	U	3.2
11	I	57	ILE	3.2
1	X	1120	C	3.1
27	1	24	THR	3.1
3	A	203	LYS	3.1
8	F	133	SER	3.1
30	4	18	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
3	A	32	LYS	3.1
22	T	17	ASN	3.1
7	E	51	LEU	3.1
14	L	62	GLY	3.1
5	C	47	THR	3.1
17	O	36	LYS	3.1
1	X	1734	C	3.1
1	X	1037	U	3.1
12	J	136	GLU	3.1
22	T	14	ARG	3.1
21	S	173	PRO	3.1
1	X	1191	G	3.0
5	C	192	ALA	3.0
17	O	46	VAL	3.0
3	A	221	HIS	3.0
1	X	1067	G	3.0
1	X	1913	G	3.0
29	3	10	ALA	3.0
1	X	732	G	3.0
14	L	64	LYS	3.0
1	X	601	A	3.0
2	Y	68	A	3.0
1	X	1184	G	3.0
8	F	78	ILE	3.0
29	3	39	ASP	3.0
29	3	48	PHE	3.0
6	D	72	LYS	3.0
11	I	31	GLY	3.0
17	O	39	PHE	3.0
6	D	20	PHE	3.0
7	E	62	ARG	2.9
25	W	33	GLU	2.9
1	X	2015	G	2.9
21	S	11	LYS	2.9
29	3	54	GLU	2.9
22	T	20	TYR	2.9
7	E	23	VAL	2.9
21	S	77	ALA	2.9
21	S	24	TYR	2.9
4	B	135	HIS	2.9
14	L	55	SER	2.9
29	3	14	ILE	2.9

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Mol	Chain	Res	Type	RSRZ
8	F	95	LYS	2.9
23	U	61	TRP	2.9
8	F	80	LYS	2.8
21	S	147	ILE	2.8
8	F	81	ALA	2.8
8	F	77	LEU	2.8
29	3	38	GLY	2.8
27	1	2	ALA	2.8
29	3	51	ALA	2.8
8	F	96	VAL	2.8
21	S	86	VAL	2.8
20	R	61	SER	2.8
8	F	127	VAL	2.8
1	X	1602	G	2.8
30	4	9	LYS	2.8
8	F	122	ALA	2.8
6	D	46	ASP	2.8
8	F	110	THR	2.8
24	V	5	GLU	2.8
6	D	40	LEU	2.8
21	S	32	PHE	2.8
1	X	304	A	2.8
23	U	8	THR	2.8
21	S	165	GLU	2.7
12	J	28	VAL	2.7
3	A	153	GLY	2.7
8	F	84	ILE	2.7
1	X	2289	A	2.7
5	C	45	THR	2.7
1	X	247	A	2.7
1	X	1119	U	2.7
7	E	37	TYR	2.7
21	S	174	PRO	2.7
1	X	1912	G	2.7
8	F	108	ALA	2.7
14	L	111	GLY	2.7
20	R	60	PRO	2.7
27	1	22	TYR	2.7
2	Y	4	C	2.7
11	I	97	ARG	2.7
1	X	1078	A	2.7
30	4	30	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	X	1055	A	2.6
1	X	302	U	2.6
1	X	667	U	2.6
8	F	105	LEU	2.6
14	L	65	THR	2.6
23	U	25	ARG	2.6
1	X	1522	C	2.6
1	X	1076	U	2.6
21	S	85	MET	2.6
8	F	104	VAL	2.6
11	I	55	ARG	2.6
9	G	129	HIS	2.6
20	R	71	GLN	2.6
11	I	33	GLY	2.6
29	3	13	ARG	2.6
23	U	54	ASN	2.6
21	S	145	ASP	2.6
1	X	1109	A	2.6
9	G	39	GLN	2.6
5	C	59	TYR	2.6
15	M	29	PRO	2.6
27	1	51	ARG	2.6
12	J	112	GLU	2.6
1	X	1098	G	2.6
8	F	124	ALA	2.5
8	F	86	LYS	2.5
6	D	146	VAL	2.5
1	X	2085	G	2.5
29	3	45	GLY	2.5
29	3	7	HIS	2.5
21	S	125	PRO	2.5
22	T	66	LYS	2.5
20	R	69	GLN	2.5
17	O	47	PHE	2.5
1	X	1909	U	2.5
21	S	124	ALA	2.5
1	X	1084	A	2.5
4	B	94	ASP	2.5
15	M	40	ARG	2.5
22	T	84	ALA	2.4
20	R	81	VAL	2.4
29	3	63	PRO	2.4

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Mol	Chain	Res	Type	RSRZ
