



Full wwPDB X-ray Structure Validation Report ⓘ

May 26, 2020 – 11:23 pm BST

PDB ID : 3PIP
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.; Kinashi, H.; Rozenberg, H.; Yonath, A.
Deposited on : 2010-11-07
Resolution : 3.45 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.11
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

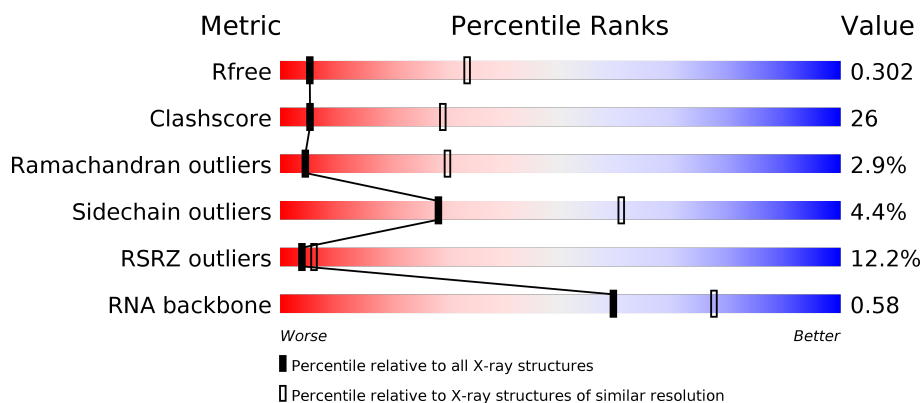
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.45 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}	130704	1291 (3.52-3.40)
Clashscore	141614	1372 (3.52-3.40)
Ramachandran outliers	138981	1337 (3.52-3.40)
Sidechain outliers	138945	1338 (3.52-3.40)
RSRZ outliers	127900	1205 (3.52-3.40)
RNA backbone	3102	1036 (3.96-2.96)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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>89%</div> <div> <div></div> <div>62%</div> <div>35%</div> </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	LMA	X	2882	-	-	X	-
33	MG	I	157	-	-	-	X
33	MG	X	2886	-	-	-	X
33	MG	X	2911	-	-	-	X
33	MG	X	2926	-	-	-	X
35	NA	X	2962	-	-	-	X

2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 83963 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	2644	Total	C	N	O	P	0	0	0
			56750	25314	10473	18320	2643			

- 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
			1394	889	244	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
			1005	616	203	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
			714	452	130	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
			537	334	110	93				

- 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			

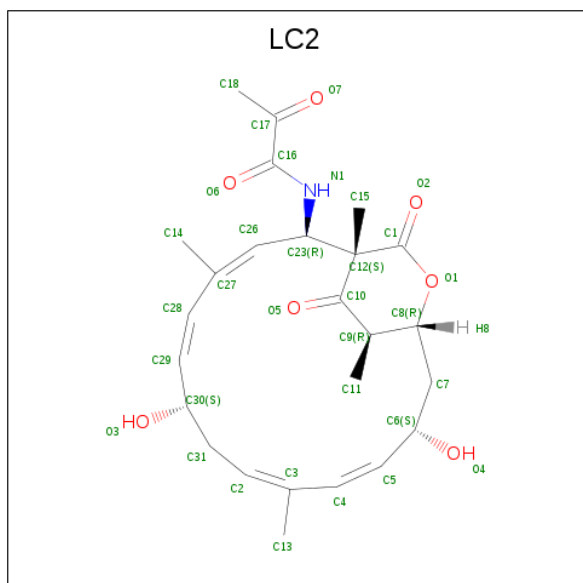
- Molecule 29 is a protein called 50S ribosomal protein L35.

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.

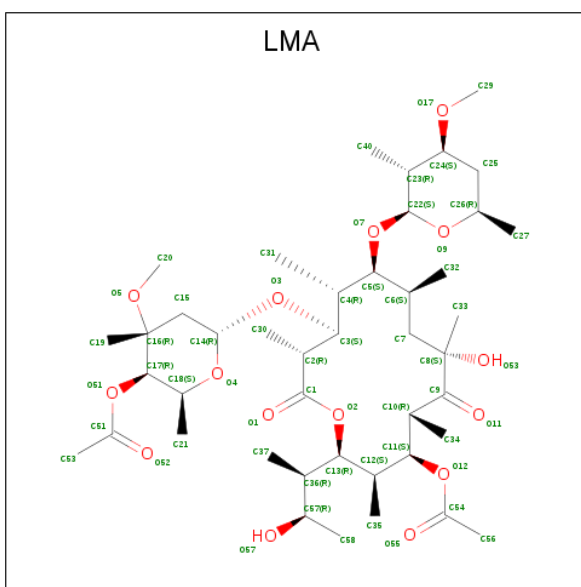
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	37	Total	C	N	O	S	0	0	0
			297	179	66	47	5			

- Molecule 31 is N-[(1S,2R,3E,5E,7S,9E,11E,13S,15R,19R)-7,13-dihydroxy-1,4,10,19-tetramethyl-17,18-dioxo-16-oxabicyclo[13.2.2]nonadeca-3,5,9,11-tetraen-2-yl]-2-oxopropanamide (three-letter code: LC2) (formula: C₂₅H₃₃NO₇).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
31	X	1	Total	C	N	O	0	0
			33	25	1	7		

- Molecule 32 is Lankamycin (three-letter code: LMA) (formula: C₄₃H₇₄O₁₅).



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

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	X	71	Total Mg 71 71	0	0
33	I	1	Total Mg 1 1	0	0
33	U	1	Total Mg 1 1	0	0

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	X	4	Total K 4 4	0	0

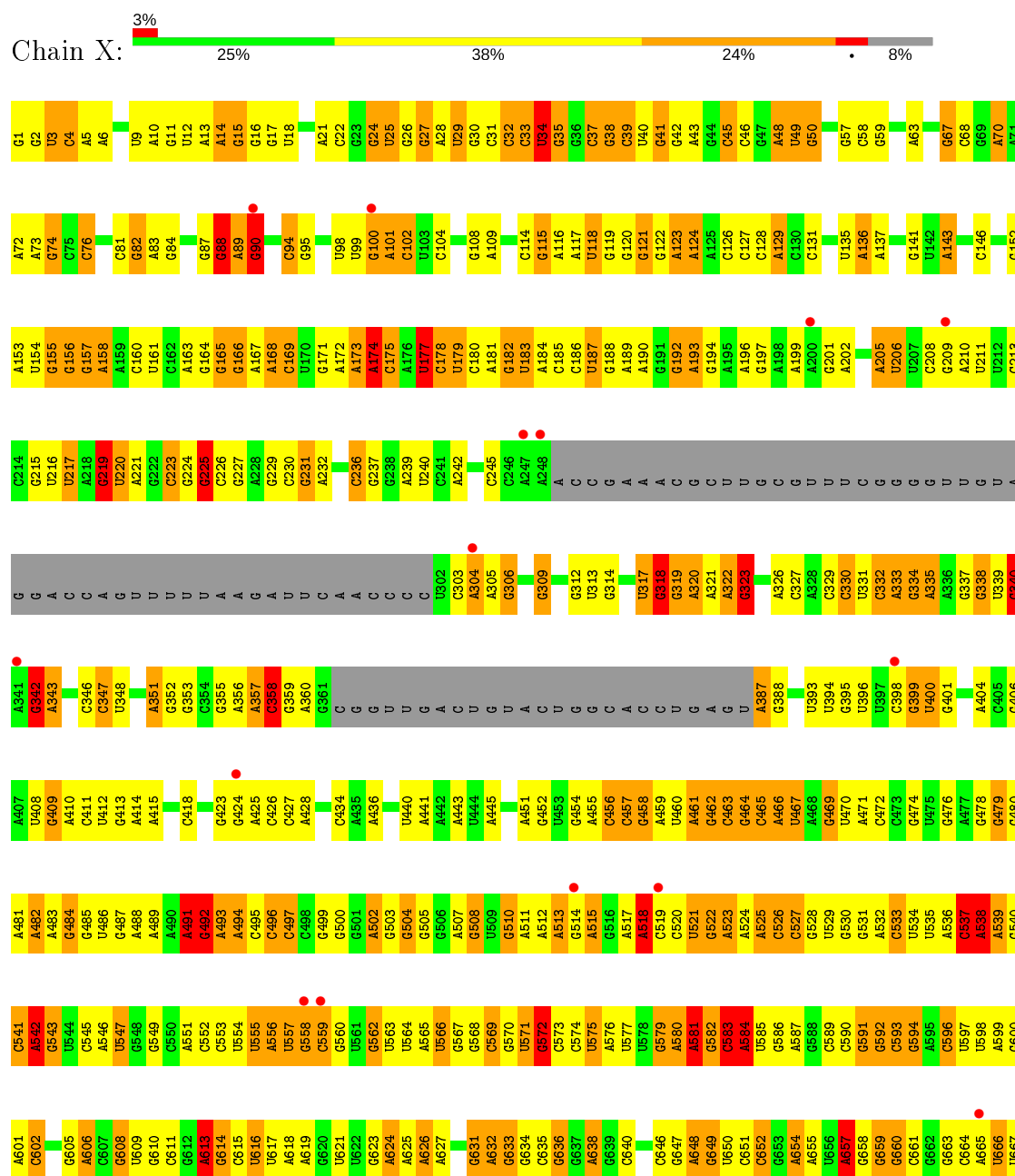
- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	X	5	Total Na 5 5	0	0

3 Residue-property plots

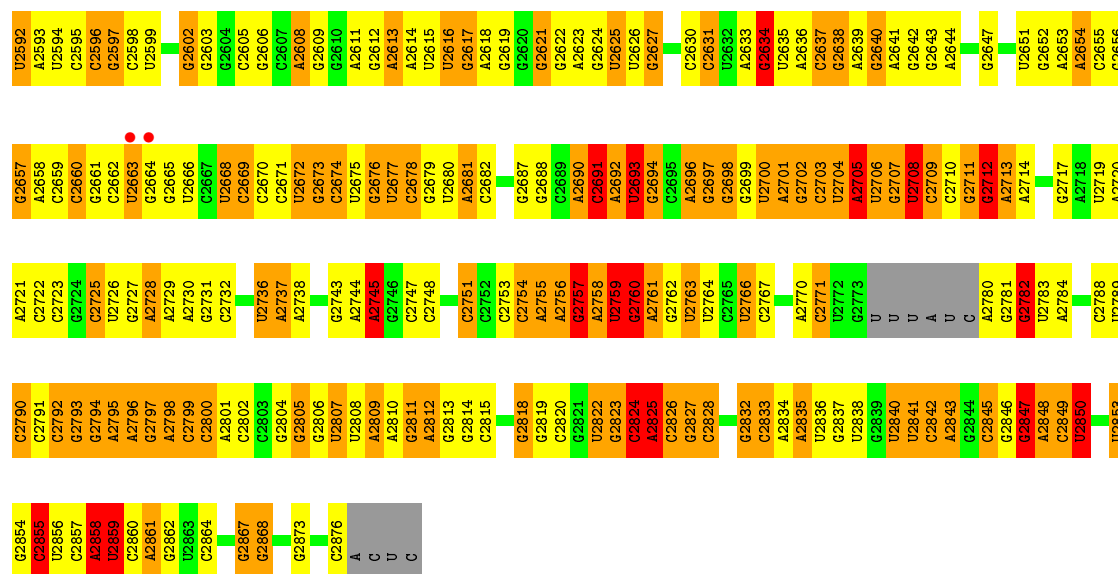
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are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

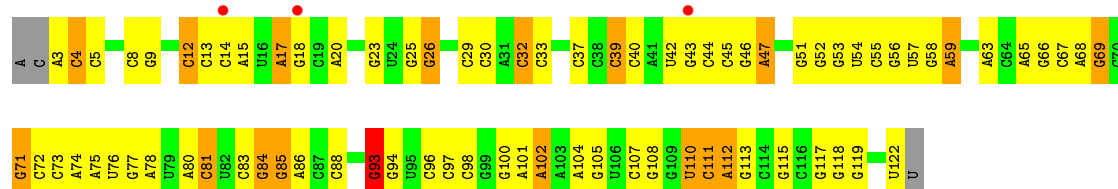


U1608	A1534	C1456	A1386	G	U1124	A1059	A992	G928	A862	A796	G734	A668
C1609	C1535	A1467	G1387	C	G1125	C1060	C993	G931	C863	A797	G735	G669
A1610	G1536	A1458	C1388	A	A1126	A1061	A994	G932	C864	G798	G736	U670
G1613	U1539	U1459	G	G1127	G1062	A995	A996	C993	C865	C799	C737	A671
C1614	C1540	C1460	A1391	G1128	C1063	C996	C997	G933	C869	U800	G738	C672
C1615	G1541	C1462	U1392	A1129	A1064	C997	C998	G934	C870	A801	G739	G673
C1616	G1542	A1463	G1394	U1130	A1065	C998	A999	C935	C871	A802	G740	U674
G1617	G1543	G1465	U1395	G1131	G1066	A999	A1001	A936	U871	G741	G741	
U1618	A1544	C1466	U1396	C1135	G1067	A1001	U1005	G937	C804	C803	G742	C679
A1619	G1545	U1467	G1398	U1136	A1068	G938	U1006	C937	G805	C804	G743	U680
G1620	G1546	U1468	C1399	A1137	G1069	C939	G940	U941	A806	G744	C744	A681
C1621	U1548	U1469	A1400	A1138	U1070	G940	U942	U943	A807	G745	G745	G682
G1622	C1549	U1470	G1401	U1141	U1071	U943	U944	A944	C808	G746	G746	A683
C1623	C1550	G1471	U1320	G1142	U1072	U944	A944	A944	C809	A747	A747	C684
A1624	U1551	C1472	G1330	U1143	G1073	U944	A944	A944	U810	U748	A748	U685
A1625	C1552	U1473	A1331	A1144	G1074	U944	A944	A944	G811	C750	G750	G687
G1626	G1553	U1474	G1332	U1145	U1075	U944	A944	A944	G812	G751	G751	A688
C1627	U1554	A1474	A1334	G1146	U1076	U944	A944	A944	A815	G752	G752	A689
G1628	G1559	U1475	U1342	U1147	U1077	U944	A944	A944	U816	U753	U753	A690
G1629	C1560	G1476	A1343	G1148	A1081	U944	A944	A944	A817	G754	G754	C691
A1630	A1561	C1477	C1344	U1149	A1082	U944	A944	A944	G818	C755	C755	C692
C1631	U1562	U1478	G1345	G1150	G1083	U944	A944	A944	C819	C756	C756	A693
G1632	G1563	G1479	A1346	U1151	U1084	U944	A944	A944	U820	U757	U757	G694
C1633	U1564	G1480	C1412	C1152	U1085	U944	A944	A944	A821	G758	G758	G695
A1634	U1565	U1481	U1413	U1153	U1086	U944	A944	A944	G822	C759	C759	U686
G1635	G1566	U1482	G1347	U1154	U1087	U944	A944	A944	U823	U760	U760	G697
U1636	U1567	G1483	U1348	U1155	A1088	U944	A944	A944	U824	G761	G761	A698
G1637	A1568	U1484	A1349	G1156	U1089	U944	A944	A944	C825	A762	A762	G699
U1638	U1569	U1485	U1350	U1157	U1090	U944	A944	A944	U826	A763	A763	C700
C1641	G1570	A1493	G1351	U1158	U1091	U944	A944	A944	C827	A764	A764	U701
G1642	U1571	U1494	U1352	U1159	U1092	U944	A944	A944	C828	C765	C765	A702
A1643	G1572	G1495	A1353	U1160	U1093	U944	A944	A944	C829	A766	A766	A703
G1644	U1573	G1496	U1354	U1161	U1094	U944	A944	A944	C830	G767	G767	C704
U1645	A1574	C1497	A1355	U1162	U1095	U944	A944	A944	C831	U768	U768	C705
G1646	C1575	U1498	U1356	U1163	U1096	U944	A944	A944	A832	C769	C769	A706
U1647	G1576	U1499	G1357	U1164	U1097	U944	A944	A944	A833	U770	U770	U707
C1648	U1577	A1500	U1358	U1165	U1098	U944	A944	A944	A834	C771	C771	G708
U1649	G1578	C1501	G1359	U1166	U1099	U944	A944	A944	U835	G772	G772	A709
A1650	U1579	U1505	U1360	U1167	U1100	U944	A944	A944	G836	G773	G773	
U1651	C1580	G1506	U1361	U1168	U1101	U944	A944	A944	U837	A774	A774	A712
G1652	A1581	U1507	U1362	U1169	U1102	U944	A944	A944	U838	G775	G775	G713
C1653	U1582	A1508	U1363	U1170	U1103	U944	A944	A944	U839	G776	G776	G714
A1654	G1583	G1509	U1364	U1171	U1104	U944	A944	A944	U840	A777	A777	U715
C1655	U1584	U1510	U1365	U1172	U1105	U944	A944	A944	A841	G778	G778	U716
U1656	A1585	C1511	U1366	U1173	U1106	U944	A944	A944	G842	U779	U779	G717
A1657	U1586	U1512	U1367	U1174	U1107	U944	A944	A944	U843	A780	A780	A718
G1658	U1587	U1513	U1368	U1175	U1108	U944	A944	A944	G844	A781	A781	A719
U1659	C1589	U1514	U1369	U1176	U1109	U944	A944	A944	U845	U782	U782	A720
G1660	U1590	U1515	U1370	U1177	U1110	U944	A944	A944	U846	U783	U783	
C1661	C1591	U1516	U1371	U1178	U1111	U944	A944	A944	G849	U786	U786	C724
G1662	U1592	U1517	U1372	U1179	U1112	U944	A944	A944	C850	A787	A787	C725
A1663	U1593	U1518	U1373	U1180	U1113	U944	A944	A944	C851	U788	U788	G
C1664	U1601	U1519	U1374	U1181	U1114	U944	A944	A944	C852	U789	U789	U
G1665	G1602	U1520	U1375	U1182	U1115	U944	A944	A944	C853	U790	U790	G
U1666	A1603	U1521	U1376	U1183	U1116	U944	A944	A944	C854	A791	A791	A
A1667	U1604	U1522	U1377	U1184	U1117	U944	A944	A944	C855	U792	U792	C
G1668	C1605	U1523	U1378	U1185	U1118	U944	A944	A944	C856	U793	U793	A
A1669	U1606	U1524	U1379	U1186	U1119	U944	A944	A944	C857	U794	U794	G732
												G733

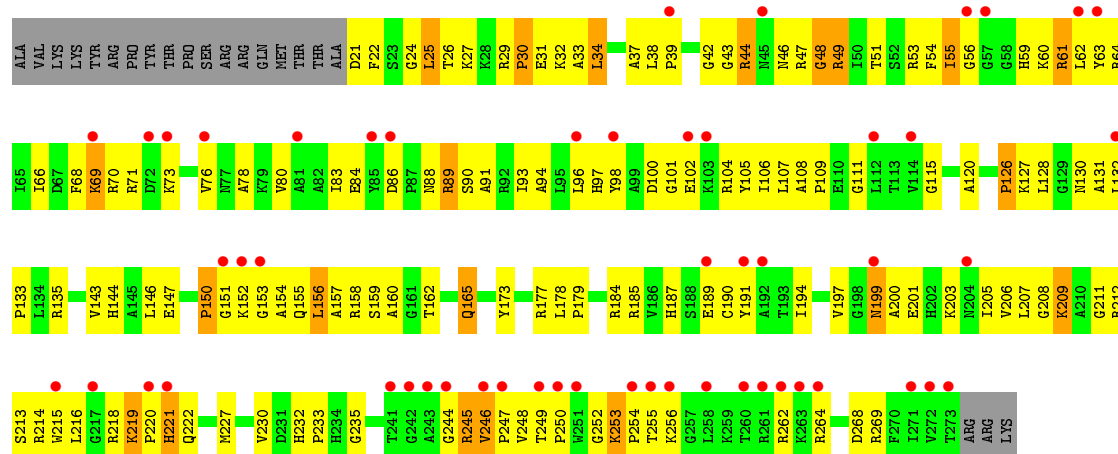
U2531	G2536	U2471	G2407	G2336	G2260	U2192	U	U2059	A1997	G1937	U1870	A1796	U1733	G1670
G2532	A2337	U2472	G2408	A2337	G2261	C2193	U	A2060	A1998	U1938	G1871	C1797	C1734	A1671
U2533	G2338	G2473	A2409	G2338	G2262	C2194	U	G	U1999	U1939	G1874	G1798	C1735	A1672
U2534	G2474	G2474	U2410	A2339	C2263	C2195	U	A2063	U2000	C1940	G1874	G1799	C1736	G1673
G2535	G2475	C2475	A2411	G2340	G2264	U2196	G	U2064	G2001	C1941	G1879	A1800	C1737	C1674
G2536	A2476	A2476	A2412	G2341	A2265	U2197	G	A2065	G2002	G1942	G1879	C1801	U1738	C1675
G2537	G2477	G2477	U2413	U2342	A2266	U2198	G	G2066	A2003	A1943	G1882	A1802	G1739	U1676
G2538	G2478	G2478	A2414	G2343	A2267	C2199	G	U2067	U2004	C1944	G1882	A1803	G1740	G1677
G2539	U2479	U2479	G2415	G2344	G2268	G2200	U	C2068	U2005	C1945	G1883	U1804	G1741	G1678
A2540	G2480	G2480	G2416	A2345	G2269	G2201	C	G2069	G2006	U1946	A1884	G1805	G1742	U1679
A2543	G2481	G2481	C2419	G2346	U2270	G2202	G	G2071	G2007	G1947	C1885	G1806	C1743	U1680
A2544	A2482	A2482	G2420	G2347	G2271	G2203	G	C2072	C2008	C1948	G1888	A1807	G1744	A1681
A2545	U2483	U2483	C2421	A2348	G2272	A2204	U	A2073	U2009	A1949	G	C1808	C1745	A1682
G2546	G2484	G2484	G2422	G2349	C2273	C2205	G	U2074	G2010	C1950	G	G	A1746	G1683
G2547	C2485	C2485	G2423	G2350	G2274	C2206	A	U2075	A2011	G1951	C	U1810	G1747	G1684
G2548	C2486	C2486	G2424	G2351	U2275	G2207	G	G	A2012	A1952	C	U1811	U1748	A1685
G2549	G2487	G2487	G2425	A2352	C2276	U2208	G	C2082	A2013	A1953	C	A1812	G1749	A1686
G2550	G2488	G2488	G2426	G2353	A2277	G2209	G	G2083	A2014	A1954	C	A1813	A1750	C1687
G2551	C2489	C2489	A2427	G2354	A2278	C2210	C	G2084	G2015	G1955	U	G1814	A1751	U1688
G2552	U2490	U2490	U2428	A2355	A2279	U2211	A	G2085	A2016	G1956	A	G1815	U1752	U1689
G2553	C2491	C2491	A2429	A2356	G2282	G2216	A	U2086	U2017	C1957	A	G1816	C1753	U1690
G2554	G2492	G2492	A2430	A2357	G2283	G2217	C	U	G2018	U1958	C	G1817	G1754	C1692
G2555	U2493	U2493	C2431	G2358	G2284	G2218	G	U	C2019	G1959	U	G1818	G1755	G1693
G2556	C2494	C2494	A2432	G2359	U2285	U2219	U	C	G2020	A1960	A	U1819	C1756	A1693
G2557	G2495	G2495	G2433	G2360	U2286	G2219	U	U	G2021	A1961	U	G1820	C1757	A1694
G2558	A2497	A2497	G2434	C2361	G2287	A2220	G	C	C2022	C1962	A	A1821	C1758	U1695
U2559	U2498	U2498	G2435	U2362	A2288	G2221	A	U	C2023	G1963	C	G1822	C1759	C1696
G2560	C2499	C2499	U2436	U2363	A2289	G2222	A	G	U2024	A1964	C	G1823	U1760	U1705
G2561	G2500	G2500	A2437	G2364	A2290	U2223	A	U	A2025	U1965	G	G1824	C1761	C1698
G2562	U2501	U2501	U2438	G2365	U2291	U2224	U	C	C2026	G1966	G	C1825	C1762	A1699
G2563	G2502	G2502	U2439	G2366	C2292	G2225	A	U	U2030	U1967	U	G	C1763	C1700
U2564	G2503	G2503	C2440	C2367	G2293	A2226	C	A	A2031	G1968	C	C1828	A1764	C1701
C2565	G2504	G2504	U2441	G2373	U2294	G2227	C	G	U2032	G1969	C	C1829	C1765	C1702
A2566	G2505	G2505	C2442	G2375	C2295	G2228	A	G	C2033	G1970	U1909	G1830	U1766	C1703
G2567	C2506	C2506	G2443	G2376	G2298	G2229	C	A	A2034	G1971	A1910	G1831	G1767	G1704
G2568	U2507	U2507	U2444	U2377	U2299	G2230	C	U	G2035	G1972	A1911	G	U1768	U1705
G2569	G2508	G2508	G2445	G2378	A2299	U2231	C	A	A2036	C1973	U1912	C1835	U1769	A1706
G2570	A2509	A2509	C2446	G2379	G2300	G2233	U	G	G2037	U1974	G1913	C1836	U1770	A1707
G2571	U2510	U2510	A2447	U2380	A2301	G2234	G	G	C2038	G1975	U1914	G1837	U1771	C1708
U2572	G2511	G2511	G2448	C2382	G2302	C2237	A	U	C2039	U1976	A1915	G1838	C1772	U1709
G2573	A2512	A2512	A2450	C2383	C2303	G2238	G	G	A2040	C1977	G1916	A1839	C1773	C1710
G2574	G2513	G2513	G2451	G	U2311	C2239	A	G	A2041	U1978	G1917	A1840	A1774	U1711
U2575	G2514	G2514	U2452	G2386	A2312	C2240	A	A	C2042	C1979	A1918	G1841	A1775	G1712
G2576	G2515	G2515	C2453	G	C2313	U2241	C2170	G	A2043	A1980	A1919	U1842	A1776	G1713
G2577	U2516	U2516	G2392	G2386	A2314	C2242	U2171	C	G2044	C1982	U1921	U1843	A1777	A1714
G2578	G2517	G2517	G2393	G2394	A2315	C2243	U2172	C	A2045	G1983	U1922	C1844	U1778	A1715
G2579	C2518	C2518	U2456	G2395	G2316	G2244	G2173	U	C2046	A1984	U1923	G	C1779	G1716
C2580	U2519	U2519	A2457	C2396	G2317	A2245	G2174	G	C2047	G1985	C1924	G1847	A1780	A1717
A2581	A2520	A2520	U2458	G2397	U2323	A2246	G	C	C2048	G1986	G	A1851	C1781	A1718
G2582	A2521	A2521	C2459	U2397	G2324	A2247	U2180	G	C2049	G1987	U1927	G1852	G1782	G1719
G2583	G2522	G2522	G2462	U2398	A2325	G2247	A2181	A	G2050	A1988	G1928	C1853	G1783	G1720
U2584	G2523	G2523	C2463	C2399	C2326	U2251	C	A	U2051	C1989	U1929	G1853	U1787	G1721
G2585	G2524	G2524	G2464	G2400	U2327	A2252	C2184	A	G2052	U1990	C1930	U1863	C1788	U1722
G2586	U2525	U2525	U2465	A2401	G2328	A2253	U2185	C	G2053	C1991	G1931	G1864	U1789	C1724
G2587	U2526	U2526	G2466	U2402	C2329	G2256	G	U	A2054	G1992	G1932	C1865	G1790	C1725
U2588	G2527	G2527	A2467	C2403	G2330	A2257	A2186	G	G2055	G1993	G1933	G1866	C1791	G1726
G2589	G2528	G2528	U2468	A2404	A2331	G2259	A2189	C	C2056	U1994	U1934	A1867	C1792	G
U2590	G2529	G2529	G2468	A2405	G	G2260	A2190	C	U2057	G1995	A1935	A1868	A1793	G
C2591	G2530	G2530	G	C2406	U2335	G2269	A2191	C	U2058	A1996	A1936	A1869	G	G



• Molecule 2: 5S ribosomal RNA

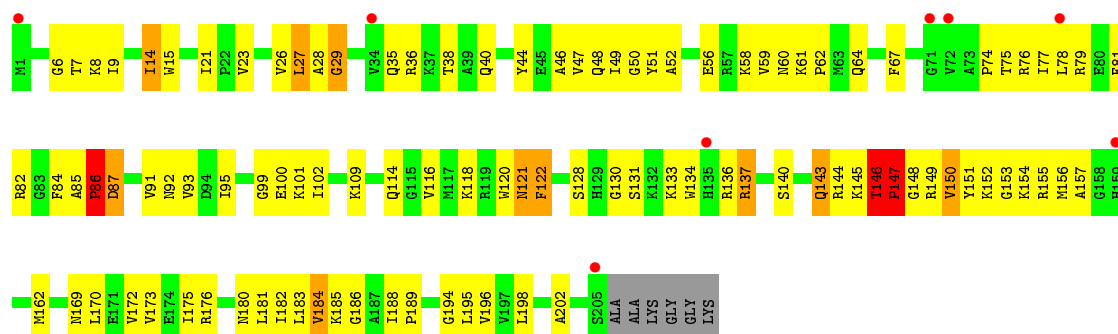


• Molecule 3: 50S ribosomal protein L2

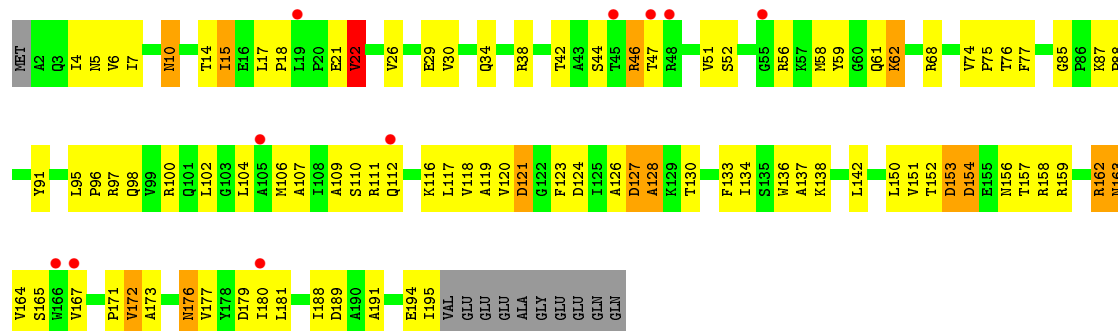


• Molecule 4: 50S ribosomal protein L3

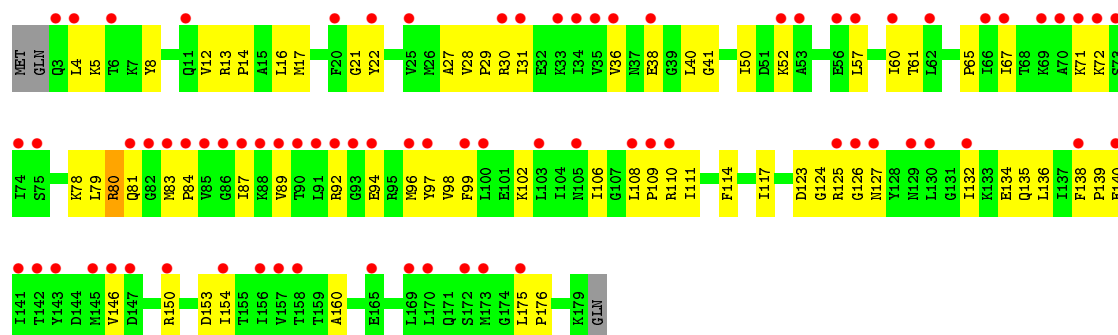
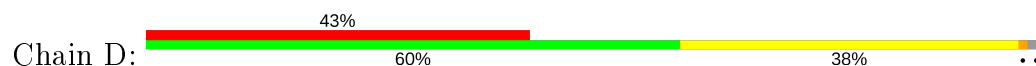




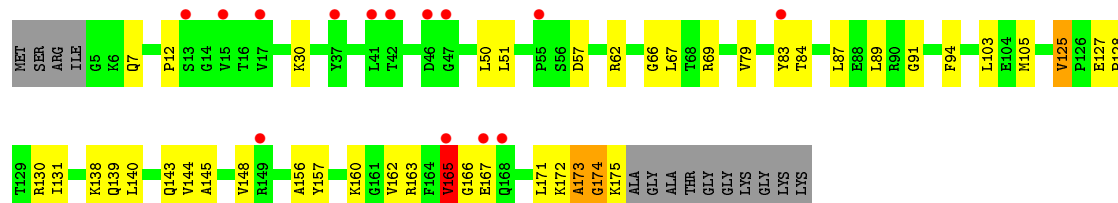
• Molecule 5: 50S ribosomal protein L4



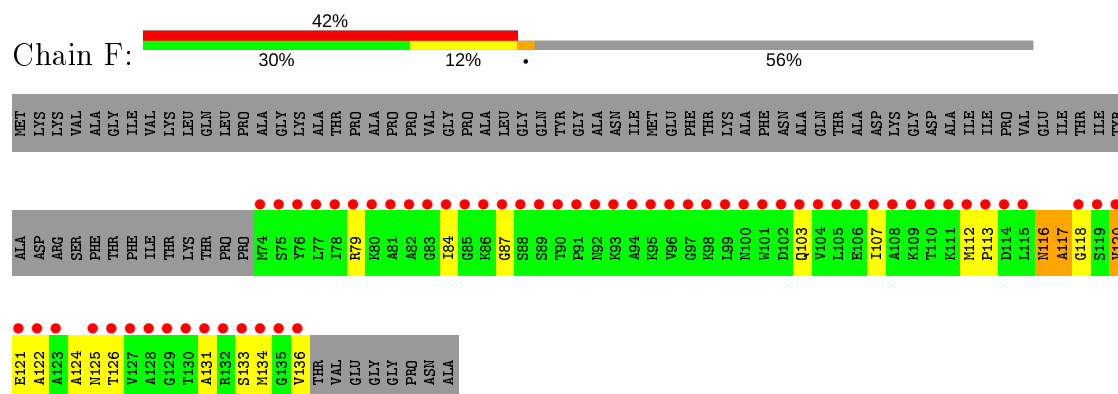
• Molecule 6: 50S ribosomal protein L5



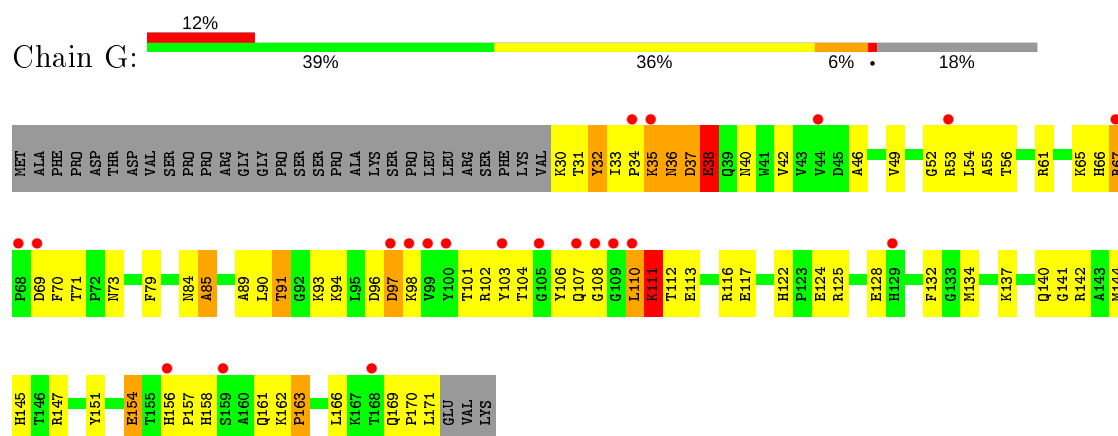
• Molecule 7: 50S ribosomal protein L6



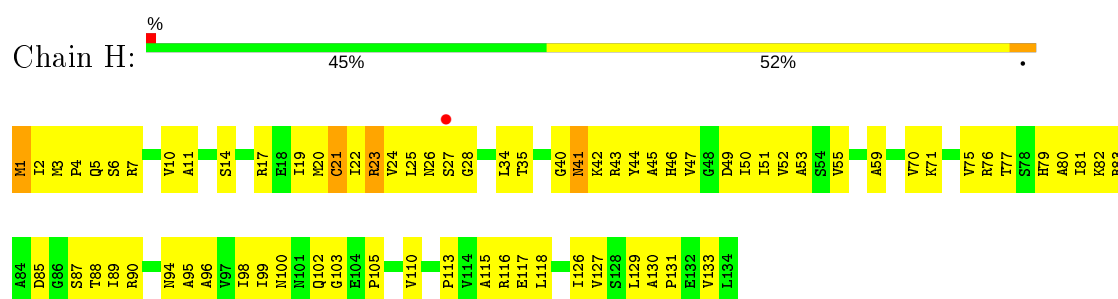
- Molecule 8: 50S ribosomal protein L11



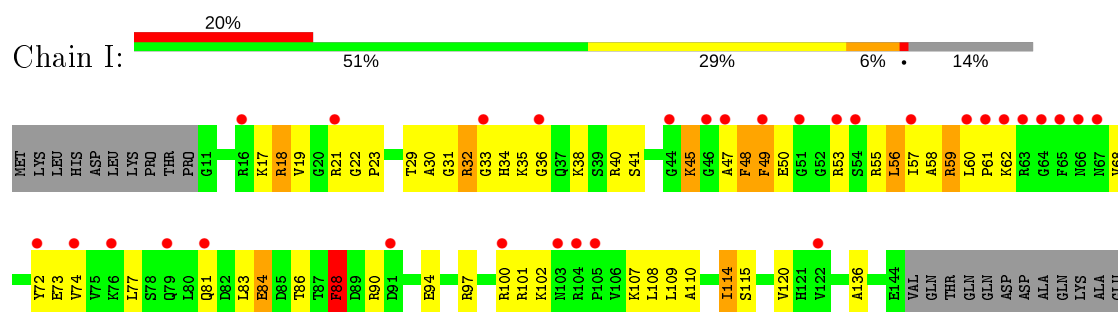
- Molecule 9: 50S ribosomal protein L13



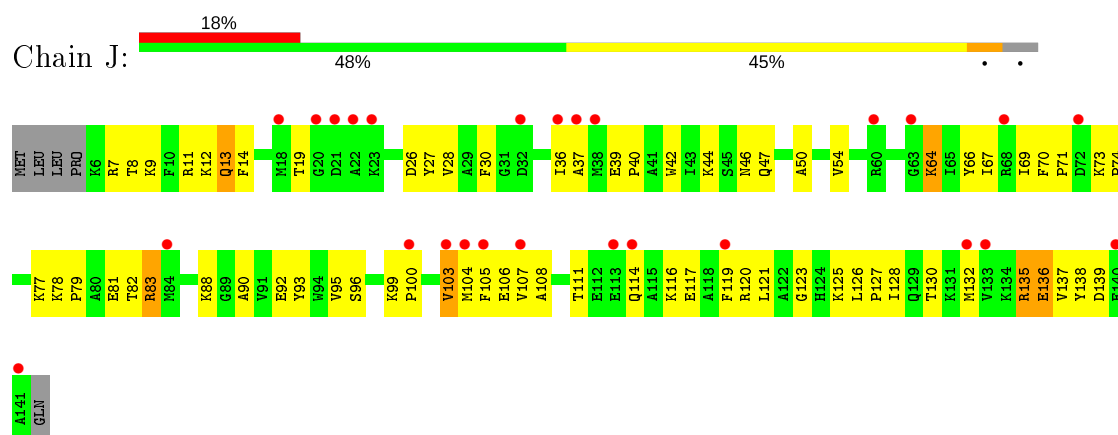
- Molecule 10: 50S ribosomal protein L14



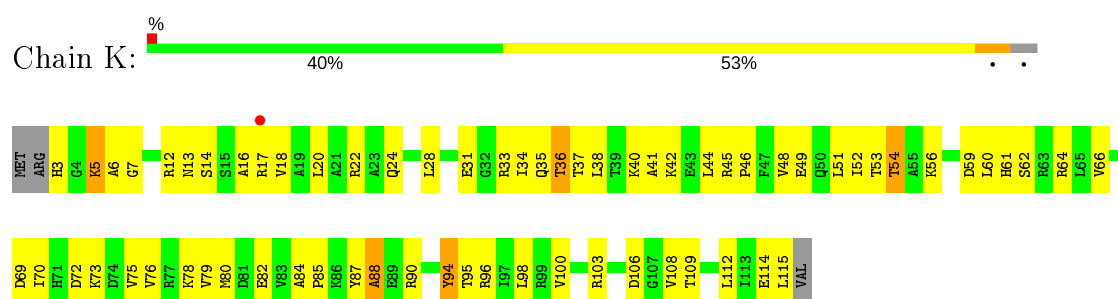
- Molecule 11: 50S ribosomal protein L15



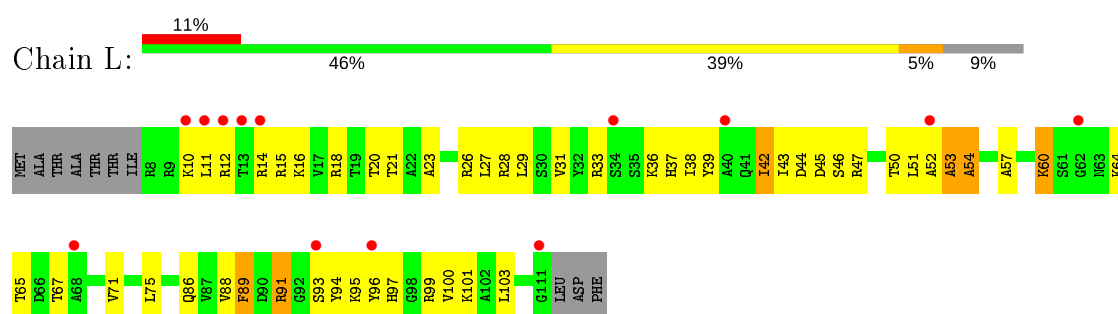
- Molecule 12: 50S ribosomal protein L16



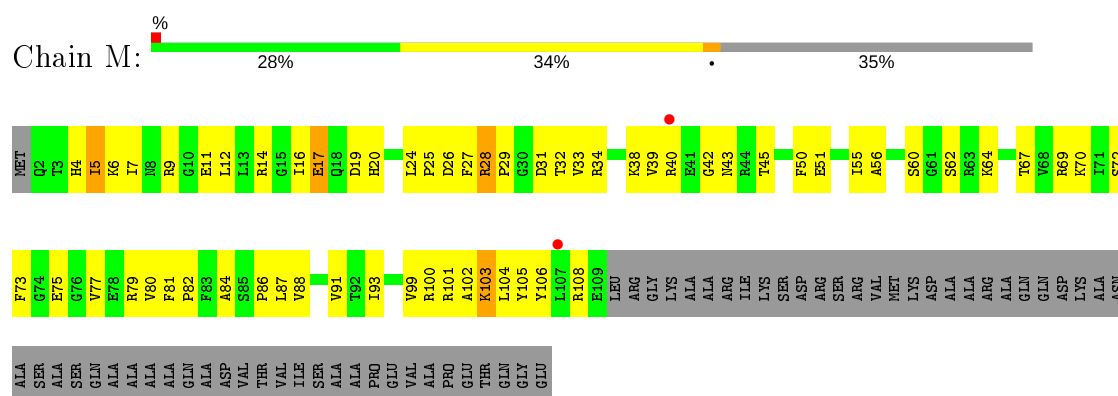
- Molecule 13: 50S ribosomal protein L17



- Molecule 14: 50S ribosomal protein L18



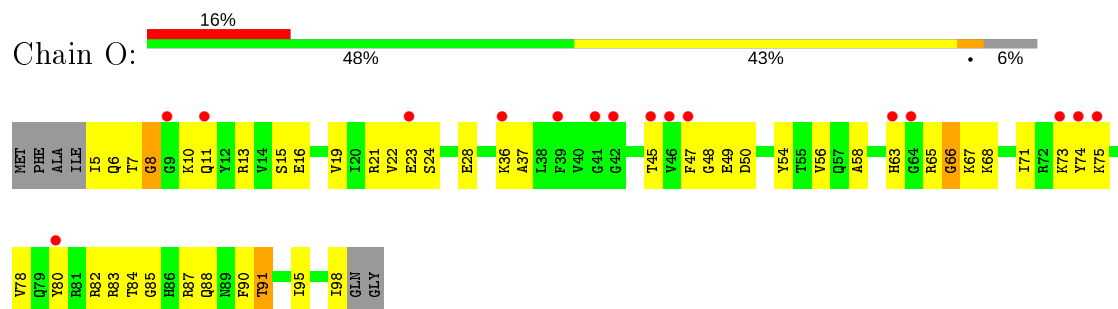
- Molecule 15: 50S ribosomal protein L19



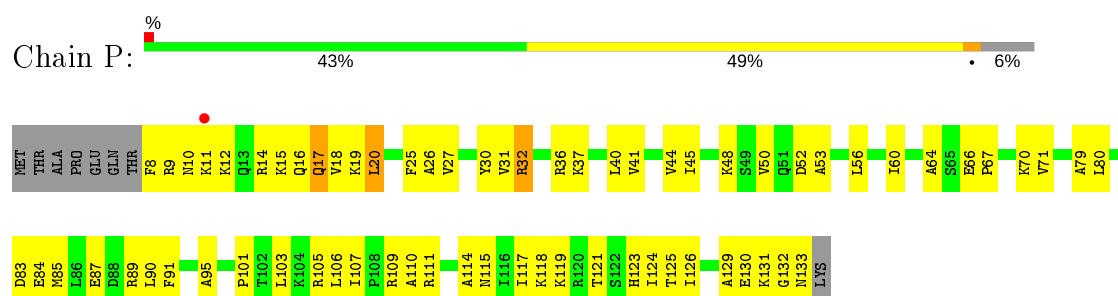
- Molecule 16: 50S ribosomal protein L20



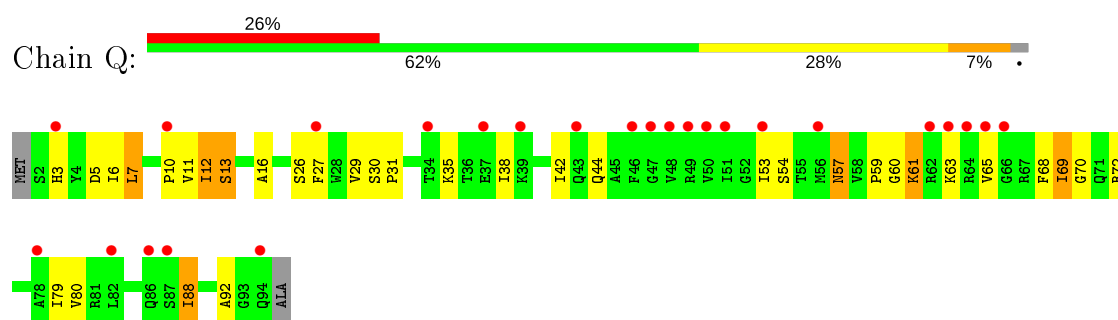
• Molecule 17: 50S ribosomal protein L21



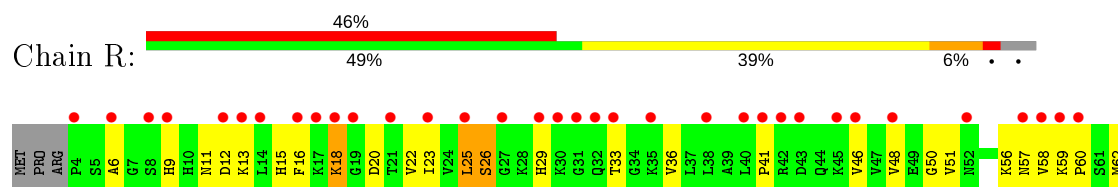
• Molecule 18: 50S ribosomal protein L22

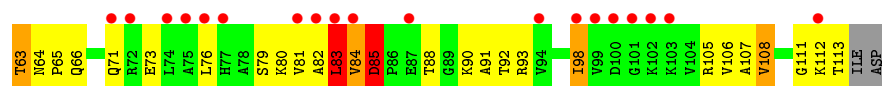


• Molecule 19: 50S ribosomal protein L23

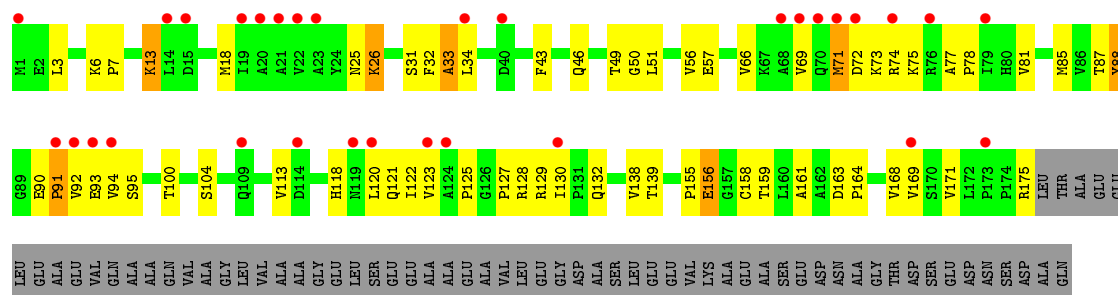


• Molecule 20: 50S ribosomal protein L24

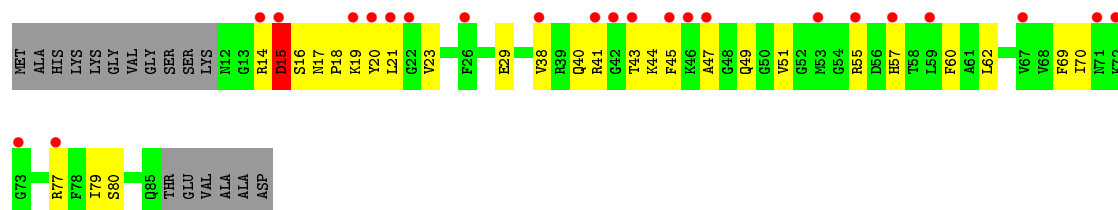




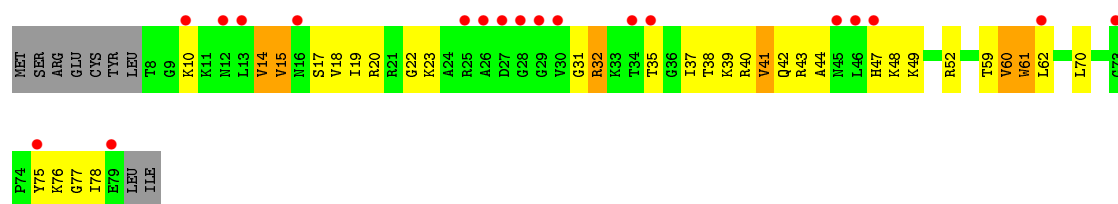
• Molecule 21: 50S ribosomal protein L25



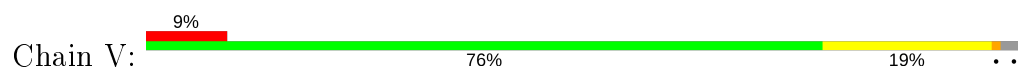
• Molecule 22: 50S ribosomal protein L27



• Molecule 23: 50S ribosomal protein L28



• Molecule 24: 50S ribosomal protein L29



• Molecule 25: 50S ribosomal protein L30





- Molecule 26: 50S ribosomal protein L32



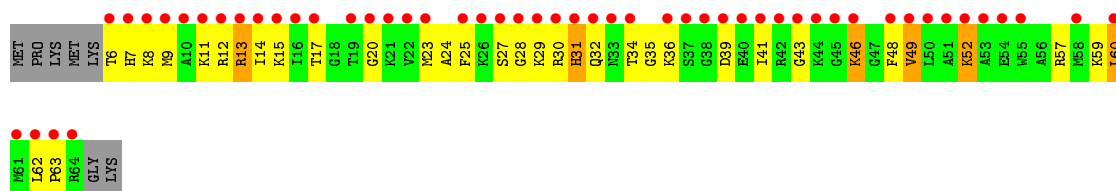
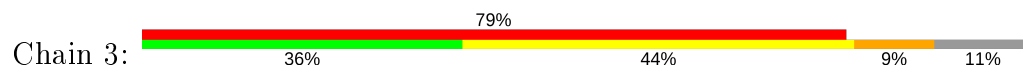
- Molecule 27: 50S ribosomal protein L33



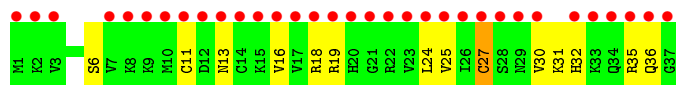
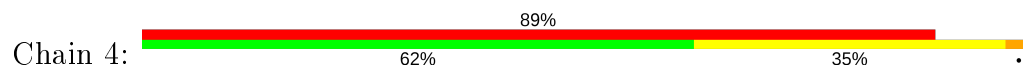
- Molecule 28: 50S ribosomal protein L34



- Molecule 29: 50S ribosomal protein L35



- Molecule 30: 50S ribosomal protein L36



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.72Å 408.56Å 693.33Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.45 93.01 – 3.44	Depositor EDS
% Data completeness (in resolution range)	83.3 (20.00-3.45) 82.4 (93.01-3.44)	Depositor EDS
R_{merge}	0.22	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.72 (at 3.41Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.6.4_486)	Depositor
R, R_{free}	0.257 , 0.301 0.262 , 0.302	Depositor DCC
R_{free} test set	2649 reflections (1.01%)	wwPDB-VP
Wilson B-factor (Å ²)	86.0	Xtriage
Anisotropy	0.732	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.20 , 76.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.39$, $\langle L^2 \rangle = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	83963	wwPDB-VP
Average B, all atoms (Å ²)	138.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.62% 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, 0.333 respectively for untwinned datasets, and 0.375, 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, LC2, 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	1.17	260/63542 (0.4%)	1.58	1813/99100 (1.8%)
2	Y	0.80	1/2863 (0.0%)	1.13	21/4461 (0.5%)
3	A	0.65	0/1958	0.83	2/2638 (0.1%)
4	B	0.85	0/1567	0.93	2/2105 (0.1%)
5	C	0.84	0/1504	0.84	1/2036 (0.0%)
6	D	0.46	0/1413	0.56	0/1896
7	E	0.57	0/1308	0.60	0/1771
8	F	0.37	0/455	0.45	0/611
9	G	0.75	0/1138	0.82	0/1539
10	H	0.94	0/1007	0.99	0/1352
11	I	0.62	0/1016	0.71	0/1359
12	J	0.80	0/1113	0.80	0/1486
13	K	0.93	1/886 (0.1%)	1.01	0/1188
14	L	0.72	0/785	0.93	1/1048 (0.1%)
15	M	0.99	0/884	1.07	1/1186 (0.1%)
16	N	0.93	0/994	0.85	0/1323
17	O	0.77	0/750	0.81	0/1000
18	P	1.01	2/1017 (0.2%)	0.97	1/1362 (0.1%)
19	Q	0.66	0/725	0.69	0/974
20	R	0.66	0/835	0.72	1/1121 (0.1%)
21	S	0.51	0/1370	0.60	1/1862 (0.1%)
22	T	0.74	0/563	0.77	0/747
23	U	0.57	0/541	0.70	1/723 (0.1%)
24	V	0.67	0/529	0.63	0/704
25	W	0.60	0/426	0.71	0/568
26	Z	0.89	0/464	0.94	1/622 (0.2%)
27	1	0.32	0/438	0.60	0/583
28	2	0.57	0/387	0.54	0/509
29	3	0.22	0/468	0.38	0/614
30	4	0.69	1/298 (0.3%)	0.58	0/390
All	All	1.06	265/91244 (0.3%)	1.42	1846/136878 (1.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
7	E	0	4
8	F	0	3
9	G	0	8
10	H	0	2
11	I	0	1
12	J	0	1
All	All	0	19

All (265) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	616	U	C3'-C2'	-13.53	1.37	1.52
1	X	1775	A	O3'-P	-11.52	1.47	1.61
1	X	1299	A	N9-C4	-11.34	1.31	1.37
1	X	1260	A	N9-C4	-11.21	1.31	1.37
1	X	2669	C	N1-C6	-10.57	1.30	1.37
1	X	2524	G	N7-C5	-10.21	1.33	1.39
1	X	747	A	N9-C8	-9.54	1.30	1.37
1	X	1316	G	N3-C4	-9.29	1.28	1.35
1	X	581	A	N9-C4	-9.27	1.32	1.37
1	X	1635	G	N3-C4	-9.03	1.29	1.35
1	X	1290	A	N9-C8	-8.96	1.30	1.37
1	X	2486	C	C4-C5	-8.89	1.35	1.43
1	X	461	A	N7-C5	-8.61	1.34	1.39
1	X	2745	A	N9-C4	-8.54	1.32	1.37
1	X	542	A	N9-C4	-8.43	1.32	1.37
1	X	2799	C	N3-C4	-8.35	1.28	1.33
1	X	2381	A	C2'-C1'	-8.28	1.44	1.53
1	X	982	C	N1-C6	-8.23	1.32	1.37
1	X	2669	C	C2-O2	8.22	1.31	1.24
1	X	827	C	N1-C6	-7.90	1.32	1.37
1	X	583	C	C4-C5	-7.69	1.36	1.43
1	X	955	G	O3'-P	-7.68	1.51	1.61
1	X	691	C	N3-C4	-7.60	1.28	1.33
1	X	2826	C	N1-C6	-7.53	1.32	1.37
1	X	1284	G	N3-C4	-7.51	1.30	1.35
1	X	2540	A	N9-C4	-7.51	1.33	1.37
1	X	679	C	N1-C6	-7.50	1.32	1.37
1	X	1975	G	N3-C4	-7.41	1.30	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2314	A	N9-C8	-7.33	1.31	1.37
1	X	975	C	N1-C6	-7.25	1.32	1.37
1	X	1655	C	N1-C6	-7.24	1.32	1.37
1	X	754	G	C5-C4	-7.16	1.33	1.38
1	X	2531	U	N1-C6	-7.16	1.31	1.38
1	X	586	G	N7-C5	-7.09	1.34	1.39
1	X	2674	C	N1-C2	-7.07	1.33	1.40
1	X	2712	G	N3-C4	-7.06	1.30	1.35
1	X	1288	A	C5-C4	7.02	1.43	1.38
1	X	2790	C	N1-C6	-7.00	1.32	1.37
1	X	522	G	C5-C4	6.99	1.43	1.38
1	X	579	G	C5-C6	6.91	1.49	1.42
1	X	1333	G	N9-C4	-6.86	1.32	1.38
1	X	1333	G	N3-C4	-6.83	1.30	1.35
1	X	1621	C	C3'-C2'	-6.82	1.45	1.52
1	X	2696	A	C5-C4	-6.80	1.33	1.38
1	X	2312	A	N7-C5	-6.80	1.35	1.39
1	X	1246	G	C6-N1	-6.79	1.34	1.39
1	X	1770	U	N3-C4	-6.76	1.32	1.38
1	X	2382	C	O3'-P	6.76	1.69	1.61
1	X	1717	A	N3-C4	-6.71	1.30	1.34
1	X	1674	C	N1-C6	-6.70	1.33	1.37
1	X	1744	G	C6-N1	-6.69	1.34	1.39
1	X	2807	U	N1-C2	6.67	1.44	1.38
1	X	575	U	N1-C2	-6.65	1.32	1.38
1	X	2432	A	N7-C5	-6.65	1.35	1.39
1	X	836	G	N7-C5	-6.64	1.35	1.39
1	X	465	C	N1-C6	-6.61	1.33	1.37
1	X	1675	C	N1-C6	-6.58	1.33	1.37
1	X	1261	G	N7-C5	-6.58	1.35	1.39
1	X	569	C	C4-N4	-6.57	1.28	1.33
1	X	1672	A	N9-C4	-6.56	1.33	1.37
1	X	1986	G	O3'-P	-6.52	1.53	1.61
1	X	2226	A	N9-C4	-6.47	1.33	1.37
1	X	1292	A	N7-C5	6.46	1.43	1.39
1	X	2617	G	N9-C8	-6.44	1.33	1.37
1	X	740	A	N3-C4	-6.43	1.30	1.34
1	X	2486	C	N1-C6	-6.39	1.33	1.37
1	X	2807	U	C4-C5	6.38	1.49	1.43
1	X	1250	A	N9-C4	-6.34	1.34	1.37
1	X	2702	G	N9-C8	6.34	1.42	1.37
1	X	1265	G	N9-C8	-6.34	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	753	U	N1-C2	-6.33	1.32	1.38
1	X	2065	A	N7-C5	-6.30	1.35	1.39
1	X	1334	A	N7-C5	-6.29	1.35	1.39
2	Y	101	A	C6-N1	-6.29	1.31	1.35
1	X	2039	G	C2-N3	-6.27	1.27	1.32
1	X	2691	C	N3-C4	6.26	1.38	1.33
1	X	461	A	N9-C8	-6.25	1.32	1.37
1	X	1281	A	C6-N6	6.20	1.39	1.33
1	X	2694	G	N9-C4	6.19	1.43	1.38
1	X	2815	C	N1-C6	6.19	1.40	1.37
1	X	2352	A	N3-C4	-6.15	1.31	1.34
1	X	1332	G	N9-C8	-6.12	1.33	1.37
1	X	2054	A	C6-N1	-6.10	1.31	1.35
1	X	986	A	N9-C4	-6.09	1.34	1.37
1	X	499	G	N1-C2	-6.09	1.32	1.37
1	X	690	A	N3-C4	-6.09	1.31	1.34
1	X	2602	G	N9-C4	6.07	1.42	1.38
1	X	2515	G	N3-C4	-6.07	1.31	1.35
1	X	2398	U	C4-O4	6.07	1.28	1.23
1	X	571	U	N1-C2	-6.06	1.33	1.38
1	X	1629	G	N7-C5	-6.05	1.35	1.39
1	X	807	A	N9-C4	-6.05	1.34	1.37
1	X	2530	C	N1-C6	-6.04	1.33	1.37
1	X	1288	A	N9-C8	6.03	1.42	1.37
1	X	2759	U	N1-C6	-6.03	1.32	1.38
1	X	1166	A	N9-C4	6.02	1.41	1.37
1	X	157	G	P-O5'	-5.98	1.53	1.59
1	X	2218	G	C5-C6	-5.97	1.36	1.42
1	X	1653	C	N1-C6	-5.96	1.33	1.37
1	X	2555	G	N9-C4	-5.94	1.33	1.38
1	X	815	A	N9-C4	-5.94	1.34	1.37
1	X	1687	C	N1-C6	-5.90	1.33	1.37
1	X	1624	A	N3-C4	-5.90	1.31	1.34
1	X	1290	A	N9-C4	-5.89	1.34	1.37
1	X	2523	G	C6-N1	-5.86	1.35	1.39
1	X	1672	A	N3-C4	-5.84	1.31	1.34
1	X	1290	A	N3-C4	-5.84	1.31	1.34
1	X	841	G	N9-C4	-5.82	1.33	1.38
1	X	2495	G	N1-C2	-5.81	1.33	1.37
1	X	522	G	N1-C2	5.80	1.42	1.37
1	X	1699	A	C5-C6	-5.75	1.35	1.41
1	X	351	A	N3-C4	-5.74	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1671	A	N3-C4	5.73	1.38	1.34
1	X	1223	G	N3-C4	-5.73	1.31	1.35
1	X	1313	U	N3-C4	-5.72	1.33	1.38
1	X	2699	G	P-O5'	-5.72	1.54	1.59
1	X	2854	G	N9-C8	5.72	1.41	1.37
1	X	156	G	N9-C4	-5.71	1.33	1.38
1	X	2015	G	N9-C8	5.71	1.41	1.37
1	X	1700	C	N1-C6	-5.70	1.33	1.37
1	X	2574	G	C5-C4	-5.70	1.34	1.38
1	X	2258	G	N9-C8	-5.70	1.33	1.37
1	X	596	C	N1-C6	-5.70	1.33	1.37
1	X	2696	A	N7-C5	-5.69	1.35	1.39
1	X	174	A	C3'-O3'	-5.69	1.34	1.42
1	X	1268	U	O3'-P	-5.67	1.54	1.61
1	X	1761	G	C2-N2	-5.67	1.28	1.34
1	X	320	A	N9-C4	-5.66	1.34	1.37
1	X	1288	A	C6-N6	-5.66	1.29	1.33
1	X	2355	A	C5-C4	-5.65	1.34	1.38
1	X	2424	G	N9-C8	-5.65	1.33	1.37
1	X	1012	A	N9-C4	-5.63	1.34	1.37
1	X	950	G	N3-C4	-5.63	1.31	1.35
1	X	393	U	C4-O4	5.61	1.28	1.23
18	P	17	GLN	CD-OE1	5.61	1.36	1.24
1	X	1665	C	N1-C6	-5.60	1.33	1.37
1	X	322	A	N7-C5	5.60	1.42	1.39
1	X	2258	G	C6-N1	-5.59	1.35	1.39
1	X	1940	C	N1-C6	-5.59	1.33	1.37
1	X	1267	A	O3'-P	5.58	1.67	1.61
1	X	2688	G	N7-C5	5.58	1.42	1.39
1	X	1474	A	N9-C4	5.57	1.41	1.37
1	X	1334	A	N9-C4	-5.57	1.34	1.37
1	X	2492	G	P-O5'	-5.57	1.54	1.59
1	X	2014	A	N7-C5	-5.57	1.35	1.39
1	X	520	C	N1-C2	-5.56	1.34	1.40
1	X	1678	G	N7-C5	5.56	1.42	1.39
1	X	1985	G	O3'-P	-5.55	1.54	1.61
1	X	538	A	N9-C4	5.54	1.41	1.37
1	X	2527	G	C5-C4	-5.54	1.34	1.38
1	X	2007	G	C6-O6	5.53	1.29	1.24
1	X	513	A	C6-N1	-5.53	1.31	1.35
1	X	72	A	C6-N1	-5.53	1.31	1.35
1	X	1325	U	N1-C6	-5.52	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1282	A	C5-C6	-5.52	1.36	1.41
1	X	2039	G	N7-C5	-5.52	1.35	1.39
1	X	1287	A	C6-N1	-5.51	1.31	1.35
1	X	2498	U	P-O5'	-5.51	1.54	1.59
1	X	1673	C	N1-C6	-5.51	1.33	1.37
1	X	752	G	N3-C4	-5.48	1.31	1.35
1	X	1232	U	N1-C2	-5.48	1.33	1.38
1	X	1625	A	N9-C4	-5.48	1.34	1.37
1	X	718	A	N3-C4	-5.48	1.31	1.34
1	X	1278	A	C5-C6	-5.48	1.36	1.41
1	X	562	G	N9-C8	-5.46	1.34	1.37
1	X	2540	A	C5-C4	-5.46	1.34	1.38
1	X	2698	G	N7-C5	-5.45	1.35	1.39
1	X	1265	G	N7-C5	-5.45	1.35	1.39
1	X	2226	A	N3-C4	-5.45	1.31	1.34
1	X	991	A	C5-C6	-5.44	1.36	1.41
1	X	2680	U	C4-O4	5.44	1.27	1.23
1	X	542	A	N3-C4	-5.43	1.31	1.34
1	X	2802	C	N1-C2	-5.43	1.34	1.40
1	X	2815	C	C4-C5	5.43	1.47	1.43
1	X	1150	C	P-O5'	-5.43	1.54	1.59
1	X	970	A	N7-C5	-5.41	1.36	1.39
1	X	1968	G	N9-C8	-5.40	1.34	1.37
1	X	1172	U	N1-C2	-5.40	1.33	1.38
1	X	1678	G	C6-N1	-5.40	1.35	1.39
1	X	2825	A	C6-N1	-5.40	1.31	1.35
1	X	928	G	N7-C5	-5.40	1.36	1.39
1	X	168	A	N3-C4	-5.39	1.31	1.34
1	X	1778	U	N1-C2	-5.38	1.33	1.38
1	X	1298	G	N9-C8	-5.38	1.34	1.37
1	X	1260	A	N3-C4	-5.38	1.31	1.34
1	X	1670	G	C5-C4	-5.38	1.34	1.38
1	X	462	G	C6-O6	5.36	1.28	1.24
1	X	2042	A	N7-C5	-5.36	1.36	1.39
1	X	1449	C	N1-C6	5.36	1.40	1.37
1	X	1665	C	N3-C4	-5.36	1.30	1.33
1	X	2674	C	N3-C4	-5.34	1.30	1.33
1	X	1041	G	N9-C4	-5.34	1.33	1.38
1	X	2471	U	C4-O4	-5.32	1.19	1.23
1	X	947	C	N1-C6	-5.32	1.33	1.37
1	X	2596	C	C2-O2	5.30	1.29	1.24
1	X	2681	A	N9-C4	-5.30	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2634	G	N9-C8	-5.30	1.34	1.37
1	X	693	A	N9-C4	-5.29	1.34	1.37
1	X	1276	U	P-O5'	-5.29	1.54	1.59
1	X	572	G	N3-C4	-5.29	1.31	1.35
1	X	482	A	P-O5'	-5.27	1.54	1.59
1	X	1151	U	N1-C6	-5.27	1.33	1.38
1	X	2218	G	N7-C5	-5.26	1.36	1.39
1	X	991	A	N7-C5	-5.26	1.36	1.39
1	X	1333	G	N9-C8	5.25	1.41	1.37
1	X	2837	G	C5-C4	-5.25	1.34	1.38
1	X	536	A	N9-C4	5.24	1.41	1.37
1	X	1278	A	N3-C4	-5.24	1.31	1.34
1	X	841	G	N9-C8	5.24	1.41	1.37
1	X	1666	G	C8-N7	5.24	1.34	1.30
1	X	1942	G	N9-C4	-5.24	1.33	1.38
1	X	2520	A	P-O5'	-5.23	1.54	1.59
1	X	2229	G	C5-C6	5.23	1.47	1.42
1	X	1472	C	N3-C4	5.22	1.37	1.33
1	X	2540	A	C6-N6	-5.22	1.29	1.33
1	X	2508	G	C5-C6	-5.22	1.37	1.42
1	X	1282	A	N7-C5	-5.22	1.36	1.39
1	X	1287	A	N3-C4	-5.21	1.31	1.34
1	X	2303	C	N1-C6	-5.21	1.34	1.37
1	X	1938	U	C2'-C1'	-5.20	1.47	1.53
1	X	1270	C	N3-C4	-5.19	1.30	1.33
1	X	2372	A	N7-C5	-5.19	1.36	1.39
1	X	2823	G	N9-C8	-5.19	1.34	1.37
1	X	24	G	N7-C5	-5.18	1.36	1.39
1	X	2673	G	C5-C4	-5.18	1.34	1.38
1	X	2244	C	N1-C6	-5.18	1.34	1.37
1	X	538	A	C2'-C1'	5.18	1.59	1.53
1	X	2039	G	C5-C6	-5.16	1.37	1.42
1	X	2693	U	N3-C4	-5.16	1.33	1.38
1	X	1337	G	O3'-P	-5.16	1.54	1.61
1	X	461	A	C6-N1	5.16	1.39	1.35
1	X	691	C	N1-C6	-5.15	1.34	1.37
1	X	1761	G	C5-C4	-5.14	1.34	1.38
1	X	1952	A	N3-C4	-5.14	1.31	1.34
1	X	523	A	N9-C8	-5.13	1.33	1.37
1	X	920	G	C5-C4	-5.13	1.34	1.38
1	X	1265	G	C6-N1	5.13	1.43	1.39
13	K	88	ALA	CA-CB	-5.12	1.41	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	703	A	N3-C4	-5.11	1.31	1.34
1	X	745	C	N1-C6	-5.11	1.34	1.37
1	X	1778	U	C4-O4	-5.11	1.19	1.23
1	X	2348	A	N9-C4	-5.11	1.34	1.37
1	X	2745	A	C5-C6	-5.11	1.36	1.41
1	X	522	G	N9-C8	5.11	1.41	1.37
1	X	1813	A	N7-C5	-5.10	1.36	1.39
1	X	2812	A	N7-C5	-5.10	1.36	1.39
1	X	1054	C	N1-C6	-5.10	1.34	1.37
1	X	2015	G	C8-N7	5.09	1.34	1.30
1	X	584	A	N3-C4	-5.07	1.31	1.34
1	X	522	G	P-O5'	-5.07	1.54	1.59
1	X	718	A	N9-C4	-5.07	1.34	1.37
1	X	1278	A	N7-C5	-5.06	1.36	1.39
30	4	27	CYS	CB-SG	5.06	1.90	1.82
18	P	31	VAL	CB-CG1	-5.06	1.42	1.52
1	X	1650	A	P-O5'	-5.05	1.54	1.59
1	X	1240	G	N9-C8	-5.05	1.34	1.37
1	X	1778	U	C2-O2	-5.04	1.17	1.22
1	X	1246	G	C5-C4	-5.04	1.34	1.38
1	X	2856	U	N1-C2	-5.04	1.34	1.38
1	X	1763	G	N9-C8	-5.02	1.34	1.37
1	X	755	C	N1-C6	-5.02	1.34	1.37
1	X	1671	A	N9-C4	5.02	1.40	1.37
1	X	743	A	N3-C4	-5.02	1.31	1.34
1	X	762	A	C5-C6	-5.01	1.36	1.41
1	X	2331	A	N3-C4	-5.00	1.31	1.34

