



Full wwPDB X-ray Structure Validation Report i

Sep 15, 2014 – 12:24 PM EDT

PDB ID : 1VVY
Title : Crystal Structure of Frameshift Suppressor tRNA SufA6 Bound to Codon CCC-U in the Absence of Paromomycin
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on : 2013-06-27
Resolution : 3.92 Å(reported)

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

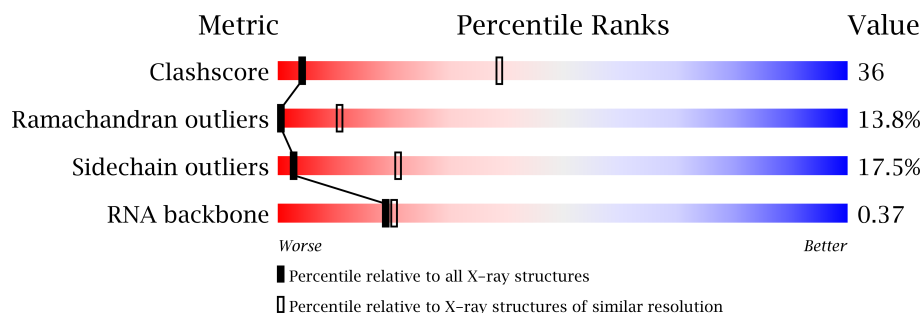
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.16 November 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23489

1 Overall quality at a glance

The reported resolution of this entry is 3.92 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1180 (4.34-3.50)
Ramachandran outliers	78287	1124 (4.34-3.50)
Sidechain outliers	78261	1112 (4.34-3.50)
RNA backbone	1838	1018 (5.00-2.80)

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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2916	
2	B	122	
3	D	276	
4	E	206	
5	F	210	
6	G	182	
7	H	180	
8	I	148	
9	N	140	
10	O	122	
11	P	150	
12	Q	141	
13	R	118	
14	S	112	

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

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 92243 atoms, of which 0 are hydrogen and 0 are deuterium.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 26 is a protein called 50S ribosomal protein L31.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	P	1	Total	Mg	0	0
			1	1		
33	0	1	Total	Mg	0	0
			1	1		
33	D	1	Total	Mg	0	0
			1	1		
33	E	2	Total	Mg	0	0
			2	2		
33	B	2	Total	Mg	0	0
			2	2		
33	A	239	Total	Mg	0	0
			239	239		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	5	1	Total 1	Mg 1	0	0
33	8	1	Total 1	Mg 1	0	0
33	R	2	Total 2	Mg 2	0	0
33	F	1	Total 1	Mg 1	0	0

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

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

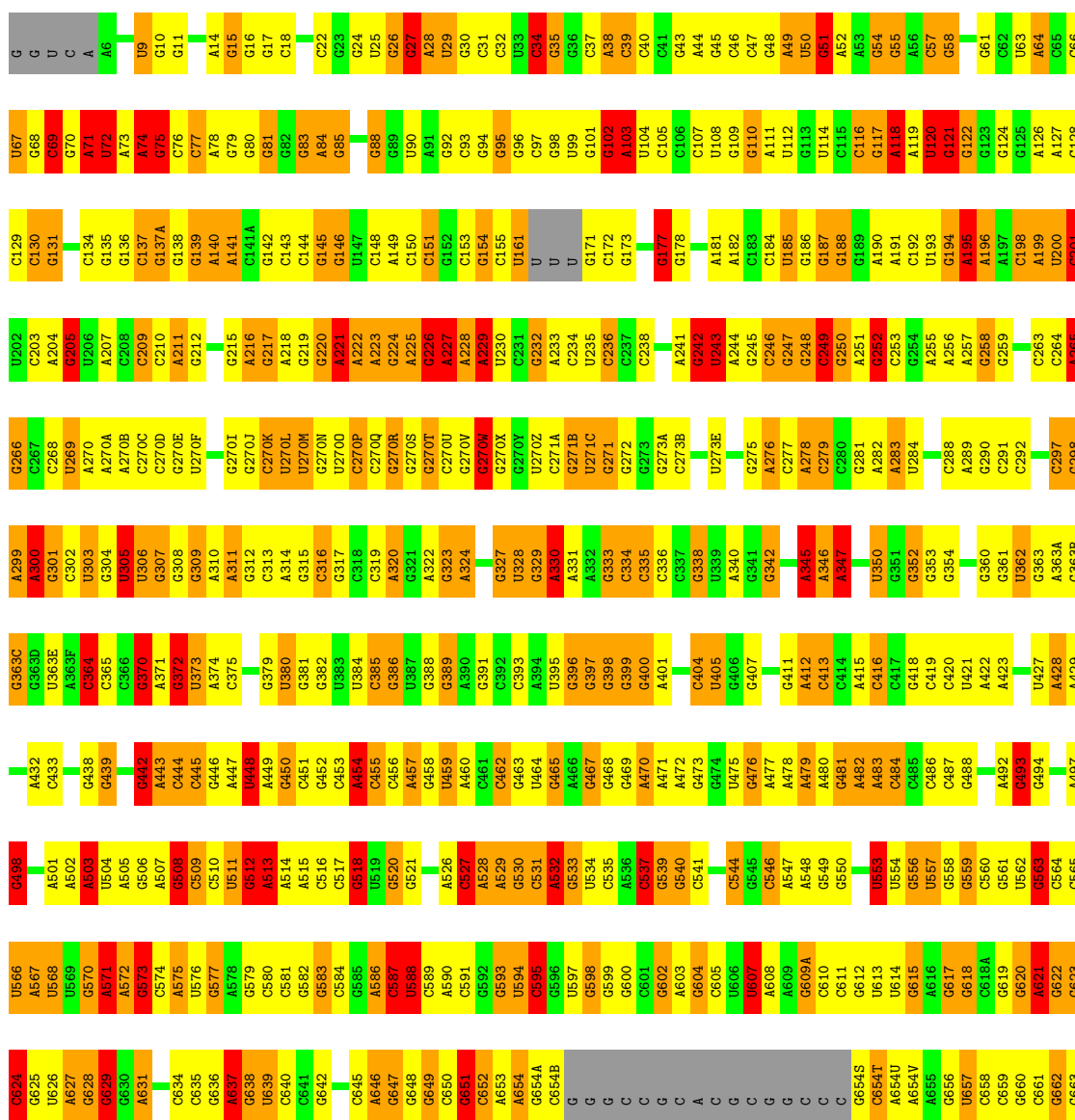
3 Residue-property plots

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

Note EDS was not executed.

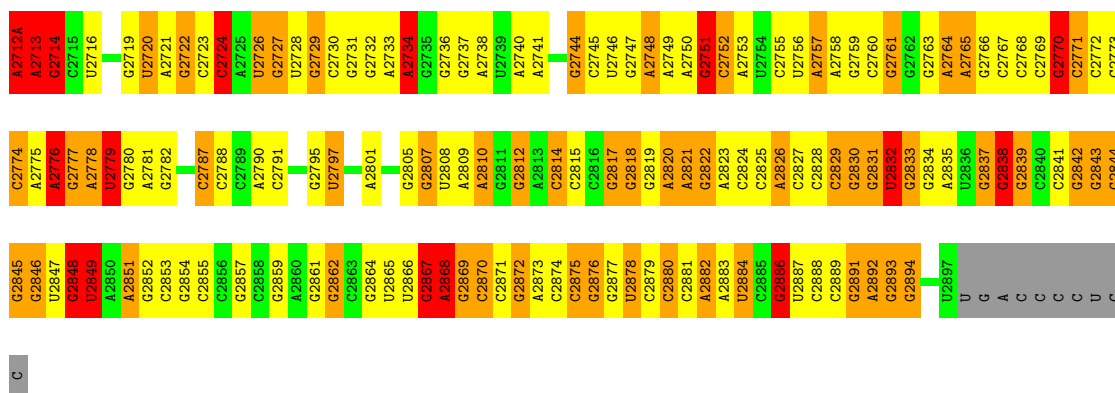
• Molecule 1: 23S rRNA

Chain A:



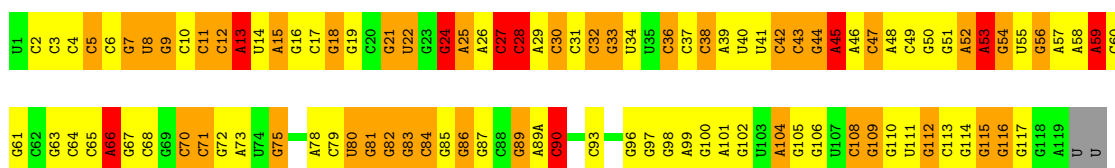
A1603	C1537	G1475	G1413	C1290	C1230	U1165	G1099	G1037	C974A	U913	U851	A189	G725	C664
C1604	G1538	C1476	G1414	C1291	G1231	C1166	G1099	G1038	G975	C914	G852	C790	G726	C665
C1605	G1539	A1477	G1415	U1292	G1232	U1167	U1100	C1038	C976	C915	G853	C791	A727	G666
G1606	C1293	A1354	G1416	C1293	C1233	G1168	U1101	C1039	C977	C916	G854	G792	G728	U667
C1607	G1478	G1355	G1417	U1294	C1234	G1169	A1102	G1041	G978	A917	G855	A793	G729	G668
G1542	G1408	G1356	G1418	C1295	G1235	G1170	A1103	G1042	G979	A918	G856	C796	G730	G669
A1608	U1357	U1357	G1419	G1296	G1236	G1171	C1104	C1043	A980	G919	C857	C796	C731	A670
A1609	G1420	G1358	G1420	C1297	A1237	U1174	U1105	C1044	A981	G920	U858	C797	G732	C671
C1544	G1421	A1359	G1421	C1298	G1238	U1175	G1106	A1045	C982	G921	G859	C798	G733	C672
A1545	G1422	A1360	G1422	G1299	C1239	U1176	U1107	A1046	A983	G922	U860	C799	G734	C673
G1425	G1425	G1361	G1425	U1300	A1240	A1177	U1108	G1047	A984	C923	A861	A735	A735	G674
A1612	G1426	C1362	G1426	A1301	A1241	C1178	C1109	G1048	C985	C924	G862	A802	G736	A675
A1613	A1427	G1363	A1427	A1302	A1242	C1179	G1110	C1049	C986	C925	A863	U803	C737	A676
C1615	C1428	G1364	C1428	G1303	G1243	C1180	A1111	A1050	G987	A926	G864	A804	G738	A677
A1616	G1429	A1365	G1429	C1304	G1244	C1181	G1112	G1051	A988	G928	C865	G905	G739	C678
C1617	C1430	A1366	C1430	C1305	G1245	A1182	U1113	C1052	C989	G929	A866	C906	U740	C679
A1618	U1431	A1367	U1431	C1306	A1246	G1183	G1114	C1053	A990	U930	G867	U807	G741	G680
C1557	C1432	G1368	C1432	A1307	A1247	A1184	G1115	A1054	C991	G931	U868	G808	G742	G681
A1558	U1433	G1369	U1433	A1308	G1248	C1185	C1116	G1055	C992	G932	G869	G809	G743	G682
A1559	A1434	C1370	A1434	G1309	U1249	G1186	C1123	G1056	G993	A933	A870	U810	G744	C683
G1560	G1435	G1371	G1435	U1310	G1250	G1187	C1124	A1057	C994	G934	A871	C912	G745	G684
G1623	A1436	U1372	A1436	G1311	C1251	U1188	G1125	G1058	C995	C935	A872	C812	G746	A685
G1624	C1437	A1373	C1437	U1312	G1252	A1189	G1126	G1059	A996	C936	G873	U813	U747	G686
C1625	U1438	G1374	U1438	U1313	A1253	G1190	A1127	U1060	C997	U937	G874	C814	G747	C687
G1626	C1501	C1375	A1439	C1314	A1254	G1191	C1128	U1061	C998	G938	G875	C815	A751	U688
G1627	G1502	G1376	G1440	C1315	U1255	G1192	A1129	G1062	U999	C939	C876	C816	A752	A689
C1628	U1503	G1377	G1441	U1316	G1256	G1193	A1130	G1063	A1000	G941	U877	C917	C753	G690
U1629	C1504	A1378	G1442	C1317	G1257	A1194	U1131	C1064	A1001	G942	A878	C918	C754	C693
G1630	C1505	G1379	G1443	G1320	C1258	G1195	G1131	U1065	A1002	U943	G879	A819	C755	G694
A1632	C1506	A1380	G1444	U1321	G1259	C1196	A1132	U1066	G1003	G944	G880	A820	C756	U694
G1633	U1507	G1380	U1444A	A1321	G1260	G1197	U1133	A1067	C1004	A945	G881	A821	U757	G695
A1634	A1508	C1445	C1445	A1322	G1261	U1198	C1135	G1068	C1005	G946	G882	U822	C758	G696
G1635	G1509	G1446	C1446	U1323	A1262	U1199	G1136	A1069	C1006	G947	G883	G823	C759	C697
C1636	U1510	C1386	G1447	G1324	G1263	U1200	G1137	A1070	C1007	G948	C885	A824	G760	C698
A1637	A1511	G1387	G1448	C1325	G1264	C1201	G1138	G1071	C1008	C949	C886	C825	A761	A699
C1638	C1577	G1388	A1449	U1326	A1265	G1202	G1139	G1072	A1009	G950	C887	U826	U762	G700
U1639	U1578	G1389	G1449A	C1327	G1266	G1203	C1140	A1073	A1010	C951	A887	U827	G765	G701
C1640	A1579	U1390	C1450	G1328	U1267	A1204	U1141	G1074	G1011	G952	C888	U828	C766	G702
A1641	U1580	U1391	C1451	U1329	A1268	U1205	U1142	C1075	U1012	A953	C889	A829	U767	U703
G1642	U1516	A1392	A1453	C1330	A1269	G1206	A1142A	G1076	C1013	G954	A890	G830	G767	G704
G1643	C1582	A1393	U1454	A1331	C1270	C1207	G1143	A1077	U1014	C955	G892	G831	G768	G711
C1644	C1518	U1394	G1455	G1332	G1271	C1208	G1144	U1078	G1015	G956	C893	G832	G769	A706
G1645	C1585	A1395	G1456	C1333	A1272	G1209	C1145	C1079	G1016	A957	U896	U833	G770	G707
C1646	U1519	U1396	G1457	C1334	U1273	A1210	G1146	C1080	G1017	U958	C894	C834	G770	C708
G1647	U1520	U1397	G1458	U1335	A1274	U1211	C1147	U1081	C1018	A959	A896	A835	U773	U709
C1648	G1522	C1398	A1460	A1336	A1275	G1212	G1149	U1082	U1019	A960	C897	G836	A774	G710
G1649	U1523	C1399	G1461	G1337	A1276	A1213	C1150	U1083	C1020	C961	C898	C837	G775	G711
G1650	U1590	G1400	C1462	G1338	G1277	A1214	G1151	A1084	A1021	G962	A899	C838	G776	G712
G1651	G1591	G1401	C1463	U1339	A1278	G1215	C1152	A1085	G1022	U963	A900	U839	A777	G713
A1652	C1525	G1402	C1464	U1340	G1279	G1216	C1153	A1086	U1023	C964	A901	C840	G778	U714
G1653	G1526	C1403	C1465	U1341	G1280	G1217	G1154	C1087	G1024	C965	C902	A841	U779	G715
C1593	G1527	C1404	G1466	A1342	U1281	A1220	A1155	A1088	G1025	G966	C903	G842	G780	A716
A1594	A1528	U1405	C1467	U1343	U1282	C1221	U1156	G1089	U1026	C967	C904	G843	A781	G717
A1655	A1529	U1406	C1468	G1344	G1283	C1222	G1157	U1090	A1027	G968	C944	G844	A782	A718
C1656	G1530	C1407	C1469	U1345	G1284	C1223	U1158	G1091	A1028	U969	C908	G845	A783	G719
C1657	A1597	C1408	G1470	C1346	G1285	G1224	C1161	C1092	A1029	C970	U907	C846	A784	C720
C1658	C1532	C1408	C1470	G1347	A1286	C1225	G1162	U1093	G1030	C971	A909	C847	G785	G721
U1659	C1533	G1409	A1471	G1347	A1287	G1226	C1163	U1094	G1031	G972	A910	G848	C786	A722
C1660	U1534	C1410	A1472	G1348	A1288	G1227	G1164	U1095	A1032	A973	A911	G849	G787	G723
G1661	U1535	C1411	C1473	A1349	U1288	G1228	C1165	A1096	U1033	G974	C912	C850	A788	U724
C1662	U1602	C1474	C1474	C1350	C1289	G1229A	G1166							

C2646	U2647	U2648	U2649	U2650	U2651	U2652	U2653	U2654	U2655	U2656	U2657	U2658	U2659	U2660	U2661	U2662	U2663	U2664	U2665	U2666	U2667	U2668	U2669	U2670	U2671	U2672	U2673	U2674	U2675	U2676	U2677	U2678	U2679	U2680	U2681	U2682	U2683	U2684	U2685	U2686	U2687	U2688	U2689	U2690	U2691	U2692	U2693	U2694	U2695	U2696	U2697	U2698	U2699	U2700	U2701	U2702	U2703	U2704	U2705	U2706	U2707	U2708	U2709	U2710	U2711	U2712																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
C1663	C1664	C1665	C1666	C1667	C1668	C1669	C1670	C1671	C1672	C1673	C1674	C1675	C1676	C1677	C1678	C1679	C1680	C1681	C1682	C1683	C1684	C1685	C1686	C1687	C1688	C1689	C1690	C1691	C1692	C1693	C1694	C1695	C1696	C1697	C1698	C1699	C1700	C1701	C1702	C1703	C1704	C1705	C1706	U1707	C1710	C1712	C1716	C1717	C1719	C1725	C1726	C1727	C1728	C1729	C1730	C1731	C1732	C1733	C1734	C1735	C1741																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
C1882	C1883	C1884	C1885	C1886	C1887	C1888	C1889	C1890	C1891	C1892	C1893	C1894	C1895	C1896	C1897	C1898	C1899	C1900	C1901	C1902	C1903	C1906	C1909	C1910	C1913	C1917	C1918	C1919	C1920	C1921	C1922	C1923	C1924	C1925	C1926	C1927	C1928	C1929	C1930	C1931	C1932	C1933	C1934	C1935	C1936	C1937	C1938	C1939	C1940	C1941	C1942	C1943	C1944	C1945	C1946	C1947	C1948	C1949	C1950	C1951	C1952	C1953	C1954	C1955	C1956	C1957	C1958	C1959	C1960	C1961	C1962	C1963	C1964	C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C1991	C1992	C1993	C1994	C1995	C1996	C1997	C1998	C1999	C2000	C2001	C2002	C2003	C2004	C2005	C2006	C2007	C2008	C2009	C2010	C2011	C2012	C2013	C2014	C2015	C2016	C2017	C2018	C2019	C2020	C2021	C2022	C2023	C2024	C2025	C2026	C2027	C2028	C2029	C2030	C2031	C2032	C2033	C2034	C2035	C2036	C2037	C2038	C2039	C2040	C2041	C2042	C2043	C2044	C2045	C2046	C2047	C2048	C2049	C2050	C2051	C2052	C2053	C2054	C2055	C2056	C2057	C2058	C2059	C2060	C2061	C2062	C2063	C2064	C2065	C2066	C2067	C2068	C2069	C2070	C2071	C2072	C2073	C2074	C2075	C2076	C2077	C2078	C2079	C2080	C2081	C2082	C2083	C2084	C2085	C2086	C2087	C2088	C2089	C2090	C2091	C2092	C2093	C2094	C2095	C2096	C2097	C2098	C2099	C2100	C2101	C2102	C2103	C2104	C2105	C2106	C2107	C2108	C2109	C2110	C2111	C2112	C2113	C2114	C2115	C2116	C2117	C2118	C2119	C2120	C2121	C2122	C2123	C2124	C2125	C2126	C2127	C2128	C2129	C2130	C2131	C2132	C2133	C2134	C2135	C2136	C2137	C2138	C2139	C2140	C2141	C2142	C2143	C2144	C2145	C2146	C2147	C2148	C2149	C2150	C2151	C2152	C2153	C2154	C2155	C2156	C2157	C2158	C2159	C2160	C2161	C2162	C2163	C2164	C2165	C2166	C2167	C2168	C2169	C2170	C2171	C2172	C2173	C2174	C2175	C2176	C2177	C2178	C2179	C2180	C2181	C2182	C2183	C2184	C2185	C2186	C2187	C2188	C2189	C2190	C2191	C2192	C2193	C2194	C2195	C2196	C2197	C2198	C2199	C2200	C2201	C2202	C2203	C2204	C2205	C2206	C2207	C2208	C2209	C2210	C2211	C2212	C2213	C2214	C2215	C2216	C2217	C2218	C2219	C2220	C2221	C2222	C2223	C2224	C2225	C2226	C2227	C2228	C2229	C2230	C2231	C2232	C2233	C2234	C2235	C2236	C2237	C2238	C2239	C2240	C2241	C2242	C2243	C2244	C2245	C2246	C2247	C2248	C2249	C2250	C2251	C2252	C2253	C2254	C2255	C2256	C2257	C2258	C2259	C2260	C2261	C2262	C2263	C2264	C2265	C2266	C2267	C2268	C2269	C2270	C2271	C2272	C2273	C2274	C2275	C2276	C2277	C2278	C2279	C2280	C2281	C2282	C2283	C2284	C2285	C2286	C2287	C2288	C2289	C2290	C2291	C2292	C2293	C2294	C2295	C2296	C2297	C2298	C2299	C2300	C2301	C2302	C2303	C2304	C2305	C2306	C2307	C2308	C2309	C2310	C2311	C2312	C2313	C2314	C2315	C2316	C2317	C2318	C2319	C2320	C2321	C2322	C2323	C2324	C2325	C2326	C2327	C2328	C2329	C2330	C2331	C2332	C2333	C2334	C2335	C2336	C2337	C2338	C2339	C2340	C2341	C2342	C2343	C2344	C2345	C2346	C2347	C2348	C2349	C2350	C2351	C2352	C2353	C2354	C2355	C2356	C2357	C2358	C2359	C2360	C2361	C2362	C2363	C2364	C2365	C2366	C2367	C2368	C2369	C2370	C2371	C2372	C2373	C2374	C2375	C2376	C2377	C2378	C2379	C2380	C2381	C2382	C2383	C2384	C2385	C2386	C2387	C2388	C2389	C2390	C2391	C2392	C2393	C2394	C2395	C2396	C2397	C2398	C2399	C2400	C2401	C2402	C2403	C2404	C2405	C2406	C2407	C2408	C2409	C2410	C2411	C2412	C2413	C2414	C2415	C2416	C2417	C2418	C2419	C2420	C2421	C2422	C2423	C2424	C2425	C2426	C2427	C2428	C2429	C2430	C2431	C2432	C2433	C2434	C2435	C2436	C2437	C2438	C2439	C2440	C2441	C2442	C2443	C2444	C2445	C2446	C2447	C2448	C2449	C2450	C2451	C2452	C2453	C2454	C2455	C2456	C2457	C2458	C2459	C2460	C2461	C2462	C2463	C2464	C2465	C2466	C2467	C2468	C2469	C2470	C2471	C2472	C2473	C2474	C2475	C2476	C2477	C2478	C2479	C2480	C2481	C2482	C2483	C2484	C2485	C2486	C2487	C2488	C2489	C2490	C2491	C2492	C2493	C2494	C2495	C2496	C2497	C2498	C2499	C2500	C2501	C2502	C2503	C2504	C2505	C2506	C2507	C2508	C2509	C2510	C2511	C2512	C2513	C2514	C2515	C2516	C2517	C2518	C2519	C2520	C2521	C2522	C2523	C2524	C2525	C2526	C2527	C2528	C2529	C2530	C2531	C2532	C2533	C2534	C2535	C2536	C2537	C2538	C2539	C2540	C2541	C2542	C2543	C2544	C2545	C2546	C2547	C2548	C2549	C2550	C2551	C2552	C2553	C2554	C2555	C2556	C2557	C2558	C2559	C2560	C2561	C2562	C2563	C2564	C2565	C2566	C2567	C2568	C2569	C2570	C2571	C2572	C2573	C2574	C2575	C2576	C2577	C2578	C2579	C2580	C2581	C2582	C2583	C2584	C2585	C2586	C2587	C2588	C2589	C2590	C2591	C2592	C2593	C2594	C2595	C2596	C2597	C2598	C2599	C2600	C2601	C2602	C2603	C2604	C2605	C2606	C2607	C2608	C2609	C2610	C2611	C2612	C2613	C2614	C2615	C2616	C2617	C2618	C2619	C2620	C2621	C2622	C2623	C2624	C2625	C2626	C2627	C2628	C2629	C2630	C2631	C2632	C2633	C2634	C2635	C2636	C2637	C2638	C2639	C2640	C2641	C2642	C2643	C2644	C2645	C2646	C2647	C2648	C2649	C2650	C2651	C2652	C2653	C2654	C2655	C2656	C2657	C2658	C2659	C2660	C2661	C2662	C2663	C2664	C2665	C2666	C2667	C2668	C2669	C2670	C2671	C2672	C2673	C2674	C2675	C2676	C2677	C2678	C2679	C2680	C2681	C2682	C2683	C2684	C2685	C2686	C2687	C2688	C2689	C2690	C2691	C2692	C2693	C2694	C2695	C2696	C2697	C2698	C2699	C2700	C2701	C2702	C2703	C2704	C2705	C2706	C2707	C2708	C2709	C2710	C2711	C2712
C1742	C1743	C1744	C1745	C1746	C1747	C1748	C1749	C1750	C1751	C1752	C1753	C1754	C1755	C1756	C1757	C1758	C1759	C1760	C1761	C1762	C1763	C1764	C1765	C1766	C1767	C1768	C1769	C1770	C1771	C1772	C1773	C1774	C1775	C1776	C1777	C1778	C1779	C1780	C1781	C1782	C1783	C1784	C1785	C1786	C1787	C1788	C1789	C1790	C1791	C1792	C1793	C1794	C1795	C1796	C1797	C1798	C1799	C1800	C1801	C1802	C1803	C1804	C1805	C1806	C1807	C1808	C1809	C1810	C1811	C1812	C1813	C1814	C1815	C1816	C1817	C1818	C1819	C1820	C1821	C1822	C1823	C1824	C1825	C1826	C1827	C1828	C1829	C1830	C1831	C1832	C1833	C1834	C1835	C1836	C1837	C1838	C1839	C1840	C1841	C1842	C1843	C1844	C1845	C1846	C1847	C1848	C1849	C1850	C1851	C1852	C1853	C1854	C1855	C1856	C1857	C1858	C1859	C1860	C1861	C1862	C1863	C1864	C1865	C1866	C1867	C1868	C1869	C1870	C1871	C1872	C1873	C1874	C1875	C1876	C1877	C1878	C1879	C1880	C1881	C1882	C1883	C1884	C1885	C1886	C1887	C1888	C1889	C1890	C1891	C1892	C1893	C1894	C1895	C1896	C1897	C1898	C1899	C1900	C1901	C1902	C1903	C1904	C1905	C1906	C1907	C1908	C1909	C1910	C1911	C1912	C1913	C1914	C1915	C1916	C1917	C1918	C1919	C1920	C1921	C1922	C1923	C1924	C1925	C1926	C1927	C1928	C1929	C1930	C1931	C1932	C1933	C1934	C1935	C1936	C1937	C1938	C1939	C1940	C1941	C1942	C1943	C1944	C1945	C1946	C1947	C1948	C1949	C1950	C1951	C1952	C1953	C1954	C1955	C1956	C1957	C1958	C1959	C1960	C1961	C1962	C1963	C1964	C1965	C1966	C1967	C1968	C1969	C1970	C1971	C1972	C1973	C1974	C1975	C1976	C1977	C1978	C1979	C1980	C1981	C1982	C1983	C1984	C1985	C1986	C1987	C1988	C1989	C1990	C199																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												



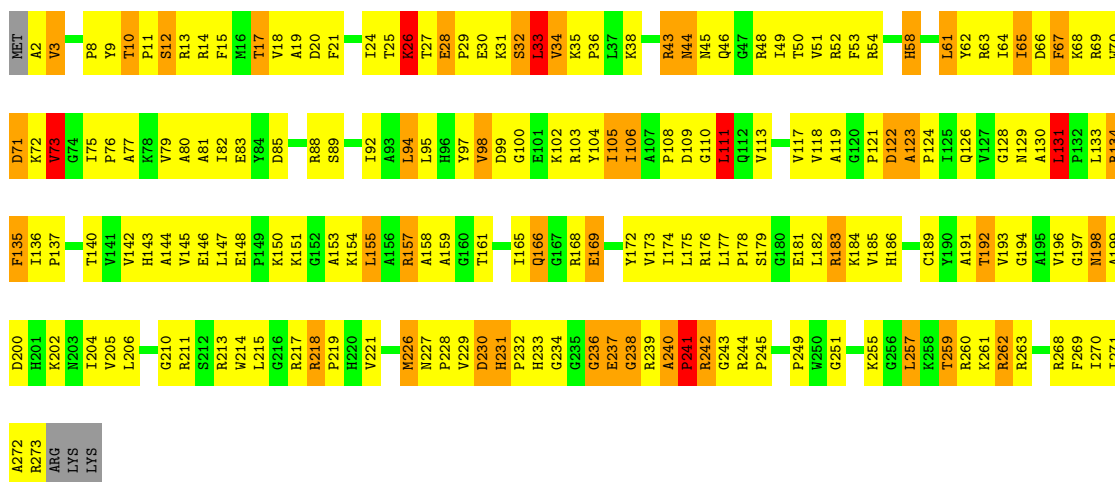
- Molecule 2: 5S rRNA

Chain B:



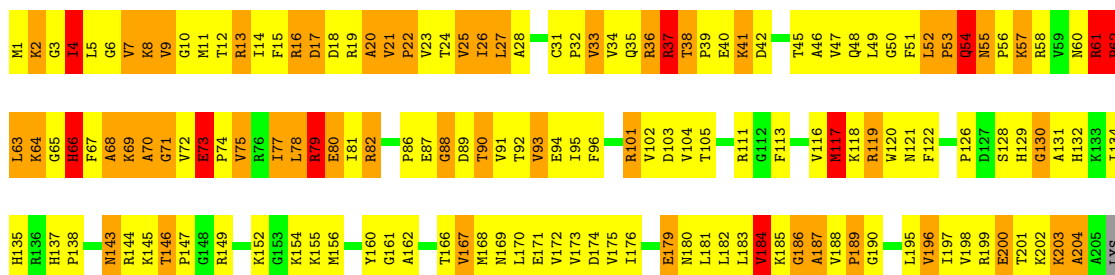
- Molecule 3: 50S ribosomal protein L2

Chain D:



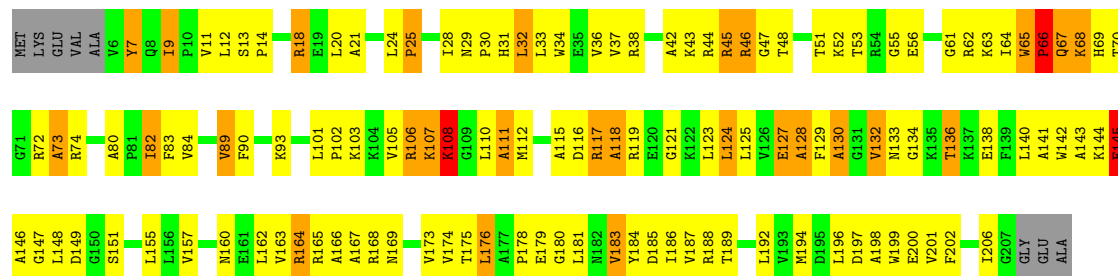
- Molecule 4: 50S ribosomal protein L3

Chain E:



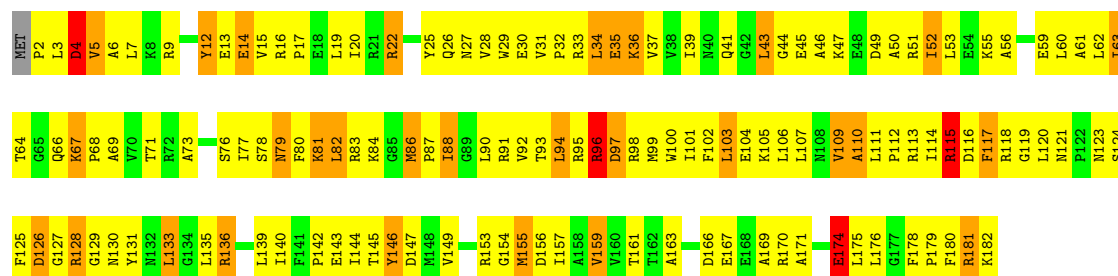
- Molecule 5: 50S ribosomal protein L4

Chain F:



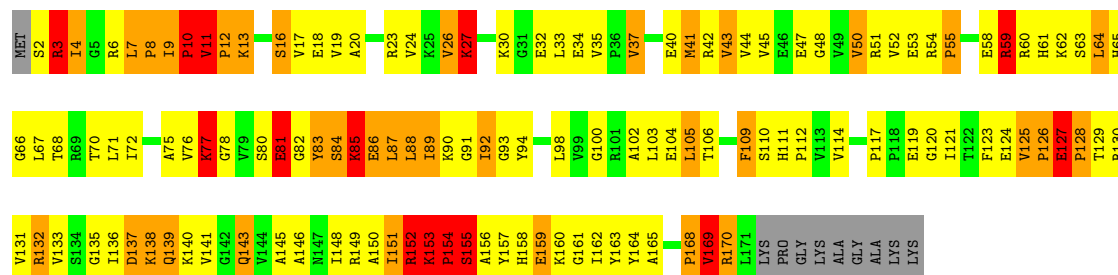
- Molecule 6: 50S ribosomal protein L5

Chain G:



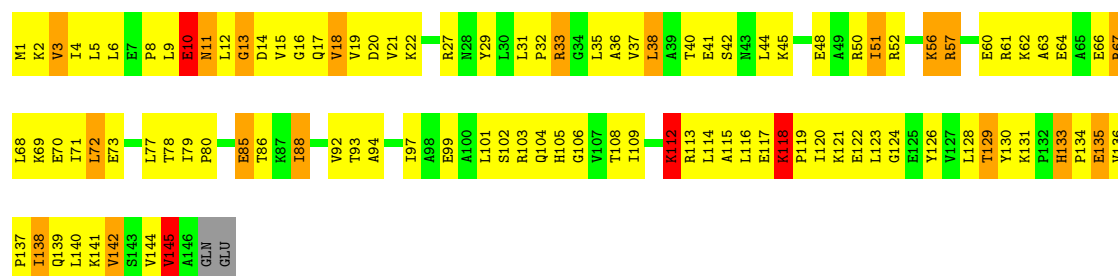
- Molecule 7: 50S ribosomal protein L6

Chain H:



- Molecule 8: 50S ribosomal protein L9

Chain I:



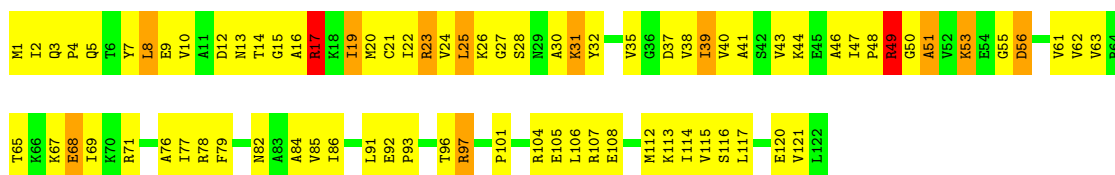
- Molecule 9: 50S ribosomal protein L13

Chain N:



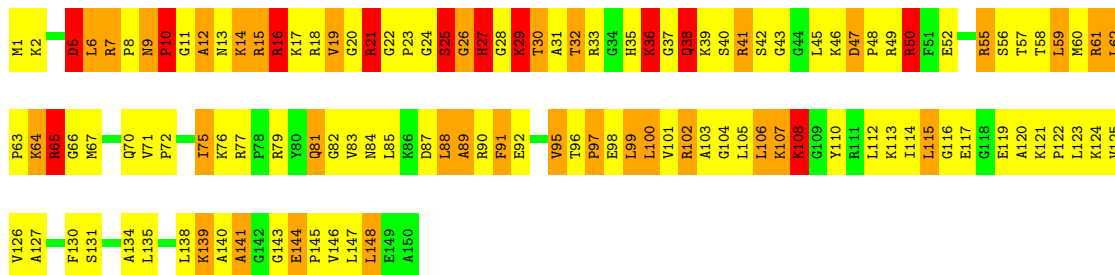
• Molecule 10: 50S ribosomal protein L14

Chain O:



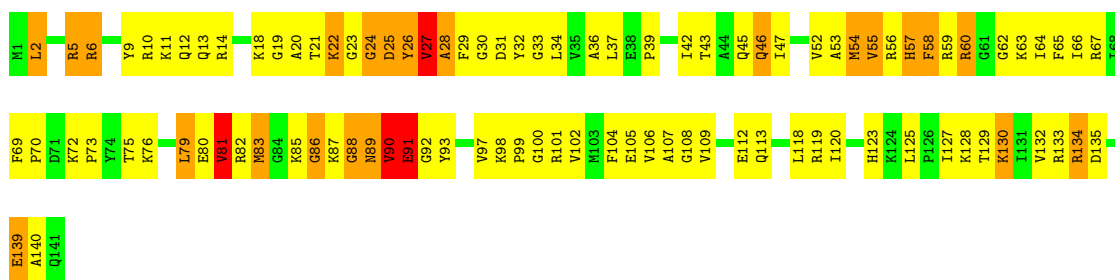
• Molecule 11: 50S ribosomal protein L15

Chain P:



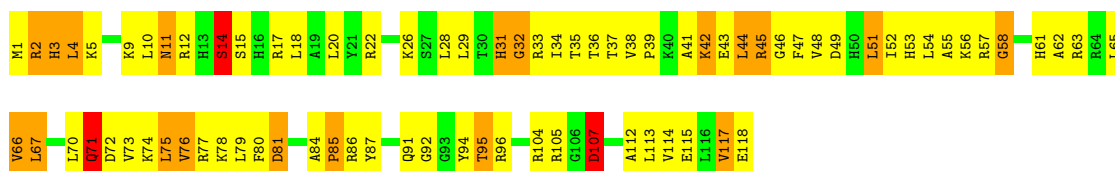
• Molecule 12: 50S ribosomal protein L16

Chain Q:

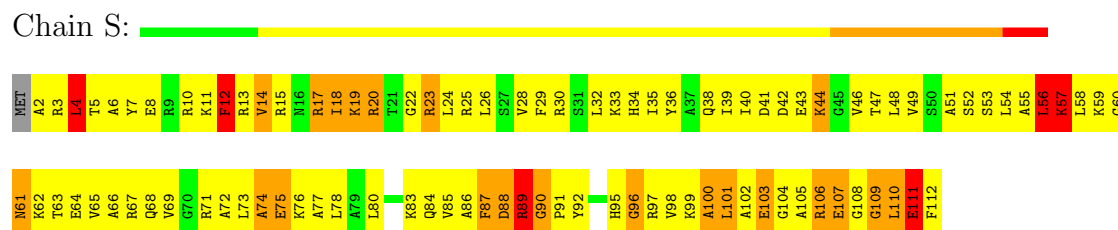


• Molecule 13: 50S ribosomal protein L17

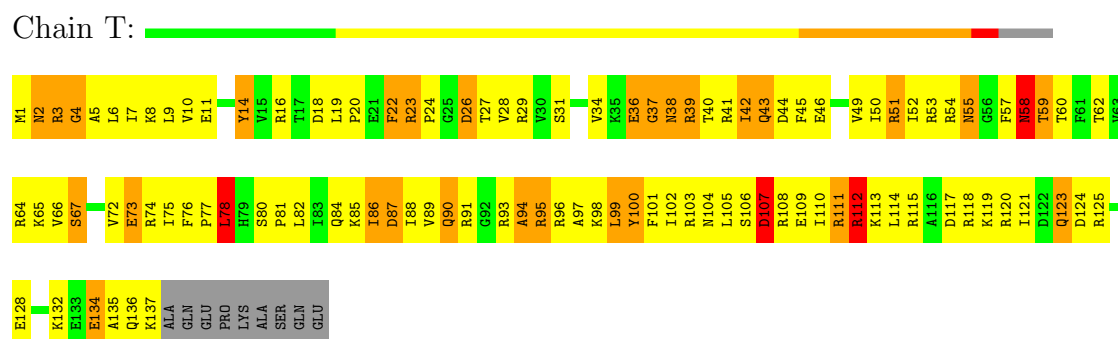
Chain R:



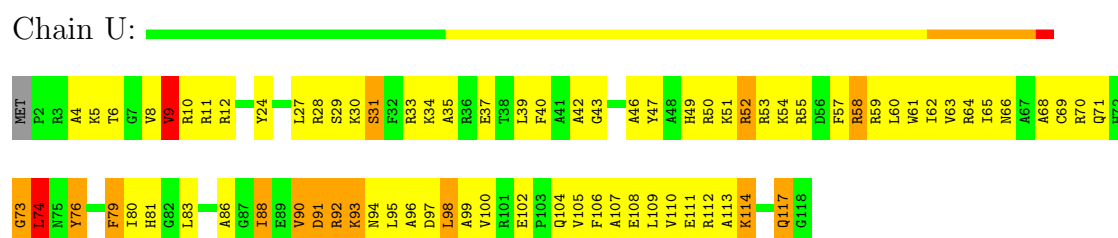
- Molecule 14: 50S ribosomal protein L18



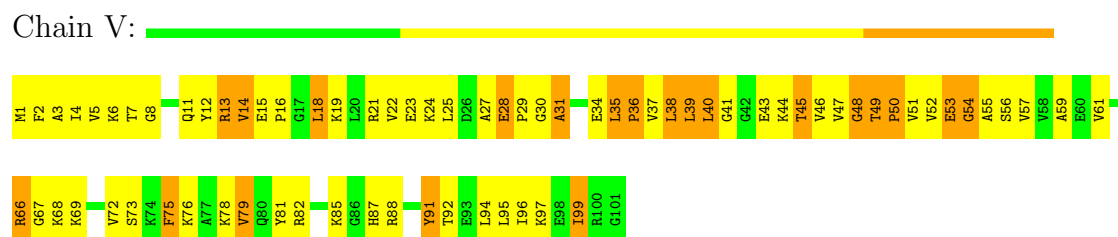
- Molecule 15: 50S ribosomal protein L19



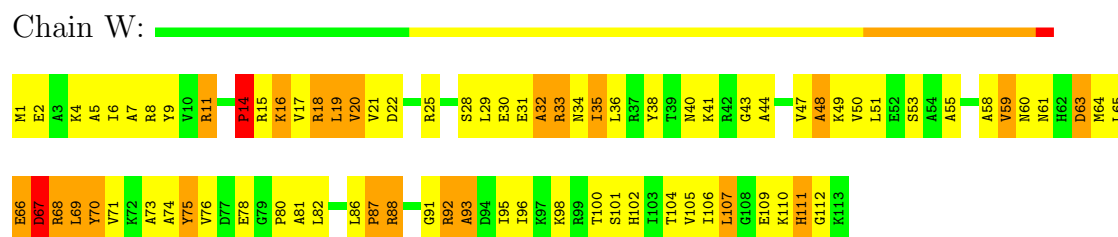
- Molecule 16: 50S ribosomal protein L20



- Molecule 17: 50S ribosomal protein L21

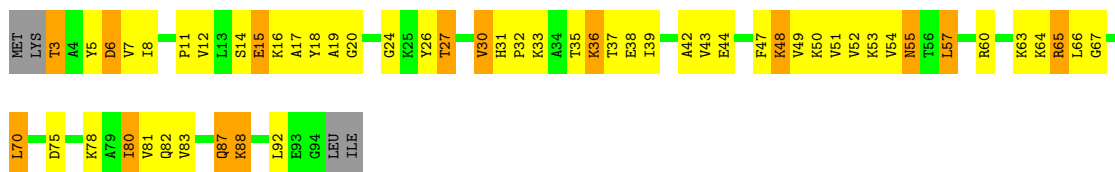


- Molecule 18: 50S ribosomal protein L22



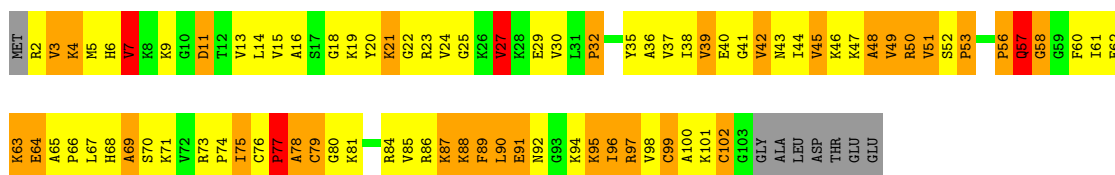
- Molecule 19: 50S ribosomal protein L23





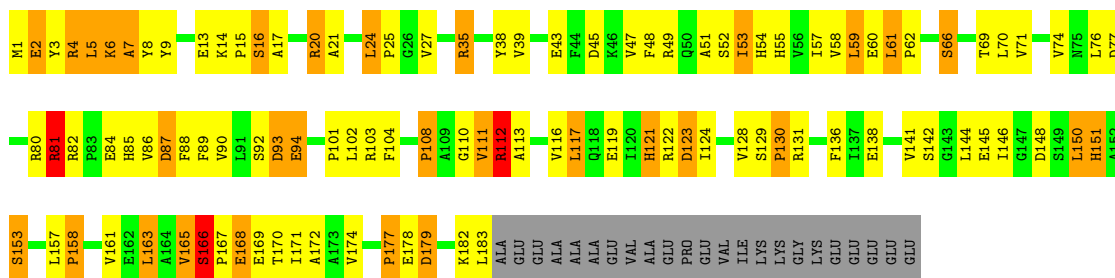
- Molecule 20: 50S ribosomal protein L24

Chain Y:



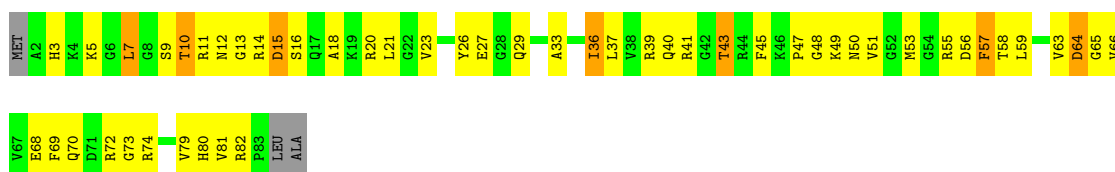
- Molecule 21: 50S ribosomal protein L25

Chain Z: 



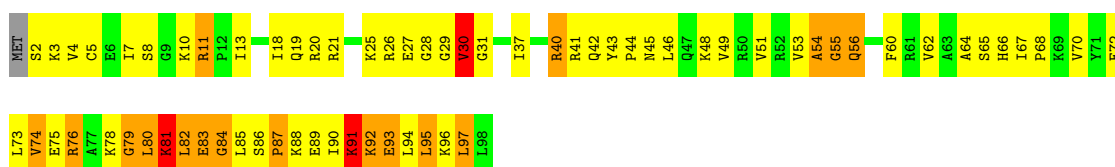
- Molecule 22: 50S ribosomal protein L27

Chain 0:



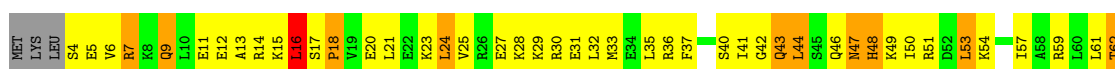
- Molecule 23: 50S ribosomal protein L28

Chain 1: 



- Molecule 24: 50S ribosomal protein L29

Chain 2:





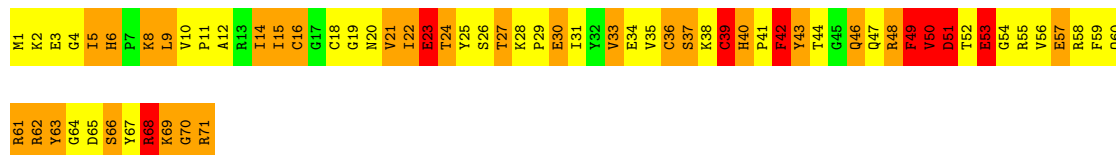
- Molecule 25: 50S ribosomal protein L30

Chain 3:



- Molecule 26: 50S ribosomal protein L31

Chain 4:



- Molecule 27: 50S ribosomal protein L32

Chain 5:



- Molecule 28: 50S ribosomal protein L33

Chain 6:



- Molecule 29: 50S ribosomal protein L34

Chain 7:



- Molecule 30: 50S ribosomal protein L35

Chain 8:



- Molecule 31: 50S ribosomal protein L36

Chain 9:



- Molecule 32: tRNA acceptor end mimic

Chain a: 



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	210.38Å 451.02Å 621.09Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.77 – 3.92	Depositor
% Data completeness (in resolution range)	99.7 (34.77-3.92)	Depositor
R_{merge}	0.34	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX	Depositor
R, R_{free}	0.208 , 0.265	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92243	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, PPU

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	1.03	104/69521 (0.1%)	1.85	2693/108529 (2.5%)
2	B	0.82	1/2878 (0.0%)	1.59	60/4490 (1.3%)
3	D	0.60	2/2165 (0.1%)	0.90	4/2919 (0.1%)
4	E	0.52	0/1601	0.91	2/2160 (0.1%)
5	F	0.50	0/1620	0.76	0/2194
6	G	0.40	0/1499	0.66	0/2016
7	H	0.45	0/1332	0.85	3/1802 (0.2%)
8	I	0.44	0/1151	0.77	1/1558 (0.1%)
9	N	0.46	0/1131	0.78	1/1525 (0.1%)
10	O	0.54	0/943	0.71	0/1269
11	P	0.50	0/1162	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.91	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.46	0/892	0.82	1/1187 (0.1%)
15	T	0.47	0/1155	0.73	2/1542 (0.1%)
16	U	0.48	0/982	0.78	0/1306
17	V	0.47	0/790	0.82	0/1057
18	W	0.45	0/911	0.75	0/1220
19	X	0.56	0/739	0.77	0/993
20	Y	0.52	0/798	0.80	0/1064
21	Z	0.44	0/1493	0.70	0/2026
22	0	0.52	0/657	0.73	0/874
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.84	1/771 (0.1%)
25	3	0.47	0/474	0.71	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.51	0/473	0.74	0/639
28	6	0.42	0/431	0.76	0/575
29	7	0.56	0/438	0.76	0/575
30	8	0.62	0/525	0.93	1/691 (0.1%)
31	9	0.35	0/310	0.59	0/407
32	a	0.78	0/40	1.78	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.91	107/100183 (0.1%)	1.64	2779/150284 (1.8%)

All (107) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	783	A	N7-C5	-10.47	1.32	1.39
1	A	783	A	C5-C6	-9.29	1.32	1.41
3	D	236	GLY	C-N	8.54	1.53	1.34
1	A	1142(A)	A	N9-C4	-8.29	1.32	1.37
1	A	1274	A	N9-C4	-8.09	1.32	1.37
1	A	1269	A	N9-C4	-8.05	1.33	1.37
1	A	1786	A	N9-C4	-7.67	1.33	1.37
1	A	2287	A	N9-C4	-7.67	1.33	1.37
1	A	783	A	N3-C4	-7.60	1.30	1.34
2	B	53	A	N9-C4	7.31	1.42	1.37
1	A	2593	U	C4-O4	7.14	1.29	1.23
1	A	2776	A	N9-C4	7.00	1.42	1.37
1	A	1274	A	N3-C4	-6.93	1.30	1.34
1	A	2450	A	N9-C4	6.90	1.42	1.37
1	A	74	A	N7-C5	-6.89	1.35	1.39
1	A	1617	C	N1-C6	-6.84	1.33	1.37
1	A	2393	A	N9-C4	-6.78	1.33	1.37
1	A	1785	A	N7-C5	-6.77	1.35	1.39
1	A	1931	U	N3-C4	-6.66	1.32	1.38
1	A	2433	A	N7-C5	-6.65	1.35	1.39
1	A	2227	A	N9-C4	-6.58	1.33	1.37
1	A	802	A	N3-C4	-6.57	1.30	1.34
1	A	2031	A	N9-C4	6.52	1.41	1.37
1	A	1890	A	N9-C4	-6.50	1.33	1.37
1	A	1342	A	N9-C4	-6.36	1.34	1.37
1	A	2062	A	N3-C4	6.29	1.38	1.34
1	A	783	A	N9-C4	-6.26	1.34	1.37
1	A	2062	A	C5-C4	6.24	1.43	1.38
1	A	2032	G	N9-C8	6.24	1.42	1.37
1	A	1928	A	N9-C4	-6.24	1.34	1.37
1	A	127	A	N9-C4	-6.20	1.34	1.37
1	A	1899	G	C2-N3	6.18	1.37	1.32
1	A	654(T)	C	C1'-N1	6.17	1.58	1.48
1	A	1665	A	N7-C5	-6.17	1.35	1.39
1	A	2712(A)	A	N7-C5	-6.14	1.35	1.39
1	A	685	A	C5-C4	-6.07	1.34	1.38
1	A	471	A	C5-C6	-6.04	1.35	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2032	G	N7-C5	6.00	1.42	1.39
1	A	2490	G	C2-N3	5.99	1.37	1.32
1	A	2553	G	N3-C4	-5.98	1.31	1.35
1	A	776	G	N9-C4	-5.96	1.33	1.38
1	A	1315	C	N3-C4	-5.86	1.29	1.33
1	A	2451	A	N9-C4	-5.81	1.34	1.37
1	A	2251	G	N3-C4	-5.80	1.31	1.35
1	A	789	A	N9-C4	-5.78	1.34	1.37
1	A	1776	G	N7-C5	-5.74	1.35	1.39
1	A	2002	G	C8-N7	5.72	1.34	1.30
1	A	1783	A	N9-C4	-5.71	1.34	1.37
1	A	1786	A	N7-C5	-5.67	1.35	1.39
1	A	1308	A	N7-C5	-5.65	1.35	1.39
1	A	37	C	N3-C4	-5.60	1.30	1.33
1	A	821	A	N3-C4	-5.59	1.31	1.34
1	A	1328	G	N3-C4	5.59	1.39	1.35
1	A	2062	A	P-O5'	-5.57	1.54	1.59
1	A	1213	A	N9-C4	-5.56	1.34	1.37
1	A	607	U	N3-C4	-5.54	1.33	1.38
1	A	2409	G	C5-C6	-5.54	1.36	1.42
1	A	1786	A	C5-C6	-5.52	1.36	1.41
1	A	727	A	N9-C4	5.50	1.41	1.37
1	A	2713	A	N9-C4	-5.50	1.34	1.37
1	A	1566	A	N9-C4	-5.47	1.34	1.37
1	A	687	C	C4-C5	-5.46	1.38	1.43
1	A	793	A	C5-C6	-5.45	1.36	1.41
1	A	571	A	N9-C4	-5.45	1.34	1.37
1	A	252	G	N3-C4	-5.45	1.31	1.35
1	A	1809	A	N7-C5	-5.44	1.35	1.39
1	A	1821	A	C5-C6	-5.44	1.36	1.41
1	A	686	G	N7-C5	-5.43	1.35	1.39
1	A	2421	G	N9-C4	5.43	1.42	1.38
1	A	2251	G	C6-N1	-5.43	1.35	1.39
1	A	2433	A	N3-C4	-5.41	1.31	1.34
1	A	680	G	C6-N1	-5.39	1.35	1.39
1	A	195	A	N7-C5	5.38	1.42	1.39
1	A	793	A	N9-C4	-5.38	1.34	1.37
1	A	1021	A	N9-C4	-5.37	1.34	1.37
1	A	2452	C	N1-C6	-5.33	1.33	1.37
1	A	307	G	N9-C4	5.31	1.42	1.38
1	A	1638	C	N3-C4	-5.29	1.30	1.33
1	A	774	A	N9-C4	-5.28	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	747	U	N1-C2	-5.28	1.33	1.38
1	A	2062	A	C6-N1	5.26	1.39	1.35
1	A	2048	G	C6-N1	-5.23	1.35	1.39
1	A	2553	G	C6-N1	-5.22	1.35	1.39
3	D	241	PRO	N-CD	5.21	1.55	1.47
1	A	1803	A	C5-C4	-5.19	1.35	1.38
1	A	751	A	N7-C5	-5.18	1.36	1.39
1	A	2409	G	N7-C5	-5.16	1.36	1.39
1	A	28	A	N3-C4	-5.13	1.31	1.34
1	A	568	U	C4-O4	5.13	1.27	1.23
1	A	2614	A	C6-N1	5.13	1.39	1.35
1	A	1613	G	N7-C5	-5.12	1.36	1.39
1	A	462	C	N1-C6	-5.12	1.34	1.37
1	A	761	A	N9-C4	-5.11	1.34	1.37
1	A	776	G	N7-C5	5.10	1.42	1.39
1	A	572	A	C6-N1	-5.09	1.31	1.35
1	A	2837	G	C8-N7	5.08	1.33	1.30
1	A	821	A	N7-C5	-5.07	1.36	1.39
1	A	1307	A	N9-C4	-5.07	1.34	1.37
1	A	1299	G	N9-C4	-5.05	1.33	1.38
1	A	687	C	N1-C6	-5.05	1.34	1.37
1	A	761	A	N7-C5	5.05	1.42	1.39
1	A	689	A	N9-C4	-5.05	1.34	1.37
1	A	216	A	C5-C6	-5.03	1.36	1.41
1	A	1969	A	N3-C4	-5.02	1.31	1.34
1	A	471	A	N9-C4	-5.01	1.34	1.37
1	A	607	U	C2-N3	-5.01	1.34	1.37
1	A	768	G	C6-N1	-5.00	1.36	1.39