14	L	56	SER	2.4
1	X	1090	C	2.4
7	E	119	ALA	2.4
9	G	109	GLY	2.4
21	S	93	GLU	2.4
7	E	5	GLY	2.4
5	C	166	TRP	2.4
8	F	102	ASP	2.4
1	X	1093	U	2.4
1	X	1733	U	2.4
5	C	172	VAL	2.4
27	1	19	GLY	2.4
1	X	2087	U	2.4
1	X	2044	G	2.4
1	X	2174	G	2.4
11	I	46	GLY	2.4
17	O	23	GLU	2.4
20	R	77	HIS	2.4
21	S	58	GLY	2.4
28	2	39	ARG	2.4
8	F	107	ILE	2.4
8	F	109	LYS	2.3
12	J	21	ASP	2.3
11	I	100	ARG	2.3
7	E	61	HIS	2.3
21	S	123	VAL	2.3
1	X	2082	C	2.3
20	R	113	THR	2.3
23	U	73	GLY	2.3
1	X	1074	G	2.3
26	Z	37	HIS	2.3
28	2	38	GLY	2.3
21	S	69	VAL	2.3
26	Z	5	PRO	2.3
3	A	272	VAL	2.3
3	A	163	SER	2.3
24	V	65	GLU	2.3
1	X	1099	A	2.3
11	I	24	GLY	2.3
9	G	167	LYS	2.3
3	A	92	ARG	2.3
1	X	1551	U	2.3

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Mol	Chain	Res	Type	RSRZ
29	3	20	GLY	2.3
1	X	1841	G	2.3
23	U	57	VAL	2.3
5	C	21	GLU	2.2
8	F	100	ASN	2.2
1	X	2169	A	2.2
6	D	136	LEU	2.2
20	R	83	LEU	2.2
11	I	53	ARG	2.2
14	L	34	SER	2.2
21	S	114	ASP	2.2
9	G	66	HIS	2.2
14	L	58	ALA	2.2
22	T	61	ALA	2.2
1	X	1553	G	2.2
1	X	1116	U	2.2
7	E	68	THR	2.2
16	N	23	GLY	2.2
6	D	11	GLN	2.2
20	R	95	ARG	2.2
23	U	65	ASN	2.2
25	W	54	GLN	2.2
5	C	164	VAL	2.2
19	Q	65	VAL	2.2
11	I	50	GLU	2.2
27	1	50	PHE	2.2
1	X	871	U	2.2
20	R	103	LYS	2.2
1	X	1019	U	2.1
12	J	72	ASP	2.2
8	F	79	ARG	2.1
6	D	151	GLY	2.1
15	M	28	ARG	2.1
28	2	46	ASP	2.1
1	X	1556	A	2.1
7	E	174	GLY	2.1
1	X	69	G	2.1
16	N	89	ASP	2.1
1	X	1094	C	2.1
23	U	49	LYS	2.1
23	U	50	ALA	2.1
1	X	2299	A	2.1

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Mol	Chain	Res	Type	RSRZ
8	F	130	THR	2.1
14	L	107	ALA	2.1
20	R	63	THR	2.1
3	A	271	ILE	2.1
29	3	25	PHE	2.1
20	R	29	HIS	2.1
7	E	82	GLY	2.1
6	D	90	THR	2.1
1	X	1073	G	2.1
20	R	99	VAL	2.1
30	4	31	LYS	2.1
1	X	1121	G	2.1
21	S	170	SER	2.0
1	X	361	G	2.0
27	1	21	TYR	2.0
6	D	89	VAL	2.0
8	F	128	ALA	2.0
1	X	1574	A	2.0
9	G	103	TYR	2.0
7	E	65	HIS	2.0
9	G	155	THR	2.0
25	W	6	VAL	2.0
1	X	418	C	2.0
21	S	44	ARG	2.0
8	F	98	LYS	2.0
21	S	53	ASP	2.0
14	L	39	TYR	2.0
14	L	54	ALA	2.0
6	D	73	SER	2.0
16	N	85	ARG	2.0
1	X	2731	G	2.0
2	Y	26	G	2.0

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
32	MG	X	2901	1/1	0.87	0.49	49.95	30,30,30,30	0
32	MG	X	2982	1/1	0.96	0.48	25.83	51,51,51,51	0
32	MG	X	2979	1/1	0.92	0.60	24.57	50,50,50,50	0
32	MG	X	2886	1/1	0.98	0.37	20.14	16,16,16,16	0
32	MG	X	2943	1/1	0.94	0.52	17.34	29,29,29,29	0
32	MG	X	2914	1/1	0.93	0.61	15.29	60,60,60,60	0