All (1846) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	29	ARG	C-N-CD	-19.10	78.58	120.60
1	X	1678	G	N1-C6-O6	-18.90	108.56	119.90
1	X	2486	C	C5-C6-N1	17.23	129.62	121.00
1	X	2815	C	C6-N1-C2	17.04	127.12	120.30
14	L	54	ALA	CB-CA-C	16.51	134.87	110.10
1	X	2486	C	O5'-P-OP1	-16.31	91.02	105.70
1	X	747	A	C8-N9-C4	15.93	112.17	105.80
1	X	2815	C	C5-C6-N1	-15.67	113.17	121.00
1	X	1282	A	N1-C6-N6	14.72	127.43	118.60
1	X	1674	C	C6-N1-C2	14.58	126.13	120.30
1	X	1290	A	N7-C8-N9	13.97	120.79	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2565	C	C6-N1-C2	-13.92	114.73	120.30
1	X	2550	C	C6-N1-C2	-13.26	115.00	120.30
1	X	491	A	C8-N9-C4	13.16	111.06	105.80
1	X	2034	A	C8-N9-C4	-13.14	100.54	105.80
1	X	545	C	C6-N1-C2	13.09	125.53	120.30
1	X	841	G	C5-N7-C8	-12.85	97.88	104.30
1	X	1292	A	C8-N9-C4	12.70	110.88	105.80
1	X	579	G	C4-C5-N7	-12.46	105.82	110.80
1	X	982	C	C5-C6-N1	12.42	127.21	121.00
1	X	1670	G	N7-C8-N9	-12.17	107.01	113.10
1	X	2008	C	N3-C4-C5	-12.14	117.04	121.90
1	X	527	C	C6-N1-C2	-12.10	115.46	120.30
1	X	1991	C	C5-C4-N4	11.94	128.56	120.20
1	X	1991	C	N3-C4-N4	-11.90	109.67	118.00
1	X	1305	C	C6-N1-C2	11.86	125.04	120.30
1	X	2802	C	N1-C2-O2	-11.85	111.79	118.90
1	X	174	A	P-O3'-C3'	-11.76	105.59	119.70
1	X	1333	G	N3-C4-C5	11.73	134.47	128.60
1	X	1770	U	C5-C6-N1	-11.71	116.84	122.70
1	X	2371	A	C8-N9-C4	-11.71	101.11	105.80
1	X	850	C	N3-C4-C5	-11.63	117.25	121.90
1	X	1678	G	C5-C6-O6	11.57	135.54	128.60
1	X	37	C	C6-N1-C2	-11.52	115.69	120.30
1	X	1676	U	P-O3'-C3'	-11.50	105.90	119.70
1	X	2524	G	C8-N9-C4	-11.47	101.81	106.40
1	X	805	G	N1-C6-O6	-11.37	113.08	119.90
1	X	2039	G	N1-C6-O6	11.35	126.71	119.90
1	X	1771	A	C8-N9-C4	-11.35	101.26	105.80
1	X	2486	C	C6-N1-C2	-11.32	115.77	120.30
1	X	2008	C	C6-N1-C2	-11.31	115.78	120.30
1	X	1993	G	N1-C6-O6	11.30	126.68	119.90
1	X	2034	A	N9-C4-C5	11.30	110.32	105.80
1	X	1235	C	C6-N1-C2	11.21	124.78	120.30
1	X	496	C	C6-N1-C2	11.15	124.76	120.30
1	X	2807	U	C5-C6-N1	-11.14	117.13	122.70
1	X	1290	A	C5-N7-C8	-11.10	98.35	103.90
1	X	57	G	C8-N9-C4	-11.04	101.98	106.40
1	X	1255	A	N1-C6-N6	-11.02	111.99	118.60
1	X	2347	C	C6-N1-C2	11.01	124.70	120.30
1	X	1667	A	N1-C6-N6	11.00	125.20	118.60
1	X	761	G	C8-N9-C4	10.99	110.79	106.40
1	X	1665	C	C5-C6-N1	-10.98	115.51	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2229	G	N1-C6-O6	-10.96	113.32	119.90
1	X	1995	G	N1-C2-N2	-10.92	106.37	116.20
1	X	830	C	C6-N1-C2	10.90	124.66	120.30
1	X	2855	C	N3-C2-O2	10.90	129.53	121.90
1	X	1708	C	C6-N1-C2	10.82	124.63	120.30
1	X	1288	A	C8-N9-C4	-10.79	101.48	105.80
1	X	2825	A	C8-N9-C4	-10.75	101.50	105.80
1	X	579	G	C5-C6-O6	10.74	135.05	128.60
1	X	2655	C	C6-N1-C2	10.70	124.58	120.30
1	X	1702	C	C6-N1-C2	10.62	124.55	120.30
1	X	1773	C	C6-N1-C2	10.60	124.54	120.30
1	X	1991	C	C5-C6-N1	-10.56	115.72	121.00
1	X	2303	C	C6-N1-C2	10.56	124.53	120.30
1	X	1937	G	C8-N9-C4	10.54	110.62	106.40
1	X	2035	G	N1-C6-O6	-10.49	113.60	119.90
1	X	1333	G	N3-C4-N9	-10.47	119.72	126.00
1	X	2672	U	N3-C2-O2	-10.46	114.88	122.20
1	X	1670	G	C8-N9-C4	10.44	110.58	106.40
1	X	504	G	N1-C6-O6	10.43	126.16	119.90
1	X	1993	G	C2-N3-C4	-10.38	106.71	111.90
1	X	2811	G	C8-N9-C4	10.38	110.55	106.40
1	X	841	G	C4-C5-N7	10.31	114.92	110.80
1	X	806	A	N1-C6-N6	-10.31	112.42	118.60
1	X	1670	G	C5-N7-C8	10.24	109.42	104.30
1	X	481	A	N1-C6-N6	10.24	124.74	118.60
1	X	1009	C	C6-N1-C2	10.19	124.38	120.30
1	X	2540	A	C8-N9-C4	10.19	109.88	105.80
1	X	2229	G	C5-C6-O6	10.17	134.70	128.60
1	X	985	G	C8-N9-C4	-10.15	102.34	106.40
1	X	1674	C	C5-C6-N1	-10.13	115.94	121.00
1	X	985	G	C5-N7-C8	-10.12	99.24	104.30
1	X	1298	G	C8-N9-C4	10.12	110.45	106.40
1	X	520	C	N1-C2-O2	-10.11	112.83	118.90
1	X	982	C	O4'-C1'-N1	10.11	116.29	108.20
1	X	2034	A	C2-N3-C4	10.06	115.63	110.60
1	X	2523	G	N1-C6-O6	-10.03	113.88	119.90
1	X	522	G	N1-C6-O6	10.02	125.91	119.90
1	X	1201	G	C8-N9-C4	-10.02	102.39	106.40
1	X	1663	C	N1-C2-O2	9.99	124.89	118.90
1	X	1288	A	N7-C8-N9	9.99	118.79	113.80
1	X	1699	A	N1-C6-N6	9.97	124.58	118.60
1	X	985	G	N7-C8-N9	9.96	118.08	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1680	U	C5-C6-N1	-9.91	117.75	122.70
1	X	1242	A	C8-N9-C4	9.90	109.76	105.80
1	X	2634	G	C8-N9-C4	9.87	110.35	106.40
1	X	2486	C	C5'-C4'-O4'	9.85	120.92	109.10
1	X	1333	G	C2-N3-C4	-9.84	106.98	111.90
1	X	2056	C	C6-N1-C2	9.83	124.23	120.30
1	X	1535	C	C6-N1-C2	9.81	124.22	120.30
1	X	2815	C	C2-N3-C4	-9.78	115.01	119.90
1	X	2035	G	C5-C6-O6	9.77	134.46	128.60
1	X	309	G	C4-C5-N7	9.75	114.70	110.80
1	X	537	C	C5-C4-N4	9.73	127.01	120.20
1	X	1411	C	C6-N1-C2	9.71	124.19	120.30
1	X	2039	G	C6-C5-N7	-9.68	124.59	130.40
1	X	2524	G	C5-C6-O6	-9.67	122.80	128.60
1	X	1770	U	N3-C4-O4	-9.62	112.67	119.40
1	X	358	C	C6-N1-C2	-9.61	116.45	120.30
1	X	1995	G	N3-C2-N2	9.61	126.63	119.90
1	X	1721	G	C8-N9-C4	9.60	110.24	106.40
1	X	2815	C	N3-C4-C5	9.59	125.74	121.90
1	X	1166	A	C8-N9-C4	-9.55	101.98	105.80
1	X	2039	G	C4-C5-N7	9.55	114.62	110.80
1	X	2553	G	C8-N9-C4	-9.54	102.58	106.40
1	X	2014	A	C8-N9-C4	-9.54	101.98	105.80
1	X	2015	G	C5-N7-C8	-9.51	99.54	104.30
1	X	1944	C	C6-N1-C2	9.50	124.10	120.30
2	Y	20	A	C8-N9-C4	9.48	109.59	105.80
1	X	752	G	N9-C4-C5	9.48	109.19	105.40
1	X	581	A	C8-N9-C4	9.47	109.59	105.80
1	X	752	G	C8-N9-C4	-9.47	102.61	106.40
1	X	2782	G	C8-N9-C4	9.44	110.18	106.40
1	X	1666	G	C8-N9-C4	9.44	110.17	106.40
1	X	1631	C	C6-N1-C2	9.43	124.07	120.30
1	X	985	G	C4-C5-N7	9.39	114.56	110.80
1	X	527	C	N3-C4-C5	-9.37	118.15	121.90
1	X	15	G	C4-C5-N7	-9.36	107.06	110.80
1	X	2486	C	C4-C5-C6	-9.33	112.74	117.40
1	X	50	G	C8-N9-C4	9.33	110.13	106.40
1	X	594	G	N1-C6-O6	-9.30	114.32	119.90
1	X	742	G	C8-N9-C4	-9.30	102.68	106.40
1	X	2725	C	C6-N1-C2	9.28	124.01	120.30
1	X	2745	A	C5-N7-C8	-9.27	99.27	103.90
1	X	2371	A	N9-C4-C5	9.23	109.49	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	747	A	N7-C8-N9	-9.23	109.18	113.80
1	X	1773	C	N1-C2-O2	9.23	124.44	118.90
1	X	717	G	C8-N9-C4	9.22	110.09	106.40
1	X	1717	A	N9-C4-C5	9.21	109.49	105.80
1	X	1744	G	N1-C6-O6	-9.21	114.37	119.90
1	X	821	A	C8-N9-C4	9.20	109.48	105.80
1	X	1289	A	C3'-C2'-C1'	9.19	108.85	101.50
1	X	1158	A	C8-N9-C4	9.14	109.46	105.80
1	X	2807	U	N3-C4-O4	-9.14	113.00	119.40
1	X	538	A	C2-N3-C4	9.12	115.16	110.60
1	X	537	C	N3-C4-N4	-9.11	111.62	118.00
1	X	1779	C	N1-C2-O2	-9.08	113.45	118.90
1	X	479	G	N1-C6-O6	9.08	125.35	119.90
1	X	2247	A	N1-C6-N6	9.07	124.05	118.60
1	X	1678	G	C6-N1-C2	-9.05	119.67	125.10
1	X	2440	C	C5-C6-N1	-9.05	116.47	121.00
1	X	833	A	N1-C6-N6	9.00	124.00	118.60
1	X	1469	U	O4'-C1'-N1	8.99	115.39	108.20
1	X	2825	A	N9-C4-C5	8.98	109.39	105.80
1	X	1931	G	N1-C6-O6	8.97	125.28	119.90
1	X	522	G	C2-N3-C4	-8.96	107.42	111.90
1	X	1664	G	N1-C6-O6	8.96	125.28	119.90
1	X	31	C	N1-C2-O2	-8.95	113.53	118.90
1	X	1792	C	C6-N1-C2	8.95	123.88	120.30
1	X	2688	G	C8-N9-C4	8.93	109.97	106.40
1	X	1201	G	N9-C4-C5	8.92	108.97	105.40
1	X	1992	G	N1-C6-O6	-8.91	114.55	119.90
1	X	533	C	C6-N1-C2	8.91	123.86	120.30
1	X	491	A	N7-C8-N9	-8.90	109.35	113.80
1	X	465	C	C6-N1-C2	8.88	123.85	120.30
1	X	1466	C	C3'-C2'-C1'	8.88	108.60	101.50
1	X	479	G	C5-C6-O6	-8.86	123.28	128.60
1	X	2508	G	C5-C6-O6	-8.85	123.29	128.60
2	Y	101	A	N1-C6-N6	-8.85	113.29	118.60
1	X	2024	U	C6-N1-C2	8.84	126.30	121.00
1	X	2540	A	N1-C2-N3	-8.84	124.88	129.30
1	X	236	C	C6-N1-C2	-8.84	116.77	120.30
1	X	841	G	N7-C8-N9	8.83	117.52	113.10
1	X	1282	A	C5-C6-N6	-8.82	116.64	123.70
1	X	492	G	C2-N3-C4	-8.81	107.49	111.90
1	X	806	A	C5-C6-N6	8.79	130.73	123.70
1	X	1678	G	C5-C6-N1	8.79	115.89	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2468	G	N7-C8-N9	-8.78	108.71	113.10
1	X	1471	G	C8-N9-C4	8.76	109.91	106.40
1	X	2459	C	N1-C2-O2	-8.75	113.65	118.90
1	X	1467	U	O4'-C1'-N1	-8.75	101.20	108.20
1	X	2697	G	N3-C2-N2	8.75	126.02	119.90
1	X	357	A	N1-C6-N6	8.73	123.84	118.60
1	X	1332	G	C8-N9-C4	8.72	109.89	106.40
1	X	1998	A	N1-C6-N6	-8.72	113.37	118.60
1	X	1242	A	C5-C6-N1	8.70	122.05	117.70
1	X	1771	A	N9-C4-C5	8.69	109.28	105.80
1	X	2003	A	C8-N9-C4	-8.69	102.32	105.80
1	X	2431	C	N3-C4-C5	8.66	125.37	121.90
1	X	1288	A	C5-N7-C8	-8.66	99.57	103.90
1	X	1135	C	N1-C2-O2	-8.65	113.71	118.90
1	X	2520	A	N1-C6-N6	-8.65	113.41	118.60
1	X	1016	C	C6-N1-C2	-8.64	116.84	120.30
1	X	1149	G	N1-C6-O6	-8.64	114.72	119.90
1	X	1278	A	C4-C5-C6	8.64	121.32	117.00
1	X	829	C	C2-N3-C4	-8.63	115.58	119.90
1	X	1699	A	C2-N3-C4	-8.63	106.28	110.60
1	X	1717	A	N1-C6-N6	-8.61	113.43	118.60
1	X	2042	A	N1-C6-N6	8.61	123.77	118.60
1	X	2488	G	C5-C6-N1	8.60	115.80	111.50
1	X	2674	C	N1-C2-O2	-8.59	113.75	118.90
1	X	2655	C	N3-C4-C5	8.58	125.33	121.90
1	X	1770	U	C6-N1-C2	8.58	126.15	121.00
1	X	1246	G	N1-C6-O6	-8.57	114.75	119.90
1	X	2555	G	C8-N9-C4	8.57	109.83	106.40
1	X	2856	U	N1-C2-N3	8.55	120.03	114.90
1	X	2627	G	N3-C2-N2	-8.55	113.92	119.90
1	X	2347	C	N1-C2-O2	-8.54	113.77	118.90
1	X	2508	G	C4-C5-N7	8.51	114.20	110.80
1	X	2576	G	N1-C6-O6	8.51	125.01	119.90
1	X	1251	G	C8-N9-C4	-8.50	103.00	106.40
1	X	2039	G	C2-N3-C4	-8.50	107.65	111.90
1	X	1467	U	C5'-C4'-O4'	-8.50	98.90	109.10
1	X	937	C	C6-N1-C2	8.47	123.69	120.30
1	X	1333	G	C5-N7-C8	-8.47	100.06	104.30
1	X	347	C	C6-N1-C2	8.46	123.69	120.30
1	X	596	C	C5-C6-N1	-8.46	116.77	121.00
1	X	1665	C	C6-N1-C2	8.45	123.68	120.30
1	X	1664	G	C5-C6-O6	-8.45	123.53	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1994	U	N3-C2-O2	8.45	128.11	122.20
1	X	1617	G	N1-C6-O6	8.44	124.97	119.90
1	X	2496	C	C6-N1-C2	8.43	123.67	120.30
1	X	2515	G	N1-C6-O6	-8.43	114.84	119.90
1	X	31	C	N3-C2-O2	8.42	127.80	121.90
1	X	2393	G	N1-C6-O6	8.41	124.95	119.90
1	X	2565	C	C5-C6-N1	8.40	125.20	121.00
1	X	2751	C	C6-N1-C2	8.39	123.66	120.30
1	X	409	G	C8-N9-C4	-8.36	103.05	106.40
1	X	2023	C	C6-N1-C2	8.36	123.64	120.30
1	X	1246	G	N9-C4-C5	8.35	108.74	105.40
1	X	508	G	N1-C6-O6	8.34	124.91	119.90
1	X	2519	C	C6-N1-C2	-8.34	116.96	120.30
1	X	2434	G	N1-C6-O6	-8.34	114.90	119.90
1	X	1678	G	N1-C2-N2	-8.33	108.70	116.20
1	X	1778	U	N3-C4-O4	-8.33	113.57	119.40
1	X	1721	G	N9-C4-C5	-8.32	102.07	105.40
1	X	597	U	C5-C6-N1	-8.32	118.54	122.70
1	X	1673	C	N3-C2-O2	8.32	127.72	121.90
1	X	870	C	N1-C2-O2	-8.31	113.91	118.90
1	X	2440	C	C6-N1-C2	8.31	123.62	120.30
1	X	761	G	N9-C4-C5	-8.30	102.08	105.40
1	X	2397	A	C8-N9-C4	8.30	109.12	105.80
1	X	1725	C	C6-N1-C2	-8.25	117.00	120.30
1	X	2035	G	C4-C5-N7	-8.25	107.50	110.80
1	X	2218	G	N1-C6-O6	8.24	124.85	119.90
1	X	2408	G	N9-C4-C5	8.24	108.70	105.40
1	X	1722	G	C8-N9-C4	8.23	109.69	106.40
1	X	1991	C	C4-C5-C6	8.23	121.52	117.40
1	X	864	C	C6-N1-C2	-8.22	117.01	120.30
1	X	2569	A	C8-N9-C4	8.20	109.08	105.80
1	X	2616	U	N3-C4-O4	8.20	125.14	119.40
1	X	2431	C	C6-N1-C2	8.20	123.58	120.30
1	X	2754	C	N3-C4-C5	-8.19	118.62	121.90
1	X	323	G	C8-N9-C4	-8.18	103.13	106.40
1	X	837	U	C5-C6-N1	-8.18	118.61	122.70
1	X	2856	U	N1-C2-O2	-8.18	117.07	122.80
1	X	1966	C	C6-N1-C2	8.18	123.57	120.30
2	Y	88	C	N1-C2-O2	-8.18	114.00	118.90
1	X	2799	C	N1-C2-O2	-8.17	114.00	118.90
1	X	2853	U	C6-N1-C2	8.16	125.90	121.00
1	X	545	C	C5-C6-N1	-8.15	116.92	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1669	A	O4'-C1'-N9	-8.13	101.69	108.20
1	X	2754	C	C6-N1-C2	-8.13	117.05	120.30
1	X	492	G	C8-N9-C4	8.11	109.64	106.40
1	X	2218	G	C6-C5-N7	-8.11	125.53	130.40
1	X	1225	G	C8-N9-C4	8.11	109.64	106.40
1	X	2669	C	N1-C2-O2	8.10	123.76	118.90
1	X	2408	G	C8-N9-C4	-8.10	103.16	106.40
1	X	1646	G	N1-C6-O6	8.09	124.75	119.90
1	X	479	G	N9-C4-C5	-8.08	102.17	105.40
1	X	2356	A	N1-C6-N6	8.08	123.45	118.60
1	X	2015	G	C4-C5-N7	8.08	114.03	110.80
1	X	1927	U	N3-C2-O2	-8.08	116.55	122.20
1	X	521	U	C6-N1-C2	8.06	125.84	121.00
1	X	2495	G	N3-C2-N2	8.05	125.54	119.90
1	X	2694	G	N3-C4-C5	-8.05	124.57	128.60
1	X	2827	G	N3-C2-N2	8.04	125.53	119.90
1	X	37	C	C5-C6-N1	8.04	125.02	121.00
1	X	456	C	C6-N1-C2	-8.04	117.08	120.30
1	X	2009	U	C5-C6-N1	8.03	126.71	122.70
1	X	2347	C	N3-C2-O2	8.02	127.51	121.90
1	X	2836	U	C5-C6-N1	8.02	126.71	122.70
1	X	1235	C	N3-C4-C5	8.01	125.11	121.90
1	X	2807	U	C6-N1-C2	8.01	125.81	121.00
1	X	569	C	N3-C4-C5	8.00	125.10	121.90
1	X	2745	A	C4-C5-N7	8.00	114.70	110.70
1	X	1942	G	C8-N9-C4	8.00	109.60	106.40
1	X	829	C	N3-C4-C5	8.00	125.10	121.90
1	X	1993	G	C5-C6-N1	-7.99	107.51	111.50
1	X	2802	C	N3-C2-O2	7.98	127.49	121.90
1	X	2435	C	C6-N1-C2	7.98	123.49	120.30
1	X	15	G	C5-C6-O6	7.97	133.38	128.60
1	X	1278	A	N1-C6-N6	7.97	123.38	118.60
1	X	2696	A	N7-C8-N9	-7.96	109.82	113.80
1	X	2468	G	C5-N7-C8	7.95	108.28	104.30
1	X	533	C	C5-C6-N1	-7.95	117.03	121.00
1	X	1678	G	N3-C4-C5	-7.94	124.63	128.60
1	X	29	U	C5-C4-O4	-7.94	121.14	125.90
1	X	850	C	C6-N1-C2	-7.94	117.13	120.30
1	X	1255	A	N9-C4-C5	7.93	108.97	105.80
1	X	863	C	C6-N1-C2	-7.92	117.13	120.30
1	X	555	U	C5-C6-N1	-7.92	118.74	122.70
1	X	2619	G	C5-N7-C8	-7.92	100.34	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1699	A	C5-C6-N1	-7.91	113.74	117.70
1	X	1965	U	N3-C2-O2	-7.90	116.67	122.20
1	X	1104	G	C8-N9-C4	-7.89	103.24	106.40
1	X	1656	U	C5-C6-N1	-7.88	118.76	122.70
1	X	1246	G	C4-C5-N7	-7.87	107.65	110.80
1	X	886	A	C8-N9-C4	-7.85	102.66	105.80
1	X	1242	A	C5-C6-N6	-7.83	117.44	123.70
1	X	594	G	N9-C4-C5	7.82	108.53	105.40
1	X	1242	A	N9-C4-C5	-7.82	102.67	105.80
1	X	34	U	C5-C6-N1	-7.81	118.79	122.70
1	X	1927	U	N1-C2-N3	7.81	119.58	114.90
1	X	1136	G	N1-C6-O6	-7.80	115.22	119.90
1	X	2495	G	N3-C4-C5	-7.80	124.70	128.60
1	X	816	U	C6-N1-C2	-7.80	116.32	121.00
1	X	1038	U	N3-C2-O2	-7.80	116.74	122.20
1	X	508	G	N3-C4-C5	7.79	132.50	128.60
1	X	1379	A	C8-N9-C4	7.78	108.91	105.80
1	X	2311	U	N3-C2-O2	-7.77	116.76	122.20
1	X	2827	G	N3-C4-N9	7.77	130.66	126.00
1	X	2687	G	C8-N9-C4	7.77	109.51	106.40
1	X	981	C	C4'-C3'-C2'	-7.76	94.83	102.60
1	X	1467	U	C5'-C4'-C3'	7.76	128.41	116.00
1	X	1665	C	C4-C5-C6	7.76	121.28	117.40
1	X	2002	A	C8-N9-C4	7.75	108.90	105.80
1	X	2797	G	N3-C4-C5	-7.75	124.73	128.60
1	X	1210	C	N1-C2-O2	-7.74	114.25	118.90
1	X	1041	G	N3-C4-N9	-7.73	121.36	126.00
1	X	1678	G	C4-C5-N7	-7.71	107.71	110.80
1	X	2393	G	C5-C6-O6	-7.71	123.97	128.60
1	X	1290	A	C8-N9-C4	-7.70	102.72	105.80
1	X	583	C	C5-C6-N1	7.70	124.85	121.00
1	X	2540	A	N7-C8-N9	-7.69	109.95	113.80
1	X	1292	A	N7-C8-N9	-7.68	109.96	113.80
1	X	555	U	C2-N3-C4	-7.67	122.40	127.00
1	X	1937	G	N7-C8-N9	-7.66	109.27	113.10
1	X	518	A	C8-N9-C4	-7.66	102.74	105.80
1	X	1278	A	C6-C5-N7	-7.66	126.94	132.30
1	X	1472	C	C6-N1-C2	7.65	123.36	120.30
1	X	1744	G	C5-C6-O6	7.65	133.19	128.60
1	X	2434	G	C8-N9-C4	-7.65	103.34	106.40
1	X	2243	C	N3-C4-C5	-7.64	118.85	121.90
1	X	2832	G	N1-C6-O6	7.64	124.48	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1813	A	C8-N9-C4	-7.63	102.75	105.80
1	X	2560	G	C8-N9-C4	-7.63	103.35	106.40
1	X	2466	G	C8-N9-C4	-7.63	103.35	106.40
1	X	2523	G	C5-C6-O6	7.63	133.18	128.60
1	X	746	G	C8-N9-C1'	-7.62	117.10	127.00
1	X	1617	G	C5-C6-O6	-7.62	124.03	128.60
1	X	2382	C	P-O3'-C3'	-7.61	110.57	119.70
1	X	570	G	C8-N9-C4	7.61	109.44	106.40
1	X	2007	G	C4-C5-N7	-7.61	107.76	110.80
1	X	1286	U	C6-N1-C2	-7.59	116.44	121.00
1	X	2431	C	N1-C2-O2	-7.58	114.35	118.90
1	X	2486	C	O4'-C1'-N1	7.57	114.26	108.20
1	X	2748	C	N1-C2-O2	-7.57	114.36	118.90
1	X	1647	U	N1-C2-N3	7.57	119.44	114.90
1	X	31	C	C6-N1-C2	7.54	123.32	120.30
1	X	50	G	N9-C4-C5	-7.54	102.39	105.40
1	X	572	G	C8-N9-C4	-7.54	103.39	106.40
1	X	583	C	N3-C4-N4	7.53	123.27	118.00
1	X	2753	C	C6-N1-C2	-7.53	117.29	120.30
1	X	1308	C	C6-N1-C2	-7.53	117.29	120.30
1	X	1481	U	N1-C2-O2	-7.52	117.53	122.80
1	X	829	C	C6-N1-C2	7.52	123.31	120.30
1	X	1305	C	C5-C6-N1	-7.51	117.24	121.00
1	X	1278	A	C8-N9-C4	-7.51	102.80	105.80
1	X	2446	C	C6-N1-C2	7.51	123.30	120.30
1	X	471	A	C8-N9-C4	7.50	108.80	105.80
1	X	591	G	C8-N9-C4	7.50	109.40	106.40
1	X	2524	G	C6-C5-N7	-7.50	125.90	130.40
1	X	982	C	C4-C5-C6	-7.50	113.65	117.40
1	X	2855	C	N1-C2-O2	-7.50	114.40	118.90
1	X	2848	A	C6-N1-C2	-7.49	114.11	118.60
1	X	2560	G	N7-C8-N9	7.48	116.84	113.10
1	X	156	G	C8-N9-C4	7.47	109.39	106.40
1	X	175	C	C6-N1-C2	7.47	123.29	120.30
1	X	1172	U	N1-C2-O2	-7.46	117.57	122.80
1	X	1779	C	N3-C2-O2	7.46	127.12	121.90
1	X	2619	G	C4-C5-N7	7.45	113.78	110.80
1	X	1404	C	C6-N1-C2	7.45	123.28	120.30
1	X	2007	G	C5-N7-C8	7.44	108.02	104.30
1	X	805	G	C5-C6-O6	7.43	133.06	128.60
1	X	1449	C	C6-N1-C2	-7.43	117.33	120.30
1	X	1154	A	C2-N3-C4	7.42	114.31	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2694	G	C8-N9-C4	-7.42	103.43	106.40
1	X	1631	C	C5-C6-N1	-7.41	117.29	121.00
1	X	597	U	N1-C2-O2	-7.41	117.61	122.80
1	X	715	U	N1-C2-N3	7.41	119.35	114.90
1	X	2708	U	P-O3'-C3'	-7.41	110.81	119.70
1	X	1928	G	N1-C6-O6	-7.41	115.46	119.90
1	X	508	G	C8-N9-C4	7.40	109.36	106.40
1	X	1994	U	N1-C2-O2	-7.40	117.62	122.80
1	X	1289	A	C4'-C3'-C2'	-7.40	95.20	102.60
1	X	481	A	C5-C6-N6	-7.39	117.78	123.70
1	X	2259	G	C2-N3-C4	-7.39	108.20	111.90
1	X	309	G	C5-C6-O6	-7.38	124.17	128.60
1	X	1735	G	C8-N9-C4	-7.38	103.45	106.40
1	X	2798	A	C2-N3-C4	-7.37	106.91	110.60
1	X	1941	C	C6-N1-C2	7.37	123.25	120.30
1	X	2559	U	C6-N1-C2	7.36	125.42	121.00
1	X	2698	G	N1-C6-O6	7.36	124.32	119.90
1	X	1933	G	C8-N9-C4	-7.36	103.46	106.40
1	X	2495	G	N1-C2-N2	-7.35	109.59	116.20
1	X	1470	G	OP1-P-OP2	-7.34	108.59	119.60
1	X	2627	G	C2-N3-C4	-7.34	108.23	111.90
1	X	1718	A	C8-N9-C4	-7.33	102.87	105.80
1	X	755	C	C4-C5-C6	7.33	121.07	117.40
1	X	2617	G	N3-C4-N9	7.33	130.40	126.00
1	X	2587	G	C8-N9-C4	-7.33	103.47	106.40
1	X	2547	C	C6-N1-C2	7.31	123.23	120.30
1	X	2495	G	N3-C4-N9	7.31	130.39	126.00
1	X	2617	G	C8-N9-C4	7.31	109.32	106.40
1	X	2652	G	C8-N9-C4	7.31	109.32	106.40
1	X	2034	A	N1-C6-N6	-7.31	114.22	118.60
1	X	2693	U	N1-C2-N3	7.29	119.28	114.90
1	X	661	C	C6-N1-C2	-7.29	117.38	120.30
1	X	1766	U	C5-C6-N1	-7.28	119.06	122.70
1	X	1778	U	C2-N3-C4	-7.28	122.63	127.00
1	X	1578	U	C6-N1-C2	7.28	125.37	121.00
1	X	2347	C	C2-N1-C1'	-7.28	110.79	118.80
1	X	2703	C	N3-C4-C5	-7.28	118.99	121.90
1	X	538	A	C5-C6-N1	7.28	121.34	117.70
1	X	2663	U	P-O3'-C3'	7.27	128.43	119.70
1	X	812	G	C8-N9-C4	-7.27	103.49	106.40
1	X	187	U	N1-C2-O2	-7.26	117.72	122.80
1	X	2827	G	N3-C4-C5	-7.26	124.97	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2617	G	C5-N7-C8	7.26	107.93	104.30
1	X	830	C	C5-C6-N1	-7.25	117.38	121.00
1	X	2468	G	N1-C6-O6	-7.25	115.55	119.90
1	X	1272	G	N1-C6-O6	-7.23	115.56	119.90
1	X	1773	C	C6-N1-C1'	-7.23	112.13	120.80
1	X	70	A	C8-N9-C4	-7.23	102.91	105.80
1	X	1009	C	C5-C6-N1	-7.22	117.39	121.00
1	X	1285	A	C2-N3-C4	-7.22	106.99	110.60
1	X	1644	G	C8-N9-C4	7.21	109.28	106.40
1	X	2355	A	C8-N9-C4	7.21	108.68	105.80
1	X	1053	G	P-O3'-C3'	7.21	128.35	119.70
1	X	2474	G	N1-C6-O6	-7.21	115.57	119.90
1	X	2488	G	C5-C6-O6	-7.21	124.28	128.60
1	X	2567	G	C8-N9-C4	-7.21	103.52	106.40
1	X	1758	C	C6-N1-C2	-7.20	117.42	120.30
1	X	2856	U	N3-C4-C5	-7.20	110.28	114.60
1	X	1240	G	C8-N9-C4	7.20	109.28	106.40
1	X	1675	C	N1-C2-O2	-7.20	114.58	118.90
1	X	2807	U	N1-C2-O2	7.19	127.83	122.80
1	X	1667	A	C5-C6-N6	-7.19	117.95	123.70
1	X	1773	C	N3-C4-C5	7.18	124.77	121.90
1	X	15	G	N9-C4-C5	7.18	108.27	105.40
1	X	2838	U	C5-C6-N1	-7.17	119.11	122.70
1	X	1778	U	N1-C2-O2	-7.17	117.78	122.80
1	X	2559	U	N3-C2-O2	7.17	127.22	122.20
1	X	955	G	OP2-P-O3'	7.16	120.96	105.20
1	X	2211	U	C6-N1-C2	7.16	125.30	121.00
1	X	2015	G	N7-C8-N9	7.16	116.68	113.10
1	X	508	G	C5-C6-O6	-7.15	124.31	128.60
1	X	2437	G	N9-C4-C5	-7.15	102.54	105.40
1	X	2019	C	N1-C2-O2	-7.15	114.61	118.90
1	X	2508	G	N1-C6-O6	7.15	124.19	119.90
1	X	1333	G	C4-C5-N7	7.15	113.66	110.80
1	X	1469	U	N1-C2-O2	7.14	127.80	122.80
1	X	1722	G	N9-C4-C5	-7.14	102.54	105.40
1	X	768	U	C5-C4-O4	-7.14	121.62	125.90
1	X	175	C	N3-C4-C5	7.14	124.75	121.90
1	X	562	G	C8-N9-C4	7.13	109.25	106.40
1	X	1645	U	N3-C2-O2	7.12	127.19	122.20
1	X	2566	A	N1-C2-N3	7.12	132.86	129.30
1	X	1472	C	C5-C4-N4	-7.12	115.21	120.20
1	X	1466	C	O4'-C1'-N1	7.12	113.89	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	547	U	N1-C2-O2	-7.12	117.82	122.80
1	X	2014	A	N9-C4-C5	7.12	108.65	105.80
1	X	1741	G	C8-N9-C4	7.11	109.25	106.40
1	X	2699	G	N1-C6-O6	7.11	124.17	119.90
1	X	393	U	N3-C4-O4	7.10	124.37	119.40
1	X	598	U	N1-C2-O2	-7.09	117.84	122.80
1	X	2437	G	C4-C5-N7	7.08	113.63	110.80
1	X	2000	U	N1-C2-O2	-7.08	117.84	122.80
1	X	2811	G	N9-C4-C5	-7.08	102.57	105.40
1	X	670	U	C6-N1-C2	-7.08	116.75	121.00
1	X	479	G	C8-N9-C4	7.08	109.23	106.40
1	X	743	A	C2-N3-C4	-7.07	107.06	110.60
1	X	530	G	C8-N9-C4	7.07	109.23	106.40
1	X	693	A	C2-N3-C4	-7.06	107.07	110.60
1	X	1209	G	N3-C2-N2	-7.06	114.96	119.90
1	X	2553	G	N9-C4-C5	7.06	108.22	105.40
1	X	1287	A	C6-N1-C2	-7.06	114.37	118.60
1	X	745	C	N3-C2-O2	-7.05	116.96	121.90
1	X	970	A	N1-C6-N6	7.05	122.83	118.60
1	X	1300	A	C8-N9-C4	7.05	108.62	105.80
1	X	2496	C	C5-C6-N1	-7.05	117.48	121.00
1	X	2559	U	N1-C2-N3	-7.05	110.67	114.90
1	X	755	C	N3-C4-C5	-7.04	119.08	121.90
1	X	309	G	C5-N7-C8	-7.04	100.78	104.30
1	X	2657	G	C8-N9-C4	-7.04	103.59	106.40
1	X	1698	C	N1-C2-O2	-7.03	114.68	118.90
1	X	2226	A	C2-N3-C4	-7.03	107.08	110.60
1	X	57	G	N7-C8-N9	7.03	116.61	113.10
1	X	1332	G	C5-C6-O6	-7.03	124.38	128.60
1	X	2547	C	N3-C4-C5	7.03	124.71	121.90
1	X	2677	U	N1-C2-O2	-7.02	117.89	122.80
1	X	2243	C	C6-N1-C2	-7.01	117.49	120.30
1	X	165	G	C8-N9-C4	7.01	109.20	106.40
1	X	1771	A	N1-C6-N6	-7.01	114.39	118.60
1	X	494	A	C8-N9-C4	7.01	108.60	105.80
1	X	761	G	N3-C4-N9	7.01	130.21	126.00
1	X	1287	A	N1-C6-N6	-7.01	114.39	118.60
1	X	1032	A	C8-N9-C4	-7.00	103.00	105.80
1	X	9	U	N3-C2-O2	-7.00	117.30	122.20
1	X	21	A	C2-N3-C4	-7.00	107.10	110.60
1	X	1316	G	N9-C4-C5	7.00	108.20	105.40
1	X	2431	C	N3-C2-O2	7.00	126.80	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2457	A	N1-C6-N6	-6.99	114.41	118.60
1	X	1270	C	N1-C2-O2	-6.99	114.71	118.90
1	X	1917	C	C6-N1-C2	-6.98	117.51	120.30
1	X	773	G	C5-C6-N1	-6.98	108.01	111.50
1	X	1160	C	C6-N1-C2	-6.98	117.51	120.30
1	X	2260	C	N1-C2-O2	-6.98	114.71	118.90
1	X	2697	G	C2-N3-C4	6.97	115.39	111.90
1	X	18	U	C6-N1-C2	-6.97	116.82	121.00
1	X	1404	C	C5-C6-N1	-6.97	117.52	121.00
1	X	1985	G	C3'-C2'-C1'	-6.96	95.93	101.50
1	X	661	C	N3-C2-O2	-6.96	117.03	121.90
1	X	1272	G	C5-C6-O6	6.96	132.77	128.60
1	X	1770	U	C2-N3-C4	-6.96	122.83	127.00
1	X	2274	C	C6-N1-C2	6.95	123.08	120.30
1	X	1298	G	N7-C8-N9	-6.95	109.62	113.10
1	X	2025	A	C5-C6-N6	-6.95	118.14	123.70
1	X	2247	A	C5-C6-N6	-6.95	118.14	123.70
1	X	850	C	C5-C4-N4	6.95	125.06	120.20
1	X	1698	C	C6-N1-C2	6.94	123.08	120.30
1	X	465	C	N1-C2-O2	6.94	123.06	118.90
1	X	972	C	C6-N1-C2	-6.94	117.52	120.30
1	X	2652	G	N3-C4-C5	6.94	132.07	128.60
1	X	1818	G	N9-C4-C5	-6.94	102.62	105.40
1	X	2409	A	P-O3'-C3'	6.94	128.03	119.70
1	X	1053	G	O4'-C1'-N9	6.94	113.75	108.20
1	X	2559	U	C5-C4-O4	-6.93	121.74	125.90
1	X	579	G	N1-C6-O6	-6.93	115.74	119.90
1	X	691	C	C5-C6-N1	-6.93	117.53	121.00
1	X	1028	G	C8-N9-C4	6.93	109.17	106.40
1	X	1149	G	C5-C6-O6	6.93	132.76	128.60
1	X	1235	C	C5-C6-N1	-6.93	117.54	121.00
1	X	2498	U	N1-C2-O2	-6.93	117.95	122.80
1	X	1678	G	N3-C2-N2	6.92	124.75	119.90
1	X	2640	G	C5-C6-O6	-6.92	124.44	128.60
1	X	443	A	C8-N9-C4	6.92	108.57	105.80
1	X	1419	G	C8-N9-C4	6.92	109.17	106.40
1	X	2000	U	N3-C2-O2	6.92	127.05	122.20
1	X	1708	C	N3-C4-C5	6.92	124.67	121.90
1	X	2375	G	C8-N9-C4	6.91	109.17	106.40
1	X	2515	G	N3-C4-C5	-6.91	125.14	128.60
1	X	753	U	N1-C2-O2	-6.91	117.96	122.80
1	X	2660	C	C6-N1-C2	6.91	123.06	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1240	G	N9-C4-C5	-6.91	102.64	105.40
1	X	504	G	C4-C5-N7	6.91	113.56	110.80
1	X	1292	A	N1-C6-N6	-6.91	114.46	118.60
1	X	850	C	N1-C2-O2	-6.90	114.76	118.90
1	X	1343	C	N3-C4-C5	6.90	124.66	121.90
1	X	2434	G	N9-C4-C5	6.90	108.16	105.40
1	X	2818	G	N1-C6-O6	6.90	124.04	119.90
1	X	579	G	C5-N7-C8	6.89	107.75	104.30
1	X	50	G	N3-C4-C5	6.88	132.04	128.60
1	X	2034	A	N3-C4-C5	-6.88	121.98	126.80
1	X	1708	C	C5-C6-N1	-6.88	117.56	121.00
1	X	2617	G	N7-C8-N9	-6.88	109.66	113.10
1	X	491	A	N9-C4-C5	-6.88	103.05	105.80
1	X	2222	U	C5-C6-N1	-6.88	119.26	122.70
1	X	520	C	C6-N1-C2	-6.87	117.55	120.30
1	X	736	G	C8-N9-C4	6.87	109.15	106.40
1	X	1778	U	N3-C4-C5	6.87	118.72	114.60
1	X	2230	G	C4-C5-N7	6.87	113.55	110.80
1	X	2024	U	C5-C6-N1	-6.87	119.27	122.70
1	X	2038	C	C6-N1-C2	6.87	123.05	120.30
1	X	2267	A	C2-N3-C4	6.87	114.03	110.60
1	X	2848	A	N1-C2-N3	6.86	132.73	129.30
1	X	2230	G	C5-C6-O6	-6.85	124.49	128.60
1	X	190	A	C8-N9-C4	6.85	108.54	105.80
1	X	752	G	C4-C5-N7	-6.85	108.06	110.80
1	X	2748	C	N3-C2-O2	6.84	126.69	121.90
1	X	11	G	N1-C6-O6	6.83	124.00	119.90
1	X	1228	G	N9-C4-C5	6.83	108.13	105.40
1	X	1540	C	C6-N1-C2	-6.83	117.57	120.30
1	X	2495	G	C5-C6-N1	6.83	114.91	111.50
1	X	2745	A	C5-C6-N6	-6.83	118.24	123.70
1	X	1481	U	N3-C2-O2	6.83	126.98	122.20
1	X	806	A	C4-C5-N7	-6.83	107.29	110.70
1	X	2633	A	C5-C6-N1	6.83	121.11	117.70
1	X	1636	G	C8-N9-C4	6.82	109.13	106.40
1	X	1408	A	C8-N9-C4	-6.82	103.07	105.80
1	X	2704	U	N3-C2-O2	-6.82	117.43	122.20
1	X	423	G	C8-N9-C4	6.82	109.13	106.40
1	X	2425	G	N3-C2-N2	-6.81	115.13	119.90
1	X	2399	C	C6-N1-C2	6.81	123.03	120.30
1	X	322	A	C8-N9-C4	6.81	108.52	105.80
1	X	2619	G	N7-C8-N9	6.81	116.50	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1951	G	C8-N9-C4	-6.80	103.68	106.40
1	X	1982	C	C2-N3-C4	-6.80	116.50	119.90
1	X	1006	C	N1-C2-O2	6.79	122.98	118.90
1	X	1242	A	C4-C5-C6	-6.79	113.60	117.00
1	X	697	G	N3-C2-N2	-6.79	115.15	119.90
1	X	2451	G	C5-C6-N1	6.79	114.89	111.50
1	X	742	G	N7-C8-N9	6.79	116.49	113.10
1	X	2007	G	C5-C6-O6	6.78	132.67	128.60
1	X	541	C	C4-C5-C6	6.78	120.79	117.40
1	X	2522	G	C8-N9-C4	-6.78	103.69	106.40
1	X	1821	A	N1-C6-N6	6.78	122.67	118.60
1	X	797	A	C8-N9-C4	6.76	108.51	105.80
1	X	2634	G	N9-C4-C5	-6.76	102.69	105.40
1	X	549	G	C4-C5-N7	-6.76	108.09	110.80
1	X	1236	G	C4-C5-N7	6.76	113.50	110.80
1	X	1985	G	P-O3'-C3'	6.76	127.81	119.70
1	X	2009	U	C6-N1-C2	-6.76	116.94	121.00
1	X	2515	G	C5-C6-O6	6.76	132.66	128.60
1	X	2565	C	N3-C4-C5	-6.76	119.19	121.90
1	X	2687	G	N7-C8-N9	-6.76	109.72	113.10
1	X	2547	C	C2-N3-C4	-6.76	116.52	119.90
1	X	1166	A	C2-N3-C4	6.76	113.98	110.60
1	X	1253	C	C6-N1-C2	-6.75	117.60	120.30
1	X	2751	C	N3-C4-C5	6.75	124.60	121.90
1	X	1718	A	N9-C4-C5	6.75	108.50	105.80
1	X	2818	G	C5-C6-O6	-6.75	124.55	128.60
1	X	522	G	N3-C4-C5	6.74	131.97	128.60
1	X	1965	U	N1-C2-N3	6.74	118.95	114.90
1	X	2063	A	C8-N9-C4	-6.74	103.10	105.80
2	Y	101	A	N9-C4-C5	6.74	108.50	105.80
1	X	492	G	N3-C4-C5	6.74	131.97	128.60
1	X	1748	U	C5-C4-O4	-6.74	121.86	125.90
1	X	834	A	C4'-C3'-C2'	-6.73	95.87	102.60
1	X	524	A	C6-N1-C2	-6.73	114.56	118.60
1	X	2398	U	N3-C4-C5	-6.73	110.56	114.60
1	X	2266	A	C8-N9-C4	6.72	108.49	105.80
1	X	1993	G	N3-C2-N2	-6.72	115.19	119.90
1	X	2522	G	N9-C4-C5	6.72	108.09	105.40
1	X	2540	A	C4-C5-C6	-6.72	113.64	117.00
1	X	1359	G	N1-C6-O6	-6.72	115.87	119.90
1	X	2764	U	N3-C4-O4	-6.72	114.70	119.40
1	X	2003	A	N7-C8-N9	6.72	117.16	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	236	C	N3-C2-O2	-6.71	117.20	121.90
1	X	1703	C	C6-N1-C2	6.71	122.98	120.30
1	X	1931	G	C5-C6-O6	-6.71	124.58	128.60
1	X	661	C	N1-C2-O2	6.71	122.92	118.90
1	X	816	U	N3-C2-O2	-6.71	117.50	122.20
1	X	319	G	N3-C4-C5	6.71	131.95	128.60
1	X	82	G	N1-C6-O6	-6.70	115.88	119.90
1	X	137	A	C8-N9-C4	-6.70	103.12	105.80
1	X	752	G	C5-C6-N1	-6.70	108.15	111.50
1	X	2691	C	N3-C2-O2	6.69	126.58	121.90
1	X	323	G	N3-C4-C5	-6.69	125.25	128.60
1	X	480	G	C8-N9-C4	-6.69	103.72	106.40
1	X	1818	G	C8-N9-C4	6.69	109.08	106.40
1	X	2205	C	C6-N1-C2	6.69	122.97	120.30
1	X	991	A	N1-C6-N6	6.68	122.61	118.60
1	X	2008	C	C5-C6-N1	6.68	124.34	121.00
1	X	2815	C	C2-N1-C1'	-6.68	111.45	118.80
1	X	67	G	C4-C5-N7	6.68	113.47	110.80
1	X	1221	C	C6-N1-C2	-6.68	117.63	120.30
1	X	2832	G	C4-C5-N7	6.68	113.47	110.80
1	X	2065	A	C8-N9-C4	-6.67	103.13	105.80
1	X	1635	G	N1-C6-O6	6.67	123.90	119.90
1	X	2548	G	C5-N7-C8	6.67	107.63	104.30
1	X	1912	G	C8-N9-C4	-6.66	103.73	106.40
1	X	2555	G	N3-C4-C5	6.66	131.93	128.60
1	X	474	G	C8-N9-C4	6.66	109.06	106.40
1	X	541	C	C5-C6-N1	-6.66	117.67	121.00
1	X	591	G	N7-C8-N9	-6.65	109.77	113.10
1	X	1328	C	C6-N1-C2	-6.65	117.64	120.30
1	X	2608	A	C8-N9-C4	-6.65	103.14	105.80
1	X	2855	C	C5-C4-N4	-6.65	115.55	120.20
1	X	2490	U	C5-C6-N1	-6.64	119.38	122.70
1	X	692	C	C2-N3-C4	-6.63	116.58	119.90
1	X	771	C	C6-N1-C2	-6.63	117.65	120.30
1	X	2515	G	N9-C4-C5	6.63	108.05	105.40
1	X	2848	A	N9-C4-C5	6.62	108.45	105.80
1	X	2011	U	C5-C6-N1	-6.62	119.39	122.70
1	X	1469	U	C4-C5-C6	-6.62	115.73	119.70
1	X	689	A	N1-C6-N6	6.62	122.57	118.60
1	X	1680	U	C2-N3-C4	-6.61	123.03	127.00
1	X	2696	A	C8-N9-C4	6.61	108.44	105.80
1	X	883	A	N1-C2-N3	-6.60	126.00	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2253	A	N9-C4-C5	-6.60	103.16	105.80
1	X	829	C	C5-C6-N1	-6.59	117.70	121.00
1	X	2655	C	C5-C6-N1	-6.59	117.70	121.00
1	X	25	U	N3-C4-O4	6.59	124.01	119.40
1	X	2790	C	C5-C6-N1	-6.59	117.71	121.00
1	X	2859	U	C4'-C3'-C2'	-6.59	96.01	102.60
2	Y	101	A	C5-C6-N6	6.59	128.97	123.70
1	X	1615	C	C6-N1-C2	6.58	122.93	120.30
1	X	2520	A	C2-N3-C4	6.58	113.89	110.60
1	X	2485	U	C3'-C2'-C1'	6.58	106.76	101.50
1	X	2586	G	N1-C6-O6	-6.58	115.95	119.90
1	X	1747	G	C8-N9-C4	6.57	109.03	106.40
1	X	2757	G	C2-N3-C4	-6.57	108.61	111.90
1	X	166	G	C8-N9-C4	6.57	109.03	106.40
1	X	465	C	C6-N1-C1'	-6.57	112.92	120.80
1	X	2451	G	N1-C6-O6	-6.57	115.96	119.90
1	X	1944	C	N3-C4-C5	6.57	124.53	121.90
1	X	885	A	C8-N9-C4	-6.57	103.17	105.80
1	X	720	A	C2-N3-C4	-6.57	107.32	110.60
1	X	1830	C	C6-N1-C2	6.56	122.93	120.30
1	X	1968	G	C8-N9-C4	6.56	109.03	106.40
1	X	841	G	C8-N9-C4	-6.56	103.78	106.40
1	X	2008	C	N3-C4-N4	6.56	122.59	118.00
1	X	2466	G	N7-C8-N9	6.56	116.38	113.10
1	X	2712	G	N1-C6-O6	-6.56	115.97	119.90
1	X	1009	C	C2-N3-C4	-6.55	116.62	119.90
1	X	596	C	C4-C5-C6	6.55	120.67	117.40
1	X	1656	U	C6-N1-C2	6.55	124.93	121.00
1	X	2853	U	C5-C6-N1	-6.55	119.42	122.70
1	X	1017	C	C6-N1-C2	-6.55	117.68	120.30
1	X	2711	G	N1-C6-O6	-6.54	115.97	119.90
1	X	2485	U	C4-C5-C6	-6.54	115.78	119.70
1	X	2049	C	C6-N1-C2	-6.54	117.69	120.30
1	X	1009	C	N3-C4-C5	6.53	124.51	121.90
1	X	25	U	C5-C4-O4	-6.53	121.98	125.90
1	X	1260	A	C2-N3-C4	-6.53	107.34	110.60
1	X	2704	U	N1-C2-N3	6.53	118.82	114.90
1	X	579	G	N9-C4-C5	6.52	108.01	105.40
1	X	479	G	C4-C5-N7	6.52	113.41	110.80
1	X	858	G	C8-N9-C4	6.52	109.01	106.40
1	X	2792	C	C6-N1-C2	6.52	122.91	120.30
1	X	2347	C	C5-C6-N1	-6.51	117.74	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2623	A	N7-C8-N9	-6.51	110.54	113.80
1	X	1986	G	P-O3'-C3'	-6.51	111.89	119.70
1	X	833	A	N1-C2-N3	-6.50	126.05	129.30
1	X	1270	C	C2-N1-C1'	-6.50	111.65	118.80
1	X	1959	U	N3-C2-O2	-6.50	117.65	122.20
1	X	1256	C	N3-C2-O2	-6.50	117.35	121.90
1	X	1332	G	N9-C4-C5	-6.49	102.80	105.40
1	X	1467	U	N1-C1'-C2'	6.49	122.44	114.00
1	X	2237	C	C6-N1-C2	6.49	122.90	120.30
1	X	918	A	C8-N9-C4	6.49	108.40	105.80
1	X	1762	C	C6-N1-C2	-6.49	117.70	120.30
1	X	401	G	N9-C4-C5	6.49	108.00	105.40
1	X	787	A	C8-N9-C4	6.49	108.39	105.80
1	X	1246	G	C5-C6-O6	6.49	132.49	128.60
1	X	1717	A	C5-C6-N6	6.48	128.88	123.70
1	X	1480	G	N1-C6-O6	6.48	123.79	119.90
1	X	752	G	C5-C6-O6	6.48	132.49	128.60
1	X	1828	C	N3-C4-C5	6.48	124.49	121.90
1	X	34	U	C6-N1-C2	6.48	124.89	121.00
1	X	1304	U	C2-N3-C4	-6.47	123.11	127.00
1	X	1135	C	N3-C2-O2	6.47	126.43	121.90
1	X	323	G	N9-C4-C5	6.47	107.99	105.40
1	X	1916	G	C8-N9-C4	-6.47	103.81	106.40
1	X	1771	A	N7-C8-N9	6.47	117.03	113.80
1	X	1449	C	C5-C6-N1	6.46	124.23	121.00
1	X	1991	C	C2-N1-C1'	-6.46	111.70	118.80
1	X	338	G	C8-N9-C4	-6.45	103.82	106.40
1	X	1770	U	N3-C4-C5	6.45	118.47	114.60
1	X	2847	G	C5-C6-O6	-6.45	124.73	128.60
1	X	1664	G	N3-C4-C5	6.44	131.82	128.60
1	X	32	C	C6-N1-C2	6.44	122.88	120.30
1	X	2822	U	N3-C2-O2	6.44	126.71	122.20
1	X	1673	C	N1-C2-O2	-6.43	115.04	118.90
1	X	2543	A	N9-C4-C5	6.43	108.37	105.80
1	X	2419	C	C5-C6-N1	-6.43	117.78	121.00
1	X	2258	G	N3-C4-N9	6.42	129.85	126.00
1	X	357	A	C2-N3-C4	-6.41	107.39	110.60
1	X	18	U	C5-C6-N1	6.41	125.90	122.70
1	X	751	G	N1-C6-O6	6.40	123.74	119.90
1	X	1240	G	N3-C4-N9	6.40	129.84	126.00
1	X	762	A	N1-C6-N6	6.40	122.44	118.60
1	X	2627	G	C5-C6-N1	-6.40	108.30	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1471	G	N7-C8-N9	-6.40	109.90	113.10
1	X	2540	A	N9-C4-C5	-6.40	103.24	105.80
1	X	528	G	N9-C4-C5	-6.39	102.84	105.40
1	X	2759	U	N3-C4-O4	6.39	123.88	119.40
1	X	693	A	C8-N9-C4	6.39	108.36	105.80
1	X	2588	U	C6-N1-C2	6.39	124.83	121.00
1	X	1673	C	C6-N1-C2	6.38	122.85	120.30
1	X	2195	C	C6-N1-C2	6.38	122.85	120.30
1	X	2468	G	C4-C5-N7	-6.38	108.25	110.80
1	X	340	G	C8-N9-C4	6.38	108.95	106.40
1	X	504	G	C6-C5-N7	-6.38	126.57	130.40
1	X	522	G	C5-C6-N1	-6.38	108.31	111.50
1	X	596	C	C6-N1-C2	6.38	122.85	120.30
1	X	773	G	C2-N3-C4	-6.38	108.71	111.90
1	X	1653	C	N1-C2-O2	-6.38	115.07	118.90
1	X	2835	A	C5-C6-N1	-6.38	114.51	117.70
1	X	1304	U	N3-C4-C5	6.37	118.42	114.60
1	X	1163	C	C6-N1-C2	-6.37	117.75	120.30
1	X	762	A	C4-C5-N7	6.36	113.88	110.70
1	X	1647	U	N3-C4-C5	-6.36	110.78	114.60
1	X	2468	G	C8-N9-C4	6.36	108.94	106.40
1	X	2651	U	N3-C2-O2	6.36	126.66	122.20
1	X	2672	U	N1-C2-O2	6.36	127.25	122.80
1	X	1309	G	N3-C2-N2	6.36	124.35	119.90
1	X	2035	G	N3-C4-C5	-6.36	125.42	128.60
1	X	2008	C	N1-C2-O2	-6.36	115.09	118.90
1	X	1715	A	C5-C6-N6	-6.35	118.62	123.70
1	X	1773	C	C5-C6-N1	-6.35	117.82	121.00
1	X	2524	G	N1-C6-O6	6.34	123.71	119.90
1	X	1470	G	O5'-P-OP2	6.34	118.31	110.70
1	X	1702	C	N3-C4-C5	6.34	124.44	121.90
1	X	2760	G	C8-N9-C4	6.34	108.94	106.40
1	X	1409	U	C6-N1-C2	6.34	124.80	121.00
1	X	1777	A	N7-C8-N9	6.34	116.97	113.80
1	X	950	G	N9-C4-C5	6.34	107.94	105.40
1	X	2655	C	C2-N3-C4	-6.34	116.73	119.90
1	X	2039	G	C5-C6-O6	-6.34	124.80	128.60
1	X	1806	G	C8-N9-C4	-6.33	103.87	106.40
1	X	2437	G	C5-C6-O6	-6.33	124.80	128.60
26	Z	4	HIS	C-N-CD	-6.33	106.67	120.60
1	X	1270	C	C6-N1-C1'	6.33	128.39	120.80
1	X	572	G	N9-C4-C5	6.32	107.93	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	575	U	N1-C2-O2	-6.32	118.37	122.80
1	X	434	C	C6-N1-C2	-6.32	117.77	120.30
1	X	2422	C	C6-N1-C2	-6.32	117.77	120.30
1	X	1766	U	C6-N1-C2	6.32	124.79	121.00
1	X	2422	C	N1-C2-O2	-6.32	115.11	118.90
1	X	2858	A	C4'-C3'-C2'	-6.32	96.28	102.60
1	X	2603	G	C8-N9-C4	-6.31	103.88	106.40
1	X	46	C	C6-N1-C2	-6.31	117.78	120.30
1	X	1679	U	C5-C6-N1	-6.31	119.55	122.70
1	X	1761	G	N1-C2-N3	6.31	127.68	123.90
1	X	1824	C	C6-N1-C2	6.30	122.82	120.30
1	X	2836	U	C6-N1-C2	-6.30	117.22	121.00
1	X	536	A	C2-N3-C4	6.30	113.75	110.60
1	X	827	C	N1-C2-O2	6.30	122.68	118.90
1	X	1018	C	C5-C6-N1	-6.30	117.85	121.00
1	X	985	G	C6-C5-N7	-6.30	126.62	130.40
1	X	2812	A	C2-N3-C4	-6.30	107.45	110.60
1	X	1992	G	C5-C6-O6	6.29	132.38	128.60
1	X	2350	G	N9-C4-C5	6.29	107.92	105.40
1	X	972	C	N3-C4-C5	-6.29	119.38	121.90
1	X	2654	A	C8-N9-C4	6.29	108.32	105.80
1	X	1255	A	C5-C6-N6	6.29	128.73	123.70
1	X	2638	G	C8-N9-C4	-6.29	103.89	106.40
1	X	1299	A	N3-C4-N9	-6.29	122.37	127.40
1	X	1963	G	N9-C4-C5	6.29	107.91	105.40
1	X	2374	C	C5-C4-N4	6.29	124.60	120.20
1	X	2033	C	N1-C2-O2	-6.28	115.13	118.90
1	X	2522	G	C5-C6-O6	6.28	132.37	128.60
1	X	570	G	N3-C2-N2	-6.28	115.51	119.90
1	X	1622	G	N1-C6-O6	-6.28	116.13	119.90
1	X	1054	C	C5-C6-N1	6.27	124.14	121.00
1	X	1236	G	N9-C4-C5	-6.27	102.89	105.40
1	X	1469	U	C5-C6-N1	6.27	125.84	122.70
1	X	527	C	N3-C4-N4	6.27	122.39	118.00
1	X	1675	C	N3-C4-C5	-6.27	119.39	121.90
1	X	804	C	C2-N3-C4	-6.26	116.77	119.90
1	X	1285	A	N1-C2-N3	6.26	132.43	129.30
1	X	1169	C	N1-C2-O2	6.26	122.65	118.90
1	X	2397	A	N9-C4-C5	-6.26	103.30	105.80
1	X	531	G	C8-N9-C4	6.25	108.90	106.40
1	X	536	A	C8-N9-C4	-6.25	103.30	105.80
1	X	2637	C	N3-C2-O2	6.25	126.28	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	549	G	N1-C6-O6	-6.25	116.15	119.90
1	X	393	U	N3-C4-C5	-6.25	110.85	114.60
1	X	594	G	C5-C6-O6	6.25	132.35	128.60
1	X	2698	G	C5-C6-O6	-6.24	124.86	128.60
1	X	1251	G	N7-C8-N9	6.24	116.22	113.10
1	X	2794	G	C5-C6-O6	-6.23	124.86	128.60
1	X	951	G	C8-N9-C4	6.23	108.89	106.40
1	X	2515	G	N1-C2-N2	-6.23	110.59	116.20
1	X	2566	A	C2-N3-C4	-6.22	107.49	110.60
1	X	1314	A	N1-C6-N6	-6.22	114.87	118.60
1	X	1229	C	C5-C4-N4	6.22	124.55	120.20
1	X	1451	C	C6-N1-C2	-6.22	117.81	120.30
1	X	166	G	N3-C4-C5	6.21	131.71	128.60
1	X	1628	C	N1-C2-O2	-6.21	115.17	118.90
1	X	489	A	N1-C6-N6	-6.21	114.88	118.60
1	X	1228	G	C5-C6-O6	6.21	132.32	128.60
1	X	2474	G	N3-C2-N2	6.21	124.25	119.90
1	X	1789	U	N3-C2-O2	-6.20	117.86	122.20
1	X	2693	U	C5-C4-O4	6.20	129.62	125.90
1	X	861	G	C8-N9-C4	-6.20	103.92	106.40
1	X	1256	C	C2-N3-C4	-6.20	116.80	119.90
1	X	686	C	N3-C4-C5	6.20	124.38	121.90
1	X	1333	G	N1-C6-O6	6.20	123.62	119.90
1	X	777	A	C1'-O4'-C4'	-6.19	104.94	109.90
1	X	761	G	N1-C2-N2	-6.19	110.63	116.20
1	X	1658	A	N1-C6-N6	6.19	122.31	118.60
1	X	1719	G	N1-C6-O6	-6.19	116.19	119.90
1	X	2862	G	C8-N9-C4	-6.19	103.92	106.40
1	X	1642	G	C2-N3-C4	-6.19	108.81	111.90
1	X	1721	G	N7-C8-N9	-6.19	110.00	113.10
1	X	2056	C	C5-C6-N1	-6.19	117.91	121.00
1	X	1998	A	C4-C5-N7	-6.19	107.61	110.70
1	X	2782	G	N9-C4-C5	-6.18	102.93	105.40
1	X	2712	G	C5-C6-O6	6.18	132.31	128.60
1	X	1982	C	N1-C2-N3	6.18	123.53	119.20
1	X	219	G	N3-C2-N2	6.17	124.22	119.90
1	X	743	A	N1-C2-N3	6.17	132.39	129.30
1	X	2690	A	N1-C6-N6	6.17	122.30	118.60
1	X	1442	C	N3-C4-C5	6.17	124.37	121.90
1	X	1297	A	C2-N3-C4	-6.16	107.52	110.60
1	X	2524	G	N3-C4-C5	-6.16	125.52	128.60
1	X	507	A	C8-N9-C4	6.16	108.26	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	U	40	ARG	N-CA-CB	6.16	121.68	110.60
1	X	1661	C	C6-N1-C2	6.15	122.76	120.30
1	X	2792	C	C2-N3-C4	-6.15	116.82	119.90
1	X	1282	A	N9-C4-C5	-6.15	103.34	105.80
1	X	2047	C	N1-C2-O2	-6.15	115.21	118.90
1	X	2674	C	N3-C2-O2	6.14	126.20	121.90
1	X	1019	U	C6-N1-C2	6.14	124.69	121.00
1	X	1835	C	N1-C2-O2	-6.14	115.22	118.90
1	X	1255	A	C8-N9-C4	-6.13	103.35	105.80
1	X	27	G	C2-N3-C4	6.13	114.97	111.90
1	X	394	U	C6-N1-C2	6.13	124.68	121.00
1	X	1304	U	N3-C4-O4	-6.13	115.11	119.40
1	X	480	G	N9-C4-C5	6.12	107.85	105.40
1	X	1317	G	C2-N3-C4	-6.12	108.84	111.90
1	X	1648	C	C6-N1-C2	6.12	122.75	120.30
1	X	2619	G	C8-N9-C4	-6.12	103.95	106.40
1	X	126	C	C6-N1-C2	6.12	122.75	120.30
1	X	2343	C	C6-N1-C2	6.12	122.75	120.30
1	X	889	C	N1-C2-O2	6.12	122.57	118.90
1	X	597	U	C2-N1-C1'	-6.11	110.36	117.70
1	X	1292	A	C5-C6-N1	6.11	120.75	117.70
1	X	2697	G	N1-C2-N3	-6.11	120.23	123.90
1	X	1357	U	N3-C2-O2	-6.11	117.92	122.20
1	X	747	A	N9-C4-C5	-6.11	103.36	105.80
1	X	1993	G	C6-C5-N7	-6.10	126.74	130.40
1	X	2068	C	C6-N1-C2	-6.10	117.86	120.30
1	X	1202	U	N1-C2-O2	-6.09	118.53	122.80
1	X	1398	G	C8-N9-C4	6.09	108.84	106.40
1	X	1664	G	C4-C5-N7	6.09	113.24	110.80
1	X	878	C	N3-C4-C5	6.09	124.34	121.90
1	X	1699	A	C8-N9-C4	6.09	108.24	105.80
1	X	735	G	C8-N9-C4	6.09	108.83	106.40
1	X	2617	G	N1-C6-O6	-6.09	116.25	119.90
1	X	2651	U	C6-N1-C2	6.09	124.65	121.00
1	X	29	U	N3-C4-O4	6.08	123.66	119.40
1	X	2603	G	N7-C8-N9	6.08	116.14	113.10
1	X	2855	C	N3-C4-N4	6.08	122.26	118.00
1	X	1993	G	N3-C4-C5	6.08	131.64	128.60
1	X	2688	G	C2-N3-C4	-6.08	108.86	111.90
1	X	2496	C	C2-N3-C4	-6.08	116.86	119.90
1	X	1644	G	N7-C8-N9	-6.07	110.06	113.10
1	X	2711	G	C5-C6-N1	6.07	114.54	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1294	G	C8-N9-C4	-6.07	103.97	106.40
1	X	1711	C	N3-C4-C5	6.07	124.33	121.90
1	X	1710	U	C5-C4-O4	-6.06	122.26	125.90
1	X	2015	G	C8-N9-C4	-6.06	103.97	106.40
1	X	2035	G	C2-N3-C4	6.06	114.93	111.90
1	X	2764	U	C5-C6-N1	-6.06	119.67	122.70
1	X	70	A	N7-C8-N9	6.05	116.83	113.80
1	X	2490	U	N1-C2-N3	6.05	118.53	114.90
1	X	504	G	C2-N3-C4	-6.05	108.87	111.90
1	X	583	C	C6-N1-C2	-6.05	117.88	120.30
1	X	1285	A	C5-C6-N1	-6.05	114.67	117.70
1	X	2550	C	C5-C4-N4	6.05	124.43	120.20
1	X	1318	A	C8-N9-C4	6.04	108.22	105.80
1	X	1629	G	N3-C2-N2	6.04	124.13	119.90
1	X	2371	A	N7-C8-N9	6.04	116.82	113.80
1	X	231	G	C8-N9-C4	-6.04	103.98	106.40
1	X	579	G	C6-C5-N7	6.04	134.02	130.40
1	X	2751	C	C5-C6-N1	-6.04	117.98	121.00
1	X	1721	G	N3-C2-N2	6.03	124.12	119.90
1	X	1939	U	C5-C6-N1	6.03	125.72	122.70
1	X	2034	A	N7-C8-N9	6.03	116.81	113.80
1	X	2437	G	C8-N9-C4	6.03	108.81	106.40
1	X	2605	C	C5-C6-N1	-6.03	117.99	121.00
1	X	2026	C	N1-C2-O2	-6.02	115.29	118.90
1	X	1235	C	C2-N3-C4	-6.02	116.89	119.90
1	X	2039	G	C5-C6-N1	-6.02	108.49	111.50
1	X	2637	C	C6-N1-C2	6.02	122.71	120.30
1	X	581	A	N7-C8-N9	-6.02	110.79	113.80
1	X	761	G	N3-C2-N2	6.01	124.11	119.90
1	X	1963	G	C8-N9-C4	-6.00	104.00	106.40
1	X	1998	A	C6-N1-C2	-6.00	115.00	118.60
1	X	1035	G	N3-C4-C5	-6.00	125.60	128.60
1	X	769	C	C5-C4-N4	-6.00	116.00	120.20
1	X	1472	C	N3-C4-C5	6.00	124.30	121.90
1	X	1636	G	N9-C4-C5	-6.00	103.00	105.40
1	X	581	A	C2-N3-C4	-6.00	107.60	110.60
1	X	1357	U	C6-N1-C2	-6.00	117.40	121.00
1	X	1173	G	N1-C6-O6	-6.00	116.30	119.90
1	X	2230	G	N1-C6-O6	6.00	123.50	119.90
1	X	1255	A	C4-C5-N7	-5.99	107.70	110.70
1	X	1210	C	N3-C2-O2	5.99	126.09	121.90
1	X	527	C	C5-C6-N1	5.99	123.99	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	937	C	N3-C2-O2	5.99	126.09	121.90
1	X	2433	G	C8-N9-C4	5.99	108.80	106.40
1	X	2229	G	C4-C5-N7	-5.99	108.41	110.80
1	X	2682	C	C6-N1-C2	-5.98	117.91	120.30
1	X	841	G	N3-C4-C5	5.98	131.59	128.60
1	X	1699	A	C6-C5-N7	-5.98	128.11	132.30
1	X	15	G	N3-C2-N2	-5.98	115.72	119.90
1	X	2008	C	C2-N3-C4	5.98	122.89	119.90
1	X	1239	A	N9-C4-C5	-5.98	103.41	105.80
1	X	2039	G	C5-N7-C8	-5.98	101.31	104.30
1	X	808	C	C6-N1-C2	5.98	122.69	120.30
1	X	2701	A	N1-C2-N3	5.97	132.29	129.30
1	X	2745	A	C5-C6-N1	5.97	120.69	117.70
1	X	2049	C	N3-C2-O2	-5.97	117.72	121.90
1	X	2811	G	N7-C8-N9	-5.97	110.11	113.10
1	X	2828	C	C4-C5-C6	-5.97	114.42	117.40
1	X	2383	C	C6-N1-C2	-5.97	117.91	120.30
1	X	2331	A	N9-C4-C5	5.96	108.19	105.80
1	X	582	G	N1-C6-O6	5.96	123.48	119.90
1	X	771	C	N3-C2-O2	-5.96	117.73	121.90
1	X	1166	A	N3-C4-C5	-5.96	122.63	126.80
1	X	2862	G	N7-C8-N9	5.96	116.08	113.10
1	X	1477	C	C6-N1-C2	-5.95	117.92	120.30
1	X	1617	G	C8-N9-C4	5.95	108.78	106.40
1	X	571	U	N1-C2-O2	-5.95	118.64	122.80
1	X	753	U	N3-C4-C5	-5.95	111.03	114.60
1	X	1222	G	C8-N9-C4	5.95	108.78	106.40
1	X	2000	U	N3-C4-O4	5.95	123.56	119.40
1	X	1955	G	C8-N9-C4	5.95	108.78	106.40
1	X	2055	G	N3-C4-C5	-5.95	125.63	128.60
1	X	2258	G	C8-N9-C4	5.95	108.78	106.40
1	X	549	G	N9-C4-C5	5.94	107.78	105.40
1	X	2211	U	C5-C6-N1	-5.94	119.73	122.70
1	X	2335	U	N3-C2-O2	-5.94	118.04	122.20
1	X	963	G	C8-N9-C4	5.93	108.77	106.40
1	X	2037	A	N1-C6-N6	-5.93	115.04	118.60
1	X	717	G	N7-C8-N9	-5.93	110.13	113.10
1	X	1262	U	C5-C4-O4	-5.93	122.34	125.90
1	X	2024	U	C2-N3-C4	-5.93	123.44	127.00
1	X	1260	A	N3-C4-N9	-5.93	122.66	127.40
1	X	1404	C	C2-N3-C4	-5.93	116.94	119.90
1	X	1698	C	C5-C6-N1	-5.93	118.04	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1939	U	N1-C2-O2	-5.93	118.65	122.80
1	X	816	U	N1-C2-N3	5.92	118.45	114.90
1	X	67	G	N3-C2-N2	5.92	124.04	119.90
1	X	474	G	N7-C8-N9	-5.92	110.14	113.10
1	X	1570	C	C6-N1-C2	5.91	122.67	120.30
1	X	972	C	N3-C2-O2	-5.91	117.76	121.90
1	X	1678	G	C2-N3-C4	5.91	114.86	111.90
1	X	2035	G	C5-N7-C8	5.91	107.25	104.30
1	X	697	G	N3-C4-N9	-5.91	122.46	126.00
1	X	1763	G	C8-N9-C4	5.91	108.76	106.40
1	X	2824	C	C2-N3-C4	-5.91	116.95	119.90
1	X	2459	C	N3-C2-O2	5.91	126.03	121.90
1	X	1241	G	C8-N9-C4	5.90	108.76	106.40
1	X	387	A	N1-C6-N6	5.90	122.14	118.60
1	X	2703	C	C6-N1-C1'	5.90	127.88	120.80
1	X	327	C	C6-N1-C2	-5.90	117.94	120.30
1	X	1647	U	C4-C5-C6	5.90	123.24	119.70
1	X	521	U	C5-C6-N1	-5.89	119.75	122.70
1	X	985	G	C5-C6-O6	-5.89	125.06	128.60
1	X	1614	C	N1-C2-O2	-5.89	115.36	118.90
1	X	1635	G	N3-C4-N9	-5.89	122.46	126.00
1	X	2597	G	N3-C4-C5	-5.89	125.65	128.60
1	X	1983	G	N7-C8-N9	-5.89	110.16	113.10
1	X	2253	A	C8-N9-C4	5.89	108.16	105.80
1	X	1317	G	N3-C4-C5	5.88	131.54	128.60
1	X	2576	G	C5-C6-O6	-5.88	125.07	128.60
1	X	608	G	N1-C6-O6	-5.88	116.37	119.90
1	X	1041	G	C5-C6-O6	5.88	132.13	128.60
1	X	1717	A	C4-C5-N7	-5.88	107.76	110.70
1	X	2531	U	C2-N3-C4	-5.88	123.47	127.00
1	X	2054	A	N1-C6-N6	-5.88	115.07	118.60
1	X	859	U	N1-C2-O2	-5.88	118.69	122.80
1	X	2848	A	N1-C6-N6	-5.88	115.07	118.60
1	X	2751	C	N3-C4-N4	-5.88	113.89	118.00
1	X	10	A	C8-N9-C4	5.87	108.15	105.80
1	X	1260	A	N1-C6-N6	-5.87	115.08	118.60
1	X	1343	C	N1-C2-O2	-5.87	115.38	118.90
2	Y	42	U	C6-N1-C2	5.87	124.53	121.00
1	X	1939	U	N3-C4-O4	5.87	123.51	119.40
1	X	2524	G	N7-C8-N9	5.87	116.03	113.10
1	X	12	U	N3-C4-C5	-5.86	111.08	114.60
1	X	807	A	C8-N9-C4	5.86	108.14	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2825	A	N7-C8-N9	5.86	116.73	113.80
1	X	1229	C	N1-C2-N3	5.86	123.30	119.20
1	X	2022	C	N3-C4-C5	-5.86	119.56	121.90
1	X	14	A	C2-N3-C4	-5.86	107.67	110.60
1	X	1304	U	C5-C6-N1	-5.86	119.77	122.70
1	X	2753	C	C5-C6-N1	5.86	123.93	121.00
1	X	833	A	C5-C6-N6	-5.85	119.02	123.70
1	X	2218	G	C8-N9-C4	-5.85	104.06	106.40
1	X	2540	A	C5-C6-N1	5.85	120.63	117.70
1	X	806	A	C5-N7-C8	5.85	106.83	103.90
1	X	57	G	N9-C4-C5	5.85	107.74	105.40
1	X	1699	A	N9-C4-C5	-5.84	103.46	105.80
1	X	1616	C	C5-C6-N1	-5.84	118.08	121.00
1	X	2540	A	C2-N3-C4	5.84	113.52	110.60
1	X	2812	A	N1-C2-N3	5.84	132.22	129.30
1	X	2847	G	N1-C6-O6	5.84	123.41	119.90
1	X	1777	A	C5-N7-C8	-5.84	100.98	103.90
1	X	2268	G	C4-C5-N7	-5.84	108.46	110.80
1	X	2559	U	N3-C4-C5	5.84	118.10	114.60
1	X	1313	U	C5-C6-N1	-5.84	119.78	122.70
1	X	1398	G	N9-C4-C5	-5.83	103.07	105.40
1	X	1960	A	C8-N9-C4	5.83	108.13	105.80
1	X	2794	G	N1-C6-O6	5.83	123.40	119.90
1	X	746	G	C4-N9-C1'	5.83	134.09	126.50
1	X	1010	U	C5-C6-N1	-5.83	119.78	122.70
1	X	786	U	C5-C6-N1	-5.83	119.78	122.70
1	X	1006	C	N3-C2-O2	-5.83	117.82	121.90
1	X	2704	U	C5-C4-O4	5.83	129.40	125.90
1	X	157	G	N3-C4-N9	-5.83	122.50	126.00
1	X	2807	U	N3-C4-C5	5.83	118.10	114.60
1	X	2331	A	N1-C6-N6	-5.82	115.11	118.60
1	X	2440	C	C2-N1-C1'	-5.82	112.39	118.80
1	X	619	A	C8-N9-C4	-5.82	103.47	105.80
1	X	1781	C	N3-C4-C5	5.82	124.23	121.90
1	X	2453	C	C6-N1-C2	-5.82	117.97	120.30
2	Y	93	G	N1-C6-O6	5.82	123.39	119.90
1	X	2640	G	C4-C5-N7	5.82	113.13	110.80
1	X	496	C	C5-C6-N1	-5.82	118.09	121.00
1	X	1874	G	C8-N9-C4	-5.82	104.07	106.40
1	X	2745	A	C4-C5-C6	-5.82	114.09	117.00
1	X	1654	A	N1-C6-N6	-5.82	115.11	118.60
1	X	2800	C	N1-C2-O2	5.82	122.39	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	525	A	C2-N3-C4	5.81	113.51	110.60
1	X	1706	A	C6-N1-C2	5.81	122.09	118.60
1	X	2543	A	C8-N9-C4	-5.81	103.47	105.80
1	X	1777	A	C8-N9-C4	-5.81	103.48	105.80
1	X	2486	C	O4'-C1'-C2'	-5.81	99.99	105.80
1	X	981	C	N1-C1'-C2'	5.80	121.55	114.00
1	X	2524	G	C4-C5-N7	5.80	113.12	110.80
1	X	2627	G	N3-C4-N9	-5.80	122.52	126.00
1	X	2210	C	N1-C2-O2	-5.80	115.42	118.90
1	X	330	C	C6-N1-C2	-5.80	117.98	120.30
1	X	569	C	C6-N1-C2	5.80	122.62	120.30
1	X	2853	U	N3-C4-C5	5.80	118.08	114.60
1	X	1272	G	N7-C8-N9	-5.80	110.20	113.10
1	X	1290	A	C2-N3-C4	-5.79	107.70	110.60
1	X	2782	G	N7-C8-N9	-5.79	110.20	113.10
1	X	755	C	N1-C2-N3	5.79	123.25	119.20
1	X	1711	C	C6-N1-C2	5.79	122.62	120.30
1	X	2798	A	N1-C6-N6	5.79	122.07	118.60
1	X	837	U	C2-N3-C4	-5.79	123.53	127.00
1	X	841	G	N3-C4-N9	-5.79	122.53	126.00
1	X	1678	G	C6-C5-N7	5.79	133.87	130.40
1	X	219	G	C5-C6-N1	5.79	114.39	111.50
1	X	744	C	C4-C5-C6	5.78	120.29	117.40
1	X	2861	A	N1-C6-N6	5.78	122.07	118.60
1	X	30	G	C8-N9-C4	-5.78	104.09	106.40
1	X	461	A	N1-C6-N6	5.78	122.07	118.60
1	X	1647	U	C5-C4-O4	5.78	129.37	125.90
1	X	1636	G	C4-C5-N7	5.77	113.11	110.80
1	X	1670	G	C4-C5-N7	-5.77	108.49	110.80
1	X	2471	U	C5-C6-N1	-5.77	119.81	122.70
1	X	875	G	N1-C6-O6	5.77	123.36	119.90
1	X	744	C	N1-C2-N3	5.77	123.24	119.20
1	X	2007	G	N1-C6-O6	-5.77	116.44	119.90
1	X	1459	U	N1-C2-O2	-5.77	118.76	122.80
1	X	323	G	C4-C5-N7	-5.76	108.49	110.80
1	X	1262	U	N3-C4-O4	5.76	123.43	119.40
1	X	2555	G	N9-C4-C5	-5.76	103.10	105.40
1	X	2828	C	C5-C6-N1	5.76	123.88	121.00
1	X	2510	A	N1-C6-N6	5.76	122.06	118.60
1	X	2701	A	C2-N3-C4	-5.76	107.72	110.60
1	X	504	G	C5-C6-O6	-5.76	125.15	128.60
1	X	484	G	N1-C6-O6	5.75	123.35	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	12	U	N3-C4-O4	5.75	123.42	119.40
1	X	864	C	C5-C6-N1	5.75	123.88	121.00
1	X	2003	A	N1-C2-N3	5.75	132.18	129.30
1	X	777	A	O4'-C1'-N9	5.75	112.80	108.20
1	X	1283	C	C5-C6-N1	-5.75	118.13	121.00
1	X	2352	A	N1-C6-N6	-5.75	115.15	118.60
1	X	2687	G	C5-C6-O6	5.75	132.05	128.60
1	X	464	G	C5-C6-O6	5.75	132.05	128.60
1	X	761	G	N7-C8-N9	-5.74	110.23	113.10
1	X	2055	G	N1-C6-O6	-5.74	116.45	119.90
1	X	967	G	C2-N3-C4	5.74	114.77	111.90
1	X	35	G	C5-C6-O6	5.74	132.04	128.60
1	X	1747	G	N7-C8-N9	-5.74	110.23	113.10
1	X	109	A	C8-N9-C4	5.73	108.09	105.80
1	X	818	G	N1-C6-O6	5.73	123.34	119.90
1	X	886	A	N7-C8-N9	5.73	116.67	113.80
1	X	1985	G	C4'-C3'-C2'	-5.73	96.87	102.60
1	X	2228	U	N3-C4-O4	5.73	123.41	119.40
1	X	2267	A	C5-C6-N1	5.73	120.56	117.70
1	X	2701	A	C5-C6-N6	5.73	128.28	123.70
1	X	530	G	N3-C4-C5	5.73	131.46	128.60
1	X	1173	G	N9-C4-C5	5.73	107.69	105.40
1	X	1756	C	N1-C2-O2	-5.72	115.47	118.90
1	X	1479	G	N1-C6-O6	5.72	123.33	119.90
1	X	187	U	N3-C2-O2	5.72	126.20	122.20
1	X	1345	G	N1-C6-O6	-5.72	116.47	119.90
1	X	1751	A	N7-C8-N9	-5.72	110.94	113.80
1	X	2226	A	N1-C2-N3	5.71	132.16	129.30
1	X	2363	G	C5-C6-N1	-5.71	108.64	111.50
1	X	332	C	C6-N1-C2	5.71	122.58	120.30
1	X	2827	G	N1-C2-N2	-5.71	111.06	116.20
1	X	2363	G	N1-C6-O6	5.71	123.33	119.90
1	X	2495	G	C6-N1-C2	-5.71	121.67	125.10
1	X	2818	G	C6-C5-N7	-5.71	126.98	130.40
1	X	322	A	N7-C8-N9	-5.70	110.95	113.80
1	X	1294	G	N7-C8-N9	5.70	115.95	113.10
1	X	1616	C	C6-N1-C2	5.70	122.58	120.30
1	X	2484	G	C8-N9-C4	-5.70	104.12	106.40
1	X	58	C	N1-C2-O2	-5.70	115.48	118.90
1	X	1687	C	C2-N3-C4	-5.70	117.05	119.90
1	X	2515	G	C8-N9-C4	-5.70	104.12	106.40
1	X	2673	G	C4-C5-N7	5.70	113.08	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	507	A	N1-C6-N6	-5.70	115.18	118.60
1	X	545	C	N3-C4-C5	5.70	124.18	121.90
1	X	549	G	C5-C6-O6	5.70	132.02	128.60
1	X	570	G	N1-C2-N2	5.70	121.33	116.20
1	X	780	U	P-O3'-C3'	5.70	126.54	119.70
1	X	1256	C	C5-C6-N1	-5.70	118.15	121.00
1	X	1636	G	N3-C4-C5	5.70	131.45	128.60
1	X	2039	G	N1-C2-N3	5.69	127.32	123.90
1	X	537	C	N3-C2-O2	-5.69	117.92	121.90
1	X	179	U	C5-C6-N1	-5.69	119.86	122.70
1	X	1853	C	N1-C2-O2	-5.69	115.49	118.90
1	X	1675	C	N3-C2-O2	5.69	125.88	121.90
1	X	2055	G	C4-C5-N7	-5.69	108.53	110.80
1	X	2381	A	C3'-C2'-C1'	5.68	106.04	101.50
1	X	2448	A	C8-N9-C4	-5.68	103.53	105.80
1	X	27	G	N3-C2-N2	5.68	123.87	119.90
1	X	715	U	N1-C2-O2	-5.68	118.83	122.80
1	X	1666	G	N7-C8-N9	-5.67	110.26	113.10
1	X	2315	A	C8-N9-C4	5.67	108.07	105.80
1	X	1641	C	C6-N1-C2	5.67	122.57	120.30
1	X	1932	G	N1-C6-O6	-5.67	116.50	119.90
1	X	499	G	N3-C2-N2	5.67	123.87	119.90
1	X	686	C	C6-N1-C2	5.67	122.57	120.30
1	X	1968	G	N7-C8-N9	-5.67	110.27	113.10
1	X	1572	C	N3-C4-C5	-5.67	119.63	121.90
1	X	2753	C	N3-C4-N4	5.67	121.97	118.00
1	X	1316	G	N1-C2-N3	5.67	127.30	123.90
1	X	1773	C	N3-C2-O2	-5.66	117.94	121.90
1	X	1514	C	C6-N1-C2	-5.66	118.03	120.30
1	X	2856	U	C6-N1-C2	-5.66	117.60	121.00
1	X	1018	C	C2-N3-C4	-5.66	117.07	119.90
1	X	1678	G	C5-N7-C8	5.66	107.13	104.30
1	X	1707	A	C8-N9-C4	5.66	108.06	105.80
1	X	2072	C	N1-C2-O2	-5.66	115.50	118.90
1	X	536	A	N3-C4-C5	-5.65	122.84	126.80
1	X	2550	C	N3-C4-C5	-5.65	119.64	121.90
1	X	1166	A	N7-C8-N9	5.65	116.63	113.80
1	X	2440	C	N3-C4-N4	-5.65	114.04	118.00
1	X	566	U	N3-C4-O4	5.65	123.35	119.40
1	X	1616	C	C2-N3-C4	-5.65	117.08	119.90
1	X	211	U	N3-C2-O2	-5.65	118.25	122.20
1	X	634	G	N3-C2-N2	-5.65	115.95	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2515	G	N3-C2-N2	5.65	123.85	119.90
1	X	2656	G	C8-N9-C4	5.65	108.66	106.40
1	X	2729	A	N1-C6-N6	-5.65	115.21	118.60
1	X	1958	G	C8-N9-C4	5.64	108.66	106.40
1	X	1494	G	N3-C4-N9	-5.64	122.62	126.00
1	X	1943	A	C8-N9-C4	5.64	108.06	105.80
1	X	746	G	C4-C5-C6	5.64	122.18	118.80
1	X	2352	A	C6-N1-C2	-5.64	115.22	118.60
1	X	1927	U	C2-N3-C4	-5.63	123.62	127.00
1	X	1938	U	C6-N1-C2	5.63	124.38	121.00
1	X	2771	C	C6-N1-C2	-5.63	118.05	120.30
1	X	689	A	C5-C6-N6	-5.63	119.20	123.70
1	X	2328	G	C8-N9-C4	-5.63	104.15	106.40
1	X	1306	U	C2-N3-C4	-5.63	123.62	127.00
1	X	1330	G	C8-N9-C4	5.63	108.65	106.40
1	X	456	C	N3-C4-C5	-5.62	119.65	121.90
1	X	746	G	C5-C6-N1	-5.62	108.69	111.50
1	X	1966	C	N3-C2-O2	5.62	125.83	121.90
1	X	981	C	C6-N1-C2	-5.62	118.05	120.30
1	X	1287	A	N3-C4-C5	-5.62	122.87	126.80
1	X	496	C	N3-C4-C5	5.62	124.15	121.90
1	X	688	A	C5-C6-N6	-5.62	119.20	123.70
1	X	572	G	N7-C8-N9	5.62	115.91	113.10
1	X	1789	U	C6-N1-C2	-5.62	117.63	121.00
1	X	1411	C	C5-C6-N1	-5.62	118.19	121.00
1	X	1272	G	C4-C5-N7	-5.61	108.56	110.80
1	X	1406	A	N1-C6-N6	-5.61	115.23	118.60
1	X	2464	G	C5-C6-O6	-5.61	125.23	128.60
1	X	504	G	C5-C6-N1	-5.61	108.69	111.50
1	X	701	U	C5-C4-O4	5.61	129.27	125.90
1	X	12	U	N1-C2-O2	-5.61	118.87	122.80
1	X	2441	U	N3-C4-O4	-5.61	115.47	119.40
1	X	2764	U	C2-N3-C4	-5.61	123.63	127.00
1	X	1993	G	N1-C2-N3	5.61	127.26	123.90
1	X	1292	A	N9-C4-C5	-5.61	103.56	105.80
1	X	1300	A	C5-C6-N6	-5.61	119.22	123.70
1	X	2329	C	N3-C4-C5	5.61	124.14	121.90
1	X	2578	G	N1-C6-O6	5.61	123.26	119.90
1	X	1212	U	N1-C2-O2	-5.60	118.88	122.80
1	X	861	G	N9-C4-C5	5.60	107.64	105.40
1	X	21	A	N3-C4-C5	5.60	130.72	126.80
1	X	2845	C	C4'-C3'-C2'	-5.60	97.00	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2617	G	N3-C4-C5	-5.60	125.80	128.60
1	X	1653	C	N3-C4-N4	5.60	121.92	118.00
1	X	1715	A	N1-C6-N6	5.60	121.96	118.60
2	Y	102	A	N1-C6-N6	5.60	121.96	118.60
1	X	2350	G	C8-N9-C4	-5.59	104.17	106.40
1	X	1045	G	C8-N9-C4	5.59	108.64	106.40
1	X	638	A	C2-N3-C4	5.59	113.39	110.60
1	X	724	C	C6-N1-C2	-5.59	118.06	120.30
1	X	883	A	C8-N9-C4	5.58	108.03	105.80
1	X	2233	C	C5-C6-N1	-5.58	118.21	121.00
1	X	2763	U	C5-C4-O4	5.58	129.25	125.90
1	X	2792	C	C5-C6-N1	-5.58	118.21	121.00
1	X	22	C	C4-C5-C6	5.58	120.19	117.40
1	X	1228	G	C8-N9-C4	-5.58	104.17	106.40
1	X	1706	A	N1-C6-N6	5.57	121.94	118.60
1	X	220	U	C5-C4-O4	5.57	129.24	125.90
1	X	32	C	C5-C6-N1	-5.57	118.21	121.00
1	X	186	C	C6-N1-C2	5.57	122.53	120.30
1	X	1702	C	C5-C6-N1	-5.57	118.21	121.00
1	X	1572	C	C6-N1-C2	-5.57	118.07	120.30
1	X	1645	U	N1-C2-O2	-5.57	118.90	122.80
1	X	850	C	C4-C5-C6	5.56	120.18	117.40
1	X	953	G	C8-N9-C4	-5.56	104.17	106.40
1	X	346	C	C4-C5-C6	5.56	120.18	117.40
1	X	821	A	N1-C6-N6	5.56	121.94	118.60
1	X	1273	G	C8-N9-C4	5.56	108.62	106.40
1	X	762	A	C5-C6-N6	-5.56	119.25	123.70
1	X	821	A	N9-C4-C5	-5.56	103.58	105.80
1	X	1771	A	N3-C4-C5	-5.56	122.91	126.80
1	X	1173	G	C5-C6-O6	5.56	131.94	128.60
1	X	1172	U	C5-C4-O4	5.56	129.23	125.90
1	X	2553	G	C4-C5-N7	-5.55	108.58	110.80
1	X	2524	G	C6-N1-C2	-5.55	121.77	125.10
1	X	169	C	C5-C6-N1	-5.55	118.23	121.00
1	X	1577	G	N1-C6-O6	-5.55	116.57	119.90
1	X	1312	G	C5-N7-C8	-5.54	101.53	104.30
1	X	306	G	C8-N9-C4	-5.54	104.18	106.40
1	X	502	A	N1-C2-N3	5.54	132.07	129.30
1	X	1158	A	N9-C4-C5	-5.54	103.58	105.80
1	X	2605	C	C2-N3-C4	-5.54	117.13	119.90
1	X	2745	A	N3-C4-C5	5.54	130.68	126.80
1	X	1458	A	C8-N9-C4	5.54	108.02	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1286	U	N1-C2-N3	5.54	118.22	114.90
1	X	2431	C	C2-N3-C4	-5.54	117.13	119.90
1	X	2441	U	C5-C6-N1	-5.54	119.93	122.70
1	X	2616	U	N3-C4-C5	-5.54	111.28	114.60
1	X	479	G	C6-C5-N7	-5.53	127.08	130.40
1	X	697	G	C8-N9-C4	-5.53	104.19	106.40
1	X	2640	G	N1-C6-O6	5.53	123.22	119.90
1	X	2694	G	N3-C4-N9	5.53	129.32	126.00
2	Y	81	C	N3-C4-N4	5.53	121.87	118.00
1	X	613	A	C4-C5-C6	-5.53	114.23	117.00
1	X	697	G	N9-C4-C5	5.53	107.61	105.40
1	X	1718	A	N1-C2-N3	5.53	132.07	129.30
1	X	2326	C	C5-C6-N1	5.53	123.77	121.00
1	X	2810	A	C8-N9-C4	5.53	108.01	105.80
1	X	606	A	C5-C6-N1	-5.53	114.94	117.70
1	X	1759	A	N1-C6-N6	5.53	121.92	118.60
1	X	1138	A	C6-N1-C2	-5.53	115.28	118.60
1	X	58	C	C6-N1-C2	-5.53	118.09	120.30
1	X	1624	A	N9-C4-C5	5.53	108.01	105.80
1	X	1653	C	N3-C4-C5	-5.53	119.69	121.90
1	X	174	A	C4'-C3'-C2'	5.52	108.12	102.60
2	Y	81	C	C6-N1-C2	-5.52	118.09	120.30
1	X	1085	G	C8-N9-C4	-5.52	104.19	106.40
1	X	1267	A	N1-C6-N6	-5.52	115.29	118.60
1	X	1578	U	N1-C2-N3	-5.52	111.59	114.90
1	X	339	U	C6-N1-C2	-5.52	117.69	121.00
1	X	835	U	N1-C2-N3	5.52	118.21	114.90
1	X	1617	G	N9-C4-C5	-5.52	103.19	105.40
1	X	2468	G	C6-C5-N7	5.51	133.71	130.40
1	X	1346	C	C5-C4-N4	-5.51	116.34	120.20
1	X	2657	G	N3-C2-N2	-5.51	116.04	119.90
1	X	527	C	C2-N1-C1'	5.51	124.86	118.80
1	X	691	C	N3-C4-N4	-5.51	114.14	118.00
1	X	981	C	C3'-C2'-C1'	5.51	105.91	101.50
4	B	121	ASN	N-CA-C	-5.51	96.12	111.00
1	X	1172	U	C2-N1-C1'	-5.51	111.09	117.70
1	X	583	C	C5-C4-N4	-5.50	116.35	120.20
1	X	508	G	N9-C4-C5	-5.50	103.20	105.40
1	X	1944	C	C5-C6-N1	-5.50	118.25	121.00
1	X	2687	G	N1-C6-O6	-5.50	116.60	119.90
1	X	584	A	N9-C4-C5	5.50	108.00	105.80
1	X	1983	G	N1-C6-O6	-5.49	116.60	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	Y	100	G	N1-C6-O6	5.49	123.19	119.90
1	X	2790	C	N3-C4-N4	-5.49	114.16	118.00
1	X	746	G	N1-C2-N3	5.49	127.19	123.90
1	X	883	A	C2-N3-C4	5.49	113.34	110.60
1	X	1383	C	C6-N1-C2	5.49	122.50	120.30
1	X	2631	C	C6-N1-C2	5.49	122.50	120.30
1	X	2693	U	N3-C4-O4	-5.49	115.56	119.40
1	X	1627	C	C6-N1-C2	-5.49	118.11	120.30
1	X	1666	G	N9-C4-C5	-5.49	103.21	105.40
1	X	755	C	C6-N1-C2	-5.48	118.11	120.30
1	X	2618	A	C8-N9-C4	-5.48	103.61	105.80
1	X	2060	A	C2-N3-C4	5.48	113.34	110.60
1	X	2679	G	N9-C4-C5	-5.48	103.21	105.40
1	X	1663	C	C5-C4-N4	-5.47	116.37	120.20
2	Y	42	U	N3-C2-O2	5.47	126.03	122.20
1	X	177	U	C6-N1-C2	-5.47	117.72	121.00
1	X	692	C	C5-C6-N1	-5.47	118.27	121.00
1	X	2617	G	C5-C6-N1	5.47	114.23	111.50
1	X	806	A	C6-C5-N7	5.46	136.13	132.30
1	X	2024	U	N3-C4-C5	5.46	117.88	114.60
1	X	991	A	C5-C6-N6	-5.46	119.33	123.70
1	X	1256	C	N1-C2-N3	5.46	123.02	119.20
1	X	1962	C	N1-C2-O2	-5.46	115.62	118.90
1	X	2020	G	N3-C2-N2	5.46	123.72	119.90
2	Y	93	G	C8-N9-C4	-5.46	104.22	106.40
1	X	1169	C	C6-N1-C2	5.46	122.48	120.30
1	X	1966	C	C2-N1-C1'	-5.45	112.80	118.80
1	X	2025	A	C4-C5-N7	5.45	113.43	110.70
1	X	2504	G	N1-C6-O6	-5.45	116.63	119.90
1	X	1635	G	C8-N9-C4	-5.45	104.22	106.40
1	X	659	G	C8-N9-C4	5.45	108.58	106.40
1	X	1768	U	N1-C2-N3	5.45	118.17	114.90
1	X	2362	G	N3-C4-C5	5.45	131.32	128.60
1	X	21	A	C4-C5-N7	5.45	113.42	110.70
1	X	1396	C	C2-N1-C1'	-5.45	112.81	118.80
1	X	2559	U	C4-C5-C6	-5.45	116.43	119.70
1	X	2807	U	N3-C2-O2	-5.45	118.39	122.20
1	X	1578	U	N3-C2-O2	5.45	126.01	122.20
1	X	2548	G	C4-C5-N7	-5.44	108.62	110.80
1	X	2751	C	C2-N1-C1'	-5.44	112.81	118.80
1	X	2824	C	N3-C4-N4	-5.44	114.19	118.00
2	Y	47	A	C8-N9-C4	-5.44	103.62	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1334	A	N1-C6-N6	5.44	121.86	118.60
1	X	1563	U	N3-C4-C5	5.44	117.86	114.60
1	X	2495	G	C5-C6-O6	-5.44	125.34	128.60
2	Y	32	C	C6-N1-C2	5.44	122.48	120.30
1	X	1033	G	N3-C4-C5	-5.44	125.88	128.60
1	X	1311	C	N3-C2-O2	-5.44	118.09	121.90
1	X	1940	C	C6-N1-C2	5.44	122.47	120.30
1	X	22	C	N1-C2-N3	5.43	123.00	119.20
1	X	502	A	N1-C6-N6	-5.43	115.34	118.60
1	X	1283	C	C2-N1-C1'	-5.43	112.82	118.80
1	X	1314	A	C8-N9-C4	-5.43	103.63	105.80
1	X	2848	A	C4-C5-C6	5.43	119.72	117.00
1	X	570	G	N3-C4-C5	5.43	131.31	128.60
1	X	2809	A	C5-C6-N1	5.43	120.41	117.70
1	X	999	A	N1-C6-N6	-5.43	115.34	118.60
1	X	2832	G	C5-C6-O6	-5.43	125.34	128.60
1	X	1613	G	C8-N9-C4	5.42	108.57	106.40
1	X	2805	G	C5-N7-C8	5.42	107.01	104.30
1	X	502	A	C4-C5-N7	-5.42	107.99	110.70
1	X	2054	A	N9-C4-C5	5.42	107.97	105.80
1	X	2550	C	N1-C2-N3	5.42	123.00	119.20
1	X	225	G	N3-C4-C5	5.42	131.31	128.60
1	X	2799	C	N1-C2-N3	5.42	122.99	119.20
1	X	342	G	N1-C6-O6	5.42	123.15	119.90
1	X	2498	U	N1-C2-N3	5.42	118.15	114.90
1	X	223	C	N1-C2-O2	-5.42	115.65	118.90
1	X	1242	A	N7-C8-N9	-5.42	111.09	113.80
1	X	1764	A	C4'-C3'-C2'	-5.42	97.19	102.60
1	X	357	A	C5-C6-N1	-5.41	114.99	117.70
1	X	2003	A	N9-C4-C5	5.41	107.97	105.80
1	X	2013	A	C8-N9-C4	5.41	107.97	105.80
1	X	2696	A	C5-N7-C8	5.41	106.61	103.90
1	X	1225	G	N9-C4-C5	-5.41	103.23	105.40
1	X	1299	A	N3-C4-C5	5.41	130.59	126.80
1	X	2363	G	C8-N9-C4	5.41	108.56	106.40
1	X	2651	U	N1-C2-O2	-5.41	119.01	122.80
1	X	2656	G	N7-C8-N9	-5.41	110.39	113.10
1	X	231	G	N9-C4-C5	5.41	107.56	105.40
1	X	1939	U	N3-C2-O2	5.41	125.98	122.20
1	X	1998	A	N9-C4-C5	5.41	107.96	105.80
1	X	528	G	C4-C5-N7	5.40	112.96	110.80
1	X	508	G	C4-C5-N7	5.40	112.96	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	923	A	C2-N3-C4	5.40	113.30	110.60
1	X	1467	U	C4'-C3'-C2'	-5.40	97.20	102.60
1	X	597	U	N3-C2-O2	5.40	125.98	122.20
1	X	872	G	N3-C4-N9	5.40	129.24	126.00
1	X	1656	U	C2-N3-C4	-5.40	123.76	127.00
1	X	2444	C	C6-N1-C2	-5.40	118.14	120.30
1	X	2876	C	C6-N1-C2	5.40	122.46	120.30
1	X	1260	A	C5-C6-N6	5.40	128.02	123.70
1	X	1007	A	N9-C4-C5	5.40	107.96	105.80
1	X	2755	A	C8-N9-C4	5.40	107.96	105.80
1	X	522	G	N3-C4-N9	-5.39	122.76	126.00
1	X	530	G	C5-C6-N1	-5.39	108.80	111.50
1	X	593	C	C6-N1-C2	-5.39	118.14	120.30
1	X	1203	A	C5-C6-N1	-5.39	115.00	117.70
1	X	973	U	N1-C2-N3	5.39	118.14	114.90
1	X	1621	C	C3'-C2'-O2'	-5.39	97.66	113.30
1	X	2230	G	C5-N7-C8	-5.39	101.60	104.30
1	X	2682	C	N3-C4-C5	-5.39	119.74	121.90
1	X	2253	A	C2-N3-C4	-5.39	107.91	110.60
1	X	2464	G	C4-C5-N7	5.39	112.96	110.80
1	X	797	A	N9-C4-C5	-5.38	103.65	105.80
1	X	1325	U	N3-C4-C5	-5.38	111.37	114.60
1	X	1705	U	N1-C2-O2	-5.38	119.03	122.80
1	X	2412	A	N1-C6-N6	-5.38	115.37	118.60
1	X	1992	G	N7-C8-N9	-5.38	110.41	113.10
1	X	592	G	N1-C6-O6	5.38	123.13	119.90
1	X	1966	C	C5-C6-N1	-5.38	118.31	121.00
1	X	2247	A	N9-C4-C5	-5.38	103.65	105.80
1	X	493	A	C8-N9-C4	5.37	107.95	105.80
1	X	1028	G	N9-C4-C5	-5.37	103.25	105.40
1	X	695	G	C8-N9-C4	5.37	108.55	106.40
1	X	1641	C	N3-C4-C5	5.37	124.05	121.90
1	X	2222	U	C2-N3-C4	-5.37	123.78	127.00
1	X	1778	U	C5-C6-N1	-5.36	120.02	122.70
1	X	2705	A	P-O3'-C3'	5.36	126.14	119.70
1	X	818	G	C5-C6-O6	-5.36	125.38	128.60
1	X	806	A	N7-C8-N9	-5.36	111.12	113.80
1	X	2527	G	N1-C6-O6	-5.36	116.69	119.90
1	X	2678	C	C4-C5-C6	5.36	120.08	117.40
1	X	1452	U	N3-C4-O4	5.36	123.15	119.40
1	X	1998	A	N7-C8-N9	-5.36	111.12	113.80
1	X	2038	C	C2-N1-C1'	-5.36	112.91	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1236	G	C8-N9-C4	5.35	108.54	106.40
1	X	580	A	N1-C2-N3	5.35	131.98	129.30
1	X	2042	A	C8-N9-C4	5.35	107.94	105.80
1	X	2425	G	N1-C2-N2	5.35	121.02	116.20
1	X	1664	G	N9-C4-C5	-5.35	103.26	105.40
1	X	1718	A	C2-N3-C4	-5.35	107.92	110.60
1	X	2611	A	C8-N9-C4	5.35	107.94	105.80
1	X	686	C	C4-C5-C6	-5.34	114.73	117.40
1	X	1236	G	C5-C6-N1	5.34	114.17	111.50
2	Y	63	A	N9-C4-C5	5.34	107.94	105.80
1	X	745	C	C4-C5-C6	5.34	120.07	117.40
1	X	850	C	C6-N1-C1'	5.34	127.21	120.80
1	X	1673	C	N3-C4-N4	5.34	121.74	118.00
1	X	2855	C	C6-N1-C2	5.34	122.44	120.30
1	X	401	G	N3-C4-N9	-5.34	122.80	126.00
1	X	2835	A	C2-N3-C4	-5.34	107.93	110.60
1	X	510	G	N1-C6-O6	-5.34	116.70	119.90
1	X	1366	A	C8-N9-C4	5.34	107.94	105.80
1	X	156	G	N3-C4-C5	5.33	131.27	128.60
1	X	1991	C	C2-N3-C4	-5.33	117.23	119.90
1	X	660	G	C8-N9-C4	-5.33	104.27	106.40
1	X	1181	C	C6-N1-C2	5.33	122.43	120.30
1	X	1332	G	N1-C6-O6	5.33	123.10	119.90
1	X	484	G	C8-N9-C4	-5.33	104.27	106.40
1	X	2486	C	P-O5'-C5'	5.33	129.43	120.90
1	X	121	G	C8-N9-C4	5.33	108.53	106.40
1	X	1937	G	N9-C4-C5	-5.33	103.27	105.40
1	X	1958	G	N9-C4-C5	-5.33	103.27	105.40
1	X	2019	C	N3-C2-O2	5.32	125.63	121.90
1	X	2623	A	C5-N7-C8	5.32	106.56	103.90
1	X	2864	C	C5-C6-N1	-5.32	118.34	121.00
1	X	12	U	N3-C2-O2	5.32	125.92	122.20
1	X	566	U	C5-C6-N1	5.32	125.36	122.70
1	X	583	C	N3-C2-O2	5.32	125.62	121.90
1	X	739	G	N3-C4-C5	-5.32	125.94	128.60
1	X	1459	U	N3-C2-O2	5.32	125.92	122.20
1	X	787	A	N9-C4-C5	-5.32	103.67	105.80
1	X	1752	U	N3-C2-O2	-5.32	118.48	122.20
1	X	1445	A	N9-C4-C5	-5.31	103.67	105.80
1	X	2362	G	C4-C5-N7	5.31	112.93	110.80
1	X	158	A	N1-C6-N6	-5.31	115.41	118.60
1	X	1768	U	C6-N1-C2	-5.31	117.81	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	805	G	C6-C5-N7	5.31	133.59	130.40
1	X	175	C	N3-C2-O2	5.31	125.62	121.90
1	X	2021	G	C5-C6-N1	-5.31	108.84	111.50
1	X	1158	A	N7-C8-N9	-5.31	111.15	113.80
1	X	2856	U	C4-C5-C6	5.31	122.88	119.70
1	X	329	C	C6-N1-C2	-5.30	118.18	120.30
1	X	2258	G	N1-C2-N2	-5.30	111.43	116.20
1	X	2823	G	N1-C2-N3	5.30	127.08	123.90
1	X	318	G	N7-C8-N9	-5.30	110.45	113.10
1	X	2678	C	C5-C6-N1	-5.30	118.35	121.00
1	X	2815	C	N3-C4-N4	-5.30	114.29	118.00
1	X	1041	G	N9-C4-C5	5.30	107.52	105.40
1	X	744	C	N1-C2-O2	-5.30	115.72	118.90
1	X	1543	G	C8-N9-C4	-5.30	104.28	106.40
1	X	549	G	N3-C4-C5	-5.29	125.95	128.60
1	X	1948	C	C6-N1-C2	5.29	122.42	120.30
1	X	2513	A	C2-N3-C4	-5.29	107.95	110.60
1	X	2621	G	N3-C2-N2	-5.29	116.20	119.90
1	X	1672	A	N1-C6-N6	5.29	121.77	118.60
1	X	1396	C	C6-N1-C2	5.29	122.42	120.30
1	X	2244	C	N3-C2-O2	-5.29	118.20	121.90
1	X	2303	C	C5-C6-N1	-5.28	118.36	121.00
1	X	2790	C	C2-N3-C4	-5.28	117.26	119.90
1	X	219	G	N3-C4-N9	5.28	129.17	126.00
1	X	739	G	C2-N3-C4	5.28	114.54	111.90
1	X	1667	A	C6-C5-N7	-5.28	128.60	132.30
1	X	2508	G	N9-C4-C5	-5.28	103.29	105.40
1	X	1038	U	N1-C2-N3	5.28	118.07	114.90
1	X	1752	U	N1-C2-N3	5.28	118.07	114.90
1	X	1766	U	N1-C2-O2	-5.28	119.11	122.80
1	X	2243	C	C4-C5-C6	5.28	120.04	117.40
1	X	1135	C	C2-N1-C1'	-5.27	113.00	118.80
1	X	872	G	N3-C4-C5	-5.27	125.96	128.60
1	X	923	A	N1-C2-N3	-5.27	126.66	129.30
1	X	937	C	N1-C2-O2	-5.27	115.74	118.90
1	X	1203	A	C6-N1-C2	5.27	121.76	118.60
1	X	2025	A	N1-C6-N6	5.27	121.76	118.60
1	X	2241	U	C5-C6-N1	-5.27	120.06	122.70
1	X	915	C	C6-N1-C2	5.27	122.41	120.30
1	X	1571	G	C8-N9-C4	-5.27	104.29	106.40
1	X	1983	G	C5-N7-C8	5.27	106.94	104.30
1	X	569	C	C5-C4-N4	-5.27	116.51	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1306	U	C5-C6-N1	-5.27	120.07	122.70
1	X	2849	C	N1-C2-O2	-5.27	115.74	118.90
1	X	971	A	N1-C6-N6	-5.27	115.44	118.60
1	X	2585	C	N1-C2-O2	-5.27	115.74	118.90
1	X	791	G	N1-C6-O6	-5.26	116.74	119.90
1	X	21	A	C5-N7-C8	-5.26	101.27	103.90
1	X	1256	C	C4-C5-C6	5.26	120.03	117.40
1	X	1749	G	C1'-O4'-C4'	-5.26	105.69	109.90
1	X	317	U	N1-C2-O2	-5.26	119.12	122.80
1	X	828	C	C6-N1-C2	5.26	122.40	120.30
1	X	850	C	N1-C2-N3	5.26	122.88	119.20
1	X	2209	G	N9-C4-C5	5.26	107.50	105.40
1	X	746	G	N1-C2-N2	-5.26	111.47	116.20
1	X	237	G	C8-N9-C4	-5.25	104.30	106.40
1	X	529	U	N1-C2-N3	5.25	118.05	114.90
1	X	1671	A	N9-C4-C5	-5.25	103.70	105.80
1	X	2833	C	N1-C2-O2	5.25	122.05	118.90
1	X	10	A	N9-C4-C5	-5.25	103.70	105.80
1	X	504	G	N3-C4-C5	5.25	131.23	128.60
1	X	691	C	N1-C2-O2	-5.25	115.75	118.90
1	X	1282	A	C8-N9-C4	5.25	107.90	105.80
1	X	787	A	N1-C6-N6	5.25	121.75	118.60
1	X	1678	G	N7-C8-N9	-5.25	110.48	113.10
1	X	2848	A	N3-C4-C5	-5.25	123.13	126.80
1	X	340	G	N3-C2-N2	5.24	123.57	119.90
1	X	458	G	N9-C4-C5	5.24	107.50	105.40
1	X	1282	A	C6-C5-N7	-5.24	128.63	132.30
1	X	2290	A	C8-N9-C4	5.24	107.90	105.80
1	X	818	G	N9-C4-C5	-5.24	103.30	105.40
1	X	2809	A	C6-N1-C2	-5.24	115.46	118.60
1	X	2757	G	N1-C2-N3	5.24	127.04	123.90
1	X	586	G	N1-C6-O6	5.24	123.04	119.90
1	X	1104	G	N3-C4-C5	-5.24	125.98	128.60
1	X	1998	A	C5-N7-C8	5.24	106.52	103.90
1	X	1953	A	C8-N9-C4	-5.23	103.71	105.80
1	X	2259	G	N1-C2-N3	5.23	127.04	123.90
1	X	1351	G	C8-N9-C4	5.23	108.49	106.40
1	X	1470	G	O4'-C1'-N9	5.23	112.38	108.20
1	X	2412	A	C5-C6-N1	5.23	120.31	117.70
1	X	2233	C	C6-N1-C2	5.23	122.39	120.30
1	X	2392	G	N3-C4-C5	5.23	131.22	128.60
1	X	457	C	C6-N1-C2	-5.23	118.21	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2634	G	N7-C8-N9	-5.23	110.49	113.10
1	X	1622	G	N1-C2-N2	-5.22	111.50	116.20
1	X	2700	U	C4'-C3'-C2'	-5.22	97.38	102.60
1	X	1033	G	C4-C5-N7	-5.22	108.71	110.80
1	X	1212	U	C5-C6-N1	-5.22	120.09	122.70
1	X	2466	G	N1-C6-O6	5.22	123.03	119.90
1	X	1395	A	C8-N9-C4	-5.22	103.71	105.80
1	X	2398	U	C4-C5-C6	5.22	122.83	119.70
1	X	1480	G	C5-C6-O6	-5.22	125.47	128.60
1	X	2051	U	C2-N3-C4	-5.22	123.87	127.00
1	X	2676	G	N3-C4-C5	-5.22	125.99	128.60
1	X	41	G	C8-N9-C4	5.22	108.49	106.40
1	X	2356	A	C5-C6-N6	-5.22	119.53	123.70
1	X	2247	A	N1-C2-N3	-5.22	126.69	129.30
1	X	2848	A	C4-C5-N7	-5.22	108.09	110.70
1	X	1009	C	C6-N1-C1'	-5.21	114.55	120.80
1	X	174	A	C3'-C2'-C1'	-5.21	97.33	101.50
1	X	917	U	C6-N1-C2	-5.21	117.87	121.00
1	X	2522	G	N1-C2-N3	5.21	127.03	123.90
1	X	471	A	C2-N3-C4	-5.21	108.00	110.60
1	X	1922	U	N3-C2-O2	-5.20	118.56	122.20
1	X	2566	A	C6-C5-N7	-5.20	128.66	132.30
1	X	2690	A	C2-N3-C4	-5.20	108.00	110.60
1	X	2031	A	N7-C8-N9	-5.20	111.20	113.80
1	X	2473	G	N1-C6-O6	-5.20	116.78	119.90
1	X	1129	A	C8-N9-C4	-5.20	103.72	105.80
1	X	2850	U	N1-C2-O2	-5.20	119.16	122.80
1	X	1060	C	C6-N1-C2	-5.19	118.22	120.30
1	X	1951	G	N3-C4-C5	-5.19	126.00	128.60
1	X	462	G	N1-C6-O6	5.19	123.02	119.90
1	X	1654	A	N1-C2-N3	5.19	131.90	129.30
1	X	2669	C	N3-C2-O2	-5.19	118.27	121.90
1	X	1780	A	C4-C5-C6	5.19	119.59	117.00
1	X	2832	G	C6-C5-N7	-5.19	127.29	130.40
1	X	440	U	C5-C4-O4	5.19	129.01	125.90
1	X	1325	U	N3-C4-O4	5.19	123.03	119.40
1	X	2348	A	C2-N3-C4	-5.19	108.01	110.60
1	X	1041	G	C2-N3-C4	-5.19	109.31	111.90
1	X	1284	G	C5-C6-O6	5.18	131.71	128.60
1	X	2039	G	N3-C2-N2	-5.18	116.27	119.90
1	X	2415	G	N3-C2-N2	-5.18	116.27	119.90
5	C	46	ARG	NE-CZ-NH1	-5.18	117.71	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2698	G	N3-C2-N2	-5.18	116.27	119.90
3	A	253	LYS	C-N-CD	-5.18	109.20	120.60
1	X	2261	G	N1-C6-O6	-5.18	116.79	119.90
1	X	2441	U	C2-N3-C4	-5.18	123.89	127.00
2	Y	96	C	C6-N1-C2	-5.18	118.23	120.30
1	X	1771	A	C2-N3-C4	5.17	113.19	110.60
1	X	2613	A	C8-N9-C4	5.17	107.87	105.80
4	B	146	THR	C-N-CD	-5.17	109.22	120.60
1	X	2258	G	C5-C6-N1	5.17	114.09	111.50
15	M	42	GLY	N-CA-C	-5.17	100.17	113.10
1	X	1654	A	C5-C6-N6	5.17	127.84	123.70
1	X	2523	G	N9-C4-C5	5.17	107.47	105.40
1	X	1297	A	N1-C6-N6	5.17	121.70	118.60
1	X	1396	C	N3-C2-O2	5.17	125.52	121.90
2	Y	39	C	C6-N1-C2	5.17	122.37	120.30
1	X	470	U	N3-C4-O4	-5.17	115.78	119.40
1	X	597	U	C6-N1-C2	5.17	124.10	121.00
1	X	2329	C	C2-N3-C4	-5.17	117.32	119.90
1	X	15	G	N1-C6-O6	-5.16	116.80	119.90
1	X	1288	A	N1-C2-N3	5.16	131.88	129.30
1	X	1928	G	C5-C6-O6	5.16	131.70	128.60
1	X	1995	G	N1-C2-N3	5.16	127.00	123.90
1	X	2798	A	C4-C5-N7	5.16	113.28	110.70
1	X	528	G	N3-C4-N9	5.16	129.09	126.00
1	X	1334	A	C4-C5-C6	5.16	119.58	117.00
1	X	2812	A	C4-C5-C6	5.16	119.58	117.00
1	X	146	C	C6-N1-C2	5.16	122.36	120.30
1	X	767	G	N3-C2-N2	5.15	123.51	119.90
1	X	1964	A	C4'-C3'-C2'	-5.15	97.45	102.60
1	X	1716	G	C5-N7-C8	5.15	106.88	104.30
1	X	1306	U	N3-C4-O4	-5.15	115.80	119.40
1	X	90	G	N1-C6-O6	-5.15	116.81	119.90
1	X	1625	A	C5-N7-C8	-5.15	101.33	103.90
1	X	939	C	C6-N1-C2	5.14	122.36	120.30
1	X	1355	A	C2-N3-C4	-5.14	108.03	110.60
1	X	1466	C	C5'-C4'-O4'	-5.14	102.93	109.10
1	X	985	G	N1-C6-O6	5.14	122.98	119.90
1	X	2336	G	C5-C6-N1	-5.14	108.93	111.50
1	X	2725	C	C5-C6-N1	-5.14	118.43	121.00
1	X	720	A	C5-C6-N1	-5.14	115.13	117.70
1	X	1818	G	N3-C4-N9	5.14	129.08	126.00
1	X	704	G	C8-N9-C4	5.14	108.45	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	827	C	N3-C4-N4	-5.14	114.40	118.00
1	X	2207	G	C8-N9-C4	5.14	108.45	106.40
1	X	489	A	C5-C6-N6	5.14	127.81	123.70
1	X	536	A	N9-C4-C5	5.14	107.86	105.80
1	X	70	A	C5-N7-C8	-5.13	101.33	103.90
1	X	634	G	C4-C5-N7	-5.13	108.75	110.80
1	X	2640	G	C8-N9-C4	5.13	108.45	106.40
1	X	594	G	C8-N9-C4	-5.13	104.35	106.40
1	X	660	G	N3-C4-N9	-5.13	122.92	126.00
1	X	2827	G	C2-N3-C4	5.12	114.46	111.90
1	X	659	G	N7-C8-N9	-5.12	110.54	113.10
1	X	1726	C	N1-C2-O2	-5.12	115.83	118.90
1	X	1718	A	C4-C5-C6	5.12	119.56	117.00
1	X	2219	U	N3-C4-C5	-5.12	111.53	114.60
1	X	2790	C	C5-C4-N4	5.12	123.78	120.20
1	X	213	C	C6-N1-C2	5.12	122.35	120.30
1	X	2415	G	N1-C2-N2	5.12	120.81	116.20
1	X	995	A	C1'-O4'-C4'	-5.11	105.81	109.90
1	X	1316	G	N3-C4-N9	-5.11	122.93	126.00
1	X	1717	A	C8-N9-C4	-5.11	103.75	105.80
1	X	445	A	C8-N9-C4	-5.11	103.76	105.80
1	X	524	A	C5-C6-N1	5.11	120.25	117.70
1	X	1228	G	C4-C5-N7	-5.11	108.76	110.80
1	X	1579	G	N1-C6-O6	5.11	122.97	119.90
1	X	2209	G	C8-N9-C4	-5.11	104.36	106.40
20	R	85	ASP	C-N-CD	-5.11	109.36	120.60
21	S	90	GLU	C-N-CD	-5.11	109.36	120.60
1	X	1017	C	N1-C2-O2	-5.11	115.83	118.90
1	X	2548	G	N3-C4-C5	-5.11	126.05	128.60
1	X	2551	A	N1-C6-N6	-5.11	115.53	118.60
1	X	812	G	N9-C4-C5	5.11	107.44	105.40
1	X	1205	G	N1-C2-N3	5.11	126.96	123.90
1	X	2703	C	N1-C2-O2	-5.11	115.84	118.90
1	X	168	A	N1-C2-N3	5.10	131.85	129.30
1	X	955	G	O3'-P-O5'	-5.10	94.30	104.00
1	X	1766	U	N3-C2-O2	5.10	125.77	122.20
1	X	2669	C	N3-C4-C5	-5.10	119.86	121.90
1	X	787	A	C2-N3-C4	-5.10	108.05	110.60
1	X	1976	U	C4'-C3'-C2'	-5.10	97.50	102.60
1	X	2703	C	C2-N1-C1'	-5.10	113.19	118.80
1	X	736	G	N7-C8-N9	-5.10	110.55	113.10
1	X	339	U	C5-C4-O4	5.10	128.96	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1665	C	C6-N1-C1'	-5.10	114.68	120.80
1	X	462	G	C5-C6-N1	-5.10	108.95	111.50
1	X	2489	C	N1-C2-N3	5.09	122.77	119.20
1	X	102	C	C6-N1-C2	5.09	122.34	120.30
1	X	2035	G	N9-C4-C5	5.09	107.44	105.40
1	X	1311	C	N1-C2-O2	5.09	121.95	118.90
2	Y	12	C	C6-N1-C2	5.09	122.34	120.30
1	X	27	G	N3-C4-C5	-5.09	126.06	128.60
1	X	751	G	C5-C6-O6	-5.09	125.55	128.60
1	X	982	C	C2-N1-C1'	5.09	124.40	118.80
1	X	1479	G	C5-C6-O6	-5.09	125.55	128.60
1	X	1539	U	N3-C4-O4	5.09	122.96	119.40
1	X	2602	G	C2-N3-C4	5.09	114.44	111.90
1	X	613	A	N9-C4-C5	-5.09	103.77	105.80
1	X	953	G	N3-C4-C5	-5.09	126.06	128.60
1	X	2520	A	C4-C5-N7	-5.09	108.16	110.70
1	X	1241	G	N3-C4-N9	5.08	129.05	126.00
2	Y	101	A	C4-C5-N7	-5.08	108.16	110.70
1	X	948	C	C6-N1-C2	5.08	122.33	120.30
1	X	1232	U	N1-C2-O2	-5.08	119.24	122.80
1	X	2036	G	N1-C6-O6	5.08	122.95	119.90
1	X	973	U	N1-C2-O2	-5.08	119.24	122.80
1	X	94	C	C6-N1-C2	5.08	122.33	120.30
1	X	1563	U	C6-N1-C2	5.08	124.05	121.00
1	X	2055	G	C5-N7-C8	5.08	106.84	104.30
1	X	217	U	C6-N1-C2	5.08	124.05	121.00
1	X	530	G	C2-N3-C4	-5.08	109.36	111.90
1	X	833	A	C5-N7-C8	-5.08	101.36	103.90
1	X	115	G	N9-C4-C5	-5.07	103.37	105.40
1	X	670	U	N3-C2-O2	-5.07	118.65	122.20
1	X	2267	A	C8-N9-C4	-5.07	103.77	105.80
1	X	2757	G	C5-C6-N1	-5.07	108.96	111.50
1	X	581	A	N3-C4-C5	5.07	130.35	126.80
1	X	1965	U	C6-N1-C2	-5.07	117.96	121.00
1	X	2660	C	N3-C4-N4	-5.07	114.45	118.00
1	X	2443	C	N3-C4-C5	-5.07	119.87	121.90
1	X	2793	G	C8-N9-C4	5.07	108.43	106.40
1	X	1705	U	N3-C4-O4	-5.07	115.85	119.40
1	X	2243	C	N1-C2-N3	5.07	122.75	119.20
1	X	2688	G	N7-C8-N9	-5.07	110.57	113.10
1	X	1656	U	N3-C4-C5	5.06	117.64	114.60
2	Y	69	G	C4-C5-N7	-5.06	108.77	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1672	A	N3-C4-N9	-5.06	123.35	127.40
1	X	1911	A	C8-N9-C4	-5.06	103.78	105.80
1	X	2019	C	C6-N1-C2	-5.06	118.28	120.30
1	X	2647	G	C8-N9-C4	-5.06	104.38	106.40
1	X	2039	G	N9-C4-C5	-5.06	103.38	105.40
1	X	1238	A	N1-C6-N6	-5.06	115.56	118.60
1	X	2274	C	N3-C2-O2	5.06	125.44	121.90
1	X	2640	G	N3-C4-C5	5.06	131.13	128.60
1	X	529	U	C6-N1-C2	-5.06	117.97	121.00
1	X	1912	G	N7-C8-N9	5.06	115.63	113.10
1	X	1991	C	C6-N1-C1'	5.06	126.87	120.80
1	X	3	U	N3-C2-O2	5.05	125.74	122.20
1	X	236	C	N1-C2-O2	5.05	121.93	118.90
1	X	602	C	N3-C2-O2	5.05	125.44	121.90
18	P	36	ARG	NE-CZ-NH1	-5.05	117.77	120.30
1	X	744	C	N3-C4-C5	-5.05	119.88	121.90
1	X	30	G	N9-C4-C5	5.05	107.42	105.40
1	X	1033	G	C5-C6-O6	5.05	131.63	128.60
1	X	2234	G	C5-C6-N1	5.05	114.03	111.50
1	X	2766	U	N3-C4-C5	5.05	117.63	114.60
1	X	1759	A	C5-C6-N6	-5.05	119.66	123.70
1	X	2303	C	C6-N1-C1'	-5.05	114.75	120.80
1	X	165	G	N9-C4-C5	-5.04	103.38	105.40
1	X	1584	G	C4-C5-N7	5.04	112.82	110.80
1	X	1710	U	C6-N1-C2	5.04	124.03	121.00
1	X	2798	A	C5-C6-N1	-5.04	115.18	117.70
1	X	160	C	C6-N1-C2	-5.04	118.28	120.30
1	X	488	A	C5-C6-N1	-5.04	115.18	117.70
1	X	583	C	N1-C2-O2	-5.04	115.88	118.90
1	X	1296	G	C5-C6-O6	5.04	131.62	128.60
1	X	2553	G	C5-N7-C8	5.04	106.82	104.30
1	X	2508	G	C6-C5-N7	-5.04	127.38	130.40
1	X	1041	G	N3-C4-C5	5.04	131.12	128.60
1	X	1316	G	C5-C6-O6	5.04	131.62	128.60
1	X	1780	A	C8-N9-C4	-5.04	103.78	105.80
1	X	1828	C	N3-C4-N4	-5.04	114.47	118.00
1	X	1844	C	C6-N1-C2	-5.04	118.28	120.30
1	X	2412	A	C4-C5-C6	-5.04	114.48	117.00
1	X	531	G	N7-C8-N9	-5.04	110.58	113.10
1	X	2219	U	C6-N1-C2	-5.03	117.98	121.00
1	X	2244	C	N1-C2-O2	5.03	121.92	118.90
1	X	2434	G	C5-C6-O6	5.03	131.62	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	143	A	C8-N9-C4	5.03	107.81	105.80
1	X	2010	G	N3-C4-N9	5.03	129.02	126.00
1	X	2355	A	N7-C8-N9	-5.03	111.28	113.80
1	X	2679	G	C8-N9-C4	5.03	108.41	106.40
1	X	1242	A	C4-C5-N7	5.03	113.21	110.70
1	X	320	A	C8-N9-C4	5.03	107.81	105.80
1	X	1982	C	C4-C5-C6	5.03	119.91	117.40
1	X	1933	G	N9-C4-C5	5.02	107.41	105.40
1	X	1958	G	N1-C6-O6	5.02	122.91	119.90
1	X	2565	C	N3-C2-O2	-5.02	118.38	121.90
1	X	1584	G	N1-C6-O6	5.02	122.91	119.90
1	X	2587	G	N9-C4-C5	5.02	107.41	105.40
1	X	885	A	N9-C4-C5	5.02	107.81	105.80
1	X	1325	U	C6-N1-C2	-5.02	117.99	121.00
1	X	309	G	N9-C4-C5	-5.02	103.39	105.40
1	X	471	A	N9-C4-C5	-5.02	103.79	105.80
1	X	1240	G	N7-C8-N9	-5.02	110.59	113.10
1	X	1399	C	C6-N1-C2	5.02	122.31	120.30
1	X	1214	C	C6-N1-C2	-5.01	118.29	120.30
1	X	2550	C	C5-C6-N1	5.01	123.51	121.00
1	X	657	A	C8-N9-C4	-5.01	103.80	105.80
1	X	1635	G	C5-N7-C8	-5.01	101.79	104.30
1	X	2603	G	N3-C2-N2	-5.01	116.39	119.90
1	X	88	G	C4-C5-N7	5.01	112.80	110.80
1	X	1287	A	C2-N3-C4	5.01	113.10	110.60
1	X	2567	G	C4-C5-C6	5.00	121.80	118.80
1	X	547	U	N3-C2-O2	5.00	125.70	122.20
1	X	746	G	C2-N3-C4	-5.00	109.40	111.90
1	X	1698	C	N3-C2-O2	5.00	125.40	121.90