All (2779) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2490	G	C6-C5-N7	-18.87	119.08	130.40
1	A	783	A	C6-C5-N7	-17.19	120.27	132.30
1	A	783	A	N1-C6-N6	16.89	128.74	118.60
1	A	2490	G	C4-C5-N7	16.43	117.37	110.80
1	A	2490	G	N3-C4-N9	15.10	135.06	126.00
1	A	2490	G	C5-C6-O6	-14.24	120.06	128.60
1	A	2490	G	C4-N9-C1'	13.75	144.38	126.50
1	A	2556	C	N1-C2-O2	13.62	127.07	118.90
1	A	1899	G	C6-C5-N7	-13.57	122.26	130.40
1	A	2490	G	N1-C6-O6	13.40	127.94	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2593	U	N3-C4-C5	-13.16	106.70	114.60
1	A	791	C	C6-N1-C2	12.89	125.46	120.30
1	A	2490	G	C8-N9-C1'	-12.76	110.42	127.00
1	A	2450	A	C8-N9-C4	-12.72	100.71	105.80
1	A	567	A	O5'-P-OP2	-12.71	94.27	105.70
1	A	783	A	C5-N7-C8	-12.66	97.57	103.90
1	A	1795	C	C6-N1-C2	-12.56	115.28	120.30
1	A	1786	A	C2-N3-C4	-12.44	104.38	110.60
1	A	733	G	C5-N7-C8	-12.43	98.08	104.30
1	A	2490	G	N9-C4-C5	-12.41	100.44	105.40
1	A	856	C	C5-C6-N1	12.40	127.20	121.00
1	A	2447	G	C6-C5-N7	-12.29	123.03	130.40
1	A	1698	A	C2-N3-C4	-12.12	104.54	110.60
1	A	783	A	C4-C5-C6	12.12	123.06	117.00
1	A	2614	A	C6-N1-C2	-12.11	111.34	118.60
1	A	2421	G	N3-C4-N9	12.09	133.25	126.00
1	A	2614	A	C5-C6-N1	11.99	123.69	117.70
1	A	1899	G	N3-C4-N9	11.97	133.18	126.00
1	A	783	A	C4-C5-N7	11.95	116.68	110.70
1	A	1437	C	C6-N1-C2	-11.86	115.56	120.30
1	A	1617	C	C6-N1-C2	11.82	125.03	120.30
1	A	1776	G	C6-C5-N7	-11.80	123.32	130.40
1	A	1624	G	N1-C6-O6	11.65	126.89	119.90
1	A	2053	G	O5'-P-OP1	-11.61	95.26	105.70
1	A	856	C	C6-N1-C2	-11.59	115.66	120.30
1	A	2394	C	N1-C2-O2	11.58	125.85	118.90
1	A	676	A	N7-C8-N9	11.55	119.58	113.80
1	A	450	G	C5-C6-N1	-11.52	105.74	111.50
1	A	780	G	C8-N9-C4	-11.48	101.81	106.40
1	A	527	C	N1-C2-O2	11.47	125.78	118.90
1	A	2712(A)	A	C8-N9-C4	-11.44	101.22	105.80
1	A	2032	G	C5-N7-C8	-11.39	98.61	104.30
1	A	382	G	N1-C6-O6	11.36	126.72	119.90
1	A	2544	G	N1-C6-O6	11.29	126.67	119.90
1	A	2506	U	N3-C2-O2	-11.27	114.31	122.20
1	A	2584	U	C5-C4-O4	11.15	132.59	125.90
1	A	1899	G	N3-C2-N2	11.14	127.70	119.90
1	A	1786	A	N1-C6-N6	11.04	125.23	118.60
1	A	2870	C	C6-N1-C2	-11.01	115.90	120.30
1	A	1190	G	C8-N9-C4	-10.97	102.01	106.40
1	A	733	G	N7-C8-N9	10.97	118.58	113.10
1	A	783	A	N7-C8-N9	10.96	119.28	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1786	A	C5-N7-C8	-10.87	98.46	103.90
1	A	733	G	C8-N9-C4	-10.81	102.08	106.40
1	A	1821	A	N1-C6-N6	10.79	125.08	118.60
1	A	2409	G	C4-C5-N7	10.78	115.11	110.80
1	A	676	A	C8-N9-C4	-10.74	101.50	105.80
1	A	2584	U	C6-N1-C2	-10.73	114.56	121.00
1	A	116	C	C6-N1-C2	-10.71	116.01	120.30
1	A	791	C	C5-C6-N1	-10.70	115.65	121.00
1	A	1698	A	N1-C6-N6	10.65	124.99	118.60
1	A	2032	G	N3-C4-C5	10.63	133.92	128.60
1	A	2490	G	C5-N7-C8	-10.63	98.98	104.30
1	A	1688	U	C6-N1-C2	-10.62	114.62	121.00
1	A	74	A	C5-C6-N1	-10.58	112.41	117.70
1	A	2011	U	N3-C2-O2	10.56	129.59	122.20
1	A	391	G	N1-C6-O6	10.55	126.23	119.90
1	A	247	G	N1-C6-O6	-10.52	113.59	119.90
1	A	915	C	C6-N1-C2	-10.52	116.09	120.30
1	A	2614	A	C5-C6-N6	-10.51	115.29	123.70
1	A	1328	G	N3-C4-N9	10.45	132.27	126.00
1	A	1142(A)	A	C2-N3-C4	-10.37	105.41	110.60
1	A	1022	G	N1-C6-O6	-10.35	113.69	119.90
1	A	1931	U	C5-C4-O4	10.34	132.11	125.90
2	B	54	G	C8-N9-C4	-10.31	102.28	106.40
1	A	1647	G	O5'-P-OP1	-10.29	96.44	105.70
1	A	733	G	C4-C5-N7	10.26	114.90	110.80
1	A	307	G	N3-C4-C5	-10.22	123.49	128.60
1	A	783	A	C2-N3-C4	-10.21	105.50	110.60
1	A	2430	A	C5-C6-N1	-10.19	112.61	117.70
1	A	1698	A	C5-C6-N1	-10.17	112.61	117.70
1	A	450	G	C4-C5-C6	10.16	124.90	118.80
1	A	783	A	C5-C6-N1	-10.16	112.62	117.70
1	A	1931	U	O5'-P-OP1	-10.15	96.56	105.70
1	A	2421	G	N3-C4-C5	-10.14	123.53	128.60
1	A	1665	A	C4-C5-C6	10.12	122.06	117.00
1	A	1940	U	C6-N1-C2	-10.10	114.94	121.00
1	A	1786	A	C4-C5-N7	10.09	115.74	110.70
1	A	2004	G	N1-C6-O6	10.07	125.94	119.90
4	E	21	VAL	C-N-CD	-10.07	98.45	120.60
1	A	1786	A	C6-C5-N7	-10.05	125.26	132.30
1	A	1623	G	N1-C6-O6	9.97	125.88	119.90
1	A	1899	G	N1-C2-N2	-9.97	107.23	116.20
1	A	929	G	C6-C5-N7	-9.97	124.42	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2446	G	O5'-P-OP2	-9.97	96.73	105.70
1	A	2455	G	N1-C6-O6	9.96	125.88	119.90
1	A	2516	G	N1-C6-O6	-9.93	113.94	119.90
1	A	2712(A)	A	N7-C8-N9	9.92	118.76	113.80
1	A	1269	A	C2-N3-C4	-9.91	105.64	110.60
1	A	956	G	C5-C6-N1	-9.91	106.55	111.50
1	A	676	A	C5-N7-C8	-9.89	98.95	103.90
1	A	2325	G	N1-C6-O6	9.89	125.84	119.90
1	A	1128	A	O5'-P-OP2	-9.89	96.80	105.70
1	A	1786	A	C5-C6-N1	-9.86	112.77	117.70
1	A	1791	A	O5'-P-OP1	-9.83	96.85	105.70
1	A	2048	G	C8-N9-C4	-9.82	102.47	106.40
1	A	697	C	C6-N1-C2	-9.82	116.37	120.30
1	A	1698	A	C6-C5-N7	-9.82	125.43	132.30
1	A	1619	G	C5-C6-O6	-9.82	122.71	128.60
1	A	1304	C	N3-C4-C5	9.80	125.82	121.90
1	A	2490	G	N7-C8-N9	9.80	118.00	113.10
1	A	252	G	N9-C4-C5	9.74	109.30	105.40
1	A	694	U	O5'-P-OP2	-9.74	96.93	105.70
1	A	1130	U	P-O3'-C3'	9.74	131.39	119.70
1	A	2430	A	C2-N3-C4	-9.68	105.76	110.60
1	A	330	A	N1-C6-N6	9.68	124.41	118.60
2	B	43	C	C6-N1-C2	-9.67	116.43	120.30
1	A	2032	G	C4-C5-N7	9.65	114.66	110.80
1	A	929	G	C4-N9-C1'	9.64	139.03	126.50
1	A	1776	G	N1-C6-O6	9.64	125.68	119.90
1	A	184	C	C6-N1-C2	9.62	124.15	120.30
1	A	2073	C	N1-C2-O2	-9.61	113.13	118.90
1	A	2287	A	C2-N3-C4	-9.60	105.80	110.60
1	A	184	C	C5-C6-N1	-9.59	116.21	121.00
1	A	1236	G	N1-C6-O6	9.57	125.64	119.90
1	A	2437	U	N1-C2-N3	9.57	120.64	114.90
1	A	1021	A	C2-N3-C4	-9.55	105.82	110.60
1	A	1306	C	C6-N1-C2	-9.54	116.48	120.30
1	A	929	G	N3-C4-C5	-9.49	123.86	128.60
1	A	140	A	C5-N7-C8	-9.48	99.16	103.90
1	A	1190	G	N7-C8-N9	9.47	117.84	113.10
1	A	2503	A	C8-N9-C4	-9.47	102.01	105.80
1	A	673	C	C6-N1-C2	-9.46	116.52	120.30
1	A	2516	G	C5-C6-N1	9.45	116.23	111.50
1	A	205	G	N3-C4-N9	9.43	131.66	126.00
1	A	401	A	N1-C6-N6	-9.41	112.95	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1271	G	C5-C6-N1	-9.40	106.80	111.50
1	A	1834	U	N3-C2-O2	-9.39	115.63	122.20
1	A	2592	G	O5'-P-OP2	-9.37	97.27	105.70
1	A	2468	G	C4-N9-C1'	9.37	138.68	126.50
1	A	776	G	C5-N7-C8	-9.36	99.62	104.30
1	A	2509	G	C6-C5-N7	-9.36	124.78	130.40
1	A	2685	G	C5-C6-N1	-9.35	106.83	111.50
1	A	929	G	N3-C4-N9	9.34	131.60	126.00
1	A	1332	G	C2-N3-C4	-9.34	107.23	111.90
1	A	1899	G	C4-N9-C1'	9.34	138.64	126.50
1	A	1791	A	N1-C6-N6	-9.33	113.00	118.60
2	B	70	C	C6-N1-C2	-9.33	116.57	120.30
1	A	393	C	C6-N1-C2	-9.30	116.58	120.30
1	A	2002	G	C5-N7-C8	-9.28	99.66	104.30
1	A	1239	G	N1-C6-O6	9.27	125.46	119.90
1	A	382	G	C5-C6-N1	-9.25	106.88	111.50
1	A	2468	G	C6-C5-N7	-9.24	124.85	130.40
1	A	2439	A	N7-C8-N9	9.24	118.42	113.80
2	B	53	A	C8-N9-C4	-9.23	102.11	105.80
1	A	2593	U	C6-N1-C2	-9.23	115.46	121.00
1	A	2848	G	P-O3'-C3'	9.23	130.77	119.70
1	A	762	U	N3-C2-O2	9.22	128.65	122.20
1	A	1187	G	C5-C6-N1	-9.20	106.90	111.50
1	A	1821	A	C5-C6-N6	-9.20	116.34	123.70
1	A	2447	G	N1-C6-O6	9.16	125.40	119.90
1	A	1835	G	N3-C4-C5	-9.15	124.02	128.60
1	A	2211	G	N7-C8-N9	9.15	117.68	113.10
1	A	863	A	O5'-P-OP2	-9.13	97.48	105.70
1	A	2584	U	N1-C2-N3	9.13	120.38	114.90
1	A	2544	G	C6-C5-N7	-9.12	124.93	130.40
1	A	22	C	N3-C4-C5	9.11	125.54	121.90
1	A	1665	A	N1-C6-N6	9.10	124.06	118.60
1	A	484	C	C2-N1-C1'	9.07	128.77	118.80
1	A	74	A	C2-N3-C4	-9.06	106.07	110.60
1	A	2069	G	O5'-P-OP1	-9.06	97.55	105.70
1	A	67	U	C5-C6-N1	9.05	127.23	122.70
1	A	1204	A	C2-N3-C4	-9.04	106.08	110.60
1	A	2409	G	C5-C6-O6	-9.04	123.18	128.60
1	A	1496	A	N7-C8-N9	9.01	118.31	113.80
1	A	2409	G	C6-C5-N7	-9.01	125.00	130.40
1	A	745	G	N3-C4-N9	9.00	131.40	126.00
2	B	54	G	N7-C8-N9	8.99	117.59	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	130	C	C6-N1-C2	8.98	123.89	120.30
1	A	944	G	N1-C2-N3	8.97	129.28	123.90
1	A	397	G	C5-C6-N1	-8.97	107.02	111.50
1	A	1829	A	O5'-P-OP2	-8.96	97.63	105.70
1	A	28	A	C8-N9-C4	-8.91	102.23	105.80
1	A	1817	G	N1-C6-O6	8.91	125.25	119.90
1	A	2452	C	N3-C4-N4	8.91	124.24	118.00
1	A	917	A	C2-N3-C4	-8.90	106.15	110.60
1	A	2439	A	N1-C6-N6	8.90	123.94	118.60
1	A	2583	G	N1-C6-O6	-8.87	114.58	119.90
1	A	301	G	C8-N9-C4	8.86	109.94	106.40
1	A	621	A	C2-N3-C4	-8.85	106.17	110.60
1	A	2421	G	C8-N9-C1'	-8.84	115.50	127.00
1	A	1899	G	C4-C5-N7	8.82	114.33	110.80
1	A	198	C	N3-C4-N4	8.82	124.17	118.00
1	A	2439	A	C6-C5-N7	-8.81	126.13	132.30
1	A	2843	G	N1-C6-O6	8.80	125.18	119.90
1	A	1266	G	C8-N9-C4	8.80	109.92	106.40
1	A	768	G	N3-C4-C5	-8.78	124.21	128.60
1	A	1371	G	N1-C6-O6	8.78	125.17	119.90
1	A	450	G	C6-C5-N7	-8.78	125.13	130.40
1	A	2095	C	C6-N1-C2	-8.77	116.79	120.30
1	A	804	A	N1-C6-N6	-8.77	113.34	118.60
1	A	379	G	N1-C6-O6	8.76	125.15	119.90
1	A	1899	G	N9-C4-C5	-8.75	101.90	105.40
1	A	1204	A	O4'-C1'-N9	8.74	115.19	108.20
1	A	1332	G	C6-C5-N7	-8.73	125.16	130.40
1	A	530	G	N3-C2-N2	8.73	126.01	119.90
1	A	2468	G	C4-C5-N7	8.73	114.29	110.80
1	A	508	G	C4-C5-N7	8.72	114.29	110.80
1	A	857	C	C6-N1-C2	-8.72	116.81	120.30
1	A	1805	U	N1-C2-N3	8.72	120.13	114.90
1	A	2591	C	N3-C2-O2	8.71	128.00	121.90
1	A	674	G	C8-N9-C4	-8.71	102.92	106.40
1	A	2421	G	C4-N9-C1'	8.70	137.80	126.50
1	A	1623	G	C5-C6-O6	-8.69	123.39	128.60
1	A	573	G	C4-N9-C1'	8.65	137.75	126.50
1	A	252	G	C8-N9-C4	-8.65	102.94	106.40
1	A	2702	U	C5-C6-N1	8.65	127.03	122.70
1	A	2593	U	N3-C4-O4	8.65	125.45	119.40
12	Q	81	VAL	CB-CA-C	-8.65	94.97	111.40
1	A	2519	U	O5'-P-OP1	-8.64	97.92	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1699	G	C4-C5-N7	-8.61	107.35	110.80
1	A	382	G	C8-N9-C4	8.61	109.84	106.40
1	A	512	G	N3-C4-N9	-8.60	120.84	126.00
1	A	2383	G	C6-C5-N7	-8.60	125.24	130.40
1	A	702	G	C4-N9-C1'	8.59	137.67	126.50
1	A	932	G	N3-C4-N9	-8.59	120.84	126.00
1	A	1471	A	C8-N9-C4	-8.59	102.36	105.80
1	A	1624	G	C6-C5-N7	-8.59	125.25	130.40
1	A	205	G	C5-C6-N1	8.58	115.79	111.50
1	A	1678	G	N3-C4-N9	-8.58	120.85	126.00
1	A	1619	G	C4-C5-N7	8.56	114.22	110.80
1	A	52	A	C8-N9-C4	-8.53	102.39	105.80
1	A	1899	G	C8-N9-C1'	-8.52	115.92	127.00
1	A	140	A	C4-C5-N7	8.52	114.96	110.70
1	A	1208	C	C6-N1-C2	8.51	123.71	120.30
1	A	2584	U	N3-C4-C5	-8.51	109.50	114.60
1	A	1223	C	N1-C2-O2	-8.50	113.80	118.90
1	A	129	C	C6-N1-C2	8.50	123.70	120.30
1	A	1190	G	C5-N7-C8	-8.49	100.05	104.30
1	A	662	G	C2-N3-C4	-8.48	107.66	111.90
1	A	2731	G	N1-C6-O6	8.48	124.99	119.90
1	A	198	C	C6-N1-C2	-8.47	116.91	120.30
1	A	1332	G	C5-C6-N1	-8.47	107.27	111.50
1	A	1821	A	N9-C4-C5	-8.47	102.41	105.80
1	A	852	G	O5'-P-OP2	-8.47	98.08	105.70
1	A	1473	G	N1-C6-O6	8.46	124.98	119.90
1	A	270(X)	G	C5-C6-N1	-8.45	107.27	111.50
1	A	2052	G	N1-C6-O6	8.45	124.97	119.90
1	A	1271	G	C2-N3-C4	-8.45	107.68	111.90
1	A	2482	G	C4-N9-C1'	8.45	137.48	126.50
1	A	2346	A	C2-N3-C4	-8.43	106.38	110.60
1	A	27	G	N3-C4-C5	8.43	132.81	128.60
1	A	74	A	C6-C5-N7	-8.43	126.40	132.30
1	A	2556	C	N3-C2-O2	-8.42	116.01	121.90
1	A	247	G	N3-C2-N2	8.41	125.79	119.90
1	A	1665	A	C6-C5-N7	-8.41	126.41	132.30
1	A	1681	G	N1-C6-O6	8.41	124.94	119.90
1	A	300	A	N1-C6-N6	8.40	123.64	118.60
1	A	1734	C	C6-N1-C2	-8.40	116.94	120.30
1	A	1937	A	C8-N9-C4	8.40	109.16	105.80
1	A	2049	G	O5'-P-OP1	-8.40	98.14	105.70
1	A	2584	U	N3-C2-O2	-8.40	116.32	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	945	A	C4-C5-N7	8.39	114.90	110.70
1	A	1653	G	P-O3'-C3'	8.39	129.77	119.70
1	A	2612	C	C6-N1-C2	8.39	123.66	120.30
1	A	1471	A	C4-C5-C6	8.39	121.19	117.00
1	A	2035	G	C8-N9-C4	8.39	109.76	106.40
1	A	1479	G	O5'-P-OP2	-8.38	98.16	105.70
1	A	2383	G	N1-C6-O6	8.37	124.92	119.90
1	A	221	A	C8-N9-C4	-8.37	102.45	105.80
1	A	1496	A	C8-N9-C4	-8.37	102.45	105.80
1	A	2570	G	N1-C6-O6	8.35	124.91	119.90
1	A	761	A	O5'-P-OP2	-8.35	98.18	105.70
1	A	600	G	C8-N9-C4	8.33	109.73	106.40
1	A	1896	G	C6-C5-N7	-8.31	125.41	130.40
1	A	242	G	P-O3'-C3'	8.31	129.67	119.70
1	A	1809	A	C4-C5-C6	8.29	121.15	117.00
1	A	330	A	C5-N7-C8	-8.29	99.75	103.90
1	A	2593	U	C4-C5-C6	8.29	124.67	119.70
1	A	673	C	N3-C2-O2	-8.28	116.10	121.90
1	A	2868	A	O5'-P-OP1	-8.28	98.25	105.70
1	A	1602	U	C6-N1-C2	-8.27	116.04	121.00
1	A	2437	U	N3-C4-C5	-8.27	109.64	114.60
2	B	54	G	C6-C5-N7	-8.27	125.44	130.40
1	A	1131	G	C8-N9-C4	-8.27	103.09	106.40
1	A	1336	A	N1-C6-N6	-8.27	113.64	118.60
1	A	929	G	C4-C5-C6	8.26	123.76	118.80
1	A	1699	G	C5-C6-O6	8.26	133.56	128.60
1	A	1763	G	O5'-P-OP2	-8.26	98.27	105.70
1	A	216	A	N1-C6-N6	8.24	123.54	118.60
1	A	1624	G	C2-N3-C4	-8.24	107.78	111.90
1	A	330	A	C4-C5-N7	8.24	114.82	110.70
1	A	1338	G	C6-C5-N7	-8.24	125.46	130.40
1	A	727	A	N1-C6-N6	-8.22	113.67	118.60
1	A	2714	G	C6-C5-N7	-8.22	125.47	130.40
1	A	1800	C	O5'-P-OP1	-8.22	98.30	105.70
1	A	1678	G	N3-C2-N2	-8.21	114.16	119.90
1	A	2490	G	N3-C4-C5	-8.19	124.50	128.60
2	B	43	C	N3-C2-O2	-8.19	116.17	121.90
1	A	1931	U	N1-C2-N3	8.19	119.81	114.90
1	A	568	U	N3-C4-C5	-8.19	109.69	114.60
1	A	2292	C	N3-C4-C5	8.18	125.17	121.90
1	A	2437	U	C5-C4-O4	8.17	130.80	125.90
1	A	1022	G	P-O3'-C3'	8.16	129.50	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1776	G	C4-C5-N7	8.16	114.06	110.80
1	A	248	G	C2-N3-C4	-8.15	107.82	111.90
1	A	27	G	C4-N9-C1'	-8.15	115.91	126.50
1	A	205	G	N3-C4-C5	-8.14	124.53	128.60
1	A	2644	G	C5-C6-N1	-8.14	107.43	111.50
1	A	2371	G	C5-C6-N1	-8.14	107.43	111.50
1	A	2512	C	C6-N1-C2	8.14	123.56	120.30
1	A	954	G	N3-C4-C5	-8.13	124.53	128.60
1	A	1815	A	N1-C6-N6	-8.13	113.72	118.60
1	A	1989	G	N3-C2-N2	-8.13	114.21	119.90
1	A	2845	G	O5'-P-OP1	8.12	120.45	110.70
1	A	2447	G	C4-C5-N7	8.12	114.05	110.80
1	A	2005	A	O5'-P-OP2	-8.11	98.40	105.70
1	A	1792	G	C6-C5-N7	-8.10	125.54	130.40
1	A	2713	A	N1-C6-N6	8.10	123.46	118.60
1	A	55	G	N3-C4-C5	-8.10	124.55	128.60
1	A	258	G	N1-C6-O6	8.09	124.75	119.90
1	A	745	G	C8-N9-C1'	-8.09	116.49	127.00
1	A	671	C	C6-N1-C2	-8.07	117.07	120.30
1	A	2722	G	C8-N9-C1'	-8.07	116.51	127.00
1	A	1941	C	O5'-P-OP1	-8.05	98.45	105.70
1	A	2452	C	C2-N1-C1'	8.05	127.66	118.80
1	A	465	G	C4-C5-C6	8.05	123.63	118.80
1	A	2556	C	C2-N1-C1'	8.05	127.65	118.80
1	A	2490	G	N3-C2-N2	8.04	125.53	119.90
1	A	1619	G	N1-C6-O6	8.03	124.72	119.90
1	A	2246	G	N1-C6-O6	8.03	124.72	119.90
1	A	1264	G	C8-N9-C4	-8.02	103.19	106.40
1	A	533	G	N3-C4-N9	8.01	130.81	126.00
1	A	74	A	N1-C6-N6	8.01	123.40	118.60
1	A	74	A	C4-C5-C6	8.00	121.00	117.00
1	A	1328	G	C5-C6-O6	-8.00	123.80	128.60
1	A	1931	U	C6-N1-C2	-7.99	116.21	121.00
1	A	1356	G	C8-N9-C4	-7.98	103.21	106.40
1	A	2246	G	C6-C5-N7	-7.98	125.61	130.40
1	A	2862	G	C6-C5-N7	-7.97	125.62	130.40
1	A	308	G	N1-C6-O6	-7.97	115.12	119.90
1	A	974(A)	C	N3-C2-O2	-7.97	116.32	121.90
1	A	140	A	N1-C6-N6	7.96	123.38	118.60
1	A	450	G	N1-C6-O6	7.96	124.68	119.90
1	A	270(C)	C	C5-C6-N1	7.94	124.97	121.00
1	A	130	C	N3-C4-C5	7.93	125.07	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	945	A	C5-N7-C8	-7.93	99.93	103.90
1	A	1681	G	C5-C6-N1	-7.93	107.54	111.50
1	A	2624	G	N1-C6-O6	7.93	124.66	119.90
1	A	1781	C	C2-N1-C1'	7.93	127.52	118.80
1	A	687	C	C6-N1-C2	-7.92	117.13	120.30
1	A	246	C	N1-C2-O2	-7.92	114.15	118.90
1	A	2490	G	C4-C5-C6	7.92	123.55	118.80
1	A	2420	C	O5'-P-OP1	-7.91	98.58	105.70
1	A	1869	G	C8-N9-C4	-7.90	103.24	106.40
1	A	2549	G	C4-C5-C6	7.88	123.53	118.80
1	A	1975	G	N1-C6-O6	7.87	124.62	119.90
1	A	1210	A	C8-N9-C4	-7.87	102.65	105.80
1	A	248	G	N1-C6-O6	7.86	124.62	119.90
1	A	2495	G	O5'-P-OP2	-7.86	98.63	105.70
1	A	1332	G	C4-C5-C6	7.86	123.52	118.80
1	A	2568	C	N3-C4-C5	7.86	125.04	121.90
1	A	977	G	C5-C6-N1	7.86	115.43	111.50
1	A	2516	G	N3-C4-C5	-7.85	124.67	128.60
1	A	676	A	O4'-C1'-N9	7.84	114.47	108.20
1	A	1610	A	C8-N9-C4	-7.84	102.66	105.80
1	A	1682	G	N1-C6-O6	7.84	124.60	119.90
1	A	974(A)	C	C6-N1-C2	-7.84	117.17	120.30
1	A	1138	G	C5-C6-O6	-7.83	123.90	128.60
1	A	2450	A	N3-C4-C5	-7.83	121.31	126.80
1	A	789	A	C5-C6-N6	7.83	129.97	123.70
23	1	79	GLY	N-CA-C	-7.83	93.52	113.10
1	A	533	G	N3-C4-C5	-7.82	124.69	128.60
1	A	2000	G	C8-N9-C4	-7.82	103.27	106.40
1	A	2731	G	C6-C5-N7	-7.82	125.71	130.40
1	A	788	A	O5'-P-OP1	-7.82	98.66	105.70
1	A	1975	G	C6-C5-N7	-7.82	125.71	130.40
1	A	2880	C	C6-N1-C2	-7.82	117.17	120.30
1	A	1614	A	C8-N9-C4	-7.81	102.68	105.80
1	A	738	G	C4-C5-N7	-7.80	107.68	110.80
1	A	1385	G	O4'-C1'-N9	7.80	114.44	108.20
1	A	2399	G	N3-C4-C5	-7.80	124.70	128.60
1	A	2712(A)	A	C5-N7-C8	-7.79	100.00	103.90
1	A	2004	G	C5-C6-N1	-7.79	107.60	111.50
1	A	2031	A	C2-N3-C4	7.79	114.50	110.60
1	A	2439	A	P-O3'-C3'	7.79	129.05	119.70
1	A	637	A	C8-N9-C4	-7.79	102.68	105.80
1	A	791	C	C2-N3-C4	-7.79	116.00	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	382	G	N9-C4-C5	-7.79	102.28	105.40
1	A	2665	A	C8-N9-C4	-7.79	102.68	105.80
1	A	444	C	OP2-P-O3'	7.78	122.31	105.20
1	A	1338	G	N1-C6-O6	7.78	124.57	119.90
1	A	2506	U	N1-C2-O2	7.78	128.25	122.80
1	A	391	G	C5-C6-N1	-7.77	107.61	111.50
1	A	465	G	C5-C6-N1	-7.76	107.62	111.50
1	A	450	G	N1-C2-N3	7.75	128.55	123.90
1	A	1896	G	N1-C6-O6	7.74	124.55	119.90
1	A	75	G	N3-C4-C5	-7.73	124.73	128.60
1	A	1688	U	C5-C6-N1	7.73	126.57	122.70
1	A	1653	G	N3-C4-C5	-7.72	124.74	128.60
1	A	2238	G	C8-N9-C4	-7.71	103.32	106.40
1	A	1253	A	C4-C5-C6	-7.70	113.15	117.00
1	A	1992	G	C5-C6-N1	7.70	115.35	111.50
1	A	487	C	C6-N1-C2	-7.69	117.22	120.30
1	A	921	G	C6-C5-N7	-7.69	125.79	130.40
1	A	2709	G	N1-C6-O6	7.68	124.51	119.90
1	A	1236	G	C5-C6-N1	-7.68	107.66	111.50
1	A	1899	G	C4-C5-C6	7.68	123.41	118.80
1	A	1776	G	C5-C6-O6	-7.68	123.99	128.60
1	A	1950	G	C4-C5-N7	7.68	113.87	110.80
1	A	1521	G	C6-C5-N7	-7.67	125.80	130.40
1	A	1799	G	C5-C6-O6	7.67	133.21	128.60
1	A	1786	A	N7-C8-N9	7.67	117.64	113.80
1	A	2032	G	N3-C4-N9	-7.67	121.40	126.00
2	B	30	C	C6-N1-C2	-7.67	117.23	120.30
1	A	929	G	C8-N9-C1'	-7.66	117.04	127.00
1	A	330	A	C6-C5-N7	-7.66	126.94	132.30
1	A	921	G	C5-C6-N1	-7.66	107.67	111.50
1	A	2468	G	N7-C8-N9	7.66	116.93	113.10
1	A	588	U	C2-N1-C1'	7.66	126.89	117.70
1	A	203	C	C6-N1-C2	7.66	123.36	120.30
1	A	397	G	N1-C6-O6	7.65	124.49	119.90
1	A	1215	G	N1-C6-O6	7.65	124.49	119.90
1	A	761	A	C5-N7-C8	-7.65	100.08	103.90
1	A	2722	G	C4-N9-C1'	7.65	136.44	126.50
1	A	2392	A	C5-C6-N1	-7.65	113.88	117.70
1	A	1396	U	C2-N1-C1'	7.64	126.87	117.70
1	A	1601	G	N9-C4-C5	-7.63	102.35	105.40
1	A	1215	G	C6-C5-N7	-7.63	125.82	130.40
1	A	2450	A	C2-N3-C4	7.63	114.42	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2843	G	C5-C6-O6	-7.62	124.03	128.60
1	A	140	A	N7-C8-N9	7.62	117.61	113.80
1	A	1940	U	C5-C6-N1	7.61	126.51	122.70
1	A	58	G	C8-N9-C4	-7.61	103.36	106.40
1	A	2639	A	C2-N3-C4	-7.61	106.80	110.60
1	A	533	G	C8-N9-C1'	-7.60	117.12	127.00
1	A	265	A	O4'-C1'-N9	7.60	114.28	108.20
1	A	2468	G	C5-C6-O6	-7.59	124.04	128.60
1	A	2437	U	C6-N1-C2	-7.59	116.44	121.00
1	A	533	G	C4-N9-C1'	7.59	136.37	126.50
1	A	1694	C	P-O3'-C3'	7.59	128.81	119.70
2	B	54	G	C4-N9-C1'	7.59	136.37	126.50
1	A	1429	G	N1-C6-O6	7.58	124.45	119.90
1	A	2324	C	C6-N1-C2	7.58	123.33	120.30
1	A	624	C	C5-C6-N1	7.58	124.79	121.00
1	A	2441	C	C2-N1-C1'	-7.58	110.47	118.80
1	A	962	G	N3-C4-N9	-7.57	121.46	126.00
1	A	573	G	C8-N9-C1'	-7.56	117.18	127.00
1	A	2702	U	C2-N1-C1'	7.56	126.77	117.70
1	A	372	G	O4'-C1'-N9	7.55	114.24	108.20
1	A	2002	G	C4-C5-N7	7.55	113.82	110.80
1	A	1703	G	C8-N9-C4	7.55	109.42	106.40
1	A	450	G	C2-N3-C4	-7.54	108.13	111.90
1	A	22	C	C2-N3-C4	-7.54	116.13	119.90
1	A	1654	A	N1-C6-N6	-7.53	114.08	118.60