32	MG	X	2896	1/1	0.98	0.41	14.14	28,28,28,28	0
32	MG	X	2961	1/1	0.92	0.36	12.89	61,61,61,61	0
32	MG	X	2933	1/1	0.96	0.50	11.53	59,59,59,59	0
33	NA	X	3033	1/1	0.97	0.44	11.52	38,38,38,38	0
32	MG	X	2904	1/1	0.98	0.49	11.22	39,39,39,39	0
32	MG	X	2915	1/1	0.97	0.55	10.46	47,47,47,47	0
32	MG	X	3004	1/1	0.90	0.39	10.42	71,71,71,71	0
32	MG	X	2957	1/1	0.94	0.40	9.73	35,35,35,35	0
32	MG	X	3016	1/1	0.97	0.35	8.97	39,39,39,39	0
34	K	M	167	1/1	0.97	0.38	8.83	44,44,44,44	0
32	MG	X	2898	1/1	0.99	0.38	8.46	8,8,8,8	0
33	NA	X	3045	1/1	0.98	0.45	8.17	31,31,31,31	0
32	MG	X	2941	1/1	0.95	0.42	8.06	46,46,46,46	0
32	MG	X	2885	1/1	0.95	0.49	7.86	21,21,21,21	0
32	MG	X	2964	1/1	0.96	0.44	7.54	50,50,50,50	0
32	MG	X	2965	1/1	0.97	0.31	7.42	42,42,42,42	0
33	NA	Y	126	1/1	0.80	0.40	7.27	85,85,85,85	0
32	MG	X	3011	1/1	0.97	0.54	7.11	45,45,45,45	0
32	MG	X	2995	1/1	0.94	0.63	7.11	42,42,42,42	0
33	NA	X	3042	1/1	0.95	0.49	6.20	45,45,45,45	0
34	K	X	3077	1/1	0.93	0.45	6.09	80,80,80,80	0
32	MG	X	2960	1/1	0.95	0.36	6.07	33,33,33,33	0
32	MG	X	2911	1/1	0.93	0.47	6.01	83,83,83,83	0
32	MG	X	2897	1/1	0.96	0.36	5.96	37,37,37,37	0
32	MG	X	2978	1/1	0.89	0.42	5.80	48,48,48,48	0
32	MG	X	2973	1/1	0.98	0.22	5.34	30,30,30,30	0
32	MG	X	2890	1/1	0.99	0.24	4.64	38,38,38,38	0
32	MG	X	3020	1/1	0.97	0.35	4.35	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2888	1/1	0.98	0.46	4.21	36,36,36,36	0
32	MG	X	2944	1/1	0.96	0.36	3.93	59,59,59,59	0
32	MG	X	3024	1/1	0.95	0.28	3.83	68,68,68,68	0
34	K	X	3070	1/1	0.91	0.52	3.76	72,72,72,72	0
32	MG	X	2974	1/1	0.96	0.18	3.02	37,37,37,37	0
32	MG	X	2967	1/1	0.98	0.31	2.87	50,50,50,50	0
32	MG	X	2920	1/1	0.96	0.37	2.75	31,31,31,31	0
32	MG	X	2894	1/1	0.91	0.24	2.73	33,33,33,33	0
32	MG	X	3002	1/1	0.95	0.22	2.71	34,34,34,34	0
33	NA	X	3058	1/1	0.89	0.36	2.64	69,69,69,69	0
32	MG	X	2953	1/1	0.94	0.21	1.58	59,59,59,59	0
31	LMA	X	2881	58/58	0.90	0.27	1.56	22,83,114,128	0
32	MG	X	3007	1/1	0.93	0.20	1.53	37,37,37,37	0
32	MG	X	2926	1/1	0.97	0.17	1.51	35,35,35,35	0
32	MG	X	3025	1/1	0.98	0.19	0.92	62,62,62,62	0
32	MG	X	2991	1/1	0.98	0.38	0.67	51,51,51,51	0
32	MG	X	2917	1/1	0.99	0.27	0.60	52,52,52,52	0
32	MG	X	2976	1/1	0.96	0.24	0.48	32,32,32,32	0
32	MG	X	3009	1/1	0.97	0.25	0.37	53,53,53,53	0
32	MG	C	206	1/1	0.98	0.20	0.14	37,37,37,37	0
32	MG	X	2922	1/1	0.95	0.18	-0.39	19,19,19,19	0
33	NA	K	117	1/1	0.90	0.16	-0.39	28,28,28,28	0