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	E	125	VAL	Peptide
7	E	130	ARG	Sidechain
7	E	165	VAL	Peptide
7	E	174	GLY	Peptide
8	F	116	ASN	Peptide
8	F	117	ALA	Peptide
8	F	118	GLY	Peptide
9	G	110	LEU	Peptide

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Mol	Chain	Res	Type	Group
9	G	111	LYS	Peptide
9	G	170	PRO	Peptide
9	G	35	LYS	Peptide
9	G	36	ASN	Peptide
9	G	38	GLU	Peptide
9	G	85	ALA	Peptide
9	G	91	THR	Peptide
10	H	40	GLY	Peptide
10	H	41	ASN	Peptide
11	I	18	ARG	Peptide
12	J	83	ARG	Sidechain

5.2 Too-close contacts [i](#)

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	56750	0	28598	2022	3
2	Y	2561	0	1306	67	0
3	A	1920	0	1974	255	0
4	B	1539	0	1600	168	0
5	C	1481	0	1504	122	0
6	D	1394	0	1470	73	0
7	E	1286	0	1336	30	0
8	F	451	0	474	21	0
9	G	1114	0	1144	113	0
10	H	997	0	1046	97	0
11	I	1005	0	1036	117	0
12	J	1090	0	1125	97	0
13	K	878	0	930	93	0
14	L	779	0	820	77	0
15	M	871	0	894	85	3
16	N	978	0	1020	107	0
17	O	741	0	756	66	0
18	P	1004	0	1083	70	0
19	Q	714	0	731	35	0
20	R	825	0	881	78	0
21	S	1345	0	1372	56	0
22	T	556	0	579	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	U	537	0	580	40	0
24	V	525	0	546	20	0
25	W	424	0	470	24	0
26	Z	452	0	457	39	0
27	1	431	0	456	91	0
28	2	383	0	414	51	0
29	3	462	0	506	78	0
30	4	297	0	330	18	0
31	X	33	0	33	18	0
32	X	58	0	69	43	0
33	I	1	0	0	0	0
33	U	1	0	0	0	0
33	X	71	0	0	0	0
34	X	4	0	0	0	0
35	X	5	0	0	0	0
All	All	83963	0	55540	3669	3

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 26.