1	A	2645	G	C5-C6-N1	-7.53	107.73	111.50
1	A	211	A	C2-N3-C4	-7.51	106.84	110.60
1	A	783	A	C8-N9-C4	-7.51	102.80	105.80
1	A	2439	A	C5-N7-C8	-7.51	100.15	103.90
1	A	1970	A	O4'-C1'-N9	-7.50	102.20	108.20
1	A	813	U	O5'-P-OP2	-7.50	98.95	105.70
1	A	2817	G	N3-C4-C5	-7.50	124.85	128.60
1	A	944	G	C5-C6-O6	7.49	133.09	128.60
1	A	621	A	C5-C6-N1	-7.49	113.95	117.70
1	A	1332	G	N1-C2-N3	7.49	128.40	123.90
1	A	1624	G	C5-C6-N1	-7.49	107.76	111.50
1	A	2770	G	N3-C4-C5	-7.49	124.86	128.60
1	A	396	G	C8-N9-C4	-7.49	103.41	106.40
1	A	819	A	C8-N9-C4	-7.48	102.81	105.80
1	A	1857	G	C5-C6-N1	-7.48	107.76	111.50
1	A	570	G	C8-N9-C4	-7.48	103.41	106.40
1	A	1903	G	C8-N9-C1'	-7.46	117.30	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	391	G	C6-C5-N7	-7.46	125.92	130.40
1	A	2867	G	C8-N9-C4	7.46	109.38	106.40
1	A	2484	G	C6-C5-N7	-7.45	125.93	130.40
1	A	1315	C	N3-C2-O2	-7.45	116.69	121.90
1	A	2549	G	C6-C5-N7	-7.44	125.93	130.40
1	A	55	G	C5-C6-N1	7.44	115.22	111.50
1	A	1204	A	N1-C2-N3	7.44	133.02	129.30
1	A	1517	G	N1-C6-O6	-7.44	115.44	119.90
1	A	2468	G	C8-N9-C1'	-7.44	117.33	127.00
1	A	2570	G	C6-C5-N7	-7.44	125.94	130.40
1	A	27	G	N3-C4-N9	-7.43	121.54	126.00
1	A	2393	A	C8-N9-C4	7.43	108.77	105.80
1	A	676	A	C4-C5-N7	7.43	114.41	110.70
1	A	2776	A	C8-N9-C4	-7.42	102.83	105.80
1	A	2350	C	N1-C2-O2	7.41	123.35	118.90
1	A	1624	G	N9-C4-C5	-7.41	102.44	105.40
1	A	1657	C	N1-C2-O2	7.40	123.34	118.90
1	A	1848	A	C5-C6-N1	7.40	121.40	117.70
1	A	300	A	C5-C6-N1	-7.40	114.00	117.70
1	A	1437	C	C5-C6-N1	7.40	124.70	121.00
1	A	553	U	C5-C4-O4	7.39	130.34	125.90
1	A	2617	C	C6-N1-C2	7.39	123.26	120.30
1	A	743	G	N1-C6-O6	7.39	124.33	119.90
1	A	1899	G	N3-C4-C5	-7.39	124.91	128.60
1	A	1931	U	N3-C4-O4	-7.38	114.23	119.40
1	A	2447	G	C5-N7-C8	-7.38	100.61	104.30
1	A	1353	A	C8-N9-C4	-7.38	102.85	105.80
1	A	741	G	C5-C6-O6	-7.37	124.18	128.60
1	A	2383	G	C4-C5-N7	7.37	113.75	110.80
1	A	761	A	C4-C5-C6	-7.37	113.32	117.00
1	A	2035	G	N7-C8-N9	-7.36	109.42	113.10
1	A	2507	C	N1-C2-O2	-7.36	114.48	118.90
1	A	1987	G	N1-C2-N3	7.36	128.31	123.90
1	A	2437	U	C4-C5-C6	7.35	124.11	119.70
1	A	1022	G	C6-C5-N7	7.35	134.81	130.40
1	A	1187	G	C8-N9-C4	-7.35	103.46	106.40
1	A	307	G	C2-N3-C4	7.35	115.57	111.90
1	A	702	G	C4-C5-C6	7.35	123.21	118.80
1	A	1661	G	C8-N9-C4	7.34	109.34	106.40
1	A	297	C	N3-C2-O2	-7.33	116.77	121.90
1	A	2004	G	C2-N3-C4	-7.33	108.23	111.90
1	A	1773	A	C4-C5-C6	7.33	120.66	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1899	G	N7-C8-N9	7.33	116.76	113.10
1	A	1601	G	N3-C4-N9	7.32	130.40	126.00
1	A	470	A	N1-C6-N6	-7.32	114.21	118.60
1	A	1604	C	N1-C2-O2	-7.32	114.51	118.90
1	A	1653	G	N1-C6-O6	-7.32	115.51	119.90
1	A	1929	G	C8-N9-C4	7.32	109.33	106.40
1	A	2495	G	C4-C5-N7	7.32	113.73	110.80
1	A	479	A	N9-C4-C5	7.31	108.72	105.80
1	A	2482	G	C8-N9-C1'	-7.31	117.50	127.00
1	A	2083	G	N1-C6-O6	7.30	124.28	119.90
1	A	2509	G	N1-C6-O6	7.30	124.28	119.90
1	A	37	C	C2-N3-C4	-7.30	116.25	119.90
1	A	1241	A	O4'-C1'-N9	7.30	114.04	108.20
1	A	2499	C	N3-C2-O2	-7.29	116.79	121.90
1	A	270(Z)	U	O4'-C1'-N1	7.29	114.03	108.20
1	A	662	G	C5-C6-N1	-7.29	107.86	111.50
1	A	2325	G	C6-C5-N7	-7.29	126.03	130.40
1	A	1698	A	C5-N7-C8	-7.28	100.26	103.90
1	A	2031	A	N3-C4-C5	-7.28	121.70	126.80
2	B	38	C	C6-N1-C2	-7.28	117.39	120.30
1	A	2365	G	N3-C4-C5	-7.28	124.96	128.60
1	A	979	G	C5-N7-C8	-7.27	100.67	104.30
1	A	2509	G	C2-N3-C4	-7.27	108.27	111.90
1	A	1328	G	N9-C4-C5	-7.27	102.49	105.40
1	A	2508	G	C6-C5-N7	-7.27	126.04	130.40
1	A	503	A	N1-C2-N3	7.26	132.93	129.30
1	A	512	G	N3-C4-C5	7.26	132.23	128.60
1	A	680	G	N3-C4-N9	7.26	130.36	126.00
1	A	1365	A	C8-N9-C4	-7.26	102.89	105.80
11	P	59	LEU	N-CA-C	-7.26	91.40	111.00
1	A	1517	G	C2-N3-C4	7.26	115.53	111.90
1	A	2032	G	C8-N9-C1'	7.26	136.43	127.00
1	A	145	G	N3-C4-C5	7.25	132.23	128.60
1	A	2468	G	N1-C6-O6	7.25	124.25	119.90
1	A	1634	A	C4-C5-N7	-7.25	107.08	110.70
1	A	380	U	N3-C4-O4	7.24	124.47	119.40
1	A	2776	A	P-O3'-C3'	7.24	128.39	119.70
1	A	74	A	N7-C8-N9	7.24	117.42	113.80
1	A	2503	A	N1-C6-N6	-7.23	114.26	118.60
1	A	1929	G	OP1-P-O3'	7.22	121.09	105.20
1	A	2211	G	C8-N9-C4	-7.22	103.51	106.40
1	A	1336	A	C5-C6-N1	7.22	121.31	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	706	A	N1-C6-N6	7.22	122.93	118.60
1	A	1792	G	N1-C6-O6	7.21	124.23	119.90
1	A	974(A)	C	P-O3'-C3'	7.21	128.35	119.70
1	A	1471	A	N1-C2-N3	7.21	132.91	129.30
1	A	1351	C	C6-N1-C2	-7.21	117.42	120.30
1	A	2499	C	C6-N1-C2	-7.21	117.42	120.30
1	A	227	A	P-O3'-C3'	7.20	128.34	119.70
1	A	783	A	C4-N9-C1'	7.20	139.26	126.30
1	A	2829	C	C6-N1-C2	7.20	123.18	120.30
1	A	141	A	N7-C8-N9	7.20	117.40	113.80
1	A	2194	G	C4-N9-C1'	7.20	135.86	126.50
1	A	1593	G	C8-N9-C4	-7.19	103.52	106.40
1	A	177	G	C5-C6-N1	7.19	115.09	111.50
1	A	1811	G	C4-C5-N7	7.19	113.67	110.80
1	A	2433	A	C4-C5-C6	7.19	120.59	117.00
1	A	1657	C	N3-C2-O2	-7.18	116.87	121.90
1	A	2409	G	N1-C6-O6	7.18	124.21	119.90
1	A	1291	C	C6-N1-C2	7.18	123.17	120.30
1	A	860	U	N3-C2-O2	-7.18	117.17	122.20
1	A	1818	U	N3-C4-C5	-7.18	110.29	114.60
1	A	2251	G	C4-N9-C1'	7.18	135.83	126.50
2	B	36	C	C6-N1-C2	7.18	123.17	120.30
1	A	198	C	C5-C6-N1	7.18	124.59	121.00
1	A	2318	G	O4'-C1'-N9	7.18	113.94	108.20
1	A	715	G	N3-C4-C5	-7.17	125.01	128.60
1	A	2393	A	C2-N3-C4	-7.17	107.01	110.60
2	B	43	C	N1-C2-O2	7.17	123.20	118.90
1	A	55	G	C2-N3-C4	7.17	115.48	111.90
1	A	789	A	N3-C4-N9	-7.17	121.66	127.40
1	A	689	A	C8-N9-C4	7.17	108.67	105.80
1	A	307	G	C8-N9-C4	-7.17	103.53	106.40
1	A	2490	G	N1-C2-N2	-7.17	109.75	116.20
1	A	921	G	N1-C6-O6	7.16	124.20	119.90
1	A	1834	U	C6-N1-C2	-7.16	116.70	121.00
1	A	1779	U	C2-N1-C1'	7.16	126.29	117.70
1	A	2503	A	N9-C4-C5	7.16	108.66	105.80
1	A	1982	C	C6-N1-C2	7.16	123.16	120.30
1	A	129	C	C5-C6-N1	-7.15	117.42	121.00
1	A	145	G	C4-N9-C1'	-7.15	117.20	126.50
1	A	1557	C	C6-N1-C2	7.15	123.16	120.30
1	A	1998	G	C8-N9-C4	7.15	109.26	106.40
1	A	508	G	N1-C6-O6	7.15	124.19	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	270(C)	C	C6-N1-C2	-7.14	117.44	120.30
1	A	465	G	C6-C5-N7	-7.14	126.12	130.40
1	A	2087	G	N1-C6-O6	7.13	124.18	119.90
1	A	2640	G	N1-C6-O6	7.13	124.18	119.90
1	A	1653	G	C5-C6-O6	7.13	132.88	128.60
1	A	2032	G	C4-N9-C1'	-7.12	117.24	126.50
1	A	2516	G	C2-N3-C4	7.12	115.46	111.90
1	A	1627	G	N1-C6-O6	7.12	124.17	119.90
1	A	2544	G	C5-C6-O6	-7.11	124.33	128.60
1	A	1602	U	N3-C4-C5	-7.10	110.34	114.60
1	A	2867	G	N3-C4-C5	7.10	132.15	128.60
1	A	252	G	C5-C6-O6	7.10	132.86	128.60
1	A	2032	G	C4-C5-C6	-7.10	114.54	118.80
1	A	573	G	O4'-C1'-N9	-7.09	102.53	108.20
1	A	775	G	N3-C4-C5	-7.09	125.05	128.60
1	A	2556	C	C6-N1-C1'	-7.09	112.29	120.80
1	A	444	C	C6-N1-C2	7.09	123.14	120.30
1	A	2421	G	N3-C2-N2	7.08	124.86	119.90
1	A	2597	G	C5-C6-N1	-7.08	107.96	111.50
1	A	51	G	N3-C4-N9	7.08	130.25	126.00
1	A	1404	C	N3-C2-O2	-7.08	116.94	121.90
1	A	2751	G	C8-N9-C4	-7.08	103.57	106.40
1	A	141	A	C5-N7-C8	-7.08	100.36	103.90
1	A	2196	C	C6-N1-C2	-7.08	117.47	120.30
1	A	917	A	C5-C6-N1	-7.08	114.16	117.70
1	A	85	G	N3-C4-C5	-7.08	125.06	128.60
1	A	966	G	O5'-P-OP2	-7.08	99.33	105.70
1	A	726	G	C4-C5-N7	-7.07	107.97	110.80
1	A	958	U	N3-C2-O2	-7.07	117.25	122.20
1	A	511	U	O5'-P-OP1	-7.07	99.34	105.70
1	A	860	U	C4-C5-C6	7.07	123.94	119.70
1	A	1779	U	C5-C6-N1	7.07	126.23	122.70
1	A	1949	G	C6-C5-N7	-7.07	126.16	130.40
1	A	2455	G	C5-C6-O6	-7.07	124.36	128.60
1	A	1985	G	N3-C4-C5	-7.06	125.07	128.60
1	A	2426	A	C8-N9-C4	-7.06	102.97	105.80
1	A	1328	G	C6-C5-N7	-7.06	126.16	130.40
1	A	2857	G	C6-C5-N7	-7.05	126.17	130.40
1	A	1835	G	N3-C4-N9	7.05	130.23	126.00
1	A	707	G	N3-C4-N9	7.05	130.23	126.00
1	A	1471	A	N7-C8-N9	7.05	117.33	113.80
12	Q	81	VAL	N-CA-C	7.05	130.04	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1314	C	O5'-P-OP1	-7.04	99.36	105.70
1	A	1840	G	N1-C6-O6	7.04	124.13	119.90
1	A	791	C	N3-C4-C5	7.04	124.72	121.90
1	A	1950	G	C5-N7-C8	-7.04	100.78	104.30
1	A	530	G	N1-C6-O6	-7.04	115.68	119.90
1	A	745	G	C4-N9-C1'	7.04	135.65	126.50
1	A	2211	G	C5-N7-C8	-7.04	100.78	104.30
1	A	184	C	C2-N3-C4	-7.03	116.38	119.90
1	A	137	C	C6-N1-C2	-7.03	117.49	120.30
1	A	1614	A	N7-C8-N9	7.03	117.31	113.80
1	A	250	G	O5'-P-OP1	-7.03	99.38	105.70
1	A	2674	G	N3-C4-C5	7.02	132.11	128.60
1	A	382	G	N3-C4-C5	7.02	132.11	128.60
1	A	1269	A	O5'-P-OP1	-7.02	99.38	105.70
1	A	2325	G	C5-C6-N1	-7.02	107.99	111.50
1	A	2419	U	N3-C2-O2	-7.02	117.29	122.20
1	A	2450	A	N7-C8-N9	7.02	117.31	113.80
1	A	297	C	N1-C2-O2	7.01	123.11	118.90
1	A	991	C	O5'-P-OP1	-7.01	99.39	105.70
1	A	1210	A	C4-C5-C6	7.01	120.51	117.00
1	A	1698	A	C4-C5-N7	7.01	114.21	110.70
1	A	1903	G	O5'-P-OP2	-7.01	99.39	105.70
1	A	1681	G	C6-C5-N7	-7.00	126.20	130.40
1	A	2346	A	N1-C2-N3	7.00	132.80	129.30
1	A	2049	G	C2-N3-C4	-7.00	108.40	111.90
1	A	1264	G	N3-C4-C5	-7.00	125.10	128.60
1	A	1636	C	N1-C2-O2	7.00	123.10	118.90
1	A	1241	A	N1-C2-N3	6.99	132.80	129.30
1	A	1786	A	N9-C4-C5	-6.99	103.00	105.80
1	A	2508	G	C8-N9-C1'	-6.99	117.92	127.00
1	A	1896	G	C4-C5-N7	6.99	113.59	110.80
1	A	2468	G	O4'-C1'-N9	6.99	113.79	108.20
1	A	1645	G	C5-C6-O6	-6.99	124.41	128.60
1	A	2509	G	N1-C2-N3	6.98	128.09	123.90
1	A	72	U	C5-C6-N1	-6.98	119.21	122.70
1	A	1678	G	C8-N9-C4	-6.98	103.61	106.40
1	A	2456	C	N3-C4-N4	6.98	122.89	118.00
1	A	57	C	C6-N1-C2	-6.98	117.51	120.30
1	A	860	U	N1-C2-N3	6.97	119.08	114.90
1	A	2056	G	C5-N7-C8	-6.97	100.82	104.30
1	A	1238	G	N3-C4-C5	6.96	132.08	128.60
1	A	2318	G	C8-N9-C4	-6.96	103.62	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	530	G	N1-C2-N2	-6.96	109.94	116.20
1	A	1440	G	N1-C6-O6	6.95	124.07	119.90
1	A	637	A	O5'-P-OP1	-6.95	99.45	105.70
1	A	2787	C	N1-C2-O2	6.95	123.07	118.90
1	A	1162	G	C5-C6-O6	-6.94	124.43	128.60
1	A	484	C	C6-N1-C1'	-6.94	112.47	120.80
1	A	1634	A	C5-N7-C8	6.94	107.37	103.90
1	A	768	G	C8-N9-C4	-6.94	103.62	106.40
1	A	1300	U	N3-C4-C5	-6.94	110.44	114.60
1	A	2311	A	C2-N3-C4	-6.94	107.13	110.60
1	A	2656	U	N3-C4-O4	6.94	124.26	119.40
2	B	22	U	C6-N1-C2	-6.94	116.84	121.00
1	A	2366	A	O5'-P-OP2	-6.93	99.46	105.70
1	A	2772	C	C6-N1-C2	6.93	123.07	120.30
1	A	777	A	C2-N3-C4	6.93	114.06	110.60
1	A	1022	G	C4-C5-N7	-6.93	108.03	110.80
1	A	1903	G	C4-N9-C1'	6.93	135.51	126.50
1	A	71	A	N1-C6-N6	6.92	122.75	118.60
1	A	848	G	N1-C6-O6	-6.92	115.75	119.90
1	A	1929	G	N9-C4-C5	-6.92	102.63	105.40
2	B	104	A	O5'-P-OP2	-6.92	99.47	105.70
1	A	2393	A	N1-C6-N6	6.91	122.75	118.60
1	A	1612	C	N3-C4-C5	6.91	124.66	121.90
1	A	2452	C	N3-C4-C5	-6.91	119.14	121.90
1	A	1667	G	O4'-C1'-N9	6.91	113.73	108.20
1	A	1602	U	N3-C2-O2	-6.90	117.37	122.20
1	A	1769	G	C6-C5-N7	-6.90	126.26	130.40
1	A	954	G	C8-N9-C4	-6.90	103.64	106.40
1	A	1471	A	C6-C5-N7	-6.89	127.47	132.30
2	B	22	U	C5-C6-N1	6.89	126.15	122.70
1	A	15	G	N3-C4-N9	-6.89	121.86	126.00
1	A	1623	G	C4-C5-N7	6.89	113.56	110.80
1	A	1299	G	N3-C4-C5	6.89	132.04	128.60
1	A	1858	G	C8-N9-C4	-6.89	103.64	106.40
1	A	533	G	C4-C5-C6	6.89	122.93	118.80
1	A	877	U	C5-C6-N1	6.89	126.14	122.70
1	A	1142(A)	A	C5-C6-N1	-6.88	114.26	117.70
1	A	1429	G	C6-C5-N7	-6.88	126.27	130.40
1	A	1779	U	C5-C4-O4	-6.88	121.77	125.90
1	A	307	G	N1-C6-O6	-6.88	115.77	119.90
1	A	1196	C	C6-N1-C2	-6.88	117.55	120.30
1	A	1816	G	C2-N3-C4	6.88	115.34	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2018	G	C6-C5-N7	-6.88	126.27	130.40
1	A	776	G	N3-C4-C5	6.87	132.04	128.60
1	A	1647	G	N3-C4-C5	6.87	132.04	128.60
1	A	2447	G	C4-C5-C6	6.87	122.92	118.80
1	A	932	G	C5-C6-N1	-6.87	108.07	111.50
1	A	15	G	C8-N9-C1'	6.86	135.92	127.00
1	A	268	C	C5-C6-N1	6.86	124.43	121.00
1	A	2581	G	C8-N9-C4	-6.86	103.66	106.40
1	A	508	G	C5-C6-O6	-6.86	124.48	128.60
1	A	1447	G	N1-C6-O6	6.86	124.01	119.90
1	A	2005	A	N1-C6-N6	-6.86	114.49	118.60
1	A	2333	A	C2-N3-C4	6.86	114.03	110.60
1	A	982	C	C2-N3-C4	6.85	123.33	119.90
1	A	1298	C	C6-N1-C2	-6.85	117.56	120.30
1	A	2042	A	C2-N3-C4	-6.85	107.18	110.60
1	A	785	G	O5'-P-OP1	-6.84	99.54	105.70
1	A	1949	G	C4-C5-C6	6.84	122.90	118.80
1	A	2512	C	N3-C2-O2	6.84	126.69	121.90
1	A	512	G	C8-N9-C1'	6.84	135.89	127.00
1	A	1353	A	C4-C5-C6	6.84	120.42	117.00
1	A	1756	G	C5-C6-N1	-6.83	108.08	111.50
1	A	780	G	N7-C8-N9	6.83	116.51	113.10
2	B	90	C	N1-C2-O2	6.83	123.00	118.90
1	A	1123	C	N3-C2-O2	6.82	126.68	121.90
1	A	1774	C	C6-N1-C2	-6.82	117.57	120.30
1	A	1617	C	C5-C6-N1	-6.82	117.59	121.00
1	A	1896	G	C5-C6-O6	-6.82	124.51	128.60
1	A	2043	C	C5-C6-N1	6.81	124.41	121.00
1	A	2832	U	P-O3'-C3'	6.81	127.88	119.70
1	A	1624	G	C8-N9-C4	6.81	109.12	106.40
1	A	1829	A	C5-C6-N1	6.81	121.10	117.70
1	A	673	C	N1-C2-O2	6.80	122.98	118.90
1	A	1795	C	N3-C2-O2	-6.80	117.14	121.90
1	A	1698	A	N7-C8-N9	6.80	117.20	113.80
1	A	1429	G	C4-C5-C6	6.79	122.88	118.80
1	A	1779	U	N3-C4-O4	6.79	124.15	119.40
1	A	2394	C	N3-C4-C5	6.78	124.61	121.90
1	A	1338	G	C5-C6-O6	-6.78	124.53	128.60
1	A	2483	C	C6-N1-C2	-6.78	117.59	120.30
1	A	1998	G	O5'-P-OP2	-6.78	99.60	105.70
1	A	2071	A	C5-C6-N6	-6.78	118.28	123.70
1	A	2827	C	C6-N1-C2	6.77	123.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	309	G	N1-C6-O6	6.77	123.96	119.90
1	A	944	G	C5-C6-N1	-6.77	108.11	111.50
1	A	2770	G	N3-C4-N9	6.77	130.06	126.00
1	A	249	C	O4'-C1'-N1	6.77	113.62	108.20
1	A	2441	C	C6-N1-C1'	6.77	128.92	120.80
1	A	27	G	C8-N9-C1'	6.76	135.79	127.00
1	A	760	G	C8-N9-C1'	-6.76	118.20	127.00
1	A	2508	G	N1-C6-O6	6.76	123.96	119.90
1	A	738	G	N9-C4-C5	6.76	108.10	105.40
1	A	760	G	C4-N9-C1'	6.76	135.29	126.50
1	A	1601	G	C4-C5-N7	6.76	113.50	110.80
1	A	745	G	N3-C4-C5	-6.76	125.22	128.60
1	A	791	C	C2-N1-C1'	-6.75	111.37	118.80
1	A	1857	G	C6-C5-N7	-6.75	126.35	130.40
1	A	2251	G	C8-N9-C1'	-6.75	118.23	127.00
1	A	307	G	C5-C6-N1	6.74	114.87	111.50
1	A	28	A	C4-C5-C6	6.74	120.37	117.00
1	A	962	G	O5'-P-OP2	-6.74	99.64	105.70
1	A	2646	C	O5'-P-OP2	-6.74	99.64	105.70
1	A	439	G	N1-C6-O6	6.74	123.94	119.90
1	A	651	G	N3-C4-C5	-6.74	125.23	128.60
1	A	1189	A	OP1-P-O3'	6.74	120.02	105.20
1	A	253	C	N3-C4-C5	6.73	124.59	121.90
1	A	1328	G	N3-C4-C5	-6.73	125.23	128.60
1	A	1698	A	C4-C5-C6	6.73	120.37	117.00
1	A	1776	G	C4-N9-C1'	6.73	135.25	126.50
1	A	2393	A	C5-C6-N1	-6.73	114.33	117.70
1	A	672	C	C6-N1-C2	-6.73	117.61	120.30
1	A	508	G	C5-N7-C8	-6.72	100.94	104.30
1	A	1374	G	C6-C5-N7	-6.72	126.37	130.40
1	A	439	G	C6-C5-N7	-6.72	126.37	130.40
1	A	2689	U	P-O3'-C3'	6.72	127.77	119.70
1	A	747	U	O5'-P-OP2	-6.71	99.66	105.70
1	A	247	G	N1-C2-N2	-6.71	110.16	116.20
1	A	2381	C	C6-N1-C2	-6.71	117.61	120.30
1	A	929	G	N7-C8-N9	6.71	116.46	113.10
1	A	676	A	C6-C5-N7	-6.71	127.60	132.30
1	A	379	G	C5-C6-O6	-6.70	124.58	128.60
1	A	2549	G	C4-N9-C1'	6.70	135.21	126.50
1	A	1278	A	C8-N9-C4	6.70	108.48	105.80
1	A	503	A	N1-C6-N6	-6.70	114.58	118.60
1	A	2060	A	N1-C6-N6	-6.70	114.58	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2228	G	N9-C4-C5	-6.70	102.72	105.40
1	A	821	A	C4-C5-C6	6.69	120.35	117.00
1	A	1846	G	C8-N9-C4	-6.69	103.72	106.40
1	A	1882	C	C2-N1-C1'	6.69	126.16	118.80
1	A	370	G	N3-C4-N9	6.68	130.01	126.00
1	A	743	G	C8-N9-C4	6.68	109.07	106.40
1	A	861	A	C8-N9-C4	-6.68	103.13	105.80
1	A	1433	U	C5-C6-N1	6.68	126.04	122.70
1	A	2255	G	C6-C5-N7	-6.68	126.39	130.40
1	A	127	A	C8-N9-C4	6.67	108.47	105.80
1	A	1046	A	C2-N3-C4	6.67	113.94	110.60
1	A	1379	A	O4'-C1'-N9	6.67	113.54	108.20
1	A	195	A	C5-N7-C8	-6.67	100.56	103.90
1	A	1429	G	C5-C6-N1	-6.67	108.17	111.50
1	A	1757	U	C5-C6-N1	-6.67	119.37	122.70
1	A	2442	C	N3-C2-O2	-6.66	117.24	121.90
1	A	1258	C	C6-N1-C2	6.66	122.96	120.30
1	A	1809	A	C8-N9-C4	-6.66	103.14	105.80
1	A	871	U	O5'-P-OP1	-6.65	99.71	105.70
1	A	2054	A	C8-N9-C4	-6.65	103.14	105.80
1	A	2591	C	N3-C4-C5	-6.65	119.24	121.90
1	A	932	G	N3-C4-C5	6.65	131.92	128.60
1	A	75	G	C8-N9-C4	-6.65	103.74	106.40
1	A	1815	A	C5-N7-C8	6.64	107.22	103.90
1	A	1950	G	C5-C6-O6	-6.64	124.62	128.60
1	A	726	G	N9-C4-C5	6.64	108.06	105.40
1	A	2298	A	C8-N9-C4	6.64	108.45	105.80
1	A	770	G	C8-N9-C4	-6.63	103.75	106.40
1	A	1263	U	C6-N1-C2	-6.63	117.02	121.00
1	A	805	G	N3-C4-C5	-6.63	125.28	128.60
1	A	1022	G	C5-C6-O6	6.63	132.58	128.60
1	A	1262	A	N1-C6-N6	-6.63	114.62	118.60
1	A	2011	U	N1-C2-N3	-6.63	110.92	114.90
1	A	1937	A	N7-C8-N9	-6.63	110.49	113.80
1	A	2088	G	C8-N9-C1'	-6.63	118.39	127.00
1	A	2774	C	C6-N1-C2	6.63	122.95	120.30
1	A	1627	G	C5-C6-N1	-6.62	108.19	111.50
1	A	398	G	C8-N9-C4	6.62	109.05	106.40
1	A	1281	G	C5-C6-N1	6.62	114.81	111.50
1	A	1328	G	C4-C5-N7	6.62	113.45	110.80
1	A	2534	A	C5-N7-C8	-6.62	100.59	103.90
1	A	2252	G	N1-C6-O6	6.62	123.87	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2542	A	C8-N9-C4	6.62	108.45	105.80
1	A	917	A	N1-C2-N3	6.62	132.61	129.30
32	a	74	C	N1-C2-O2	6.62	122.87	118.90
1	A	560	C	C6-N1-C2	6.62	122.95	120.30
1	A	2720	U	N3-C2-O2	-6.61	117.57	122.20
1	A	958	U	N1-C2-O2	6.61	127.43	122.80
1	A	2665	A	O4'-C1'-N9	6.61	113.48	108.20
2	B	13	A	O5'-P-OP2	-6.61	99.75	105.70
1	A	2286	A	O5'-P-OP2	-6.61	99.75	105.70
1	A	2083	G	C5-C6-O6	-6.60	124.64	128.60
1	A	1238	G	C4-N9-C1'	-6.60	117.92	126.50
1	A	1776	G	N3-C4-N9	6.60	129.96	126.00
1	A	944	G	C2-N3-C4	-6.60	108.60	111.90
1	A	1553	A	N1-C2-N3	6.60	132.60	129.30
1	A	2062	A	O5'-P-OP2	-6.60	99.76	105.70
1	A	1940	U	N3-C2-O2	-6.59	117.58	122.20
1	A	2665	A	C4-C5-C6	6.59	120.30	117.00
1	A	836	G	C4-C5-N7	6.59	113.44	110.80
1	A	869	G	C5-C6-N1	-6.59	108.20	111.50
1	A	1961	C	C6-N1-C2	6.59	122.94	120.30
1	A	330	A	N7-C8-N9	6.59	117.09	113.80
1	A	512	G	C4-N9-C1'	-6.59	117.93	126.50
1	A	690	G	C6-C5-N7	-6.58	126.45	130.40
1	A	702	G	C8-N9-C4	-6.58	103.77	106.40
1	A	22	C	C6-N1-C2	6.58	122.93	120.30
1	A	595	C	C4-C5-C6	-6.58	114.11	117.40
1	A	822	U	C2-N1-C1'	-6.58	109.80	117.70
1	A	1011	G	N3-C4-N9	-6.58	122.05	126.00
1	A	1276	A	C5-N7-C8	-6.58	100.61	103.90
1	A	1819	A	P-O3'-C3'	6.58	127.59	119.70
1	A	2504	U	C5-C4-O4	-6.58	121.95	125.90
1	A	1784	A	O5'-P-OP1	-6.58	99.78	105.70
1	A	2409	G	N9-C4-C5	-6.58	102.77	105.40
1	A	2441	C	C5-C4-N4	6.57	124.80	120.20
1	A	2451	A	N3-C4-N9	-6.57	122.14	127.40
1	A	2439	A	C4-C5-C6	6.57	120.28	117.00
1	A	1989	G	C8-N9-C4	-6.57	103.77	106.40
1	A	51	G	C2-N3-C4	6.56	115.18	111.90
1	A	465	G	C8-N9-C4	-6.56	103.78	106.40
1	A	637	A	N7-C8-N9	6.56	117.08	113.80
1	A	1246	A	N1-C6-N6	-6.56	114.67	118.60
1	A	2294	C	C6-N1-C2	-6.56	117.68	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2597	G	C4-C5-N7	-6.55	108.18	110.80
1	A	956	G	C2-N3-C4	-6.55	108.63	111.90
1	A	567	A	O5'-P-OP1	6.54	118.55	110.70
1	A	953	A	N1-C6-N6	6.54	122.52	118.60
1	A	58	G	C6-C5-N7	-6.54	126.48	130.40
1	A	687	C	N1-C2-O2	-6.54	114.98	118.90
1	A	2194	G	C8-N9-C1'	-6.53	118.50	127.00
1	A	2468	G	C5-N7-C8	-6.53	101.03	104.30
1	A	735	A	C8-N9-C4	6.53	108.41	105.80
1	A	1756	G	N1-C6-O6	6.53	123.82	119.90
1	A	508	G	C6-C5-N7	-6.53	126.48	130.40
1	A	1216	G	N3-C4-C5	-6.53	125.34	128.60
3	D	131	LEU	CA-CB-CG	6.53	130.31	115.30
1	A	689	A	N7-C8-N9	-6.53	110.54	113.80
1	A	2383	G	C5-C6-O6	-6.52	124.69	128.60
1	A	1359	A	N9-C4-C5	-6.52	103.19	105.80
1	A	2447	G	N7-C8-N9	6.52	116.36	113.10
1	A	1543	A	C5-C6-N1	-6.51	114.45	117.70
1	A	1123	C	N1-C2-O2	-6.50	115.00	118.90
1	A	2002	G	N7-C8-N9	6.50	116.35	113.10
1	A	2020	A	C4-C5-C6	6.50	120.25	117.00