32	MG	X	3028	1/1	0.93	0.19	-0.82	65,65,65,65	0
32	MG	X	2996	1/1	0.98	0.08	-3.49	42,42,42,42	0
32	MG	X	2994	1/1	0.96	0.10	-3.56	41,41,41,41	0
32	MG	X	2932	1/1	0.99	0.36	-	31,31,31,31	0
32	MG	X	2945	1/1	0.93	0.47	-	32,32,32,32	0
33	NA	X	3052	1/1	0.92	0.25	-	43,43,43,43	0
32	MG	X	2987	1/1	0.94	0.46	-	38,38,38,38	0
32	MG	X	2948	1/1	0.97	0.43	-	40,40,40,40	0
32	MG	X	2906	1/1	0.97	0.39	-	43,43,43,43	0
33	NA	X	3035	1/1	0.94	0.29	-	50,50,50,50	0
32	MG	X	2910	1/1	0.92	0.30	-	47,47,47,47	0
33	NA	X	3067	1/1	0.91	0.29	-	47,47,47,47	0
32	MG	X	2999	1/1	0.94	0.18	-	49,49,49,49	0
32	MG	X	2899	1/1	0.97	0.30	-	57,57,57,57	0
33	NA	X	3062	1/1	0.93	0.14	-	47,47,47,47	0
32	MG	X	3012	1/1	0.96	0.57	-	45,45,45,45	0
33	NA	X	3068	1/1	0.98	0.30	-	64,64,64,64	0
34	K	X	3081	1/1	0.97	0.36	-	91,91,91,91	0
32	MG	X	2975	1/1	0.86	0.23	-	73,73,73,73	0
32	MG	X	2986	1/1	0.98	0.26	-	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2988	1/1	0.91	0.29	-	63,63,63,63	0
32	MG	X	2950	1/1	0.93	0.25	-	49,49,49,49	0
34	K	X	3073	1/1	0.97	0.40	-	57,57,57,57	0
32	MG	X	2908	1/1	0.94	0.31	-	55,55,55,55	0
33	NA	X	3046	1/1	0.89	0.59	-	80,80,80,80	0
33	NA	X	3039	1/1	0.93	0.28	-	51,51,51,51	0
32	MG	X	2972	1/1	0.94	0.21	-	65,65,65,65	0
32	MG	X	2977	1/1	0.96	0.32	-	51,51,51,51	0
32	MG	X	2936	1/1	0.95	0.27	-	26,26,26,26	0
33	NA	X	3041	1/1	0.96	0.31	-	37,37,37,37	0
32	MG	X	2952	1/1	0.86	0.44	-	57,57,57,57	0
33	NA	X	3060	1/1	0.98	0.70	-	73,73,73,73	0
32	MG	X	2882	1/1	0.98	0.33	-	5,5,5,5	0
32	MG	X	3022	1/1	0.92	0.14	-	43,43,43,43	0
32	MG	X	2900	1/1	0.95	0.41	-	37,37,37,37	0
34	K	X	3076	1/1	0.76	0.37	-	100,100,100,100	0
33	NA	X	3044	1/1	0.94	0.09	-	48,48,48,48	0
33	NA	X	3053	1/1	0.83	0.53	-	62,62,62,62	0
34	K	X	3075	1/1	0.95	0.22	-	68,68,68,68	0
33	NA	X	3049	1/1	0.93	0.49	-	68,68,68,68	0
34	K	X	3082	1/1	0.94	0.29	-	98,98,98,98	0
32	MG	X	2971	1/1	0.96	0.24	-	44,44,44,44	0
33	NA	X	3055	1/1	0.95	0.28	-	70,70,70,70	0
32	MG	X	2937	1/1	0.88	0.24	-	46,46,46,46	0
32	MG	X	2940	1/1	0.92	0.25	-	34,34,34,34	0
32	MG	X	2951	1/1	0.99	0.37	-	28,28,28,28	0
32	MG	X	2918	1/1	0.90	0.22	-	60,60,60,60	0
34	K	X	3083	1/1	0.96	0.28	-	103,103,103,103	0
32	MG	X	2992	1/1	0.84	0.23	-	44,44,44,44	0
32	MG	X	3023	1/1	0.85	0.32	-	73,73,73,73	0
32	MG	X	2998	1/1	0.96	0.38	-	29,29,29,29	0
32	MG	X	3021	1/1	0.96	0.54	-	70,70,70,70	0