All (3669) 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:699:G:N2	28:2:5:TYR:CE1	1.89	1.36
27:1:28:ARG:HB2	27:1:30:ASN:OD1	1.24	1.34
1:X:699:G:N2	28:2:5:TYR:HE1	1.25	1.28
1:X:775:U:H5'	1:X:776:G:N2	1.49	1.26
1:X:699:G:N7	28:2:11:LYS:HG3	1.51	1.26
1:X:775:U:H5'	1:X:776:G:C2	1.71	1.25
3:A:66:ILE:CG2	3:A:68:PHE:CZ	2.19	1.24
1:X:1142:G:N2	9:G:101:THR:HG21	1.52	1.23
1:X:2662:C:O2	10:H:82:LYS:NZ	1.71	1.22
1:X:699:G:C8	28:2:11:LYS:HG2	1.75	1.22
1:X:2045:A:C6	32:X:2882:LMA:H27A	1.75	1.21
1:X:1391:A:N7	1:X:1393:G:C6	2.10	1.20
1:X:699:G:C8	28:2:11:LYS:CG	2.26	1.18
1:X:2427:A:N6	11:I:40:ARG:NH2	1.90	1.18
1:X:1692:C:O2	4:B:128:SER:O	1.62	1.17
1:X:400:U:OP2	23:U:37:ILE:HD11	1.44	1.16
32:X:2882:LMA:H34	32:X:2882:LMA:H56B	1.28	1.15
32:X:2882:LMA:C34	32:X:2882:LMA:H56B	1.75	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:41:ASP:OD2	27:1:46:LYS:HD2	1.48	1.13
21:S:13:LYS:HE3	21:S:33:ALA:HB1	1.22	1.13
10:H:75:VAL:HG12	10:H:118:LEU:HD21	1.20	1.12
27:1:14:SER:HB2	27:1:22:TYR:HA	1.24	1.12
1:X:1685:A:N6	1:X:1974:U:O2	1.82	1.12
1:X:699:G:O6	28:2:12:ARG:HA	1.51	1.10
15:M:34:ARG:HD3	15:M:88:VAL:HG22	1.29	1.10
31:X:2881:LC2:C2	31:X:2881:LC2:H28	1.76	1.09
16:N:66:ASN:HB3	16:N:76:TYR:HB2	1.32	1.09
1:X:2426:G:H3'	1:X:2479:U:OP2	1.50	1.09
1:X:1142:G:H21	9:G:101:THR:CG2	1.65	1.08
11:I:18:ARG:HB2	11:I:21:ARG:HB2	1.28	1.08
3:A:218:ARG:HG3	3:A:219:LYS:H	0.97	1.08
9:G:35:LYS:CB	9:G:37:ASP:OD2	2.00	1.08
1:X:1673:C:C5'	4:B:136:ARG:HD3	1.83	1.07
3:A:44:ARG:HD2	3:A:44:ARG:H	1.15	1.07
9:G:35:LYS:HG3	9:G:37:ASP:OD2	1.55	1.07
6:D:38:GLU:HB3	6:D:87:ILE:HB	1.35	1.07
3:A:22:PHE:O	3:A:209:LYS:HG3	1.52	1.07
9:G:35:LYS:CG	9:G:37:ASP:OD2	2.03	1.06
1:X:1391:A:C5	1:X:1393:G:C5	2.43	1.06
15:M:33:VAL:HG22	15:M:51:GLU:HB2	1.29	1.05
17:O:21:ARG:NH2	17:O:88:GLN:OE1	1.86	1.05
3:A:218:ARG:HG3	3:A:219:LYS:N	1.57	1.05
3:A:27:LYS:HE2	3:A:205:ILE:CD1	1.85	1.05
1:X:1092:U:H4'	8:F:122:ALA:HB1	1.09	1.05
3:A:66:ILE:HG21	3:A:68:PHE:CZ	1.87	1.05
12:J:92:GLU:HG3	12:J:93:TYR:HD2	1.21	1.05
1:X:1673:C:H5'	4:B:136:ARG:HD3	1.37	1.04
32:X:2882:LMA:H40	32:X:2882:LMA:H29B	1.37	1.03
1:X:1142:G:N2	9:G:101:THR:CG2	2.20	1.03
1:X:2170:C:H3'	1:X:2171:U:H5''	1.40	1.03
1:X:2427:A:N6	11:I:40:ARG:HH22	1.48	1.03
1:X:1142:G:H1'	9:G:103:TYR:CE2	1.94	1.03
18:P:41:VAL:O	18:P:44:VAL:HG22	1.59	1.02
21:S:13:LYS:CE	21:S:33:ALA:HB1	1.89	1.02
1:X:2663:U:O2'	10:H:88:THR:HG21	1.58	1.02
31:X:2881:LC2:O6	31:X:2881:LC2:H14B	1.58	1.02
1:X:763:A:H2'	1:X:764:A:H5''	1.39	1.02
11:I:18:ARG:CB	11:I:21:ARG:HB2	1.88	1.02
3:A:160:ALA:HB2	3:A:199:ASN:ND2	1.72	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2427:A:H61	11:I:40:ARG:NH2	1.54	1.02
21:S:129:ARG:NH2	21:S:156:GLU:OE1	1.93	1.02
1:X:1391:A:C8	1:X:1393:G:O6	2.14	1.01
9:G:67:ARG:HB3	9:G:70:PHE:HA	1.40	1.00
4:B:78:LEU:O	4:B:79:ARG:HD3	1.62	0.99
31:X:2881:LC2:H28	31:X:2881:LC2:C3	1.91	0.99
1:X:577:U:H5'	1:X:956:A:N6	1.77	0.99
9:G:35:LYS:HB2	9:G:37:ASP:OD2	1.61	0.99
1:X:2427:A:H62	11:I:40:ARG:HH22	1.08	0.99
32:X:2882:LMA:H56A	32:X:2882:LMA:H12	1.42	0.99
4:B:133:LYS:HG3	4:B:137:ARG:HD3	1.43	0.99
1:X:971:A:H61	12:J:83:ARG:HH22	0.99	0.99
1:X:2494:C:OP1	9:G:108:GLY:O	1.81	0.99
1:X:309:G:OP1	20:R:93:ARG:O	1.81	0.98
1:X:309:G:OP1	20:R:93:ARG:HB3	1.61	0.98
1:X:775:U:C5'	1:X:776:G:C2	2.45	0.98
1:X:1681:A:H61	1:X:1979:C:H42	0.99	0.98
9:G:70:PHE:CG	16:N:64:ARG:HG2	1.99	0.98
1:X:334:G:H2'	5:C:162:ARG:HE	1.25	0.98
1:X:2350:G:O2'	27:1:46:LYS:HG3	1.64	0.97
1:X:348:U:OP2	20:R:93:ARG:NH2	1.98	0.97
1:X:824:U:H2'	11:I:30:ALA:HA	1.46	0.96
1:X:824:U:C2'	11:I:30:ALA:HA	1.96	0.96
1:X:2378:G:H1'	27:1:22:TYR:OH	1.66	0.96
1:X:1142:G:H21	9:G:101:THR:HG21	0.79	0.96
1:X:309:G:P	20:R:93:ARG:HB3	2.04	0.96
1:X:699:G:N7	28:2:11:LYS:CG	2.28	0.96
1:X:2272:A:H5''	14:L:15:ARG:HH21	1.30	0.95
27:1:8:ILE:HG13	27:1:30:ASN:ND2	1.80	0.95
12:J:50:ALA:HB1	12:J:125:LYS:HD3	1.49	0.95
1:X:2257:A:N6	22:T:15:ASP:OD1	1.99	0.95
12:J:92:GLU:HG3	12:J:93:TYR:CD2	2.00	0.95
1:X:2781:G:H2'	1:X:2782:G:H5''	1.49	0.94
1:X:635:C:H2'	1:X:636:G:H5''	1.49	0.94
1:X:824:U:H2'	11:I:30:ALA:CA	1.97	0.94
20:R:18:LYS:HD3	20:R:18:LYS:H	1.32	0.94
1:X:334:G:N2	5:C:162:ARG:NH2	2.15	0.94
19:Q:88:ILE:HD12	19:Q:92:ALA:HB2	1.50	0.94
3:A:61:ARG:HD3	3:A:88:ASN:OD1	1.66	0.94
1:X:2264:C:H5	27:1:28:ARG:CZ	1.81	0.94
11:I:18:ARG:CG	11:I:21:ARG:HB2	1.98	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:699:G:H8	28:2:11:LYS:HG2	1.17	0.94
1:X:775:U:C5'	1:X:776:G:N2	2.30	0.94
15:M:34:ARG:NH1	15:M:88:VAL:HG21	1.83	0.93
1:X:762:A:H2	1:X:766:A:HO2'	1.00	0.93
3:A:27:LYS:CE	3:A:205:ILE:HD13	1.97	0.93
3:A:219:LYS:O	3:A:219:LYS:HD2	1.67	0.93
12:J:27:TYR:HB3	12:J:137:VAL:HG21	1.49	0.93
14:L:89:PHE:HZ	14:L:103:LEU:HD22	1.33	0.93
32:X:2882:LMA:H12	32:X:2882:LMA:C56	1.99	0.93
1:X:1816:G:O2'	3:A:253:LYS:HD3	1.68	0.93
3:A:26:THR:HG22	3:A:27:LYS:N	1.81	0.92
1:X:699:G:C8	28:2:11:LYS:HG3	1.97	0.92
1:X:2264:C:H5	27:1:28:ARG:NH1	1.66	0.92
4:B:76:ARG:HH12	15:M:4:HIS:HB2	1.30	0.92
5:C:154:ASP:O	5:C:157:THR:HG22	1.68	0.92
16:N:7:GLY:O	16:N:9:VAL:HG23	1.70	0.92
1:X:1173:G:H4'	17:O:22:VAL:HG22	1.52	0.92
1:X:1092:U:H4'	8:F:122:ALA:CB	1.98	0.92
27:1:12:MET:HG3	27:1:27:ASN:OD1	1.69	0.92
1:X:2478:C:H6	1:X:2478:C:O5'	1.53	0.92
27:1:9:ILE:HA	27:1:28:ARG:HA	1.52	0.91
11:I:62:LYS:HD3	29:3:12:ARG:CA	2.00	0.91
1:X:1141:U:O4	4:B:147:PRO:HD3	1.68	0.91
1:X:1225:G:H2'	1:X:1249:G:H22	1.36	0.91
1:X:123:A:O2'	28:2:13:ALA:O	1.89	0.91
3:A:248:VAL:HG23	3:A:249:THR:HG23	1.51	0.91
1:X:1291:G:OP1	13:K:36:THR:OG1	1.89	0.90
10:H:75:VAL:HG12	10:H:118:LEU:CD2	2.02	0.90
2:Y:83:C:H2'	2:Y:84:G:H5'	1.51	0.90
3:A:66:ILE:HG21	3:A:89:ARG:HH22	1.37	0.90
1:X:2671:C:OP1	1:X:2846:G:H4'	1.71	0.90
3:A:71:ARG:HH12	3:A:150:PRO:CA	1.85	0.90
1:X:2204:A:H4'	1:X:2205:C:O5'	1.70	0.90
1:X:2757:G:H5''	1:X:2758:A:H5'	1.53	0.90
1:X:1810:U:C5	3:A:158:ARG:HD2	2.07	0.90
20:R:48:VAL:HG12	20:R:50:GLY:H	1.37	0.89
1:X:2064:U:H5'	23:U:41:VAL:HG11	1.53	0.89
1:X:2272:A:H5''	14:L:15:ARG:NH2	1.86	0.89
3:A:84:GLU:OE2	3:A:105:TYR:HE2	1.54	0.89
6:D:4:LEU:HG	6:D:5:LYS:H	1.36	0.89
3:A:66:ILE:HG23	3:A:68:PHE:CZ	2.05	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1656:U:C2'	1:X:1657:A:H5''	2.02	0.89
1:X:2430:A:N1	31:X:2881:LC2:H15A	1.85	0.89
6:D:40:LEU:HD23	6:D:41:GLY:N	1.86	0.89
21:S:13:LYS:HG2	21:S:18:MET:HB2	1.53	0.89
3:A:44:ARG:HD2	3:A:44:ARG:N	1.86	0.89
5:C:102:LEU:O	5:C:102:LEU:HD23	1.72	0.89
15:M:34:ARG:HD3	15:M:88:VAL:CG2	2.02	0.89
1:X:546:A:H4'	16:N:57:PHE:HZ	1.37	0.89
3:A:27:LYS:HE2	3:A:205:ILE:HD13	1.55	0.88
1:X:1681:A:N6	1:X:1979:C:H42	1.70	0.88
18:P:32:ARG:HA	18:P:32:ARG:NE	1.89	0.88
1:X:122:G:H2'	28:2:19:ARG:HH21	1.38	0.88
3:A:90:SER:O	3:A:199:ASN:ND2	2.05	0.88
10:H:23:ARG:HH12	10:H:25:LEU:HD23	1.37	0.88
27:1:8:ILE:HG13	27:1:30:ASN:HD21	1.37	0.88
9:G:53:ARG:HD3	9:G:171:LEU:HD12	1.52	0.88
1:X:2349:G:H21	27:1:46:LYS:NZ	1.71	0.88
11:I:62:LYS:HD3	29:3:12:ARG:HA	1.56	0.88
10:H:19:ILE:O	10:H:19:ILE:HG13	1.71	0.88
14:L:44:ASP:HB3	14:L:47:ARG:O	1.74	0.88
22:T:14:ARG:O	22:T:15:ASP:OD2	1.92	0.88
1:X:1391:A:C8	1:X:1393:G:C6	2.61	0.88
32:X:2882:LMA:H57	32:X:2882:LMA:H56A	1.53	0.88
1:X:748:A:H5''	1:X:748:A:H8	1.38	0.88
1:X:971:A:H61	12:J:83:ARG:NH2	1.71	0.87
1:X:919:U:OP1	12:J:26:ASP:OD2	1.91	0.87
1:X:331:U:H1'	5:C:162:ARG:HH12	1.39	0.87
1:X:609:U:H4'	11:I:18:ARG:NH2	1.89	0.87
1:X:2015:G:H4'	1:X:2016:A:OP1	1.75	0.87
10:H:23:ARG:HB3	10:H:23:ARG:NH2	1.90	0.86
1:X:1810:U:H5	3:A:158:ARG:HD2	1.38	0.86
1:X:1391:A:C4	1:X:1393:G:N7	2.43	0.86
1:X:1441:A:H4'	1:X:1442:C:O5'	1.73	0.86
1:X:2063:A:O3'	23:U:39:LYS:HG2	1.76	0.86
1:X:1142:G:H1'	9:G:103:TYR:HE2	1.40	0.86
15:M:33:VAL:HG22	15:M:51:GLU:CB	2.05	0.86
1:X:2500:C:H6	1:X:2500:C:O5'	1.58	0.86
1:X:2664:G:OP1	10:H:90:ARG:NH1	2.08	0.86
3:A:173:TYR:HA	3:A:187:HIS:HA	1.57	0.86
10:H:116:ARG:NH1	15:M:38:LYS:HE2	1.91	0.86
3:A:207:LEU:HA	3:A:212:ARG:NH1	1.91	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2045:A:H61	32:X:2882:LMA:H32B	1.41	0.85
3:A:150:PRO:HD3	3:A:190:CYS:SG	2.16	0.85
1:X:1692:C:C2	4:B:128:SER:O	2.28	0.85
14:L:89:PHE:CZ	14:L:103:LEU:HD22	2.12	0.85
27:1:8:ILE:O	27:1:9:ILE:HG23	1.76	0.85
1:X:552:C:H2'	1:X:553:C:H5''	1.57	0.85
1:X:2371:A:O2'	11:I:59:ARG:HG2	1.76	0.85
3:A:146:LEU:O	3:A:156:LEU:HB2	1.76	0.85
23:U:59:THR:O	23:U:60:VAL:HG22	1.76	0.85
3:A:80:VAL:HB	3:A:115:GLY:H	1.42	0.85
17:O:21:ARG:HH22	17:O:88:GLN:HE22	1.23	0.85
32:X:2882:LMA:O53	32:X:2882:LMA:H32	1.76	0.84
1:X:879:A:H2'	1:X:879:A:N3	1.91	0.84
11:I:31:GLY:HA3	11:I:34:HIS:HB2	1.59	0.84
1:X:1238:A:H5'	17:O:85:GLY:H	1.43	0.84
1:X:2350:G:O2'	27:1:46:LYS:CG	2.25	0.84
1:X:525:A:H2'	1:X:526:C:H5'	1.60	0.84
5:C:164:VAL:HG23	5:C:165:SER:H	1.42	0.84
1:X:123:A:H5'	28:2:19:ARG:NH2	1.93	0.84
1:X:2014:A:C6	1:X:2477:C:H1'	2.12	0.84
12:J:71:PRO:HA	12:J:96:SER:HB2	1.60	0.84
13:K:84:ALA:HB3	13:K:85:PRO:HD3	1.60	0.84
19:Q:53:ILE:HD13	19:Q:80:VAL:HG12	1.60	0.84
14:L:39:TYR:O	14:L:54:ALA:O	1.96	0.84
15:M:39:VAL:HG12	15:M:45:THR:OG1	1.78	0.84
1:X:2366:U:H1'	22:T:41:ARG:NH1	1.93	0.84
4:B:9:ILE:HD11	4:B:27:LEU:HB2	1.59	0.83
15:M:56:ALA:HB3	15:M:67:THR:H	1.42	0.83
15:M:99:VAL:HG21	15:M:104:LEU:HD21	1.60	0.83
1:X:2264:C:C5	27:1:28:ARG:NH1	2.46	0.83
4:B:154:LYS:HE3	4:B:156:MET:SD	2.18	0.83
1:X:1623:C:H4'	1:X:1624:A:O5'	1.78	0.83
32:X:2882:LMA:O9	32:X:2882:LMA:H32A	1.77	0.83
4:B:136:ARG:HG2	4:B:137:ARG:N	1.92	0.83
1:X:1296:G:H22	1:X:1299:A:H5''	1.43	0.83
18:P:41:VAL:O	18:P:44:VAL:CG2	2.27	0.83
1:X:1142:G:H1'	9:G:103:TYR:CD2	2.14	0.83
1:X:1683:G:C2'	1:X:1684:G:H5'	2.09	0.83
1:X:2005:U:H6	1:X:2005:U:OP2	1.61	0.83
2:Y:83:C:H2'	2:Y:84:G:C5'	2.08	0.83
12:J:27:TYR:CB	12:J:137:VAL:HG21	2.08	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:162:ARG:CG	5:C:162:ARG:HH11	1.92	0.83
1:X:2621:G:OP1	9:G:110:LEU:HD13	1.79	0.83
1:X:590:C:OP1	16:N:31:GLN:HB3	1.77	0.83
1:X:334:G:N2	5:C:162:ARG:HH21	1.75	0.83
16:N:93:LYS:NZ	17:O:10:LYS:HE2	1.94	0.83
18:P:66:GLU:HB3	18:P:67:PRO:HD3	1.60	0.83
1:X:1681:A:H61	1:X:1979:C:N4	1.77	0.83
3:A:49:ARG:H	3:A:49:ARG:HH11	1.26	0.82
4:B:121:ASN:O	4:B:122:PHE:HB2	1.78	0.82
12:J:135:ARG:HH22	21:S:118:HIS:HD2	1.27	0.82
1:X:1288:A:C8	13:K:16:ALA:HB2	2.14	0.82
1:X:1067:G:H21	1:X:1114:A:H62	1.26	0.82
1:X:1277:G:H8	1:X:1277:G:O5'	1.61	0.82
1:X:6:A:H1'	9:G:162:LYS:CG	2.09	0.82
15:M:103:LYS:O	15:M:104:LEU:HB2	1.78	0.82
1:X:822:G:O2'	1:X:823:U:H5'	1.79	0.82
5:C:176:ASN:HB2	5:C:179:ASP:OD2	1.80	0.82
10:H:76:ARG:HD3	10:H:113:PRO:O	1.79	0.82
4:B:38:THR:HG22	4:B:40:GLN:H	1.45	0.82
19:Q:7:LEU:HD22	19:Q:7:LEU:C	2.00	0.82
1:X:27:G:N2	1:X:522:G:H1'	1.94	0.82
27:1:41:ASP:HB2	27:1:46:LYS:HA	1.59	0.82
12:J:42:TRP:HB3	12:J:95:VAL:HG11	1.61	0.82
1:X:317:U:H2'	1:X:318:G:H5'	1.61	0.82
1:X:1656:U:H2'	1:X:1657:A:H5''	1.60	0.82
17:O:10:LYS:NZ	17:O:37:ALA:HB3	1.95	0.81
20:R:22:VAL:HG11	20:R:80:LYS:HE3	1.62	0.81
3:A:218:ARG:CG	3:A:219:LYS:N	2.39	0.81
14:L:26:ARG:HD3	14:L:86:GLN:HB3	1.61	0.81
1:X:2427:A:H61	11:I:40:ARG:HH21	1.28	0.81
1:X:2827:G:H1	1:X:2840:U:H3	1.27	0.81
1:X:2350:G:O2'	27:1:46:LYS:CB	2.28	0.81
1:X:1437:A:H2'	1:X:1438:G:H8	1.46	0.81
9:G:94:LYS:HG2	9:G:117:GLU:HB2	1.60	0.81
1:X:763:A:C2'	1:X:764:A:H5''	2.11	0.81
11:I:60:LEU:CD2	29:3:13:ARG:HG2	2.11	0.81
13:K:87:TYR:HE1	13:K:94:TYR:HD1	1.25	0.81
1:X:38:G:N2	5:C:42:THR:HG22	1.96	0.81
1:X:971:A:N6	12:J:83:ARG:HH22	1.78	0.81
1:X:759:C:H4'	1:X:759:C:OP1	1.80	0.81
3:A:209:LYS:HE3	3:A:209:LYS:HA	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:26:THR:CG2	3:A:27:LYS:N	2.44	0.81
3:A:49:ARG:NH1	3:A:49:ARG:HB3	1.96	0.81
3:A:69:LYS:H	3:A:69:LYS:HD3	1.46	0.81
14:L:37:HIS:NE2	14:L:39:TYR:CZ	2.49	0.80
3:A:66:ILE:HD11	3:A:107:LEU:HG	1.62	0.80
15:M:5:ILE:HD13	15:M:7:ILE:HG22	1.61	0.80
13:K:87:TYR:HE1	13:K:94:TYR:CD1	2.00	0.80
14:L:21:THR:CG2	14:L:45:ASP:O	2.29	0.80
1:X:1685:A:O4'	1:X:1686:A:C2	2.35	0.80
1:X:2756:A:H4'	1:X:2757:G:O5'	1.79	0.80
9:G:132:PHE:HD2	9:G:145:HIS:CG	1.99	0.80
19:Q:10:PRO:HD3	24:V:30:PHE:CD2	2.17	0.80
1:X:2045:A:C6	32:X:2882:LMA:C27	2.61	0.80
1:X:759:C:H2'	32:X:2882:LMA:H58A	1.63	0.80
1:X:123:A:C5'	28:2:19:ARG:HH21	1.93	0.80
29:3:8:LYS:HD2	29:3:11:LYS:HE3	1.61	0.80
1:X:1816:G:OP1	3:A:53:ARG:HD3	1.80	0.80
1:X:1441:A:H1'	1:X:1442:C:OP2	1.81	0.80
1:X:1696:C:O5'	1:X:1696:C:H6	1.65	0.80
31:X:2881:LC2:C14	31:X:2881:LC2:O6	2.30	0.80
9:G:70:PHE:HB2	16:N:64:ARG:HE	1.47	0.80
17:O:80:TYR:O	17:O:80:TYR:CG	2.34	0.80
3:A:84:GLU:OE2	3:A:105:TYR:CE2	2.34	0.80
1:X:1391:A:C4'	1:X:1392:U:OP1	2.30	0.80
3:A:27:LYS:CE	3:A:205:ILE:CD1	2.59	0.79
1:X:834:A:O2'	1:X:957:G:OP2	1.98	0.79
4:B:59:VAL:HG21	4:B:74:PRO:HB3	1.63	0.79
17:O:10:LYS:HZ2	17:O:37:ALA:HB3	1.45	0.79
1:X:1981:A:H4'	1:X:2704:U:O2'	1.82	0.79
1:X:1391:A:H1'	1:X:1392:U:O5'	1.81	0.79
1:X:845:U:OP1	11:I:38:LYS:NZ	2.14	0.79
4:B:102:ILE:HD11	4:B:184:VAL:CG2	2.13	0.79
4:B:120:TRP:CD2	4:B:155:ARG:HD2	2.18	0.79
17:O:21:ARG:HH22	17:O:88:GLN:NE2	1.80	0.79
1:X:1630:A:N1	18:P:114:ALA:HB2	1.98	0.79
18:P:89:ARG:HG2	18:P:131:LYS:H	1.47	0.79
32:X:2882:LMA:C34	32:X:2882:LMA:C56	2.60	0.79
27:1:28:ARG:CB	27:1:30:ASN:OD1	2.20	0.79
1:X:1391:A:N7	1:X:1393:G:C5	2.47	0.79
1:X:1691:G:N1	1:X:1972:G:O6	2.16	0.79
1:X:331:U:C1'	5:C:162:ARG:HH12	1.96	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:X:2881:LC2:C16	31:X:2881:LC2:H14B	2.12	0.78
1:X:2045:A:N6	32:X:2882:LMA:H27A	1.97	0.78
1:X:938:G:O2'	1:X:939:C:H5'	1.82	0.78
1:X:309:G:OP1	20:R:93:ARG:CB	2.31	0.78
1:X:1265:G:O4'	16:N:33:ARG:HD2	1.84	0.78
1:X:2074:U:H1'	23:U:48:LYS:HE3	1.65	0.78
5:C:22:VAL:HG11	5:C:110:SER:OG	1.84	0.78
6:D:65:PRO:HB3	6:D:89:VAL:HG22	1.65	0.78
1:X:596:C:OP2	11:I:29:THR:CG2	2.31	0.78
1:X:761:G:OP2	18:P:109:ARG:HG3	1.83	0.78
17:O:65:ARG:HE	17:O:87:ARG:HD2	1.48	0.78
3:A:66:ILE:CG2	3:A:68:PHE:CE2	2.66	0.78
12:J:13:GLN:O	12:J:74:PRO:HG3	1.82	0.78
16:N:25:TRP:CE3	16:N:26:GLY:N	2.52	0.78
1:X:1173:G:H2'	1:X:1174:G:H8	1.48	0.78
1:X:2264:C:C5	27:I:28:ARG:CZ	2.66	0.78
6:D:72:LYS:HA	6:D:81:GLN:O	1.83	0.78
1:X:1264:C:O2'	1:X:1265:G:H5''	1.82	0.78
3:A:71:ARG:HH12	3:A:150:PRO:HA	1.49	0.78
5:C:46:ARG:HD2	5:C:51:VAL:CG2	2.14	0.78
1:X:1673:C:H5''	4:B:136:ARG:HD3	1.65	0.78
1:X:1391:A:H4'	1:X:1392:U:OP1	1.84	0.78
13:K:17:ARG:HG3	13:K:18:VAL:N	1.99	0.78
23:U:49:LYS:HB3	23:U:61:TRP:CD2	2.19	0.78
1:X:27:G:H22	1:X:522:G:H1'	1.49	0.78
3:A:33:ALA:HB3	3:A:84:GLU:CD	2.05	0.77
1:X:587:A:OP1	1:X:1268:U:O2'	2.03	0.77
10:H:83:ARG:HD2	10:H:89:ILE:HD11	1.67	0.77
21:S:13:LYS:HE3	21:S:33:ALA:CB	2.09	0.77
1:X:1142:G:C1'	9:G:103:TYR:CD2	2.67	0.77
1:X:1324:G:H4'	1:X:1325:U:OP1	1.84	0.77
4:B:136:ARG:HG2	4:B:137:ARG:H	1.49	0.77
4:B:14:ILE:HD12	4:B:23:VAL:HG21	1.65	0.77
1:X:1668:G:N2	1:X:1990:U:C2	2.53	0.77
1:X:1964:A:H5''	1:X:1965:U:OP2	1.84	0.77
1:X:2430:A:C2	31:X:2881:LC2:H15A	2.19	0.77
1:X:822:G:C2'	1:X:823:U:H5'	2.15	0.77
4:B:47:VAL:HG21	4:B:84:PHE:O	1.85	0.77
1:X:824:U:C3'	11:I:30:ALA:HA	2.14	0.77
1:X:1365:U:O2	1:X:1393:G:C2	2.38	0.77
1:X:2663:U:O4	1:X:2664:G:O6	2.02	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:4:HIS:CB	26:Z:5:PRO:HD3	2.15	0.77
3:A:96:LEU:HD12	3:A:106:ILE:HD12	1.66	0.77
26:Z:4:HIS:HB2	26:Z:5:PRO:HD3	1.65	0.77
1:X:334:G:C2	5:C:162:ARG:NH2	2.48	0.77
1:X:1225:G:H2'	1:X:1249:G:N2	1.99	0.77
29:3:13:ARG:HG3	29:3:24:ALA:HA	1.66	0.77
3:A:102:GLU:OE2	3:A:104:ARG:NE	2.18	0.77
3:A:71:ARG:NH2	3:A:190:CYS:HA	2.00	0.77
3:A:49:ARG:HH11	3:A:49:ARG:N	1.81	0.77
1:X:45:C:OP2	1:X:192:G:H2'	1.85	0.77
1:X:577:U:H5'	1:X:956:A:H61	1.46	0.77
1:X:817:A:OP1	11:I:45:LYS:HG3	1.84	0.77
27:1:26:LYS:HG2	27:1:28:ARG:NH2	2.00	0.76
3:A:232:HIS:CD2	3:A:233:PRO:HD2	2.20	0.76
5:C:162:ARG:HB3	5:C:162:ARG:HH11	1.51	0.76
5:C:118:VAL:HG12	5:C:188:ILE:HB	1.67	0.76
1:X:1073:G:H21	8:F:133:SER:HB3	1.49	0.76
1:X:122:G:H2'	28:2:19:ARG:NH2	2.00	0.76
1:X:457:C:C2'	1:X:458:G:H5'	2.14	0.76
1:X:1712:G:H2'	1:X:1713:G:H5'	1.66	0.76
1:X:1822:C:H42	1:X:1958:G:H1	1.33	0.76
1:X:1365:U:O2	1:X:1393:G:N2	2.18	0.76
1:X:2825:A:O4'	1:X:2843:A:H2	1.69	0.76
1:X:791:G:C2	1:X:800:U:O2	2.38	0.76
5:C:126:ALA:O	5:C:127:ASP:HB2	1.84	0.76
1:X:1336:G:OP1	18:P:119:LYS:NZ	2.15	0.76
1:X:1668:G:H8	1:X:1668:G:H5''	1.50	0.76
3:A:160:ALA:CB	3:A:199:ASN:CG	2.54	0.76
10:H:2:ILE:HB	10:H:45:ALA:HB3	1.67	0.76
1:X:1682:A:O5'	1:X:1682:A:H8	1.69	0.76
1:X:2000:U:H4'	26:Z:8:LYS:O	1.86	0.76
6:D:60:ILE:HG13	6:D:61:THR:HG23	1.67	0.76
1:X:225:G:C2	1:X:2410:U:H4'	2.20	0.76
32:X:2882:LMA:H40	32:X:2882:LMA:C29	2.16	0.76
1:X:1683:G:H2'	1:X:1684:G:H5'	1.67	0.76
1:X:1983:G:O2'	1:X:1984:A:H5'	1.86	0.75
11:I:31:GLY:CA	11:I:34:HIS:HB2	2.17	0.75
1:X:2855:C:O2'	13:K:90:ARG:NH1	2.19	0.75
4:B:154:LYS:HE3	4:B:156:MET:CG	2.16	0.75
1:X:1203:A:OP1	11:I:33:GLY:O	2.05	0.75
1:X:1322:G:H4'	28:2:7:PRO:HB2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:22:VAL:HA	17:O:91:THR:HG22	1.67	0.75
1:X:1326:U:H4'	1:X:1345:G:H4'	1.68	0.75
1:X:1974:U:H3'	1:X:1974:U:H6	1.51	0.75
26:Z:4:HIS:HB2	26:Z:5:PRO:CD	2.17	0.75
3:A:219:LYS:HD2	3:A:219:LYS:C	2.05	0.75
1:X:161:U:H4'	1:X:194:G:H21	1.51	0.75
1:X:666:U:H2'	1:X:667:U:H5''	1.67	0.75
16:N:28:ARG:HD3	16:N:38:THR:OG1	1.87	0.75
3:A:27:LYS:HE2	3:A:205:ILE:HD11	1.65	0.75
5:C:162:ARG:HG3	5:C:162:ARG:HH11	1.51	0.75
1:X:1289:A:C2	1:X:1290:A:C5	2.74	0.75
1:X:1141:U:C4	4:B:147:PRO:HD3	2.22	0.75
32:X:2882:LMA:H34B	32:X:2882:LMA:H56B	1.66	0.75
1:X:596:C:OP2	11:I:29:THR:HG22	1.86	0.75
3:A:30:PRO:C	3:A:31:GLU:OE1	2.26	0.74
1:X:817:A:H2'	1:X:819:C:C4	2.22	0.74
3:A:70:ARG:HH21	3:A:106:ILE:HG21	1.52	0.74
4:B:76:ARG:NH1	15:M:4:HIS:HB2	2.01	0.74
5:C:30:VAL:HG11	5:C:177:VAL:HG21	1.67	0.74
1:X:863:C:HO2'	25:W:19:THR:HG1	1.26	0.74
1:X:797:A:O2'	1:X:798:G:C8	2.40	0.74
10:H:100:ASN:OD1	10:H:102:GLN:N	2.12	0.74
1:X:824:U:H3'	11:I:30:ALA:HA	1.69	0.74
18:P:60:ILE:HG22	18:P:60:ILE:O	1.85	0.74
21:S:155:PRO:HG2	21:S:158:CYS:SG	2.27	0.74
1:X:2426:G:C3'	1:X:2479:U:OP2	2.33	0.74
4:B:56:GLU:HG2	4:B:74:PRO:HG2	1.69	0.74
4:B:78:LEU:O	4:B:79:ARG:CD	2.35	0.74
9:G:108:GLY:H	9:G:110:LEU:HG	1.51	0.74
21:S:13:LYS:HG2	21:S:18:MET:CB	2.16	0.74
3:A:55:ILE:HG22	3:A:55:ILE:O	1.88	0.74
1:X:679:C:H5''	11:I:49:PHE:CD1	2.23	0.74
9:G:70:PHE:CB	16:N:64:ARG:HG2	2.17	0.74
19:Q:88:ILE:CD1	19:Q:92:ALA:HB2	2.17	0.74
11:I:57:ILE:O	29:3:12:ARG:HD3	1.87	0.74
11:I:83:LEU:O	11:I:84:GLU:HB2	1.87	0.74
1:X:2781:G:C2'	1:X:2782:G:H5''	2.18	0.74
1:X:2841:U:O2'	1:X:2842:C:P	2.46	0.74
1:X:748:A:H5''	1:X:748:A:C8	2.23	0.74
3:A:102:GLU:OE2	3:A:104:ARG:CZ	2.36	0.74
1:X:37:C:H1'	5:C:44:SER:OG	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:309:G:OP1	20:R:93:ARG:C	2.26	0.74
9:G:103:TYR:HB3	9:G:107:GLN:HG2	1.70	0.74
1:X:2272:A:P	14:L:18:ARG:HH12	2.10	0.74
23:U:32:ARG:NE	23:U:32:ARG:H	1.86	0.74
1:X:1107:A:H3'	1:X:1108:U:H5''	1.70	0.74
1:X:1050:G:H1	1:X:1127:C:H42	1.33	0.74
5:C:162:ARG:HH11	5:C:162:ARG:CB	2.01	0.74
1:X:337:G:O2'	20:R:9:HIS:ND1	2.20	0.74
7:E:127:GLU:HG2	7:E:128:PRO:HD2	1.70	0.73
1:X:546:A:H4'	16:N:57:PHE:CZ	2.20	0.73
1:X:1643:A:H61	1:X:1656:U:H3	1.35	0.73
10:H:17:ARG:HE	10:H:59:ALA:HB2	1.52	0.73
15:M:34:ARG:HH11	15:M:88:VAL:HG21	1.50	0.73
21:S:13:LYS:CE	21:S:33:ALA:CB	2.66	0.73
1:X:1265:G:H1	16:N:37:GLN:HE21	1.33	0.73
11:I:18:ARG:HG2	11:I:21:ARG:HD3	1.70	0.73
1:X:2063:A:H5'	23:U:38:THR:HB	1.69	0.73
1:X:824:U:H2'	11:I:30:ALA:N	2.03	0.73
3:A:160:ALA:CB	3:A:199:ASN:ND2	2.51	0.73
1:X:1313:U:H4'	1:X:1314:A:O5'	1.89	0.73
1:X:2015:G:C4'	1:X:2016:A:OP1	2.37	0.73
5:C:46:ARG:HD2	5:C:51:VAL:HG21	1.69	0.73
16:N:59:ARG:O	16:N:63:GLN:OE1	2.07	0.73
1:X:321:A:C2	1:X:323:G:H1'	2.23	0.73
13:K:56:LYS:HE3	13:K:88:ALA:HA	1.70	0.73
2:Y:93:G:OP1	12:J:19:THR:HB	1.88	0.73
17:O:73:LYS:HB2	17:O:82:ARG:HB2	1.71	0.72
1:X:1289:A:C2	1:X:1290:A:C4	2.77	0.72
5:C:158:ARG:HE	5:C:171:PRO:HA	1.53	0.72
1:X:2840:U:C4	1:X:2841:U:C5	2.77	0.72
1:X:626:A:HO2'	5:C:176:ASN:CG	1.92	0.72
6:D:150:ARG:HA	6:D:150:ARG:HH11	1.53	0.72
1:X:2064:U:P	23:U:39:LYS:HG2	2.29	0.72
3:A:66:ILE:HG21	3:A:68:PHE:CE2	2.23	0.72
6:D:80:ARG:HD3	6:D:83:MET:HB3	1.70	0.72
12:J:135:ARG:HH22	21:S:118:HIS:CD2	2.07	0.72
18:P:107:ILE:O	18:P:107:ILE:HG23	1.88	0.72
1:X:517:A:H5''	1:X:518:A:H5'	1.70	0.72
1:X:1780:A:H5''	3:A:222:GLN:OE1	1.88	0.72
3:A:247:PRO:HG2	3:A:249:THR:O	1.89	0.72
1:X:1142:G:C1'	9:G:103:TYR:HD2	2.02	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1817:U:H4'	3:A:253:LYS:CE	2.20	0.72
1:X:400:U:OP2	23:U:37:ILE:CD1	2.34	0.72
1:X:648:A:H4'	1:X:649:G:H5'	1.72	0.72
3:A:27:LYS:HE3	3:A:205:ILE:HD13	1.69	0.72
10:H:20:MET:O	10:H:53:ALA:HB1	1.90	0.72
27:1:8:ILE:HA	27:1:29:ARG:HH21	1.54	0.72
3:A:184:ARG:NH1	3:A:184:ARG:HB3	2.05	0.72
5:C:106:MET:O	5:C:109:ALA:HB3	1.89	0.72
15:M:102:ALA:O	15:M:103:LYS:HD3	1.88	0.72
17:O:21:ARG:O	17:O:91:THR:CG2	2.38	0.72
1:X:1007:A:O3'	16:N:93:LYS:HB3	1.88	0.72
1:X:654:A:N3	1:X:654:A:H3'	2.05	0.72
8:F:120:VAL:HG12	8:F:121:GLU:N	2.05	0.72
1:X:923:A:C4	12:J:12:LYS:HE2	2.25	0.72
1:X:2736:U:H5''	30:4:19:ARG:HG2	1.71	0.72
1:X:525:A:C2'	1:X:526:C:H5'	2.20	0.72
3:A:26:THR:CG2	3:A:27:LYS:H	2.03	0.72
29:3:59:LYS:O	29:3:60:LEU:HB2	1.90	0.71
4:B:175:ILE:HG12	4:B:182:ILE:HG13	1.72	0.71
10:H:133:VAL:HG12	10:H:133:VAL:O	1.90	0.71
1:X:334:G:H2'	5:C:162:ARG:NE	2.02	0.71
1:X:609:U:H4'	11:I:18:ARG:CZ	2.20	0.71
1:X:1684:G:O2'	1:X:1974:U:O4	2.08	0.71
1:X:542:A:H8	16:N:28:ARG:HH21	1.37	0.71
3:A:22:PHE:O	3:A:209:LYS:CG	2.35	0.71
1:X:29:U:C4'	16:N:11:ARG:HH12	2.03	0.71
1:X:514:G:C5	18:P:20:LEU:HD22	2.25	0.71
12:J:27:TYR:O	12:J:28:VAL:CG2	2.39	0.71
1:X:1469:U:H5	13:K:64:ARG:HH21	1.36	0.71
13:K:54:THR:HG22	13:K:66:VAL:CG2	2.20	0.71
1:X:1437:A:H2'	1:X:1438:G:C8	2.24	0.71
1:X:1949:A:H1'	1:X:2572:U:H5'	1.72	0.71
27:1:14:SER:HB2	27:1:22:TYR:CA	2.14	0.71
1:X:6:A:H1'	9:G:162:LYS:HG3	1.71	0.71
1:X:1391:A:N7	1:X:1393:G:O6	2.17	0.71
1:X:2040:A:O5'	1:X:2040:A:H8	1.73	0.71
1:X:635:C:C2'	1:X:636:G:H5''	2.19	0.71
1:X:958:G:O2'	1:X:995:A:N1	2.24	0.71
5:C:194:GLU:O	5:C:195:ILE:HG12	1.91	0.71
11:I:61:PRO:HG3	29:3:27:SER:HA	1.72	0.71
29:3:9:MET:HE2	29:3:12:ARG:HH12	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:84:PHE:CD2	4:B:84:PHE:O	2.44	0.71
1:X:1045:G:H5'	30:4:18:ARG:HG3	1.73	0.71
1:X:755:C:H2'	1:X:756:C:C6	2.26	0.71
1:X:798:G:O2'	1:X:1770:U:C5'	2.39	0.71
6:D:123:ASP:OD1	6:D:125:ARG:N	2.23	0.71
27:1:8:ILE:C	27:1:9:ILE:HG23	2.11	0.70
11:I:62:LYS:HD2	29:3:13:ARG:N	2.06	0.70
16:N:40:LEU:HD22	17:O:74:TYR:CE1	2.25	0.70
1:X:2642:G:H2'	1:X:2643:G:O4'	1.90	0.70
31:X:2881:LC2:C2	31:X:2881:LC2:C28	2.51	0.70
1:X:703:A:O2'	1:X:793:G:OP1	2.09	0.70
26:Z:52:TYR:O	26:Z:53:ASP:HB2	1.90	0.70
12:J:44:LYS:HB2	12:J:47:GLN:HG3	1.72	0.70
20:R:92:THR:OG1	20:R:106:VAL:HB	1.91	0.70
1:X:1404:C:H5'	1:X:1405:A:OP2	1.90	0.70
3:A:55:ILE:N	3:A:55:ILE:CD1	2.54	0.70
25:W:3:ILE:HG23	25:W:51:LEU:HD13	1.73	0.70
1:X:2349:G:H21	27:1:46:LYS:HZ1	1.36	0.70
4:B:121:ASN:O	4:B:122:PHE:CB	2.39	0.70
10:H:76:ARG:O	10:H:94:ASN:HA	1.92	0.70
12:J:73:LYS:HB3	12:J:95:VAL:O	1.91	0.70
1:X:2265:A:H61	27:1:25:THR:HG21	1.57	0.70
1:X:1290:A:OP1	13:K:40:LYS:NZ	2.24	0.70
14:L:37:HIS:CD2	14:L:39:TYR:CE1	2.79	0.70
1:X:2698:G:H4'	15:M:103:LYS:HG2	1.72	0.70
9:G:70:PHE:CD1	16:N:64:ARG:HG2	2.26	0.70
20:R:91:ALA:O	20:R:108:VAL:HG22	1.91	0.70
1:X:1333:G:H22	1:X:1344:C:N4	1.88	0.70
3:A:160:ALA:HB2	3:A:199:ASN:CG	2.11	0.70
4:B:61:LYS:HB3	4:B:62:PRO:HD3	1.74	0.70
18:P:41:VAL:HG21	18:P:64:ALA:HB3	1.74	0.70
1:X:1781:C:H2'	1:X:1782:A:C5	2.26	0.70
1:X:2825:A:H2	13:K:61:HIS:CD2	2.10	0.70
11:I:18:ARG:HG3	11:I:21:ARG:HG3	1.73	0.70
10:H:113:PRO:HD3	15:M:73:PHE:HB2	1.73	0.70
1:X:6:A:H1'	9:G:162:LYS:HG2	1.71	0.70
4:B:120:TRP:CE3	4:B:155:ARG:HD2	2.27	0.70
8:F:120:VAL:HG12	8:F:121:GLU:HG3	1.73	0.70
1:X:2692:A:H5''	1:X:2693:U:OP2	1.92	0.70
12:J:77:LYS:O	12:J:79:PRO:HD3	1.91	0.69
1:X:123:A:H5'	28:2:19:ARG:CZ	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:33:ARG:HH11	14:L:100:VAL:HA	1.56	0.69
5:C:7:ILE:O	5:C:120:VAL:O	2.09	0.69
1:X:2044:G:OP1	5:C:62:LYS:HG3	1.91	0.69
3:A:154:ALA:O	3:A:158:ARG:NH2	2.25	0.69
3:A:254:PRO:O	3:A:256:LYS:HG3	1.91	0.69
1:X:116:A:OP1	28:2:22:MET:SD	2.50	0.69
1:X:1391:A:C5	1:X:1393:G:N7	2.60	0.69
1:X:755:C:H2'	1:X:756:C:H6	1.57	0.69
14:L:54:ALA:HB3	14:L:75:LEU:HD13	1.73	0.69
20:R:84:VAL:HA	20:R:90:LYS:HE2	1.74	0.69
1:X:1173:G:H2'	1:X:1174:G:C8	2.27	0.69
1:X:2274:C:OP2	14:L:11:LEU:HD21	1.92	0.69
1:X:555:U:H3'	1:X:556:A:H8	1.56	0.69
29:3:9:MET:HG2	29:3:59:LYS:O	1.92	0.69
3:A:69:LYS:H	3:A:69:LYS:CD	2.06	0.69
20:R:59:LYS:O	20:R:65:PRO:HB3	1.93	0.69
1:X:797:A:C5	3:A:230:VAL:HG21	2.27	0.69
1:X:797:A:C2	3:A:230:VAL:HG11	2.28	0.69
6:D:36:VAL:HB	6:D:89:VAL:HB	1.75	0.69
1:X:123:A:H5'	28:2:19:ARG:HH21	1.53	0.69
1:X:1459:U:H4'	1:X:1460:G:OP2	1.89	0.69
32:X:2882:LMA:O9	32:X:2882:LMA:C32	2.41	0.69
16:N:93:LYS:HD2	16:N:93:LYS:O	1.93	0.69
1:X:2012:A:C2	1:X:2016:A:C5	2.80	0.69
1:X:919:U:OP1	12:J:26:ASP:CG	2.31	0.69
3:A:70:ARG:NH2	3:A:106:ILE:HG21	2.07	0.68
1:X:2590:U:H1'	32:X:2882:LMA:H37B	1.74	0.68
1:X:2045:A:N6	32:X:2882:LMA:H32B	2.08	0.68
4:B:116:VAL:H	4:B:136:ARG:HE	1.41	0.68
4:B:60:ASN:O	4:B:64:GLN:HG3	1.94	0.68
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.74	0.68
11:I:83:LEU:O	11:I:84:GLU:CB	2.41	0.68
13:K:87:TYR:CE1	13:K:94:TYR:HD1	2.08	0.68
1:X:1327:C:H42	1:X:1351:G:H1	1.40	0.68
3:A:37:ALA:HB1	3:A:63:TYR:O	1.93	0.68
11:I:45:LYS:CE	11:I:47:ALA:HB3	2.23	0.68
1:X:1086:C:H3'	1:X:1087:C:H5''	1.73	0.68
1:X:2811:G:H2'	1:X:2812:A:C8	2.29	0.68
5:C:5:ASN:HA	5:C:118:VAL:HG23	1.74	0.68
24:V:2:LYS:N	24:V:3:PRO:CD	2.56	0.68
25:W:3:ILE:HD12	25:W:51:LEU:HD13	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2485:U:O4	31:X:2881:LC2:H30	1.93	0.68
1:X:2594:U:H2'	1:X:2594:U:O2	1.92	0.68
32:X:2882:LMA:C12	32:X:2882:LMA:C56	2.70	0.68
1:X:457:C:O2'	1:X:458:G:H5'	1.94	0.68
1:X:1628:C:H5'	28:2:7:PRO:HG2	1.76	0.68
17:O:21:ARG:NH2	17:O:88:GLN:CD	2.47	0.68
18:P:27:VAL:HB	18:P:125:THR:HG22	1.76	0.68
1:X:1750:A:O2'	1:X:2694:G:O2'	2.12	0.68
1:X:2400:G:O6	29:3:32:GLN:HG2	1.93	0.68
1:X:1686:A:O2'	1:X:2528:G:OP1	2.11	0.68
27:1:21:TYR:CD2	27:1:21:TYR:C	2.67	0.68
3:A:160:ALA:HA	3:A:199:ASN:CG	2.14	0.68
13:K:87:TYR:HD1	13:K:90:ARG:HD2	1.58	0.68
20:R:90:LYS:HD2	20:R:108:VAL:HG21	1.75	0.68
1:X:2272:A:OP2	14:L:18:ARG:NH1	2.26	0.68
1:X:2485:U:C4	31:X:2881:LC2:H30	2.29	0.68
4:B:26:VAL:CG1	4:B:196:VAL:HG21	2.24	0.68
13:K:38:LEU:HG	13:K:42:LYS:HE3	1.76	0.68
1:X:1444:C:H42	1:X:1579:G:H1	1.42	0.68
12:J:64:LYS:HD3	12:J:108:ALA:O	1.93	0.68
1:X:334:G:H4'	1:X:335:A:O5'	1.94	0.68
3:A:66:ILE:HG23	3:A:68:PHE:CE2	2.28	0.68
15:M:67:THR:OG1	15:M:80:VAL:HG22	1.94	0.68
1:X:2222:U:H2'	1:X:2223:U:C6	2.29	0.68
1:X:663:G:H3'	1:X:664:C:H5''	1.76	0.68
14:L:67:THR:O	14:L:71:VAL:HG12	1.93	0.67
1:X:1811:A:H1'	1:X:1812:U:OP2	1.94	0.67
1:X:1817:U:C4'	3:A:253:LYS:CD	2.71	0.67
1:X:526:C:O2'	1:X:527:C:H5'	1.94	0.67
9:G:158:HIS:HA	9:G:161:GLN:HG3	1.76	0.67
14:L:60:LYS:NZ	14:L:64:LYS:HE2	2.09	0.67
1:X:2571:G:C2	1:X:2582:G:C2	2.82	0.67
1:X:2692:A:C5'	1:X:2693:U:OP2	2.43	0.67
3:A:71:ARG:HG2	3:A:191:TYR:CE1	2.29	0.67
9:G:132:PHE:HD2	9:G:145:HIS:CD2	2.12	0.67
11:I:74:VAL:HG13	11:I:109:LEU:HD12	1.76	0.67
1:X:116:A:OP2	1:X:117:A:H2'	1.93	0.67
1:X:122:G:C2'	1:X:123:A:H5''	2.24	0.67
1:X:1337:G:OP2	18:P:105:ARG:NH1	2.28	0.67
1:X:167:A:OP2	1:X:182:G:N2	2.27	0.67
14:L:37:HIS:CD2	14:L:39:TYR:CZ	2.82	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2238:G:C8	1:X:2406:C:N4	2.63	0.67
1:X:2790:C:H42	1:X:2806:G:H1	1.42	0.67
32:X:2882:LMA:H56A	32:X:2882:LMA:C57	2.24	0.67
26:Z:4:HIS:CB	26:Z:5:PRO:CD	2.73	0.67
3:A:43:GLY:H	3:A:44:ARG:NH1	1.92	0.67
1:X:1686:A:C6	1:X:1977:C:O2	2.47	0.67
1:X:2484:G:O2'	31:X:2881:LC2:H4	1.94	0.67
1:X:2796:A:H5''	4:B:162:MET:HE3	1.76	0.67
27:1:21:TYR:CD2	27:1:50:PHE:HZ	2.13	0.67
9:G:34:PRO:HB3	9:G:71:THR:HG21	1.75	0.67
18:P:79:ALA:HB1	18:P:85:MET:SD	2.35	0.67
1:X:1404:C:C4	1:X:1406:A:C8	2.82	0.67
1:X:679:C:H5''	11:I:49:PHE:CE1	2.29	0.67
1:X:762:A:H61	1:X:766:A:H2	1.43	0.67
1:X:1982:C:O2'	1:X:1983:G:H5'	1.95	0.67
1:X:2038:C:H2'	1:X:2483:U:H4'	1.75	0.67
3:A:66:ILE:CG2	3:A:68:PHE:CE1	2.78	0.67
10:H:116:ARG:HD2	15:M:38:LYS:HE3	1.74	0.67
17:O:22:VAL:HA	17:O:91:THR:CG2	2.25	0.67
1:X:239:A:H5''	1:X:621:U:H5'	1.76	0.67
3:A:30:PRO:O	3:A:31:GLU:OE1	2.13	0.66
4:B:84:PHE:CE1	4:B:86:PRO:HB2	2.29	0.66
21:S:128:ARG:HG3	21:S:129:ARG:HG3	1.77	0.66
21:S:87:THR:HB	21:S:91:PRO:HB3	1.76	0.66
1:X:1224:A:H5'	18:P:10:ASN:ND2	2.10	0.66
1:X:759:C:C2	32:X:2882:LMA:H37	2.29	0.66
4:B:6:GLY:HA3	4:B:27:LEU:O	1.94	0.66
11:I:58:ALA:O	11:I:59:ARG:CB	2.43	0.66
1:X:1265:G:O4'	16:N:33:ARG:CD	2.44	0.66
1:X:589:C:H4'	16:N:31:GLN:NE2	2.10	0.66
2:Y:83:C:C2'	2:Y:84:G:H5'	2.26	0.66
18:P:40:LEU:HB3	26:Z:25:LEU:HD13	1.77	0.66
5:C:163:ASN:HD22	5:C:163:ASN:C	1.99	0.66
1:X:1614:C:H5''	19:Q:35:LYS:HB3	1.78	0.66
21:S:25:ASN:HB3	21:S:85:MET:HB2	1.77	0.66
1:X:114:C:O2'	1:X:124:A:N3	2.27	0.66
1:X:33:C:O2	1:X:466:A:H2	1.78	0.66
1:X:851:C:O2	1:X:952:A:C2	2.48	0.66
1:X:1774:A:C2	1:X:2566:A:C5	2.84	0.66
1:X:1773:C:N3	1:X:2565:C:N4	2.43	0.66
1:X:2664:G:N2	1:X:2706:U:O2	2.24	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:44:ARG:HE	3:A:56:GLY:HA2	1.61	0.66
4:B:67:PHE:CZ	4:B:75:THR:HG22	2.31	0.66
7:E:172:LYS:O	7:E:173:ALA:HB3	1.94	0.66
12:J:105:PHE:C	12:J:106:GLU:OE2	2.33	0.66
14:L:26:ARG:O	14:L:45:ASP:HB3	1.94	0.66
20:R:92:THR:HG22	20:R:108:VAL:HG22	1.77	0.66
2:Y:84:G:N1	2:Y:98:C:C2	2.64	0.66
6:D:106:ILE:HG21	6:D:139:PRO:HB3	1.77	0.66
15:M:99:VAL:HG21	15:M:104:LEU:CD2	2.26	0.66
1:X:128:C:H2'	1:X:129:A:H5''	1.77	0.66
1:X:1290:A:H4'	13:K:20:LEU:HD11	1.78	0.66
1:X:48:A:H8	1:X:50:G:H21	1.43	0.66
1:X:2218:G:O4'	3:A:250:PRO:HG3	1.96	0.66
1:X:2462:C:O2	12:J:125:LYS:NZ	2.28	0.66
1:X:991:A:C2	1:X:1146:G:H4'	2.30	0.66
1:X:1391:A:N3	1:X:1392:U:H3'	2.10	0.66
5:C:14:THR:HG21	5:C:195:ILE:HB	1.78	0.66
11:I:18:ARG:CG	11:I:21:ARG:CB	2.74	0.66
13:K:51:LEU:HD21	13:K:70:ILE:HD11	1.77	0.66
16:N:20:ARG:HH12	17:O:83:ARG:HH22	1.44	0.66
3:A:159:SER:OG	3:A:160:ALA:N	2.28	0.65
7:E:139:GLN:O	7:E:143:GLN:HG3	1.96	0.65
9:G:89:ALA:C	9:G:90:LEU:HD12	2.17	0.65
12:J:37:ALA:HA	12:J:130:THR:HG22	1.77	0.65
1:X:1712:G:C2'	1:X:1713:G:H5'	2.25	0.65
1:X:1770:U:OP2	1:X:1775:A:N6	2.29	0.65
1:X:227:G:OP2	29:3:8:LYS:HG2	1.96	0.65
1:X:2464:G:H4'	12:J:125:LYS:O	1.95	0.65
3:A:201:GLU:HG3	3:A:203:LYS:H	1.61	0.65
4:B:133:LYS:HG3	4:B:137:ARG:CD	2.21	0.65
16:N:93:LYS:HZ1	17:O:10:LYS:HE2	1.60	0.65
1:X:1948:C:C5	1:X:1949:A:N7	2.65	0.65
3:A:54:PHE:HB2	3:A:55:ILE:HD13	1.78	0.65
1:X:797:A:O2'	1:X:798:G:N7	2.29	0.65
10:H:116:ARG:HH21	15:M:40:ARG:HB2	1.62	0.65
12:J:66:TYR:O	12:J:106:GLU:OE1	2.14	0.65
1:X:2668:U:O2	1:X:2693:U:O5'	2.14	0.65
1:X:834:A:C2'	1:X:957:G:OP2	2.45	0.65
4:B:146:THR:HB	4:B:147:PRO:HD2	1.79	0.65
18:P:32:ARG:HA	18:P:32:ARG:HE	1.61	0.65
1:X:923:A:C5	12:J:12:LYS:HE2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:116:ASN:OD1	8:F:117:ALA:N	2.30	0.65
10:H:26:ASN:ND2	10:H:26:ASN:O	2.30	0.65
15:M:56:ALA:HB3	15:M:67:THR:N	2.12	0.65
1:X:1445:A:C2	1:X:1579:G:C2	2.84	0.65
3:A:211:GLY:HA2	3:A:214:ARG:HG2	1.78	0.65
3:A:66:ILE:HD12	3:A:89:ARG:CZ	2.27	0.65
5:C:151:VAL:HG12	5:C:173:ALA:HA	1.78	0.65
12:J:136:GLU:O	12:J:136:GLU:HG2	1.95	0.65
16:N:25:TRP:CE3	16:N:26:GLY:CA	2.80	0.65
1:X:1607:A:N3	1:X:1608:U:O4'	2.30	0.65
1:X:764:A:O5'	1:X:764:A:H8	1.80	0.65
10:H:75:VAL:HG22	10:H:96:ALA:HA	1.79	0.65
12:J:13:GLN:O	12:J:74:PRO:CG	2.44	0.65
13:K:79:VAL:O	13:K:84:ALA:HB2	1.97	0.65
21:S:51:LEU:H	21:S:51:LEU:HD23	1.61	0.65
1:X:357:A:H2'	1:X:358:C:H5'	1.78	0.65
1:X:748:A:N6	1:X:749:C:O2	2.30	0.65
1:X:995:A:P	1:X:996:C:H41	2.20	0.65
4:B:122:PHE:HZ	4:B:155:ARG:HB2	1.61	0.65
20:R:58:VAL:HG12	20:R:60:PRO:HD3	1.79	0.65
1:X:2005:U:C6	1:X:2005:U:OP2	2.47	0.65
1:X:2501:U:H6	1:X:2501:U:H5''	1.60	0.65
15:M:67:THR:HA	15:M:79:ARG:O	1.97	0.65
22:T:45:PHE:HA	22:T:77:ARG:HB2	1.77	0.65
5:C:152:THR:CG2	5:C:157:THR:HG21	2.27	0.64
1:X:1991:C:H2'	1:X:1992:G:H8	1.63	0.64
27:1:26:LYS:HG2	27:1:28:ARG:HH21	1.60	0.64
4:B:47:VAL:CG2	4:B:84:PHE:O	2.45	0.64
16:N:28:ARG:O	16:N:35:ALA:HB2	1.97	0.64
17:O:58:ALA:HB2	17:O:95:ILE:HD13	1.79	0.64
1:X:1704:G:N2	1:X:1719:G:C6	2.65	0.64
1:X:1974:U:C6	1:X:1974:U:H3'	2.32	0.64
1:X:2045:A:N6	32:X:2882:LMA:C32	2.60	0.64
1:X:317:U:C2'	1:X:318:G:H5'	2.27	0.64
21:S:127:PRO:O	21:S:128:ARG:HG2	1.97	0.64
23:U:19:ILE:HG22	23:U:42:GLN:HG3	1.79	0.64
1:X:1074:G:H1	1:X:1086:C:N4	1.96	0.64
32:X:2882:LMA:C12	32:X:2882:LMA:H56A	2.22	0.64
1:X:818:G:N2	1:X:842:A:OP1	2.30	0.64
6:D:22:TYR:CD2	6:D:28:VAL:HG22	2.32	0.64
1:X:493:A:H4'	20:R:56:LYS:HE3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1939:U:O2	1:X:2531:U:OP1	2.15	0.64
1:X:1685:A:N6	1:X:1974:U:C2	2.48	0.64
1:X:2398:U:OP2	29:3:41:ILE:HG21	1.98	0.64
4:B:87:ASP:OD2	4:B:87:ASP:N	2.30	0.64
14:L:60:LYS:HZ3	14:L:64:LYS:HE2	1.62	0.64
1:X:1333:G:H22	1:X:1344:C:H41	1.43	0.64
1:X:223:C:N4	29:3:7:HIS:HB3	2.12	0.64
1:X:2571:G:H1	1:X:2580:C:H42	1.45	0.64
1:X:2630:C:O2'	1:X:2631:C:H5'	1.98	0.64
1:X:2676:G:C2	1:X:2690:A:C2	2.86	0.64
1:X:466:A:H4'	1:X:467:U:O5'	1.97	0.64
1:X:992:A:C2	1:X:2011:U:O4'	2.51	0.64
6:D:175:LEU:HD12	6:D:176:PRO:HD2	1.80	0.64
9:G:70:PHE:CB	16:N:64:ARG:HE	2.11	0.64
1:X:1238:A:H5'	17:O:85:GLY:N	2.10	0.64
1:X:333:A:H5'	5:C:162:ARG:HG2	1.80	0.64
1:X:48:A:H4'	1:X:49:U:O5'	1.98	0.64
1:X:623:G:H21	1:X:626:A:H2	1.43	0.64
29:3:29:LYS:HE3	29:3:34:THR:HB	1.80	0.64
7:E:103:LEU:HD21	7:E:131:ILE:HD13	1.80	0.64
11:I:108:LEU:HD22	11:I:120:VAL:HG11	1.80	0.64
1:X:596:C:N4	11:I:36:GLY:HA3	2.12	0.64
16:N:93:LYS:HE3	17:O:5:ILE:HG21	1.79	0.64
20:R:59:LYS:HD2	20:R:62:MET:HG3	1.80	0.64
21:S:155:PRO:CG	21:S:158:CYS:SG	2.86	0.64
23:U:20:ARG:HD3	23:U:43:ARG:NH2	2.12	0.64
1:X:1676:U:H2'	1:X:1677:C:O5'	1.97	0.64
1:X:512:A:H4'	18:P:15:LYS:HB3	1.79	0.64
4:B:6:GLY:HA2	4:B:51:TYR:CE1	2.32	0.64
1:X:2046:C:C5	1:X:2047:C:C4	2.85	0.64
1:X:321:A:N1	1:X:323:G:H1'	2.13	0.64
1:X:605:G:H2'	1:X:606:A:H8	1.63	0.64
1:X:712:A:H2'	1:X:713:G:O4'	1.98	0.64
11:I:57:ILE:HG23	29:3:12:ARG:NH1	2.13	0.64
4:B:120:TRP:HB2	4:B:122:PHE:CE2	2.33	0.64
5:C:47:THR:HG23	5:C:85:GLY:H	1.62	0.64
13:K:73:LYS:O	13:K:76:VAL:HG12	1.97	0.64
1:X:1265:G:O2'	1:X:1266:G:C8	2.51	0.64
1:X:1683:G:N2	1:X:1978:U:N3	2.45	0.64
1:X:1790:G:H4'	1:X:1791:C:O5'	1.94	0.64
1:X:1918:G:H1'	1:X:1947:G:N2	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:993:C:H5''	1:X:994:A:OP2	1.98	0.64
1:X:2036:G:OP1	4:B:144:ARG:HG3	1.97	0.63
1:X:2663:U:C5'	15:M:80:VAL:HG11	2.28	0.63
1:X:2663:U:O4	1:X:2664:G:C6	2.51	0.63
4:B:120:TRP:CD1	4:B:155:ARG:HB3	2.33	0.63
1:X:123:A:H5''	28:2:19:ARG:HH21	1.62	0.63
1:X:1333:G:N2	1:X:1344:C:H41	1.96	0.63
1:X:2502:G:H8	1:X:2502:G:O5'	1.79	0.63
4:B:150:VAL:HG21	4:B:154:LYS:HE2	1.79	0.63
1:X:122:G:H2'	1:X:123:A:H5''	1.79	0.63
1:X:1391:A:C6	1:X:1393:G:C4	2.86	0.63
1:X:540:G:C6	1:X:2005:U:O5'	2.51	0.63
1:X:555:U:H3'	1:X:556:A:C8	2.33	0.63
1:X:760:U:C4	26:Z:3:LYS:HG3	2.33	0.63
9:G:132:PHE:HB2	9:G:145:HIS:CD2	2.33	0.63
10:H:22:ILE:HG13	10:H:53:ALA:HA	1.79	0.63
28:2:8:ASN:OD1	28:2:10:ARG:HG2	1.99	0.63
3:A:33:ALA:HB3	3:A:84:GLU:OE1	1.97	0.63
1:X:2796:A:H5''	4:B:162:MET:CE	2.28	0.63
1:X:764:A:O4'	18:P:111:ARG:HA	1.99	0.63
23:U:60:VAL:HG23	23:U:61:TRP:N	2.13	0.63
1:X:590:C:H2'	1:X:591:G:C8	2.33	0.63
1:X:998:C:N4	1:X:999:A:C6	2.66	0.63
15:M:17:GLU:HG3	15:M:62:SER:HB2	1.80	0.63
1:X:1981:A:O2'	1:X:1982:C:H5'	1.98	0.63
1:X:2200:G:H2'	1:X:2201:G:C8	2.34	0.63
1:X:2849:C:H2'	1:X:2850:U:H5'	1.81	0.63
4:B:100:GLU:O	4:B:172:VAL:HG23	1.99	0.63
4:B:44:TYR:HB2	4:B:82:ARG:HH12	1.63	0.63
4:B:85:ALA:N	4:B:86:PRO:CD	2.60	0.63
10:H:23:ARG:HB3	10:H:23:ARG:HH21	1.63	0.63
1:X:2272:A:C5'	14:L:15:ARG:HH21	2.08	0.63
15:M:9:ARG:HA	15:M:12:LEU:HD12	1.80	0.63
1:X:1242:A:O2'	1:X:1243:G:H5'	1.98	0.63
1:X:1584:G:H5''	3:A:62:LEU:HG	1.79	0.63
1:X:2257:A:N6	22:T:15:ASP:CG	2.51	0.63
1:X:2478:C:O5'	1:X:2478:C:C6	2.44	0.63
1:X:1681:A:C2	1:X:2706:U:H1'	2.33	0.63
16:N:66:ASN:CB	16:N:76:TYR:HB2	2.18	0.63
1:X:2660:C:C2	1:X:2704:U:O4	2.52	0.63
1:X:819:C:OP2	11:I:41:SER:HB3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:43:VAL:O	27:1:44:ALA:HB2	1.99	0.63
14:L:33:ARG:HH12	14:L:103:LEU:HB2	1.64	0.63
20:R:20:ASP:O	20:R:22:VAL:HG23	1.99	0.63
1:X:1008:G:C2	1:X:1170:U:O2	2.52	0.63
1:X:2007:G:N2	1:X:2023:C:C2	2.67	0.63
1:X:2266:A:O2'	1:X:2267:A:H2'	1.99	0.63
1:X:2500:C:C6	1:X:2500:C:O5'	2.47	0.63
6:D:60:ILE:HG22	6:D:140:GLU:HB2	1.80	0.62
13:K:33:ARG:HG3	13:K:114:GLU:HB3	1.81	0.62
4:B:182:ILE:C	4:B:183:LEU:HD23	2.19	0.62
1:X:2013:A:H4'	1:X:2014:A:H8	1.63	0.62
1:X:486:U:C2	1:X:492:G:N2	2.67	0.62
1:X:1296:G:N2	1:X:1299:A:H5''	2.14	0.62
1:X:2720:A:N6	1:X:2721:A:C6	2.68	0.62
1:X:966:A:N6	1:X:967:G:C6	2.68	0.62
28:2:1:MET:O	28:2:2:LYS:C	2.36	0.62
3:A:207:LEU:HA	3:A:212:ARG:HH11	1.65	0.62
5:C:21:GLU:C	5:C:22:VAL:HG23	2.19	0.62
9:G:93:LYS:HD3	9:G:93:LYS:N	2.15	0.62
1:X:1142:G:N3	9:G:103:TYR:CD2	2.67	0.62
1:X:1683:G:O5'	1:X:1683:G:H8	1.82	0.62
1:X:166:G:H21	1:X:184:A:H62	1.44	0.62
1:X:1938:U:H4'	1:X:1939:U:OP2	1.96	0.62
1:X:959:C:H1'	1:X:995:A:C2	2.35	0.62
5:C:162:ARG:HD2	5:C:162:ARG:C	2.20	0.62
4:B:152:LYS:HB2	9:G:106:TYR:HB3	1.80	0.62
11:I:18:ARG:HG3	11:I:21:ARG:CG	2.28	0.62
1:X:1164:C:H5'	16:N:76:TYR:HE2	1.63	0.62
1:X:717:G:N3	1:X:739:G:C2	2.67	0.62
29:3:49:VAL:HG11	29:3:52:LYS:HD3	1.82	0.62
3:A:78:ALA:HB2	3:A:98:TYR:HD1	1.64	0.62
21:S:3:LEU:HD23	21:S:56:VAL:HG22	1.82	0.62
1:X:552:C:C2'	1:X:553:C:H5''	2.29	0.62
1:X:571:U:O2'	1:X:581:A:H5'	2.00	0.62
1:X:2264:C:OP2	27:1:28:ARG:NH1	2.33	0.62
3:A:49:ARG:CZ	3:A:49:ARG:HB3	2.30	0.62
9:G:162:LYS:N	9:G:163:PRO:CD	2.63	0.62
20:R:23:ILE:HD12	20:R:23:ILE:C	2.20	0.62
1:X:1380:C:H42	1:X:1799:A:H2	1.48	0.62
1:X:1471:G:O2'	1:X:1472:C:H5'	2.00	0.62
1:X:2045:A:H61	32:X:2882:LMA:C32	2.09	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2201:G:H2'	1:X:2202:G:H8	1.64	0.62
1:X:2710:C:O2'	1:X:2711:G:H5'	1.99	0.62
32:X:2882:LMA:H34B	32:X:2882:LMA:C56	2.27	0.62
1:X:699:G:O6	28:2:12:ARG:CA	2.39	0.62
27:1:41:ASP:CG	27:1:46:LYS:HD2	2.18	0.62
11:I:60:LEU:HD21	29:3:13:ARG:HG2	1.80	0.62
1:X:1291:G:C5'	13:K:34:ILE:HD12	2.29	0.62
1:X:1392:U:H6	1:X:1392:U:O5'	1.82	0.62
3:A:39:PRO:HA	3:A:62:LEU:HD22	1.82	0.62
15:M:33:VAL:CG2	15:M:51:GLU:HB2	2.19	0.62
1:X:67:G:N2	1:X:73:A:N3	2.48	0.62
17:O:75:LYS:O	17:O:78:VAL:HG12	1.99	0.62
22:T:23:VAL:HG13	22:T:38:VAL:HG22	1.81	0.62
1:X:2430:A:OP1	1:X:2476:A:N6	2.30	0.62
1:X:872:G:H22	1:X:928:G:H2'	1.65	0.62
4:B:120:TRP:O	4:B:122:PHE:HD2	1.82	0.61
21:S:113:VAL:HG22	21:S:171:VAL:HG22	1.81	0.61
1:X:1018:C:H3'	1:X:1019:U:C5'	2.28	0.61
1:X:1260:A:O2'	1:X:1261:G:H3'	2.00	0.61
1:X:1677:C:O2	1:X:1984:A:C2	2.52	0.61
1:X:2736:U:H3	1:X:2738:A:H62	1.46	0.61
1:X:567:G:H5'	9:G:140:GLN:OE1	2.00	0.61
1:X:679:C:C5'	11:I:49:PHE:CE1	2.82	0.61
4:B:84:PHE:CZ	4:B:86:PRO:HB2	2.35	0.61
6:D:123:ASP:OD2	6:D:127:ASN:HB2	1.99	0.61
16:N:58:ARG:O	16:N:62:ILE:HG13	2.01	0.61
1:X:537:C:C5	1:X:2759:U:H2'	2.35	0.61
1:X:840:U:H4'	1:X:841:G:C2	2.34	0.61
29:3:60:LEU:HD12	29:3:63:PRO:HG2	1.82	0.61
1:X:1147:G:H2'	1:X:1148:G:C8	2.36	0.61
4:B:154:LYS:CE	4:B:156:MET:SD	2.88	0.61
1:X:1092:U:C4'	8:F:122:ALA:HB1	2.05	0.61
1:X:1182:U:C4'	1:X:1183:C:OP1	2.47	0.61
1:X:1714:A:H5''	1:X:1715:A:H2'	1.80	0.61
1:X:2199:C:H2'	1:X:2200:G:H5'	1.81	0.61
1:X:798:G:O2'	1:X:1770:U:H5'	1.99	0.61
12:J:81:GLU:HG2	12:J:82:THR:HG23	1.82	0.61
1:X:1179:A:C2	1:X:1196:G:C2	2.88	0.61
1:X:1671:A:H5''	1:X:1671:A:H8	1.65	0.61
1:X:192:G:H4'	1:X:193:A:OP1	1.99	0.61
1:X:2349:G:H21	27:1:46:LYS:HZ2	1.44	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1797:C:H4'	3:A:49:ARG:HD3	1.82	0.61
26:Z:3:LYS:HD3	26:Z:3:LYS:N	2.16	0.61
15:M:32:THR:HG23	15:M:93:ILE:CD1	2.31	0.61
1:X:592:G:OP2	16:N:10:ARG:HD2	2.00	0.61
1:X:94:C:H1'	24:V:40:PRO:HG2	1.83	0.61
1:X:2429:A:C6	1:X:2430:A:N6	2.69	0.61
26:Z:52:TYR:O	26:Z:53:ASP:CB	2.48	0.61
3:A:66:ILE:CD1	3:A:107:LEU:HG	2.30	0.61
3:A:69:LYS:N	3:A:69:LYS:HD3	2.14	0.61
12:J:81:GLU:O	12:J:82:THR:OG1	2.19	0.61
1:X:2257:A:H62	22:T:15:ASP:CG	2.03	0.61
1:X:123:A:H5'	28:2:19:ARG:NE	2.16	0.61
1:X:1774:A:C2	1:X:2566:A:C4	2.89	0.61
1:X:303:C:H2'	1:X:304:A:H5''	1.82	0.61
2:Y:85:G:O6	2:Y:86:A:C6	2.53	0.61
1:X:2399:C:OP2	29:3:34:THR:HG23	2.00	0.61
20:R:18:LYS:H	20:R:18:LYS:CD	2.10	0.61
1:X:1429:A:H1'	1:X:1603:A:C6	2.35	0.61
1:X:1811:A:H4'	1:X:1812:U:O5'	2.01	0.61
1:X:224:G:C2	1:X:229:G:C6	2.88	0.61
4:B:93:VAL:C	4:B:95:ILE:H	2.04	0.61
5:C:152:THR:HG23	5:C:153:ASP:O	2.01	0.61
1:X:1817:U:O4'	3:A:253:LYS:CD	2.49	0.61
3:A:160:ALA:HB1	3:A:199:ASN:HB3	1.82	0.60
20:R:83:LEU:O	20:R:90:LYS:HE2	2.01	0.60
1:X:1508:G:H5'	1:X:1509:A:H5''	1.82	0.60
1:X:1817:U:O4'	3:A:253:LYS:HD2	2.00	0.60
1:X:1755:G:C6	1:X:1972:G:C2	2.89	0.60
1:X:2006:G:N2	1:X:2024:U:C2	2.69	0.60
1:X:459:A:N6	1:X:484:G:C4	2.69	0.60
1:X:746:G:N2	1:X:747:A:N6	2.49	0.60
4:B:136:ARG:CG	4:B:137:ARG:H	2.13	0.60
12:J:44:LYS:HA	12:J:95:VAL:HG22	1.81	0.60
1:X:1683:G:O2'	1:X:1684:G:H5'	2.01	0.60
1:X:762:A:H2	1:X:766:A:O2'	1.77	0.60
16:N:40:LEU:HD22	17:O:74:TYR:CD1	2.35	0.60
1:X:1466:C:O2'	1:X:1467:U:O4'	2.19	0.60
1:X:1764:A:H2'	1:X:1765:C:H5'	1.82	0.60
1:X:2840:U:O4	1:X:2841:U:C4	2.54	0.60
1:X:494:A:C8	1:X:495:C:C5	2.88	0.60
3:A:71:ARG:HH12	3:A:150:PRO:CB	2.13	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:248:VAL:CG2	3:A:249:THR:HG23	2.28	0.60
6:D:40:LEU:HD23	6:D:41:GLY:CA	2.31	0.60
10:H:23:ARG:CB	10:H:23:ARG:HH21	2.15	0.60
11:I:18:ARG:HB2	11:I:21:ARG:CB	2.17	0.60
1:X:1701:C:C2	1:X:1722:G:N2	2.70	0.60
1:X:2663:U:H5''	15:M:80:VAL:HG11	1.82	0.60
1:X:749:C:H3'	1:X:749:C:C6	2.36	0.60
4:B:9:ILE:HG23	15:M:9:ARG:HB2	1.83	0.60
10:H:14:SER:OG	10:H:98:ILE:HD12	2.02	0.60
1:X:1223:G:C4'	1:X:1224:A:OP2	2.50	0.60
3:A:147:GLU:HB2	3:A:190:CYS:HB3	1.84	0.60
19:Q:7:LEU:CD2	19:Q:7:LEU:C	2.69	0.60
1:X:615:C:H4'	1:X:669:G:N2	2.16	0.60
1:X:795:A:N1	3:A:227:MET:CE	2.64	0.60
11:I:55:ARG:O	11:I:57:ILE:N	2.29	0.60
14:L:42:ILE:O	14:L:50:THR:HG23	2.01	0.60
14:L:54:ALA:CB	14:L:75:LEU:HD13	2.32	0.60
18:P:37:LYS:HE2	18:P:64:ALA:HB2	1.84	0.60
1:X:1496:G:C4'	1:X:1497:C:OP1	2.50	0.60
1:X:1661:C:O2'	1:X:1662:G:H5'	2.01	0.60
1:X:1681:A:C2	1:X:2706:U:C1'	2.84	0.60
1:X:2840:U:C4	1:X:2841:U:C4	2.89	0.60
1:X:304:A:H62	1:X:356:A:N6	1.98	0.60
1:X:1674:C:OP1	4:B:136:ARG:O	2.20	0.60
6:D:13:ARG:HA	6:D:16:LEU:HD12	1.84	0.60
6:D:38:GLU:HG2	6:D:87:ILE:HD12	1.82	0.60
14:L:37:HIS:HE1	14:L:57:ALA:HB2	1.67	0.60
14:L:96:TYR:CZ	14:L:101:LYS:HG3	2.36	0.60
1:X:1625:A:H1'	1:X:1632:A:H1'	1.84	0.60
1:X:1685:A:O4'	1:X:1686:A:N1	2.34	0.60
1:X:1998:A:C2	26:Z:5:PRO:O	2.53	0.60
1:X:749:C:C3'	1:X:749:C:C6	2.85	0.60
3:A:32:LYS:HE3	3:A:34:LEU:HB2	1.82	0.60
5:C:34:GLN:O	5:C:38:ARG:HG3	2.01	0.60
11:I:72:TYR:HB3	11:I:107:LYS:HB2	1.83	0.60
15:M:34:ARG:CD	15:M:88:VAL:HG22	2.20	0.60
18:P:11:LYS:HA	18:P:14:ARG:HH12	1.65	0.60
1:X:1656:U:H2'	1:X:1657:A:C5'	2.32	0.60
28:2:25:LYS:HE2	28:2:25:LYS:HA	1.83	0.60
3:A:159:SER:O	3:A:197:VAL:HG21	2.02	0.60
10:H:19:ILE:CG1	10:H:19:ILE:O	2.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:38:PRO:HA	25:W:41:ARG:HD2	1.83	0.60
1:X:1173:G:H4'	17:O:22:VAL:CG2	2.29	0.60
1:X:1182:U:H4'	1:X:1183:C:OP1	2.02	0.60
1:X:1919:A:N7	1:X:1928:G:C6	2.70	0.60
1:X:2720:A:C6	1:X:2721:A:C6	2.89	0.60
29:3:13:ARG:NE	29:3:25:PHE:H	1.99	0.59
3:A:232:HIS:CG	3:A:233:PRO:HD2	2.37	0.59
1:X:583:C:O2	4:B:145:LYS:NZ	2.35	0.59
5:C:177:VAL:O	5:C:180:ILE:HG22	2.01	0.59
1:X:2464:G:C4'	12:J:125:LYS:O	2.50	0.59
14:L:36:LYS:HE3	14:L:64:LYS:O	2.02	0.59
1:X:1407:G:O6	1:X:1408:A:N6	2.34	0.59
1:X:2663:U:O2'	10:H:88:THR:CG2	2.43	0.59
3:A:59:HIS:C	3:A:61:ARG:H	2.05	0.59
1:X:2170:C:H3'	1:X:2171:U:C5'	2.24	0.59
1:X:2564:U:O4	31:X:2881:LC2:H14A	2.03	0.59
1:X:487:G:H4'	1:X:512:A:N1	2.17	0.59
2:Y:83:C:H2'	2:Y:84:G:O5'	2.02	0.59
27:1:14:SER:CB	27:1:23:THR:H	2.13	0.59
29:3:13:ARG:CZ	29:3:25:PHE:H	2.15	0.59
25:W:2:LYS:HE2	25:W:31:SER:HB2	1.84	0.59
1:X:1466:C:H42	1:X:1476:G:H1	1.51	0.59
1:X:1407:G:H4'	1:X:1619:A:H4'	1.83	0.59
1:X:2841:U:H1'	1:X:2843:A:O4'	2.03	0.59
1:X:793:G:C2	1:X:798:G:O6	2.55	0.59
1:X:693:A:C4	1:X:811:G:N2	2.70	0.59
1:X:1277:G:OP1	26:Z:19:ARG:NH2	2.35	0.59
3:A:97:HIS:CE1	3:A:101:GLY:HA2	2.38	0.59
5:C:158:ARG:NE	5:C:171:PRO:HA	2.16	0.59
1:X:2760:G:N1	9:G:128:GLU:OE2	2.35	0.59
10:H:110:VAL:HG23	10:H:129:LEU:CB	2.32	0.59
29:3:46:LYS:HE3	29:3:46:LYS:HA	1.83	0.59
1:X:1817:U:H4'	3:A:253:LYS:CD	2.31	0.59
4:B:6:GLY:CA	4:B:27:LEU:O	2.50	0.59
10:H:51:ILE:HG13	10:H:51:ILE:O	2.03	0.59
1:X:123:A:C5'	28:2:19:ARG:HE	2.16	0.59
1:X:2824:C:O4'	1:X:2843:A:C6	2.55	0.59
1:X:583:C:O2	4:B:145:LYS:CE	2.51	0.59
1:X:2349:G:N2	27:1:46:LYS:NZ	2.48	0.59
1:X:1432:G:O6	1:X:1594:U:H5''	2.03	0.59
1:X:824:U:H2'	11:I:30:ALA:H	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:57:ILE:O	29:3:12:ARG:CD	2.51	0.59
1:X:583:C:C2	4:B:145:LYS:NZ	2.71	0.59
12:J:42:TRP:HB3	12:J:95:VAL:CG1	2.33	0.59
1:X:2064:U:C5'	23:U:41:VAL:HG11	2.28	0.59
1:X:1764:A:C2'	1:X:1765:C:H5'	2.33	0.59
1:X:709:A:C2	1:X:780:U:C2	2.90	0.59
4:B:170:LEU:HD22	4:B:185:LYS:O	2.01	0.59
17:O:21:ARG:NH2	17:O:88:GLN:NE2	2.51	0.59
1:X:2268:G:H5''	1:X:2363:G:O2'	2.03	0.59
1:X:2616:U:H5''	4:B:82:ARG:NH2	2.17	0.59
2:Y:84:G:C2	2:Y:98:C:O2	2.55	0.59
3:A:109:PRO:HB3	3:A:144:HIS:CE1	2.38	0.59
11:I:18:ARG:HG3	11:I:21:ARG:HB2	1.84	0.59
13:K:51:LEU:HD11	13:K:66:VAL:HG13	1.84	0.59
4:B:181:LEU:HD21	15:M:12:LEU:HD22	1.85	0.59
21:S:71:MET:N	21:S:71:MET:SD	2.74	0.59
1:X:2064:U:OP1	23:U:39:LYS:HG2	2.03	0.59
1:X:2500:C:N3	1:X:2501:U:C4	2.71	0.59
1:X:1042:G:H5'	30:4:6:SER:HG	1.68	0.59
12:J:50:ALA:HB1	12:J:125:LYS:CD	2.29	0.59
13:K:87:TYR:CE1	13:K:94:TYR:CD1	2.88	0.59
32:X:2882:LMA:C54	32:X:2882:LMA:H34B	2.33	0.59
1:X:460:U:C4	1:X:592:G:H1'	2.37	0.59
5:C:194:GLU:HG2	5:C:195:ILE:HG23	1.83	0.58
5:C:7:ILE:HG12	5:C:119:ALA:HB1	1.85	0.58
16:N:20:ARG:NH1	17:O:83:ARG:HH22	2.00	0.58
1:X:2261:G:C4	1:X:2404:A:N6	2.71	0.58
2:Y:85:G:H5'	25:W:49:HIS:CD2	2.37	0.58
1:X:2399:C:H41	29:3:31:HIS:C	2.07	0.58
3:A:59:HIS:O	3:A:61:ARG:N	2.36	0.58
5:C:6:VAL:HG12	5:C:7:ILE:HD13	1.85	0.58
10:H:23:ARG:NH1	10:H:25:LEU:HD23	2.14	0.58
1:X:1265:G:N1	16:N:37:GLN:HB2	2.18	0.58
1:X:2033:C:N4	1:X:2034:A:C6	2.71	0.58
1:X:681:A:H8	1:X:681:A:H5''	1.68	0.58
3:A:70:ARG:HG2	3:A:70:ARG:O	2.03	0.58
8:F:112:MET:HB2	8:F:113:PRO:HD3	1.85	0.58
11:I:62:LYS:HD3	29:3:12:ARG:C	2.23	0.58
20:R:84:VAL:O	20:R:84:VAL:CG2	2.51	0.58
1:X:1234:C:O2	1:X:1242:A:C2	2.56	0.58
32:X:2882:LMA:C40	32:X:2882:LMA:H29B	2.14	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:146:LEU:HD23	3:A:156:LEU:HD12	1.85	0.58
1:X:795:A:C6	3:A:227:MET:HE3	2.38	0.58
9:G:84:ASN:O	9:G:85:ALA:HB3	2.02	0.58
22:T:17:ASN:O	22:T:19:LYS:HG2	2.03	0.58
1:X:1724:C:C2	1:X:1747:G:N1	2.72	0.58
1:X:1724:C:C2	1:X:1747:G:C6	2.91	0.58
1:X:2034:A:C2	1:X:2593:A:C2	2.91	0.58
1:X:2691:C:O2'	1:X:2693:U:H5'	2.03	0.58
1:X:2841:U:C1'	1:X:2843:A:O4'	2.51	0.58
1:X:2825:A:OP2	1:X:2843:A:N3	2.36	0.58
1:X:458:G:H4'	1:X:459:A:H5'	1.84	0.58
2:Y:84:G:O2'	2:Y:85:G:C5'	2.51	0.58
27:1:39:LYS:HD3	27:1:39:LYS:O	2.03	0.58
4:B:143:GLN:NE2	4:B:143:GLN:N	2.51	0.58
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.84	0.58
19:Q:68:PHE:O	19:Q:69:ILE:HD12	2.04	0.58
1:X:1202:U:H2'	1:X:1202:U:O2	2.04	0.58
1:X:165:G:H1	1:X:185:C:H42	1.51	0.58
1:X:1717:A:H2'	1:X:1718:A:H5'	1.86	0.58
1:X:219:G:N2	1:X:232:A:OP2	2.35	0.58
1:X:860:U:H3'	1:X:860:U:O2	2.04	0.58
26:Z:16:ARG:HD3	26:Z:20:ARG:CZ	2.34	0.58
27:1:21:TYR:CD2	27:1:50:PHE:CZ	2.91	0.58
4:B:136:ARG:O	4:B:137:ARG:CB	2.51	0.58
10:H:105:PRO:HG3	10:H:126:ILE:HD13	1.85	0.58
14:L:28:ARG:HH21	14:L:43:ILE:HG21	1.69	0.58
1:X:1791:C:OP2	3:A:264:ARG:HG3	2.03	0.58
1:X:2501:U:O2'	1:X:2626:U:H5''	2.03	0.58
1:X:2532:G:H1'	1:X:2561:G:H21	1.69	0.58
1:X:323:G:OP1	1:X:343:A:H5'	2.03	0.58
1:X:788:G:O2'	1:X:789:G:OP2	2.20	0.58
27:1:21:TYR:HD2	27:1:21:TYR:C	2.07	0.58
3:A:71:ARG:HH22	3:A:190:CYS:HA	1.65	0.58
1:X:2805:G:H5''	4:B:58:LYS:NZ	2.18	0.58
12:J:27:TYR:O	12:J:28:VAL:HG23	2.03	0.58
13:K:36:THR:HG22	13:K:41:ALA:HB2	1.86	0.58
15:M:32:THR:HG23	15:M:93:ILE:HD13	1.86	0.58
15:M:55:ILE:HB	15:M:103:LYS:O	2.04	0.58
9:G:70:PHE:HB3	16:N:64:ARG:HG2	1.83	0.58
19:Q:7:LEU:HD22	19:Q:7:LEU:O	2.04	0.58
1:X:839:U:H5''	1:X:2408:G:OP2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2447:G:HO2'	1:X:2448:A:H8	1.50	0.58
1:X:76:C:C2	1:X:108:G:N2	2.72	0.58
1:X:796:A:C2	1:X:1769:U:O2'	2.57	0.58
1:X:817:A:P	11:I:45:LYS:HG3	2.42	0.58
3:A:160:ALA:CA	3:A:199:ASN:CG	2.71	0.58
3:A:209:LYS:CE	3:A:209:LYS:HA	2.32	0.58
12:J:71:PRO:CA	12:J:96:SER:HB2	2.32	0.58
10:H:116:ARG:CZ	15:M:38:LYS:HE2	2.33	0.58
1:X:99:U:H3'	1:X:100:G:H5''	1.86	0.58
1:X:1031:C:H1'	1:X:1032:A:OP2	2.04	0.58
1:X:2793:G:N2	1:X:2804:G:C4	2.72	0.58
1:X:775:U:C4'	1:X:776:G:C2	2.87	0.58
1:X:997:C:O5'	1:X:997:C:H6	1.87	0.58
3:A:66:ILE:CG2	3:A:89:ARG:HH22	2.15	0.58
4:B:120:TRP:CG	4:B:155:ARG:HB3	2.38	0.58
10:H:100:ASN:OD1	10:H:100:ASN:C	2.41	0.58
10:H:77:THR:HA	10:H:94:ASN:OD1	2.03	0.58
11:I:62:LYS:CD	29:3:12:ARG:C	2.72	0.58
12:J:27:TYR:C	12:J:28:VAL:HG23	2.24	0.58
1:X:658:G:H2'	1:X:659:G:H8	1.69	0.58
1:X:67:G:N2	1:X:73:A:C4	2.72	0.58
27:1:9:ILE:HB	27:1:27:ASN:O	2.04	0.58
27:1:9:ILE:HD12	27:1:26:LYS:HG3	1.85	0.58
1:X:1923:U:H1'	1:X:1924:C:OP2	2.03	0.58
1:X:1975:G:H1'	1:X:1976:U:OP2	2.04	0.58
1:X:2659:C:H2'	1:X:2660:C:C6	2.38	0.58
1:X:521:U:O4	1:X:522:G:N2	2.37	0.58
3:A:89:ARG:HG2	3:A:91:ALA:HB3	1.85	0.57
4:B:183:LEU:N	4:B:183:LEU:HD23	2.18	0.57
1:X:1270:C:H4'	5:C:77:PHE:CE2	2.39	0.57
10:H:80:ALA:HB2	10:H:90:ARG:HD3	1.86	0.57
19:Q:29:VAL:HG21	19:Q:38:ILE:HD12	1.85	0.57
20:R:18:LYS:HD3	20:R:18:LYS:N	2.12	0.57
1:X:2533:U:C4	1:X:2534:U:O4	2.56	0.57
1:X:342:G:H4'	1:X:343:A:OP2	2.03	0.57
26:Z:14:SER:O	26:Z:18:MET:HG3	2.04	0.57
14:L:33:ARG:NH1	14:L:100:VAL:HA	2.19	0.57
20:R:84:VAL:HB	20:R:88:THR:O	2.04	0.57
1:X:1429:A:H1'	1:X:1603:A:N1	2.19	0.57
2:Y:85:G:C6	2:Y:86:A:C5	2.92	0.57
1:X:1817:U:H4'	3:A:253:LYS:HE2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:49:PHE:CD1	11:I:50:GLU:N	2.72	0.57
20:R:15:HIS:ND1	20:R:16:PHE:HD2	2.02	0.57
1:X:2312:A:H4'	1:X:2313:G:O5'	2.04	0.57
1:X:2671:C:OP1	1:X:2846:G:C4'	2.49	0.57
1:X:500:G:N7	18:P:70:LYS:NZ	2.51	0.57
1:X:860:U:C2'	1:X:860:U:O2	2.50	0.57
1:X:1673:C:H5''	4:B:136:ARG:HB3	1.85	0.57
5:C:162:ARG:HG3	5:C:162:ARG:NH1	2.14	0.57
1:X:923:A:C6	12:J:12:LYS:HD3	2.40	0.57
1:X:2848:A:H2	13:K:7:GLY:H	1.53	0.57
1:X:1393:G:H1'	1:X:1585:A:H61	1.68	0.57
1:X:2543:A:O2'	1:X:2544:A:H5'	2.04	0.57
1:X:2824:C:H4'	1:X:2825:A:O5'	1.99	0.57
1:X:872:G:N2	1:X:928:G:H2'	2.18	0.57
3:A:38:LEU:HB3	3:A:39:PRO:HD2	1.87	0.57
3:A:66:ILE:HG21	3:A:89:ARG:NH2	2.14	0.57
1:X:334:G:H21	5:C:162:ARG:NH2	2.01	0.57
10:H:1:MET:N	10:H:79:HIS:HB2	2.19	0.57
14:L:10:LYS:O	14:L:14:ARG:HG3	2.04	0.57
15:M:104:LEU:HA	15:M:106:TYR:CE2	2.39	0.57
22:T:18:PRO:C	22:T:19:LYS:HG2	2.25	0.57
1:X:1681:A:C6	1:X:2706:U:C6	2.93	0.57
1:X:1817:U:C4'	3:A:253:LYS:HD3	2.33	0.57
1:X:1970:G:O2'	1:X:1971:C:H5'	2.04	0.57
1:X:2040:A:N6	1:X:2041:A:N6	2.52	0.57
1:X:2355:A:H2'	1:X:2356:A:O4'	2.03	0.57
1:X:2754:C:N4	1:X:2755:A:N6	2.52	0.57
1:X:29:U:H4'	16:N:11:ARG:HH12	1.68	0.57
20:R:62:MET:O	20:R:63:THR:CB	2.53	0.57
1:X:168:A:H2'	1:X:169:C:C6	2.40	0.57
1:X:2639:A:H2'	1:X:2640:G:O4'	2.05	0.57
1:X:496:C:O5'	1:X:496:C:H6	1.88	0.57
1:X:540:G:C5	1:X:2005:U:H5''	2.39	0.57
1:X:851:C:C2	1:X:952:A:N1	2.73	0.57
1:X:88:G:H3'	1:X:89:A:H5''	1.87	0.57
27:I:40:TYR:HB2	27:I:50:PHE:CD2	2.39	0.57
4:B:14:ILE:HD12	4:B:23:VAL:CG2	2.33	0.57
9:G:42:VAL:HG13	9:G:166:LEU:O	2.04	0.57
16:N:93:LYS:HD3	16:N:94:VAL:HG23	1.85	0.57
1:X:1972:G:C5	1:X:1973:C:C4	2.91	0.57
1:X:2711:G:OP1	4:B:169:ASN:CG	2.43	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2717:G:H1	1:X:2747:C:H42	1.53	0.57