1	A	2431	U	C5-C4-O4	6.50	129.80	125.90
1	A	2712	U	N1-C2-N3	6.50	118.80	114.90
1	A	623	G	N1-C6-O6	6.50	123.80	119.90
1	A	2053	G	C5-N7-C8	-6.50	101.05	104.30
1	A	1616	A	O4'-C1'-N9	6.50	113.40	108.20
1	A	2591	C	C2-N3-C4	6.50	123.15	119.90
1	A	479	A	N1-C6-N6	-6.49	114.70	118.60
1	A	688	U	C6-N1-C2	-6.49	117.10	121.00
1	A	1300	U	C4-C5-C6	6.49	123.60	119.70
1	A	69	C	O5'-P-OP2	-6.49	99.86	105.70
1	A	501	A	C2-N3-C4	-6.49	107.35	110.60
1	A	702	G	C8-N9-C1'	-6.49	118.56	127.00
1	A	2586	C	C5-C6-N1	6.49	124.25	121.00
1	A	268	C	C2-N1-C1'	6.49	125.94	118.80
1	A	780	G	N9-C4-C5	6.49	108.00	105.40
1	A	2644	G	C6-C5-N7	-6.49	126.51	130.40
1	A	1348	G	C4-C5-N7	6.49	113.39	110.80
1	A	1891	G	C5-C6-N1	-6.49	108.26	111.50
1	A	74	A	P-O3'-C3'	6.49	127.48	119.70
1	A	1891	G	C2-N3-C4	-6.49	108.66	111.90
1	A	39	C	C6-N1-C2	-6.48	117.71	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	527	C	N1-C2-N3	-6.48	114.66	119.20
1	A	1496	A	C6-C5-N7	-6.48	127.76	132.30
1	A	450	G	C8-N9-C4	-6.48	103.81	106.40
1	A	2540	C	N3-C2-O2	-6.48	117.37	121.90
1	A	2011	U	C6-N1-C2	6.47	124.89	121.00
1	A	2439	A	C8-N9-C4	-6.47	103.21	105.80
1	A	2453	A	C5-C6-N1	6.47	120.94	117.70
1	A	1894	C	O5'-P-OP2	-6.47	99.88	105.70
2	B	18	G	N3-C4-C5	6.47	131.84	128.60
1	A	51	G	N3-C4-C5	-6.47	125.37	128.60
1	A	2504	U	OP1-P-OP2	-6.47	109.90	119.60
1	A	216	A	N9-C4-C5	-6.46	103.21	105.80
1	A	1728	G	N3-C4-N9	6.46	129.88	126.00
1	A	836	G	C5-C6-O6	-6.46	124.72	128.60
1	A	1621	U	N3-C2-O2	6.46	126.72	122.20
1	A	2509	G	C4-C5-C6	6.46	122.68	118.80
1	A	804	A	O4'-C1'-N9	6.46	113.36	108.20
1	A	37	C	N3-C2-O2	-6.46	117.38	121.90
1	A	393	C	N3-C2-O2	-6.46	117.38	121.90
1	A	1698	A	N1-C2-N3	6.45	132.53	129.30
1	A	482	A	C5-C6-N1	6.45	120.92	117.70
1	A	2367	G	N3-C4-N9	6.45	129.87	126.00
1	A	2088	G	C4-N9-C1'	6.45	134.88	126.50
1	A	1623	G	C6-C5-N7	-6.45	126.53	130.40
1	A	2831	G	C5-C6-N1	-6.45	108.28	111.50
1	A	1814	G	C4-C5-C6	6.44	122.67	118.80
1	A	789	A	N1-C6-N6	-6.44	114.73	118.60
1	A	962	G	N3-C2-N2	-6.44	115.39	119.90
1	A	1761	C	C2-N1-C1'	-6.44	111.71	118.80
1	A	1137	G	N1-C6-O6	6.44	123.77	119.90
1	A	2028	U	N3-C4-O4	6.44	123.91	119.40
1	A	1547	C	N3-C4-C5	-6.44	119.33	121.90
2	B	89	G	C4-N9-C1'	6.44	134.87	126.50
1	A	1816	G	C5-C6-O6	-6.43	124.74	128.60
1	A	686	G	C6-C5-N7	-6.43	126.54	130.40
1	A	936	C	C6-N1-C2	6.43	122.87	120.30
1	A	2679	A	C8-N9-C4	6.43	108.37	105.80
1	A	1521	G	C4-C5-N7	6.43	113.37	110.80
1	A	1621	U	N1-C2-O2	-6.43	118.30	122.80
1	A	2879	C	C6-N1-C2	6.43	122.87	120.30
2	B	43	C	C2-N1-C1'	6.43	125.87	118.80
1	A	198	C	C2-N1-C1'	6.43	125.87	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	216	A	C4-C5-N7	6.43	113.91	110.70
1	A	2843	G	C6-C5-N7	-6.43	126.54	130.40
1	A	1332	G	N7-C8-N9	6.42	116.31	113.10
1	A	825	C	N1-C2-O2	-6.42	115.05	118.90
1	A	618	G	N3-C4-C5	-6.42	125.39	128.60
1	A	307	G	N3-C4-N9	6.42	129.85	126.00
1	A	707	G	C8-N9-C1'	-6.42	118.66	127.00
1	A	1253	A	C5-C6-N1	6.42	120.91	117.70
1	A	2430	A	N1-C6-N6	6.42	122.45	118.60
1	A	2612	C	N1-C2-N3	-6.42	114.71	119.20
1	A	802	A	C4-C5-C6	6.41	120.21	117.00
1	A	2403	C	C6-N1-C2	-6.41	117.73	120.30
1	A	97	C	N1-C2-O2	6.41	122.75	118.90
1	A	1487	G	N3-C4-N9	6.41	129.85	126.00
1	A	639	U	C5-C6-N1	-6.41	119.50	122.70
1	A	1940	U	C2-N1-C1'	6.41	125.39	117.70
1	A	1236	G	C4-C5-N7	6.41	113.36	110.80
1	A	2219	G	N1-C6-O6	6.41	123.74	119.90
1	A	2357	U	N1-C2-N3	-6.41	111.06	114.90
1	A	2287	A	C8-N9-C4	6.40	108.36	105.80
1	A	1801	G	C6-C5-N7	-6.40	126.56	130.40
1	A	2071	A	C5-C6-N1	6.40	120.90	117.70
1	A	2490	G	O4'-C1'-N9	6.40	113.32	108.20
1	A	862	G	N3-C4-C5	-6.40	125.40	128.60
1	A	2421	G	C2-N3-C4	6.40	115.10	111.90
1	A	2484	G	N1-C6-O6	6.40	123.74	119.90
1	A	2211	G	O4'-C1'-N9	6.40	113.32	108.20
1	A	870	A	C8-N9-C4	6.40	108.36	105.80
1	A	1791	A	C5-C6-N6	6.40	128.82	123.70
1	A	2496	C	C4-C5-C6	-6.40	114.20	117.40
1	A	1291	C	O5'-P-OP2	-6.40	99.94	105.70
1	A	102	G	O4'-C1'-N9	6.39	113.31	108.20
1	A	929	G	C8-N9-C4	-6.39	103.84	106.40
1	A	573	G	N7-C8-N9	6.39	116.30	113.10
1	A	1496	A	C5-N7-C8	-6.39	100.70	103.90
1	A	2345	G	N3-C4-N9	-6.39	122.17	126.00
1	A	962	G	N9-C4-C5	6.39	107.95	105.40
1	A	1265	A	O5'-P-OP1	-6.39	99.95	105.70
1	A	743	G	N3-C4-C5	6.38	131.79	128.60
1	A	1239	G	C5-C6-O6	-6.38	124.77	128.60
1	A	2394	C	N3-C2-O2	-6.38	117.43	121.90
2	B	89	G	N7-C8-N9	6.38	116.29	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	715	G	N1-C6-O6	-6.38	116.07	119.90
1	A	2712	U	N3-C2-O2	-6.38	117.73	122.20
1	A	2227	A	N3-C4-C5	6.38	131.26	126.80
1	A	249	C	C2-N3-C4	-6.38	116.71	119.90
1	A	513	A	C8-N9-C4	-6.37	103.25	105.80
1	A	2048	G	C6-C5-N7	-6.37	126.58	130.40
1	A	450	G	C4-N9-C1'	6.37	134.78	126.50
1	A	982	C	C5-C6-N1	6.37	124.19	121.00
1	A	1857	G	C4-C5-C6	6.37	122.62	118.80
1	A	1886	C	N1-C2-O2	-6.37	115.08	118.90
1	A	608	A	C8-N9-C4	-6.37	103.25	105.80
1	A	1643	G	O5'-P-OP1	-6.37	99.97	105.70
1	A	1239	G	C6-C5-N7	-6.37	126.58	130.40
1	A	2849	U	C5-C6-N1	-6.37	119.52	122.70
1	A	586	A	N1-C6-N6	-6.36	114.78	118.60
1	A	2087	G	C5-C6-O6	-6.36	124.78	128.60
1	A	1776	G	C4-C5-C6	6.36	122.62	118.80
1	A	195	A	C4-C5-C6	-6.36	113.82	117.00
1	A	2862	G	C4-C5-C6	6.36	122.62	118.80
1	A	1634	A	C2-N3-C4	6.36	113.78	110.60
1	A	2460	U	O5'-P-OP1	-6.36	99.98	105.70
1	A	1680	U	C5-C4-O4	6.36	129.71	125.90
1	A	2468	G	N3-C4-N9	6.36	129.81	126.00
1	A	2714	G	C4-C5-C6	6.36	122.61	118.80
1	A	1581	G	C8-N9-C4	-6.35	103.86	106.40
1	A	1799	G	C4-C5-N7	-6.35	108.26	110.80
1	A	1950	G	C6-C5-N7	-6.35	126.59	130.40
1	A	124	G	N1-C6-O6	6.35	123.71	119.90
1	A	462	C	C5-C6-N1	-6.34	117.83	121.00
1	A	2326	C	N3-C4-C5	-6.34	119.36	121.90
1	A	2593	U	N1-C2-N3	6.34	118.70	114.90
1	A	1695	G	N3-C4-N9	6.34	129.80	126.00
1	A	471	A	N1-C6-N6	6.34	122.40	118.60
1	A	1784	A	C4-C5-C6	6.34	120.17	117.00
1	A	454	A	C8-N9-C4	6.33	108.33	105.80
1	A	780	G	N3-C4-C5	-6.33	125.43	128.60
1	A	789	A	C2-N3-C4	-6.33	107.43	110.60
1	A	2456	C	C5-C4-N4	-6.33	115.77	120.20
1	A	2620	C	C6-N1-C2	6.33	122.83	120.30
1	A	2624	G	C5-C6-O6	-6.33	124.80	128.60
1	A	177	G	N1-C6-O6	-6.33	116.10	119.90
1	A	762	U	C2-N1-C1'	-6.33	110.11	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1184	G	N1-C6-O6	6.33	123.69	119.90
1	A	2073	C	N1-C2-N3	6.32	123.63	119.20
1	A	1654	A	C8-N9-C4	-6.32	103.27	105.80
1	A	141	A	C8-N9-C4	-6.32	103.27	105.80
1	A	301	G	N9-C4-C5	-6.32	102.87	105.40
1	A	471	A	C4-C5-N7	6.32	113.86	110.70
1	A	566	U	C6-N1-C2	6.32	124.79	121.00
1	A	783	A	C5-C6-N6	-6.32	118.64	123.70
1	A	1236	G	C6-C5-N7	-6.32	126.61	130.40
1	A	809	G	N3-C4-C5	-6.32	125.44	128.60
1	A	1628	G	C4-C5-C6	6.32	122.59	118.80
1	A	1814	G	C5-C6-O6	6.32	132.39	128.60
1	A	560	C	O5'-P-OP2	-6.32	100.02	105.70
1	A	2499	C	C2-N1-C1'	6.32	125.75	118.80
1	A	126	A	C5-C6-N1	-6.31	114.54	117.70
1	A	1769	G	N7-C8-N9	6.31	116.26	113.10
1	A	1959	G	N3-C4-C5	-6.31	125.44	128.60
1	A	209	C	C6-N1-C2	6.31	122.82	120.30
1	A	2004	G	C6-C5-N7	-6.31	126.61	130.40
1	A	139	G	C4-C5-N7	-6.30	108.28	110.80
1	A	621	A	N1-C2-N3	6.30	132.45	129.30
1	A	716	A	C2-N3-C4	-6.30	107.45	110.60
1	A	1332	G	C8-N9-C4	-6.30	103.88	106.40
1	A	1678	G	N9-C4-C5	6.30	107.92	105.40
1	A	1699	G	N1-C6-O6	-6.30	116.12	119.90
1	A	1964	G	N3-C4-C5	-6.30	125.45	128.60
1	A	1136	G	C2-N3-C4	6.30	115.05	111.90
1	A	2028	U	N1-C2-O2	-6.30	118.39	122.80
1	A	15	G	N3-C4-C5	6.29	131.75	128.60
1	A	2455	G	C6-C5-N7	-6.29	126.62	130.40
1	A	2048	G	N7-C8-N9	6.29	116.24	113.10
1	A	2365	G	N3-C4-N9	6.29	129.77	126.00
1	A	2447	G	N3-C4-N9	6.28	129.77	126.00
1	A	2597	G	C4-C5-C6	6.28	122.57	118.80
1	A	932	G	C8-N9-C1'	6.28	135.16	127.00
1	A	1619	G	N9-C4-C5	-6.28	102.89	105.40
1	A	1286	A	C2-N3-C4	6.27	113.74	110.60
1	A	2688	U	N3-C4-O4	-6.27	115.01	119.40
1	A	145	G	N3-C4-N9	-6.27	122.24	126.00
1	A	201	C	O5'-P-OP1	-6.27	100.06	105.70
1	A	832	G	N1-C6-O6	6.27	123.66	119.90
1	A	1601	G	C5-C6-O6	-6.27	124.84	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	22	C	C5-C6-N1	-6.27	117.87	121.00
1	A	2509	G	C4-N9-C1'	6.27	134.65	126.50
2	B	5	C	C6-N1-C2	6.27	122.81	120.30
1	A	1786	A	N3-C4-C5	6.26	131.19	126.80
1	A	1941	C	C2-N1-C1'	6.26	125.68	118.80
1	A	680	G	C6-C5-N7	-6.26	126.64	130.40
1	A	1949	G	C8-N9-C1'	-6.26	118.86	127.00
1	A	2205	C	C6-N1-C2	-6.25	117.80	120.30
1	A	1799	G	P-O3'-C3'	6.25	127.20	119.70
1	A	1430	C	N3-C2-O2	-6.25	117.52	121.90
2	B	89	G	C6-C5-N7	-6.25	126.65	130.40
1	A	297	C	C2-N1-C1'	6.25	125.67	118.80
1	A	2586	C	C2-N1-C1'	6.25	125.67	118.80
1	A	1277	G	N1-C6-O6	-6.25	116.15	119.90
1	A	527	C	C6-N1-C1'	-6.24	113.32	120.80
1	A	1338	G	N3-C4-N9	6.24	129.74	126.00
1	A	2399	G	N3-C4-N9	6.24	129.74	126.00
1	A	1028	A	N1-C6-N6	-6.23	114.86	118.60
1	A	1654	A	N9-C4-C5	6.23	108.29	105.80
1	A	1640	C	N1-C2-O2	6.23	122.64	118.90
1	A	2019	A	C8-N9-C4	6.23	108.29	105.80
1	A	2673	G	N1-C6-O6	6.22	123.63	119.90
1	A	2008	C	C6-N1-C2	6.22	122.79	120.30
1	A	2515	C	N3-C4-C5	-6.22	119.41	121.90
1	A	67	U	N3-C4-O4	6.22	123.75	119.40
1	A	1857	G	C4-N9-C1'	6.22	134.59	126.50
1	A	2311	A	N1-C6-N6	6.22	122.33	118.60
1	A	2549	G	C5-C6-N1	-6.22	108.39	111.50
1	A	1791	A	N9-C4-C5	6.22	108.29	105.80
1	A	2437	U	N1-C2-O2	-6.22	118.45	122.80
1	A	2534	A	N7-C8-N9	6.22	116.91	113.80
1	A	696	G	N3-C4-N9	6.21	129.73	126.00
1	A	2483	C	C5-C6-N1	6.21	124.11	121.00
1	A	1815	A	C4-C5-N7	-6.21	107.59	110.70
1	A	2070	G	C8-N9-C4	-6.21	103.92	106.40
1	A	760	G	N3-C4-C5	-6.21	125.50	128.60
1	A	2583	G	C5-C6-O6	6.21	132.33	128.60
1	A	760	G	C4-C5-C6	6.21	122.53	118.80
1	A	1269	A	N3-C4-C5	6.21	131.15	126.80
1	A	776	G	O4'-C1'-N9	-6.21	103.24	108.20
1	A	743	G	C5-C6-O6	-6.20	124.88	128.60
1	A	1950	G	N7-C8-N9	6.20	116.20	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1769	G	N1-C6-O6	6.20	123.62	119.90
1	A	696	G	N3-C4-C5	-6.20	125.50	128.60
2	B	83	G	C5-C6-N1	-6.20	108.40	111.50
1	A	493	G	N1-C6-O6	6.20	123.62	119.90
1	A	672	C	N3-C2-O2	-6.19	117.57	121.90
1	A	1306	C	C5-C6-N1	6.19	124.10	121.00
1	A	508	G	N7-C8-N9	6.19	116.19	113.10
1	A	593	G	C2-N3-C4	-6.19	108.81	111.90
1	A	1566	A	C8-N9-C4	6.19	108.28	105.80
1	A	126	A	C4-C5-C6	6.19	120.09	117.00
1	A	198	C	C5-C4-N4	-6.18	115.87	120.20
1	A	684	G	N1-C6-O6	6.18	123.61	119.90
1	A	1377	G	N3-C4-C5	-6.18	125.51	128.60
1	A	926	A	N1-C6-N6	6.18	122.31	118.60
1	A	2450	A	N9-C4-C5	6.18	108.27	105.80
1	A	55	G	N3-C4-N9	6.18	129.71	126.00
1	A	512	G	O4'-C1'-N9	6.18	113.14	108.20
1	A	2468	G	O5'-P-OP2	-6.18	100.14	105.70
1	A	1774	C	C5-C6-N1	6.17	124.09	121.00
1	A	140	A	C5-C6-N6	-6.17	118.76	123.70
2	B	10	C	C6-N1-C2	-6.17	117.83	120.30
1	A	439	G	C4-N9-C1'	6.17	134.52	126.50
1	A	1204	A	C5-C6-N1	-6.17	114.61	117.70
1	A	2712	U	C5-C4-O4	6.17	129.60	125.90
1	A	193	U	OP2-P-O3'	6.17	118.77	105.20
1	A	573	G	C6-C5-N7	-6.17	126.70	130.40
1	A	1952	A	C2-N3-C4	6.17	113.68	110.60
1	A	1846	G	N3-C4-C5	-6.16	125.52	128.60
1	A	2090	G	C2-N3-C4	-6.16	108.82	111.90
1	A	1226	G	C5-C6-O6	6.16	132.29	128.60
1	A	1274	A	N9-C4-C5	6.15	108.26	105.80
1	A	74	A	C8-N9-C4	-6.15	103.34	105.80
1	A	2542	A	N7-C8-N9	-6.15	110.72	113.80
1	A	2562	U	C6-N1-C2	6.15	124.69	121.00
1	A	624	C	C5-C4-N4	-6.15	115.90	120.20
1	A	1236	G	C2-N3-C4	-6.15	108.83	111.90
1	A	1706	U	O4'-C1'-N1	6.15	113.12	108.20
1	A	330	A	C5-C6-N6	-6.14	118.78	123.70
1	A	1826	G	C8-N9-C4	6.14	108.86	106.40
1	A	2886	G	C4-N9-C1'	6.14	134.49	126.50
1	A	1367	A	N1-C6-N6	6.14	122.28	118.60
1	A	1992	G	P-O3'-C3'	6.14	127.07	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2710	C	C6-N1-C2	-6.14	117.84	120.30
1	A	2884	U	C5-C4-O4	6.14	129.59	125.90
1	A	2510	C	N3-C2-O2	-6.14	117.60	121.90
1	A	501	A	O5'-P-OP2	-6.13	100.18	105.70
1	A	835	A	OP1-P-OP2	-6.13	110.40	119.60
1	A	974(A)	C	N1-C2-O2	6.13	122.58	118.90
1	A	1773	A	C5-C6-N1	-6.13	114.63	117.70
1	A	769	G	OP2-P-O3'	6.13	118.68	105.20
1	A	1769	G	C5-C6-O6	-6.13	124.92	128.60
1	A	1355	G	C6-C5-N7	-6.13	126.72	130.40
1	A	1437	C	N3-C2-O2	-6.12	117.61	121.90
1	A	247	G	C5-C6-N1	6.12	114.56	111.50
1	A	350	U	C6-N1-C2	-6.12	117.33	121.00
1	A	1769	G	C8-N9-C4	-6.12	103.95	106.40
1	A	639	U	C5-C4-O4	6.12	129.57	125.90
1	A	2724	C	N1-C2-O2	-6.12	115.23	118.90
1	A	1803	A	C4-C5-C6	-6.12	113.94	117.00
1	A	2306	C	N1-C2-O2	6.12	122.57	118.90
1	A	2413	G	N3-C4-C5	6.12	131.66	128.60
1	A	2451	A	C2-N3-C4	-6.12	107.54	110.60
1	A	832	G	C5-C6-N1	-6.11	108.44	111.50
1	A	2751	G	C6-C5-N7	-6.11	126.73	130.40
1	A	2447	G	C5-C6-O6	-6.11	124.93	128.60
1	A	1805	U	C6-N1-C2	-6.11	117.33	121.00
1	A	347	A	N1-C6-N6	-6.11	114.94	118.60
1	A	1130	U	C5-C4-O4	6.11	129.56	125.90
1	A	2052	G	C2-N3-C4	-6.11	108.85	111.90
1	A	2291	U	C5-C4-O4	6.11	129.56	125.90
1	A	2482	G	N3-C4-N9	6.11	129.66	126.00
1	A	725	G	C5-C6-N1	-6.11	108.45	111.50
1	A	71	A	C4-C5-N7	6.10	113.75	110.70
1	A	1343	G	N3-C4-C5	-6.10	125.55	128.60
1	A	1426	G	C5-C6-O6	6.10	132.26	128.60
1	A	2043	C	C6-N1-C2	-6.10	117.86	120.30
1	A	445	C	N1-C2-O2	-6.10	115.24	118.90
1	A	829	A	C8-N9-C4	6.10	108.24	105.80
1	A	1347	G	O5'-P-OP1	6.10	118.02	110.70
1	A	2548	G	C6-C5-N7	-6.10	126.74	130.40
1	A	26	G	N9-C4-C5	6.10	107.84	105.40
1	A	773	U	N1-C2-N3	6.10	118.56	114.90
1	A	1949	G	C4-N9-C1'	6.10	134.43	126.50
1	A	2579	C	N3-C2-O2	6.10	126.17	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2239	G	N3-C4-N9	6.10	129.66	126.00
1	A	2540	C	O5'-P-OP2	-6.10	100.21	105.70
1	A	1427	A	P-O3'-C3'	6.09	127.01	119.70
1	A	475	U	C6-N1-C2	-6.09	117.34	121.00
1	A	2438	U	O5'-P-OP2	-6.09	100.22	105.70
1	A	974	G	C8-N9-C4	-6.09	103.96	106.40
1	A	1365	A	N9-C4-C5	6.09	108.24	105.80
1	A	2751	G	N7-C8-N9	6.09	116.14	113.10
1	A	2052	G	C6-C5-N7	-6.09	126.75	130.40
1	A	2531	A	C8-N9-C4	6.09	108.24	105.80
1	A	972	G	N1-C6-O6	-6.09	116.25	119.90
1	A	188	G	N3-C4-C5	6.08	131.64	128.60
1	A	2597	G	C5-C6-O6	6.08	132.25	128.60
1	A	572	A	N1-C2-N3	6.08	132.34	129.30
1	A	1729	A	O4'-C1'-N9	6.08	113.07	108.20
1	A	827	U	O5'-P-OP1	6.08	118.00	110.70
1	A	1653	G	C8-N9-C4	-6.08	103.97	106.40
1	A	1184	G	C5-C6-N1	-6.08	108.46	111.50
1	A	1931	U	C6-N1-C1'	6.07	129.70	121.20
1	A	785	G	C2-N3-C4	6.07	114.94	111.90
1	A	1896	G	N3-C4-N9	6.07	129.64	126.00
1	A	765	G	C8-N9-C4	-6.07	103.97	106.40
1	A	964	C	N1-C2-O2	-6.07	115.26	118.90
1	A	862	G	N1-C6-O6	-6.07	116.26	119.90
1	A	974	G	N3-C4-C5	-6.07	125.57	128.60
1	A	1021	A	N1-C2-N3	6.07	132.33	129.30
1	A	1657	C	C2-N1-C1'	6.07	125.47	118.80
1	A	1286	A	C8-N9-C4	-6.06	103.38	105.80
1	A	1790	C	O5'-P-OP1	-6.06	100.25	105.70
1	A	2554	U	C5-C4-O4	6.06	129.54	125.90
1	A	382	G	C2-N3-C4	-6.06	108.87	111.90
1	A	2515	C	C6-N1-C2	-6.06	117.88	120.30
1	A	768	G	C4-C5-C6	6.06	122.44	118.80
1	A	2886	G	N1-C2-N3	6.06	127.53	123.90
1	A	2251	G	N1-C2-N3	6.06	127.53	123.90
1	A	238	C	C6-N1-C2	6.05	122.72	120.30
1	A	1268	A	N1-C2-N3	6.05	132.33	129.30
1	A	1968	G	N3-C4-C5	6.05	131.63	128.60
1	A	2393	A	N9-C4-C5	-6.05	103.38	105.80
1	A	462	C	C2-N3-C4	-6.05	116.88	119.90
1	A	2508	G	C4-N9-C1'	6.05	134.36	126.50
1	A	622	G	C8-N9-C4	6.04	108.82	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1011	G	N3-C4-C5	6.04	131.62	128.60
1	A	1816	G	N3-C4-N9	6.04	129.63	126.00
1	A	707	G	C6-C5-N7	-6.04	126.78	130.40
1	A	1426	G	N1-C6-O6	-6.04	116.28	119.90
1	A	2468	G	C8-N9-C4	-6.04	103.98	106.40
1	A	2731	G	C5-C6-O6	-6.04	124.98	128.60
1	A	2829	C	N3-C4-C5	6.04	124.32	121.90
1	A	2869	G	C5-C6-N1	-6.04	108.48	111.50
1	A	987	G	C5-C6-N1	6.04	114.52	111.50
1	A	1769	G	N3-C4-N9	6.04	129.62	126.00
1	A	71	A	N3-C4-C5	6.04	131.03	126.80
1	A	1672	C	C6-N1-C2	6.04	122.71	120.30
1	A	2520	C	C6-N1-C2	6.04	122.72	120.30
2	B	99	A	C8-N9-C4	6.04	108.21	105.80
1	A	728	G	C8-N9-C4	6.03	108.81	106.40
1	A	1399	C	C5-C4-N4	-6.03	115.98	120.20
1	A	1762	A	N1-C6-N6	-6.03	114.98	118.60
1	A	2576	G	C8-N9-C4	-6.03	103.99	106.40
1	A	2712	U	O4'-C1'-N1	6.03	113.03	108.20
1	A	553	U	N3-C4-C5	-6.03	110.98	114.60
1	A	248	G	C5-C6-O6	-6.03	124.98	128.60
1	A	397	G	C2-N3-C4	-6.03	108.89	111.90
1	A	1021	A	C5-N7-C8	-6.03	100.89	103.90
1	A	2056	G	C8-N9-C4	-6.03	103.99	106.40
13	R	9	LYS	N-CA-C	-6.03	94.72	111.00
1	A	185	U	N3-C4-O4	-6.03	115.18	119.40
1	A	1374	G	N3-C4-N9	6.02	129.61	126.00
1	A	702	G	C6-C5-N7	-6.02	126.79	130.40
1	A	1264	G	N9-C4-C5	6.02	107.81	105.40
1	A	1138	G	N1-C6-O6	6.02	123.51	119.90
1	A	532	A	C2-N3-C4	6.02	113.61	110.60
1	A	811	U	N3-C2-O2	-6.02	117.99	122.20
1	A	1795	C	N1-C2-N3	6.02	123.41	119.20
1	A	1313	U	C2-N1-C1'	6.02	124.92	117.70
1	A	1581	G	N3-C4-C5	-6.02	125.59	128.60
1	A	1141	U	C5-C6-N1	-6.01	119.69	122.70
1	A	1796	U	N3-C4-C5	-6.01	110.99	114.60
1	A	957	A	C2-N3-C4	-6.01	107.59	110.60
1	A	2004	G	N3-C4-C5	6.01	131.61	128.60
1	A	2867	G	C4-N9-C1'	-6.01	118.69	126.50
1	A	2817	G	C4-C5-N7	-6.01	108.40	110.80
1	A	2482	G	N3-C4-C5	-6.00	125.60	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1690	A	O5'-P-OP1	-6.00	100.30	105.70
1	A	853	G	C6-C5-N7	-6.00	126.80	130.40
1	A	1654	A	C5-C6-N6	6.00	128.50	123.70
1	A	372	G	OP2-P-O3'	6.00	118.40	105.20
1	A	2060	A	P-O3'-C3'	6.00	126.90	119.70
1	A	28	A	N7-C8-N9	6.00	116.80	113.80
1	A	1645	G	C6-C5-N7	-6.00	126.80	130.40
1	A	2876	G	C8-N9-C4	6.00	108.80	106.40
1	A	71	A	P-O3'-C3'	6.00	126.90	119.70
1	A	1984	G	N9-C4-C5	-6.00	103.00	105.40
1	A	2326	C	C6-N1-C2	-6.00	117.90	120.30
1	A	1938	A	N1-C6-N6	-6.00	115.00	118.60
1	A	1238	G	C8-N9-C1'	5.99	134.79	127.00
1	A	1896	G	N9-C4-C5	-5.99	103.00	105.40
1	A	212	G	C8-N9-C4	-5.99	104.00	106.40
1	A	953	A	C5-C6-N1	-5.99	114.71	117.70
1	A	1371	G	C6-C5-N7	-5.99	126.81	130.40
1	A	1819	A	C2-N3-C4	-5.99	107.61	110.60
1	A	2441	C	N3-C4-N4	-5.99	113.81	118.00
1	A	1430	C	C6-N1-C1'	-5.98	113.62	120.80
1	A	1846	G	C6-C5-N7	-5.98	126.81	130.40
1	A	681	G	C2-N3-C4	-5.98	108.91	111.90
1	A	987	G	N1-C6-O6	-5.98	116.31	119.90
1	A	1299	G	N3-C4-N9	-5.98	122.41	126.00
1	A	1987	G	N1-C2-N2	-5.98	110.82	116.20
1	A	1388	G	C8-N9-C4	5.98	108.79	106.40
1	A	2570	G	N3-C4-N9	5.98	129.59	126.00
1	A	533	G	C6-C5-N7	-5.98	126.81	130.40
1	A	1814	G	C4-N9-C1'	5.98	134.27	126.50
1	A	2822	G	C6-C5-N7	-5.98	126.81	130.40
1	A	843	G	N1-C2-N3	5.97	127.48	123.90
1	A	944	G	C4-N9-C1'	5.97	134.26	126.50
1	A	236	C	C2-N1-C1'	-5.97	112.23	118.80
1	A	752	A	P-O3'-C3'	5.97	126.86	119.70
1	A	1759	A	C8-N9-C4	5.96	108.19	105.80
1	A	756	C	N3-C4-N4	5.96	122.17	118.00
1	A	1404	C	N1-C2-O2	5.96	122.48	118.90
1	A	2294	C	N3-C2-O2	-5.96	117.73	121.90
2	B	54	G	N3-C4-C5	-5.96	125.62	128.60
1	A	2292	C	C6-N1-C2	5.96	122.68	120.30
1	A	2421	G	C5-C6-N1	5.96	114.48	111.50
1	A	120	U	C5-C6-N1	-5.96	119.72	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1728	G	C2-N3-C4	5.96	114.88	111.90
1	A	1203	G	C5-N7-C8	5.96	107.28	104.30
1	A	2294	C	N1-C2-O2	5.96	122.47	118.90
1	A	801	G	C8-N9-C4	-5.95	104.02	106.40
1	A	990	A	C2-N3-C4	-5.95	107.62	110.60
1	A	2701	C	N1-C2-O2	5.95	122.47	118.90
1	A	2219	G	C8-N9-C4	-5.95	104.02	106.40
1	A	29	U	O5'-P-OP2	-5.95	100.34	105.70
1	A	729	G	C4-C5-N7	5.95	113.18	110.80
2	B	100	G	N9-C4-C5	-5.95	103.02	105.40
1	A	15	G	N3-C2-N2	-5.95	115.74	119.90
1	A	1699	G	N9-C4-C5	5.95	107.78	105.40
1	A	770	G	C2-N3-C4	5.94	114.87	111.90
1	A	2509	G	C5-C6-N1	-5.94	108.53	111.50
1	A	2714	G	C4-N9-C1'	5.94	134.23	126.50
1	A	1651	G	C6-C5-N7	-5.94	126.83	130.40
1	A	211	A	N1-C2-N3	5.94	132.27	129.30
1	A	707	G	C4-N9-C1'	5.94	134.22	126.50
1	A	962	G	C8-N9-C4	-5.94	104.02	106.40