32	MG	X	2925	1/1	0.93	0.35	-	72,72,72,72	0
32	MG	X	3003	1/1	0.95	0.48	-	55,55,55,55	0
33	NA	X	3066	1/1	0.92	0.41	-	48,48,48,48	0
32	MG	X	2887	1/1	0.90	0.31	-	37,37,37,37	0
32	MG	X	2963	1/1	0.94	0.27	-	69,69,69,69	0
32	MG	X	3018	1/1	0.92	0.41	-	59,59,59,59	0
34	K	X	3074	1/1	0.75	0.67	-	171,171,171,171	0
33	NA	X	3043	1/1	0.97	0.31	-	48,48,48,48	0
33	NA	X	3064	1/1	0.72	0.27	-	58,58,58,58	0
33	NA	X	3040	1/1	0.98	0.41	-	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2980	1/1	0.99	0.12	-	42,42,42,42	0
32	MG	X	2927	1/1	0.97	0.21	-	55,55,55,55	0
32	MG	X	2984	1/1	0.95	0.29	-	62,62,62,62	0
32	MG	X	2895	1/1	0.94	0.35	-	19,19,19,19	0
34	K	X	3072	1/1	0.95	0.21	-	104,104,104,104	0
34	K	X	3078	1/1	0.95	0.32	-	91,91,91,91	0
32	MG	X	2970	1/1	0.88	0.21	-	51,51,51,51	0
33	NA	X	3057	1/1	0.91	0.90	-	75,75,75,75	0
33	NA	X	3063	1/1	0.92	0.38	-	50,50,50,50	0
32	MG	X	2939	1/1	0.83	0.56	-	79,79,79,79	0
33	NA	X	3061	1/1	0.81	0.55	-	62,62,62,62	0
32	MG	X	3014	1/1	0.91	0.36	-	54,54,54,54	0
34	K	X	3071	1/1	0.96	0.23	-	86,86,86,86	0
32	MG	X	2968	1/1	0.93	0.26	-	56,56,56,56	0
32	MG	X	2883	1/1	0.92	0.33	-	34,34,34,34	0
32	MG	X	2969	1/1	0.94	0.24	-	31,31,31,31	0
32	MG	X	3013	1/1	0.97	0.11	-	60,60,60,60	0
32	MG	X	2989	1/1	0.95	0.39	-	83,83,83,83	0
32	MG	X	2924	1/1	0.98	0.31	-	26,26,26,26	0
32	MG	X	2966	1/1	0.87	0.29	-	60,60,60,60	0
34	K	X	3080	1/1	0.96	0.49	-	94,94,94,94	0
32	MG	X	2903	1/1	0.86	0.45	-	51,51,51,51	0
32	MG	X	2938	1/1	0.98	0.40	-	34,34,34,34	0
32	MG	X	2997	1/1	0.88	0.20	-	50,50,50,50	0
32	MG	X	3027	1/1	0.93	0.17	-	51,51,51,51	0
32	MG	X	3026	1/1	0.95	0.33	-	37,37,37,37	0
32	MG	X	2923	1/1	0.92	0.53	-	66,66,66,66	0
32	MG	X	2993	1/1	0.96	0.36	-	51,51,51,51	0
32	MG	X	2930	1/1	0.93	0.53	-	51,51,51,51	0
32	MG	X	2892	1/1	0.96	0.23	-	30,30,30,30	0
32	MG	X	2958	1/1	0.97	0.10	-	29,29,29,29	0
32	MG	X	2913	1/1	0.95	0.43	-	56,56,56,56	0
32	MG	X	3017	1/1	0.97	0.51	-	70,70,70,70	0
32	MG	X	2947	1/1	0.96	0.39	-	47,47,47,47	0
32	MG	X	3019	1/1	0.91	0.41	-	74,74,74,74	0
33	NA	X	3034	1/1	0.96	0.30	-	50,50,50,50	0
32	MG	X	3010	1/1	0.92	0.42	-	73,73,73,73	0
32	MG	X	2907	1/1	0.92	0.48	-	66,66,66,66	0
32	MG	X	2931	1/1	0.83	0.59	-	48,48,48,48	0
32	MG	X	3008	1/1	0.94	0.25	-	45,45,45,45	0
32	MG	X	3006	1/1	0.98	0.07	-	59,59,59,59	0
32	MG	X	2949	1/1	0.93	0.40	-	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