26:Z:33:CYS:HB2	26:Z:38:GLY:O	2.05	0.57
7:E:94:PHE:HE2	7:E:160:LYS:HB3	1.68	0.57
10:H:85:ASP:OD2	10:H:87:SER:N	2.33	0.57
12:J:103:VAL:O	12:J:103:VAL:HG12	2.02	0.57
18:P:106:LEU:HD23	18:P:106:LEU:C	2.24	0.57
20:R:18:LYS:O	20:R:36:VAL:O	2.21	0.57
25:W:4:LYS:HG3	25:W:52:GLU:HB3	1.86	0.57
1:X:2055:G:O2'	1:X:2056:C:H5'	2.04	0.57
1:X:631:G:N3	1:X:631:G:H2'	2.19	0.57
1:X:94:C:O2'	24:V:40:PRO:HD2	2.05	0.57
30:4:31:LYS:H	30:4:31:LYS:HD2	1.70	0.57
1:X:331:U:O2	5:C:162:ARG:NH2	2.38	0.57
10:H:116:ARG:HD2	15:M:38:LYS:CE	2.34	0.57
1:X:1151:U:C6	9:G:91:THR:HG21	2.39	0.57
1:X:1215:A:C2	1:X:1258:G:C2	2.93	0.57
1:X:2430:A:C6	31:X:2881:LC2:H15A	2.39	0.57
1:X:521:U:C2'	1:X:522:G:H5'	2.35	0.57
3:A:147:GLU:HG2	3:A:154:ALA:HA	1.86	0.56
5:C:126:ALA:O	5:C:127:ASP:CB	2.52	0.56
15:M:24:LEU:HB3	15:M:25:PRO:CD	2.35	0.56
20:R:51:VAL:HG21	20:R:76:LEU:HD11	1.86	0.56
1:X:1442:C:H4'	1:X:1443:G:OP2	2.04	0.56
1:X:1666:G:H1	1:X:1991:C:H42	1.52	0.56
1:X:1681:A:H2'	1:X:1682:A:C8	2.40	0.56
1:X:1823:G:C2	1:X:1958:G:C2	2.93	0.56
1:X:478:G:H2'	1:X:479:G:H8	1.70	0.56
1:X:749:C:O5'	1:X:749:C:H6	1.88	0.56
1:X:832:A:N3	1:X:1203:A:C2	2.73	0.56
2:Y:66:G:C6	2:Y:67:C:N3	2.73	0.56
27:1:40:TYR:H	27:1:50:PHE:CB	2.19	0.56
11:I:62:LYS:NZ	29:3:15:LYS:HE2	2.20	0.56
3:A:151:GLY:C	3:A:153:GLY:H	2.06	0.56
13:K:80:MET:CA	13:K:80:MET:HE2	2.34	0.56
9:G:31:THR:HB	16:N:64:ARG:HH22	1.68	0.56
20:R:29:HIS:CD2	20:R:51:VAL:HG22	2.40	0.56
23:U:32:ARG:NE	23:U:32:ARG:N	2.52	0.56
23:U:49:LYS:HD3	23:U:61:TRP:NE1	2.20	0.56
1:X:1142:G:N2	9:G:101:THR:HG22	2.15	0.56
1:X:2659:C:O2'	1:X:2660:C:H5'	2.04	0.56
1:X:605:G:H2'	1:X:606:A:C8	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:760:U:C4	1:X:2592:U:C5	2.92	0.56
5:C:120:VAL:O	5:C:121:ASP:CB	2.52	0.56
6:D:126:GLY:O	6:D:160:ALA:HB3	2.05	0.56
6:D:22:TYR:OH	6:D:29:PRO:CD	2.52	0.56
25:W:3:ILE:HD11	25:W:44:VAL:HG22	1.86	0.56
1:X:1650:A:N6	1:X:1652:G:C2	2.73	0.56
1:X:579:G:H4'	1:X:994:A:C2	2.40	0.56
1:X:883:A:H1'	12:J:11:ARG:HH21	1.70	0.56
30:4:19:ARG:NH1	30:4:24:LEU:HD22	2.20	0.56
3:A:97:HIS:HE1	3:A:101:GLY:C	2.08	0.56
4:B:121:ASN:O	4:B:122:PHE:CD2	2.58	0.56
1:X:1573:G:H3'	1:X:1574:A:H5''	1.87	0.56
1:X:408:U:H2'	1:X:409:G:C8	2.41	0.56
1:X:2848:A:H2	13:K:6:ALA:HB1	1.70	0.56
19:Q:27:PHE:CZ	19:Q:42:ILE:HD13	2.41	0.56
24:V:14:PHE:O	24:V:18:ILE:HG13	2.04	0.56
1:X:1033:G:C6	1:X:1151:U:C5	2.94	0.56
1:X:1332:G:C6	1:X:1333:G:C6	2.93	0.56
1:X:1683:G:N2	1:X:1978:U:C4	2.70	0.56
1:X:2857:C:H5'	13:K:96:ARG:HB2	1.87	0.56
27:1:13:GLU:O	27:1:52:GLU:O	2.23	0.56
27:1:41:ASP:CB	27:1:46:LYS:HA	2.31	0.56
4:B:116:VAL:O	4:B:121:ASN:O	2.23	0.56
10:H:85:ASP:HB3	15:M:87:LEU:HD12	1.88	0.56
16:N:32:TYR:O	16:N:33:ARG:C	2.43	0.56
20:R:92:THR:HB	20:R:107:ALA:O	2.05	0.56
1:X:1333:G:N2	1:X:1344:C:N4	2.52	0.56
1:X:2422:C:H2'	1:X:2423:G:H8	1.70	0.56
29:3:13:ARG:O	29:3:13:ARG:HG3	2.05	0.56
11:I:45:LYS:HD3	11:I:48:PHE:CZ	2.40	0.56
1:X:1164:C:H5'	16:N:76:TYR:CE2	2.39	0.56
1:X:208:C:N4	1:X:209:G:N2	2.53	0.56
1:X:2595:C:H6	1:X:2595:C:O5'	1.88	0.56
1:X:2825:A:O4'	1:X:2843:A:C2	2.55	0.56
1:X:693:A:H2'	1:X:694:G:C8	2.41	0.56
1:X:2002:A:H62	26:Z:9:LYS:HZ2	1.53	0.56
30:4:19:ARG:HH11	30:4:24:LEU:HD22	1.70	0.56
3:A:66:ILE:HG23	3:A:68:PHE:CE1	2.40	0.56
3:A:66:ILE:HG22	3:A:68:PHE:CZ	2.34	0.56
9:G:101:THR:HG23	9:G:103:TYR:CE1	2.40	0.56
1:X:2669:C:OP2	13:K:14:SER:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2657:G:H1	1:X:2709:C:H42	1.54	0.56
32:X:2882:LMA:O53	32:X:2882:LMA:C32	2.50	0.56
1:X:955:G:N3	1:X:955:G:C5'	2.69	0.56
1:X:1790:G:H5''	3:A:262:ARG:NH2	2.21	0.56
5:C:162:ARG:NH1	5:C:162:ARG:HB3	2.17	0.56
1:X:1166:A:H5''	16:N:55:ARG:HD3	1.88	0.56
22:T:14:ARG:O	22:T:15:ASP:CB	2.54	0.56
23:U:14:VAL:O	23:U:15:VAL:HG22	2.05	0.56
1:X:1804:U:O2'	1:X:1805:G:H5'	2.06	0.56
1:X:1989:C:O2'	1:X:2798:A:O2'	2.22	0.56
1:X:502:A:H2'	1:X:503:G:O4'	2.06	0.56
1:X:834:A:H2'	1:X:957:G:OP2	2.06	0.56
13:K:94:TYR:O	13:K:95:THR:HB	2.06	0.56
15:M:34:ARG:HH21	15:M:91:VAL:HG21	1.69	0.56
1:X:1296:G:N2	1:X:1299:A:C8	2.73	0.56
1:X:2426:G:C8	1:X:2479:U:H3'	2.41	0.56
1:X:2819:G:H2'	1:X:2820:C:C6	2.40	0.56
1:X:521:U:H2'	1:X:522:G:H5'	1.87	0.56
1:X:666:U:C2'	1:X:667:U:H5''	2.36	0.56
1:X:699:G:H2'	1:X:801:A:N1	2.20	0.56
3:A:211:GLY:C	3:A:213:SER:N	2.59	0.56
5:C:112:GLN:HA	5:C:116:LYS:HD3	1.88	0.56
9:G:104:THR:OG1	9:G:106:TYR:O	2.24	0.56
16:N:32:TYR:O	16:N:34:ASN:N	2.39	0.56
1:X:1261:G:O2'	16:N:3:ARG:HA	2.05	0.56
20:R:23:ILE:HG22	20:R:33:THR:HB	1.87	0.56
20:R:16:PHE:HB3	20:R:82:ALA:HB1	1.88	0.56
1:X:1866:G:O2'	1:X:1867:A:H5''	2.06	0.56
1:X:1974:U:C6	1:X:1974:U:C3'	2.87	0.56
1:X:2044:G:N7	1:X:2480:C:H4'	2.21	0.56
1:X:2171:U:H4'	1:X:2171:U:OP1	2.05	0.56
1:X:2756:A:H1'	1:X:2757:G:OP2	2.06	0.56
1:X:538:A:N3	1:X:538:A:H2'	2.20	0.56
9:G:103:TYR:CD2	9:G:111:LYS:HB2	2.41	0.55
1:X:1142:G:C4	9:G:103:TYR:CD2	2.94	0.55
9:G:79:PHE:CE2	9:G:147:ARG:HG2	2.40	0.55
1:X:1288:A:H8	13:K:16:ALA:HB2	1.68	0.55
1:X:1290:A:C4'	13:K:20:LEU:HD11	2.36	0.55
13:K:87:TYR:CD1	13:K:90:ARG:HD2	2.41	0.55
18:P:101:PRO:O	18:P:121:THR:HG23	2.06	0.55
18:P:85:MET:HE1	18:P:129:ALA:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1787:U:H4'	3:A:255:THR:H	1.70	0.55
1:X:2301:A:H2'	1:X:2302:G:O4'	2.06	0.55
1:X:338:G:H5'	20:R:9:HIS:CE1	2.40	0.55
1:X:494:A:N7	1:X:495:C:C4	2.74	0.55
1:X:918:A:H2'	1:X:919:U:H5''	1.87	0.55
29:3:9:MET:HE2	29:3:12:ARG:NH1	2.21	0.55
3:A:150:PRO:CD	3:A:190:CYS:SG	2.92	0.55
16:N:106:PHE:O	16:N:110:VAL:HG23	2.05	0.55
20:R:25:LEU:O	20:R:26:SER:CB	2.53	0.55
1:X:1147:G:H2'	1:X:1148:G:H8	1.71	0.55
1:X:1505:U:H2'	1:X:1506:C:H5''	1.88	0.55
1:X:1816:G:O2'	3:A:253:LYS:CD	2.47	0.55
1:X:2265:A:N6	27:1:25:THR:HG21	2.21	0.55
1:X:2282:G:C2	1:X:2293:G:C2	2.94	0.55
1:X:2670:C:O2	1:X:2698:G:N2	2.34	0.55
1:X:2675:U:H2'	1:X:2676:G:C8	2.41	0.55
1:X:396:U:C4	1:X:398:C:C5	2.94	0.55
27:1:9:ILE:HD12	27:1:26:LYS:CG	2.36	0.55
3:A:160:ALA:HA	3:A:199:ASN:OD1	2.06	0.55
2:Y:45:C:H2'	6:D:92:ARG:NE	2.21	0.55
13:K:98:LEU:HD23	26:Z:45:ILE:HD11	1.86	0.55
14:L:38:ILE:HD12	14:L:39:TYR:N	2.21	0.55
1:X:1074:G:H1	1:X:1086:C:H42	1.51	0.55
1:X:1237:G:H4'	17:O:85:GLY:O	2.06	0.55
1:X:487:G:H21	1:X:491:A:H62	1.52	0.55
1:X:48:A:H4'	1:X:49:U:C5'	2.35	0.55
1:X:599:A:C2	1:X:681:A:C2	2.93	0.55
29:3:13:ARG:HB2	29:3:25:PHE:CD1	2.42	0.55
3:A:165:GLN:OE1	3:A:177:ARG:HB3	2.07	0.55
5:C:107:ALA:HB1	5:C:180:ILE:HG21	1.88	0.55
1:X:2371:A:HO2'	11:I:59:ARG:HG2	1.72	0.55
18:P:30:TYR:H	18:P:123:HIS:CE1	2.24	0.55
1:X:1605:A:C6	1:X:1606:C:N4	2.73	0.55
3:A:59:HIS:C	3:A:61:ARG:N	2.59	0.55
5:C:150:LEU:HD13	5:C:167:VAL:HB	1.88	0.55
10:H:4:PRO:HA	10:H:21:CYS:SG	2.46	0.55
22:T:14:ARG:O	22:T:15:ASP:CG	2.45	0.55
22:T:40:GLN:OE1	22:T:44:LYS:HB3	2.07	0.55
1:X:1681:A:N7	1:X:1682:A:C6	2.75	0.55
1:X:1805:G:N3	3:A:51:THR:HG21	2.22	0.55
1:X:2299:A:H4'	1:X:2300:G:C2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2707:G:N7	1:X:2708:U:C4	2.75	0.55
1:X:332:C:H5''	1:X:333:A:OP2	2.06	0.55
7:E:156:ALA:O	7:E:157:TYR:CG	2.59	0.55
23:U:48:LYS:HG2	23:U:49:LYS:N	2.22	0.55
1:X:1656:U:H4'	1:X:2678:C:H4'	1.88	0.55
1:X:2793:G:O2'	1:X:2794:G:H5'	2.07	0.55
1:X:760:U:C4	1:X:2592:U:C4	2.94	0.55
28:2:12:ARG:HE	28:2:43:THR:CG2	2.20	0.55
29:3:17:THR:HG23	29:3:20:GLY:H	1.72	0.55
29:3:30:ARG:HH21	29:3:31:HIS:CE1	2.24	0.55
5:C:153:ASP:O	5:C:154:ASP:CB	2.55	0.55
7:E:172:LYS:O	7:E:173:ALA:CB	2.55	0.55
12:J:12:LYS:O	12:J:13:GLN:CB	2.54	0.55
20:R:83:LEU:CD2	20:R:113:THR:HB	2.37	0.55
1:X:1223:G:H4'	1:X:1224:A:OP2	2.00	0.55
1:X:1441:A:C4'	1:X:1442:C:O5'	2.53	0.55
1:X:1474:A:H2'	1:X:1474:A:N3	2.20	0.55
1:X:1836:C:H42	1:X:1879:G:H1	1.54	0.55
1:X:1947:G:C6	1:X:1950:C:C4	2.94	0.55
1:X:2707:G:C2'	1:X:2708:U:O5'	2.55	0.55
1:X:2849:C:C2'	1:X:2850:U:H5'	2.37	0.55
1:X:303:C:H42	1:X:359:G:H1	1.54	0.55
18:P:67:PRO:O	18:P:71:VAL:HG23	2.07	0.55
21:S:123:VAL:HG23	21:S:161:ALA:HB2	1.89	0.55
1:X:1989:C:O2'	1:X:2798:A:C2'	2.55	0.55
1:X:201:G:H2'	1:X:202:A:C8	2.42	0.55
1:X:2045:A:C5	32:X:2882:LMA:C27	2.90	0.55
1:X:525:A:N7	1:X:526:C:C4	2.75	0.55
4:B:84:PHE:C	4:B:86:PRO:HD2	2.27	0.55
5:C:172:VAL:O	5:C:173:ALA:C	2.45	0.55
1:X:1128:G:H3'	1:X:1129:A:H5''	1.89	0.55
1:X:1280:U:C5	1:X:1995:G:N2	2.75	0.55
1:X:1888:C:H2'	1:X:1913:G:N7	2.21	0.55
1:X:236:C:H1'	1:X:632:A:O2'	2.07	0.55
1:X:2612:G:C2	1:X:2766:U:O2	2.59	0.55
1:X:869:C:O5'	1:X:869:C:H6	1.90	0.55
2:Y:17:A:H1'	2:Y:112:A:C8	2.42	0.55
11:I:60:LEU:HD23	29:3:13:ARG:HG2	1.89	0.55
13:K:12:ARG:NH2	13:K:20:LEU:HD22	2.22	0.55
1:X:1265:G:H1	16:N:37:GLN:HB2	1.72	0.55
19:Q:7:LEU:H	19:Q:7:LEU:HD13	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1145:C:C6	1:X:1147:G:OP2	2.59	0.55
1:X:1645:U:O2	1:X:2677:U:H4'	2.07	0.55
1:X:457:C:H2'	1:X:458:G:H5'	1.89	0.55
1:X:591:G:H2'	1:X:592:G:C8	2.42	0.55
1:X:608:G:O2'	11:I:18:ARG:HB3	2.07	0.55
27:1:12:MET:CG	27:1:27:ASN:OD1	2.50	0.54
3:A:24:GLY:O	3:A:25:LEU:CB	2.55	0.54
3:A:83:ILE:HA	3:A:94:ALA:HA	1.88	0.54
4:B:21:ILE:O	4:B:21:ILE:HG22	2.07	0.54
6:D:4:LEU:HG	6:D:5:LYS:N	2.16	0.54
10:H:25:LEU:O	10:H:42:LYS:HG2	2.08	0.54
14:L:27:LEU:HD13	14:L:42:ILE:HD11	1.88	0.54
1:X:121:G:H2'	1:X:122:G:O4'	2.07	0.54
1:X:1560:A:O2'	1:X:1561:A:H5'	2.07	0.54
1:X:1563:U:H2'	1:X:1564:U:C6	2.42	0.54
1:X:177:U:O4	1:X:225:G:C2	2.60	0.54
1:X:17:G:C2	1:X:534:U:O2	2.60	0.54
1:X:2020:G:H2'	1:X:2021:G:C8	2.42	0.54
1:X:748:A:N7	1:X:749:C:N3	2.56	0.54
1:X:826:U:OP2	11:I:32:ARG:HG2	2.06	0.54
9:G:30:LYS:O	9:G:30:LYS:HG2	2.06	0.54
10:H:76:ARG:O	10:H:95:ALA:N	2.38	0.54
12:J:135:ARG:O	12:J:136:GLU:CB	2.54	0.54
12:J:27:TYR:O	12:J:28:VAL:HG22	2.07	0.54
20:R:90:LYS:HZ1	20:R:113:THR:HG22	1.71	0.54
1:X:1580:C:O2'	1:X:1581:C:H5'	2.07	0.54
1:X:1838:G:H2'	1:X:1839:A:O4'	2.08	0.54
1:X:1968:G:H2'	1:X:1969:G:H8	1.72	0.54
1:X:832:A:C4	1:X:1203:A:C2	2.95	0.54
4:B:184:VAL:HG13	4:B:185:LYS:N	2.22	0.54
1:X:2659:C:H5'	4:B:189:PRO:HA	1.89	0.54
5:C:111:ARG:HH12	5:C:181:LEU:HD12	1.71	0.54
5:C:152:THR:HG23	5:C:157:THR:HG21	1.89	0.54
7:E:57:ASP:HB3	7:E:62:ARG:HH11	1.72	0.54
9:G:67:ARG:CB	9:G:70:PHE:HA	2.26	0.54
10:H:23:ARG:CB	10:H:23:ARG:NH2	2.66	0.54
1:X:825:C:H6	11:I:30:ALA:HB1	1.73	0.54
21:S:13:LYS:HE2	21:S:33:ALA:CB	2.38	0.54
1:X:1153:A:OP1	1:X:1153:A:H4'	2.08	0.54
1:X:1607:A:O2'	1:X:1608:U:C6	2.60	0.54
1:X:1928:G:N2	1:X:1929:U:C2	2.75	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2497:A:H2'	1:X:2497:A:N3	2.22	0.54
1:X:593:C:N4	1:X:594:G:C6	2.75	0.54
4:B:184:VAL:CG1	4:B:185:LYS:N	2.70	0.54
1:X:2767:C:H1'	4:B:62:PRO:HG3	1.88	0.54
9:G:90:LEU:HD12	9:G:90:LEU:N	2.23	0.54
4:B:15:TRP:CH2	15:M:84:ALA:HB3	2.43	0.54
1:X:1365:U:C2	1:X:1393:G:N2	2.75	0.54
1:X:1668:G:C8	1:X:1668:G:H5''	2.37	0.54
1:X:2371:A:C2'	11:I:59:ARG:HG2	2.38	0.54
1:X:2552:C:OP1	1:X:2553:G:OP1	2.24	0.54
1:X:2659:C:H2'	1:X:2660:C:H6	1.71	0.54
1:X:469:G:H5'	28:2:39:ARG:HB2	1.88	0.54
5:C:26:VAL:HG11	5:C:102:LEU:HD22	1.88	0.54
14:L:33:ARG:HE	14:L:38:ILE:HB	1.73	0.54
15:M:103:LYS:O	15:M:104:LEU:CB	2.51	0.54
20:R:84:VAL:CA	20:R:90:LYS:HE2	2.37	0.54
1:X:1632:A:H4'	1:X:1633:C:OP2	2.06	0.54
1:X:1677:C:H5''	1:X:1677:C:H6	1.71	0.54
1:X:208:C:H41	1:X:209:G:N2	2.05	0.54
1:X:572:G:H5'	1:X:581:A:H4'	1.90	0.54
13:K:87:TYR:CE1	13:K:94:TYR:HB3	2.42	0.54
14:L:51:LEU:HD12	14:L:51:LEU:N	2.23	0.54
18:P:85:MET:HE2	18:P:90:LEU:HD21	1.88	0.54
25:W:47:VAL:CG1	25:W:50:LEU:HD12	2.38	0.54
1:X:1496:G:H4'	1:X:1497:C:OP1	2.08	0.54
1:X:1643:A:N6	1:X:1656:U:H3	2.04	0.54
1:X:2300:G:H3'	1:X:2300:G:N3	2.22	0.54
1:X:2475:C:N4	1:X:2476:A:N6	2.56	0.54
1:X:2791:C:H2'	1:X:2792:C:C6	2.43	0.54
3:A:71:ARG:NH1	3:A:150:PRO:HB3	2.22	0.54
9:G:137:LYS:O	9:G:137:LYS:HG2	2.07	0.54
14:L:38:ILE:HG21	14:L:71:VAL:HG11	1.90	0.54
1:X:1704:G:N2	1:X:1719:G:O6	2.41	0.54
1:X:2722:C:H2'	1:X:2723:C:C6	2.42	0.54
1:X:2867:G:H4'	1:X:2868:G:OP2	2.05	0.54
1:X:652:C:H42	1:X:657:A:H61	1.56	0.54
1:X:821:A:H2'	1:X:822:G:H8	1.71	0.54
1:X:829:C:H2'	1:X:830:C:C6	2.43	0.54
26:Z:3:LYS:O	26:Z:6:VAL:HG23	2.07	0.54
27:1:16:ALA:HB2	27:1:50:PHE:CE1	2.43	0.54
4:B:152:LYS:HB2	9:G:106:TYR:CB	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:51:LEU:CD2	13:K:70:ILE:HD11	2.38	0.54
1:X:1296:G:N2	1:X:1299:A:H8	2.05	0.54
1:X:2364:C:H2'	1:X:2365:U:C6	2.43	0.54
1:X:2394:G:C2	1:X:2395:C:C2	2.96	0.54
1:X:2494:C:OP1	9:G:108:GLY:C	2.44	0.54
1:X:2032:G:N2	1:X:2599:U:N3	2.56	0.54
1:X:749:C:H3'	1:X:749:C:H6	1.72	0.54
3:A:162:THR:H	3:A:197:VAL:HG22	1.73	0.54
4:B:14:ILE:HG23	15:M:20:HIS:CD2	2.43	0.54
5:C:157:THR:CG2	5:C:158:ARG:N	2.70	0.54
7:E:125:VAL:HG13	7:E:127:GLU:O	2.08	0.54
11:I:115:SER:OG	11:I:136:ALA:CB	2.55	0.54
12:J:47:GLN:O	12:J:50:ALA:HB3	2.07	0.54
1:X:2355:A:H61	14:L:91:ARG:CZ	2.21	0.54
15:M:39:VAL:HG12	15:M:45:THR:CB	2.38	0.54
1:X:2392:G:H2'	1:X:2393:G:H8	1.73	0.54
1:X:459:A:C2	1:X:466:A:C8	2.96	0.54
1:X:688:A:H62	1:X:816:U:H3	1.55	0.54
21:S:155:PRO:O	21:S:156:GLU:CB	2.55	0.54
1:X:1141:U:C4	4:B:147:PRO:HG3	2.42	0.54
1:X:1151:U:C5	9:G:91:THR:HG21	2.43	0.54
1:X:2014:A:C5	1:X:2477:C:H1'	2.43	0.54
1:X:572:G:H22	1:X:587:A:H2	1.56	0.54
27:1:8:ILE:CG1	27:1:30:ASN:HD21	2.16	0.53
3:A:43:GLY:N	3:A:44:ARG:NH1	2.56	0.53
6:D:67:ILE:HG21	6:D:84:PRO:HB3	1.90	0.53
1:X:674:U:H1'	11:I:22:GLY:HA2	1.90	0.53
18:P:107:ILE:CG2	18:P:117:ILE:HG12	2.38	0.53
18:P:14:ARG:O	18:P:17:GLN:HG2	2.08	0.53
1:X:1405:A:N6	1:X:1406:A:N6	2.56	0.53
1:X:1438:G:H2'	1:X:1439:G:O4'	2.08	0.53
1:X:1655:C:OP1	1:X:2690:A:H5'	2.07	0.53
1:X:1674:C:H2'	1:X:1675:C:C6	2.43	0.53
1:X:2381:A:O2'	1:X:2382:C:C6	2.61	0.53
1:X:2672:U:H2'	1:X:2673:G:H8	1.73	0.53
1:X:995:A:OP2	1:X:996:C:N4	2.40	0.53
29:3:59:LYS:O	29:3:60:LEU:CB	2.56	0.53
7:E:171:LEU:N	7:E:171:LEU:HD12	2.23	0.53
1:X:2814:G:C4'	13:K:49:GLU:OE2	2.55	0.53
17:O:71:ILE:HB	17:O:84:THR:O	2.07	0.53
18:P:107:ILE:HG21	18:P:117:ILE:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:90:LYS:HB2	20:R:108:VAL:HG21	1.90	0.53
1:X:1074:G:H4'	8:F:134:MET:HG3	1.89	0.53
1:X:1680:U:O5'	1:X:1680:U:H6	1.92	0.53
1:X:2557:G:N2	1:X:2558:C:C2	2.77	0.53
1:X:2677:U:H2'	1:X:2678:C:C6	2.43	0.53
1:X:626:A:O2'	5:C:176:ASN:CG	2.46	0.53
2:Y:83:C:C2'	2:Y:84:G:C5'	2.83	0.53
26:Z:8:LYS:C	26:Z:9:LYS:HG3	2.28	0.53
27:1:21:TYR:HD2	27:1:50:PHE:HZ	1.54	0.53
27:1:24:THR:HG21	29:3:35:GLY:HA2	1.90	0.53
3:A:211:GLY:C	3:A:213:SER:H	2.12	0.53
3:A:26:THR:HG22	3:A:27:LYS:H	1.58	0.53
12:J:106:GLU:CD	12:J:106:GLU:N	2.62	0.53
18:P:101:PRO:O	18:P:121:THR:CG2	2.56	0.53
20:R:90:LYS:HD2	20:R:108:VAL:CG2	2.39	0.53
22:T:43:THR:O	22:T:43:THR:HG22	2.07	0.53
1:X:16:G:C2	1:X:535:U:O2	2.62	0.53
1:X:172:A:C8	1:X:174:A:OP1	2.61	0.53
1:X:224:G:N2	1:X:229:G:C6	2.77	0.53
1:X:2378:G:H1'	27:1:22:TYR:HH	1.68	0.53
1:X:2800:C:C2'	1:X:2801:A:H5'	2.38	0.53
1:X:2045:A:C5	32:X:2882:LMA:H27A	2.40	0.53
1:X:427:C:H2'	1:X:428:A:C8	2.44	0.53
1:X:684:C:O2'	1:X:685:U:H5'	2.08	0.53
9:G:46:ALA:HB3	9:G:85:ALA:HB2	1.91	0.53
10:H:10:VAL:HG23	10:H:17:ARG:O	2.08	0.53
10:H:46:HIS:O	10:H:49:ASP:HB2	2.09	0.53
4:B:176:ARG:NH2	15:M:19:ASP:OD2	2.41	0.53
16:N:93:LYS:HZ3	17:O:10:LYS:HE2	1.69	0.53
1:X:1683:G:H4'	10:H:6:SER:OG	2.08	0.53
1:X:1681:A:N6	1:X:1979:C:N4	2.46	0.53
1:X:2395:C:C2'	1:X:2396:C:H5'	2.38	0.53
1:X:2429:A:N6	1:X:2430:A:N6	2.57	0.53
1:X:318:G:O2'	1:X:319:G:C8	2.61	0.53
1:X:2350:G:O2'	27:1:46:LYS:HB3	2.07	0.53
29:3:13:ARG:HD2	29:3:25:PHE:HD1	1.72	0.53
4:B:122:PHE:CZ	4:B:155:ARG:HB2	2.42	0.53
5:C:128:ALA:O	5:C:130:THR:N	2.39	0.53
13:K:80:MET:HA	13:K:80:MET:HE2	1.89	0.53
21:S:87:THR:O	21:S:88:TYR:CB	2.55	0.53
1:X:1006:C:OP2	16:N:54:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:131:C:C2	1:X:141:G:N2	2.77	0.53
1:X:1975:G:O2'	1:X:1980:A:N6	2.38	0.53
1:X:2238:G:N7	1:X:2406:C:N4	2.57	0.53
1:X:2496:C:C5	1:X:2521:A:C8	2.97	0.53
1:X:28:A:H1'	1:X:523:A:C2	2.44	0.53
1:X:562:G:C6	1:X:563:U:N3	2.76	0.53
1:X:660:G:H5'	29:3:48:PHE:CZ	2.44	0.53
3:A:160:ALA:CB	3:A:199:ASN:CB	2.87	0.53
3:A:70:ARG:HD3	3:A:120:ALA:HB2	1.90	0.53
11:I:58:ALA:O	11:I:59:ARG:HB2	2.07	0.53
12:J:92:GLU:CG	12:J:93:TYR:CD2	2.86	0.53
1:X:131:C:O2	1:X:141:G:N2	2.42	0.53
1:X:1405:A:H62	1:X:1406:A:N6	2.07	0.53
1:X:1720:G:H2'	1:X:1721:G:C8	2.43	0.53
1:X:1822:C:N4	1:X:1958:G:H1	2.02	0.53
1:X:1928:G:C2	1:X:1929:U:C2	2.96	0.53
1:X:219:G:H2'	1:X:220:U:OP2	2.08	0.53
1:X:1135:C:H1'	30:4:36:GLN:OE1	2.08	0.53
3:A:127:LYS:HB2	3:A:130:ASN:ND2	2.23	0.53
5:C:117:LEU:HD23	5:C:118:VAL:N	2.24	0.53
2:Y:45:C:H2'	6:D:92:ARG:CZ	2.39	0.53
7:E:50:LEU:HD23	7:E:51:LEU:N	2.24	0.53
1:X:1687:C:H2'	1:X:1688:U:O4'	2.09	0.53
1:X:496:C:C2'	1:X:497:C:H5'	2.38	0.53
7:E:140:LEU:O	7:E:144:VAL:HG23	2.08	0.53
12:J:78:LYS:HE2	12:J:81:GLU:HA	1.91	0.53
1:X:1282:A:H2	1:X:1338:G:N2	2.06	0.53
1:X:1391:A:C4	1:X:1393:G:C8	2.97	0.53
1:X:2045:A:N6	32:X:2882:LMA:C27	2.70	0.53
1:X:2624:G:C3'	1:X:2625:U:H5'	2.39	0.53
1:X:537:C:H1'	1:X:538:A:C6	2.44	0.53
27:1:31:THR:O	27:1:32:GLN:C	2.47	0.53
27:1:42:PRO:O	27:1:43:VAL:C	2.46	0.53
29:3:62:LEU:HB3	29:3:63:PRO:HD3	1.90	0.53
1:X:331:U:C2'	5:C:162:ARG:HH12	2.22	0.53
6:D:108:LEU:HB2	6:D:109:PRO:HD3	1.91	0.53
10:H:127:VAL:O	10:H:130:ALA:HB3	2.08	0.53
11:I:73:GLU:HG3	11:I:101:ARG:HG3	1.89	0.53
1:X:2698:G:H5''	15:M:105:TYR:CD2	2.44	0.53
1:X:1324:G:C2'	19:Q:72:ARG:HH22	2.21	0.53
21:S:6:LYS:HB2	21:S:31:SER:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1174:G:H2'	1:X:1175:A:H8	1.74	0.53
1:X:1391:A:C8	1:X:1393:G:C5	2.95	0.53
1:X:1392:U:H5''	1:X:1393:G:OP2	2.07	0.53
1:X:2616:U:H2'	1:X:2617:G:O4'	2.08	0.53
1:X:41:G:H2'	1:X:42:G:C8	2.44	0.53
2:Y:107:C:H2'	2:Y:108:G:O4'	2.09	0.53
3:A:109:PRO:HB3	3:A:144:HIS:HE1	1.73	0.53
5:C:164:VAL:HG23	5:C:165:SER:N	2.18	0.53
7:E:145:ALA:O	7:E:148:VAL:HB	2.09	0.53
9:G:103:TYR:CE2	9:G:111:LYS:HB2	2.43	0.53
1:X:827:C:OP1	17:O:83:ARG:N	2.42	0.53
18:P:32:ARG:CA	18:P:32:ARG:NE	2.61	0.53
1:X:1242:A:H2'	1:X:1243:G:C8	2.44	0.53
1:X:127:C:H2'	1:X:128:C:C6	2.44	0.53
1:X:415:A:H61	1:X:436:A:H61	1.57	0.53
1:X:695:G:N2	1:X:809:C:C2	2.77	0.53
1:X:693:A:C6	1:X:811:G:C2	2.97	0.53
2:Y:39:C:H5'	2:Y:40:C:OP2	2.09	0.53
1:X:795:A:N1	3:A:227:MET:HE3	2.23	0.52
3:A:71:ARG:NH1	3:A:151:GLY:N	2.57	0.52
1:X:756:C:OP1	4:B:130:GLY:HA3	2.09	0.52
16:N:25:TRP:CE3	16:N:26:GLY:HA3	2.43	0.52
22:T:40:GLN:HE21	22:T:57:HIS:HB3	1.74	0.52
1:X:2284:U:C2	6:D:153:ASP:HB2	2.44	0.52
1:X:2698:G:H5''	15:M:105:TYR:HD2	1.73	0.52
1:X:543:G:H5'	16:N:24:PHE:CE1	2.43	0.52
1:X:794:A:H5'	3:A:219:LYS:NZ	2.23	0.52
1:X:821:A:H2'	1:X:822:G:C8	2.44	0.52
3:A:245:ARG:HA	3:A:253:LYS:HZ1	1.74	0.52
1:X:679:C:H4'	11:I:49:PHE:CE1	2.45	0.52
13:K:33:ARG:O	13:K:34:ILE:HG22	2.09	0.52
18:P:8:PHE:O	18:P:9:ARG:HB2	2.09	0.52
19:Q:7:LEU:HD22	24:V:29:ARG:HH12	1.75	0.52
24:V:4:SER:HB3	24:V:7:ARG:HH21	1.74	0.52
1:X:1050:G:C2'	1:X:1051:U:H5'	2.39	0.52
1:X:1223:G:H4'	1:X:1224:A:O5'	2.02	0.52
1:X:1982:C:H1'	1:X:2666:U:H1'	1.91	0.52
1:X:2323:U:O2'	27:1:38:LYS:HB3	2.09	0.52
1:X:2371:A:H1'	11:I:59:ARG:CG	2.39	0.52
1:X:681:A:C8	1:X:681:A:H5''	2.44	0.52
27:1:29:ARG:HA	27:1:33:ALA:CB	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:9:ASN:HA	28:2:12:ARG:HB3	1.91	0.52
3:A:55:ILE:N	3:A:55:ILE:HD13	2.23	0.52
6:D:17:MET:HG3	6:D:22:TYR:HB2	1.91	0.52
7:E:174:GLY:C	7:E:175:LYS:HG2	2.29	0.52
7:E:83:TYR:CZ	7:E:138:LYS:HD2	2.44	0.52
15:M:102:ALA:O	15:M:103:LYS:CD	2.56	0.52
25:W:3:ILE:HD11	25:W:44:VAL:CG2	2.39	0.52
1:X:1393:G:O2'	1:X:1394:G:H5'	2.09	0.52
1:X:177:U:O2'	1:X:178:C:O4'	2.26	0.52
1:X:793:G:N3	1:X:798:G:C6	2.77	0.52
1:X:845:U:OP1	11:I:41:SER:OG	2.27	0.52
7:E:87:LEU:HB2	7:E:131:ILE:HB	1.90	0.52
1:X:1069:G:N3	8:F:116:ASN:ND2	2.57	0.52
9:G:67:ARG:HB2	9:G:70:PHE:CD1	2.45	0.52
10:H:88:THR:HB	15:M:80:VAL:HB	1.91	0.52
14:L:36:LYS:NZ	14:L:65:THR:HG22	2.24	0.52
1:X:2201:G:H2'	1:X:2202:G:C8	2.45	0.52
1:X:2857:C:C5'	13:K:96:ARG:HB2	2.40	0.52
1:X:333:A:C5'	5:C:162:ARG:HG2	2.40	0.52
1:X:542:A:H2'	16:N:28:ARG:HE	1.75	0.52
11:I:62:LYS:CD	29:3:13:ARG:N	2.73	0.52
3:A:157:ALA:HB1	3:A:162:THR:HB	1.90	0.52
8:F:121:GLU:O	8:F:125:ASN:N	2.40	0.52
18:P:110:ALA:O	18:P:111:ARG:HB2	2.09	0.52
1:X:2013:A:H4'	1:X:2014:A:C8	2.43	0.52
1:X:2841:U:HO2'	1:X:2842:C:P	2.31	0.52
2:Y:84:G:C2'	2:Y:85:G:O5'	2.58	0.52
3:A:160:ALA:HB1	3:A:199:ASN:CB	2.39	0.52
9:G:132:PHE:CD2	9:G:145:HIS:CG	2.88	0.52
11:I:73:GLU:CG	11:I:101:ARG:HG3	2.39	0.52
2:Y:40:C:O4'	14:L:97:HIS:CE1	2.62	0.52
19:Q:7:LEU:N	19:Q:7:LEU:HD13	2.24	0.52
1:X:1720:G:H2'	1:X:1721:G:H8	1.74	0.52
1:X:1918:G:C4	1:X:1945:C:N4	2.78	0.52
1:X:2340:C:H2'	1:X:2341:G:O4'	2.09	0.52
1:X:2429:A:N1	1:X:2430:A:C6	2.78	0.52
32:X:2882:LMA:H35	32:X:2882:LMA:H37B	1.91	0.52
1:X:33:C:O2	1:X:466:A:C2	2.61	0.52
6:D:123:ASP:OD1	6:D:123:ASP:C	2.47	0.52
11:I:18:ARG:CG	11:I:21:ARG:CG	2.87	0.52
15:M:27:PHE:CG	15:M:27:PHE:O	2.63	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1313:U:H4'	1:X:1314:A:C5'	2.40	0.52
1:X:1680:U:O2'	1:X:1681:A:O5'	2.28	0.52
1:X:2032:G:N2	1:X:2599:U:C2	2.78	0.52
1:X:2485:U:H2'	1:X:2486:C:C5	2.44	0.52
1:X:2712:G:H3'	1:X:2713:A:C5'	2.40	0.52
1:X:2790:C:N4	1:X:2806:G:H1	2.06	0.52
1:X:537:C:O2	1:X:538:A:C2	2.63	0.52
1:X:879:A:C2'	1:X:879:A:N3	2.69	0.52
1:X:2000:U:O2'	26:Z:9:LYS:HA	2.09	0.52
3:A:219:LYS:CD	3:A:219:LYS:C	2.76	0.52
9:G:35:LYS:CB	9:G:37:ASP:H	2.23	0.52
16:N:40:LEU:HB3	17:O:74:TYR:CZ	2.45	0.52
21:S:120:LEU:HD23	21:S:120:LEU:C	2.30	0.52
1:X:1972:G:C6	1:X:1973:C:N3	2.78	0.52
1:X:2505:G:N1	1:X:2517:C:O2	2.43	0.52
1:X:2805:G:O2'	1:X:2858:A:N1	2.33	0.52
1:X:965:G:O5'	1:X:965:G:H8	1.92	0.52
11:I:57:ILE:HG23	29:3:12:ARG:CZ	2.40	0.52
6:D:4:LEU:CG	6:D:5:LYS:H	2.12	0.52
1:X:2357:A:H1'	14:L:88:VAL:HG13	1.92	0.52
1:X:1391:A:C6	1:X:1393:G:C5	2.96	0.52
1:X:1819:U:O2'	1:X:1820:G:H5'	2.10	0.52
1:X:1919:A:H1'	1:X:1923:U:N3	2.24	0.52
1:X:2696:A:H2'	1:X:2697:G:H8	1.74	0.52
1:X:2824:C:O2	1:X:2843:A:C8	2.63	0.52
1:X:700:C:C5	1:X:701:U:C4	2.98	0.52
1:X:983:G:H3'	1:X:984:A:C5'	2.40	0.52
3:A:30:PRO:HB2	3:A:31:GLU:OE1	2.10	0.52
16:N:62:ILE:HG23	16:N:76:TYR:CE1	2.44	0.52
22:T:18:PRO:O	22:T:19:LYS:CG	2.58	0.52
1:X:1447:U:O2	1:X:1577:G:C2	2.63	0.52
1:X:1930:C:O2	1:X:1943:A:H2	1.92	0.52
1:X:2222:U:O2	1:X:2413:A:C2	2.63	0.52
1:X:2432:A:H2'	1:X:2433:G:C8	2.45	0.52
1:X:2624:G:H3'	1:X:2625:U:H5'	1.92	0.52
1:X:2825:A:OP2	1:X:2843:A:C4	2.63	0.52
27:1:9:ILE:CD1	27:1:26:LYS:HD2	2.39	0.51
3:A:31:GLU:HB2	3:A:83:ILE:O	2.09	0.51
10:H:28:GLY:O	10:H:35:THR:N	2.42	0.51
10:H:5:GLN:O	10:H:5:GLN:HG3	2.11	0.51
12:J:99:LYS:CD	12:J:100:PRO:HD2	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:54:VAL:CG2	12:J:125:LYS:NZ	2.73	0.51
1:X:1457:A:C2	1:X:1565:G:C2	2.98	0.51
1:X:2404:A:H4'	1:X:2405:A:OP2	2.10	0.51
1:X:2466:G:O2'	1:X:2467:A:H5'	2.10	0.51
1:X:883:A:C2	1:X:920:G:C6	2.98	0.51
3:A:66:ILE:HG23	3:A:66:ILE:O	2.11	0.51
5:C:156:ASN:O	5:C:159:ARG:HB3	2.10	0.51
15:M:27:PHE:CD1	15:M:27:PHE:O	2.63	0.51
18:P:85:MET:HE3	18:P:130:GLU:HG3	1.93	0.51
21:S:69:VAL:HG22	21:S:81:VAL:HG13	1.93	0.51
1:X:1332:G:C6	1:X:1333:G:O6	2.63	0.51
1:X:962:C:H2'	1:X:963:G:H8	1.75	0.51
1:X:978:U:H2'	1:X:979:A:C8	2.45	0.51
3:A:71:ARG:HH12	3:A:150:PRO:HB3	1.76	0.51
3:A:160:ALA:HA	3:A:199:ASN:CB	2.40	0.51
6:D:13:ARG:HG3	6:D:28:VAL:HG21	1.93	0.51
1:X:1073:G:N2	8:F:133:SER:HB3	2.21	0.51
1:X:1182:U:O2'	1:X:1183:C:H5''	2.10	0.51
1:X:1425:G:C2	1:X:1607:A:N6	2.78	0.51
1:X:1693:A:C6	1:X:1694:A:C6	2.97	0.51
1:X:2505:G:C2	1:X:2517:C:O2	2.63	0.51
1:X:2529:G:C2	1:X:2538:C:O2	2.64	0.51
1:X:1937:G:N3	1:X:2530:C:H5'	2.25	0.51
2:Y:84:G:H2'	2:Y:85:G:C8	2.44	0.51
4:B:21:ILE:HG21	4:B:173:VAL:HG21	1.92	0.51
10:H:21:CYS:HA	10:H:53:ALA:HB2	1.92	0.51
12:J:121:LEU:C	12:J:123:GLY:H	2.13	0.51
15:M:24:LEU:HB3	15:M:25:PRO:HD2	1.91	0.51
16:N:99:ALA:HB2	16:N:106:PHE:CD1	2.45	0.51
1:X:1291:G:H5''	13:K:34:ILE:HD12	1.92	0.51
1:X:1692:C:H2'	1:X:1693:A:O4'	2.10	0.51
1:X:1915:A:H62	1:X:1951:G:H21	1.56	0.51
1:X:1673:C:H42	1:X:1987:G:H1	1.58	0.51
1:X:2217:G:H2'	1:X:2217:G:N3	2.26	0.51
1:X:2238:G:C8	1:X:2406:C:C4	2.99	0.51
1:X:2791:C:C2	1:X:2806:G:N2	2.79	0.51
1:X:321:A:O2'	1:X:322:A:H2'	2.10	0.51
1:X:5:A:C2	1:X:2873:G:C2	2.98	0.51
1:X:817:A:OP1	11:I:45:LYS:CG	2.57	0.51
1:X:1692:C:N3	4:B:128:SER:O	2.43	0.51
9:G:67:ARG:HB3	9:G:70:PHE:CA	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:7:GLY:O	16:N:8:ILE:HG12	2.10	0.51
18:P:50:VAL:O	18:P:53:ALA:HB3	2.10	0.51
19:Q:63:LYS:HD3	19:Q:69:ILE:HA	1.93	0.51
1:X:1194:U:O2'	1:X:1195:U:C6	2.55	0.51
1:X:2606:G:N2	1:X:2757:G:C4	2.79	0.51
1:X:2757:G:OP2	1:X:2761:A:O2'	2.25	0.51
1:X:695:G:N2	1:X:809:C:O2	2.43	0.51
1:X:693:A:C2	1:X:811:G:C2	2.98	0.51
3:A:199:ASN:O	3:A:200:ALA:C	2.47	0.51
4:B:15:TRP:CD1	15:M:86:PRO:HD3	2.45	0.51
1:X:2848:A:C2	13:K:7:GLY:N	2.78	0.51
14:L:37:HIS:CE1	14:L:57:ALA:HB2	2.46	0.51
21:S:13:LYS:HE2	21:S:33:ALA:HB1	1.85	0.51
1:X:119:G:H2'	1:X:120:G:H8	1.76	0.51
1:X:1344:C:N4	1:X:1346:C:O2	2.44	0.51
1:X:2335:U:O2	1:X:2341:G:C2	2.63	0.51
1:X:2819:G:C2	1:X:2820:C:C2	2.99	0.51
1:X:2824:C:C4'	1:X:2825:A:OP2	2.58	0.51
1:X:331:U:O2'	5:C:162:ARG:NH1	2.43	0.51
4:B:84:PHE:CG	4:B:84:PHE:O	2.61	0.51
4:B:85:ALA:N	4:B:86:PRO:HD2	2.26	0.51
5:C:124:ASP:CG	5:C:136:TRP:CD1	2.84	0.51
9:G:132:PHE:CD2	9:G:145:HIS:CD2	2.97	0.51
10:H:110:VAL:HG23	10:H:129:LEU:HB2	1.92	0.51
14:L:37:HIS:CG	14:L:37:HIS:O	2.64	0.51
15:M:103:LYS:HG3	15:M:105:TYR:CE2	2.46	0.51
1:X:1128:G:H3'	1:X:1129:A:C5'	2.40	0.51
1:X:1982:C:H2'	1:X:1983:G:H8	1.76	0.51
1:X:1277:G:N2	1:X:1997:A:C8	2.79	0.51
1:X:2073:A:H61	1:X:2208:U:H3	1.58	0.51
1:X:2653:A:O2'	10:H:41:ASN:HB2	2.11	0.51
1:X:313:U:H2'	1:X:314:G:H8	1.75	0.51
1:X:886:A:H4'	12:J:66:TYR:CE2	2.46	0.51
1:X:334:G:H3'	5:C:162:ARG:HD3	1.92	0.51
6:D:78:LYS:C	6:D:79:LEU:HD12	2.31	0.51
9:G:61:ARG:NH2	9:G:61:ARG:HB3	2.26	0.51
10:H:110:VAL:HG23	10:H:129:LEU:HB3	1.93	0.51
10:H:27:SER:HB3	10:H:50:ILE:H	1.75	0.51
14:L:51:LEU:CD1	14:L:51:LEU:N	2.74	0.51
18:P:45:ILE:HA	18:P:48:LYS:HD3	1.92	0.51
19:Q:68:PHE:C	19:Q:69:ILE:HG13	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:17:GLU:O	24:V:21:ARG:HD3	2.11	0.51
1:X:2531:U:C2	1:X:2533:U:H5''	2.46	0.51
1:X:2571:G:C2	1:X:2582:G:N1	2.79	0.51
1:X:2795:A:O4'	13:K:5:LYS:HE3	2.10	0.51
1:X:2818:G:H2'	1:X:2819:G:H8	1.75	0.51
2:Y:51:G:H2'	2:Y:52:G:C8	2.45	0.51
6:D:5:LYS:O	6:D:8:TYR:HB3	2.11	0.51
11:I:115:SER:OG	11:I:136:ALA:HB1	2.11	0.51
13:K:98:LEU:HB2	13:K:112:LEU:HB2	1.93	0.51
20:R:23:ILE:HD11	20:R:81:VAL:HB	1.92	0.51
25:W:37:THR:O	25:W:41:ARG:HG3	2.11	0.51
1:X:1033:G:H2'	9:G:97:ASP:OD1	2.11	0.51
1:X:1223:G:H5'	1:X:1225:G:O4'	2.11	0.51
1:X:1337:G:H1'	1:X:1632:A:N6	2.26	0.51
1:X:1399:C:H2'	1:X:1400:A:C8	2.46	0.51
1:X:1473:U:O2	1:X:1474:A:N6	2.44	0.51
1:X:1605:A:C5	1:X:1606:C:N4	2.78	0.51
1:X:2266:A:N6	1:X:2323:U:H3	2.09	0.51
1:X:2463:G:H5''	12:J:46:ASN:HD22	1.75	0.51
1:X:2555:G:H3'	1:X:2555:G:N3	2.25	0.51
1:X:331:U:H1'	5:C:162:ARG:NH1	2.17	0.51
1:X:2592:U:H2'	26:Z:5:PRO:CG	2.41	0.51
27:1:38:LYS:CD	27:1:40:TYR:HE1	2.24	0.51
5:C:14:THR:C	5:C:15:ILE:HG13	2.29	0.51
6:D:16:LEU:HD13	6:D:22:TYR:HE2	1.75	0.51
10:H:24:VAL:HG12	10:H:42:LYS:HG2	1.93	0.51
1:X:1311:C:C2	1:X:1660:G:N2	2.79	0.51
1:X:1701:C:N3	1:X:1722:G:C2	2.79	0.51
1:X:1739:G:H2'	1:X:1740:G:C8	2.46	0.51
1:X:1777:A:N3	1:X:1921:A:C6	2.78	0.51
1:X:542:A:H2	1:X:2004:U:HO2'	1.57	0.51
1:X:2427:A:H5'	1:X:2428:U:OP2	2.10	0.51
31:X:2881:LC2:C28	31:X:2881:LC2:C3	2.79	0.51
1:X:313:U:H2'	1:X:314:G:C8	2.45	0.51
1:X:538:A:O2'	1:X:539:A:H5''	2.11	0.51
1:X:647:G:O2'	1:X:649:G:H4'	2.10	0.51
1:X:693:A:H2'	1:X:694:G:H8	1.76	0.51
1:X:583:C:N3	4:B:145:LYS:NZ	2.59	0.50
4:B:61:LYS:N	4:B:62:PRO:CD	2.74	0.50
9:G:70:PHE:HB2	16:N:64:ARG:NE	2.23	0.50
16:N:91:ASN:O	16:N:93:LYS:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1073:G:H21	8:F:133:SER:CB	2.21	0.50
1:X:617:U:H5	1:X:632:A:C2	2.28	0.50
1:X:748:A:N7	1:X:749:C:C4	2.79	0.50
11:I:62:LYS:HD2	29:3:13:ARG:CA	2.41	0.50
12:J:13:GLN:NE2	12:J:90:ALA:HB1	2.26	0.50
21:S:3:LEU:HD11	21:S:33:ALA:H	1.76	0.50
25:W:13:PRO:O	25:W:17:VAL:HG23	2.12	0.50
1:X:1811:A:H4'	1:X:1812:U:C5'	2.41	0.50
1:X:2194:A:H3'	1:X:2195:C:H5''	1.93	0.50
1:X:45:C:OP2	1:X:192:G:C2'	2.56	0.50
1:X:860:U:O2	1:X:860:U:C3'	2.59	0.50
11:I:56:LEU:HD11	29:3:52:LYS:HD2	1.93	0.50
1:X:1920:A:C5	1:X:1922:U:O2	2.64	0.50
1:X:2427:A:OP1	1:X:2477:C:OP2	2.29	0.50
1:X:2487:G:HO2'	1:X:2533:U:HO2'	1.56	0.50
1:X:2664:G:H8	1:X:2664:G:H5''	1.76	0.50
1:X:2709:C:O2'	4:B:186:GLY:HA3	2.11	0.50
1:X:2711:G:OP1	4:B:169:ASN:CB	2.60	0.50
1:X:517:A:C5'	1:X:518:A:H5'	2.39	0.50
1:X:671:A:C6	1:X:672:C:C4	2.99	0.50
1:X:693:A:N1	1:X:811:G:C2	2.80	0.50
2:Y:84:G:C2	2:Y:98:C:C2	2.99	0.50
5:C:180:ILE:HG23	5:C:181:LEU:N	2.27	0.50
1:X:884:C:OP1	12:J:9:LYS:HG3	2.12	0.50
1:X:782:U:O2	1:X:1392:U:H1'	2.11	0.50
1:X:1496:G:H1'	1:X:1497:C:O5'	2.10	0.50
1:X:2796:A:H2'	1:X:2797:G:C8	2.47	0.50
1:X:2806:G:O2'	1:X:2859:U:OP1	2.18	0.50
1:X:540:G:N7	1:X:2005:U:H5''	2.26	0.50
1:X:791:G:C2	1:X:800:U:C2	2.99	0.50
2:Y:23:G:C2	2:Y:65:A:C2	3.00	0.50
30:4:24:LEU:HD23	30:4:35:ARG:CZ	2.42	0.50
7:E:165:VAL:HG12	7:E:166:GLY:H	1.77	0.50
10:H:115:ALA:HB3	10:H:118:LEU:HD13	1.91	0.50
13:K:84:ALA:N	13:K:85:PRO:CD	2.75	0.50
10:H:89:ILE:HG23	15:M:79:ARG:HD3	1.93	0.50
1:X:29:U:H4'	16:N:11:ARG:HH22	1.75	0.50
1:X:827:C:OP1	17:O:82:ARG:HA	2.11	0.50
1:X:100:G:H4'	1:X:101:A:OP1	2.12	0.50
1:X:1182:U:H1'	1:X:1183:C:O5'	2.11	0.50
1:X:1949:A:H1'	1:X:2572:U:C5'	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2016:A:O2'	1:X:2018:G:OP2	2.29	0.50
1:X:2261:G:C2	1:X:2404:A:C5	2.99	0.50
1:X:2641:A:H2'	1:X:2642:G:H5'	1.94	0.50
1:X:2819:G:C5	1:X:2820:C:C4	3.00	0.50
26:Z:12:SER:HB2	26:Z:15:LYS:H	1.76	0.50
27:1:29:ARG:HA	27:1:33:ALA:HB2	1.93	0.50
3:A:207:LEU:CA	3:A:212:ARG:NH1	2.71	0.50
4:B:9:ILE:HD11	4:B:27:LEU:CB	2.37	0.50
10:H:116:ARG:NH1	15:M:38:LYS:CE	2.71	0.50
12:J:135:ARG:NH2	21:S:118:HIS:CD2	2.78	0.50
16:N:94:VAL:O	16:N:94:VAL:HG12	2.11	0.50
1:X:1265:G:O2'	1:X:1266:G:N9	2.45	0.50
1:X:1985:G:H3'	1:X:1985:G:C8	2.46	0.50
1:X:2005:U:O4'	1:X:2005:U:OP2	2.30	0.50
1:X:2314:A:O2'	1:X:2315:A:C8	2.65	0.50
1:X:2825:A:H2	13:K:61:HIS:CG	2.28	0.50
1:X:331:U:C2'	5:C:162:ARG:NH1	2.75	0.50
1:X:756:C:OP1	4:B:130:GLY:CA	2.60	0.50
3:A:178:LEU:HB3	3:A:179:PRO:HD2	1.93	0.50
1:X:2554:C:O2'	4:B:140:SER:HB2	2.12	0.50
9:G:107:GLN:HA	9:G:110:LEU:HD12	1.94	0.50
10:H:7:ARG:HA	10:H:20:MET:HA	1.93	0.50
21:S:73:LYS:O	21:S:74:ARG:HB2	2.12	0.50
1:X:1021:A:OP1	16:N:66:ASN:ND2	2.44	0.50
1:X:175:C:O5'	1:X:175:C:H6	1.95	0.50
1:X:2199:C:C2'	1:X:2200:G:H5'	2.41	0.50
1:X:789:G:N2	1:X:2220:A:OP1	2.45	0.50
1:X:2671:C:N3	1:X:2698:G:N2	2.60	0.50
1:X:538:A:H3'	9:G:142:ARG:NH1	2.27	0.50
1:X:584:A:OP2	1:X:2038:C:H5	1.95	0.50
1:X:617:U:C5	1:X:631:G:H8	2.30	0.50
1:X:793:G:H1'	1:X:798:G:H22	1.76	0.50
15:M:26:ASP:O	15:M:26:ASP:OD2	2.30	0.50
1:X:1322:G:H4'	28:2:7:PRO:CB	2.41	0.50
1:X:2780:A:H2'	1:X:2781:G:C8	2.47	0.50
4:B:85:ALA:O	4:B:86:PRO:O	2.29	0.50
6:D:134:GLU:HG2	6:D:136:LEU:H	1.76	0.50
12:J:54:VAL:HG21	12:J:125:LYS:NZ	2.26	0.50
18:P:85:MET:CE	18:P:90:LEU:HD21	2.42	0.50
1:X:1289:A:N1	1:X:1290:A:C6	2.79	0.50
1:X:1601:U:H4'	1:X:1602:G:OP2	2.07	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2378:G:C2	1:X:2397:A:C2	3.00	0.50
1:X:2814:G:H4'	13:K:49:GLU:OE2	2.12	0.50
1:X:611:C:O2'	1:X:615:C:OP1	2.21	0.50
1:X:780:U:O2'	1:X:781:G:O5'	2.30	0.50
1:X:938:G:O2'	1:X:939:C:C5'	2.59	0.50
1:X:980:G:C6	1:X:981:C:N3	2.80	0.50
29:3:13:ARG:HD2	29:3:25:PHE:N	2.28	0.49
29:3:29:LYS:HE3	29:3:34:THR:CB	2.42	0.49
5:C:123:PHE:CD2	5:C:123:PHE:C	2.85	0.49
9:G:132:PHE:HB2	9:G:145:HIS:NE2	2.26	0.49
9:G:36:ASN:O	9:G:38:GLU:O	2.30	0.49
13:K:54:THR:HG22	13:K:66:VAL:HG23	1.94	0.49
16:N:13:ARG:O	16:N:16:LYS:HB2	2.12	0.49
18:P:107:ILE:CG2	18:P:107:ILE:O	2.60	0.49
23:U:49:LYS:HA	23:U:62:LEU:H	1.76	0.49
1:X:1096:A:O4'	1:X:1097:A:OP1	2.30	0.49
1:X:1164:C:H2'	1:X:1165:G:O4'	2.11	0.49
1:X:1399:C:H2'	1:X:1400:A:H8	1.77	0.49
1:X:1542:G:H22	1:X:1562:G:H1	1.58	0.49
1:X:2571:G:C5	1:X:2572:U:C4	3.00	0.49
1:X:2793:G:C2	1:X:2804:G:C2	2.99	0.49
1:X:608:G:C2	1:X:609:U:C2	3.00	0.49
1:X:640:C:H4'	1:X:660:G:H21	1.75	0.49
1:X:693:A:C5	1:X:811:G:N2	2.80	0.49
27:1:9:ILE:C	27:1:10:VAL:HG23	2.32	0.49
3:A:220:PRO:O	3:A:221:HIS:O	2.29	0.49
8:F:116:ASN:OD1	8:F:117:ALA:CA	2.60	0.49
9:G:93:LYS:N	9:G:93:LYS:CD	2.74	0.49
11:I:18:ARG:HG3	11:I:21:ARG:CB	2.41	0.49
12:J:54:VAL:CG2	12:J:125:LYS:HZ2	2.25	0.49
13:K:94:TYR:CE1	13:K:115:LEU:O	2.65	0.49
14:L:36:LYS:HE2	14:L:65:THR:HG22	1.94	0.49
10:H:116:ARG:CD	15:M:38:LYS:HE3	2.42	0.49
1:X:1993:G:OP1	18:P:37:LYS:HE3	2.12	0.49
1:X:1069:G:H2'	1:X:1070:G:H5''	1.94	0.49
1:X:1096:A:C4'	1:X:1097:A:OP1	2.60	0.49
1:X:1224:A:H5'	18:P:10:ASN:HD22	1.76	0.49
1:X:1979:C:OP1	1:X:1979:C:O4'	2.30	0.49
1:X:2040:A:O5'	1:X:2040:A:C8	2.60	0.49
1:X:2038:C:H2'	1:X:2483:U:C4'	2.41	0.49
1:X:2510:A:N6	1:X:2511:G:C6	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:861:G:H2'	1:X:862:A:H5'	1.94	0.49
1:X:998:C:N4	1:X:999:A:C5	2.81	0.49
29:3:13:ARG:HB2	29:3:25:PHE:HD1	1.78	0.49
5:C:22:VAL:CG1	5:C:110:SER:OG	2.56	0.49
1:X:2663:U:C2'	10:H:88:THR:HG21	2.39	0.49
18:P:91:PHE:CE1	18:P:131:LYS:HA	2.47	0.49
1:X:1747:G:O4'	1:X:1747:G:OP2	2.29	0.49
1:X:2451:G:C5	1:X:2454:C:N4	2.81	0.49
1:X:2671:C:H1'	1:X:2822:U:H1'	1.93	0.49
1:X:332:C:H2'	1:X:351:A:O2'	2.13	0.49
1:X:460:U:N3	1:X:592:G:H1'	2.27	0.49
1:X:615:C:H41	11:I:100:ARG:NH1	2.11	0.49
1:X:796:A:H2	1:X:1769:U:HO2'	1.58	0.49
27:1:11:LYS:N	27:1:11:LYS:HD2	2.27	0.49
11:I:60:LEU:HG	29:3:13:ARG:HD3	1.95	0.49
3:A:49:ARG:HH11	3:A:49:ARG:HB3	1.77	0.49
3:A:86:ASP:HB2	3:A:93:ILE:HD12	1.94	0.49
6:D:111:ILE:HB	6:D:114:PHE:HB2	1.93	0.49
6:D:67:ILE:CG2	6:D:84:PRO:HB3	2.42	0.49
2:Y:51:G:OP1	14:L:99:ARG:HG2	2.12	0.49
19:Q:11:VAL:HG11	19:Q:16:ALA:HB2	1.94	0.49
20:R:107:ALA:HB1	20:R:111:GLY:HA2	1.95	0.49
1:X:1072:U:H4'	1:X:1081:A:O2'	2.12	0.49
1:X:1466:C:C2'	1:X:1467:U:O4'	2.60	0.49
1:X:1607:A:O2'	1:X:1608:U:O5'	2.30	0.49
1:X:579:G:H2'	1:X:2013:A:N6	2.28	0.49
1:X:564:U:H2'	1:X:565:A:C8	2.47	0.49
1:X:615:C:HO2'	1:X:670:U:C2'	2.21	0.49
1:X:917:U:O2	12:J:30:PHE:HZ	1.95	0.49
3:A:207:LEU:CA	3:A:212:ARG:HH11	2.24	0.49
10:H:75:VAL:CG1	10:H:118:LEU:HD21	2.14	0.49
13:K:33:ARG:C	13:K:34:ILE:CG2	2.81	0.49
14:L:12:ARG:O	14:L:16:LYS:HG3	2.13	0.49
1:X:2356:A:H2	14:L:91:ARG:HH22	1.59	0.49
2:Y:39:C:C2	14:L:97:HIS:NE2	2.79	0.49
20:R:92:THR:HG22	20:R:108:VAL:CG2	2.43	0.49
1:X:1010:U:O2'	1:X:1011:A:H5'	2.12	0.49
1:X:1118:G:C2'	1:X:1119:U:H5'	2.42	0.49
1:X:123:A:OP1	1:X:123:A:O4'	2.30	0.49
1:X:1261:G:H4'	1:X:1262:U:OP2	2.12	0.49
1:X:1401:G:H1	1:X:1412:C:H42	1.58	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1968:G:H2'	1:X:1969:G:C8	2.46	0.49
1:X:1978:U:C2	1:X:1979:C:H5	2.31	0.49
1:X:221:A:C2	1:X:232:A:C4	3.01	0.49
1:X:2404:A:OP2	1:X:2406:C:H5'	2.12	0.49
1:X:303:C:N3	1:X:360:A:H2	2.11	0.49
9:G:102:ARG:C	9:G:103:TYR:HD1	2.15	0.49
1:X:1300:A:H5'	13:K:103:ARG:HD2	1.95	0.49
16:N:11:ARG:HB3	16:N:15:LYS:NZ	2.27	0.49
16:N:93:LYS:O	16:N:94:VAL:HB	2.12	0.49
20:R:106:VAL:HG23	20:R:113:THR:HG21	1.94	0.49
1:X:1545:G:C6	1:X:1559:G:N2	2.80	0.49
1:X:1623:C:N4	1:X:1638:G:OP2	2.45	0.49
1:X:1676:U:C2'	1:X:1677:C:O5'	2.58	0.49
1:X:1704:G:C2	1:X:1719:G:C6	3.01	0.49
1:X:171:G:O2'	1:X:172:A:H5'	2.12	0.49
1:X:1812:U:O2	1:X:1812:U:H3'	2.12	0.49
1:X:2191:A:H5''	1:X:2192:U:H5	1.78	0.49
1:X:2429:A:C6	1:X:2430:A:C6	3.01	0.49
1:X:2625:U:OP2	1:X:2712:G:O2'	2.28	0.49
3:A:25:LEU:CB	3:A:206:VAL:H	2.26	0.49
1:X:2728:A:H4'	7:E:66:GLY:HA3	1.94	0.49
12:J:136:GLU:O	12:J:136:GLU:CG	2.58	0.49
1:X:2475:C:OP1	12:J:83:ARG:HB3	2.13	0.49
15:M:24:LEU:HD11	15:M:34:ARG:NH2	2.27	0.49
15:M:50:PHE:CZ	15:M:70:LYS:HB3	2.48	0.49
18:P:19:LYS:O	18:P:20:LEU:CB	2.60	0.49
20:R:85:ASP:O	20:R:85:ASP:OD1	2.30	0.49
1:X:1609:G:H2'	1:X:1610:A:O4'	2.11	0.49
1:X:1823:G:C4	1:X:1958:G:N2	2.81	0.49
1:X:1976:U:H4'	4:B:128:SER:HB3	1.94	0.49
1:X:2011:U:H2'	1:X:2012:A:C8	2.48	0.49
1:X:2496:C:C5	1:X:2521:A:N7	2.81	0.49
1:X:2548:G:C2'	1:X:2549:G:H5'	2.43	0.49
1:X:463:C:C2	1:X:465:C:C5	3.00	0.49
1:X:553:C:H42	1:X:559:C:H41	1.61	0.49
1:X:877:G:H21	1:X:879:A:H61	1.61	0.49
2:Y:25:G:H2'	2:Y:26:G:C5	2.47	0.49
3:A:66:ILE:HG21	3:A:68:PHE:HZ	1.65	0.49
5:C:7:ILE:HB	5:C:120:VAL:O	2.12	0.49
6:D:52:LYS:HZ2	6:D:150:ARG:HB2	1.78	0.49
2:Y:33:C:H5''	6:D:30:ARG:HH22	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:70:VAL:HG22	10:H:71:LYS:N	2.27	0.49
12:J:137:VAL:C	12:J:138:TYR:CD2	2.86	0.49
22:T:69:PHE:C	22:T:70:ILE:HG13	2.33	0.49
1:X:76:C:C2	1:X:108:G:C2	3.00	0.49
1:X:1704:G:C2	1:X:1719:G:O6	2.66	0.49
1:X:1720:G:O2'	1:X:1721:G:H5'	2.13	0.49
1:X:1991:C:H2'	1:X:1992:G:C8	2.46	0.49
1:X:2016:A:O4'	1:X:2016:A:OP2	2.30	0.49
1:X:2592:U:H2'	26:Z:5:PRO:CB	2.43	0.49
1:X:789:G:C2	1:X:2220:A:OP1	2.65	0.49
1:X:888:G:N2	1:X:915:C:C2	2.80	0.49
2:Y:117:G:H2'	2:Y:118:G:C8	2.48	0.49
2:Y:83:C:C2'	2:Y:84:G:O5'	2.60	0.49
3:A:25:LEU:CB	3:A:206:VAL:CG2	2.90	0.49
3:A:97:HIS:CE1	3:A:101:GLY:CA	2.96	0.49
9:G:103:TYR:HB3	9:G:107:GLN:CG	2.39	0.49
16:N:76:TYR:CZ	16:N:80:ILE:HG13	2.47	0.49
18:P:14:ARG:HA	18:P:17:GLN:HG2	1.95	0.49
24:V:2:LYS:O	24:V:3:PRO:O	2.30	0.49
1:X:1015:U:O5'	1:X:1015:U:H6	1.95	0.49
1:X:1299:A:H1'	1:X:1301:U:OP2	2.13	0.49
1:X:2013:A:H5''	1:X:2014:A:OP1	2.12	0.49
1:X:2598:C:OP1	4:B:152:LYS:HE2	2.13	0.49
1:X:861:G:C2'	1:X:862:A:H5'	2.43	0.49
3:A:25:LEU:CB	3:A:206:VAL:HG22	2.43	0.49
4:B:60:ASN:HB3	4:B:62:PRO:HD2	1.95	0.49
10:H:26:ASN:O	10:H:26:ASN:CG	2.47	0.49
1:X:2795:A:C4'	13:K:5:LYS:HE3	2.42	0.49
13:K:80:MET:CA	13:K:80:MET:CE	2.89	0.49
1:X:2275:U:C4	14:L:10:LYS:HE2	2.48	0.49
16:N:52:ASN:HB2	16:N:55:ARG:HH21	1.78	0.49
17:O:10:LYS:O	17:O:11:GLN:HB2	2.12	0.49
17:O:23:GLU:O	17:O:24:SER:CB	2.60	0.49
18:P:85:MET:CE	18:P:130:GLU:HG3	2.43	0.49
20:R:62:MET:O	20:R:63:THR:OG1	2.30	0.49
1:X:1391:A:O4'	1:X:1392:U:OP1	2.30	0.49
1:X:2401:A:H62	29:3:32:GLN:NE2	2.11	0.49
1:X:2404:A:H1'	1:X:2405:A:OP2	2.13	0.49
1:X:681:A:C5	1:X:683:A:N7	2.80	0.49
1:X:708:G:C2	1:X:781:G:C2	3.01	0.49
1:X:775:U:H4'	1:X:776:G:N3	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:959:C:OP1	1:X:973:U:OP1	2.30	0.49
1:X:982:C:H4'	1:X:994:A:O2'	2.12	0.49
1:X:958:G:O2'	1:X:995:A:C2	2.61	0.49
2:Y:67:C:C2'	2:Y:68:A:H5'	2.43	0.49
2:Y:84:G:O2'	2:Y:85:G:O5'	2.30	0.49
1:X:1817:U:H5'	3:A:253:LYS:HD3	1.94	0.48
3:A:76:VAL:HG11	3:A:100:ASP:OD2	2.13	0.48
4:B:102:ILE:HD11	4:B:184:VAL:HG22	1.94	0.48
4:B:47:VAL:HB	4:B:84:PHE:HD2	1.76	0.48
1:X:2291:U:OP1	6:D:71:LYS:HD2	2.12	0.48
9:G:70:PHE:HB3	16:N:64:ARG:CG	2.43	0.48
19:Q:60:GLY:O	19:Q:61:LYS:O	2.30	0.48
1:X:1819:U:C2'	1:X:1820:G:H5'	2.43	0.48
1:X:2595:C:H2'	1:X:2596:C:O4'	2.13	0.48
32:X:2882:LMA:C54	32:X:2882:LMA:C34	2.91	0.48
27:1:10:VAL:HG12	27:1:11:LYS:N	2.28	0.48
11:I:77:LEU:HB2	11:I:110:ALA:HA	1.95	0.48
16:N:66:ASN:ND2	16:N:70:ARG:HH12	2.12	0.48
16:N:40:LEU:HB3	17:O:74:TYR:CE2	2.47	0.48
18:P:80:LEU:HD11	18:P:87:GLU:HB3	1.95	0.48
1:X:2720:A:N6	1:X:2721:A:N1	2.60	0.48
1:X:32:C:H6	1:X:32:C:O5'	1.96	0.48
1:X:395:G:C2	1:X:406:G:C2	3.01	0.48
1:X:594:G:N2	1:X:1269:G:C6	2.80	0.48
1:X:955:G:N3	1:X:955:G:H5''	2.27	0.48
2:Y:85:G:C6	2:Y:86:A:C6	3.01	0.48
3:A:55:ILE:N	3:A:55:ILE:HD12	2.28	0.48
5:C:17:LEU:N	5:C:17:LEU:HD12	2.28	0.48
6:D:132:ILE:HG13	6:D:154:ILE:HD13	1.96	0.48
10:H:11:ALA:O	10:H:110:VAL:HG13	2.13	0.48
16:N:79:PHE:HE2	16:N:95:LEU:HD21	1.78	0.48
1:X:1526:U:H2'	1:X:1527:G:O4'	2.13	0.48
1:X:1676:U:O2	1:X:2692:A:H2	1.96	0.48
1:X:581:A:H2'	1:X:582:G:O4'	2.13	0.48
1:X:700:C:OP1	28:2:6:GLN:HG3	2.14	0.48
1:X:780:U:O2'	1:X:781:G:O4'	2.30	0.48
1:X:817:A:H2'	1:X:819:C:N3	2.28	0.48
1:X:863:C:O2'	25:W:19:THR:OG1	2.09	0.48
29:3:6:THR:O	29:3:9:MET:HB3	2.14	0.48
3:A:106:ILE:HG22	3:A:107:LEU:N	2.28	0.48
3:A:90:SER:O	3:A:199:ASN:CG	2.50	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:91:VAL:HB	4:B:93:VAL:HG12	1.95	0.48
9:G:141:GLY:O	9:G:144:MET:N	2.46	0.48
14:L:36:LYS:CE	14:L:65:THR:HG22	2.44	0.48
1:X:1017:C:H2'	1:X:1018:C:H6	1.78	0.48
1:X:1282:A:C2	1:X:1338:G:N2	2.81	0.48
1:X:1327:C:N4	1:X:1351:G:H1	2.07	0.48
1:X:1609:G:O2'	1:X:1610:A:H5'	2.12	0.48
1:X:2581:A:OP2	1:X:2582:G:OP2	2.32	0.48
1:X:2592:U:H2'	26:Z:5:PRO:HG2	1.94	0.48
1:X:2762:G:C2	1:X:2763:U:C2	3.02	0.48
1:X:2840:U:O4	1:X:2841:U:O4	2.30	0.48
1:X:496:C:H2'	1:X:497:C:H5'	1.95	0.48
27:1:9:ILE:HD11	27:1:26:LYS:HD2	1.94	0.48
3:A:55:ILE:N	3:A:218:ARG:HB3	2.29	0.48
4:B:120:TRP:CB	4:B:122:PHE:CE2	2.97	0.48
4:B:35:GLN:HB3	4:B:48:GLN:OE1	2.14	0.48
11:I:88:PHE:HD2	11:I:90:ARG:HE	1.62	0.48
15:M:60:SER:HA	15:M:64:LYS:HB2	1.96	0.48
17:O:13:ARG:HD3	17:O:16:GLU:HB2	1.94	0.48
19:Q:7:LEU:CD1	19:Q:7:LEU:H	2.26	0.48
20:R:11:ASN:O	20:R:12:ASP:CB	2.60	0.48
20:R:73:GLU:HA	20:R:73:GLU:OE1	2.12	0.48
24:V:18:ILE:HG22	24:V:22:LYS:HE2	1.94	0.48
1:X:1840:A:H2'	1:X:1841:G:O4'	2.13	0.48
1:X:1948:C:C6	1:X:1949:A:N7	2.81	0.48
1:X:2453:C:H5'	1:X:2454:C:OP2	2.14	0.48
1:X:2745:A:H3'	1:X:2745:A:N3	2.28	0.48
1:X:681:A:C8	1:X:681:A:C3'	2.97	0.48
1:X:746:G:H22	1:X:747:A:N6	2.11	0.48
3:A:132:LEU:HD21	3:A:194:ILE:HD11	1.96	0.48
3:A:66:ILE:CD1	3:A:89:ARG:CZ	2.92	0.48
6:D:40:LEU:HD23	6:D:40:LEU:C	2.34	0.48
11:I:34:HIS:O	11:I:35:LYS:HD3	2.13	0.48
9:G:66:HIS:O	16:N:67:ALA:HB1	2.14	0.48
24:V:7:ARG:HD2	24:V:7:ARG:C	2.34	0.48
25:W:23:LEU:HD21	25:W:43:MET:HB3	1.95	0.48
1:X:1975:G:C1'	1:X:1976:U:OP2	2.62	0.48
1:X:1386:A:H5''	1:X:2191:A:H62	1.77	0.48
1:X:33:C:H4'	1:X:34:U:OP2	2.13	0.48
1:X:585:U:O2'	1:X:2481:G:C6	2.66	0.48
1:X:594:G:C2	1:X:1269:G:C6	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:958:G:N2	1:X:982:C:C2	2.81	0.48
26:Z:8:LYS:O	26:Z:9:LYS:HG3	2.14	0.48
27:1:37:LEU:HA	27:1:51:ARG:HA	1.96	0.48
1:X:795:A:N1	3:A:227:MET:HE2	2.28	0.48
10:H:3:MET:O	10:H:6:SER:CB	2.62	0.48
10:H:52:VAL:HG12	10:H:53:ALA:N	2.27	0.48
15:M:17:GLU:HG3	15:M:62:SER:CB	2.42	0.48
1:X:1608:U:C5	1:X:1609:G:N7	2.81	0.48
1:X:2180:U:C5	1:X:2203:G:C6	3.01	0.48
1:X:2426:G:O2'	1:X:2427:A:OP2	2.30	0.48
1:X:2665:G:N2	1:X:2704:U:O2	2.46	0.48
1:X:537:C:H5	1:X:2759:U:H2'	1.76	0.48
1:X:537:C:O2	1:X:537:C:H2'	2.14	0.48
1:X:736:G:H2'	1:X:737:C:O4'	2.13	0.48
2:Y:58:G:H5''	2:Y:59:A:OP1	2.14	0.48
2:Y:84:G:N2	2:Y:98:C:H1'	2.28	0.48
1:X:2349:G:N2	27:1:46:LYS:HZ2	2.09	0.48
4:B:7:THR:HG1	4:B:51:TYR:HH	1.60	0.48
14:L:21:THR:HG22	14:L:45:ASP:O	2.13	0.48
17:O:80:TYR:CE2	17:O:82:ARG:HG2	2.49	0.48
1:X:118:U:C2	1:X:143:A:C6	3.02	0.48
1:X:482:A:C2'	1:X:483:A:H5'	2.43	0.48
1:X:954:U:OP2	11:I:38:LYS:HG2	2.13	0.48
3:A:71:ARG:CG	3:A:191:TYR:CE1	2.96	0.48
3:A:44:ARG:CD	3:A:44:ARG:H	2.01	0.48
4:B:49:ILE:HG21	4:B:81:PHE:HE2	1.79	0.48
5:C:130:THR:O	5:C:133:PHE:HB3	2.13	0.48
7:E:174:GLY:C	7:E:175:LYS:CG	2.81	0.48
9:G:49:VAL:HG12	9:G:54:LEU:HB2	1.95	0.48
12:J:7:ARG:C	12:J:70:PHE:HZ	2.17	0.48
1:X:2814:G:O4'	13:K:49:GLU:OE2	2.31	0.48
23:U:10:LYS:NZ	23:U:77:GLY:HA3	2.28	0.48
23:U:22:GLY:HA3	23:U:39:LYS:HD2	1.95	0.48
1:X:1545:G:N1	1:X:1559:G:C2	2.82	0.48
1:X:1693:A:N6	1:X:1694:A:C6	2.82	0.48
1:X:171:G:C2	1:X:179:U:O2	2.67	0.48
1:X:1910:A:C6	1:X:1911:A:N1	2.82	0.48
1:X:1982:C:C2'	1:X:1983:G:H5'	2.43	0.48
1:X:2203:G:H4'	1:X:2205:C:N3	2.29	0.48
1:X:2551:A:P	4:B:146:THR:HG1	2.36	0.48
1:X:2593:A:O2'	1:X:2594:U:OP2	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2626:U:H6	1:X:2626:U:O5'	1.96	0.48
1:X:2754:C:N4	1:X:2755:A:C6	2.82	0.48
1:X:2800:C:H2'	1:X:2801:A:H5'	1.96	0.48
27:1:38:LYS:HD3	27:1:40:TYR:HE1	1.78	0.48
3:A:71:ARG:NH1	3:A:151:GLY:H	2.12	0.48
3:A:216:LEU:N	3:A:216:LEU:HD12	2.29	0.48
9:G:35:LYS:HB2	9:G:37:ASP:H	1.78	0.48
12:J:137:VAL:O	12:J:138:TYR:CG	2.67	0.48
1:X:1387:G:C5	1:X:1388:C:C4	3.02	0.48
1:X:2587:G:H8	1:X:2587:G:O5'	1.96	0.48
1:X:2613:A:H2'	1:X:2614:A:C8	2.49	0.48
1:X:859:U:O2'	1:X:860:U:C2	2.64	0.48
1:X:861:G:C6	1:X:943:U:O2	2.67	0.48
2:Y:84:G:H2'	2:Y:85:G:H8	1.79	0.48
27:1:8:ILE:C	27:1:9:ILE:CG2	2.81	0.47
11:I:62:LYS:HZ3	29:3:12:ARG:C	2.16	0.47
1:X:2399:C:H5	29:3:31:HIS:O	1.97	0.47
3:A:220:PRO:O	3:A:221:HIS:C	2.53	0.47
4:B:50:GLY:HA2	4:B:77:ILE:O	2.13	0.47
12:J:99:LYS:HG3	12:J:100:PRO:HD2	1.96	0.47
15:M:34:ARG:HH11	15:M:88:VAL:CG2	2.23	0.47
21:S:94:VAL:HG23	21:S:125:PRO:HG3	1.96	0.47
1:X:1444:C:N4	1:X:1579:G:H1	2.09	0.47
1:X:1871:G:N3	1:X:1871:G:H3'	2.29	0.47
1:X:542:A:N6	1:X:2003:A:N3	2.61	0.47
1:X:2440:C:C5	1:X:2441:U:C5	3.02	0.47
1:X:2634:G:O2'	1:X:2635:U:C5	2.62	0.47
1:X:525:A:C8	1:X:526:C:C5	3.02	0.47
1:X:959:C:C1'	1:X:995:A:C2	2.96	0.47
28:2:15:THR:C	28:2:17:GLY:H	2.17	0.47
1:X:2400:G:N7	29:3:32:GLN:HB3	2.30	0.47
1:X:1261:G:C5	16:N:3:ARG:HB2	2.49	0.47
21:S:122:ILE:HB	21:S:159:THR:O	2.14	0.47
24:V:2:LYS:N	24:V:3:PRO:HD3	2.29	0.47
1:X:1441:A:C8	1:X:1442:C:C5	3.02	0.47
1:X:2191:A:H5''	1:X:2192:U:C5	2.49	0.47
1:X:2658:A:C2	1:X:2709:C:N3	2.82	0.47
1:X:2728:A:C2	1:X:2737:A:C6	3.03	0.47
1:X:2042:A:N1	32:X:2882:LMA:H29A	2.29	0.47
1:X:334:G:H4'	1:X:335:A:C5'	2.45	0.47
1:X:532:A:C6	1:X:533:C:N3	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:580:A:H1'	1:X:582:G:C8	2.49	0.47
1:X:589:C:H4'	16:N:31:GLN:HE22	1.79	0.47
1:X:793:G:H1'	1:X:798:G:N2	2.29	0.47
27:1:17:GLY:O	27:1:18:THR:HB	2.13	0.47
1:X:1042:G:H5'	30:4:6:SER:OG	2.14	0.47
4:B:136:ARG:HH21	4:B:157:ALA:HB2	1.79	0.47
5:C:6:VAL:HG12	5:C:7:ILE:CD1	2.43	0.47
13:K:36:THR:HG23	13:K:37:THR:O	2.14	0.47
13:K:52:ILE:HG13	13:K:53:THR:N	2.28	0.47
14:L:38:ILE:HD12	14:L:39:TYR:H	1.78	0.47
22:T:44:LYS:O	22:T:77:ARG:HB2	2.13	0.47
1:X:1407:G:C6	1:X:1408:A:N6	2.82	0.47
1:X:2315:A:H1'	1:X:2364:C:O4'	2.15	0.47
1:X:2376:G:C2	1:X:2399:C:O2	2.68	0.47
1:X:2819:G:H2'	1:X:2820:C:H6	1.79	0.47
1:X:469:G:H2'	28:2:39:ARG:O	2.13	0.47
1:X:681:A:C8	1:X:681:A:H3'	2.50	0.47
1:X:921:A:N6	1:X:924:C:O2	2.47	0.47
1:X:942:U:H2'	1:X:943:U:O4'	2.15	0.47
2:Y:71:G:C6	2:Y:72:C:C2	3.03	0.47
3:A:70:ARG:NH1	3:A:131:ALA:HB2	2.29	0.47
1:X:1796:A:H1'	3:A:51:THR:HG23	1.97	0.47
10:H:25:LEU:HD11	10:H:52:VAL:HG23	1.96	0.47
11:I:56:LEU:CD1	29:3:52:LYS:HD2	2.44	0.47
17:O:36:LYS:HE2	17:O:56:VAL:HG13	1.96	0.47
18:P:11:LYS:HA	18:P:14:ARG:NH1	2.29	0.47
1:X:1018:C:H3'	1:X:1019:U:H5''	1.96	0.47
1:X:1656:U:O2'	1:X:1657:A:H5''	2.14	0.47
1:X:173:A:O2'	1:X:2051:U:C5	2.67	0.47
1:X:1763:G:H2'	1:X:1764:A:H5'	1.97	0.47
1:X:2294:U:H4'	6:D:127:ASN:HD21	1.79	0.47
1:X:2539:C:N4	1:X:2540:A:N6	2.63	0.47
1:X:2791:C:O2'	1:X:2792:C:H5'	2.14	0.47
1:X:40:U:H2'	1:X:41:G:O4'	2.14	0.47
2:Y:9:G:C2	2:Y:117:G:C2	3.02	0.47
27:1:43:VAL:HG23	27:1:43:VAL:O	2.14	0.47
3:A:24:GLY:O	3:A:208:GLY:HA2	2.15	0.47
5:C:95:LEU:HD23	5:C:96:PRO:N	2.30	0.47
6:D:94:GLU:O	6:D:98:VAL:HG23	2.14	0.47
12:J:27:TYR:C	12:J:28:VAL:CG2	2.82	0.47
13:K:35:GLN:O	13:K:35:GLN:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:42:ILE:HG22	14:L:53:ALA:H	1.79	0.47
16:N:93:LYS:CE	17:O:5:ILE:HG21	2.45	0.47
1:X:410:A:OP1	23:U:47:HIS:CE1	2.68	0.47
1:X:1681:A:H3'	1:X:1682:A:C8	2.50	0.47
1:X:1986:G:H2'	1:X:1987:G:O5'	2.14	0.47
1:X:2046:C:C5	1:X:2047:C:N4	2.82	0.47
1:X:623:G:H2'	1:X:624:A:H5''	1.94	0.47
1:X:793:G:C2	1:X:798:G:C6	3.03	0.47
1:X:993:C:C5'	1:X:994:A:OP2	2.62	0.47
1:X:123:A:H5'	28:2:19:ARG:HE	1.79	0.47
11:I:60:LEU:HG	29:3:13:ARG:CD	2.44	0.47
3:A:150:PRO:HD3	3:A:187:HIS:NE2	2.29	0.47
13:K:87:TYR:CE1	13:K:94:TYR:CB	2.98	0.47
16:N:86:ALA:C	16:N:88:ILE:H	2.16	0.47
19:Q:35:LYS:HA	19:Q:38:ILE:CG2	2.43	0.47
20:R:80:LYS:O	20:R:80:LYS:HG3	2.14	0.47
23:U:39:LYS:HB3	23:U:41:VAL:HG13	1.96	0.47
23:U:75:TYR:O	23:U:76:LYS:HB2	2.15	0.47
1:X:980:G:H5''	25:W:12:ARG:O	2.15	0.47
1:X:1050:G:H2'	1:X:1051:U:H5'	1.96	0.47
1:X:1550:C:O2'	1:X:1551:U:H5''	2.15	0.47
1:X:977:G:H1'	1:X:2246:A:H62	1.80	0.47
1:X:451:A:H2'	1:X:452:G:C8	2.50	0.47
1:X:616:U:H2'	1:X:617:U:O4'	2.15	0.47
1:X:830:C:H2'	1:X:831:G:O4'	2.15	0.47
7:E:69:ARG:HD3	7:E:69:ARG:C	2.34	0.47
9:G:38:GLU:OE2	9:G:40:ASN:HB2	2.14	0.47
9:G:94:LYS:HB2	9:G:94:LYS:HE3	1.80	0.47
17:O:22:VAL:CA	17:O:91:THR:HG22	2.41	0.47
21:S:95:SER:HA	21:S:121:GLN:HA	1.97	0.47
24:V:7:ARG:HD2	24:V:8:ASN:N	2.29	0.47
1:X:1681:A:OP1	1:X:1682:A:OP2	2.33	0.47
1:X:1685:A:C4'	1:X:1686:A:C2	2.97	0.47
1:X:1780:A:OP1	3:A:222:GLN:OE1	2.32	0.47
1:X:182:G:C2'	1:X:183:U:OP2	2.61	0.47
1:X:216:U:H2'	1:X:217:U:O4'	2.15	0.47
1:X:2672:U:O2'	1:X:2673:G:H5'	2.14	0.47
1:X:2825:A:C6	1:X:2826:C:N3	2.83	0.47
1:X:2855:C:O5'	1:X:2855:C:H6	1.98	0.47
1:X:553:C:H42	1:X:559:C:N4	2.12	0.47
1:X:523:A:H2	1:X:591:G:H4'	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:968:C:OP1	12:J:78:LYS:HB2	2.14	0.47
2:Y:104:A:N6	2:Y:105:G:C6	2.83	0.47
27:1:3:LYS:HG2	27:1:4:ASP:N	2.30	0.47
1:X:2597:G:O2'	4:B:149:ARG:HB2	2.15	0.47
6:D:22:TYR:CZ	6:D:29:PRO:HD3	2.50	0.47
9:G:70:PHE:CD1	16:N:64:ARG:HA	2.49	0.47
21:S:130:ILE:HD12	21:S:130:ILE:N	2.29	0.47
21:S:25:ASN:OD1	21:S:26:LYS:HG2	2.15	0.47
1:X:2258:G:O6	22:T:15:ASP:CG	2.53	0.47
22:T:51:VAL:HG21	22:T:79:ILE:O	2.15	0.47
1:X:1128:G:C3'	1:X:1129:A:H5''	2.45	0.47
1:X:163:A:H2'	1:X:164:G:H8	1.80	0.47
1:X:1851:A:H2'	1:X:1852:G:O4'	2.14	0.47
1:X:2447:G:O2'	1:X:2448:A:C8	2.67	0.47
1:X:2571:G:C6	1:X:2572:U:N3	2.83	0.47
1:X:2571:G:N1	1:X:2582:G:C6	2.83	0.47
1:X:668:A:O2'	1:X:669:G:O4'	2.31	0.47
1:X:801:A:OP1	1:X:804:C:N4	2.47	0.47
1:X:94:C:H1'	24:V:40:PRO:CD	2.45	0.47
26:Z:33:CYS:CB	26:Z:38:GLY:O	2.63	0.47
12:J:117:GLU:O	12:J:121:LEU:HG	2.14	0.47
14:L:39:TYR:O	14:L:54:ALA:C	2.54	0.47
15:M:72:SER:HG	15:M:73:PHE:HD1	1.62	0.47
16:N:50:ARG:O	16:N:53:LYS:HG2	2.15	0.47
20:R:85:ASP:C	20:R:85:ASP:OD1	2.52	0.47
1:X:1141:U:C4	4:B:147:PRO:CD	2.95	0.47
1:X:161:U:H4'	1:X:194:G:N2	2.25	0.47
1:X:2006:G:N2	1:X:2024:U:O2	2.48	0.47
1:X:2063:A:H4'	23:U:39:LYS:HA	1.97	0.47
1:X:2277:A:N6	1:X:2278:A:C2	2.83	0.47
1:X:2394:G:C6	1:X:2395:C:C4	3.03	0.47
1:X:2051:U:H3	1:X:2409:A:H62	1.63	0.47
1:X:2046:C:O2	1:X:2430:A:N1	2.48	0.47
1:X:510:G:N2	1:X:513:A:C8	2.83	0.47
1:X:555:U:H5'	1:X:556:A:N7	2.29	0.47
1:X:709:A:C2	1:X:780:U:O2	2.68	0.47
28:2:15:THR:O	28:2:16:HIS:CB	2.62	0.47
9:G:132:PHE:CD2	9:G:145:HIS:HB2	2.48	0.47
20:R:85:ASP:H	20:R:90:LYS:HD3	1.80	0.47
1:X:1407:G:H3'	1:X:1407:G:N3	2.29	0.47
1:X:2044:G:OP1	5:C:62:LYS:CG	2.60	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2299:A:H3'	1:X:2299:A:N3	2.29	0.47
1:X:2671:C:O2'	1:X:2672:U:H5'	2.15	0.47
1:X:596:C:OP2	11:I:29:THR:HG21	2.15	0.47
1:X:579:G:C4'	1:X:994:A:C2	2.98	0.47
3:A:147:GLU:HG2	3:A:154:ALA:CA	2.44	0.47
8:F:79:ARG:HA	8:F:84:ILE:HB	1.97	0.47
10:H:81:ILE:O	10:H:81:ILE:HG23	2.14	0.47
19:Q:12:ILE:N	19:Q:12:ILE:HD13	2.29	0.47
1:X:1225:G:O6	18:P:12:LYS:HB2	2.15	0.47
1:X:1324:G:C4'	1:X:1325:U:OP1	2.60	0.47
1:X:1730:G:C2	1:X:1737:G:C2	3.02	0.47
32:X:2882:LMA:O57	18:P:111:ARG:NH2	2.48	0.47
1:X:757:U:H4'	1:X:1675:C:O3'	2.15	0.47
1:X:791:G:H2'	1:X:792:U:O4'	2.15	0.47
1:X:1998:A:H2	26:Z:5:PRO:O	1.98	0.47
11:I:81:GLN:HB3	11:I:114:ILE:HG23	1.97	0.46
15:M:24:LEU:HD11	15:M:34:ARG:HH22	1.80	0.46
18:P:103:LEU:HB2	18:P:119:LYS:HB2	1.97	0.46
20:R:11:ASN:HD22	20:R:13:LYS:HZ3	1.63	0.46
20:R:11:ASN:HD22	20:R:13:LYS:NZ	2.13	0.46
1:X:1790:G:H5''	3:A:262:ARG:HH21	1.79	0.46
1:X:1817:U:O4'	3:A:253:LYS:HD3	2.14	0.46
1:X:2676:G:N1	1:X:2690:A:C2	2.83	0.46
1:X:2707:G:O2'	1:X:2708:U:O5'	2.31	0.46
1:X:2430:A:C6	31:X:2881:LC2:C15	2.98	0.46
1:X:521:U:C3'	1:X:522:G:H5'	2.45	0.46
1:X:615:C:H4'	1:X:669:G:H21	1.78	0.46
1:X:832:A:H2'	1:X:833:A:O4'	2.14	0.46
4:B:7:THR:HG23	4:B:194:GLY:O	2.15	0.46
9:G:103:TYR:N	9:G:103:TYR:CD1	2.82	0.46
15:M:34:ARG:HE	15:M:91:VAL:HG22	1.80	0.46
1:X:514:G:C6	18:P:20:LEU:HD22	2.50	0.46
1:X:1480:G:C2	1:X:1481:U:O2	2.68	0.46
1:X:314:G:C2	1:X:326:A:C2	3.03	0.46
1:X:584:A:OP2	1:X:2038:C:C5	2.68	0.46
1:X:608:G:C6	1:X:609:U:C4	3.03	0.46
1:X:793:G:N1	1:X:795:A:C2	2.83	0.46
2:Y:3:A:H61	2:Y:122:U:H3	1.64	0.46
26:Z:49:CYS:SG	26:Z:51:TYR:HD1	2.39	0.46
11:I:62:LYS:HZ2	29:3:15:LYS:HE2	1.81	0.46
4:B:114:GLN:HB3	4:B:118:LYS:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:57:LEU:HD23	6:D:60:ILE:HD11	1.96	0.46