1	A	2607	G	N9-C4-C5	-5.94	103.02	105.40
1	A	15	G	C4-N9-C1'	-5.94	118.78	126.50
1	A	680	G	N3-C4-C5	-5.94	125.63	128.60
1	A	1008	C	N1-C2-O2	5.93	122.46	118.90
1	A	1619	G	C5-N7-C8	-5.93	101.33	104.30
1	A	75	G	N3-C4-N9	5.93	129.56	126.00
1	A	270(R)	G	C5-C6-N1	-5.93	108.53	111.50
1	A	576	U	O5'-P-OP2	-5.93	100.36	105.70
1	A	823	G	O5'-P-OP1	5.93	117.82	110.70
1	A	2609	U	C2-N1-C1'	-5.93	110.58	117.70
1	A	2770	G	C2-N3-C4	5.93	114.86	111.90
1	A	2875	C	C5-C6-N1	5.93	123.96	121.00
3	D	240	ALA	C-N-CD	5.93	140.85	128.40
1	A	97	C	N3-C2-O2	-5.93	117.75	121.90
1	A	401	A	N9-C4-C5	5.93	108.17	105.80
1	A	765	G	C6-C5-N7	-5.93	126.84	130.40
1	A	1846	G	N1-C2-N3	5.93	127.46	123.90
1	A	2424	C	OP1-P-OP2	5.93	128.49	119.60
1	A	1027	A	O5'-P-OP1	5.92	117.81	110.70
1	A	1756	G	C4-C5-C6	5.92	122.35	118.80
1	A	1818	U	O5'-P-OP2	-5.92	100.37	105.70
1	A	2884	U	C5-C6-N1	-5.92	119.74	122.70
1	A	1470	G	N7-C8-N9	5.92	116.06	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1604	C	C6-N1-C2	-5.92	117.93	120.30
1	A	2088	G	C5-C6-N1	-5.92	108.54	111.50
1	A	439	G	C4-C5-C6	5.92	122.35	118.80
1	A	1342	A	N3-C4-C5	5.92	130.94	126.80
1	A	621	A	N7-C8-N9	5.92	116.76	113.80
1	A	804	A	C8-N9-C1'	5.92	138.35	127.70
1	A	298	G	C5-N7-C8	-5.92	101.34	104.30
1	A	1192	G	N1-C6-O6	5.92	123.45	119.90
1	A	2702	U	C6-N1-C1'	-5.92	112.92	121.20
1	A	1210	A	N7-C8-N9	5.92	116.76	113.80
1	A	1502	C	C5-C6-N1	5.92	123.96	121.00
1	A	2339	G	C8-N9-C4	5.92	108.77	106.40
1	A	1470	G	C6-C5-N7	-5.91	126.85	130.40
1	A	2862	G	C4-N9-C1'	5.91	134.19	126.50
1	A	252	G	C4-C5-N7	-5.91	108.44	110.80
1	A	2081	C	C6-N1-C2	5.91	122.66	120.30
1	A	2228	G	C4-C5-N7	5.91	113.16	110.80
1	A	2722	G	C4-C5-C6	5.91	122.35	118.80
1	A	773	U	C5-C6-N1	-5.91	119.75	122.70
1	A	2056	G	N7-C8-N9	5.91	116.05	113.10
1	A	2584	U	C4-C5-C6	5.91	123.25	119.70
1	A	777	A	C5-C6-N6	-5.91	118.97	123.70
1	A	1959	G	N3-C4-N9	5.91	129.54	126.00
1	A	621	A	O4'-C1'-N9	5.90	112.92	108.20
1	A	2714	G	N1-C6-O6	5.90	123.44	119.90
1	A	64	A	C2-N3-C4	5.90	113.55	110.60
1	A	1138	G	C6-C5-N7	-5.90	126.86	130.40
1	A	2357	U	N1-C2-O2	5.90	126.93	122.80
1	A	2449	U	N3-C4-O4	5.90	123.53	119.40
1	A	779	U	C2-N1-C1'	5.90	124.78	117.70
1	A	869	G	C8-N9-C1'	-5.90	119.33	127.00
1	A	2006	C	N1-C2-O2	5.90	122.44	118.90
1	A	2509	G	C8-N9-C1'	-5.90	119.33	127.00
1	A	1236	G	N3-C4-C5	5.90	131.55	128.60
1	A	2287	A	N3-C4-C5	5.89	130.93	126.80
1	A	1645	G	C4-C5-N7	5.89	113.16	110.80
1	A	2731	G	C4-C5-N7	5.89	113.16	110.80
1	A	2644	G	C4-C5-C6	5.89	122.33	118.80
2	B	54	G	C4-C5-C6	5.89	122.33	118.80
1	A	1679	U	N3-C2-O2	-5.89	118.08	122.20
1	A	2562	U	C5-C6-N1	-5.89	119.76	122.70
1	A	2343	C	C6-N1-C2	-5.88	117.95	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2503	A	N7-C8-N9	5.88	116.74	113.80
1	A	1137	G	C5-C6-O6	-5.88	125.07	128.60
1	A	1817	G	C5-C6-N1	-5.88	108.56	111.50
1	A	1848	A	C2-N3-C4	5.88	113.54	110.60
2	B	89	G	C8-N9-C4	-5.88	104.05	106.40
1	A	2581	G	C5-C6-O6	5.88	132.12	128.60
1	A	737	C	C6-N1-C2	5.87	122.65	120.30
1	A	1142(A)	A	C5-N7-C8	-5.87	100.96	103.90
1	A	1162	G	N9-C4-C5	-5.87	103.05	105.40
1	A	2074	U	N1-C2-N3	5.87	118.42	114.90
1	A	2440	C	C6-N1-C2	5.87	122.65	120.30
1	A	1278	A	N7-C8-N9	-5.87	110.86	113.80
1	A	1781	C	C6-N1-C1'	-5.87	113.76	120.80
1	A	1189	A	C8-N9-C4	-5.87	103.45	105.80
1	A	211	A	C4-C5-C6	5.87	119.93	117.00
1	A	1792	G	C5-C6-O6	-5.86	125.08	128.60
1	A	2516	G	C6-N1-C2	-5.86	121.58	125.10
1	A	789	A	N3-C4-C5	5.86	130.90	126.80
1	A	2424	C	C4-C5-C6	5.86	120.33	117.40
1	A	1429	G	C4-N9-C1'	5.86	134.12	126.50
1	A	981	A	OP2-P-O3'	5.86	118.09	105.20
1	A	1822	G	C4-C5-N7	5.86	113.14	110.80
1	A	2227	A	C2-N3-C4	-5.86	107.67	110.60
1	A	2682	U	C6-N1-C2	-5.86	117.49	121.00
7	H	125	VAL	C-N-CD	-5.86	107.71	120.60
1	A	1308	A	C4-C5-C6	5.86	119.93	117.00
1	A	2385	C	C6-N1-C2	5.86	122.64	120.30
1	A	2399	G	C4-N9-C1'	5.86	134.11	126.50
1	A	2830	G	C6-C5-N7	-5.86	126.89	130.40
1	A	686	G	O5'-P-OP1	-5.85	100.44	105.70
1	A	1704	G	C8-N9-C4	-5.85	104.06	106.40
1	A	2502	G	O5'-P-OP1	-5.85	100.44	105.70
1	A	662	G	N1-C6-O6	5.85	123.41	119.90
1	A	1407	C	C5-C4-N4	-5.85	116.11	120.20
1	A	2461	C	N3-C4-C5	5.85	124.24	121.90
1	A	67	U	C2-N3-C4	5.85	130.51	127.00
1	A	255	A	N1-C6-N6	-5.84	115.09	118.60
1	A	1581	G	N7-C8-N9	5.84	116.02	113.10
1	A	2063	C	O5'-P-OP2	-5.84	100.44	105.70
1	A	2865	U	OP1-P-OP2	-5.84	110.83	119.60
1	A	979	G	N1-C6-O6	5.84	123.41	119.90
1	A	1193	G	O5'-P-OP2	-5.84	100.44	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2006	C	C4-C5-C6	-5.84	114.48	117.40
1	A	742	G	C6-C5-N7	-5.84	126.90	130.40
1	A	1158	C	N3-C2-O2	-5.84	117.81	121.90
1	A	1468	C	C6-N1-C2	-5.84	117.96	120.30
1	A	57	C	C5-C6-N1	5.84	123.92	121.00
1	A	1363	C	N3-C4-C5	5.84	124.24	121.90
1	A	1660	C	C5-C6-N1	-5.84	118.08	121.00
1	A	2583	G	N3-C4-C5	-5.84	125.68	128.60
1	A	1949	G	N3-C4-N9	5.84	129.50	126.00
1	A	2506	U	C2-N1-C1'	5.83	124.70	117.70
1	A	185	U	C5-C6-N1	-5.83	119.78	122.70
1	A	727	A	C8-N9-C4	-5.83	103.47	105.80
1	A	1202	C	C6-N1-C2	5.83	122.63	120.30
1	A	1332	G	O4'-C1'-N9	-5.83	103.53	108.20
1	A	2011	U	C2-N1-C1'	-5.83	110.70	117.70
1	A	560	C	O5'-P-OP1	5.83	117.70	110.70
1	A	1692	U	O5'-P-OP2	-5.83	100.45	105.70
1	A	944	G	C4-C5-N7	-5.83	108.47	110.80
1	A	1769	G	N3-C4-C5	-5.83	125.69	128.60
4	E	58	ARG	N-CA-C	-5.83	95.26	111.00
1	A	185	U	O5'-P-OP1	-5.83	100.45	105.70
1	A	1985	G	C4-C5-C6	5.83	122.30	118.80
1	A	2016	U	C6-N1-C2	-5.83	117.50	121.00
1	A	124	G	C6-C5-N7	-5.83	126.91	130.40
1	A	1792	G	C4-C5-N7	5.83	113.13	110.80
1	A	1902	C	N1-C2-O2	-5.83	115.41	118.90
1	A	2075	U	C5-C6-N1	-5.83	119.79	122.70
1	A	2252	G	C2-N3-C4	-5.83	108.99	111.90
1	A	327	G	N1-C6-O6	5.82	123.39	119.90
1	A	1634	A	N1-C6-N6	-5.82	115.11	118.60
1	A	2060	A	N9-C4-C5	5.82	108.13	105.80
1	A	1954	G	C8-N9-C4	5.82	108.73	106.40
1	A	2078	C	C6-N1-C2	-5.82	117.97	120.30
1	A	2436	G	O5'-P-OP1	-5.82	100.46	105.70
1	A	2820	A	C5-C6-N1	-5.82	114.79	117.70
1	A	2508	G	C4-C5-C6	5.82	122.29	118.80
1	A	118	A	O4'-C1'-N9	5.82	112.85	108.20
1	A	869	G	C4-C5-C6	5.82	122.29	118.80
1	A	1547	C	C4-C5-C6	5.82	120.31	117.40
1	A	1648	C	N1-C2-O2	-5.82	115.41	118.90
1	A	2059	A	C8-N9-C4	-5.82	103.47	105.80
1	A	745	G	N1-C2-N2	-5.82	110.97	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2474	C	C6-N1-C2	-5.82	117.97	120.30
1	A	269	U	C2-N1-C1'	5.81	124.67	117.70
1	A	1798	U	N1-C2-N3	5.81	118.39	114.90
1	A	929	G	N1-C6-O6	5.81	123.39	119.90
1	A	1785	A	O5'-P-OP1	-5.81	100.47	105.70
1	A	2559	C	C6-N1-C2	-5.81	117.98	120.30
1	A	1447	G	C6-C5-N7	-5.81	126.92	130.40
1	A	1216	G	N3-C4-N9	5.80	129.48	126.00
1	A	1130	U	O4'-C1'-N1	-5.80	103.56	108.20
1	A	1804	C	N1-C2-O2	-5.80	115.42	118.90
1	A	767	U	N3-C2-O2	5.80	126.26	122.20
1	A	2457	U	C4-C5-C6	5.80	123.18	119.70
1	A	400	G	N3-C4-C5	5.80	131.50	128.60
1	A	860	U	C5-C4-O4	5.80	129.38	125.90
1	A	1277	G	C4-C5-N7	-5.80	108.48	110.80
11	P	26	GLY	N-CA-C	-5.80	98.61	113.10
1	A	742	G	N1-C6-O6	5.79	123.38	119.90
1	A	1205	U	O5'-P-OP1	-5.79	100.48	105.70
1	A	1892	C	C6-N1-C2	-5.79	117.98	120.30
1	A	979	G	C4-C5-N7	5.79	113.12	110.80
1	A	51	G	C8-N9-C1'	-5.79	119.47	127.00
1	A	2052	G	C4-C5-N7	5.79	113.12	110.80
1	A	2246	G	C4-C5-N7	5.79	113.12	110.80
1	A	110	G	C4-N9-C1'	-5.79	118.98	126.50
1	A	1138	G	C8-N9-C4	-5.79	104.08	106.40
1	A	1396	U	C6-N1-C1'	-5.79	113.10	121.20
1	A	1487	G	C6-C5-N7	-5.79	126.93	130.40
1	A	1821	A	C4-C5-N7	5.79	113.59	110.70
1	A	2534	A	N1-C6-N6	5.79	122.07	118.60
1	A	593	G	N1-C2-N3	5.79	127.37	123.90
1	A	2299	G	C8-N9-C1'	-5.79	119.48	127.00
1	A	2409	G	C5-N7-C8	-5.79	101.41	104.30
1	A	733	G	C6-C5-N7	-5.78	126.93	130.40
1	A	991	C	N3-C4-C5	5.78	124.21	121.90
1	A	1338	G	N9-C4-C5	-5.78	103.09	105.40
1	A	2548	G	N1-C6-O6	5.78	123.37	119.90
1	A	2504	U	N3-C4-O4	5.78	123.45	119.40
1	A	74	A	C5-N7-C8	-5.78	101.01	103.90
1	A	232	G	N3-C4-N9	5.78	129.47	126.00
1	A	476	G	O5'-P-OP2	-5.78	100.50	105.70
1	A	1514	U	C5-C6-N1	5.78	125.59	122.70
1	A	2837	G	N7-C8-N9	5.78	115.99	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1634	A	N9-C4-C5	5.78	108.11	105.80
1	A	2070	G	N9-C4-C5	5.77	107.71	105.40
1	A	989	G	N3-C4-N9	5.77	129.46	126.00
1	A	1940	U	N3-C4-C5	-5.77	111.14	114.60
1	A	2460	U	C5-C4-O4	5.77	129.36	125.90
1	A	594	U	C6-N1-C2	-5.77	117.54	121.00
1	A	1419	A	C8-N9-C4	5.77	108.11	105.80
1	A	258	G	N9-C4-C5	-5.77	103.09	105.40
1	A	577	G	C5-C6-N1	-5.77	108.61	111.50
1	A	1628	G	N3-C2-N2	-5.77	115.86	119.90
1	A	1776	G	C8-N9-C1'	-5.77	119.50	127.00
1	A	2439	A	C4-C5-N7	5.77	113.58	110.70
1	A	2827	C	N3-C4-C5	5.77	124.21	121.90
1	A	776	G	N7-C8-N9	5.77	115.98	113.10
1	A	2251	G	C6-C5-N7	-5.77	126.94	130.40
1	A	2346	A	C5-C6-N1	-5.77	114.82	117.70
1	A	203	C	N1-C2-O2	-5.76	115.44	118.90
1	A	2459	A	C4-C5-N7	5.76	113.58	110.70
1	A	1930	G	N3-C4-N9	-5.76	122.54	126.00
1	A	1581	G	C4-N9-C1'	5.76	133.99	126.50
1	A	2206	C	N3-C2-O2	-5.76	117.87	121.90
1	A	2848	G	C4-C5-N7	-5.76	108.50	110.80
1	A	442	G	N1-C2-N3	5.76	127.35	123.90
1	A	1992	G	O4'-C1'-N9	-5.75	103.60	108.20
1	A	2461	C	C6-N1-C2	5.75	122.60	120.30
1	A	2125	G	C8-N9-C4	-5.75	104.10	106.40
1	A	2206	C	C4-C5-C6	5.75	120.28	117.40
1	A	2238	G	N7-C8-N9	5.75	115.97	113.10
1	A	1165	U	N3-C2-O2	-5.75	118.18	122.20
1	A	205	G	C6-N1-C2	-5.75	121.65	125.10
1	A	1050	A	N7-C8-N9	5.75	116.67	113.80
1	A	1772	G	N1-C6-O6	5.75	123.35	119.90
1	A	2073	C	C6-N1-C2	-5.75	118.00	120.30
1	A	1610	A	N9-C4-C5	5.75	108.10	105.80
1	A	754	C	C5-C4-N4	-5.74	116.18	120.20
1	A	859	G	N3-C4-N9	-5.74	122.55	126.00
1	A	1759	A	N9-C4-C5	-5.74	103.50	105.80
24	2	16	LEU	N-CA-C	-5.74	95.49	111.00
1	A	1193	G	N3-C4-C5	5.74	131.47	128.60
1	A	1202	C	C5-C6-N1	-5.74	118.13	121.00
1	A	1681	G	C2-N3-C4	-5.74	109.03	111.90
1	A	1855	G	N1-C6-O6	5.74	123.34	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1975	G	C4-C5-N7	5.74	113.10	110.80
1	A	1602	U	N1-C2-N3	5.74	118.34	114.90
1	A	330	A	N9-C4-C5	-5.74	103.50	105.80
1	A	2637	U	C2-N1-C1'	5.74	124.59	117.70
1	A	220	G	C8-N9-C4	-5.74	104.11	106.40
1	A	762	U	N1-C2-O2	-5.74	118.79	122.80
1	A	484	C	N3-C4-N4	5.73	122.01	118.00
1	A	1989	G	N9-C4-C5	5.73	107.69	105.40
1	A	2608	G	C2-N3-C4	-5.73	109.03	111.90
1	A	2591	C	O5'-P-OP2	-5.73	100.54	105.70
1	A	248	G	N3-C4-C5	5.73	131.47	128.60
1	A	1235	G	N3-C4-C5	-5.73	125.73	128.60
1	A	2299	G	C4-N9-C1'	5.73	133.95	126.50
1	A	2270	G	C8-N9-C4	-5.73	104.11	106.40
1	A	777	A	N3-C4-C5	-5.73	122.79	126.80
1	A	1675	C	OP2-P-O3'	5.73	117.80	105.20
1	A	75	G	C4-N9-C1'	5.72	133.94	126.50
1	A	768	G	N1-C2-N3	5.72	127.33	123.90
1	A	382	G	C6-C5-N7	-5.72	126.97	130.40
1	A	532	A	N3-C4-C5	-5.72	122.80	126.80
1	A	1636	C	N3-C2-O2	-5.72	117.89	121.90
1	A	1936	A	N9-C4-C5	-5.72	103.51	105.80
1	A	1345	C	C6-N1-C2	-5.72	118.01	120.30
1	A	1528	A	O4'-C1'-N9	5.72	112.78	108.20
1	A	488	G	N3-C4-N9	5.72	129.43	126.00
1	A	1802	A	N1-C6-N6	-5.71	115.17	118.60
1	A	1848	A	N1-C6-N6	-5.71	115.17	118.60
1	A	559	G	C4-C5-N7	-5.71	108.52	110.80
2	B	100	G	C5-C6-O6	-5.71	125.17	128.60
1	A	1487	G	C4-N9-C1'	5.71	133.92	126.50
1	A	1495	A	C8-N9-C4	-5.71	103.52	105.80
1	A	2455	G	C4-C5-N7	5.71	113.08	110.80
1	A	2730	C	C6-N1-C2	-5.71	118.02	120.30
1	A	2570	G	C8-N9-C1'	-5.70	119.59	127.00
1	A	1781	C	N1-C2-O2	5.70	122.32	118.90
1	A	1931	U	N3-C2-O2	-5.70	118.21	122.20
1	A	1593	G	N3-C4-C5	-5.70	125.75	128.60
1	A	1986	A	C4-C5-C6	-5.70	114.15	117.00
1	A	2371	G	C4-C5-N7	-5.70	108.52	110.80
1	A	503	A	N9-C4-C5	5.70	108.08	105.80
1	A	725	G	C2-N3-C4	-5.70	109.05	111.90
1	A	1022	G	OP2-P-O3'	5.70	117.73	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2665	A	N7-C8-N9	5.70	116.65	113.80
2	B	27	C	C6-N1-C2	-5.70	118.02	120.30
1	A	2682	U	C2-N1-C1'	5.69	124.53	117.70
1	A	2831	G	N1-C6-O6	5.69	123.32	119.90
1	A	258	G	C6-C5-N7	-5.69	126.98	130.40
1	A	921	G	C4-C5-C6	5.69	122.22	118.80
1	A	647	G	N1-C6-O6	5.69	123.31	119.90
1	A	1933	G	C6-C5-N7	-5.69	126.99	130.40
2	B	18	G	N3-C4-N9	-5.69	122.58	126.00
1	A	1658	C	C6-N1-C2	-5.69	118.02	120.30
1	A	2583	G	C4-C5-N7	-5.69	108.52	110.80
1	A	2639	A	C5-C6-N1	-5.69	114.86	117.70
1	A	688	U	N3-C4-C5	-5.68	111.19	114.60
1	A	1299	G	C8-N9-C1'	5.68	134.39	127.00
1	A	2556	C	C5-C4-N4	-5.68	116.22	120.20
1	A	300	A	C6-C5-N7	-5.68	128.32	132.30
1	A	1241	A	C8-N9-C4	-5.68	103.53	105.80
1	A	566	U	N3-C2-O2	5.68	126.18	122.20
1	A	974(A)	C	C5-C4-N4	5.68	124.18	120.20
1	A	904	C	C2-N1-C1'	5.68	125.05	118.80
1	A	2573	C	C5-C6-N1	5.68	123.84	121.00
1	A	729	G	C5-C6-O6	-5.68	125.19	128.60
1	A	1924	C	C6-N1-C2	-5.68	118.03	120.30
1	A	2814	C	C2-N1-C1'	-5.68	112.56	118.80
1	A	1333	C	C5-C4-N4	-5.67	116.23	120.20
1	A	2638	G	N1-C6-O6	5.67	123.31	119.90
1	A	856	C	C2-N3-C4	5.67	122.73	119.90
1	A	2052	G	N3-C4-C5	5.67	131.44	128.60
1	A	1180	C	C5-C6-N1	5.67	123.83	121.00
1	A	220	G	N3-C4-C5	-5.67	125.77	128.60
1	A	1835	G	C2-N3-C4	5.67	114.73	111.90
1	A	2478	A	C2-N3-C4	-5.67	107.77	110.60
1	A	2765	A	C2-N3-C4	-5.67	107.77	110.60
1	A	2333	A	C5-C6-N1	5.67	120.53	117.70
1	A	2083	G	C4-C5-N7	5.67	113.07	110.80
1	A	2267	A	C5-C6-N1	5.67	120.53	117.70
1	A	382	G	C6-N1-C2	5.66	128.50	125.10
1	A	2862	G	N3-C4-C5	-5.66	125.77	128.60
1	A	624	C	C4-C5-C6	-5.66	114.57	117.40
1	A	1821	A	C6-C5-N7	-5.66	128.34	132.30
1	A	2682	U	N3-C2-O2	-5.66	118.24	122.20
1	A	407	G	N3-C4-C5	-5.66	125.77	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1496	A	C4-N9-C1'	5.66	136.49	126.30
1	A	1785	A	C8-N9-C4	-5.66	103.54	105.80
1	A	1869	G	N7-C8-N9	5.66	115.93	113.10
1	A	2227	A	N3-C4-N9	-5.66	122.87	127.40
1	A	2250	G	O5'-P-OP1	-5.66	100.61	105.70
1	A	2544	G	C4-C5-C6	5.66	122.19	118.80
1	A	2325	G	N3-C2-N2	-5.66	115.94	119.90
1	A	103	A	N1-C2-N3	5.66	132.13	129.30
1	A	1809	A	N1-C2-N3	5.65	132.13	129.30
1	A	2399	G	C8-N9-C1'	-5.65	119.65	127.00
1	A	2458	G	N3-C4-C5	-5.65	125.77	128.60
1	A	2713	A	C5-N7-C8	-5.65	101.07	103.90
1	A	2053	G	C8-N9-C1'	5.65	134.34	127.00
1	A	2383	G	C5-N7-C8	-5.65	101.47	104.30
1	A	2862	G	N3-C4-N9	5.65	129.39	126.00
1	A	2507	C	N3-C2-O2	5.65	125.85	121.90
1	A	704	G	N3-C4-N9	5.64	129.39	126.00
1	A	1377	G	C4-N9-C1'	5.64	133.84	126.50
1	A	1426	G	C4-C5-N7	-5.64	108.54	110.80
1	A	1564	C	C6-N1-C2	-5.64	118.04	120.30
2	B	53	A	C2-N3-C4	5.64	113.42	110.60
1	A	503	A	P-O3'-C3'	5.64	126.47	119.70
1	A	1470	G	C8-N9-C4	-5.64	104.14	106.40
2	B	53	A	N7-C8-N9	5.64	116.62	113.80
1	A	124	G	C4-C5-C6	5.64	122.18	118.80
1	A	145	G	C8-N9-C1'	5.64	134.33	127.00
1	A	199	A	O5'-P-OP2	-5.64	100.63	105.70
1	A	649	G	N3-C4-C5	-5.64	125.78	128.60
1	A	1223	C	N3-C2-O2	5.64	125.84	121.90
1	A	2640	G	C2-N3-C4	-5.64	109.08	111.90
1	A	479	A	C8-N9-C4	-5.63	103.55	105.80
1	A	1948	G	N1-C6-O6	5.63	123.28	119.90
1	A	2325	G	C2-N3-C4	-5.63	109.08	111.90
1	A	846	C	P-O3'-C3'	5.63	126.46	119.70
1	A	2278	A	O4'-C1'-N9	5.63	112.70	108.20
1	A	828	U	N3-C2-O2	-5.63	118.26	122.20
1	A	1153	C	C6-N1-C2	-5.63	118.05	120.30
1	A	914	C	O5'-P-OP2	-5.63	100.64	105.70
1	A	2722	G	N3-C4-N9	5.63	129.38	126.00
1	A	2237	G	C4-N9-C1'	5.62	133.81	126.50
1	A	1817	G	C8-N9-C4	-5.62	104.15	106.40
1	A	2028	U	N3-C2-O2	5.62	126.14	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2393	A	N3-C4-C5	5.62	130.74	126.80
1	A	2452	C	C6-N1-C2	-5.62	118.05	120.30
1	A	2665	A	C4-N9-C1'	5.62	136.42	126.30
1	A	85	G	O5'-P-OP2	-5.62	100.64	105.70
1	A	2261	C	O5'-P-OP2	-5.62	100.64	105.70
1	A	1763	G	N3-C4-N9	-5.62	122.63	126.00
1	A	1834	U	N1-C2-N3	5.62	118.27	114.90
1	A	1327	C	C6-N1-C2	-5.61	118.06	120.30
1	A	2009	G	O5'-P-OP1	5.61	117.44	110.70
1	A	309	G	C6-C5-N7	-5.61	127.03	130.40
1	A	2246	G	C5-C6-O6	-5.61	125.23	128.60
1	A	184	C	N3-C4-C5	5.61	124.14	121.90
1	A	1505	C	C2-N1-C1'	5.61	124.97	118.80
1	A	1814	G	C5-C6-N1	-5.61	108.69	111.50
1	A	2552	U	C5-C6-N1	-5.61	119.89	122.70
1	A	2702	U	C4-C5-C6	-5.61	116.33	119.70
1	A	1667	G	C4-C5-N7	5.61	113.04	110.80
1	A	2088	G	C4-C5-C6	5.61	122.17	118.80
2	B	115	G	N3-C2-N2	-5.61	115.97	119.90
1	A	593	G	C5-C6-N1	-5.61	108.70	111.50
1	A	116	C	N3-C4-C5	-5.61	119.66	121.90
1	A	1238	G	N3-C4-N9	-5.61	122.64	126.00
1	A	1325	G	O4'-C1'-N9	5.61	112.68	108.20
1	A	1682	G	C5-C6-O6	-5.61	125.24	128.60
1	A	2720	U	C6-N1-C2	-5.61	117.64	121.00
1	A	537	C	C5-C6-N1	5.60	123.80	121.00
1	A	270(R)	G	N1-C6-O6	5.60	123.26	119.90
1	A	1404	C	C6-N1-C2	-5.60	118.06	120.30
1	A	1667	G	OP1-P-OP2	-5.60	111.20	119.60
1	A	1809	A	C6-C5-N7	-5.60	128.38	132.30
1	A	2367	G	C6-C5-N7	-5.60	127.04	130.40
1	A	1781	C	C5-C6-N1	5.60	123.80	121.00
1	A	1951	U	N3-C4-C5	-5.60	111.24	114.60
1	A	2048	G	N1-C2-N3	5.60	127.26	123.90
1	A	1328	G	C4-N9-C1'	5.59	133.77	126.50
1	A	1469	A	O5'-P-OP1	-5.59	100.67	105.70
1	A	2318	G	N7-C8-N9	5.59	115.90	113.10
1	A	329	G	OP1-P-OP2	5.59	127.99	119.60
1	A	745	G	C6-C5-N7	-5.59	127.05	130.40
1	A	746	A	OP2-P-O3'	5.59	117.50	105.20
1	A	1665	A	N3-C4-N9	5.59	131.87	127.40
1	A	2398	U	C5-C6-N1	5.59	125.50	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	932	G	C4-N9-C1'	-5.59	119.23	126.50
1	A	2339	G	N3-C4-N9	5.59	129.35	126.00
1	A	2820	A	C2-N3-C4	-5.59	107.81	110.60
1	A	2000	G	O4'-C1'-N9	5.59	112.67	108.20
1	A	1857	G	C8-N9-C1'	-5.59	119.74	127.00
1	A	225	A	N1-C6-N6	-5.58	115.25	118.60
1	A	508	G	O4'-C1'-N9	5.58	112.67	108.20
1	A	1666	G	N3-C4-C5	-5.58	125.81	128.60
1	A	1269	A	C5-C6-N1	-5.58	114.91	117.70
1	A	2496	C	N3-C4-C5	5.58	124.13	121.90
1	A	530	G	O4'-C1'-N9	5.58	112.66	108.20
1	A	783	A	N9-C1'-C2'	-5.58	105.86	112.00
1	A	1370	C	C6-N1-C2	5.58	122.53	120.30
1	A	1703	G	N9-C4-C5	-5.58	103.17	105.40
1	A	2455	G	N9-C4-C5	-5.58	103.17	105.40
1	A	2548	G	C5-C6-O6	-5.58	125.25	128.60
1	A	774	A	N1-C6-N6	5.58	121.95	118.60
9	N	114	ARG	N-CA-C	-5.58	95.94	111.00
1	A	922	U	O5'-P-OP1	-5.58	100.68	105.70
1	A	1236	G	C5-N7-C8	-5.58	101.51	104.30
1	A	1253	A	C5-N7-C8	-5.58	101.11	103.90
1	A	1634	A	C6-N1-C2	-5.58	115.25	118.60
1	A	2482	G	O5'-P-OP1	-5.58	100.68	105.70
1	A	450	G	N7-C8-N9	5.57	115.89	113.10
1	A	501	A	C5-C6-N6	5.57	128.16	123.70
1	A	618	G	C4-N9-C1'	5.57	133.74	126.50
1	A	2499	C	N3-C4-C5	-5.57	119.67	121.90
1	A	404	C	OP1-P-OP2	-5.57	111.25	119.60
1	A	2074	U	C6-N1-C2	-5.57	117.66	121.00
1	A	420	C	C6-N1-C2	-5.57	118.07	120.30
1	A	779	U	C5-C4-O4	-5.57	122.56	125.90
1	A	2570	G	N9-C4-C5	-5.57	103.17	105.40
1	A	981	A	C8-N9-C4	-5.57	103.57	105.80
1	A	2287	A	C5-C6-N1	-5.57	114.92	117.70
1	A	2500	U	N3-C4-C5	5.57	117.94	114.60
1	A	702	G	N3-C4-C5	-5.57	125.82	128.60
1	A	1661	G	N7-C8-N9	-5.57	110.32	113.10
1	A	1858	G	P-O3'-C3'	5.57	126.38	119.70
1	A	2457	U	N3-C2-O2	-5.57	118.30	122.20
1	A	2633	G	N3-C4-N9	5.57	129.34	126.00
1	A	2837	G	C5-N7-C8	-5.57	101.52	104.30
2	B	53	A	N3-C4-C5	-5.57	122.90	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	621	A	C5-N7-C8	-5.56	101.12	103.90
1	A	2580	U	C5-C6-N1	5.56	125.48	122.70
1	A	2706	G	C4-C5-N7	5.56	113.03	110.80
1	A	983	A	C4-C5-C6	5.56	119.78	117.00
1	A	1264	G	C5-C6-O6	5.56	131.94	128.60
1	A	1894	C	C5-C6-N1	-5.56	118.22	121.00
1	A	2719	G	OP2-P-O3'	5.56	117.44	105.20
1	A	586	A	N9-C4-C5	5.56	108.02	105.80
1	A	602	G	N1-C6-O6	5.56	123.23	119.90
1	A	1332	G	C4-N9-C1'	5.56	133.73	126.50
1	A	1811	G	C6-C5-N7	-5.56	127.06	130.40
1	A	2048	G	N3-C4-C5	-5.56	125.82	128.60
1	A	2238	G	N9-C4-C5	5.56	107.62	105.40
1	A	407	G	C4-N9-C1'	5.55	133.72	126.50