33	NA	X	3036	1/1	0.88	0.26	-	79,79,79,79	0
33	NA	Y	125	1/1	0.97	0.44	-	62,62,62,62	0
32	MG	X	3005	1/1	0.95	0.15	-	58,58,58,58	0
33	NA	X	3050	1/1	0.91	0.30	-	40,40,40,40	0
33	NA	A	277	1/1	0.83	0.43	-	72,72,72,72	0
32	MG	X	2928	1/1	0.89	0.40	-	41,41,41,41	0
32	MG	X	2905	1/1	0.97	0.37	-	57,57,57,57	0
33	NA	X	3069	1/1	0.84	0.94	-	74,74,74,74	0
32	MG	X	2934	1/1	0.91	0.20	-	62,62,62,62	0
32	MG	X	2889	1/1	0.97	0.26	-	26,26,26,26	0
33	NA	X	3037	1/1	0.83	0.26	-	53,53,53,53	0
32	MG	X	2891	1/1	0.78	0.20	-	56,56,56,56	0
33	NA	X	3048	1/1	0.95	0.26	-	71,71,71,71	0
32	MG	X	3000	1/1	0.90	0.25	-	65,65,65,65	0
32	MG	X	2919	1/1	0.96	0.35	-	61,61,61,61	0
33	NA	X	3065	1/1	0.96	0.38	-	58,58,58,58	0
32	MG	X	3001	1/1	0.97	0.46	-	84,84,84,84	0
32	MG	X	2912	1/1	0.95	0.34	-	24,24,24,24	0
32	MG	X	2954	1/1	0.97	0.31	-	31,31,31,31	0
33	NA	X	3051	1/1	0.96	0.24	-	43,43,43,43	0
32	MG	X	2981	1/1	0.97	0.47	-	65,65,65,65	0
32	MG	X	3031	1/1	0.98	0.15	-	48,48,48,48	0
32	MG	X	2893	1/1	0.95	0.48	-	25,25,25,25	0
32	MG	Y	124	1/1	0.96	0.11	-	40,40,40,40	0
33	NA	X	3056	1/1	0.93	0.70	-	76,76,76,76	0
32	MG	X	2956	1/1	0.95	0.66	-	71,71,71,71	0
33	NA	X	3047	1/1	0.94	0.59	-	75,75,75,75	0
32	MG	X	2884	1/1	0.97	0.54	-	38,38,38,38	0
34	K	X	3079	1/1	0.93	0.47	-	97,97,97,97	0
32	MG	X	2955	1/1	0.97	0.37	-	54,54,54,54	0
32	MG	X	2916	1/1	0.92	0.30	-	51,51,51,51	0
33	NA	X	3054	1/1	0.97	0.37	-	49,49,49,49	0
32	MG	X	2909	1/1	0.94	0.43	-	44,44,44,44	0
32	MG	X	2959	1/1	0.98	0.40	-	33,33,33,33	0
32	MG	X	2929	1/1	0.99	0.32	-	10,10,10,10	0
32	MG	X	2946	1/1	0.98	0.45	-	38,38,38,38	0
32	MG	X	2990	1/1	0.96	0.38	-	31,31,31,31	0
32	MG	X	3015	1/1	0.88	0.45	-	77,77,77,77	0
32	MG	X	3030	1/1	0.95	0.10	-	66,66,66,66	0
32	MG	X	2983	1/1	0.95	0.26	-	23,23,23,23	0
33	NA	X	3038	1/1	0.90	0.39	-	59,59,59,59	0
33	NA	Z	61	1/1	0.94	0.30	-	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2902	1/1	0.97	0.35	-	39,39,39,39	0
32	MG	X	2942	1/1	0.93	0.20	-	74,74,74,74	0
33	NA	X	3059	1/1	0.95	0.14	-	66,66,66,66	0
32	MG	I	157	1/1	0.88	0.35	-	50,50,50,50	0
32	MG	X	2935	1/1	0.94	0.31	-	55,55,55,55	0
32	MG	X	2985	1/1	0.92	0.17	-	50,50,50,50	0
32	MG	X	3032	1/1	0.93	0.38	-	74,74,74,74	0
32	MG	X	3029	1/1	0.94	0.41	-	63,63,63,63	0
32	MG	X	2962	1/1	0.96	0.13	-	70,70,70,70	0
32	MG	X	2921	1/1	0.94	0.23	-	52,52,52,52	0

6.5 Other polymers [i](#)

There are no such residues in this entry.