10:H:116:ARG:C	10:H:118:LEU:N	2.67	0.46
14:L:89:PHE:HB3	14:L:91:ARG:HH21	1.81	0.46
17:O:6:GLN:O	17:O:7:THR:OG1	2.30	0.46
23:U:32:ARG:N	23:U:32:ARG:HE	2.13	0.46
1:X:1289:A:H2'	1:X:1290:A:C8	2.50	0.46
1:X:540:G:C6	1:X:2005:U:C5'	2.98	0.46
1:X:26:G:C6	1:X:27:G:N1	2.84	0.46
1:X:330:C:H2'	1:X:331:U:O4'	2.16	0.46
1:X:333:A:H5''	5:C:162:ARG:HG3	1.98	0.46
1:X:412:U:H2'	1:X:413:G:O4'	2.15	0.46
1:X:41:G:H2'	1:X:42:G:H8	1.81	0.46
1:X:791:G:N2	1:X:800:U:O2	2.48	0.46
3:A:244:GLY:H	3:A:245:ARG:NH1	2.13	0.46
1:X:1674:C:OP1	4:B:134:TRP:O	2.33	0.46
12:J:27:TYR:HB2	12:J:137:VAL:HG21	1.91	0.46
21:S:69:VAL:HG13	21:S:81:VAL:HG22	1.96	0.46
1:X:1336:G:O6	1:X:1337:G:C6	2.68	0.46
1:X:1960:A:H2'	1:X:1961:A:O4'	2.16	0.46
1:X:2053:G:N2	1:X:2054:A:N3	2.63	0.46
1:X:2191:A:C5'	1:X:2192:U:H5	2.29	0.46
1:X:2350:G:C6	1:X:2351:G:C5	3.03	0.46
1:X:2860:C:H2'	1:X:2861:A:O4'	2.15	0.46
4:B:92:ASN:OD1	4:B:92:ASN:N	2.46	0.46
5:C:104:LEU:HA	5:C:107:ALA:HB3	1.98	0.46
5:C:119:ALA:H	5:C:189:ASP:HA	1.81	0.46
5:C:46:ARG:HD2	5:C:51:VAL:HG23	1.97	0.46
12:J:13:GLN:HG2	12:J:14:PHE:CD2	2.51	0.46
14:L:33:ARG:NH2	14:L:103:LEU:HD12	2.31	0.46
4:B:183:LEU:HD21	15:M:16:ILE:HD13	1.98	0.46
23:U:14:VAL:O	23:U:15:VAL:CG2	2.63	0.46
1:X:1058:G:H5''	1:X:1058:G:H8	1.81	0.46
1:X:115:G:C6	1:X:117:A:N6	2.84	0.46
1:X:1336:G:C2	1:X:1346:C:H1'	2.50	0.46
1:X:2374:C:N4	1:X:2400:G:H1	2.14	0.46
1:X:2502:G:C2	1:X:2745:A:N6	2.83	0.46
1:X:2606:G:N2	1:X:2757:G:N3	2.64	0.46
1:X:748:A:C5	1:X:749:C:C2	3.04	0.46
2:Y:3:A:H2'	2:Y:4:C:H5'	1.97	0.46
2:Y:75:A:C6	2:Y:76:U:C2	3.03	0.46
6:D:13:ARG:HG2	6:D:17:MET:HE1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:162:LYS:N	9:G:163:PRO:HD2	2.29	0.46
12:J:99:LYS:HD2	12:J:100:PRO:HD2	1.98	0.46
13:K:62:SER:O	13:K:66:VAL:HG23	2.15	0.46
4:B:9:ILE:CG2	15:M:9:ARG:HB2	2.46	0.46
1:X:1202:U:C2'	1:X:1202:U:O2	2.62	0.46
1:X:1686:A:N6	1:X:1977:C:O2	2.48	0.46
1:X:2033:C:N4	1:X:2034:A:N1	2.63	0.46
1:X:2350:G:C6	1:X:2351:G:N7	2.84	0.46
1:X:2379:G:H2'	1:X:2380:U:O4'	2.15	0.46
1:X:2548:G:O2'	1:X:2549:G:H5'	2.16	0.46
1:X:478:G:H2'	1:X:479:G:C8	2.51	0.46
1:X:830:C:O5'	1:X:830:C:H6	1.98	0.46
1:X:89:A:H4'	1:X:90:G:H5''	1.97	0.46
1:X:577:U:C5'	1:X:956:A:H61	2.24	0.46
1:X:986:A:C2	1:X:1001:A:C8	3.03	0.46
15:M:81:PHE:HA	15:M:82:PRO:HD2	1.74	0.46
1:X:1171:A:H1'	17:O:6:GLN:OE1	2.15	0.46
21:S:49:THR:OG1	21:S:132:GLN:HA	2.15	0.46
22:T:47:ALA:HB1	22:T:51:VAL:O	2.16	0.46
1:X:118:U:H5''	1:X:120:G:OP2	2.15	0.46
1:X:1217:U:O2'	1:X:1218:C:H5'	2.15	0.46
1:X:1371:G:C8	1:X:1384:G:O6	2.69	0.46
1:X:2002:A:H62	26:Z:9:LYS:NZ	2.14	0.46
1:X:2563:U:H6	1:X:2563:U:O5'	1.97	0.46
1:X:2701:A:H2'	1:X:2702:G:O4'	2.15	0.46
1:X:28:A:H2'	1:X:29:U:O4'	2.16	0.46
1:X:746:G:N7	1:X:774:A:C6	2.84	0.46
1:X:790:A:N7	1:X:806:A:H2	2.14	0.46
1:X:995:A:P	1:X:996:C:H5	2.39	0.46
1:X:2035:G:O2'	4:B:148:GLY:HA2	2.16	0.46
10:H:34:LEU:HA	10:H:34:LEU:HD23	1.65	0.46
13:K:60:LEU:O	13:K:64:ARG:HG3	2.15	0.46
15:M:39:VAL:CG1	15:M:45:THR:OG1	2.57	0.46
16:N:105:ALA:HA	17:O:45:THR:HG21	1.98	0.46
17:O:67:LYS:HD2	17:O:68:LYS:N	2.31	0.46
1:X:1099:A:O3'	1:X:1100:G:H8	1.99	0.46
1:X:1677:C:C2	1:X:1984:A:C2	3.03	0.46
1:X:2427:A:H62	11:I:40:ARG:NH2	1.77	0.46
1:X:2547:C:H6	1:X:2547:C:H3'	1.81	0.46
1:X:2824:C:O4'	1:X:2843:A:C5	2.68	0.46
1:X:396:U:H3	1:X:404:A:H61	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:478:G:C4	1:X:479:G:C8	3.04	0.46
1:X:539:A:C6	1:X:2006:G:C4	3.04	0.46
1:X:543:G:H5'	16:N:24:PHE:CD1	2.51	0.46
1:X:862:A:O2'	25:W:18:LYS:HB3	2.16	0.46
1:X:919:U:OP1	12:J:26:ASP:OD1	2.34	0.46
1:X:1810:U:N3	3:A:155:GLN:HB3	2.31	0.46
4:B:49:ILE:O	4:B:78:LEU:HA	2.16	0.46
9:G:55:ALA:HB1	9:G:134:MET:HE1	1.97	0.46
10:H:3:MET:O	10:H:6:SER:HB3	2.16	0.46
17:O:68:LYS:HB2	17:O:87:ARG:HH21	1.81	0.46
1:X:1631:C:H5	1:X:1633:C:C4	2.34	0.46
1:X:1682:A:O5'	1:X:1682:A:C8	2.59	0.46
1:X:2445:C:N4	1:X:2446:C:N4	2.64	0.46
1:X:24:G:C2	1:X:25:U:C2	3.04	0.46
1:X:2521:A:H61	1:X:2546:G:N2	2.14	0.46
1:X:2528:G:O2'	1:X:2529:G:H5'	2.15	0.46
1:X:2625:U:O4	1:X:2654:A:C2	2.68	0.46
1:X:26:G:C5	1:X:27:G:C6	3.04	0.46
1:X:347:C:H2'	1:X:348:U:C6	2.50	0.46
1:X:352:G:H2'	1:X:353:G:C8	2.51	0.46
1:X:514:G:H2'	1:X:514:G:N3	2.30	0.46
1:X:699:G:H4'	1:X:700:C:OP2	2.16	0.46
1:X:84:G:H5'	20:R:41:PRO:HD3	1.97	0.46
3:A:97:HIS:HE1	3:A:101:GLY:CA	2.28	0.46
13:K:45:ARG:O	13:K:48:VAL:HG12	2.16	0.46
13:K:54:THR:CG2	13:K:66:VAL:CG2	2.93	0.46
16:N:109:LEU:HD23	17:O:47:PHE:CE2	2.51	0.46
19:Q:57:ASN:N	19:Q:57:ASN:OD1	2.49	0.46
20:R:11:ASN:HB3	20:R:13:LYS:HZ3	1.80	0.46
1:X:865:A:H5'	25:W:42:GLY:HA3	1.97	0.46
1:X:1392:U:C6	1:X:1392:U:O5'	2.67	0.46
1:X:1696:C:C6	1:X:1696:C:O5'	2.56	0.46
1:X:1978:U:C2	1:X:1979:C:C5	3.03	0.46
1:X:577:U:H2'	1:X:579:G:OP2	2.15	0.46
1:X:573:C:H5	1:X:582:G:OP1	1.98	0.46
1:X:623:G:C3'	1:X:624:A:H5''	2.46	0.46
1:X:708:G:N3	1:X:781:G:C2	2.84	0.46
1:X:834:A:C8	1:X:834:A:H3'	2.51	0.46
1:X:935:C:H4'	22:T:29:GLU:HG2	1.97	0.46
2:Y:112:A:H2'	2:Y:113:G:O4'	2.16	0.46
28:2:10:ARG:HE	28:2:10:ARG:N	2.13	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:182:ILE:O	4:B:182:ILE:CG2	2.64	0.45
6:D:12:VAL:O	6:D:16:LEU:HG	2.16	0.45
6:D:31:ILE:HG22	6:D:96:MET:SD	2.56	0.45
13:K:52:ILE:CG1	13:K:53:THR:N	2.79	0.45
16:N:54:LYS:O	16:N:58:ARG:HG3	2.16	0.45
18:P:83:ASP:O	18:P:84:GLU:C	2.54	0.45
21:S:155:PRO:HG3	21:S:158:CYS:SG	2.56	0.45
21:S:92:VAL:HG22	21:S:93:GLU:N	2.30	0.45
1:X:1973:C:H6	1:X:1973:C:O5'	1.99	0.45
1:X:2350:G:N1	1:X:2351:G:C5	2.84	0.45
1:X:2671:C:C5'	1:X:2845:C:O2	2.64	0.45
1:X:224:G:H4'	1:X:399:G:C5	2.51	0.45
1:X:551:A:C2	1:X:562:G:C2	3.05	0.45
3:A:73:LYS:HE2	3:A:98:TYR:HD2	1.82	0.45
4:B:136:ARG:O	4:B:137:ARG:HB3	2.16	0.45
5:C:157:THR:HG23	5:C:158:ARG:N	2.30	0.45
6:D:4:LEU:HD23	6:D:97:TYR:HB3	1.97	0.45
10:H:23:ARG:CZ	10:H:23:ARG:HB3	2.43	0.45
15:M:75:GLU:O	15:M:77:VAL:HG23	2.14	0.45
18:P:17:GLN:HG3	18:P:18:VAL:HG23	1.97	0.45
1:X:1379:A:H2'	1:X:1380:C:O4'	2.16	0.45
1:X:1911:A:H2'	1:X:1912:G:O4'	2.17	0.45
1:X:2274:C:H5	14:L:14:ARG:HH12	1.63	0.45
1:X:2274:C:OP2	14:L:11:LEU:CD2	2.63	0.45
1:X:802:A:C2	28:2:3:ARG:NH1	2.85	0.45
1:X:836:G:H2'	1:X:837:U:C6	2.51	0.45
2:Y:118:G:O2'	2:Y:119:G:H5'	2.16	0.45
1:X:1141:U:N3	4:B:147:PRO:HG3	2.31	0.45
4:B:21:ILE:HG22	4:B:23:VAL:HG13	1.98	0.45
5:C:7:ILE:C	5:C:120:VAL:O	2.54	0.45
1:X:2275:U:C4	14:L:10:LYS:HD3	2.51	0.45
20:R:83:LEU:HD22	20:R:113:THR:HB	1.98	0.45
23:U:49:LYS:HD3	23:U:61:TRP:CE2	2.51	0.45
1:X:1097:A:H5''	1:X:1097:A:N3	2.32	0.45
1:X:1172:U:H2'	1:X:1173:G:C8	2.50	0.45
1:X:1975:G:N2	1:X:1979:C:O2'	2.49	0.45
1:X:2270:U:O2'	1:X:2353:G:H1'	2.16	0.45
1:X:1477:C:O2'	1:X:2681:A:H1'	2.15	0.45
1:X:2671:C:H1'	1:X:2822:U:O2'	2.16	0.45
1:X:2840:U:N3	1:X:2841:U:C5	2.84	0.45
1:X:504:G:H4'	18:P:27:VAL:HG13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:537:C:C5	1:X:2759:U:C2'	2.99	0.45
1:X:749:C:C3'	1:X:749:C:H6	2.28	0.45
1:X:811:G:OP2	5:C:56:ARG:HG2	2.17	0.45
1:X:818:G:H1'	1:X:844:G:O2'	2.17	0.45
1:X:831:G:N2	1:X:1204:G:C6	2.84	0.45
2:Y:30:C:H42	2:Y:58:G:H1	1.63	0.45
2:Y:32:C:H2'	2:Y:33:C:O4'	2.15	0.45
2:Y:85:G:N2	2:Y:97:C:C2	2.84	0.45
30:4:31:LYS:N	30:4:31:LYS:HD2	2.31	0.45
1:X:797:A:C6	3:A:230:VAL:HG21	2.52	0.45
4:B:182:ILE:O	4:B:182:ILE:HG23	2.15	0.45
11:I:57:ILE:HD12	29:3:9:MET:HE2	1.97	0.45
25:W:40:VAL:O	25:W:43:MET:HB2	2.17	0.45
1:X:1047:G:N3	1:X:1131:G:C2	2.85	0.45
1:X:1683:G:N2	1:X:1978:U:H3	2.13	0.45
1:X:1687:C:H6	1:X:1687:C:O5'	1.99	0.45
1:X:2198:U:C4	1:X:2199:C:C2	3.04	0.45
1:X:759:C:N3	32:X:2882:LMA:H37	2.31	0.45
1:X:493:A:H1'	1:X:508:G:N2	2.30	0.45
1:X:611:C:H4'	5:C:98:GLN:NE2	2.32	0.45
1:X:759:C:C4	1:X:2590:U:H4'	2.51	0.45
1:X:693:A:C2	1:X:811:G:N3	2.84	0.45
3:A:109:PRO:HA	3:A:197:VAL:HA	1.98	0.45
3:A:160:ALA:HA	3:A:199:ASN:HB2	1.98	0.45
10:H:19:ILE:HG22	10:H:55:VAL:HA	1.99	0.45
14:L:96:TYR:OH	14:L:101:LYS:HG3	2.17	0.45
15:M:6:LYS:HD2	15:M:6:LYS:N	2.31	0.45
21:S:72:ASP:HB3	21:S:77:ALA:O	2.17	0.45
1:X:1469:U:H5''	1:X:1470:G:C8	2.51	0.45
1:X:2614:A:N1	1:X:2615:U:O2	2.50	0.45
1:X:2663:U:O2'	10:H:80:ALA:HB1	2.17	0.45
1:X:2827:G:C6	1:X:2828:C:N3	2.85	0.45
1:X:746:G:N2	1:X:747:A:H62	2.13	0.45
1:X:775:U:C4'	1:X:776:G:N3	2.79	0.45
1:X:845:U:C5	1:X:955:G:C6	3.05	0.45
2:Y:110:U:H2'	2:Y:111:C:H5''	1.98	0.45
3:A:126:PRO:HA	3:A:194:ILE:HG13	1.97	0.45
4:B:27:LEU:HD23	4:B:180:ASN:O	2.17	0.45
12:J:116:LYS:O	12:J:120:ARG:HB2	2.17	0.45
16:N:86:ALA:C	16:N:88:ILE:N	2.70	0.45
1:X:94:C:H1'	24:V:40:PRO:CG	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1696:C:O2	1:X:1972:G:N2	2.45	0.45
1:X:1982:C:O2	1:X:2666:U:O2'	2.27	0.45
1:X:2372:A:O4'	11:I:59:ARG:HA	2.16	0.45
1:X:2847:G:C2	1:X:2848:A:N6	2.84	0.45
1:X:568:G:H2'	1:X:569:C:O4'	2.16	0.45
1:X:574:C:H42	1:X:584:A:N6	2.14	0.45
1:X:648:A:H4'	1:X:649:G:C5'	2.43	0.45
1:X:73:A:H5''	1:X:74:G:O4'	2.16	0.45
27:1:43:VAL:O	27:1:44:ALA:CB	2.62	0.45
3:A:245:ARG:HA	3:A:253:LYS:NZ	2.31	0.45
4:B:162:MET:HG3	4:B:162:MET:O	2.17	0.45
5:C:162:ARG:CG	5:C:162:ARG:NH1	2.62	0.45
6:D:36:VAL:HG22	6:D:154:ILE:HG13	1.98	0.45
13:K:33:ARG:O	13:K:34:ILE:CG2	2.65	0.45
14:L:28:ARG:O	14:L:28:ARG:HG3	2.15	0.45
2:Y:52:G:P	14:L:65:THR:HB	2.57	0.45
16:N:24:PHE:HB2	16:N:29:SER:HB3	1.99	0.45
25:W:41:ARG:HB3	25:W:45:LYS:NZ	2.31	0.45
1:X:1493:A:H2'	1:X:1494:G:O4'	2.16	0.45
1:X:2074:U:C4	1:X:2075:U:C4	3.04	0.45
1:X:2269:G:H2'	1:X:2270:U:O4'	2.17	0.45
1:X:2490:U:C4	1:X:2491:C:C4	3.04	0.45
1:X:521:U:O4	1:X:522:G:C2	2.70	0.45
1:X:5:A:O2'	1:X:6:A:H5'	2.16	0.45
1:X:610:G:N2	1:X:616:U:OP1	2.49	0.45
1:X:697:G:C2	1:X:787:A:C2	3.05	0.45
1:X:830:C:O2'	1:X:852:U:H5''	2.17	0.45
4:B:131:SER:O	4:B:134:TRP:CD1	2.69	0.45
4:B:133:LYS:CG	4:B:137:ARG:HD3	2.31	0.45
7:E:30:LYS:HB2	7:E:79:VAL:HA	1.97	0.45
1:X:1226:A:N1	1:X:1250:A:H1'	2.32	0.45
1:X:1715:A:C8	1:X:1717:A:O4'	2.69	0.45
1:X:2046:C:C2'	1:X:2047:C:H5'	2.47	0.45
1:X:843:G:O4'	1:X:2427:A:H2	2.00	0.45
1:X:2754:C:C4	1:X:2755:A:C5	3.05	0.45
1:X:758:G:C2'	1:X:759:C:OP1	2.65	0.45
1:X:334:G:H1'	5:C:164:VAL:HG13	1.98	0.45
12:J:126:LEU:HA	12:J:127:PRO:HD3	1.70	0.45
12:J:36:ILE:HG12	12:J:103:VAL:HG23	1.99	0.45
13:K:12:ARG:HH22	13:K:20:LEU:HD22	1.81	0.45
16:N:8:ILE:O	16:N:12:ARG:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:92:THR:HA	20:R:107:ALA:O	2.17	0.45
21:S:72:ASP:O	21:S:75:LYS:O	2.34	0.45
23:U:20:ARG:HD3	23:U:43:ARG:HH22	1.81	0.45
1:X:1272:G:H2'	1:X:1273:G:C8	2.52	0.45
1:X:1701:C:H42	1:X:1721:G:H1	1.64	0.45
1:X:171:G:H2'	1:X:172:A:C8	2.51	0.45
1:X:540:G:C6	1:X:2005:U:H5''	2.52	0.45
1:X:2251:U:H5''	1:X:2252:A:OP1	2.17	0.45
1:X:27:G:C2	1:X:522:G:H1'	2.51	0.45
26:Z:45:ILE:HG12	26:Z:52:TYR:HB2	1.99	0.45
27:1:9:ILE:O	27:1:10:VAL:CG2	2.65	0.45
27:1:42:PRO:HD3	27:1:48:VAL:HG21	1.99	0.45
5:C:158:ARG:O	5:C:159:ARG:C	2.55	0.45
6:D:80:ARG:NE	6:D:80:ARG:H	2.15	0.45
11:I:114:ILE:O	11:I:114:ILE:HG23	2.17	0.45
12:J:36:ILE:HG12	12:J:103:VAL:CG2	2.46	0.45
13:K:31:GLU:HA	13:K:31:GLU:OE1	2.17	0.45
18:P:27:VAL:HG23	18:P:124:ILE:O	2.17	0.45
25:W:16:GLN:HB3	25:W:47:VAL:HG12	1.99	0.45
1:X:1441:A:C1'	1:X:1442:C:OP2	2.57	0.45
1:X:1456:C:C2	1:X:1566:G:N2	2.85	0.45
1:X:2053:G:C2	1:X:2054:A:C4	3.05	0.45
1:X:2783:U:O2'	1:X:2784:A:H5'	2.16	0.45
1:X:557:U:H4'	1:X:558:G:O4'	2.17	0.45
1:X:753:U:H2'	1:X:754:G:C8	2.52	0.45
1:X:759:C:H2'	32:X:2882:LMA:C58	2.42	0.45
1:X:969:U:H4'	1:X:970:A:O5'	2.17	0.45
2:Y:67:C:H2'	2:Y:68:A:H5'	1.98	0.45
2:Y:73:C:N4	2:Y:74:A:C6	2.85	0.45
13:K:28:LEU:O	13:K:28:LEU:HD23	2.17	0.44
14:L:37:HIS:NE2	14:L:39:TYR:OH	2.49	0.44
15:M:55:ILE:HG22	15:M:104:LEU:HB2	2.00	0.44
15:M:39:VAL:CG1	15:M:45:THR:HG23	2.46	0.44
16:N:20:ARG:HH12	17:O:83:ARG:NH2	2.13	0.44
17:O:67:LYS:HD2	17:O:68:LYS:H	1.82	0.44
1:X:512:A:H5'	18:P:16:GLN:HB3	1.99	0.44
21:S:3:LEU:HD21	21:S:32:PHE:CG	2.52	0.44
21:S:73:LYS:C	21:S:75:LYS:H	2.19	0.44
21:S:77:ALA:HA	21:S:78:PRO:HD3	1.74	0.44
1:X:2670:C:H2'	1:X:2671:C:C6	2.52	0.44
1:X:2664:G:N2	1:X:2705:A:N7	2.56	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:688:A:O2'	1:X:2422:C:H4'	2.16	0.44
1:X:832:A:C2	1:X:1203:A:C2	3.05	0.44
3:A:66:ILE:HD12	3:A:89:ARG:NH2	2.32	0.44
4:B:26:VAL:O	4:B:182:ILE:HG22	2.16	0.44
6:D:40:LEU:HD11	6:D:50:ILE:HA	1.99	0.44
9:G:124:GLU:CD	9:G:124:GLU:H	2.21	0.44
16:N:53:LYS:O	16:N:57:PHE:HD1	2.00	0.44
16:N:3:ARG:HH12	16:N:5:LYS:HG2	1.81	0.44
17:O:19:VAL:HG13	17:O:90:PHE:CD1	2.52	0.44
20:R:57:ASN:OD1	20:R:59:LYS:HE2	2.17	0.44
1:X:337:G:HO2'	20:R:9:HIS:HD1	1.38	0.44
21:S:175:ARG:O	21:S:175:ARG:HG2	2.16	0.44
1:X:101:A:H2'	1:X:102:C:O4'	2.17	0.44
1:X:1195:U:H2'	1:X:1196:G:C8	2.52	0.44
1:X:555:U:C4	1:X:1243:G:N2	2.86	0.44
1:X:135:U:H5''	1:X:136:A:OP1	2.17	0.44
1:X:13:A:N3	1:X:15:G:C6	2.85	0.44
1:X:1841:G:C2'	1:X:1842:G:H5'	2.46	0.44
1:X:1982:C:H2'	1:X:1983:G:C8	2.53	0.44
1:X:2046:C:H2'	1:X:2047:C:H5'	1.99	0.44
1:X:2082:C:H2'	1:X:2083:G:H5'	1.99	0.44
1:X:2727:G:C2	1:X:2736:U:C5	3.04	0.44
1:X:469:G:H5''	28:2:39:ARG:H	1.82	0.44
1:X:617:U:C5	1:X:631:G:C8	3.05	0.44
1:X:67:G:N2	1:X:73:A:C2	2.86	0.44
1:X:923:A:N6	12:J:12:LYS:HD3	2.31	0.44
26:Z:3:LYS:O	26:Z:4:HIS:C	2.55	0.44
4:B:52:ALA:O	4:B:76:ARG:N	2.51	0.44
9:G:122:HIS:HB3	9:G:125:ARG:HG2	1.99	0.44
11:I:32:ARG:HH22	17:O:82:ARG:HE	1.65	0.44
20:R:11:ASN:ND2	20:R:13:LYS:NZ	2.66	0.44
21:S:155:PRO:CG	21:S:158:CYS:HB2	2.46	0.44
24:V:4:SER:HB3	24:V:7:ARG:NH2	2.33	0.44
25:W:16:GLN:HB3	25:W:47:VAL:CG1	2.47	0.44
1:X:1677:C:C3'	1:X:1677:C:C6	3.01	0.44
1:X:2018:G:H3'	1:X:2019:C:H5'	2.00	0.44
1:X:2030:U:H2'	1:X:2031:A:H8	1.81	0.44
1:X:2295:C:H1'	6:D:125:ARG:NH1	2.32	0.44
1:X:306:G:C6	1:X:355:G:C2	3.06	0.44
1:X:48:A:N6	1:X:154:U:H5	2.14	0.44
1:X:623:G:H3'	1:X:624:A:H5''	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:760:U:C5	1:X:2592:U:C5	3.05	0.44
1:X:834:A:H2'	1:X:957:G:O5'	2.18	0.44
1:X:838:A:C2	1:X:839:U:C2	3.05	0.44
1:X:849:G:C5	1:X:850:C:C4	3.05	0.44
2:Y:8:C:O2'	2:Y:9:G:H5'	2.18	0.44
1:X:1836:C:H5'	3:A:255:THR:O	2.18	0.44
1:X:2599:U:H5''	4:B:153:GLY:HA2	2.00	0.44
8:F:131:ALA:HB1	8:F:136:VAL:HB	2.00	0.44
11:I:101:ARG:O	11:I:102:LYS:HB2	2.17	0.44
12:J:11:ARG:HA	12:J:11:ARG:HD3	1.84	0.44
19:Q:10:PRO:HD3	24:V:30:PHE:HD2	1.75	0.44
23:U:23:LYS:HB2	23:U:35:THR:HG23	1.98	0.44
1:X:1168:G:O2'	25:W:28:ILE:HD11	2.17	0.44
1:X:1265:G:C6	16:N:37:GLN:HB2	2.52	0.44
1:X:1564:U:H2'	1:X:1565:G:C8	2.52	0.44
1:X:1704:G:H1'	1:X:1719:G:N2	2.32	0.44
1:X:1851:A:C2	1:X:1867:A:C4	3.05	0.44
1:X:1971:C:O2'	1:X:1972:G:H5'	2.17	0.44
1:X:2400:G:O6	29:3:32:GLN:CG	2.63	0.44
1:X:2670:C:H4'	1:X:2846:G:O2'	2.17	0.44
1:X:827:C:OP2	11:I:32:ARG:CZ	2.66	0.44
2:Y:66:G:C5	2:Y:67:C:C4	3.06	0.44
29:3:49:VAL:HG21	29:3:52:LYS:HE2	1.99	0.44
3:A:34:LEU:HD12	3:A:34:LEU:C	2.38	0.44
1:X:2554:C:O2'	4:B:140:SER:CB	2.66	0.44
5:C:180:ILE:CG2	5:C:181:LEU:N	2.80	0.44
9:G:53:ARG:CD	9:G:171:LEU:HD12	2.35	0.44
12:J:42:TRP:CB	12:J:95:VAL:HG11	2.41	0.44
9:G:70:PHE:HE1	16:N:67:ALA:HB3	1.82	0.44
20:R:98:ILE:HD11	20:R:105:ARG:HD2	1.99	0.44
1:X:1235:C:C2	1:X:1241:G:N2	2.86	0.44
1:X:1242:A:H2'	1:X:1243:G:H8	1.81	0.44
1:X:2046:C:C4	1:X:2047:C:C4	3.04	0.44
1:X:224:G:C2	1:X:229:G:N1	2.86	0.44
1:X:2426:G:O2'	1:X:2427:A:P	2.76	0.44
1:X:2827:G:N2	1:X:2840:U:O2	2.45	0.44
1:X:484:G:O2'	1:X:485:G:H5'	2.18	0.44
1:X:777:A:OP2	3:A:215:TRP:CH2	2.70	0.44
1:X:81:C:C4	1:X:82:G:C6	3.06	0.44
27:1:16:ALA:HB2	27:1:50:PHE:CD1	2.53	0.44
29:3:13:ARG:HD2	29:3:25:PHE:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:93:VAL:C	4:B:95:ILE:N	2.71	0.44
6:D:106:ILE:HG23	6:D:110:ARG:HD2	1.98	0.44
9:G:35:LYS:HG2	9:G:69:ASP:OD1	2.17	0.44
13:K:84:ALA:N	13:K:85:PRO:HD2	2.33	0.44
13:K:49:GLU:OE1	13:K:95:THR:HG22	2.18	0.44
16:N:14:HIS:CD2	16:N:32:TYR:CZ	3.06	0.44
1:X:1265:G:C4'	16:N:33:ARG:HD3	2.48	0.44
16:N:76:TYR:CE2	16:N:80:ILE:HG13	2.53	0.44
17:O:48:GLY:O	17:O:50:ASP:N	2.49	0.44
1:X:1283:C:H5''	1:X:1284:G:O5'	2.18	0.44
1:X:1782:A:C2'	1:X:1783:G:H5'	2.47	0.44
1:X:2074:U:H3'	1:X:2075:U:H5''	1.99	0.44
1:X:2274:C:O5'	1:X:2274:C:H6	2.00	0.44
1:X:2451:G:C4	1:X:2454:C:N4	2.86	0.44
1:X:2696:A:H2'	1:X:2697:G:C8	2.50	0.44
1:X:575:U:H2'	1:X:576:A:O4'	2.18	0.44
1:X:575:U:H4'	1:X:822:G:OP2	2.18	0.44
1:X:614:G:C5	1:X:615:C:C5	3.05	0.44
1:X:764:A:C8	1:X:764:A:H3'	2.52	0.44
2:Y:12:C:C5	2:Y:13:C:C4	3.06	0.44
27:1:3:LYS:HG2	27:1:4:ASP:H	1.82	0.44
29:3:12:ARG:O	29:3:14:ILE:N	2.38	0.44
3:A:21:ASP:C	3:A:22:PHE:CD2	2.90	0.44
4:B:46:ALA:HA	4:B:81:PHE:O	2.18	0.44
9:G:61:ARG:HG2	9:G:65:LYS:HD2	2.00	0.44
23:U:60:VAL:CG2	23:U:61:TRP:N	2.80	0.44
1:X:2240:C:O2'	1:X:2241:U:H5'	2.17	0.44
1:X:2526:U:H2'	1:X:2527:G:H8	1.83	0.44
1:X:2543:A:C2	1:X:2626:U:H4'	2.52	0.44
1:X:2595:C:C6	1:X:2595:C:C3'	3.01	0.44
1:X:2691:C:OP1	1:X:2694:G:H4'	2.17	0.44
1:X:860:U:H2'	1:X:860:U:O2	2.17	0.44
29:3:34:THR:OG1	29:3:35:GLY:N	2.51	0.44
3:A:184:ARG:HB3	3:A:184:ARG:HH11	1.79	0.44
13:K:28:LEU:C	13:K:28:LEU:HD23	2.38	0.44
13:K:24:GLN:HB3	13:K:44:LEU:HD22	2.00	0.44
13:K:72:ASP:HB3	13:K:75:VAL:CG2	2.47	0.44
14:L:20:THR:HG21	14:L:23:ALA:HB3	1.99	0.44
14:L:29:LEU:HD23	14:L:89:PHE:CE1	2.53	0.44
14:L:45:ASP:OD2	14:L:46:SER:N	2.51	0.44
1:X:1070:G:N3	8:F:126:THR:HG23	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:182:G:H2'	1:X:183:U:OP2	2.18	0.44
1:X:225:G:N7	1:X:227:G:N3	2.65	0.44
1:X:2496:C:C4	1:X:2521:A:C5	3.05	0.44
1:X:2547:C:C3'	1:X:2547:C:C6	3.01	0.44
1:X:2569:A:C2	1:X:2584:U:O2	2.70	0.44
1:X:26:G:C6	1:X:27:G:C6	3.05	0.44
1:X:2:G:O2'	1:X:3:U:H5'	2.17	0.44
1:X:454:G:H21	5:C:42:THR:HB	1.82	0.44
1:X:3:U:O2'	1:X:4:C:O5'	2.30	0.44
1:X:566:U:H2'	1:X:567:G:C8	2.53	0.44
1:X:649:G:N1	1:X:660:G:N1	2.65	0.44
27:1:21:TYR:HE2	27:1:23:THR:OG1	2.01	0.44
3:A:246:VAL:C	3:A:253:LYS:HE3	2.38	0.44
7:E:91:GLY:HA3	7:E:94:PHE:CD2	2.53	0.44
9:G:32:TYR:HD1	9:G:33:ILE:H	1.66	0.44
10:H:24:VAL:HG12	10:H:42:LYS:CG	2.48	0.44
12:J:92:GLU:OE1	12:J:92:GLU:HA	2.18	0.44
13:K:108:VAL:HG12	13:K:109:THR:O	2.17	0.44
14:L:31:VAL:HG23	14:L:38:ILE:HD13	2.00	0.44
23:U:52:ARG:HG3	23:U:62:LEU:HD22	1.99	0.44
1:X:1329:U:H2'	1:X:1330:G:C8	2.52	0.44
1:X:163:A:H2'	1:X:164:G:C8	2.52	0.44
1:X:187:U:H6	1:X:187:U:O5'	2.00	0.44
1:X:2225:G:H1	1:X:2237:C:H42	1.65	0.44
1:X:2500:C:OP2	1:X:2500:C:H5	2.01	0.44
1:X:2543:A:OP1	1:X:2627:G:H4'	2.18	0.44
1:X:2754:C:C4	1:X:2755:A:N7	2.86	0.44
1:X:651:C:H2'	1:X:652:C:H5'	1.99	0.44
1:X:953:G:H2'	1:X:954:U:O4'	2.18	0.44
1:X:962:C:H2'	1:X:963:G:C8	2.52	0.44
2:Y:51:G:H2'	2:Y:52:G:H8	1.82	0.44
3:A:126:PRO:HG3	3:A:132:LEU:HD11	2.00	0.43
1:X:1790:G:O2'	3:A:184:ARG:HD3	2.18	0.43
4:B:146:THR:CB	4:B:147:PRO:HD2	2.41	0.43
4:B:99:GLY:H	4:B:172:VAL:HB	1.82	0.43
5:C:4:ILE:HG13	5:C:4:ILE:O	2.18	0.43
7:E:89:LEU:HD23	7:E:162:VAL:HG22	1.98	0.43
9:G:132:PHE:HD2	9:G:145:HIS:CB	2.30	0.43
14:L:52:ALA:O	14:L:53:ALA:O	2.35	0.43
17:O:65:ARG:O	17:O:66:GLY:O	2.35	0.43
19:Q:11:VAL:HG23	19:Q:27:PHE:HA	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:12:ILE:O	19:Q:13:SER:CB	2.64	0.43
1:X:1006:C:H4'	1:X:1007:A:OP1	2.15	0.43
1:X:1030:U:O2	1:X:1155:G:N2	2.51	0.43
1:X:1096:A:HO2'	1:X:1097:A:C5'	2.30	0.43
1:X:1222:G:N1	1:X:1251:G:C6	2.86	0.43
1:X:1332:G:C5	1:X:1333:G:C6	3.06	0.43
1:X:1469:U:H5'	1:X:1470:G:OP2	2.18	0.43
1:X:1508:G:C5'	1:X:1509:A:H5''	2.48	0.43
1:X:1726:C:C2	1:X:1741:G:N2	2.86	0.43
1:X:1931:G:O2'	1:X:1932:G:H5'	2.18	0.43
1:X:2583:U:O2'	1:X:2584:U:H5'	2.17	0.43
1:X:2637:C:N4	1:X:2638:G:C6	2.86	0.43
1:X:2671:C:N3	1:X:2698:G:C2	2.86	0.43
1:X:2745:A:C3'	1:X:2745:A:N3	2.81	0.43
1:X:494:A:C8	1:X:495:C:C6	3.06	0.43
1:X:540:G:C5	1:X:2005:U:C5'	3.00	0.43
1:X:959:C:H1'	1:X:995:A:N3	2.32	0.43
1:X:958:G:C2	1:X:982:C:N3	2.86	0.43
2:Y:80:A:H2'	2:Y:81:C:O4'	2.17	0.43
3:A:184:ARG:CZ	3:A:184:ARG:HB3	2.49	0.43
3:A:47:ARG:HD3	3:A:48:GLY:N	2.33	0.43
4:B:28:ALA:O	4:B:29:GLY:O	2.36	0.43
6:D:61:THR:HG22	6:D:99:PHE:CD1	2.54	0.43
12:J:111:THR:OG1	12:J:114:GLN:HG2	2.18	0.43
14:L:60:LYS:HZ3	14:L:64:LYS:CE	2.30	0.43
19:Q:30:SER:HA	19:Q:31:PRO:HD3	1.85	0.43
23:U:10:LYS:HZ3	23:U:77:GLY:HA3	1.82	0.43
1:X:1030:U:H3	1:X:1153:A:H62	1.67	0.43
1:X:1265:G:O2'	1:X:1266:G:C4	2.71	0.43
1:X:219:G:C2'	1:X:220:U:OP2	2.66	0.43
1:X:2394:G:C6	1:X:2395:C:N3	2.87	0.43
1:X:2840:U:O2'	1:X:2841:U:OP1	2.30	0.43
1:X:337:G:HO2'	1:X:338:G:H5'	1.83	0.43
1:X:472:C:H6	1:X:472:C:O5'	2.01	0.43
1:X:482:A:H2'	1:X:483:A:O4'	2.18	0.43
1:X:589:C:H4'	16:N:31:GLN:CD	2.38	0.43
1:X:807:A:C2	1:X:808:C:C2	3.06	0.43
26:Z:42:SER:O	26:Z:44:HIS:CD2	2.72	0.43
27:1:11:LYS:N	27:1:11:LYS:CD	2.81	0.43
1:X:2722:C:P	30:4:35:ARG:NH1	2.91	0.43
3:A:47:ARG:HD3	3:A:47:ARG:C	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:117:ILE:HD12	6:D:175:LEU:HD11	2.00	0.43
6:D:4:LEU:CG	6:D:5:LYS:N	2.78	0.43
1:X:2291:U:P	6:D:71:LYS:HD2	2.59	0.43
9:G:154:GLU:O	9:G:157:PRO:HD2	2.18	0.43
13:K:78:LYS:O	13:K:82:GLU:HB2	2.17	0.43
1:X:1017:C:H2'	1:X:1018:C:C6	2.53	0.43
1:X:1473:U:O2	1:X:1474:A:C6	2.72	0.43
1:X:1571:G:C2	1:X:1572:C:C2	3.06	0.43
1:X:1699:A:H61	1:X:1723:U:H3	1.67	0.43
1:X:1820:G:H4'	1:X:1821:A:OP1	2.17	0.43
1:X:1974:U:H6	1:X:1974:U:C3'	2.22	0.43
1:X:2067:U:H2'	1:X:2068:C:C6	2.53	0.43
1:X:2345:A:N6	1:X:2346:G:C2	2.87	0.43
1:X:2351:G:O2'	1:X:2352:A:H5'	2.17	0.43
1:X:2547:C:C6	1:X:2547:C:H3'	2.53	0.43
1:X:2615:U:OP1	4:B:79:ARG:HA	2.18	0.43
1:X:2630:C:C2'	1:X:2631:C:H5'	2.48	0.43
1:X:600:G:H2'	1:X:601:A:OP1	2.17	0.43
1:X:775:U:C5'	1:X:776:G:N3	2.80	0.43
1:X:833:A:N3	1:X:954:U:O2'	2.45	0.43
1:X:919:U:H2'	1:X:920:G:C8	2.54	0.43
1:X:2400:G:OP1	27:1:4:ASP:CG	2.57	0.43
6:D:17:MET:N	6:D:17:MET:SD	2.92	0.43
1:X:547:U:H1'	9:G:73:ASN:HD21	1.83	0.43
10:H:22:ILE:CG1	10:H:53:ALA:HA	2.47	0.43
20:R:83:LEU:O	20:R:90:LYS:CE	2.64	0.43
22:T:18:PRO:C	22:T:19:LYS:CG	2.86	0.43
1:X:123:A:C2'	1:X:124:A:OP1	2.66	0.43
1:X:1298:G:C6	1:X:1342:U:C5	3.07	0.43
1:X:1377:G:H21	1:X:1380:C:H5	1.66	0.43
1:X:1437:A:C2	1:X:1592:U:O2	2.71	0.43
1:X:1941:C:O2'	1:X:1942:G:H5'	2.18	0.43
1:X:2434:G:C6	1:X:2435:C:N4	2.87	0.43
1:X:2653:A:N6	1:X:2654:A:C6	2.87	0.43
1:X:2659:C:O3'	4:B:8:LYS:NZ	2.51	0.43
1:X:2717:G:H1	1:X:2747:C:N4	2.14	0.43
1:X:559:C:H2'	1:X:560:G:O4'	2.18	0.43
1:X:750:C:H5'	1:X:779:U:O2'	2.17	0.43
1:X:923:A:C5	12:J:12:LYS:CE	3.01	0.43
2:Y:54:U:H2'	2:Y:55:C:O4'	2.18	0.43
1:X:699:G:C2	28:2:5:TYR:HE1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:3:28:GLY:C	29:3:29:LYS:HG2	2.39	0.43
3:A:34:LEU:O	3:A:34:LEU:CG	2.66	0.43
4:B:183:LEU:HD11	15:M:16:ILE:HG21	2.00	0.43
4:B:77:ILE:HD13	4:B:195:LEU:HD22	2.00	0.43
4:B:36:ARG:NH1	4:B:86:PRO:O	2.52	0.43
5:C:74:VAL:HG23	5:C:76:THR:OG1	2.18	0.43
10:H:47:VAL:HG22	10:H:77:THR:HG23	1.99	0.43
13:K:34:ILE:O	13:K:34:ILE:HG13	2.18	0.43
13:K:48:VAL:O	13:K:52:ILE:HG23	2.19	0.43
19:Q:88:ILE:O	19:Q:88:ILE:CD1	2.66	0.43
1:X:1847:G:N1	1:X:1871:G:H8	2.17	0.43
1:X:2043:A:O4'	1:X:2481:G:O4'	2.35	0.43
1:X:239:A:H2'	1:X:240:U:O4'	2.18	0.43
1:X:2818:G:H2'	1:X:2819:G:C8	2.53	0.43
1:X:957:G:H2'	1:X:958:G:C8	2.53	0.43
1:X:987:G:H4'	1:X:1167:A:H62	1.84	0.43
2:Y:93:G:H2'	2:Y:94:G:O4'	2.18	0.43
27:1:45:LYS:C	27:1:46:LYS:HG2	2.39	0.43
3:A:212:ARG:O	3:A:212:ARG:HG3	2.17	0.43
4:B:101:LYS:HA	4:B:170:LEU:O	2.18	0.43
4:B:26:VAL:HG11	4:B:196:VAL:HG21	2.00	0.43
6:D:16:LEU:HB3	6:D:22:TYR:CE2	2.54	0.43
6:D:98:VAL:O	6:D:102:LYS:HG3	2.19	0.43
7:E:83:TYR:CE1	7:E:138:LYS:HB2	2.53	0.43
1:X:1095:A:N6	1:X:1096:A:H62	2.16	0.43
1:X:1152:C:H3'	1:X:1153:A:H5''	2.00	0.43
1:X:1445:A:C2	1:X:1579:G:N3	2.87	0.43
1:X:2363:G:OP2	22:T:55:ARG:HD2	2.18	0.43
1:X:2424:G:O2'	1:X:2425:G:H5'	2.18	0.43
1:X:2805:G:H5''	4:B:58:LYS:HZ1	1.83	0.43
2:Y:56:G:H2'	2:Y:57:U:O4'	2.18	0.43
3:A:185:ARG:HH21	3:A:269:ARG:HH11	1.65	0.43
4:B:120:TRP:O	4:B:121:ASN:C	2.56	0.43
4:B:170:LEU:HD13	4:B:184:VAL:HG11	2.00	0.43
5:C:74:VAL:O	5:C:74:VAL:HG23	2.16	0.43
7:E:163:ARG:HB2	7:E:167:GLU:HB2	2.00	0.43
8:F:120:VAL:HG12	8:F:121:GLU:H	1.80	0.43
10:H:99:ILE:HD12	10:H:103:GLY:HA2	2.01	0.43
11:I:62:LYS:HD3	29:3:11:LYS:C	2.39	0.43
14:L:37:HIS:CD2	14:L:39:TYR:OH	2.71	0.43
17:O:80:TYR:CD1	17:O:80:TYR:O	2.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:63:HIS:CE1	17:O:91:THR:HB	2.54	0.43
19:Q:35:LYS:HD3	19:Q:53:ILE:HG23	1.99	0.43
20:R:16:PHE:HB3	20:R:82:ALA:CB	2.48	0.43
20:R:46:VAL:HG12	20:R:48:VAL:HG23	2.00	0.43
1:X:1008:G:C2	1:X:1170:U:C2	3.07	0.43
1:X:1447:U:H1'	1:X:1577:G:N2	2.34	0.43
1:X:2501:U:H5'	1:X:2502:G:OP2	2.19	0.43
1:X:2691:C:H2'	1:X:2694:G:H5''	2.01	0.43
1:X:511:A:H2'	1:X:512:A:O4'	2.19	0.43
1:X:870:C:O2	1:X:933:G:N2	2.52	0.43
1:X:939:C:OP2	1:X:940:G:C8	2.72	0.43
26:Z:41:LEU:O	26:Z:44:HIS:HB2	2.19	0.43
1:X:1999:U:O2	26:Z:7:PRO:HG2	2.18	0.43
5:C:7:ILE:HG22	5:C:121:ASP:HB3	1.99	0.43
9:G:96:ASP:O	9:G:98:LYS:N	2.51	0.43
11:I:115:SER:OG	11:I:136:ALA:HB2	2.18	0.43
13:K:22:ARG:HD3	13:K:69:ASP:HA	2.01	0.43
19:Q:26:SER:HB3	19:Q:79:ILE:HG12	2.01	0.43
1:X:1204:G:H2'	1:X:1205:G:C8	2.53	0.43
1:X:1585:A:N1	1:X:1586:A:C2	2.87	0.43
1:X:1790:G:C6	1:X:1811:A:C5	3.07	0.43
1:X:2010:G:H1	1:X:2019:C:H42	1.66	0.43
1:X:1686:A:O3'	1:X:2528:G:H5'	2.19	0.43
1:X:2551:A:OP2	1:X:2551:A:H8	2.02	0.43
1:X:2725:C:H2'	1:X:2726:U:C6	2.54	0.43
1:X:562:G:H2'	1:X:563:U:O4'	2.18	0.43
1:X:638:A:C8	11:I:74:VAL:HG11	2.54	0.43
3:A:43:GLY:N	3:A:44:ARG:HH11	2.17	0.43
7:E:171:LEU:N	7:E:171:LEU:CD1	2.81	0.43
8:F:103:GLN:O	8:F:107:ILE:HG13	2.19	0.43
10:H:43:ARG:HG3	10:H:44:TYR:CD2	2.54	0.43
11:I:57:ILE:HD12	29:3:9:MET:CE	2.49	0.43
13:K:36:THR:CG2	13:K:41:ALA:HB2	2.48	0.43
15:M:26:ASP:O	15:M:26:ASP:CG	2.57	0.43
19:Q:5:ASP:O	19:Q:6:ILE:HB	2.18	0.43
1:X:1016:C:O2'	9:G:56:THR:HG21	2.19	0.43
1:X:1750:A:C8	1:X:1750:A:H5'	2.54	0.43
1:X:2475:C:N4	1:X:2476:A:C6	2.87	0.43
1:X:2580:C:O2'	1:X:2581:A:OP2	2.32	0.43
1:X:2663:U:C1'	10:H:88:THR:HG21	2.48	0.43
1:X:2767:C:H6	1:X:2767:C:O5'	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2823:G:H3'	15:M:100:ARG:O	2.19	0.43
31:X:2881:LC2:H9	31:X:2881:LC2:H6	1.77	0.43
1:X:463:C:O2	1:X:465:C:N4	2.51	0.43
1:X:505:G:H5'	18:P:25:PHE:HD2	1.84	0.43
1:X:575:U:H2'	1:X:576:A:C8	2.53	0.43
1:X:742:G:O6	1:X:1765:C:N3	2.52	0.43
1:X:576:A:H4'	1:X:821:A:OP1	2.19	0.43
27:1:42:PRO:HD3	27:1:48:VAL:CG2	2.49	0.43
3:A:97:HIS:HE1	3:A:101:GLY:HA2	1.81	0.43
3:A:187:HIS:CD2	3:A:189:GLU:HB2	2.54	0.43
3:A:232:HIS:CD2	3:A:248:VAL:HA	2.54	0.43
3:A:252:GLY:HA3	3:A:256:LYS:NZ	2.34	0.43
6:D:38:GLU:HB3	6:D:87:ILE:CB	2.26	0.43
9:G:93:LYS:HB3	9:G:96:ASP:O	2.18	0.43
1:X:2475:C:OP1	12:J:83:ARG:CB	2.67	0.43
13:K:33:ARG:C	13:K:34:ILE:HG23	2.38	0.43
14:L:95:LYS:HB3	14:L:95:LYS:NZ	2.32	0.43
1:X:1261:G:OP1	16:N:2:PRO:HD2	2.19	0.43
17:O:11:GLN:HA	17:O:11:GLN:NE2	2.33	0.43
1:X:1996:A:OP1	18:P:118:LYS:HB2	2.18	0.43
20:R:64:ASN:N	20:R:65:PRO:HD3	2.34	0.43
1:X:94:C:H1'	24:V:40:PRO:HD2	2.00	0.43
1:X:1665:C:H2'	1:X:1666:G:C8	2.53	0.43
1:X:1745:C:H2'	1:X:1746:A:O5'	2.18	0.43
1:X:1935:A:C6	1:X:1936:A:N1	2.87	0.43
1:X:1939:U:C5	1:X:1940:C:C4	3.06	0.43
1:X:2024:U:H2'	1:X:2025:A:C8	2.54	0.43
1:X:2507:U:HO2'	1:X:2508:G:H8	1.67	0.43
1:X:2590:U:C1'	32:X:2882:LMA:H37B	2.46	0.43
1:X:851:C:C2	1:X:952:A:C2	3.06	0.43
1:X:870:C:C2	1:X:933:G:N2	2.87	0.43
3:A:268:ASP:OD1	3:A:268:ASP:C	2.57	0.42
3:A:61:ARG:HH22	3:A:216:LEU:HG	1.83	0.42
4:B:26:VAL:HG13	4:B:196:VAL:HG21	1.99	0.42
8:F:121:GLU:O	8:F:124:ALA:HB3	2.18	0.42
9:G:169:GLN:NE2	9:G:171:LEU:C	2.73	0.42
11:I:45:LYS:HE2	11:I:47:ALA:HB3	1.99	0.42
11:I:53:ARG:O	11:I:58:ALA:HB3	2.19	0.42
12:J:67:ILE:HG22	12:J:67:ILE:O	2.19	0.42
13:K:5:LYS:HB3	13:K:5:LYS:HE2	1.73	0.42
15:M:79:ARG:HB3	15:M:81:PHE:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:45:TYR:O	16:N:49:ASP:OD1	2.37	0.42
20:R:83:LEU:C	20:R:90:LYS:HE2	2.39	0.42
1:X:1238:A:OP1	17:O:68:LYS:NZ	2.46	0.42
1:X:1370:U:H2'	1:X:1371:G:O4'	2.18	0.42
1:X:2071:G:C2	1:X:2072:C:C2	3.07	0.42
1:X:2038:C:N4	1:X:2479:U:H1'	2.34	0.42
1:X:2795:A:H3'	1:X:2795:A:N3	2.34	0.42
1:X:538:A:O2'	1:X:539:A:C5'	2.67	0.42
1:X:617:U:C6	1:X:631:G:H8	2.37	0.42
1:X:961:G:C5	1:X:962:C:C4	3.07	0.42
3:A:151:GLY:O	3:A:153:GLY:N	2.52	0.42
3:A:55:ILE:HD12	3:A:55:ILE:H	1.83	0.42
1:X:1075:C:H5''	8:F:87:GLY:HA3	2.01	0.42
1:X:1935:A:C2	10:H:22:ILE:HG23	2.54	0.42
15:M:69:ARG:CZ	15:M:108:ARG:HA	2.49	0.42
1:X:29:U:C4'	16:N:11:ARG:HH22	2.31	0.42
16:N:83:LEU:N	16:N:83:LEU:HD12	2.34	0.42
23:U:17:SER:HB2	23:U:44:ALA:HA	1.99	0.42
1:X:1326:U:H3'	1:X:1326:U:O2	2.19	0.42
1:X:1790:G:H4'	1:X:1791:C:OP1	2.17	0.42
1:X:1868:A:H2'	1:X:1869:A:O4'	2.19	0.42
1:X:1882:G:H21	1:X:1885:C:N4	2.16	0.42
1:X:1996:A:O2'	18:P:115:ASN:ND2	2.50	0.42
1:X:995:A:P	1:X:996:C:C5	3.13	0.42
2:Y:117:G:H2'	2:Y:118:G:H8	1.84	0.42
5:C:51:VAL:HG23	5:C:52:SER:N	2.34	0.42
11:I:61:PRO:HD3	29:3:27:SER:HB3	2.01	0.42
12:J:39:GLU:HB3	12:J:128:ILE:CG2	2.49	0.42
15:M:34:ARG:NH1	15:M:88:VAL:CG2	2.70	0.42
17:O:65:ARG:HE	17:O:87:ARG:CD	2.24	0.42
17:O:7:THR:O	17:O:8:GLY:O	2.37	0.42
21:S:100:THR:HG23	21:S:138:VAL:HG21	2.00	0.42
1:X:943:U:H4'	25:W:21:GLN:NE2	2.34	0.42
1:X:1179:A:C2	1:X:1196:G:N2	2.87	0.42
1:X:1374:G:N2	1:X:1384:G:H1'	2.34	0.42
1:X:1393:G:H2'	1:X:1394:G:C8	2.54	0.42
1:X:1404:C:N4	1:X:1406:A:C8	2.87	0.42
1:X:426:C:H4'	1:X:1863:U:O2'	2.19	0.42
1:X:2012:A:C2	1:X:2016:A:C6	3.06	0.42
1:X:221:A:C2	1:X:232:A:C5	3.07	0.42
1:X:2594:U:C2'	1:X:2594:U:O2	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2657:G:N2	1:X:2710:C:O2	2.53	0.42
1:X:45:C:C2	1:X:157:G:N2	2.87	0.42
1:X:476:G:H4'	28:2:16:HIS:ND1	2.33	0.42
1:X:668:A:H2'	1:X:669:G:O4'	2.20	0.42
1:X:2002:A:N6	26:Z:9:LYS:HZ2	2.18	0.42
3:A:151:GLY:C	3:A:153:GLY:N	2.71	0.42
4:B:154:LYS:HE3	4:B:156:MET:HG3	1.99	0.42
4:B:67:PHE:CZ	4:B:75:THR:CG2	3.01	0.42
9:G:104:THR:O	9:G:107:GLN:NE2	2.52	0.42
9:G:103:TYR:CG	9:G:111:LYS:HB2	2.55	0.42
14:L:60:LYS:NZ	14:L:64:LYS:CE	2.81	0.42
16:N:88:ILE:O	17:O:48:GLY:HA3	2.20	0.42
1:X:1052:C:H42	1:X:1125:G:H1	1.65	0.42
1:X:1283:C:H42	1:X:1993:G:H1	1.68	0.42
1:X:1683:G:O2'	10:H:6:SER:HB2	2.20	0.42
1:X:188:G:C6	1:X:189:A:C6	3.06	0.42
1:X:1987:G:C6	1:X:1988:A:C5	3.07	0.42
1:X:2013:A:C5'	1:X:2014:A:OP1	2.66	0.42
1:X:224:G:H4'	1:X:399:G:C4	2.54	0.42
1:X:2636:A:C2	1:X:2644:A:C4	3.07	0.42
1:X:2690:A:N6	1:X:2694:G:C4	2.88	0.42
1:X:2813:G:O2'	13:K:46:PRO:HB3	2.18	0.42
1:X:2825:A:OP2	1:X:2843:A:C2	2.71	0.42
1:X:635:C:C3'	1:X:636:G:H5"	2.50	0.42
1:X:701:U:H5'	1:X:1771:A:C2	2.55	0.42
1:X:734:G:H2'	1:X:735:G:C8	2.54	0.42
1:X:764:A:C3'	1:X:764:A:C8	3.02	0.42
1:X:941:U:H2'	1:X:942:U:O4'	2.20	0.42
27:1:45:LYS:O	27:1:46:LYS:CB	2.67	0.42
6:D:135:GLN:HA	6:D:138:PHE:HE1	1.84	0.42
9:G:103:TYR:CZ	9:G:111:LYS:HB2	2.55	0.42
10:H:130:ALA:HA	10:H:131:PRO:HD3	1.96	0.42
11:I:55:ARG:C	11:I:57:ILE:H	2.19	0.42
12:J:69:ILE:HD13	12:J:104:MET:HB3	2.01	0.42
18:P:117:ILE:HA	18:P:117:ILE:HD13	1.80	0.42
20:R:84:VAL:O	20:R:84:VAL:HG23	2.18	0.42
21:S:163:ASP:HA	21:S:164:PRO:HD3	1.88	0.42
22:T:21:LEU:HD11	22:T:41:ARG:HG2	2.02	0.42
23:U:31:GLY:HA2	23:U:32:ARG:NH1	2.34	0.42
1:X:1219:C:H6	1:X:1219:C:O5'	2.02	0.42
1:X:1466:C:H2'	1:X:1467:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1500:U:H2'	1:X:1501:C:C6	2.54	0.42
1:X:1552:C:H4'	1:X:1553:G:O4'	2.20	0.42
1:X:1666:G:H2'	1:X:1667:A:C8	2.55	0.42
1:X:171:G:C2	1:X:179:U:C2	3.06	0.42
1:X:1910:A:N6	1:X:1911:A:N1	2.68	0.42
1:X:1923:U:O2'	1:X:1924:C:OP2	2.36	0.42
1:X:2622:G:H1	1:X:2751:C:H42	1.68	0.42
1:X:2799:C:H6	1:X:2799:C:O5'	2.02	0.42
31:X:2881:LC2:H5	31:X:2881:LC2:H13	1.73	0.42
1:X:464:G:H2'	1:X:465:C:C6	2.54	0.42
1:X:571:U:HO2'	1:X:581:A:H5'	1.84	0.42
1:X:611:C:O2	1:X:615:C:H5''	2.19	0.42
1:X:616:U:H5''	1:X:616:U:H6	1.84	0.42
1:X:797:A:N1	3:A:230:VAL:HG11	2.33	0.42
29:3:13:ARG:O	29:3:13:ARG:CG	2.67	0.42
29:3:57:ARG:C	29:3:59:LYS:H	2.23	0.42
3:A:108:ALA:HA	3:A:109:PRO:HD2	1.82	0.42
3:A:162:THR:H	3:A:197:VAL:CG2	2.32	0.42
4:B:198:LEU:N	4:B:198:LEU:HD12	2.33	0.42
9:G:141:GLY:O	9:G:142:ARG:C	2.55	0.42
10:H:24:VAL:HG11	10:H:42:LYS:HG3	2.01	0.42
11:I:94:GLU:HA	11:I:97:ARG:HE	1.84	0.42
1:X:1992:G:H1'	13:K:106:ASP:O	2.18	0.42
14:L:43:ILE:HD12	14:L:43:ILE:N	2.34	0.42
18:P:133:ASN:OD1	18:P:133:ASN:N	2.52	0.42
20:R:48:VAL:C	20:R:50:GLY:H	2.23	0.42
1:X:1336:G:C6	1:X:1337:G:C5	3.08	0.42
1:X:1344:C:C4	1:X:1346:C:C2	3.08	0.42
1:X:1386:A:H2'	1:X:1387:G:O4'	2.20	0.42
1:X:1939:U:H5	1:X:1940:C:C4	2.37	0.42
1:X:1978:U:H3'	1:X:1979:C:H5''	2.01	0.42
1:X:1282:A:H61	1:X:1994:U:H3	1.68	0.42
1:X:2277:A:H2'	1:X:2278:A:O4'	2.20	0.42
1:X:2392:G:H2'	1:X:2393:G:C8	2.54	0.42
1:X:2436:U:O2'	1:X:2437:G:H5'	2.20	0.42
1:X:2445:C:C4	1:X:2446:C:N4	2.87	0.42
1:X:2507:U:H5''	30:4:31:LYS:HE3	2.02	0.42
1:X:463:C:P	5:C:46:ARG:HG2	2.60	0.42
1:X:459:A:N7	1:X:484:G:C5	2.88	0.42
1:X:798:G:O2'	1:X:1770:U:H5''	2.19	0.42
28:2:12:ARG:O	28:2:15:THR:O	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:16:VAL:HG22	30:4:25:VAL:HG22	2.01	0.42
3:A:93:ILE:CG2	3:A:105:TYR:HB3	2.50	0.42
3:A:26:THR:HG23	3:A:27:LYS:H	1.82	0.42
3:A:37:ALA:CB	3:A:64:ARG:HG2	2.50	0.42
3:A:70:ARG:HH21	3:A:106:ILE:HD13	1.84	0.42
5:C:17:LEU:HA	5:C:18:PRO:HD3	1.76	0.42
5:C:21:GLU:C	5:C:22:VAL:CG2	2.87	0.42
5:C:97:ARG:HA	5:C:100:ARG:HE	1.84	0.42
9:G:156:HIS:N	9:G:157:PRO:CD	2.82	0.42
12:J:39:GLU:HA	12:J:40:PRO:HD3	1.69	0.42
20:R:25:LEU:O	20:R:26:SER:OG	2.30	0.42
20:R:85:ASP:HB3	20:R:90:LYS:HZ2	1.85	0.42
21:S:43:PHE:CE1	21:S:66:VAL:HG11	2.55	0.42
1:X:1177:U:C2	1:X:1198:C:O2	2.73	0.42
1:X:1271:C:H2'	1:X:1272:G:C8	2.54	0.42
1:X:1469:U:H5	13:K:64:ARG:NH2	2.08	0.42
1:X:1469:U:H5'	1:X:1470:G:P	2.59	0.42
1:X:155:G:H2'	1:X:156:G:C8	2.55	0.42
1:X:1814:G:H2'	1:X:1815:G:H8	1.85	0.42
1:X:1915:A:H2'	1:X:1916:G:O4'	2.19	0.42
1:X:1937:G:N3	1:X:2530:C:C5'	2.82	0.42
1:X:1948:C:N4	1:X:1949:A:N6	2.68	0.42
1:X:2867:G:H4'	1:X:2868:G:O5'	2.19	0.42
1:X:613:A:C6	1:X:668:A:H1'	2.54	0.42
27:1:14:SER:H	27:1:22:TYR:HD2	1.68	0.42
3:A:30:PRO:O	3:A:31:GLU:HB2	2.19	0.42
4:B:121:ASN:O	4:B:122:PHE:CG	2.72	0.42
5:C:58:MET:HG2	5:C:59:TYR:N	2.34	0.42
9:G:84:ASN:O	9:G:151:TYR:O	2.38	0.42
13:K:94:TYR:CZ	13:K:115:LEU:O	2.72	0.42
21:S:129:ARG:HH22	21:S:156:GLU:CD	2.09	0.42
21:S:46:GLN:HB3	21:S:50:GLY:HA3	2.00	0.42
1:X:1128:G:H2'	1:X:1129:A:H5''	2.02	0.42
1:X:574:C:H4'	1:X:1266:G:O6	2.19	0.42
1:X:1354:A:O3'	19:Q:54:SER:HB2	2.20	0.42
1:X:1391:A:C1'	1:X:1392:U:P	3.08	0.42
1:X:13:A:C2	1:X:15:G:N1	2.88	0.42
1:X:1404:C:C4	1:X:1406:A:H8	2.33	0.42
1:X:1470:G:O2'	1:X:1471:G:H5'	2.20	0.42
1:X:1632:A:OP1	1:X:1632:A:H8	2.03	0.42
1:X:1768:U:O5'	1:X:1768:U:H6	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:180:C:C4	1:X:181:A:C5	3.08	0.42
1:X:2438:A:N6	1:X:2473:G:C2	2.88	0.42
1:X:2510:A:H61	1:X:2641:A:H61	1.66	0.42
1:X:2657:G:H1	1:X:2709:C:N4	2.15	0.42
1:X:2788:C:O2'	1:X:2789:U:H5'	2.19	0.42
1:X:504:G:O2'	18:P:26:ALA:HA	2.20	0.42
1:X:492:G:H2'	1:X:517:A:N1	2.35	0.42
1:X:646:C:O2'	1:X:650:U:H5''	2.19	0.42
1:X:649:G:N2	1:X:660:G:C2	2.88	0.42
1:X:681:A:C5	1:X:683:A:C8	3.08	0.42
1:X:923:A:C5	12:J:12:LYS:HD3	2.54	0.42
27:1:14:SER:HA	27:1:52:GLU:HA	2.01	0.42
27:1:45:LYS:O	27:1:46:LYS:HG2	2.20	0.42
28:2:10:ARG:H	28:2:10:ARG:CD	2.33	0.42
4:B:44:TYR:HB2	4:B:82:ARG:NH1	2.31	0.42
1:X:2737:A:N1	7:E:67:LEU:HD12	2.35	0.42
17:O:21:ARG:O	17:O:91:THR:HG22	2.18	0.42
1:X:1081:A:H62	1:X:1107:A:H2'	1.83	0.42
1:X:1344:C:C4	1:X:1346:C:N3	2.88	0.42
1:X:1836:C:N4	1:X:1879:G:H1	2.17	0.42
1:X:1691:G:C6	1:X:1972:G:O6	2.73	0.42
1:X:2245:A:C2	1:X:2251:U:C5	3.08	0.42
1:X:2256:G:O3'	12:J:14:PHE:CD2	2.73	0.42
1:X:2371:A:H1'	11:I:59:ARG:HG2	2.01	0.42
1:X:2375:G:H2'	1:X:2376:G:H8	1.85	0.42
1:X:2590:U:H1'	32:X:2882:LMA:C37	2.48	0.42
1:X:2641:A:C2'	1:X:2642:G:H5'	2.49	0.42
1:X:2658:A:H2	1:X:2709:C:N3	2.17	0.42
1:X:495:C:H2'	1:X:496:C:C6	2.55	0.42
1:X:794:A:H5'	3:A:219:LYS:HZ3	1.84	0.42
27:1:25:THR:HG22	27:1:27:ASN:ND2	2.35	0.42
1:X:2350:G:C2'	27:1:46:LYS:HG3	2.48	0.42
3:A:71:ARG:HG2	3:A:191:TYR:HE1	1.82	0.42
4:B:61:LYS:N	4:B:62:PRO:HD2	2.35	0.42
6:D:80:ARG:CD	6:D:83:MET:HB3	2.44	0.42
10:H:1:MET:H2	10:H:79:HIS:HB2	1.83	0.42
11:I:83:LEU:C	11:I:84:GLU:HG2	2.40	0.42
13:K:84:ALA:HB3	13:K:85:PRO:CD	2.41	0.42
14:L:89:PHE:HZ	14:L:103:LEU:CD2	2.17	0.42
14:L:33:ARG:NH1	14:L:99:ARG:O	2.53	0.42
23:U:70:LEU:HD23	23:U:70:LEU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1068:A:H2'	1:X:1069:G:C8	2.55	0.42
1:X:1288:A:C8	13:K:16:ALA:CB	2.94	0.42
1:X:1329:U:O2'	1:X:1330:G:H5'	2.20	0.42
1:X:1365:U:C2	1:X:1393:G:C2	3.07	0.42
1:X:1533:G:H2'	1:X:1534:A:C8	2.54	0.42
1:X:178:C:H2'	1:X:179:U:C6	2.55	0.42
1:X:1967:U:H2'	1:X:1968:G:C8	2.54	0.42
1:X:205:A:H2'	1:X:206:U:H5'	2.01	0.42
1:X:2244:C:C4	1:X:2245:A:C5	3.08	0.42
1:X:2404:A:C4'	1:X:2405:A:OP2	2.68	0.42
1:X:2419:C:H2'	1:X:2420:C:O5'	2.20	0.42
1:X:2674:C:O2'	1:X:2675:U:H5'	2.20	0.42
1:X:2832:G:N2	1:X:2835:A:OP2	2.47	0.42
32:X:2882:LMA:HO57	18:P:111:ARG:NH2	2.17	0.42
1:X:611:C:O2	1:X:615:C:C5'	2.68	0.42
1:X:632:A:H2'	1:X:633:G:H5'	2.02	0.42
1:X:671:A:C5	1:X:672:C:C4	3.08	0.42
1:X:707:U:OP1	3:A:60:LYS:HE3	2.20	0.42
1:X:758:G:O2'	1:X:759:C:OP1	2.28	0.42
1:X:768:U:C4	1:X:769:C:C4	3.08	0.42
1:X:750:C:C4'	1:X:779:U:O2'	2.68	0.42
2:Y:26:G:H21	2:Y:29:C:N4	2.18	0.42
27:1:9:ILE:C	27:1:10:VAL:CG2	2.88	0.41
28:2:42:LEU:HD12	28:2:42:LEU:H	1.85	0.41
29:3:9:MET:CE	29:3:59:LYS:HB2	2.50	0.41
30:4:24:LEU:HD12	30:4:24:LEU:N	2.35	0.41
3:A:90:SER:O	3:A:199:ASN:OD1	2.37	0.41
4:B:84:PHE:CE1	4:B:86:PRO:CB	3.00	0.41
5:C:34:GLN:OE1	5:C:176:ASN:ND2	2.52	0.41
7:E:94:PHE:CE2	7:E:160:LYS:HD3	2.55	0.41
10:H:133:VAL:HG12	15:M:38:LYS:NZ	2.35	0.41
14:L:93:SER:C	14:L:94:TYR:CD2	2.92	0.41
1:X:1745:C:OP1	15:M:101:ARG:NH2	2.52	0.41
21:S:43:PHE:HE1	21:S:66:VAL:HG11	1.85	0.41
1:X:2344:G:H4'	22:T:60:PHE:CE1	2.54	0.41
1:X:985:G:N2	1:X:1000:G:H1'	2.35	0.41
1:X:1200:G:C6	1:X:1201:G:C4	3.08	0.41
1:X:1299:A:C4'	1:X:1300:A:OP1	2.68	0.41
1:X:1348:C:H6	1:X:1348:C:O5'	2.03	0.41
1:X:1473:U:O2'	1:X:1474:A:P	2.77	0.41
1:X:1499:A:H2'	1:X:1500:U:O4'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1790:G:C6	1:X:1811:A:N7	2.88	0.41
1:X:1944:C:H2'	1:X:1945:C:O4'	2.19	0.41
1:X:2727:G:N2	1:X:2736:U:C5	2.88	0.41
1:X:2826:C:H2'	1:X:2827:G:O4'	2.19	0.41
1:X:658:G:H2'	1:X:659:G:C8	2.51	0.41
1:X:857:U:H6	1:X:857:U:O5'	2.02	0.41
3:A:49:ARG:CB	3:A:49:ARG:HH11	2.33	0.41
5:C:163:ASN:OD1	5:C:167:VAL:HG22	2.20	0.41
1:X:463:C:OP2	5:C:46:ARG:HG2	2.19	0.41
15:M:60:SER:CA	15:M:64:LYS:HB2	2.49	0.41
1:X:1997:A:H5'	18:P:115:ASN:CG	2.41	0.41
22:T:62:LEU:N	22:T:62:LEU:HD22	2.35	0.41
1:X:1048:U:H3	1:X:1129:A:H61	1.66	0.41
1:X:1468:A:H8	1:X:1468:A:P	2.42	0.41
1:X:1635:G:O2'	28:2:1:MET:HG2	2.20	0.41
1:X:755:C:H4'	1:X:1692:C:O2'	2.20	0.41
1:X:752:G:OP1	1:X:1775:A:N1	2.53	0.41
1:X:1684:G:H22	1:X:1977:C:N4	2.17	0.41
1:X:2047:C:H2'	1:X:2048:C:C6	2.56	0.41
1:X:2059:U:H5	1:X:2575:U:O2	2.02	0.41
1:X:2703:C:P	4:B:109:LYS:HZ2	2.43	0.41
1:X:2793:G:N3	1:X:2804:G:C2	2.88	0.41
1:X:461:A:N7	1:X:462:G:N7	2.68	0.41
1:X:514:G:H4'	1:X:515:A:OP2	2.20	0.41
1:X:572:G:C2	1:X:573:C:C2	3.08	0.41
1:X:800:U:C5	1:X:804:C:N3	2.88	0.41
30:4:19:ARG:HD2	30:4:24:LEU:HD22	2.03	0.41
6:D:4:LEU:O	6:D:5:LYS:HB3	2.20	0.41
11:I:22:GLY:HA2	11:I:23:PRO:HD2	1.92	0.41
1:X:825:C:C6	11:I:30:ALA:HB1	2.54	0.41
12:J:119:PHE:HD1	12:J:132:MET:SD	2.43	0.41
13:K:13:ASN:OD1	13:K:16:ALA:CB	2.69	0.41
16:N:28:ARG:O	16:N:35:ALA:CB	2.67	0.41
16:N:24:PHE:O	16:N:29:SER:HB3	2.19	0.41
18:P:48:LYS:HE3	18:P:48:LYS:HB2	1.69	0.41
21:S:6:LYS:N	21:S:7:PRO:HD3	2.35	0.41
1:X:1071:U:H3	1:X:1099:A:H8	1.69	0.41
1:X:1174:G:H2'	1:X:1175:A:C8	2.54	0.41
1:X:1479:G:H2'	1:X:1480:G:C8	2.54	0.41
1:X:1574:A:C2	1:X:1576:G:H1'	2.54	0.41
1:X:1790:G:C4'	1:X:1791:C:O5'	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1955:G:H2'	1:X:1956:G:C8	2.55	0.41
1:X:215:G:H4'	1:X:618:A:O2'	2.20	0.41
1:X:2500:C:H4'	1:X:2544:A:C4'	2.50	0.41
1:X:387:A:C2'	1:X:388:G:H5'	2.50	0.41
1:X:635:C:O2'	1:X:670:U:H5''	2.20	0.41
1:X:879:A:C2	1:X:926:C:H5''	2.55	0.41
28:2:39:ARG:O	28:2:40:HIS:CG	2.73	0.41
29:3:14:ILE:O	29:3:14:ILE:HG12	2.19	0.41
1:X:705:C:H4'	3:A:42:GLY:O	2.20	0.41
10:H:27:SER:HB3	10:H:49:ASP:HA	2.02	0.41
12:J:99:LYS:CG	12:J:100:PRO:HD2	2.51	0.41
13:K:59:ASP:O	13:K:60:LEU:C	2.56	0.41
15:M:11:GLU:HG3	15:M:14:ARG:HH11	1.86	0.41
1:X:1265:G:H4'	16:N:33:ARG:HD3	2.02	0.41
16:N:63:GLN:O	16:N:66:ASN:OD1	2.39	0.41
18:P:95:ALA:HB2	18:P:126:ILE:HD13	2.03	0.41
22:T:17:ASN:HA	22:T:18:PRO:HD3	1.97	0.41
22:T:49:GLN:O	22:T:80:SER:HA	2.20	0.41
1:X:455:A:H2	1:X:1258:G:N3	2.19	0.41
1:X:1539:U:H2'	1:X:1540:C:C6	2.55	0.41
1:X:1634:A:H1'	1:X:1635:G:OP1	2.20	0.41
1:X:2003:A:C6	1:X:2005:U:C2	3.08	0.41
1:X:2170:C:C3'	1:X:2171:U:H5''	2.29	0.41
1:X:2654:A:H5'	10:H:41:ASN:HB3	2.01	0.41
1:X:494:A:N7	1:X:495:C:C5	2.88	0.41
1:X:546:A:H2'	1:X:547:U:C6	2.55	0.41
1:X:938:G:H2'	1:X:939:C:OP2	2.21	0.41
1:X:834:A:H2'	1:X:957:G:P	2.60	0.41
3:A:133:PRO:HB2	3:A:135:ARG:HG2	2.03	0.41
1:X:2598:C:H4'	4:B:151:TYR:O	2.19	0.41
5:C:7:ILE:CG1	5:C:119:ALA:HB1	2.49	0.41
10:H:76:ARG:O	10:H:94:ASN:CA	2.65	0.41
10:H:76:ARG:HB2	10:H:95:ALA:HB3	2.02	0.41
17:O:10:LYS:HG3	17:O:11:GLN:HG2	2.02	0.41
19:Q:26:SER:CB	19:Q:79:ILE:HG12	2.50	0.41
23:U:48:LYS:HG2	23:U:49:LYS:H	1.83	0.41
1:X:95:G:H4'	24:V:41:HIS:CE1	2.55	0.41
1:X:104:C:H6	1:X:104:C:O5'	2.03	0.41
1:X:1095:A:C3'	1:X:1096:A:H5''	2.51	0.41
1:X:1129:A:C6	1:X:1130:U:N3	2.88	0.41
1:X:594:G:N7	1:X:1264:C:N4	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:13:A:C2	1:X:15:G:C6	3.08	0.41
1:X:1405:A:N6	1:X:1406:A:H61	2.18	0.41
1:X:1488:G:C2	1:X:1536:G:C2	3.08	0.41
1:X:2344:G:H4'	22:T:60:PHE:CZ	2.55	0.41
1:X:2450:A:N6	1:X:2451:G:C2	2.89	0.41
1:X:2674:C:H2'	1:X:2675:U:C6	2.56	0.41
1:X:2728:A:C2	1:X:2737:A:C5	3.08	0.41
1:X:2841:U:O2'	1:X:2842:C:OP2	2.30	0.41
1:X:320:A:N3	1:X:340:G:O2'	2.53	0.41
1:X:306:G:N2	1:X:355:G:H1'	2.35	0.41
1:X:734:G:H2'	1:X:735:G:H8	1.85	0.41
1:X:761:G:OP1	1:X:2591:C:N4	2.53	0.41
1:X:869:C:O2	1:X:934:G:C2	2.73	0.41
26:Z:4:HIS:HB2	26:Z:5:PRO:HD2	1.98	0.41
27:1:43:VAL:CG2	27:1:43:VAL:O	2.69	0.41
3:A:84:GLU:CD	3:A:105:TYR:HE2	2.20	0.41
3:A:212:ARG:O	3:A:212:ARG:CG	2.68	0.41
3:A:46:ASN:ND2	3:A:47:ARG:N	2.68	0.41
4:B:120:TRP:O	4:B:122:PHE:CD2	2.68	0.41
5:C:102:LEU:HD21	5:C:106:MET:CE	2.51	0.41
1:X:1142:G:N9	9:G:103:TYR:HD2	2.17	0.41
10:H:116:ARG:O	10:H:117:GLU:C	2.58	0.41
10:H:126:ILE:HD12	10:H:126:ILE:HG23	1.51	0.41
20:R:63:THR:O	20:R:64:ASN:C	2.58	0.41
21:S:56:VAL:HG12	21:S:57:GLU:N	2.35	0.41
1:X:1175:A:C2	1:X:1176:U:C2	3.09	0.41
1:X:984:A:C8	1:X:1202:U:C2	3.08	0.41
1:X:1434:U:H5''	1:X:1435:G:OP2	2.20	0.41
1:X:1506:C:H2'	1:X:1507:A:H5'	2.03	0.41
1:X:1671:A:C8	1:X:1671:A:H5''	2.52	0.41
1:X:2173:G:H2'	1:X:2174:G:C8	2.56	0.41
1:X:2200:G:H2'	1:X:2201:G:H8	1.85	0.41
1:X:2404:A:C8	1:X:2406:C:O2	2.74	0.41
1:X:2560:G:C6	1:X:2589:C:C2	3.09	0.41
1:X:2665:G:C8	1:X:2665:G:O5'	2.74	0.41
31:X:2881:LC2:H29	31:X:2881:LC2:H14	1.73	0.41
1:X:591:G:C6	1:X:592:G:C6	3.08	0.41
1:X:788:G:O2'	1:X:789:G:P	2.79	0.41
1:X:824:U:C5	11:I:29:THR:HB	2.56	0.41
26:Z:31:THR:O	26:Z:39:LYS:HA	2.20	0.41
28:2:15:THR:O	28:2:16:HIS:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:2:1:MET:CE	28:2:3:ARG:CZ	2.98	0.41
3:A:111:GLY:HA3	3:A:128:LEU:HD13	2.03	0.41
3:A:143:VAL:HG12	3:A:194:ILE:HA	2.02	0.41
11:I:73:GLU:N	11:I:73:GLU:OE1	2.53	0.41
14:L:60:LYS:HZ2	14:L:64:LYS:HE2	1.85	0.41
15:M:80:VAL:HG12	15:M:80:VAL:O	2.20	0.41
17:O:48:GLY:O	17:O:49:GLU:HB2	2.20	0.41
18:P:89:ARG:CG	18:P:131:LYS:HB3	2.49	0.41
19:Q:69:ILE:CD1	19:Q:70:GLY:N	2.83	0.41
21:S:168:VAL:HG12	21:S:169:VAL:HG13	2.01	0.41
1:X:1005:U:OP1	16:N:53:LYS:NZ	2.50	0.41
1:X:1142:G:N2	1:X:1143:A:N3	2.69	0.41
1:X:985:G:C8	1:X:1200:G:N2	2.89	0.41
1:X:1226:A:C4	1:X:1250:A:N3	2.88	0.41
1:X:1987:G:C5	1:X:1988:A:C8	3.08	0.41
1:X:230:C:C2'	1:X:231:G:H5'	2.50	0.41
1:X:2535:C:C5	1:X:2536:G:C5	3.09	0.41
1:X:2571:G:N1	1:X:2582:G:N1	2.69	0.41
1:X:2853:U:O5'	1:X:2853:U:H6	2.04	0.41
1:X:459:A:N6	1:X:484:G:H1'	2.36	0.41
1:X:547:U:O5'	1:X:547:U:H6	2.04	0.41
1:X:579:G:H2'	1:X:2013:A:C6	2.56	0.41
6:D:150:ARG:HA	6:D:150:ARG:NH1	2.30	0.41
17:O:10:LYS:HZ3	17:O:37:ALA:HB3	1.82	0.41
17:O:54:TYR:HD2	17:O:98:ILE:HG21	1.85	0.41
1:X:1118:G:H2'	1:X:1119:U:H5'	2.03	0.41
1:X:152:G:O2'	1:X:153:A:H5'	2.21	0.41
1:X:1739:G:H2'	1:X:1740:G:H8	1.85	0.41
1:X:1983:G:C2'	1:X:1984:A:H5'	2.50	0.41
1:X:2184:C:C4	1:X:2185:U:C4	3.08	0.41
27:1:31:THR:O	27:1:33:ALA:N	2.54	0.41
28:2:21:ARG:HD2	28:2:30:ILE:HD12	2.03	0.41
29:3:30:ARG:HE	29:3:31:HIS:CE1	2.39	0.41
30:4:11:CYS:HG	30:4:32:HIS:CE1	2.39	0.41
3:A:178:LEU:HD11	3:A:184:ARG:HG3	2.02	0.41
5:C:191:ALA:HA	5:C:194:GLU:HB3	2.02	0.41
7:E:156:ALA:O	7:E:157:TYR:CD1	2.73	0.41
13:K:72:ASP:CG	13:K:75:VAL:HG23	2.42	0.41
18:P:52:ASP:O	18:P:56:LEU:HG	2.21	0.41
19:Q:3:HIS:CG	19:Q:44:GLN:HB2	2.56	0.41
1:X:2258:G:O6	22:T:15:ASP:CB	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1341:G:N2	1:X:1664:G:N1	2.69	0.41
1:X:1923:U:H4'	1:X:1924:C:O5'	2.20	0.41
1:X:2038:C:H2'	1:X:2483:U:C5'	2.51	0.41
1:X:223:C:H42	29:3:7:HIS:HB3	1.82	0.41
1:X:2241:U:C6	1:X:2241:U:H3'	2.55	0.41
1:X:2222:U:O2	1:X:2413:A:H2	2.02	0.41
1:X:2429:A:H2'	1:X:2430:A:C8	2.55	0.41
1:X:42:G:H2'	1:X:43:A:O4'	2.20	0.41
1:X:538:A:C4'	1:X:539:A:OP1	2.69	0.41
2:Y:59:A:H1'	6:D:27:ALA:HB2	2.03	0.41
1:X:469:G:C2'	28:2:39:ARG:O	2.69	0.41
3:A:201:GLU:HG3	3:A:203:LYS:HB3	2.03	0.41
1:X:795:A:C2	3:A:227:MET:HE2	2.55	0.41
4:B:26:VAL:CG1	4:B:196:VAL:CG2	2.95	0.41
5:C:14:THR:O	5:C:15:ILE:CB	2.69	0.41
6:D:80:ARG:NE	6:D:80:ARG:N	2.69	0.41
13:K:80:MET:HB2	13:K:80:MET:HE3	1.34	0.41
16:N:88:ILE:HG23	17:O:48:GLY:O	2.20	0.41
20:R:18:LYS:CD	20:R:18:LYS:N	2.79	0.41
1:X:1218:C:H2'	1:X:1219:C:C6	2.55	0.41
1:X:1391:A:C2	1:X:1393:G:C8	3.09	0.41
1:X:1774:A:OP1	1:X:1775:A:OP2	2.39	0.41
1:X:752:G:OP1	1:X:1775:A:C2	2.74	0.41
1:X:1818:G:C6	1:X:1819:U:N3	2.89	0.41
1:X:2040:A:C8	1:X:2040:A:H3'	2.55	0.41
1:X:2051:U:H2'	1:X:2051:U:O2	2.20	0.41
1:X:1386:A:H5''	1:X:2191:A:N6	2.35	0.41
1:X:2419:C:H6	1:X:2419:C:O5'	2.04	0.41
1:X:2580:C:HO2'	1:X:2581:A:P	2.44	0.41
1:X:39:C:H2'	1:X:40:U:C6	2.56	0.41
1:X:573:C:C5	1:X:574:C:C5	3.09	0.41
1:X:919:U:H2'	1:X:920:G:H8	1.86	0.41
1:X:980:G:C2	1:X:981:C:C2	3.09	0.41
1:X:997:C:C3'	1:X:997:C:C6	3.04	0.41
2:Y:32:C:H1'	2:Y:59:A:H61	1.86	0.41
29:3:49:VAL:HG21	29:3:52:LYS:CE	2.51	0.41
4:B:188:ILE:HA	4:B:189:PRO:HD3	1.81	0.41
5:C:102:LEU:C	5:C:102:LEU:HD23	2.39	0.41
7:E:105:MET:CE	7:E:105:MET:HA	2.51	0.41
11:I:57:ILE:O	29:3:12:ARG:NE	2.54	0.41
11:I:62:LYS:HD3	29:3:12:ARG:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:135:ARG:O	12:J:136:GLU:HB2	2.20	0.41
12:J:8:THR:N	12:J:70:PHE:HZ	2.18	0.41
20:R:92:THR:CB	20:R:107:ALA:O	2.69	0.41
23:U:19:ILE:HG22	23:U:42:GLN:CG	2.50	0.41
1:X:1008:G:N2	1:X:1170:U:H1'	2.36	0.41
1:X:1230:C:OP1	16:N:15:LYS:HD3	2.21	0.41
1:X:1289:A:C2	1:X:1290:A:C6	3.09	0.41
1:X:1462:C:O2'	1:X:1463:A:H5'	2.21	0.41
1:X:1623:C:H4'	1:X:1624:A:OP2	2.13	0.41
1:X:1755:G:O2'	1:X:1756:C:H5'	2.21	0.41
1:X:1787:U:H2'	1:X:1788:C:C6	2.56	0.41
1:X:196:A:N6	1:X:197:G:C6	2.89	0.41
1:X:2064:U:C5	1:X:2216:G:C2	3.09	0.41
1:X:2806:G:H4'	1:X:2858:A:C6	2.56	0.41
32:X:2882:LMA:H21A	32:X:2882:LMA:C51	2.51	0.41
1:X:1:G:H2'	1:X:2:G:C8	2.56	0.41
1:X:748:A:N7	1:X:749:C:C2	2.88	0.41
1:X:841:G:C2'	1:X:841:G:N3	2.83	0.41
1:X:919:U:O2'	1:X:920:G:H5'	2.20	0.41
1:X:943:U:O2'	1:X:944:A:O4'	2.37	0.41
1:X:851:C:C2	1:X:952:A:C6	3.09	0.41
1:X:977:G:C1'	1:X:2246:A:H62	2.34	0.41
2:Y:66:G:H2'	2:Y:67:C:O4'	2.20	0.41
29:3:36:LYS:HD3	29:3:36:LYS:N	2.36	0.40
30:4:13:ASN:HB2	30:4:27:CYS:SG	2.61	0.40
1:X:626:A:H4'	5:C:176:ASN:OD1	2.21	0.40
9:G:140:GLN:HG2	9:G:144:MET:HE3	2.04	0.40
21:S:104:SER:HA	21:S:139:THR:HA	2.02	0.40
23:U:49:LYS:HB2	23:U:61:TRP:HA	2.03	0.40
1:X:1948:C:C4	1:X:1949:A:N7	2.89	0.40
1:X:2004:U:P	26:Z:12:SER:OG	2.79	0.40
1:X:2581:A:C2'	1:X:2582:G:O5'	2.69	0.40
1:X:333:A:C5'	5:C:162:ARG:CG	2.99	0.40
1:X:874:A:H2'	1:X:875:G:O4'	2.20	0.40
1:X:916:U:C4	1:X:917:U:C4	3.09	0.40
1:X:688:A:H4'	5:C:61:GLN:HG2	2.03	0.40
9:G:116:ARG:HD2	9:G:116:ARG:HA	1.88	0.40
1:X:2814:G:C1'	13:K:49:GLU:OE2	2.70	0.40
20:R:11:ASN:O	20:R:12:ASP:HB3	2.21	0.40
1:X:1196:G:H2'	1:X:1197:U:O4'	2.21	0.40
1:X:119:G:H2'	1:X:120:G:C8	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:182:G:O2'	1:X:183:U:C5	2.74	0.40
1:X:1865:C:H2'	1:X:1866:G:O4'	2.21	0.40
1:X:2670:C:O4'	1:X:2847:G:C6	2.75	0.40
1:X:2713:A:O2'	1:X:2714:A:H5'	2.21	0.40
1:X:2833:C:H2'	1:X:2834:A:O4'	2.22	0.40
32:X:2882:LMA:H4	32:X:2882:LMA:H7	1.88	0.40
1:X:754:G:C6	1:X:755:C:N4	2.90	0.40
1:X:1628:C:C5'	28:2:7:PRO:HG2	2.49	0.40
29:3:15:LYS:HB2	29:3:23:MET:HG3	2.04	0.40
29:3:41:ILE:C	29:3:43:GLY:H	2.22	0.40
1:X:1817:U:C5'	3:A:253:LYS:HD3	2.51	0.40
3:A:66:ILE:CD1	3:A:89:ARG:NH2	2.83	0.40
5:C:74:VAL:HB	5:C:75:PRO:HD2	2.03	0.40
5:C:87:LYS:HA	5:C:88:PRO:HD3	1.78	0.40
9:G:90:LEU:CD1	9:G:90:LEU:N	2.85	0.40
12:J:107:VAL:HG22	12:J:119:PHE:CZ	2.56	0.40
1:X:29:U:C5'	16:N:11:ARG:HH12	2.34	0.40
20:R:65:PRO:O	20:R:66:GLN:C	2.57	0.40
25:W:10:ILE:HG13	25:W:10:ILE:H	1.62	0.40
1:X:1096:A:C1'	1:X:1097:A:OP1	2.69	0.40
1:X:1142:G:N3	9:G:103:TYR:CE2	2.89	0.40
1:X:1673:C:H5''	4:B:136:ARG:CD	2.43	0.40
1:X:1920:A:C5	1:X:1922:U:C2	3.09	0.40
1:X:2425:G:C6	1:X:2480:C:H2'	2.56	0.40
1:X:2526:U:H2'	1:X:2527:G:C8	2.55	0.40
1:X:2555:G:N3	1:X:2555:G:C3'	2.84	0.40
1:X:2719:U:C5	1:X:2743:G:C6	3.09	0.40
1:X:29:U:H6	1:X:29:U:O5'	2.04	0.40
1:X:526:C:O2'	1:X:527:C:C5'	2.67	0.40
1:X:931:G:H2'	1:X:932:G:O4'	2.21	0.40
27:1:8:ILE:CG1	27:1:30:ASN:ND2	2.68	0.40
27:1:40:TYR:H	27:1:50:PHE:HB3	1.85	0.40
1:X:2506:C:H5''	30:4:30:VAL:HB	2.04	0.40
1:X:1811:A:H2'	3:A:179:PRO:HG2	2.03	0.40
5:C:134:ILE:HG22	5:C:138:LYS:HE3	2.02	0.40
5:C:29:GLU:HG2	5:C:95:LEU:HD11	2.03	0.40
6:D:123:ASP:OD1	6:D:124:GLY:N	2.54	0.40
6:D:52:LYS:C	6:D:52:LYS:HD3	2.42	0.40
9:G:46:ALA:CB	9:G:54:LEU:HD21	2.52	0.40
10:H:129:LEU:HA	10:H:129:LEU:HD23	1.73	0.40
10:H:4:PRO:O	10:H:5:GLN:HB3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:54:VAL:HG23	12:J:125:LYS:HZ2	1.86	0.40
12:J:88:LYS:HB2	12:J:88:LYS:NZ	2.36	0.40
14:L:14:ARG:O	14:L:18:ARG:HB2	2.22	0.40
16:N:93:LYS:HE2	17:O:10:LYS:HE3	2.03	0.40
1:X:94:C:HO2'	24:V:40:PRO:HD2	1.86	0.40
1:X:1166:A:H2'	1:X:1167:A:H5''	2.03	0.40
1:X:1567:A:H2'	1:X:1568:A:O4'	2.20	0.40
1:X:1741:G:O2'	1:X:1742:G:H5'	2.21	0.40
1:X:1928:G:N1	1:X:1929:U:N3	2.70	0.40
1:X:583:C:N4	1:X:2017:U:OP1	2.51	0.40
1:X:2260:C:O2'	1:X:2261:G:H5'	2.22	0.40
1:X:2337:A:H2'	1:X:2338:C:O4'	2.22	0.40
1:X:2395:C:H2'	1:X:2396:C:H5'	2.03	0.40
1:X:2502:G:C8	1:X:2502:G:O5'	2.68	0.40
1:X:2671:C:N4	1:X:2698:G:H1	2.20	0.40
1:X:486:U:O2	1:X:492:G:N2	2.54	0.40
1:X:965:G:O6	1:X:966:A:C6	2.74	0.40
2:Y:33:C:H42	2:Y:53:G:H1	1.69	0.40
28:2:12:ARG:HE	28:2:43:THR:HG22	1.86	0.40
3:A:160:ALA:CA	3:A:199:ASN:CB	3.00	0.40
6:D:135:GLN:HA	6:D:138:PHE:CE1	2.57	0.40
6:D:22:TYR:CZ	6:D:29:PRO:CD	3.05	0.40
13:K:20:LEU:HA	13:K:20:LEU:HD12	1.87	0.40
16:N:35:ALA:O	16:N:38:THR:HB	2.22	0.40
20:R:83:LEU:HD22	20:R:113:THR:CB	2.51	0.40
1:X:1098:G:O6	1:X:1100:G:C2	2.74	0.40
1:X:1364:C:O2	1:X:1394:G:C2	2.75	0.40
1:X:1621:C:O4'	1:X:1626:A:C6	2.75	0.40
1:X:1688:U:C2	1:X:1690:U:OP2	2.74	0.40
1:X:1724:C:C4	1:X:1747:G:O6	2.75	0.40
1:X:1763:G:C2'	1:X:1764:A:H5'	2.51	0.40
1:X:1947:G:O6	1:X:1950:C:N4	2.54	0.40
1:X:2462:C:H2'	1:X:2463:G:O4'	2.22	0.40
1:X:2571:G:N2	1:X:2582:G:C4	2.90	0.40
1:X:309:G:OP1	20:R:93:ARG:CA	2.69	0.40
1:X:497:C:H3'	1:X:497:C:C6	2.57	0.40
1:X:513:A:OP1	1:X:514:G:N2	2.55	0.40
1:X:640:C:C4'	1:X:660:G:H21	2.34	0.40
1:X:742:G:O2'	1:X:776:G:H4'	2.22	0.40
1:X:830:C:HO2'	1:X:831:G:H5'	1.87	0.40
2:Y:4:C:H2'	2:Y:5:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:77:G:H2'	2:Y:78:A:O4'	2.21	0.40
1:X:1275:A:N3	26:Z:10:LYS:HE2	2.35	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1552:C:O2	15:M:43:ASN:ND2[8_455]	0.99	1.21
1:X:1552:C:O2	15:M:43:ASN:CG[8_455]	1.93	0.27
1:X:1552:C:C2	15:M:43:ASN:ND2[8_455]	2.03	0.17