1	A	1764	G	N9-C4-C5	5.55	107.62	105.40
1	A	1939	U	C6-N1-C2	-5.55	117.67	121.00
1	A	212	G	N3-C4-C5	-5.55	125.82	128.60
1	A	680	G	C4-N9-C1'	5.55	133.72	126.50
1	A	2206	C	N1-C2-N3	5.55	123.09	119.20
1	A	2437	U	C6-N1-C1'	5.55	128.97	121.20
1	A	1185	C	C5-C6-N1	5.55	123.78	121.00
1	A	1276	A	C4-C5-N7	5.55	113.48	110.70
1	A	1613	G	OP1-P-O3'	5.55	117.41	105.20
1	A	2270	G	N7-C8-N9	5.55	115.88	113.10
1	A	520	G	C5-C6-O6	-5.55	125.27	128.60
1	A	1610	A	N1-C6-N6	-5.55	115.27	118.60
1	A	103	A	C4-C5-C6	5.55	119.77	117.00
1	A	81	G	C6-C5-N7	-5.55	127.07	130.40
1	A	1294	U	N3-C2-O2	5.55	126.08	122.20
1	A	1312	U	P-O3'-C3'	5.55	126.36	119.70
1	A	1187	G	C4-C5-C6	5.54	122.13	118.80
1	A	1485	G	C6-C5-N7	-5.54	127.07	130.40
2	B	80	U	N3-C2-O2	-5.54	118.32	122.20
1	A	760	G	N3-C4-N9	5.54	129.33	126.00
1	A	1565	C	C2-N3-C4	-5.54	117.13	119.90
1	A	1807	G	C6-C5-N7	-5.54	127.08	130.40
1	A	2591	C	N3-C4-N4	5.54	121.88	118.00
2	B	30	C	N3-C4-C5	-5.54	119.68	121.90
26	4	39	CYS	N-CA-C	-5.54	96.04	111.00
1	A	194	G	N1-C6-O6	5.54	123.22	119.90
1	A	527	C	C2-N1-C1'	5.54	124.89	118.80
1	A	1690	A	O5'-P-OP2	5.54	117.35	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	216	A	C5-C6-N6	-5.54	119.27	123.70
1	A	1833	U	N1-C2-N3	5.54	118.22	114.90
1	A	379	G	C4-C5-N7	5.53	113.01	110.80
1	A	827	U	O5'-P-OP2	-5.53	100.72	105.70
1	A	2065	C	C2-N1-C1'	5.53	124.89	118.80
1	A	1123	C	C2-N1-C1'	-5.53	112.71	118.80
1	A	1496	A	N1-C6-N6	5.53	121.92	118.60
1	A	2869	G	N1-C6-O6	5.53	123.22	119.90
1	A	298	G	N7-C8-N9	5.53	115.86	113.10
1	A	588	U	N3-C4-O4	5.53	123.27	119.40
1	A	1733	G	C4-N9-C1'	5.53	133.69	126.50
2	B	71	C	C5-C6-N1	5.53	123.77	121.00
1	A	139	G	C5-C6-O6	5.53	131.92	128.60
1	A	1981	A	C5-N7-C8	-5.53	101.14	103.90
1	A	2421	G	N9-C4-C5	-5.53	103.19	105.40
2	B	24	G	P-O3'-C3'	5.53	126.33	119.70
1	A	1455	G	N1-C6-O6	-5.53	116.58	119.90
1	A	2720	U	OP1-P-O3'	5.53	117.36	105.20
1	A	829	A	N1-C6-N6	5.52	121.91	118.60
1	A	2205	C	O5'-P-OP2	-5.52	100.73	105.70
1	A	1602	U	C4-C5-C6	5.52	123.01	119.70
1	A	2197	U	C6-N1-C2	5.52	124.31	121.00
1	A	2734	A	C8-N9-C4	-5.52	103.59	105.80
1	A	471	A	C5-N7-C8	-5.52	101.14	103.90
1	A	1728	G	N3-C4-C5	-5.52	125.84	128.60
1	A	2069	G	O5'-P-OP2	5.52	117.32	110.70
1	A	2126	A	P-O3'-C3'	5.52	126.32	119.70
1	A	2433	A	C6-C5-N7	-5.52	128.44	132.30
1	A	798	G	N3-C2-N2	-5.52	116.04	119.90
1	A	977	G	N3-C4-N9	5.52	129.31	126.00
1	A	1909	C	N1-C2-O2	5.52	122.21	118.90
1	A	2000	G	O5'-P-OP2	-5.52	100.73	105.70
1	A	187	G	C6-C5-N7	-5.52	127.09	130.40
1	A	997	G	O5'-P-OP1	-5.51	100.74	105.70
1	A	2624	G	N9-C4-C5	-5.51	103.19	105.40
1	A	1338	G	C4-C5-N7	5.51	113.00	110.80
1	A	2283	C	N3-C4-C5	-5.51	119.69	121.90
1	A	1192	G	C8-N9-C4	5.51	108.60	106.40
1	A	1653	G	C4-N9-C1'	5.51	133.66	126.50
1	A	1819	A	N1-C2-N3	5.51	132.06	129.30
1	A	2591	C	N1-C2-O2	-5.51	115.59	118.90
1	A	783	A	N1-C2-N3	5.51	132.05	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2729	G	C2-N3-C4	5.51	114.66	111.90
1	A	2772	C	N3-C2-O2	5.51	125.76	121.90
1	A	2857	G	N1-C6-O6	5.51	123.21	119.90
2	B	18	G	C4-N9-C1'	-5.51	119.34	126.50
1	A	747	U	N3-C2-O2	5.51	126.06	122.20
1	A	837	C	C6-N1-C2	-5.51	118.10	120.30
1	A	2549	G	N1-C6-O6	5.51	123.20	119.90
1	A	303	U	C2-N1-C1'	5.50	124.31	117.70
1	A	765	G	N7-C8-N9	5.50	115.85	113.10
1	A	990	A	C5-C6-N1	-5.50	114.95	117.70
1	A	1008	C	C6-N1-C1'	-5.50	114.20	120.80
1	A	1329	U	N1-C2-O2	-5.50	118.95	122.80
1	A	1931	U	O5'-P-OP2	5.50	117.30	110.70
1	A	1634	A	N3-C4-C5	-5.50	122.95	126.80
1	A	2434	A	C8-N9-C4	5.50	108.00	105.80
1	A	443	A	C5-C6-N1	-5.50	114.95	117.70
1	A	793	A	N1-C6-N6	5.50	121.90	118.60
1	A	802	A	N1-C2-N3	5.50	132.05	129.30
1	A	804	A	C4-C5-C6	-5.50	114.25	117.00
1	A	1688	U	N3-C4-C5	-5.50	111.30	114.60
1	A	1769	G	C4-N9-C1'	5.50	133.65	126.50
1	A	2077	A	C6-N1-C2	5.50	121.90	118.60
1	A	588	U	N3-C4-C5	-5.50	111.30	114.60
1	A	662	G	C6-C5-N7	-5.50	127.10	130.40
1	A	1299	G	C4-N9-C1'	-5.50	119.36	126.50
1	A	1626	G	C6-C5-N7	-5.50	127.10	130.40
1	A	2019	A	N9-C4-C5	-5.50	103.60	105.80
1	A	1162	G	N3-C4-N9	5.50	129.30	126.00
1	A	1935	G	C6-C5-N7	-5.50	127.10	130.40
1	A	476	G	C5-C6-N1	-5.49	108.75	111.50
1	A	1561	G	C4-C5-C6	-5.49	115.50	118.80
1	A	1628	G	C4-N9-C1'	5.49	133.64	126.50
1	A	2315	G	C4-C5-N7	5.49	113.00	110.80
1	A	1785	A	OP1-P-OP2	5.49	127.84	119.60
1	A	944	G	C4-C5-C6	5.49	122.09	118.80
1	A	2452	C	C6-N1-C1'	-5.49	114.21	120.80
1	A	128	C	C6-N1-C2	5.49	122.50	120.30
1	A	2252	G	N3-C4-C5	5.49	131.34	128.60
1	A	765	G	C4-C5-N7	5.49	113.00	110.80
2	B	59	A	N1-C2-N3	-5.49	126.56	129.30
1	A	342	G	N1-C6-O6	5.48	123.19	119.90
1	A	762	U	C6-N1-C2	5.48	124.29	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1581	G	N3-C4-N9	5.48	129.29	126.00
1	A	1800	C	O5'-P-OP2	5.48	117.28	110.70
1	A	2822	G	C4-C5-N7	5.48	112.99	110.80
1	A	200	U	N1-C2-O2	-5.48	118.96	122.80
1	A	639	U	N3-C4-O4	-5.48	115.56	119.40
1	A	920	G	C8-N9-C4	-5.48	104.21	106.40
1	A	2065	C	C6-N1-C2	-5.48	118.11	120.30
1	A	370	G	N1-C2-N2	-5.48	111.27	116.20
1	A	1374	G	C4-C5-N7	5.48	112.99	110.80
1	A	1612	C	C6-N1-C2	5.48	122.49	120.30
1	A	2031	A	C8-N9-C4	-5.48	103.61	105.80
1	A	2453	A	N1-C6-N6	-5.48	115.31	118.60
1	A	2061	G	OP1-P-O3'	5.47	117.24	105.20
1	A	2508	G	N9-C4-C5	-5.47	103.21	105.40
1	A	999	U	OP1-P-O3'	5.47	117.24	105.20
1	A	619	G	N3-C4-C5	-5.47	125.86	128.60
1	A	1141	U	P-O3'-C3'	5.47	126.27	119.70
1	A	1629	U	N3-C4-C5	-5.47	111.32	114.60
1	A	1821	A	N3-C4-N9	5.47	131.77	127.40
7	H	127	GLU	N-CA-C	-5.47	96.24	111.00
1	A	835	A	O5'-P-OP1	5.46	117.26	110.70
1	A	1446	C	C6-N1-C2	-5.46	118.11	120.30
1	A	2559	C	C5-C6-N1	5.46	123.73	121.00
1	A	600	G	N7-C8-N9	-5.46	110.37	113.10
1	A	944	G	C8-N9-C1'	-5.46	119.90	127.00
1	A	1328	G	C8-N9-C1'	-5.46	119.90	127.00
1	A	1337	G	C6-C5-N7	-5.46	127.12	130.40
1	A	2548	G	N3-C4-N9	5.46	129.28	126.00
1	A	1470	G	C5-N7-C8	-5.46	101.57	104.30
2	B	70	C	C5-C6-N1	5.46	123.73	121.00
1	A	1336	A	C2-N3-C4	5.46	113.33	110.60
1	A	501	A	C5-C6-N1	-5.46	114.97	117.70
1	A	1302	A	C8-N9-C4	5.46	107.98	105.80
3	D	251	GLY	N-CA-C	5.46	126.75	113.10
1	A	1950	G	C6-N1-C2	-5.46	121.83	125.10
1	A	2612	C	N3-C2-O2	5.46	125.72	121.90
1	A	2842	G	N1-C6-O6	5.46	123.17	119.90
1	A	1309	G	C2-N3-C4	-5.46	109.17	111.90
1	A	1667	G	C5-N7-C8	-5.46	101.57	104.30
1	A	2228	G	C6-C5-N7	-5.46	127.13	130.40
1	A	2713	A	P-O3'-C3'	-5.46	113.15	119.70
1	A	1645	G	N1-C6-O6	5.45	123.17	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1846	G	C4-N9-C1'	5.45	133.59	126.50
1	A	2224	G	N1-C6-O6	5.45	123.17	119.90
1	A	1784	A	C8-N9-C4	-5.45	103.62	105.80
1	A	247	G	N3-C4-N9	5.45	129.27	126.00
1	A	1153	C	N3-C4-C5	-5.45	119.72	121.90
1	A	2006	C	N1-C2-N3	-5.44	115.39	119.20
1	A	327	G	C5-C6-O6	-5.44	125.33	128.60
1	A	1235	G	C5-N7-C8	5.44	107.02	104.30
1	A	1367	A	C5-C6-N6	-5.44	119.35	123.70
1	A	1543	A	O4'-C1'-N9	5.44	112.55	108.20
11	P	25	SER	N-CA-C	-5.44	96.31	111.00
1	A	791	C	N3-C4-N4	-5.44	114.19	118.00
1	A	827	U	N1-C2-N3	-5.43	111.64	114.90
1	A	2418	A	C2-N3-C4	-5.43	107.88	110.60
1	A	105	C	C5-C6-N1	5.43	123.72	121.00
1	A	226	G	O4'-C1'-N9	5.43	112.55	108.20
1	A	651	G	N3-C4-N9	5.43	129.26	126.00
1	A	1490	A	N9-C4-C5	-5.43	103.63	105.80
1	A	271(B)	G	P-O3'-C3'	5.43	126.22	119.70
1	A	1840	G	C6-C5-N7	-5.43	127.14	130.40
1	A	2395	C	N1-C2-O2	5.43	122.16	118.90
1	A	2508	G	C5-C6-N1	-5.43	108.78	111.50
1	A	2817	G	N1-C6-O6	-5.43	116.64	119.90
1	A	1760	A	C8-N9-C4	-5.43	103.63	105.80
1	A	2004	G	C4-C5-N7	5.43	112.97	110.80
1	A	2237	G	N3-C4-N9	5.43	129.26	126.00
1	A	364	C	C2-N3-C4	5.43	122.61	119.90
1	A	817	C	OP2-P-O3'	5.43	117.14	105.20
1	A	573	G	C5-N7-C8	-5.43	101.59	104.30
1	A	783	A	C8-N9-C1'	-5.43	117.93	127.70
1	A	847	U	C2-N1-C1'	-5.43	111.19	117.70
1	A	1561	G	N3-C4-C5	5.43	131.31	128.60
1	A	1667	G	N9-C1'-C2'	5.43	121.05	114.00
1	A	1836	C	C5-C4-N4	-5.43	116.40	120.20
1	A	1950	G	O4'-C1'-N9	5.43	112.54	108.20
1	A	2467	C	N3-C4-C5	-5.43	119.73	121.90
1	A	2763	G	N3-C4-N9	5.43	129.26	126.00
1	A	775	G	N3-C4-N9	5.42	129.25	126.00
1	A	866	A	N9-C4-C5	-5.42	103.63	105.80
1	A	1698	A	P-O3'-C3'	5.42	126.21	119.70
1	A	1699	G	N1-C2-N3	5.42	127.15	123.90
1	A	1802	A	N9-C4-C5	5.42	107.97	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2689	U	N3-C4-O4	-5.42	115.60	119.40
1	A	459	U	N3-C2-O2	-5.42	118.40	122.20
1	A	1799	G	N9-C4-C5	5.42	107.57	105.40
1	A	2817	G	N3-C4-N9	5.42	129.25	126.00
1	A	226	G	C8-N9-C1'	5.42	134.05	127.00
1	A	1968	G	OP2-P-O3'	5.42	117.12	105.20
1	A	530	G	N3-C4-C5	-5.42	125.89	128.60
1	A	1601	G	C6-C5-N7	-5.42	127.15	130.40
1	A	1614	A	C6-C5-N7	-5.42	128.51	132.30
1	A	1928	A	C2-N3-C4	-5.42	107.89	110.60
1	A	2056	G	N1-C6-O6	-5.42	116.65	119.90
1	A	2360	A	C5-C6-N6	5.42	128.03	123.70
1	A	673	C	OP2-P-O3'	5.42	117.12	105.20
1	A	743	G	N9-C4-C5	-5.42	103.23	105.40
1	A	1359	A	C4-C5-N7	5.42	113.41	110.70
2	B	36	C	C2-N1-C1'	-5.42	112.84	118.80
1	A	217	G	N3-C4-C5	-5.42	125.89	128.60
1	A	247	G	C5-C6-O6	5.42	131.85	128.60
1	A	822	U	C5-C6-N1	-5.42	119.99	122.70
1	A	2731	G	N7-C8-N9	5.42	115.81	113.10
1	A	714	U	C5-C4-O4	5.41	129.15	125.90
1	A	819	A	N7-C8-N9	5.41	116.51	113.80
1	A	2540	C	C5-C6-N1	-5.41	118.29	121.00
1	A	926	A	C5-C6-N6	-5.41	119.37	123.70
1	A	1393	A	O4'-C1'-N9	5.41	112.53	108.20
1	A	1518	C	C6-N1-C2	5.41	122.47	120.30
1	A	122	G	C8-N9-C4	5.41	108.56	106.40
1	A	342	G	C5-C6-O6	-5.41	125.35	128.60
1	A	1342	A	C8-N9-C4	5.41	107.96	105.80
1	A	1624	G	C5-C6-O6	-5.41	125.35	128.60
1	A	2315	G	C5-C6-N1	5.41	114.20	111.50
1	A	2479	G	N3-C4-C5	5.41	131.31	128.60
1	A	2612	C	O5'-P-OP1	5.41	117.19	110.70
1	A	38	A	O5'-P-OP2	-5.41	100.83	105.70
1	A	1795	C	C2-N1-C1'	5.41	124.75	118.80
1	A	2073	C	C6-N1-C1'	5.41	127.29	120.80
1	A	2429	G	O5'-P-OP2	-5.41	100.83	105.70
1	A	2449	U	C5-C6-N1	5.41	125.40	122.70
1	A	715	G	C2-N3-C4	5.40	114.60	111.90
1	A	1430	C	C2-N1-C1'	5.40	124.75	118.80
1	A	1899	G	C5-N7-C8	-5.40	101.60	104.30
1	A	482	A	C4-C5-C6	-5.40	114.30	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	553	U	N1-C2-N3	5.40	118.14	114.90
1	A	1342	A	C4-C5-C6	-5.40	114.30	117.00
1	A	1347	G	N1-C6-O6	5.40	123.14	119.90
1	A	1379	A	C1'-O4'-C4'	-5.40	105.58	109.90
1	A	1366	A	N1-C6-N6	5.40	121.84	118.60
1	A	2399	G	N1-C2-N3	5.40	127.14	123.90
1	A	2851	A	N1-C6-N6	-5.40	115.36	118.60
1	A	117	G	N1-C6-O6	-5.40	116.66	119.90
1	A	559	G	N7-C8-N9	-5.39	110.40	113.10
1	A	804	A	C4-N9-C1'	-5.39	116.59	126.30
1	A	1007	C	N3-C4-C5	5.39	124.06	121.90
1	A	1844	C	C6-N1-C2	5.39	122.46	120.30
1	A	2449	U	C5-C4-O4	-5.39	122.66	125.90
1	A	2727	G	C8-N9-C4	5.39	108.56	106.40
1	A	1334	G	C4-C5-C6	5.39	122.03	118.80
1	A	2052	G	C5-C6-N1	-5.39	108.80	111.50
1	A	118	A	C4-C5-C6	-5.39	114.31	117.00
1	A	439	G	C5-C6-N1	-5.39	108.81	111.50
1	A	512	G	O5'-P-OP1	-5.39	100.85	105.70
1	A	2074	U	N1-C2-O2	-5.39	119.03	122.80
1	A	2824	C	O5'-P-OP2	-5.39	100.85	105.70
1	A	71	A	C2-N3-C4	-5.39	107.91	110.60
1	A	242	G	C8-N9-C4	-5.39	104.25	106.40
1	A	470	A	C5-C6-N1	5.39	120.39	117.70
1	A	1655	A	N1-C6-N6	5.39	121.83	118.60
1	A	2251	G	C4-C5-C6	5.39	122.03	118.80
1	A	2484	G	C4-C5-N7	5.39	112.95	110.80
2	B	66	A	P-O3'-C3'	5.39	126.16	119.70
1	A	281	G	N1-C6-O6	5.38	123.13	119.90
1	A	363(C)	G	N3-C4-N9	-5.38	122.77	126.00
1	A	1356	G	N3-C4-C5	-5.38	125.91	128.60
1	A	1473	G	N3-C4-C5	5.38	131.29	128.60
1	A	1695	G	C8-N9-C1'	-5.38	120.00	127.00
1	A	2032	G	N7-C8-N9	5.38	115.79	113.10
1	A	2643	G	N3-C4-C5	-5.38	125.91	128.60
1	A	2347	C	C6-N1-C2	-5.38	118.15	120.30
1	A	1396	U	N1-C2-O2	5.38	126.57	122.80
1	A	731	C	N3-C4-C5	5.38	124.05	121.90
1	A	584	C	C6-N1-C2	5.38	122.45	120.30
1	A	2634	G	OP2-P-O3'	5.38	117.03	105.20
1	A	512	G	P-O3'-C3'	5.38	126.15	119.70
1	A	2065	C	N3-C4-N4	5.38	121.76	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	982	C	N3-C4-C5	-5.37	119.75	121.90
1	A	2042	A	N1-C6-N6	5.37	121.82	118.60
1	A	2510	C	O5'-P-OP2	-5.37	100.86	105.70
1	A	2674	G	C4-N9-C1'	-5.37	119.51	126.50
1	A	775	G	C6-N1-C2	-5.37	121.88	125.10
1	A	1377	G	C8-N9-C1'	-5.37	120.02	127.00
1	A	618	G	N3-C4-N9	5.37	129.22	126.00
1	A	635	C	C6-N1-C2	-5.37	118.15	120.30
1	A	1263	U	C4-C5-C6	5.37	122.92	119.70
1	A	2457	U	C6-N1-C2	-5.37	117.78	121.00
1	A	2844	G	C5-C6-O6	-5.37	125.38	128.60
2	B	9	G	C8-N9-C4	-5.37	104.25	106.40
1	A	987	G	O5'-P-OP1	-5.36	100.87	105.70
1	A	1504	C	N3-C4-C5	5.36	124.05	121.90
1	A	2543	G	C4-C5-N7	5.36	112.94	110.80
1	A	1627	G	C2-N3-C4	-5.36	109.22	111.90
1	A	2083	G	C6-C5-N7	-5.36	127.18	130.40
1	A	391	G	C4-C5-N7	5.36	112.94	110.80
1	A	2125	G	N3-C4-C5	-5.36	125.92	128.60
1	A	2707	G	C8-N9-C4	5.36	108.54	106.40
1	A	777	A	N3-C4-N9	5.36	131.69	127.40
1	A	1017	G	N1-C6-O6	5.36	123.11	119.90
1	A	1790	C	C2-N1-C1'	-5.36	112.91	118.80
1	A	2055	C	N1-C2-O2	-5.36	115.69	118.90
1	A	311	A	N1-C6-N6	5.36	121.81	118.60
1	A	350	U	C5-C6-N1	5.36	125.38	122.70
1	A	563	G	N1-C6-O6	-5.36	116.69	119.90
1	A	2487	G	N3-C4-N9	-5.36	122.78	126.00
1	A	2487	G	O5'-P-OP1	-5.36	100.88	105.70
1	A	2237	G	C4-C5-C6	5.36	122.01	118.80
1	A	2451	A	C5-N7-C8	-5.36	101.22	103.90
1	A	2453	A	C4-C5-C6	-5.36	114.32	117.00
1	A	2513	G	C8-N9-C4	-5.36	104.26	106.40
1	A	248	G	C4-C5-N7	5.35	112.94	110.80
1	A	303	U	C5-C4-O4	-5.35	122.69	125.90
1	A	1610	A	C2-N3-C4	5.35	113.28	110.60
1	A	217	G	C8-N9-C4	-5.35	104.26	106.40
1	A	396	G	N9-C4-C5	5.35	107.54	105.40
1	A	462	C	C6-N1-C2	5.35	122.44	120.30
1	A	1814	G	N3-C4-C5	-5.35	125.92	128.60
1	A	2010	G	C4-C5-C6	5.35	122.01	118.80
1	A	2031	A	O5'-P-OP1	-5.35	100.89	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2246	G	N9-C4-C5	-5.35	103.26	105.40
1	A	845	G	C2-N3-C4	-5.35	109.23	111.90
1	A	2002	G	C5-C6-O6	-5.35	125.39	128.60
1	A	2392	A	N1-C6-N6	5.35	121.81	118.60
1	A	2506	U	C6-N1-C2	-5.35	117.79	121.00
1	A	949	C	C6-N1-C2	5.35	122.44	120.30
1	A	727	A	N3-C4-C5	-5.34	123.06	126.80
1	A	1287	A	C4-C5-C6	5.34	119.67	117.00
1	A	1370	C	C5-C6-N1	-5.34	118.33	121.00
1	A	2673	G	C6-C5-N7	-5.34	127.19	130.40
3	D	111	LEU	CA-CB-CG	5.34	127.59	115.30
1	A	2886	G	O5'-P-OP2	5.34	117.11	110.70
1	A	305	U	OP2-P-O3'	5.34	116.95	105.20
1	A	439	G	C8-N9-C1'	-5.34	120.06	127.00
1	A	727	A	N9-C4-C5	5.34	107.94	105.80
1	A	832	G	C2-N3-C4	-5.34	109.23	111.90
1	A	1334	G	C6-C5-N7	-5.34	127.19	130.40
1	A	2637	U	C6-N1-C2	-5.34	117.80	121.00
1	A	2776	A	C2-N3-C4	5.34	113.27	110.60
1	A	51	G	C4-N9-C1'	5.34	133.44	126.50
1	A	990	A	C5-C6-N6	5.34	127.97	123.70
1	A	1657	C	C6-N1-C2	-5.34	118.16	120.30
1	A	221	A	N7-C8-N9	5.34	116.47	113.80
1	A	1933	G	N1-C6-O6	5.34	123.10	119.90
1	A	2355	C	N1-C2-O2	5.34	122.10	118.90
1	A	2857	G	C4-C5-C6	5.34	122.00	118.80
1	A	229	A	P-O3'-C3'	5.34	126.10	119.70
1	A	651	G	C4-N9-C1'	5.34	133.44	126.50
1	A	2340	G	C8-N9-C4	5.34	108.53	106.40
1	A	2549	G	N3-C4-C5	-5.33	125.93	128.60
1	A	2592	G	O5'-P-OP1	5.33	117.10	110.70
1	A	2688	U	N3-C2-O2	-5.33	118.47	122.20
1	A	954	G	C4-N9-C1'	5.33	133.43	126.50
1	A	1643	G	C6-C5-N7	-5.33	127.20	130.40
1	A	1949	G	N1-C6-O6	5.33	123.10	119.90
1	A	2000	G	N9-C4-C5	5.33	107.53	105.40
1	A	227	A	N1-C6-N6	-5.33	115.40	118.60
1	A	563	G	C5-C6-N1	5.33	114.17	111.50
1	A	1263	U	N1-C2-N3	5.33	118.10	114.90
1	A	2073	C	OP1-P-OP2	-5.33	111.60	119.60
1	A	2508	G	N3-C4-N9	5.33	129.20	126.00
7	H	100	GLY	N-CA-C	-5.33	99.77	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2056	G	N3-C4-N9	-5.33	122.80	126.00
1	A	374	A	C8-N9-C4	5.33	107.93	105.80
1	A	1421	G	C5-C6-N1	-5.33	108.84	111.50
1	A	1765	C	C6-N1-C2	-5.33	118.17	120.30
1	A	1987	G	C2-N3-C4	-5.33	109.24	111.90
1	A	2239	G	N3-C4-C5	-5.33	125.94	128.60
1	A	2250	G	C5-C6-O6	-5.33	125.40	128.60
1	A	2544	G	C2-N3-C4	-5.33	109.23	111.90
1	A	1854	A	N1-C6-N6	-5.33	115.40	118.60
1	A	1791	A	OP2-P-O3'	5.32	116.91	105.20
1	A	2450	A	C4-C5-C6	5.32	119.66	117.00
1	A	2430	A	N1-C2-N3	5.32	131.96	129.30
1	A	1432	C	C6-N1-C2	5.32	122.43	120.30
1	A	1680	U	N3-C4-C5	-5.32	111.41	114.60
1	A	2072	G	C8-N9-C4	5.32	108.53	106.40
1	A	595	C	C5-C4-N4	-5.32	116.48	120.20
1	A	1388	G	N7-C8-N9	-5.32	110.44	113.10
1	A	2506	U	C5-C4-O4	5.32	129.09	125.90
1	A	1367	A	C4-C5-N7	5.31	113.36	110.70
1	A	1688	U	C2-N1-C1'	5.31	124.08	117.70
1	A	2022	U	C2-N1-C1'	-5.31	111.32	117.70
1	A	1682	G	N9-C4-C5	-5.31	103.28	105.40
1	A	2394	C	C6-N1-C2	5.31	122.42	120.30
1	A	391	G	N9-C4-C5	-5.31	103.28	105.40
1	A	742	G	C4-C5-N7	5.31	112.92	110.80
1	A	783	A	N9-C4-C5	-5.31	103.68	105.80
1	A	270(W)	G	N3-C4-N9	5.31	129.18	126.00
1	A	1389	G	N1-C6-O6	-5.31	116.72	119.90
1	A	2587	A	OP2-P-O3'	5.31	116.88	105.20
1	A	2817	G	C5-N7-C8	5.31	106.95	104.30
1	A	684	G	N3-C2-N2	-5.31	116.19	119.90
1	A	1988	C	N3-C2-O2	5.31	125.61	121.90
1	A	2345	G	N3-C4-C5	5.31	131.25	128.60
1	A	445	C	OP2-P-O3'	5.30	116.87	105.20
1	A	805	G	N3-C4-N9	5.30	129.18	126.00
1	A	1948	G	C5-C6-O6	-5.30	125.42	128.60
1	A	2215	G	N1-C6-O6	5.30	123.08	119.90
1	A	2255	G	N3-C4-N9	5.30	129.18	126.00
1	A	1643	G	N1-C6-O6	5.30	123.08	119.90
1	A	2570	G	C5-C6-O6	-5.30	125.42	128.60
1	A	2776	A	N7-C8-N9	5.30	116.45	113.80
1	A	704	G	C8-N9-C4	5.30	108.52	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	847	U	C5-C6-N1	-5.30	120.05	122.70
1	A	1187	G	N7-C8-N9	5.30	115.75	113.10
1	A	2240	C	C6-N1-C2	-5.30	118.18	120.30
1	A	2722	G	N3-C4-C5	-5.30	125.95	128.60
1	A	2848	G	C2'-C3'-O3'	5.30	122.18	113.70
1	A	1190	G	N9-C4-C5	5.30	107.52	105.40
1	A	1443	G	N1-C6-O6	5.30	123.08	119.90
1	A	784	A	P-O3'-C3'	5.30	126.06	119.70
1	A	74	A	N1-C2-N3	5.29	131.95	129.30
1	A	2325	G	C4-C5-C6	5.29	121.98	118.80
1	A	1221	C	C6-N1-C2	5.29	122.42	120.30
1	A	1353	A	N3-C4-C5	-5.29	123.09	126.80
1	A	1487	G	C5-C6-O6	-5.29	125.42	128.60
1	A	2638	G	OP2-P-O3'	5.29	116.84	105.20
2	B	47	C	C6-N1-C1'	-5.29	114.45	120.80
1	A	832	G	N3-C2-N2	-5.29	116.20	119.90
1	A	958	U	C6-N1-C2	-5.29	117.83	121.00
1	A	2481	G	C8-N9-C4	5.29	108.52	106.40
1	A	2511	U	N3-C2-O2	-5.29	118.50	122.20
1	A	544	C	C2-N1-C1'	5.29	124.62	118.80
1	A	2070	G	OP1-P-OP2	-5.29	111.67	119.60
1	A	2365	G	N3-C2-N2	5.29	123.60	119.90
1	A	971	C	C5-C4-N4	-5.29	116.50	120.20
1	A	1334	G	C4-N9-C1'	5.29	133.38	126.50
1	A	1455	G	C5-C6-N1	5.29	114.14	111.50
1	A	1664	A	C4-N9-C1'	5.29	135.82	126.30
1	A	1687	G	N3-C4-C5	-5.29	125.96	128.60
1	A	530	G	C5-C6-N1	5.29	114.14	111.50
1	A	2342	C	C5-C6-N1	5.29	123.64	121.00
1	A	2679	A	N7-C8-N9	-5.28	111.16	113.80
1	A	2838	G	N3-C2-N2	-5.28	116.20	119.90
1	A	2851	A	C5-N7-C8	-5.28	101.26	103.90
1	A	756	C	C5-C4-N4	-5.28	116.50	120.20
1	A	808	G	N1-C6-O6	-5.28	116.73	119.90
1	A	945	A	N1-C6-N6	5.28	121.77	118.60
1	A	1353	A	N1-C2-N3	5.28	131.94	129.30
1	A	1998	G	N7-C8-N9	-5.28	110.46	113.10
1	A	2419	U	C6-N1-C2	-5.28	117.83	121.00
1	A	2682	U	C5-C6-N1	5.28	125.34	122.70
1	A	37	C	N3-C4-C5	5.28	124.01	121.90
1	A	345	A	P-O3'-C3'	5.28	126.03	119.70
1	A	583	G	C6-C5-N7	-5.28	127.23	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2624	G	C4-C5-N7	5.28	112.91	110.80
1	A	789	A	C6-C5-N7	5.28	135.99	132.30
1	A	1304	C	C4-C5-C6	-5.28	114.76	117.40
1	A	454	A	N7-C8-N9	-5.28	111.16	113.80
1	A	661	C	C6-N1-C2	-5.28	118.19	120.30
1	A	924	C	C6-N1-C2	-5.28	118.19	120.30
1	A	34	C	O5'-P-OP1	5.27	117.03	110.70
1	A	401	A	C5-C6-N6	5.27	127.92	123.70
1	A	2779	U	O4'-C1'-N1	5.27	112.42	108.20
30	8	36	LYS	N-CA-C	-5.27	96.77	111.00