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	251/274 (92%)	207 (82%)	36 (14%)	8 (3%)	4	28
4	B	203/211 (96%)	174 (86%)	22 (11%)	7 (3%)	3	27
5	C	192/205 (94%)	153 (80%)	30 (16%)	9 (5%)	2	19
6	D	175/180 (97%)	146 (83%)	27 (15%)	2 (1%)	14	50
7	E	169/185 (91%)	147 (87%)	18 (11%)	4 (2%)	6	34
8	F	61/144 (42%)	51 (84%)	9 (15%)	1 (2%)	9	42
9	G	140/174 (80%)	118 (84%)	18 (13%)	4 (3%)	4	30
10	H	132/134 (98%)	115 (87%)	17 (13%)	0	100	100
11	I	132/156 (85%)	96 (73%)	29 (22%)	7 (5%)	2	16
12	J	134/141 (95%)	107 (80%)	25 (19%)	2 (2%)	10	43
13	K	111/116 (96%)	101 (91%)	9 (8%)	1 (1%)	17	54
14	L	102/114 (90%)	81 (79%)	20 (20%)	1 (1%)	15	52
15	M	106/166 (64%)	94 (89%)	9 (8%)	3 (3%)	5	31

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	N	115/118 (98%)	106 (92%)	7 (6%)	2 (2%)	9	40
17	O	92/100 (92%)	77 (84%)	12 (13%)	3 (3%)	4	27
18	P	124/134 (92%)	109 (88%)	13 (10%)	2 (2%)	9	42
19	Q	91/95 (96%)	66 (72%)	20 (22%)	5 (6%)	2	16
20	R	108/115 (94%)	82 (76%)	20 (18%)	6 (6%)	2	15
21	S	173/237 (73%)	140 (81%)	28 (16%)	5 (3%)	4	30
22	T	72/91 (79%)	57 (79%)	12 (17%)	3 (4%)	3	22
23	U	70/81 (86%)	44 (63%)	21 (30%)	5 (7%)	1	11
24	V	63/67 (94%)	58 (92%)	4 (6%)	1 (2%)	9	42
25	W	53/55 (96%)	49 (92%)	4 (8%)	0	100	100
26	Z	55/60 (92%)	42 (76%)	12 (22%)	1 (2%)	8	39
27	1	51/55 (93%)	31 (61%)	15 (29%)	5 (10%)	0	6
28	2	44/47 (94%)	37 (84%)	7 (16%)	0	100	100
29	3	57/66 (86%)	37 (65%)	18 (32%)	2 (4%)	3	26
30	4	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3111/3558 (87%)	2556 (82%)	466 (15%)	89 (3%)	4	30

All (89) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	221	HIS
4	B	86	PRO
4	B	122	PHE
4	B	137	ARG
4	B	147	PRO
5	C	154	ASP
7	E	12	PRO
12	J	13	GLN
12	J	136	GLU
15	M	29	PRO
16	N	94	VAL
20	R	83	LEU
21	S	91	PRO
21	S	156	GLU
23	U	15	VAL
23	U	60	VAL
24	V	3	PRO

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Mol	Chain	Res	Type
27	1	9	ILE
27	1	44	ALA
29	3	60	LEU
3	A	30	PRO
3	A	89	ARG
5	C	15	ILE
5	C	121	ASP
6	D	21	GLY
14	L	53	ALA
15	M	17	GLU
17	O	8	GLY
18	P	132	GLY
19	Q	13	SER
19	Q	59	PRO
19	Q	61	LYS
19	Q	69	ILE
20	R	63	THR
21	S	26	LYS
21	S	88	TYR
22	T	16	SER
3	A	25	LEU
3	A	235	GLY
5	C	10	ASN
5	C	127	ASP
11	I	56	LEU
11	I	84	GLU
13	K	100	VAL
18	P	20	LEU
22	T	15	ASP
22	T	20	TYR
27	1	24	THR
27	1	34	LYS
27	1	46	LYS
3	A	152	LYS
4	B	29	GLY
4	B	202	ALA
5	C	22	VAL
5	C	128	ALA
7	E	165	VAL
7	E	173	ALA
8	F	120	VAL
9	G	67	ARG

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Mol	Chain	Res	Type
11	I	86	THR
11	I	88	PHE
15	M	28	ARG
16	N	8	ILE
17	O	66	GLY
19	Q	65	VAL
20	R	6	ALA
3	A	61	ARG
5	C	68	ARG
17	O	15	SER
20	R	26	SER
9	G	97	ASP
21	S	33	ALA
26	Z	7	PRO
29	3	13	ARG
6	D	146	VAL
9	G	163	PRO
20	R	98	ILE
3	A	48	GLY
7	E	7	GLN
9	G	52	GLY
11	I	19	VAL
11	I	68	VAL
20	R	108	VAL
23	U	14	VAL
23	U	18	VAL
5	C	172	VAL
11	I	114	ILE
23	U	41	VAL
4	B	14	ILE

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%)	180 (93%)	14 (7%)	14 45

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	B	155/157 (99%)	147 (95%)	8 (5%)	23	55
5	C	154/163 (94%)	146 (95%)	8 (5%)	23	55
6	D	152/156 (97%)	151 (99%)	1 (1%)	84	93
7	E	136/144 (94%)	135 (99%)	1 (1%)	84	93
8	F	46/107 (43%)	46 (100%)	0	100	100
9	G	118/146 (81%)	111 (94%)	7 (6%)	19	52
10	H	103/103 (100%)	100 (97%)	3 (3%)	42	71
11	I	100/121 (83%)	93 (93%)	7 (7%)	15	46
12	J	110/115 (96%)	106 (96%)	4 (4%)	35	66
13	K	90/93 (97%)	85 (94%)	5 (6%)	21	53
14	L	74/82 (90%)	70 (95%)	4 (5%)	22	54
15	M	94/134 (70%)	90 (96%)	4 (4%)	29	61
16	N	96/97 (99%)	94 (98%)	2 (2%)	53	78
17	O	75/79 (95%)	73 (97%)	2 (3%)	44	73
18	P	108/115 (94%)	107 (99%)	1 (1%)	78	91
19	Q	73/76 (96%)	69 (94%)	4 (6%)	21	53
20	R	91/96 (95%)	83 (91%)	8 (9%)	10	36
21	S	149/192 (78%)	146 (98%)	3 (2%)	55	79
22	T	55/67 (82%)	54 (98%)	1 (2%)	59	81
23	U	54/66 (82%)	51 (94%)	3 (6%)	21	53
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%)	50 (98%)	1 (2%)	55	79
27	1	46/48 (96%)	36 (78%)	10 (22%)	1	4
28	2	39/40 (98%)	34 (87%)	5 (13%)	4	20
29	3	46/52 (88%)	41 (89%)	5 (11%)	6	27
30	4	35/35 (100%)	35 (100%)	0	100	100
All	All	2545/2855 (89%)	2434 (96%)	111 (4%)	28	61

All (111) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	34	LEU

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Mol	Chain	Res	Type
3	A	44	ARG
3	A	49	ARG
3	A	55	ILE
3	A	69	LYS
3	A	126	PRO
3	A	150	PRO
3	A	156	LEU
3	A	165	GLN
3	A	199	ASN
3	A	209	LYS
3	A	219	LYS
3	A	245	ARG
3	A	246	VAL
4	B	27	LEU
4	B	86	PRO
4	B	87	ASP
4	B	143	GLN
4	B	146	THR
4	B	147	PRO
4	B	150	VAL
4	B	184	VAL
5	C	10	ASN
5	C	22	VAL
5	C	62	LYS
5	C	91	TYR
5	C	153	ASP
5	C	162	ARG
5	C	163	ASN
5	C	176	ASN
6	D	80	ARG
7	E	84	THR
9	G	32	TYR
9	G	37	ASP
9	G	38	GLU
9	G	111	LYS
9	G	112	THR
9	G	113	GLU
9	G	154	GLU
10	H	1	MET
10	H	21	CYS
10	H	23	ARG
11	I	17	LYS

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Mol	Chain	Res	Type
11	I	32	ARG
11	I	45	LYS
11	I	48	PHE
11	I	49	PHE
11	I	59	ARG
11	I	88	PHE
12	J	64	LYS
12	J	103	VAL
12	J	135	ARG
12	J	139	ASP
13	K	3	HIS
13	K	5	LYS
13	K	36	THR
13	K	54	THR
13	K	94	TYR
14	L	42	ILE
14	L	60	LYS
14	L	89	PHE
14	L	91	ARG
15	M	5	ILE
15	M	28	ARG
15	M	31	ASP
15	M	103	LYS
16	N	22	LYS
16	N	63	GLN
17	O	28	GLU
17	O	91	THR
18	P	32	ARG
19	Q	7	LEU
19	Q	12	ILE
19	Q	57	ASN
19	Q	88	ILE
20	R	18	LYS
20	R	25	LEU
20	R	71	GLN
20	R	79	SER
20	R	83	LEU
20	R	84	VAL
20	R	85	ASP
20	R	112	LYS
21	S	13	LYS
21	S	34	LEU

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Mol	Chain	Res	Type
21	S	71	MET
22	T	15	ASP
23	U	32	ARG
23	U	61	TRP
23	U	78	ILE
26	Z	9	LYS
27	1	8	ILE
27	1	9	ILE
27	1	20	PHE
27	1	21	TYR
27	1	28	ARG
27	1	30	ASN
27	1	37	LEU
27	1	47	HIS
27	1	51	ARG
27	1	54	LYS
28	2	5	TYR
28	2	9	ASN
28	2	10	ARG
28	2	12	ARG
28	2	15	THR
29	3	31	HIS
29	3	39	ASP
29	3	46	LYS
29	3	49	VAL
29	3	52	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	97	HIS
3	A	130	ASN
3	A	232	HIS
4	B	129	HIS
5	C	98	GLN
6	D	37	ASN
6	D	127	ASN
7	E	111	HIS
9	G	73	ASN
9	G	169	GLN
10	H	46	HIS
12	J	46	ASN

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Mol	Chain	Res	Type
16	N	37	GLN
18	P	81	HIS
18	P	82	ASN
20	R	11	ASN
21	S	118	HIS
21	S	121	GLN
23	U	47	HIS
24	V	54	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2630/2880 (91%)	470 (17%)	73 (2%)
2	Y	119/123 (96%)	22 (18%)	0
All	All	2749/3003 (91%)	492 (17%)	73 (2%)

All (492) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	4	C
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	68	C
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
1	X	118	U

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Mol	Chain	Res	Type
1	X	123	A
1	X	124	A
1	X	129	A
1	X	136	A
1	X	155	G
1	X	158	A
1	X	173	A
1	X	174	A
1	X	177	U
1	X	178	C
1	X	182	G
1	X	183	U
1	X	193	A
1	X	199	A
1	X	205	A
1	X	206	U
1	X	210	A
1	X	219	G
1	X	225	G
1	X	226	C
1	X	242	A
1	X	245	C
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	358	C
1	X	399	G
1	X	400	U
1	X	411	C
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	463	C
1	X	467	U
1	X	469	G
1	X	491	A
1	X	492	G
1	X	497	C
1	X	515	A
1	X	518	A
1	X	519	C
1	X	526	C
1	X	537	C
1	X	538	A
1	X	539	A
1	X	541	C
1	X	542	A
1	X	543	G
1	X	554	U
1	X	556	A
1	X	557	U
1	X	558	G
1	X	559	C
1	X	572	G
1	X	581	A
1	X	583	C
1	X	584	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	631	G
1	X	632	A
1	X	633	G
1	X	636	G
1	X	648	A
1	X	649	G
1	X	652	C
1	X	654	A
1	X	655	A

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Mol	Chain	Res	Type
1	X	657	A
1	X	665	A
1	X	666	U
1	X	668	A
1	X	682	G
1	X	683	A
1	X	684	C
1	X	699	G
1	X	743	A
1	X	749	C
1	X	752	G
1	X	759	C
1	X	766	A
1	X	774	A
1	X	777	A
1	X	778	G
1	X	781	G
1	X	788	G
1	X	789	G
1	X	790	A
1	X	795	A
1	X	796	A
1	X	797	A
1	X	798	G
1	X	802	A
1	X	803	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	816	U
1	X	818	G
1	X	819	C
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	844	G
1	X	859	U
1	X	860	U
1	X	862	A
1	X	879	A
1	X	919	U

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Mol	Chain	Res	Type
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	955	G
1	X	956	A
1	X	957	G
1	X	969	U
1	X	970	A
1	X	972	C
1	X	984	A
1	X	985	G
1	X	994	A
1	X	995	A
1	X	996	C
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	1060	C
1	X	1070	G
1	X	1078	A
1	X	1079	G
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
1	X	1115	C
1	X	1119	U

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Mol	Chain	Res	Type
1	X	1123	G
1	X	1128	G
1	X	1129	A
1	X	1141	U
1	X	1142	G
1	X	1143	A
1	X	1145	C
1	X	1146	G
1	X	1152	C
1	X	1153	A
1	X	1167	A
1	X	1168	G
1	X	1183	C
1	X	1195	U
1	X	1220	G
1	X	1223	G
1	X	1224	A
1	X	1250	A
1	X	1262	U
1	X	1265	G
1	X	1266	G
1	X	1268	U
1	X	1269	G
1	X	1279	G
1	X	1284	G
1	X	1285	A
1	X	1288	A
1	X	1289	A
1	X	1299	A
1	X	1300	A
1	X	1313	U
1	X	1314	A
1	X	1325	U
1	X	1326	U
1	X	1331	G
1	X	1333	G
1	X	1334	A
1	X	1342	U
1	X	1359	G
1	X	1378	A
1	X	1381	G
1	X	1391	A

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Mol	Chain	Res	Type
1	X	1392	U
1	X	1393	G
1	X	1398	G
1	X	1413	U
1	X	1430	G
1	X	1432	G
1	X	1433	A
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	1467	U
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1473	U
1	X	1475	U
1	X	1476	G
1	X	1482	U
1	X	1490	U
1	X	1497	C
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	1582	A
1	X	1585	A
1	X	1601	U
1	X	1602	G
1	X	1608	U
1	X	1624	A
1	X	1625	A

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Mol	Chain	Res	Type
1	X	1626	A
1	X	1632	A
1	X	1635	G
1	X	1648	C
1	X	1657	A
1	X	1665	C
1	X	1668	G
1	X	1669	A
1	X	1681	A
1	X	1685	A
1	X	1689	U
1	X	1691	G
1	X	1692	C
1	X	1710	U
1	X	1712	G
1	X	1714	A
1	X	1716	G
1	X	1717	A
1	X	1735	G
1	X	1746	A
1	X	1747	G
1	X	1749	G
1	X	1750	A
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1765	C
1	X	1772	C
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	1808	C
1	X	1812	U
1	X	1825	C
1	X	1831	G
1	X	1842	G
1	X	1868	A
1	X	1884	A

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Mol	Chain	Res	Type
1	X	1910	A
1	X	1920	A
1	X	1922	U
1	X	1923	U
1	X	1924	C
1	X	1927	U
1	X	1928	G
1	X	1939	U
1	X	1946	U
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1964	A
1	X	1965	U
1	X	1975	G
1	X	1976	U
1	X	1979	C
1	X	1980	A
1	X	2005	U
1	X	2006	G
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	2038	C
1	X	2039	G
1	X	2043	A
1	X	2044	G
1	X	2045	A
1	X	2047	C
1	X	2052	G
1	X	2057	U
1	X	2075	U
1	X	2083	G
1	X	2171	U
1	X	2181	A
1	X	2190	A
1	X	2191	A

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Mol	Chain	Res	Type
1	X	2192	U
1	X	2195	C
1	X	2196	U
1	X	2199	C
1	X	2200	G
1	X	2205	C
1	X	2218	G
1	X	2230	G
1	X	2238	G
1	X	2242	C
1	X	2246	A
1	X	2247	A
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	2313	G
1	X	2316	G
1	X	2324	G
1	X	2326	C
1	X	2362	G
1	X	2363	G
1	X	2364	C
1	X	2386	G
1	X	2396	C
1	X	2402	U
1	X	2404	A
1	X	2405	A
1	X	2407	G
1	X	2408	G
1	X	2410	U
1	X	2420	C
1	X	2427	A
1	X	2428	U

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Mol	Chain	Res	Type
1	X	2452	U
1	X	2455	A
1	X	2458	U
1	X	2481	G
1	X	2482	A
1	X	2483	U
1	X	2484	G
1	X	2485	U
1	X	2486	C
1	X	2497	A
1	X	2498	U
1	X	2499	C
1	X	2545	A
1	X	2546	G
1	X	2552	C
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	2592	U
1	X	2602	G
1	X	2608	A
1	X	2609	G
1	X	2625	U
1	X	2634	G
1	X	2661	G
1	X	2668	U
1	X	2691	C
1	X	2692	A
1	X	2693	U
1	X	2700	U
1	X	2706	U
1	X	2707	G
1	X	2708	U
1	X	2709	C
1	X	2712	G
1	X	2713	A
1	X	2728	A
1	X	2730	A
1	X	2731	G

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Mol	Chain	Res	Type
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	2795	A
1	X	2796	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2825	A
1	X	2840	U
1	X	2841	U
1	X	2842	C
1	X	2843	A
1	X	2847	G
1	X	2850	U
1	X	2855	C
1	X	2858	A
1	X	2859	U
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	37	C
2	Y	43	G
2	Y	44	C
2	Y	46	G
2	Y	47	A
2	Y	59	A
2	Y	69	G
2	Y	71	G

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Mol	Chain	Res	Type
2	Y	84	G
2	Y	85	G
2	Y	93	G
2	Y	102	A
2	Y	110	U
2	Y	111	C
2	Y	112	A
2	Y	115	G

All (73) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	33	C
1	X	38	G
1	X	48	A
1	X	173	A
1	X	182	G
1	X	192	G
1	X	334	G
1	X	342	G
1	X	466	A
1	X	538	A
1	X	583	C
1	X	631	G
1	X	682	G
1	X	777	A
1	X	780	U
1	X	788	G
1	X	789	G
1	X	795	A
1	X	802	A
1	X	803	C
1	X	843	G
1	X	969	U
1	X	995	A
1	X	1006	C
1	X	1031	C
1	X	1053	G
1	X	1096	A
1	X	1141	U
1	X	1182	U
1	X	1223	G

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Mol	Chain	Res	Type
1	X	1261	G
1	X	1299	A
1	X	1313	U
1	X	1324	G
1	X	1337	G
1	X	1338	G
1	X	1391	A
1	X	1441	A
1	X	1442	C
1	X	1459	U
1	X	1496	G
1	X	1601	U
1	X	1607	A
1	X	1623	C
1	X	1634	A
1	X	1691	G
1	X	1749	G
1	X	1750	A
1	X	1790	G
1	X	1811	A
1	X	1923	U
1	X	1938	U
1	X	1975	G
1	X	2005	U
1	X	2015	G
1	X	2044	G
1	X	2204	A
1	X	2245	A
1	X	2312	A
1	X	2404	A
1	X	2409	A
1	X	2426	G
1	X	2427	A
1	X	2485	U
1	X	2581	A
1	X	2705	A
1	X	2708	U
1	X	2736	U
1	X	2756	A
1	X	2824	C
1	X	2841	U
1	X	2842	C

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Mol	Chain	Res	Type
1	X	2867	G

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 84 ligands modelled in this entry, 82 are monoatomic - leaving 2 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
32	LMA	X	2882	-	58,60,60	4.94	27 (46%)	75,90,90	1.30	6 (8%)
31	LC2	X	2881	-	29,34,34	1.82	6 (20%)	26,49,49	1.18	2 (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
32	LMA	X	2882	-	-	23/80/115/115	0/3/3/3
31	LC2	X	2881	-	-	5/33/61/61	0/0/2/2

All (33) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	X	2882	LMA	C30-C2	-19.81	1.10	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	X	2882	LMA	C2-C1	-16.96	1.13	1.51
32	X	2882	LMA	O53-C8	-10.28	1.25	1.43
32	X	2882	LMA	O2-C13	8.48	1.57	1.44
32	X	2882	LMA	C35-C12	-8.25	1.36	1.53
32	X	2882	LMA	C33-C8	-7.33	1.41	1.52
32	X	2882	LMA	C7-C6	-7.27	1.43	1.54
32	X	2882	LMA	C19-C16	-6.13	1.38	1.52
32	X	2882	LMA	C32-C6	-6.04	1.38	1.53
32	X	2882	LMA	C8-C9	-5.89	1.41	1.54
31	X	2881	LC2	C31-C2	-5.70	1.39	1.50
32	X	2882	LMA	C16-C17	-5.29	1.41	1.53
32	X	2882	LMA	O5-C16	-5.25	1.33	1.44
32	X	2882	LMA	C40-C23	-4.82	1.43	1.53
32	X	2882	LMA	O55-C54	4.80	1.38	1.20
32	X	2882	LMA	C6-C5	4.53	1.61	1.53
32	X	2882	LMA	O52-C51	4.43	1.37	1.20
32	X	2882	LMA	O51-C17	-4.21	1.37	1.45
32	X	2882	LMA	O2-C1	3.77	1.43	1.34
32	X	2882	LMA	C2-C3	3.73	1.63	1.55
32	X	2882	LMA	C12-C13	-3.70	1.44	1.54
32	X	2882	LMA	O17-C24	3.16	1.51	1.43
31	X	2881	LC2	C4-C5	3.03	1.39	1.32
31	X	2881	LC2	C4-C3	-3.02	1.39	1.45
31	X	2881	LC2	C28-C29	3.02	1.39	1.32
31	X	2881	LC2	C28-C27	-2.99	1.39	1.45
32	X	2882	LMA	O3-C3	2.74	1.51	1.43
32	X	2882	LMA	O4-C18	2.24	1.49	1.44
32	X	2882	LMA	C4-C5	2.17	1.59	1.54
32	X	2882	LMA	C15-C16	2.15	1.57	1.52
32	X	2882	LMA	O12-C54	2.08	1.39	1.35
31	X	2881	LC2	C2-C3	2.03	1.39	1.33
32	X	2882	LMA	O7-C5	2.02	1.49	1.43

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	X	2882	LMA	O12-C54-C56	4.58	119.51	111.09
32	X	2882	LMA	O51-C51-C53	4.53	119.42	111.09
32	X	2882	LMA	O7-C5-C4	3.89	112.91	108.22
32	X	2882	LMA	C3-C2-C1	-2.75	104.39	110.01
32	X	2882	LMA	C25-C24-C23	-2.46	106.52	113.08
31	X	2881	LC2	C6-C5-C4	-2.25	119.94	125.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	X	2881	LC2	C30-C29-C28	-2.18	120.10	125.19
32	X	2882	LMA	O12-C11-C10	2.01	111.10	107.55

There are no chirality outliers.

All (28) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
32	X	2882	LMA	C3-C4-C5-C6
32	X	2882	LMA	C3-C4-C5-O7
32	X	2882	LMA	C31-C4-C5-C6
32	X	2882	LMA	C12-C11-O12-C54
32	X	2882	LMA	O55-C54-O12-C11
32	X	2882	LMA	C12-C13-C36-C57
32	X	2882	LMA	C23-C24-O17-C29
32	X	2882	LMA	C13-C36-C57-O57
32	X	2882	LMA	C13-C36-C57-C58
32	X	2882	LMA	C37-C36-C57-O57
32	X	2882	LMA	C37-C36-C57-C58
32	X	2882	LMA	O52-C51-O51-C17
32	X	2882	LMA	C53-C51-O51-C17
31	X	2881	LC2	C12-C23-C26-C27
32	X	2882	LMA	C56-C54-O12-C11
32	X	2882	LMA	C31-C4-C5-O7
32	X	2882	LMA	O2-C13-C36-C57
32	X	2882	LMA	C10-C11-O12-C54
31	X	2881	LC2	C4-C5-C6-O4
31	X	2881	LC2	C4-C5-C6-C7
31	X	2881	LC2	C28-C29-C30-C31
32	X	2882	LMA	C6-C7-C8-C9
32	X	2882	LMA	O2-C13-C36-C37
32	X	2882	LMA	O9-C22-O7-C5
32	X	2882	LMA	C12-C13-C36-C37
32	X	2882	LMA	C6-C7-C8-C33
31	X	2881	LC2	N1-C23-C26-C27
32	X	2882	LMA	C6-C7-C8-O53

There are no ring outliers.

2 monomers are involved in 61 short contacts:

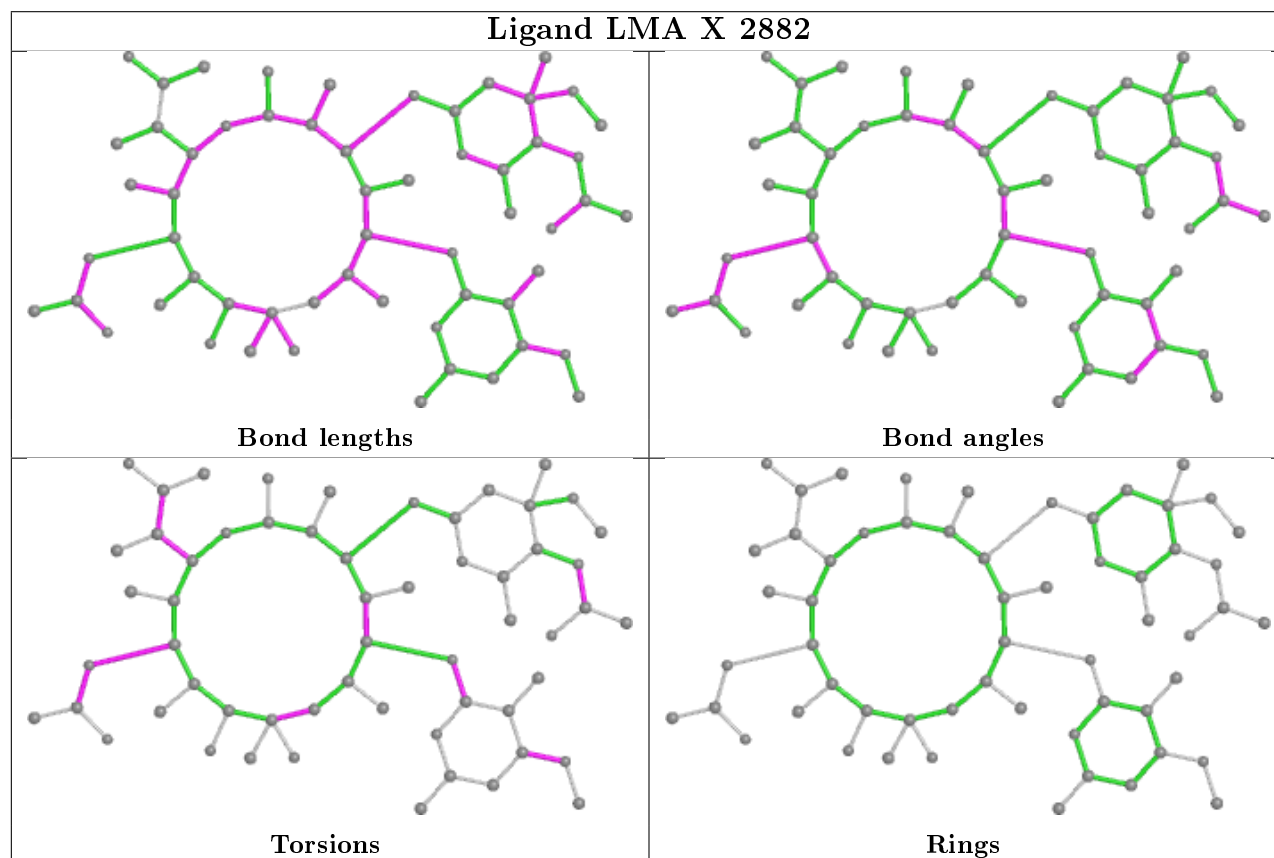
Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	X	2882	LMA	43	0

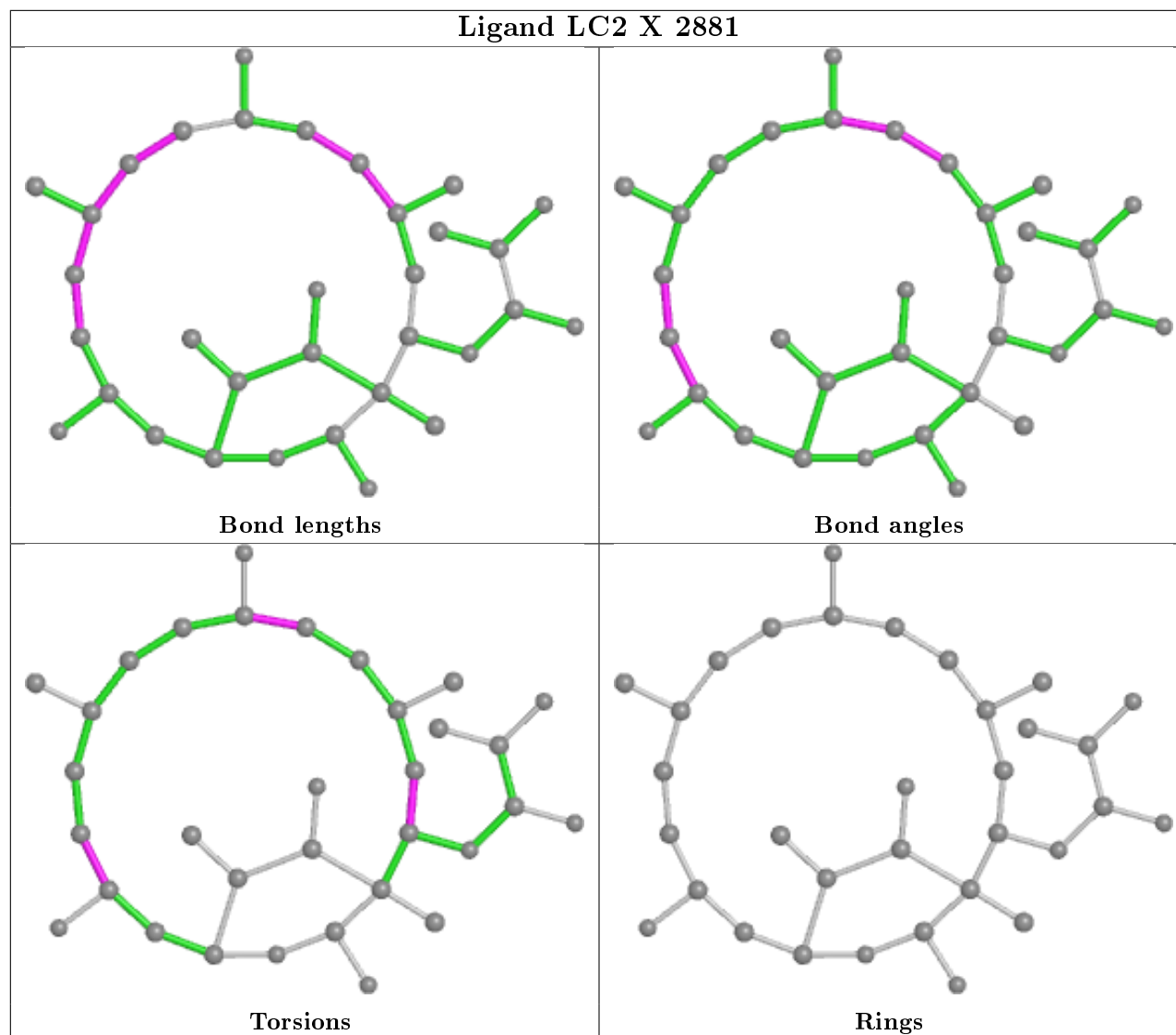
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	X	2881	LC2	18	0

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





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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	2644/2880 (91%)	0.10	83 (3%) 49 47	44, 115, 240, 575	0
2	Y	120/123 (97%)	-0.13	3 (2%) 57 54	108, 183, 252, 342	0
3	A	253/274 (92%)	1.01	53 (20%) 1 1	66, 158, 225, 423	0
4	B	205/211 (97%)	0.25	8 (3%) 39 38	35, 85, 159, 249	0
5	C	194/205 (94%)	0.03	10 (5%) 27 27	61, 142, 250, 381	0
6	D	177/180 (98%)	1.98	77 (43%) 0 0	174, 255, 358, 427	0
7	E	171/185 (92%)	0.32	14 (8%) 11 14	87, 183, 269, 354	0
8	F	63/144 (43%)	5.03	60 (95%) 0 0	208, 334, 476, 516	0
9	G	142/174 (81%)	0.65	21 (14%) 2 3	73, 126, 257, 421	0
10	H	134/134 (100%)	-0.20	1 (0%) 87 85	39, 71, 135, 248	0
11	I	134/156 (85%)	0.89	31 (23%) 0 0	75, 168, 261, 375	0
12	J	136/141 (96%)	0.93	26 (19%) 1 1	76, 135, 223, 388	0
13	K	113/116 (97%)	0.01	1 (0%) 84 81	32, 61, 101, 128	0
14	L	104/114 (91%)	0.36	13 (12%) 3 6	134, 193, 300, 325	0
15	M	108/166 (65%)	-0.06	2 (1%) 66 64	32, 73, 138, 298	0
16	N	117/118 (99%)	0.47	12 (10%) 6 9	57, 116, 177, 328	0
17	O	94/100 (94%)	0.72	16 (17%) 1 2	82, 145, 271, 322	0
18	P	126/134 (94%)	-0.19	1 (0%) 86 82	33, 84, 149, 226	0
19	Q	93/95 (97%)	1.34	25 (26%) 0 0	86, 134, 245, 329	0
20	R	110/115 (95%)	2.29	53 (48%) 0 0	93, 166, 332, 423	0
21	S	175/237 (73%)	0.79	31 (17%) 1 2	130, 202, 285, 326	0
22	T	74/91 (81%)	1.54	23 (31%) 0 0	112, 141, 201, 284	0
23	U	72/81 (88%)	1.55	19 (26%) 0 0	119, 188, 304, 349	0
24	V	65/67 (97%)	0.39	6 (9%) 9 11	116, 175, 235, 292	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	W	55/55 (100%)	0.93	12 (21%) 0 1	97, 126, 181, 194	0
26	Z	57/60 (95%)	-0.23	1 (1%) 68 65	44, 79, 182, 234	0
27	1	53/55 (96%)	2.99	34 (64%) 0 0	126, 192, 295, 403	0
28	2	46/47 (97%)	0.68	5 (10%) 5 8	72, 123, 258, 308	0
29	3	59/66 (89%)	4.22	52 (88%) 0 0	139, 213, 356, 435	0
30	4	37/37 (100%)	7.32	33 (89%) 0 0	152, 219, 307, 382	0
All	All	5931/6561 (90%)	0.55	726 (12%) 4 6	32, 131, 276, 575	0

All (726) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	U	28	GLY	23.8
8	F	113	PRO	15.2
30	4	28	SER	14.4
30	4	1	MET	13.8
30	4	24	LEU	13.8
30	4	15	LYS	12.8
30	4	34	GLN	12.3
30	4	25	VAL	11.7
8	F	110	THR	11.6
8	F	94	ALA	11.6
30	4	17	VAL	11.5
30	4	16	VAL	11.0
30	4	29	ASN	10.4
8	F	111	LYS	10.3
8	F	99	LEU	10.1
30	4	7	VAL	9.8
20	R	100	ASP	9.6
30	4	21	GLY	9.5
8	F	92	ASN	9.2
20	R	102	LYS	9.1
29	3	10	ALA	9.0
8	F	114	ASP	8.9
21	S	92	VAL	8.9
6	D	82	GLY	8.8
29	3	37	SER	8.7
27	1	27	ASN	8.4
29	3	33	ASN	8.3
30	4	36	GLN	8.3
8	F	90	THR	8.2

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Mol	Chain	Res	Type	RSRZ
27	1	23	THR	8.2
29	3	7	HIS	8.1
8	F	95	LYS	8.1
8	F	136	VAL	8.1
30	4	26	ILE	8.0
24	V	66	GLN	8.0
12	J	141	ALA	8.0
29	3	63	PRO	8.0
3	A	251	TRP	7.9
8	F	78	ILE	7.9
3	A	255	THR	7.9
8	F	127	VAL	7.8
30	4	2	LYS	7.8
8	F	125	ASN	7.7
30	4	12	ASP	7.7
30	4	13	ASN	7.5
27	1	6	PRO	7.5
8	F	77	LEU	7.5
29	3	38	GLY	7.5
29	3	20	GLY	7.4
29	3	16	ILE	7.3
27	1	47	HIS	7.2
3	A	250	PRO	7.2
30	4	3	VAL	7.1
29	3	9	MET	7.0
29	3	60	LEU	6.9
1	X	2190	A	6.8
20	R	83	LEU	6.7
30	4	33	LYS	6.6
8	F	112	MET	6.6
12	J	133	VAL	6.6
30	4	10	MET	6.5
22	T	73	GLY	6.5
30	4	37	GLY	6.5
3	A	220	PRO	6.5
12	J	21	ASP	6.4
6	D	67	ILE	6.4
30	4	11	CYS	6.4
30	4	35	ARG	6.4
6	D	11	GLN	6.4
6	D	34	ILE	6.3
30	4	20	HIS	6.3

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Mol	Chain	Res	Type	RSRZ
3	A	152	LYS	6.3
23	U	27	ASP	6.3
8	F	89	SER	6.2
8	F	84	ILE	6.2
20	R	82	ALA	6.2
1	X	1089	C	6.2
27	1	35	LEU	6.1
6	D	85	VAL	6.1
27	1	13	GLU	6.1
30	4	9	LYS	6.0
30	4	22	ARG	6.0
1	X	1086	C	6.0
27	1	24	THR	5.9
11	I	61	PRO	5.9
30	4	14	CYS	5.8
17	O	41	GLY	5.8
20	R	77	HIS	5.8
29	3	40	GLU	5.8
1	X	1114	A	5.7
27	1	40	TYR	5.7
29	3	28	GLY	5.7
20	R	112	LYS	5.7
6	D	93	GLY	5.7
8	F	76	TYR	5.7
30	4	18	ARG	5.7
29	3	14	ILE	5.7
6	D	83	MET	5.7
7	E	46	ASP	5.7
30	4	27	CYS	5.7
29	3	27	SER	5.6
27	1	31	THR	5.6
3	A	57	GLY	5.5
8	F	109	LYS	5.5
6	D	74	ILE	5.5
7	E	37	TYR	5.4
6	D	103	LEU	5.4
8	F	107	ILE	5.4
21	S	69	VAL	5.4
20	R	31	GLY	5.4
8	F	93	LYS	5.3
21	S	94	VAL	5.3
8	F	105	LEU	5.3

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Mol	Chain	Res	Type	RSRZ
21	S	74	ARG	5.2
8	F	104	VAL	5.2
21	S	68	ALA	5.2
6	D	86	GLY	5.2
6	D	81	GLN	5.2
19	Q	27	PHE	5.2
23	U	47	HIS	5.2
8	F	98	LYS	5.1
27	1	14	SER	5.1
2	Y	43	G	5.1
29	3	29	LYS	5.1
27	1	32	GLN	5.1
20	R	81	VAL	5.0
22	T	71	ASN	5.0
22	T	72	LYS	5.0
20	R	46	VAL	5.0
20	R	4	PRO	5.0
29	3	17	THR	5.0
8	F	102	ASP	4.9
23	U	29	GLY	4.9
29	3	8	LYS	4.9
3	A	243	ALA	4.9
9	G	97	ASP	4.9
6	D	169	LEU	4.9
3	A	242	GLY	4.9
29	3	55	TRP	4.9
28	2	40	HIS	4.9
6	D	91	LEU	4.9
6	D	105	ASN	4.9
1	X	1115	C	4.9
11	I	60	LEU	4.9
8	F	128	ALA	4.8
6	D	140	GLU	4.8
1	X	1734	C	4.8
3	A	204	ASN	4.8
1	X	871	U	4.8
14	L	52	ALA	4.8
3	A	73	LYS	4.7
1	X	665	A	4.7
6	D	127	ASN	4.7
16	N	105	ALA	4.7
8	F	91	PRO	4.7

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Mol	Chain	Res	Type	RSRZ
1	X	1063	C	4.7
8	F	130	THR	4.7
20	R	74	LEU	4.7
23	U	62	LEU	4.7
29	3	54	GLU	4.7
29	3	45	GLY	4.7
9	G	68	PRO	4.7
6	D	138	PHE	4.7
20	R	52	ASN	4.7
19	Q	48	VAL	4.6
20	R	75	ALA	4.6
17	O	74	TYR	4.6
25	W	14	GLY	4.6
6	D	89	VAL	4.6
29	3	21	LYS	4.6
29	3	12	ARG	4.6
27	1	51	ARG	4.5
17	O	64	GLY	4.5
22	T	47	ALA	4.5
24	V	33	ALA	4.5
29	3	61	MET	4.5
9	G	34	PRO	4.5
29	3	31	HIS	4.5
1	X	1098	G	4.5
29	3	41	ILE	4.5
20	R	12	ASP	4.5
29	3	46	LYS	4.5
11	I	54	SER	4.5
30	4	32	HIS	4.5
1	X	1095	A	4.5
6	D	36	VAL	4.4
14	L	12	ARG	4.4
19	Q	64	ARG	4.4
29	3	23	MET	4.4
20	R	99	VAL	4.4
6	D	156	ILE	4.4
3	A	256	LYS	4.4
12	J	60	ARG	4.4
6	D	3	GLN	4.4
30	4	19	ARG	4.4
1	X	1085	G	4.3
9	G	156	HIS	4.3

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Mol	Chain	Res	Type	RSRZ
27	1	12	MET	4.3
6	D	88	LYS	4.3
29	3	30	ARG	4.3
8	F	87	GLY	4.3
19	Q	62	ARG	4.3
8	F	106	GLU	4.3
27	1	25	THR	4.2
1	X	1087	C	4.2
14	L	14	ARG	4.2
30	4	23	VAL	4.2
7	E	168	GLN	4.2
12	J	20	GLY	4.2
6	D	69	LYS	4.2
8	F	80	LYS	4.2
19	Q	49	ARG	4.2
29	3	13	ARG	4.2
1	X	424	G	4.1
3	A	260	THR	4.1
19	Q	50	VAL	4.1
22	T	15	ASP	4.1
9	G	107	GLN	4.1
8	F	133	SER	4.1
20	R	9	HIS	4.1
19	Q	39	LYS	4.0
20	R	57	ASN	4.0
8	F	123	ALA	4.0
6	D	141	ILE	4.0
27	1	2	ALA	4.0
23	U	75	TYR	4.0
8	F	81	ALA	4.0
20	R	6	ALA	4.0
3	A	254	PRO	4.0
1	X	1088	A	4.0
6	D	99	PHE	4.0
6	D	126	GLY	4.0
29	3	53	ALA	4.0
28	2	38	GLY	3.9
3	A	192	ALA	3.9
6	D	35	VAL	3.9
7	E	41	LEU	3.9
9	G	109	GLY	3.9
6	D	145	MET	3.9

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Mol	Chain	Res	Type	RSRZ
6	D	94	GLU	3.9
17	O	39	PHE	3.9
29	3	22	VAL	3.9
27	1	50	PHE	3.9
29	3	6	THR	3.9
29	3	11	LYS	3.9
3	A	114	VAL	3.9
1	X	248	A	3.9
8	F	120	VAL	3.9
20	R	35	LYS	3.9
27	1	26	LYS	3.9
8	F	129	GLY	3.9
8	F	132	ARG	3.9
20	R	76	LEU	3.8
12	J	114	GLN	3.8
20	R	43	ASP	3.8
29	3	48	PHE	3.8
3	A	56	GLY	3.8
22	T	43	THR	3.8
20	R	25	LEU	3.8
22	T	20	TYR	3.8
6	D	154	ILE	3.8
22	T	59	LEU	3.8
22	T	55	ARG	3.8
8	F	88	SER	3.8
29	3	44	LYS	3.7
25	W	13	PRO	3.7
12	J	103	VAL	3.7
27	1	45	LYS	3.7
21	S	15	ASP	3.7
20	R	41	PRO	3.7
21	S	34	LEU	3.6
5	C	45	THR	3.6
27	1	15	SER	3.6
20	R	38	LEU	3.6
20	R	87	GLU	3.6
22	T	22	GLY	3.6
21	S	70	GLN	3.6
29	3	36	LYS	3.6
16	N	87	ASN	3.6
1	X	1074	G	3.6
8	F	126	THR	3.6

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Mol	Chain	Res	Type	RSRZ
23	U	13	LEU	3.6
11	I	74	VAL	3.6
8	F	101	TRP	3.6
3	A	271	ILE	3.6
8	F	134	MET	3.6
1	X	2326	C	3.6
23	U	46	LEU	3.6
1	X	1069	G	3.6
19	Q	65	VAL	3.6
8	F	131	ALA	3.6
8	F	79	ARG	3.5
6	D	31	ILE	3.5
21	S	91	PRO	3.5
1	X	1552	C	3.5
1	X	90	G	3.5
6	D	108	LEU	3.5
12	J	22	ALA	3.5
20	R	101	GLY	3.5
21	S	123	VAL	3.5
8	F	74	MET	3.5
3	A	221	HIS	3.5
19	Q	3	HIS	3.5
21	S	71	MET	3.5
1	X	1733	U	3.5
29	3	26	LYS	3.5
20	R	58	VAL	3.5
1	X	1101	U	3.5
2	Y	14	C	3.5
6	D	66	ILE	3.5
3	A	246	VAL	3.5
20	R	13	LYS	3.5
27	1	11	LYS	3.5
27	1	5	GLY	3.5
14	L	11	LEU	3.4
8	F	108	ALA	3.4
21	S	79	ILE	3.4
6	D	20	PHE	3.4
6	D	175	LEU	3.4
17	O	47	PHE	3.4
1	X	558	G	3.4
22	T	45	PHE	3.4
1	X	1068	A	3.4

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Mol	Chain	Res	Type	RSRZ
3	A	81	ALA	3.4
1	X	1091	C	3.4
22	T	38	VAL	3.4
19	Q	47	GLY	3.4
6	D	146	VAL	3.4
8	F	86	LYS	3.4
11	I	63	ARG	3.4
12	J	68	ARG	3.4
27	1	38	LYS	3.4
1	X	1099	A	3.3
11	I	62	LYS	3.3
11	I	100	ARG	3.3
20	R	60	PRO	3.3
1	X	1077	U	3.3
6	D	60	ILE	3.3
30	4	30	VAL	3.3
20	R	29	HIS	3.3
20	R	33	THR	3.3
20	R	94	VAL	3.3
27	1	8	ILE	3.3
27	1	52	GLU	3.3
23	U	12	ASN	3.3
21	S	114	ASP	3.3
4	B	205	SER	3.2
7	E	167	GLU	3.2
12	J	140	GLU	3.2
21	S	14	LEU	3.2
1	X	100	G	3.2
8	F	96	VAL	3.2
6	D	53	ALA	3.2
29	3	42	ARG	3.2
8	F	82	ALA	3.2
27	1	22	TYR	3.2
22	T	41	ARG	3.2
6	D	147	ASP	3.2
28	2	41	GLN	3.2
22	T	46	LYS	3.2
9	G	100	TYR	3.2
6	D	84	PRO	3.2
21	S	76	ARG	3.1
1	X	1064	C	3.1
17	O	23	GLU	3.1

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Mol	Chain	Res	Type	RSRZ
6	D	173	MET	3.1
22	T	53	MET	3.1
1	X	1120	C	3.1
21	S	23	ALA	3.1
3	A	103	LYS	3.1
1	X	1090	C	3.1
12	J	32	ASP	3.1
20	R	103	LYS	3.1
24	V	37	LEU	3.1
21	S	109	GLN	3.1
3	A	244	GLY	3.1
20	R	14	LEU	3.1
7	E	47	GLY	3.1
17	O	11	GLN	3.1
29	3	39	ASP	3.0
21	S	93	GLU	3.0
21	S	19	ILE	3.0
29	3	32	GLN	3.0
17	O	36	LYS	3.0
20	R	30	LYS	3.0
1	X	2313	G	3.0
3	A	72	ASP	3.0
14	L	34	SER	3.0
21	S	1	MET	3.0
30	4	8	LYS	3.0
20	R	21	THR	3.0
27	1	48	VAL	3.0
6	D	170	LEU	3.0
23	U	45	ASN	3.0
3	A	153	GLY	2.9
6	D	165	GLU	3.0
12	J	37	ALA	2.9
25	W	9	VAL	2.9
1	X	1062	G	2.9
6	D	6	THR	2.9
6	D	90	THR	2.9
29	3	49	VAL	2.9
8	F	97	GLY	2.9
25	W	53	VAL	2.9
17	O	80	TYR	2.9
24	V	32	ALA	2.9
3	A	45	ASN	2.9

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Mol	Chain	Res	Type	RSRZ
6	D	73	SER	2.9
4	B	34	VAL	2.9
1	X	398	C	2.9
20	R	17	LYS	2.9
21	S	40	ASP	2.9
3	A	247	PRO	2.9
9	G	159	SER	2.9
8	F	83	GLY	2.9
20	R	16	PHE	2.9
6	D	71	LYS	2.9
1	X	304	A	2.9
3	A	76	VAL	2.9
8	F	119	SER	2.9
8	F	121	GLU	2.9
6	D	157	VAL	2.8
25	W	17	VAL	2.8
1	X	341	A	2.8
6	D	62	LEU	2.8
6	D	150	ARG	2.8
19	Q	43	GLN	2.8
29	3	15	LYS	2.8
23	U	25	ARG	2.8
25	W	7	ARG	2.8
8	F	103	GLN	2.8
11	I	66	ASN	2.8
11	I	44	GLY	2.8
9	G	99	VAL	2.8
20	R	42	ARG	2.8
1	X	1070	G	2.8
19	Q	56	MET	2.8
1	X	2188	A	2.8
3	A	102	GLU	2.8
11	I	103	ASN	2.8
9	G	67	ARG	2.8
29	3	51	ALA	2.8
1	X	2664	G	2.8
4	B	72	VAL	2.8
20	R	23	ILE	2.8
12	J	23	LYS	2.8
1	X	1397	A	2.8
20	R	98	ILE	2.8
6	D	75	SER	2.8

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Mol	Chain	Res	Type	RSRZ
8	F	75	SER	2.8
14	L	93	SER	2.8
6	D	142	THR	2.8
5	C	166	TRP	2.8
11	I	53	ARG	2.8
17	O	42	GLY	2.8
21	S	119	ASN	2.8
1	X	2276	C	2.8
12	J	132	MET	2.7
6	D	92	ARG	2.7
16	N	88	ILE	2.7
20	R	71	GLN	2.7
1	X	514	G	2.7
1	X	1102	G	2.7
1	X	2298	U	2.7
6	D	56	GLU	2.7
12	J	36	ILE	2.7
24	V	65	GLU	2.7
29	3	43	GLY	2.7
29	3	50	LEU	2.7
11	I	57	ILE	2.7
8	F	118	GLY	2.7
20	R	18	LYS	2.7
11	I	79	GLN	2.7
3	A	86	ASP	2.7
1	X	519	C	2.7
19	Q	10	PRO	2.7
23	U	34	THR	2.6
12	J	84	MET	2.6
19	Q	66	GLY	2.6
16	N	92	ARG	2.6
19	Q	78	ALA	2.6
23	U	16	ASN	2.6
1	X	1092	U	2.6
20	R	59	LYS	2.6
6	D	132	ILE	2.6
12	J	119	PHE	2.6
11	I	36	GLY	2.6
6	D	97	TYR	2.6
16	N	65	ILE	2.6
21	S	124	ALA	2.6
4	B	78	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
19	Q	63	LYS	2.6
3	A	151	GLY	2.6
7	E	15	VAL	2.6
7	E	17	VAL	2.6
11	I	67	ASN	2.6
3	A	272	VAL	2.6
1	X	2312	A	2.6
6	D	72	LYS	2.6
11	I	76	LYS	2.6
3	A	261	ARG	2.6
20	R	48	VAL	2.6
6	D	125	ARG	2.6
12	J	113	GLU	2.6
14	L	13	THR	2.6
5	C	48	ARG	2.6
11	I	21	ARG	2.6
22	T	67	VAL	2.6
20	R	72	ARG	2.6
19	Q	46	PHE	2.6
19	Q	86	GLN	2.6
27	1	4	ASP	2.6
27	1	36	GLU	2.6
17	O	46	VAL	2.6
9	G	110	LEU	2.6
21	S	120	LEU	2.6
23	U	79	GLU	2.6
29	3	52	LYS	2.6
16	N	79	PHE	2.5
1	X	2325	A	2.5
9	G	53	ARG	2.5
20	R	19	GLY	2.5
29	3	62	LEU	2.5
6	D	158	THR	2.5
12	J	105	PHE	2.5
25	W	3	ILE	2.5
4	B	159	HIS	2.5
8	F	122	ALA	2.5
11	I	64	GLY	2.5
22	T	26	PHE	2.5
12	J	100	PRO	2.5
19	Q	94	GLN	2.5
5	C	112	GLN	2.5

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Mol	Chain	Res	Type	RSRZ
29	3	19	THR	2.5
1	X	1093	U	2.5
4	B	1	MET	2.5
1	X	1224	A	2.5
19	Q	87	SER	2.5
22	T	57	HIS	2.5
25	W	50	LEU	2.5
3	A	39	PRO	2.5
14	L	10	LYS	2.5
3	A	189	GLU	2.5
5	C	180	ILE	2.5
27	1	30	ASN	2.5
6	D	87	ILE	2.5
19	Q	53	ILE	2.5
27	1	7	ARG	2.5
11	I	33	GLY	2.4
16	N	96	ALA	2.4
3	A	112	LEU	2.4
9	G	108	GLY	2.4
17	O	9	GLY	2.4
1	X	2381	A	2.4
23	U	35	THR	2.4
3	A	96	LEU	2.4
11	I	49	PHE	2.4
11	I	72	TYR	2.4
1	X	1841	G	2.4
1	X	1065	A	2.4
9	G	98	LYS	2.4
12	J	38	MET	2.4
27	1	28	ARG	2.4
11	I	65	PHE	2.4
16	N	63	GLN	2.4
6	D	96	MET	2.4
6	D	130	LEU	2.4
14	L	68	ALA	2.4
4	B	71	GLY	2.4
1	X	2263	C	2.4
1	X	1840	A	2.4
6	D	172	SER	2.4
6	D	30	ARG	2.4
6	D	4	LEU	2.4
8	F	100	ASN	2.4

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Mol	Chain	Res	Type	RSRZ
6	D	33	LYS	2.4
9	G	69	ASP	2.4
14	L	62	GLY	2.4
21	S	72	ASP	2.4
6	D	100	LEU	2.4
1	X	1884	A	2.4
14	L	40	ALA	2.4
8	F	85	GLY	2.4
23	U	26	ALA	2.4
4	B	135	HIS	2.4
19	Q	51	ILE	2.4
5	C	19	LEU	2.4
27	1	49	VAL	2.4
1	X	209	G	2.4
29	3	25	PHE	2.4
5	C	47	THR	2.4
22	T	77	ARG	2.3
5	C	55	GLY	2.3
22	T	42	GLY	2.3
16	N	64	ARG	2.3
1	X	1100	G	2.3
8	F	135	GLY	2.3
12	J	63	GLY	2.3
21	S	169	VAL	2.3
1	X	1548	U	2.3
11	I	51	GLY	2.3
1	X	559	C	2.3
1	X	1111	C	2.3
2	Y	18	G	2.3
10	H	27	SER	2.3
11	I	122	VAL	2.3
21	S	173	PRO	2.3
7	E	55	PRO	2.3
6	D	38	GLU	2.3
11	I	104	ARG	2.3
17	O	75	LYS	2.3
21	S	20	ALA	2.3
11	I	105	PRO	2.3
28	2	34	ARG	2.3
27	1	9	ILE	2.3
1	X	2299	A	2.3
25	W	22	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	X	1073	G	2.3
6	D	25	VAL	2.3
6	D	129	ASN	2.3
1	X	2189	A	2.3
15	M	107	LEU	2.3
20	R	8	SER	2.3
3	A	191	TYR	2.3
7	E	83	TYR	2.3
14	L	96	TYR	2.3
1	X	1409	U	2.3
29	3	34	THR	2.3
5	C	105	ALA	2.3
9	G	129	HIS	2.3
12	J	107	VAL	2.3
23	U	30	VAL	2.3
7	E	42	THR	2.2
8	F	115	LEU	2.2
1	X	1094	C	2.2
1	X	1421	U	2.2
1	X	1801	C	2.2
3	A	63	TYR	2.2
6	D	70	ALA	2.2
11	I	46	GLY	2.2
11	I	47	ALA	2.2
17	O	63	HIS	2.2
17	O	73	LYS	2.2
9	G	105	GLY	2.2
20	R	32	GLN	2.2
3	A	263	LYS	2.2
1	X	247	A	2.2
1	X	2265	A	2.2
11	I	81	GLN	2.2
22	T	19	LYS	2.2
3	A	264	ARG	2.2
3	A	98	TYR	2.2
23	U	10	LYS	2.2
9	G	44	VAL	2.2
11	I	16	ARG	2.2
3	A	85	TYR	2.2
3	A	273	THR	2.2
12	J	18	MET	2.2
22	T	14	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
29	3	58	MET	2.2
19	Q	37	GLU	2.2
6	D	22	TYR	2.2
11	I	91	ASP	2.2
1	X	2085	G	2.2
1	X	2311	U	2.2
6	D	109	PRO	2.2
3	A	199	ASN	2.2
7	E	13	SER	2.2
16	N	47	TYR	2.2
12	J	104	MET	2.2
15	M	40	ARG	2.2
24	V	34	ALA	2.2
1	X	2663	U	2.2
12	J	72	ASP	2.2
25	W	33	GLU	2.2
29	3	64	ARG	2.1
1	X	2363	G	2.1
5	C	167	VAL	2.1
3	A	241	THR	2.1
19	Q	34	THR	2.1
1	X	1118	G	2.1
26	Z	56	GLN	2.1
22	T	21	LEU	2.1
6	D	110	ARG	2.1
6	D	57	LEU	2.1
7	E	165	VAL	2.1
25	W	15	ASN	2.1
25	W	54	GLN	2.1
3	A	217	GLY	2.1
19	Q	82	LEU	2.1
20	R	27	GLY	2.1
3	A	69	LYS	2.1
20	R	45	LYS	2.1
9	G	103	TYR	2.1
1	X	1121	G	2.1
9	G	35	LYS	2.1
16	N	91	ASN	2.1
3	A	258	LEU	2.1
1	X	1920	A	2.1
6	D	52	LYS	2.1
9	G	168	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	X	2295	C	2.1
20	R	84	VAL	2.1
20	R	40	LEU	2.1
17	O	45	THR	2.1
21	S	22	VAL	2.1
3	A	249	THR	2.0
28	2	31	LEU	2.0
1	X	200	A	2.0
27	1	54	LYS	2.0
3	A	215	TRP	2.0
13	K	17	ARG	2.0
6	D	143	TYR	2.0
16	N	109	LEU	2.0
21	S	21	ALA	2.0
21	S	130	ILE	2.0
1	X	1551	U	2.0
3	A	62	LEU	2.0
3	A	132	LEU	2.0
14	L	111	GLY	2.0
23	U	73	GLY	2.0
3	A	262	ARG	2.0
7	E	149	ARG	2.0
1	X	1913	G	2.0
1	X	1839	A	2.0
18	P	11	LYS	2.0

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

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

6.3 Carbohydrates ⓘ

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. 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	B-factors(\AA^2)	Q<0.9
33	MG	X	2911	1/1	0.28	0.63	124,124,124,124	0
33	MG	X	2912	1/1	0.66	0.20	62,62,62,62	0
33	MG	U	82	1/1	0.67	0.38	72,72,72,72	0
33	MG	I	157	1/1	0.74	0.47	67,67,67,67	0
33	MG	X	2917	1/1	0.75	0.32	104,104,104,104	0
33	MG	X	2886	1/1	0.76	1.10	54,54,54,54	0
35	NA	X	2962	1/1	0.79	1.12	98,98,98,98	0
33	MG	X	2926	1/1	0.79	0.45	67,67,67,67	0
32	LMA	X	2882	58/58	0.80	0.38	120,120,120,120	0
33	MG	X	2909	1/1	0.80	0.17	58,58,58,58	0
33	MG	X	2902	1/1	0.81	0.17	89,89,89,89	0
33	MG	X	2942	1/1	0.81	0.63	77,77,77,77	0
33	MG	X	2940	1/1	0.82	0.31	71,71,71,71	0
33	MG	X	2894	1/1	0.82	0.47	65,65,65,65	0
33	MG	X	2948	1/1	0.82	0.85	110,110,110,110	0
34	K	X	2956	1/1	0.83	0.39	146,146,146,146	0
31	LC2	X	2881	33/33	0.83	0.33	49,106,118,122	0
33	MG	X	2893	1/1	0.84	0.42	66,66,66,66	0
33	MG	X	2931	1/1	0.84	0.68	72,72,72,72	0
33	MG	X	2920	1/1	0.85	0.37	100,100,100,100	0
35	NA	X	2960	1/1	0.85	0.47	86,86,86,86	0
33	MG	X	2944	1/1	0.85	0.29	77,77,77,77	0
33	MG	X	2915	1/1	0.86	0.57	67,67,67,67	0
33	MG	X	2885	1/1	0.87	0.47	68,68,68,68	0
33	MG	X	2928	1/1	0.87	0.34	29,29,29,29	0
33	MG	X	2914	1/1	0.87	0.52	74,74,74,74	0
33	MG	X	2950	1/1	0.88	0.31	36,36,36,36	0
33	MG	X	2925	1/1	0.88	0.57	80,80,80,80	0
33	MG	X	2904	1/1	0.88	0.43	64,64,64,64	0
33	MG	X	2891	1/1	0.89	0.33	50,50,50,50	0
33	MG	X	2951	1/1	0.89	0.47	142,142,142,142	0
34	K	X	2957	1/1	0.89	0.57	82,82,82,82	0
33	MG	X	2941	1/1	0.89	0.23	71,71,71,71	0
33	MG	X	2910	1/1	0.90	0.37	44,44,44,44	0
33	MG	X	2903	1/1	0.90	0.54	65,65,65,65	0
33	MG	X	2916	1/1	0.90	0.20	44,44,44,44	0
33	MG	X	2895	1/1	0.90	0.29	26,26,26,26	0
33	MG	X	2938	1/1	0.91	0.62	62,62,62,62	0
35	NA	X	2958	1/1	0.91	0.47	48,48,48,48	0
35	NA	X	2959	1/1	0.91	0.25	60,60,60,60	0
33	MG	X	2905	1/1	0.91	0.67	50,50,50,50	0
33	MG	X	2921	1/1	0.91	0.17	61,61,61,61	0
35	NA	X	2961	1/1	0.92	0.43	75,75,75,75	0

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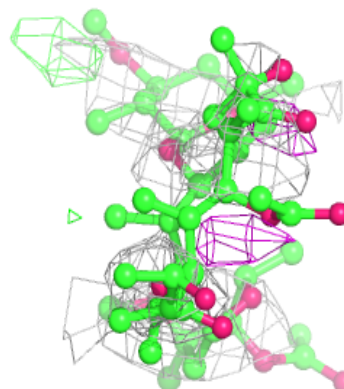
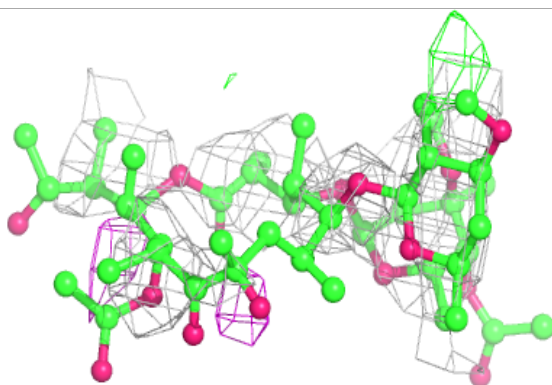
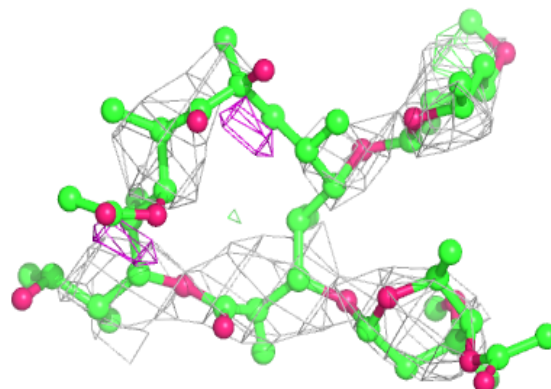
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	X	2908	1/1	0.92	0.67	80,80,80,80	0
33	MG	X	2883	1/1	0.92	0.54	23,23,23,23	0
33	MG	X	2922	1/1	0.92	0.36	53,53,53,53	0
33	MG	X	2901	1/1	0.92	0.39	19,19,19,19	0
33	MG	X	2924	1/1	0.92	0.13	51,51,51,51	0
33	MG	X	2918	1/1	0.93	0.53	84,84,84,84	0
33	MG	X	2949	1/1	0.93	0.55	83,83,83,83	0
34	K	X	2955	1/1	0.93	0.15	113,113,113,113	0
33	MG	X	2884	1/1	0.93	1.00	72,72,72,72	0
33	MG	X	2929	1/1	0.93	0.83	61,61,61,61	0
33	MG	X	2923	1/1	0.93	0.15	97,97,97,97	0
33	MG	X	2900	1/1	0.94	0.64	42,42,42,42	0
33	MG	X	2932	1/1	0.94	0.35	62,62,62,62	0
33	MG	X	2919	1/1	0.94	0.33	65,65,65,65	0
33	MG	X	2907	1/1	0.94	0.36	46,46,46,46	0
33	MG	X	2935	1/1	0.94	0.23	36,36,36,36	0
33	MG	X	2936	1/1	0.94	0.25	55,55,55,55	0
33	MG	X	2937	1/1	0.94	0.38	109,109,109,109	0
33	MG	X	2946	1/1	0.94	0.16	123,123,123,123	0
33	MG	X	2934	1/1	0.94	0.41	56,56,56,56	0
33	MG	X	2952	1/1	0.95	0.35	59,59,59,59	0
33	MG	X	2933	1/1	0.95	0.37	83,83,83,83	0
33	MG	X	2896	1/1	0.95	0.26	24,24,24,24	0
33	MG	X	2887	1/1	0.95	0.41	35,35,35,35	0
33	MG	X	2945	1/1	0.95	0.17	67,67,67,67	0
33	MG	X	2927	1/1	0.95	0.74	65,65,65,65	0
33	MG	X	2892	1/1	0.95	0.30	71,71,71,71	0
33	MG	X	2943	1/1	0.95	0.20	43,43,43,43	0
33	MG	X	2906	1/1	0.96	0.38	52,52,52,52	0
33	MG	X	2890	1/1	0.96	0.40	59,59,59,59	0
33	MG	X	2888	1/1	0.96	0.49	51,51,51,51	0
33	MG	X	2897	1/1	0.96	0.14	79,79,79,79	0
34	K	X	2954	1/1	0.96	0.24	70,70,70,70	0
33	MG	X	2899	1/1	0.97	0.54	41,41,41,41	0
33	MG	X	2953	1/1	0.97	0.39	53,53,53,53	0
33	MG	X	2939	1/1	0.97	0.49	54,54,54,54	0
33	MG	X	2930	1/1	0.97	0.21	77,77,77,77	0
33	MG	X	2913	1/1	0.97	0.40	63,63,63,63	0
33	MG	X	2889	1/1	0.98	0.24	61,61,61,61	0
33	MG	X	2898	1/1	0.98	0.39	19,19,19,19	0
33	MG	X	2947	1/1	0.98	0.13	56,56,56,56	0

The following is a graphical depiction of the model fit to experimental electron density of all

instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

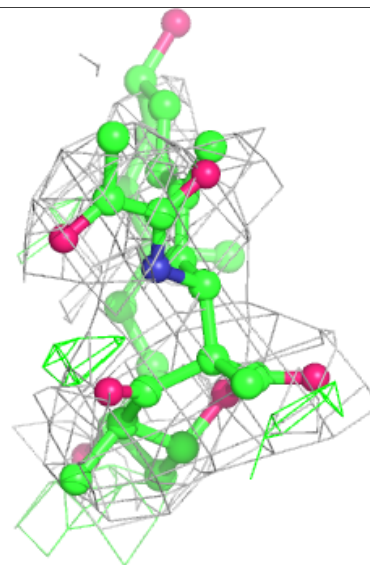
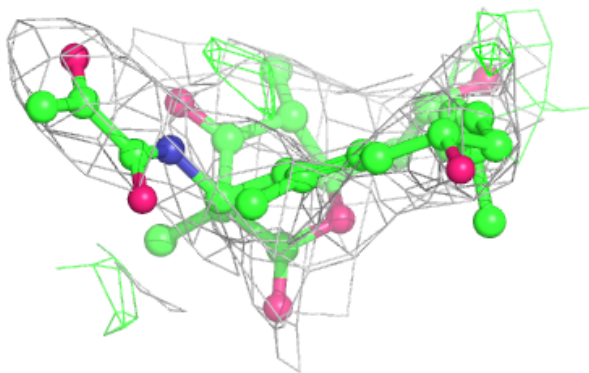
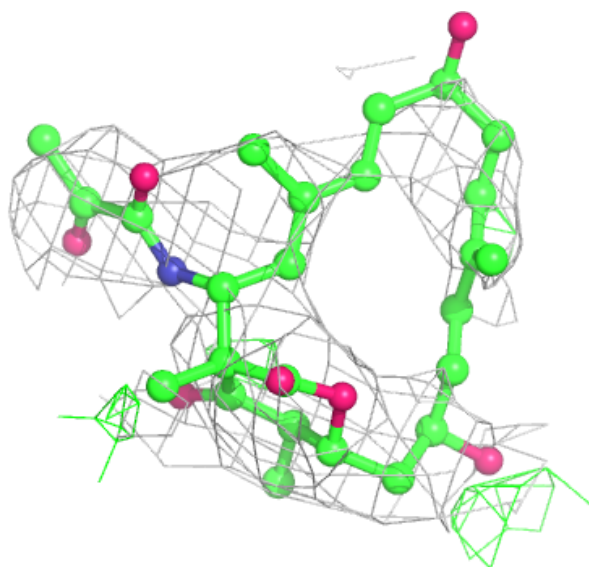
Electron density around LMA X 2882:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around LC2 X 2881:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.