1	A	276	A	C8-N9-C4	5.27	107.91	105.80
1	A	2051	A	N1-C6-N6	5.27	121.76	118.60
1	A	2371	G	N3-C4-N9	-5.27	122.84	126.00
1	A	2686	G	C8-N9-C4	5.27	108.51	106.40
1	A	1784	A	O4'-C1'-N9	-5.27	103.98	108.20
1	A	126	A	C8-N9-C4	-5.27	103.69	105.80
1	A	184	C	N3-C4-N4	-5.27	114.31	118.00
1	A	187	G	N1-C6-O6	5.27	123.06	119.90
1	A	1193	G	C5-C6-O6	-5.27	125.44	128.60
1	A	2415	G	C8-N9-C1'	-5.27	120.15	127.00
1	A	2612	C	O5'-P-OP2	-5.27	100.96	105.70
1	A	127	A	C4-C5-C6	-5.27	114.37	117.00
1	A	860	U	O5'-P-OP1	-5.27	100.96	105.70
1	A	2869	G	C6-C5-N7	-5.26	127.24	130.40
1	A	58	G	N7-C8-N9	5.26	115.73	113.10
1	A	1413	G	C4-C5-N7	5.26	112.91	110.80
1	A	1502	C	C2-N1-C1'	5.26	124.59	118.80
1	A	1967	C	C6-N1-C2	5.26	122.40	120.30
1	A	2145	C	C6-N1-C2	-5.26	118.19	120.30
1	A	2838	G	N1-C6-O6	5.26	123.06	119.90
1	A	1517	G	C6-C5-N7	5.26	133.56	130.40
1	A	2088	G	C6-C5-N7	-5.26	127.24	130.40
1	A	1137	G	N9-C4-C5	-5.26	103.30	105.40
1	A	475	U	N1-C2-N3	5.26	118.05	114.90
1	A	962	G	N1-C2-N2	5.26	120.93	116.20
1	A	2262	U	N1-C2-O2	5.26	126.48	122.80
1	A	27	G	C2-N3-C4	-5.25	109.27	111.90
1	A	1601	G	N1-C6-O6	5.25	123.05	119.90
1	A	2259	G	N1-C6-O6	5.25	123.05	119.90
1	A	676	A	C4-N9-C1'	5.25	135.75	126.30
1	A	258	G	C2-N3-C4	-5.25	109.27	111.90
1	A	793	A	C2-N3-C4	-5.25	107.97	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1891	G	N1-C2-N3	5.25	127.05	123.90
1	A	1992	G	N3-C4-C5	-5.25	125.97	128.60
1	A	2350	C	C2-N1-C1'	5.25	124.58	118.80
1	A	2037	G	N1-C6-O6	-5.25	116.75	119.90
1	A	252	G	N3-C2-N2	-5.25	116.23	119.90
1	A	398	G	N7-C8-N9	-5.25	110.48	113.10
1	A	1299	G	C5-N7-C8	-5.25	101.68	104.30
1	A	1496	A	O4'-C1'-N9	5.25	112.40	108.20
1	A	1678	G	N3-C4-C5	5.25	131.22	128.60
1	A	2710	C	N1-C2-O2	-5.25	115.75	118.90
1	A	739	G	OP2-P-O3'	5.25	116.74	105.20
1	A	1144	G	C6-C5-N7	5.25	133.55	130.40
1	A	2451	A	C8-N9-C4	-5.25	103.70	105.80
1	A	2589	A	N7-C8-N9	-5.25	111.18	113.80
1	A	2570	G	C4-N9-C1'	5.24	133.31	126.50
1	A	2744	G	C8-N9-C4	-5.24	104.30	106.40
1	A	700	G	C5-C6-O6	-5.24	125.46	128.60
1	A	793	A	C8-N9-C4	5.24	107.90	105.80
1	A	1337	G	OP1-P-O3'	5.24	116.73	105.20
1	A	1421	G	N1-C6-O6	5.24	123.05	119.90
1	A	116	C	C5-C6-N1	5.24	123.62	121.00
1	A	1201	C	C6-N1-C2	5.24	122.39	120.30
1	A	1333	C	N3-C4-N4	5.24	121.67	118.00
1	A	765	G	C5-N7-C8	-5.24	101.68	104.30
1	A	1487	G	C4-C5-N7	5.24	112.89	110.80
1	A	2751	G	N3-C4-C5	-5.24	125.98	128.60
1	A	1733	G	C6-C5-N7	-5.23	127.26	130.40
1	A	2606	C	N1-C2-O2	-5.23	115.76	118.90
1	A	629	G	C4-C5-C6	5.23	121.94	118.80
1	A	1734	C	C5-C6-N1	5.23	123.61	121.00
2	B	9	G	C2-N3-C4	5.23	114.52	111.90
1	A	568	U	C5-C4-O4	5.23	129.04	125.90
1	A	687	C	C5-C6-N1	5.23	123.61	121.00
1	A	861	A	N1-C2-N3	5.23	131.91	129.30
1	A	1553	A	C4-C5-C6	5.23	119.61	117.00
1	A	1835	G	C4-N9-C1'	5.23	133.30	126.50
1	A	2581	G	N9-C4-C5	5.23	107.49	105.40
1	A	2710	C	N3-C4-C5	-5.23	119.81	121.90
1	A	71	A	N9-C4-C5	-5.22	103.71	105.80
1	A	448	U	C6-N1-C2	5.22	124.14	121.00
1	A	1115	G	N3-C4-C5	5.22	131.21	128.60
1	A	1809	A	C4-N9-C1'	5.22	135.70	126.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2345	G	C4-C5-N7	-5.22	108.71	110.80
1	A	2582	G	N1-C2-N3	5.22	127.03	123.90
1	A	1266	G	N7-C8-N9	-5.22	110.49	113.10
1	A	1696	G	C5-C6-N1	5.22	114.11	111.50
1	A	2367	G	C4-N9-C1'	5.22	133.29	126.50
1	A	2372	G	N3-C2-N2	-5.22	116.24	119.90
2	B	86	G	N9-C4-C5	-5.22	103.31	105.40
1	A	1610	A	N7-C8-N9	5.22	116.41	113.80
1	A	103	A	C5-C6-N1	-5.22	115.09	117.70
1	A	756	C	C2-N1-C1'	5.22	124.54	118.80
1	A	2035	G	O4'-C1'-N9	5.22	112.38	108.20
1	A	1795	C	N3-C4-C5	-5.22	119.81	121.90
1	A	55	G	C6-N1-C2	-5.22	121.97	125.10
1	A	1299	G	C4-C5-N7	5.22	112.89	110.80
1	A	1979	C	N3-C2-O2	-5.22	118.25	121.90
1	A	2345	G	C5-C6-O6	5.22	131.73	128.60
1	A	2579	C	N1-C2-O2	-5.22	115.77	118.90
1	A	921	G	C8-N9-C4	-5.21	104.31	106.40
1	A	2292	C	C4-C5-C6	-5.21	114.79	117.40
1	A	2540	C	C2-N3-C4	-5.21	117.29	119.90
1	A	1984	G	C6-C5-N7	-5.21	127.27	130.40
1	A	2199	A	C8-N9-C4	-5.21	103.72	105.80
1	A	2318	G	C4-N9-C1'	5.21	133.28	126.50
1	A	130	C	C2-N3-C4	-5.21	117.29	119.90
1	A	141	A	C4-C5-N7	5.21	113.31	110.70
1	A	151	C	N3-C4-C5	5.21	123.98	121.90
1	A	1612	C	C2-N3-C4	-5.21	117.29	119.90
1	A	1756	G	C6-C5-N7	-5.21	127.27	130.40
1	A	1949	G	N3-C4-C5	-5.21	125.99	128.60
1	A	2077	A	C5-C6-N1	-5.21	115.09	117.70
1	A	401	A	C4-C5-N7	-5.21	108.09	110.70
1	A	856	C	C4-C5-C6	-5.21	114.80	117.40
1	A	1433	U	C4-C5-C6	-5.21	116.57	119.70
12	Q	5	ARG	N-CA-C	-5.21	96.94	111.00
1	A	577	G	C6-C5-N7	-5.21	127.28	130.40
1	A	817	C	N3-C4-C5	5.21	123.98	121.90
1	A	956	G	N1-C6-O6	5.21	123.02	119.90
1	A	399	G	C8-N9-C4	5.20	108.48	106.40
1	A	508	G	P-O3'-C3'	5.20	125.94	119.70
1	A	822	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	389	G	N1-C6-O6	5.20	123.02	119.90
1	A	559	G	C5-N7-C8	5.20	106.90	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	583	G	C8-N9-C4	-5.20	104.32	106.40
1	A	1521	G	N3-C4-N9	5.20	129.12	126.00
1	A	2429	G	N3-C4-C5	-5.20	126.00	128.60
1	A	2429	G	N3-C4-N9	5.20	129.12	126.00
1	A	2549	G	C8-N9-C1'	-5.20	120.24	127.00
14	S	110	LEU	CA-CB-CG	5.20	127.25	115.30
1	A	1276	A	N7-C8-N9	5.20	116.40	113.80
1	A	116	C	O4'-C1'-N1	5.19	112.36	108.20
1	A	209	C	C2-N1-C1'	-5.19	113.09	118.80
1	A	1376	C	N1-C2-O2	5.19	122.02	118.90
2	B	75	G	C8-N9-C1'	-5.19	120.25	127.00
1	A	271(C)	U	C6-N1-C2	-5.19	117.89	121.00
1	A	726	G	N1-C6-O6	-5.19	116.78	119.90
1	A	1458	C	N3-C4-C5	5.19	123.98	121.90
1	A	1628	G	N1-C6-O6	5.19	123.02	119.90
1	A	2342	C	N1-C2-O2	5.19	122.02	118.90
2	B	28	C	O5'-P-OP2	-5.19	101.03	105.70
1	A	71	A	O5'-P-OP2	-5.19	101.03	105.70
1	A	949	C	C5-C6-N1	-5.19	118.41	121.00
1	A	1990	C	N3-C4-C5	-5.19	119.82	121.90
1	A	2042	A	C5-C6-N1	-5.19	115.10	117.70
2	B	84	C	C6-N1-C2	5.19	122.38	120.30
8	I	72	LEU	CA-CB-CG	5.19	127.24	115.30
1	A	203	C	N3-C2-O2	5.19	125.53	121.90
1	A	503	A	C6-N1-C2	-5.19	115.49	118.60
1	A	702	G	C5-C6-N1	-5.19	108.91	111.50
1	A	1462	C	C6-N1-C2	-5.19	118.22	120.30
1	A	1776	G	N7-C8-N9	5.19	115.69	113.10
1	A	2576	G	N7-C8-N9	5.19	115.69	113.10
1	A	2617	C	C5-C6-N1	-5.19	118.41	121.00
1	A	1268	A	N9-C4-C5	5.19	107.87	105.80
1	A	1299	G	C4-C5-C6	-5.19	115.69	118.80
1	A	1817	G	C6-C5-N7	-5.19	127.29	130.40
1	A	2716	U	N3-C4-O4	5.19	123.03	119.40
1	A	145	G	C8-N9-C4	5.18	108.47	106.40
1	A	855	G	C6-C5-N7	-5.18	127.29	130.40
1	A	2335	A	O4'-C1'-N9	5.18	112.35	108.20
1	A	2544	G	C4-C5-N7	5.18	112.87	110.80
1	A	2822	G	N1-C6-O6	5.18	123.01	119.90
1	A	363(C)	G	N3-C4-C5	5.18	131.19	128.60
1	A	1142(A)	A	N3-C4-C5	5.18	130.43	126.80
1	A	1441	G	C8-N9-C4	5.18	108.47	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1528	A	N7-C8-N9	5.18	116.39	113.80
1	A	2826	A	C2-N3-C4	-5.18	108.01	110.60
1	A	1342	A	C4-N9-C1'	-5.18	116.97	126.30
1	A	2831	G	C4-C5-C6	5.18	121.91	118.80
1	A	1264	G	OP2-P-O3'	5.18	116.59	105.20
1	A	1522	G	O4'-C1'-N9	5.18	112.34	108.20
1	A	1334	G	N3-C4-C5	-5.18	126.01	128.60
1	A	2449	U	C2-N1-C1'	5.18	123.91	117.70
1	A	1776	G	N9-C4-C5	-5.18	103.33	105.40
1	A	2048	G	C4-C5-C6	5.18	121.91	118.80
1	A	2418	A	C8-N9-C4	5.18	107.87	105.80
1	A	2844	G	C4-C5-N7	5.18	112.87	110.80
1	A	74	A	O4'-C1'-N9	-5.17	104.06	108.20
1	A	258	G	C5-C6-N1	-5.17	108.91	111.50
1	A	974	G	C2-N3-C4	5.17	114.49	111.90
1	A	270(X)	G	C2-N3-C4	-5.17	109.31	111.90
1	A	595	C	C5-C6-N1	5.17	123.59	121.00
1	A	941	A	N1-C6-N6	-5.17	115.50	118.60
1	A	1195	G	N7-C8-N9	5.17	115.69	113.10
1	A	2237	G	C8-N9-C1'	-5.17	120.28	127.00
1	A	2447	G	P-O3'-C3'	5.17	125.91	119.70
1	A	933	A	N1-C6-N6	5.17	121.70	118.60
1	A	1239	G	C4-C5-N7	5.17	112.87	110.80
1	A	1313	U	OP1-P-O3'	5.17	116.58	105.20
1	A	607	U	N3-C4-O4	-5.17	115.78	119.40
1	A	1137	G	C4-C5-N7	5.17	112.87	110.80
1	A	1651	G	N3-C4-N9	5.17	129.10	126.00
1	A	1894	C	C2-N3-C4	-5.17	117.32	119.90
1	A	2290	G	C5-C6-N1	-5.17	108.92	111.50
1	A	2523	G	C8-N9-C1'	-5.17	120.28	127.00
1	A	840	C	OP1-P-OP2	5.17	127.35	119.60
1	A	2194	G	N3-C4-C5	-5.17	126.02	128.60
1	A	393	C	N1-C2-N3	5.17	122.81	119.20
1	A	1050	A	C8-N9-C4	-5.17	103.73	105.80
1	A	686	G	N3-C4-C5	-5.16	126.02	128.60
1	A	1696	G	C2-N3-C4	5.16	114.48	111.90
1	A	1624	G	C4-C5-N7	5.16	112.86	110.80
1	A	1678	G	C2-N3-C4	-5.16	109.32	111.90
1	A	926	A	C4-C5-N7	5.16	113.28	110.70
1	A	1792	G	N9-C4-C5	-5.16	103.34	105.40
1	A	2067	G	N1-C6-O6	-5.16	116.81	119.90
1	A	249	C	C2-N1-C1'	-5.16	113.13	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	532	A	O4'-C1'-N9	5.16	112.33	108.20
1	A	1458	C	C6-N1-C2	5.16	122.36	120.30
1	A	1951	U	C4-C5-C6	5.16	122.79	119.70
1	A	2504	U	N1-C2-N3	-5.16	111.81	114.90
1	A	2820	A	P-O3'-C3'	5.16	125.89	119.70
1	A	459	U	N1-C2-N3	5.15	117.99	114.90
1	A	1274	A	N3-C4-N9	-5.15	123.28	127.40
1	A	1496	A	C4-C5-C6	5.15	119.58	117.00
1	A	637	A	P-O3'-C3'	5.15	125.88	119.70
1	A	2598	A	N1-C6-N6	-5.15	115.51	118.60
1	A	1826	G	N1-C6-O6	5.15	122.99	119.90
1	A	2046	G	C5-C6-N1	5.15	114.07	111.50
1	A	2686	G	O5'-P-OP2	-5.15	101.07	105.70
1	A	2830	G	N1-C6-O6	5.15	122.99	119.90
1	A	1773	A	C6-C5-N7	-5.15	128.70	132.30
1	A	1846	G	C4-C5-C6	5.15	121.89	118.80
1	A	2441	C	N1-C2-O2	-5.15	115.81	118.90
1	A	2448	A	C8-N9-C4	-5.15	103.74	105.80
1	A	2577	A	O5'-P-OP2	-5.15	101.07	105.70
1	A	1275	A	C8-N9-C4	5.15	107.86	105.80
1	A	1624	G	C4-C5-C6	5.15	121.89	118.80
1	A	2433	A	C8-N9-C4	-5.15	103.74	105.80
1	A	28	A	N9-C4-C5	5.14	107.86	105.80
1	A	465	G	N1-C6-O6	5.14	122.99	119.90
1	A	862	G	C8-N9-C4	-5.14	104.34	106.40
1	A	1772	G	C5-C6-O6	-5.14	125.51	128.60
1	A	2311	A	C5-C6-N1	-5.14	115.13	117.70
1	A	557	U	N3-C2-O2	-5.14	118.60	122.20
1	A	2095	C	C5-C6-N1	5.14	123.57	121.00
1	A	2333	A	N1-C6-N6	-5.14	115.51	118.60
1	A	1286	A	C5-C6-N1	5.14	120.27	117.70
1	A	1543	A	C2-N3-C4	-5.14	108.03	110.60
1	A	2755	C	C6-N1-C2	-5.14	118.25	120.30
1	A	1903	G	OP2-P-O3'	5.13	116.50	105.20
1	A	2492	U	C5-C6-N1	5.13	125.27	122.70
1	A	1437	C	C2-N1-C1'	5.13	124.45	118.80
1	A	2235	G	C6-C5-N7	-5.13	127.32	130.40
1	A	26	G	C4-C5-N7	-5.13	108.75	110.80
1	A	110	G	C8-N9-C1'	5.13	133.66	127.00
1	A	1300	U	N1-C2-N3	5.13	117.98	114.90
1	A	2709	G	C6-C5-N7	-5.13	127.33	130.40
1	A	628	G	C5-C6-N1	5.12	114.06	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1017	G	C5-C6-O6	-5.12	125.53	128.60
1	A	1389	G	N3-C4-C5	-5.12	126.04	128.60
1	A	1669	A	C5-C6-N1	5.12	120.26	117.70
1	A	1803	A	N7-C8-N9	-5.12	111.24	113.80
1	A	2453	A	N1-C2-N3	-5.12	126.74	129.30
1	A	2869	G	C4-C5-C6	5.12	121.87	118.80
1	A	608	A	N7-C8-N9	5.12	116.36	113.80
1	A	2573	C	N3-C4-N4	5.12	121.58	118.00
1	A	2635	C	C4-C5-C6	5.12	119.96	117.40
1	A	328	U	C5-C6-N1	-5.12	120.14	122.70
1	A	1992	G	C2-N3-C4	5.12	114.46	111.90
1	A	2267	A	N1-C6-N6	-5.12	115.53	118.60
1	A	2385	C	N1-C2-O2	-5.12	115.83	118.90
1	A	639	U	C2-N1-C1'	-5.12	111.56	117.70
1	A	1283	G	C4-C5-N7	-5.12	108.75	110.80
1	A	1142(A)	A	N1-C2-N3	5.12	131.86	129.30
1	A	1193	G	N1-C6-O6	5.12	122.97	119.90
1	A	1328	G	N1-C6-O6	5.12	122.97	119.90
1	A	2518	A	N1-C6-N6	5.12	121.67	118.60
1	A	39	C	C5-C6-N1	5.11	123.56	121.00
1	A	1325	G	C8-N9-C1'	5.11	133.65	127.00
1	A	140	A	N9-C4-C5	-5.11	103.75	105.80
1	A	300	A	C2-N3-C4	-5.11	108.04	110.60
1	A	444	C	C2-N1-C1'	-5.11	113.18	118.80
2	B	47	C	C2-N1-C1'	5.11	124.42	118.80
1	A	553	U	C4-C5-C6	5.11	122.77	119.70
1	A	1957	C	O5'-P-OP1	5.11	116.83	110.70
1	A	2610	C	P-O3'-C3'	5.11	125.83	119.70
1	A	467	G	C5-C6-O6	-5.11	125.53	128.60
2	B	45	A	N1-C6-N6	5.11	121.67	118.60
1	A	1463	C	C6-N1-C2	-5.11	118.26	120.30
1	A	2043	C	C2-N1-C1'	5.11	124.42	118.80
1	A	2259	G	C5-C6-O6	-5.11	125.53	128.60
1	A	2540	C	C4-C5-C6	5.11	119.95	117.40
1	A	2755	C	C5-C6-N1	5.11	123.55	121.00
1	A	18	C	O5'-P-OP1	-5.11	101.11	105.70
1	A	738	G	N3-C4-C5	-5.11	126.05	128.60
1	A	804	A	N3-C4-N9	-5.11	123.31	127.40
1	A	1827	C	C6-N1-C2	-5.11	118.26	120.30
1	A	2500	U	N1-C2-O2	5.11	126.37	122.80
1	A	2696	U	C6-N1-C2	-5.11	117.94	121.00
1	A	1215	G	C4-C5-C6	5.10	121.86	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2438	U	OP2-P-O3'	5.10	116.43	105.20
1	A	2452	C	C5-C4-N4	-5.10	116.63	120.20
1	A	1021	A	C5-C6-N1	-5.10	115.15	117.70
1	A	1355	G	N1-C6-O6	5.10	122.96	119.90
1	A	2621	A	C2-N3-C4	-5.10	108.05	110.60
1	A	269	U	N1-C2-O2	5.10	126.37	122.80
1	A	671	C	N3-C2-O2	-5.10	118.33	121.90
1	A	1327	C	N1-C2-O2	-5.10	115.84	118.90
1	A	498	G	N3-C4-C5	-5.10	126.05	128.60
1	A	1786	A	C6-N1-C2	5.10	121.66	118.60
1	A	2251	G	N3-C4-C5	-5.10	126.05	128.60
1	A	283	A	N1-C6-N6	5.10	121.66	118.60
1	A	745	G	N3-C2-N2	5.10	123.47	119.90
1	A	859	G	N3-C4-C5	5.10	131.15	128.60
1	A	1313	U	C6-N1-C2	-5.10	117.94	121.00
1	A	2237	G	C6-C5-N7	-5.10	127.34	130.40
1	A	2239	G	C5-C6-N1	5.10	114.05	111.50
1	A	2396	G	N1-C6-O6	5.10	122.96	119.90
1	A	1785	A	N1-C6-N6	5.10	121.66	118.60
1	A	624	C	N3-C4-N4	5.09	121.57	118.00
1	A	1293	C	N3-C2-O2	5.09	125.47	121.90
1	A	2451	A	N9-C4-C5	5.09	107.84	105.80
2	B	100	G	N3-C4-N9	5.09	129.06	126.00
1	A	301	G	N7-C8-N9	-5.09	110.55	113.10
1	A	1308	A	C6-C5-N7	-5.09	128.74	132.30
1	A	482	A	N1-C2-N3	-5.09	126.75	129.30
1	A	855	G	C5-C6-N1	-5.09	108.95	111.50
1	A	2041	U	C5-C4-O4	-5.09	122.84	125.90
1	A	2457	U	N3-C4-C5	-5.09	111.55	114.60
1	A	683	C	C6-N1-C2	-5.09	118.26	120.30
1	A	1903	G	OP1-P-OP2	5.09	127.23	119.60
1	A	1979	C	C6-N1-C2	-5.09	118.26	120.30
1	A	2433	A	N1-C2-N3	5.09	131.84	129.30
1	A	828	U	C5-C4-O4	5.09	128.95	125.90
1	A	1213	A	C2-N3-C4	-5.09	108.06	110.60
1	A	621	A	C8-N9-C4	-5.09	103.77	105.80
1	A	1465	G	N3-C4-C5	-5.09	126.06	128.60
1	A	1487	G	C8-N9-C1'	-5.09	120.39	127.00
1	A	1616	A	C8-N9-C4	-5.09	103.77	105.80
1	A	2355	C	C2-N1-C1'	5.09	124.39	118.80
1	A	636	G	C6-C5-N7	-5.08	127.35	130.40
1	A	716	A	C6-C5-N7	-5.08	128.74	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	745	G	N9-C4-C5	-5.08	103.37	105.40
1	A	1846	G	C6-N1-C2	-5.08	122.05	125.10
1	A	1598	C	OP1-P-OP2	-5.08	111.98	119.60
1	A	1195	G	N1-C6-O6	5.08	122.95	119.90
1	A	2007	C	C5-C4-N4	-5.08	116.64	120.20
1	A	2321	G	N3-C4-C5	-5.08	126.06	128.60
1	A	1198	U	C2-N1-C1'	5.08	123.79	117.70
1	A	1430	C	C2-N3-C4	-5.08	117.36	119.90
1	A	1848	A	C4-C5-C6	-5.08	114.46	117.00
2	B	71	C	C6-N1-C2	-5.08	118.27	120.30
1	A	365	C	C2-N3-C4	5.08	122.44	119.90
1	A	246	C	O5'-P-OP1	-5.08	101.13	105.70
1	A	365	C	N1-C2-O2	5.08	121.94	118.90
1	A	457	A	C8-N9-C4	-5.07	103.77	105.80
1	A	690	G	N1-C2-N3	5.07	126.94	123.90
1	A	715	G	C5-C6-N1	5.07	114.04	111.50
1	A	1141	U	OP2-P-O3'	5.07	116.36	105.20
1	A	1195	G	C5-N7-C8	-5.07	101.76	104.30
1	A	2479	G	N3-C4-N9	-5.07	122.96	126.00
1	A	705	A	C2-N3-C4	-5.07	108.06	110.60
1	A	789	A	C4-N9-C1'	-5.07	117.17	126.30
1	A	855	G	C8-N9-C4	-5.07	104.37	106.40
1	A	1430	C	N1-C2-O2	5.07	121.94	118.90
1	A	1446	C	N3-C2-O2	-5.07	118.35	121.90
1	A	1773	A	N1-C6-N6	5.07	121.64	118.60
1	A	2228	G	N3-C4-N9	5.07	129.04	126.00
1	A	715	G	N3-C4-N9	5.07	129.04	126.00
1	A	370	G	C4-N9-C1'	5.07	133.09	126.50
1	A	696	G	C4-N9-C1'	5.07	133.09	126.50
1	A	1146	C	C6-N1-C2	-5.07	118.27	120.30
1	A	1252	G	C2-N3-C4	5.07	114.43	111.90
1	A	2004	G	C5-N7-C8	-5.07	101.77	104.30
1	A	2573	C	C5-C4-N4	-5.07	116.65	120.20
1	A	752	A	C3'-C2'-C1'	5.07	105.55	101.50
1	A	1141	U	N3-C4-O4	-5.07	115.85	119.40
1	A	1254	A	C8-N9-C4	-5.07	103.77	105.80
1	A	1361	G	P-O3'-C3'	-5.07	113.62	119.70
1	A	1776	G	C5-N7-C8	-5.07	101.77	104.30
1	A	2307	G	C8-N9-C4	-5.07	104.37	106.40
1	A	2369	A	N3-C4-C5	-5.07	123.25	126.80
1	A	2519	U	N1-C2-O2	5.07	126.35	122.80
2	B	7	G	C2-N3-C4	-5.07	109.37	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	15	G	N1-C2-N2	5.06	120.76	116.20
1	A	37	C	C5-C6-N1	-5.06	118.47	121.00
1	A	759	G	N9-C4-C5	-5.06	103.38	105.40
1	A	1263	U	N3-C4-C5	-5.06	111.56	114.60
1	A	1315	C	C2-N3-C4	-5.06	117.37	119.90
1	A	1983	C	C6-N1-C2	-5.06	118.28	120.30
1	A	105	C	N3-C2-O2	5.06	125.44	121.90
1	A	1786	A	N9-C1'-C2'	5.06	120.58	114.00
1	A	15	G	N1-C6-O6	5.06	122.94	119.90
1	A	1627	G	C6-C5-N7	-5.06	127.36	130.40
1	A	1639	U	C5-C4-O4	5.06	128.94	125.90
1	A	2091	U	N3-C4-C5	-5.06	111.56	114.60
1	A	2859	G	N1-C6-O6	-5.06	116.86	119.90
1	A	2007	C	N3-C4-N4	5.06	121.54	118.00
2	B	59	A	C2-N3-C4	5.06	113.13	110.60
15	T	59	THR	N-CA-C	-5.06	97.35	111.00
1	A	941	A	C8-N9-C4	-5.05	103.78	105.80
1	A	1419	A	N7-C8-N9	-5.05	111.27	113.80
1	A	1647	G	N3-C4-N9	-5.05	122.97	126.00
1	A	855	G	N1-C6-O6	5.05	122.93	119.90
1	A	866	A	C8-N9-C4	5.05	107.82	105.80
1	A	869	G	OP1-P-O3'	5.05	116.31	105.20
1	A	1431	U	N3-C4-C5	5.05	117.63	114.60
15	T	123	GLN	N-CA-C	-5.05	97.36	111.00
1	A	853	G	N3-C4-N9	5.05	129.03	126.00
1	A	1162	G	C4-C5-N7	5.05	112.82	110.80
1	A	2049	G	N1-C2-N3	5.05	126.93	123.90
1	A	678	C	O5'-P-OP2	-5.05	101.16	105.70
1	A	127	A	C4-N9-C1'	-5.04	117.22	126.30
1	A	1849	G	N7-C8-N9	5.04	115.62	113.10
1	A	1965	C	C2-N1-C1'	-5.04	113.25	118.80
1	A	77	C	C5-C4-N4	-5.04	116.67	120.20
1	A	1333	C	OP1-P-O3'	5.04	116.29	105.20
1	A	1448	G	N1-C6-O6	5.04	122.92	119.90
1	A	1811	G	C5-C6-O6	-5.04	125.58	128.60
1	A	2391	G	C4-C5-N7	-5.04	108.78	110.80
1	A	741	G	C5-C6-N1	5.04	114.02	111.50
1	A	1123	C	C6-N1-C2	5.04	122.31	120.30
1	A	1617	C	C2-N1-C1'	-5.04	113.26	118.80
1	A	1812	A	OP1-P-OP2	5.04	127.16	119.60
1	A	752	A	OP2-P-O3'	5.04	116.28	105.20
1	A	595	C	N3-C2-O2	5.04	125.42	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	862	G	C5-C6-O6	5.04	131.62	128.60
1	A	1133	U	N3-C4-O4	5.04	122.92	119.40
1	A	1784	A	C4-N9-C1'	5.04	135.37	126.30
1	A	1471	A	N1-C6-N6	5.03	121.62	118.60
1	A	1569	A	OP1-P-O3'	5.03	116.27	105.20
1	A	2867	G	N7-C8-N9	-5.03	110.58	113.10
1	A	243	U	O5'-P-OP1	-5.03	101.17	105.70
1	A	1485	G	N7-C8-N9	5.03	115.62	113.10
1	A	1695	G	N1-C2-N2	-5.03	111.67	116.20
2	B	116	G	N3-C4-C5	5.03	131.12	128.60
1	A	518	G	C5-C6-N1	5.03	114.02	111.50
1	A	1198	U	N3-C2-O2	-5.03	118.68	122.20
1	A	121	G	C5-C6-O6	-5.03	125.58	128.60
1	A	2090	G	N1-C2-N3	5.03	126.92	123.90
1	A	2420	C	O5'-P-OP2	5.03	116.73	110.70
1	A	320	A	N7-C8-N9	-5.03	111.29	113.80
1	A	910	A	N1-C6-N6	5.03	121.62	118.60
1	A	2335	A	P-O3'-C3'	5.03	125.73	119.70
1	A	2205	C	N3-C2-O2	-5.02	118.38	121.90
1	A	28	A	C6-N1-C2	-5.02	115.59	118.60
1	A	442	G	C2-N3-C4	-5.02	109.39	111.90
1	A	741	G	O5'-P-OP2	-5.02	101.18	105.70
1	A	853	G	C4-N9-C1'	5.02	133.03	126.50
1	A	1300	U	N1-C2-O2	-5.02	119.28	122.80
1	A	1966	A	O5'-P-OP1	-5.02	101.18	105.70
1	A	2673	G	C2-N3-C4	-5.02	109.39	111.90
1	A	2882	A	C8-N9-C4	5.02	107.81	105.80
1	A	268	C	C2-N3-C4	5.02	122.41	119.90
1	A	735	A	N7-C8-N9	-5.02	111.29	113.80
1	A	759	G	N1-C6-O6	5.02	122.91	119.90
1	A	2224	G	C5-C6-N1	-5.02	108.99	111.50
1	A	2453	A	C2-N3-C4	5.02	113.11	110.60
1	A	776	G	N3-C4-N9	-5.02	122.99	126.00
1	A	1151	G	N1-C6-O6	5.02	122.91	119.90
1	A	1652	A	C2-N3-C4	-5.02	108.09	110.60
1	A	1891	G	C6-C5-N7	-5.02	127.39	130.40
1	A	2347	C	N3-C2-O2	-5.02	118.39	121.90
1	A	2644	G	N1-C6-O6	5.02	122.91	119.90
1	A	1614	A	C4-C5-C6	5.02	119.51	117.00
1	A	1924	C	N3-C4-C5	-5.02	119.89	121.90
1	A	1444(A)	A	O4'-C1'-N9	5.01	112.21	108.20
1	A	1763	G	N3-C4-C5	5.01	131.11	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1773	A	N1-C2-N3	5.01	131.81	129.30
1	A	2544	G	C5-C6-N1	-5.01	108.99	111.50
1	A	362	U	N1-C2-O2	5.01	126.31	122.80
1	A	587	C	C6-N1-C2	-5.01	118.30	120.30
1	A	865	C	N3-C4-C5	5.01	123.91	121.90
1	A	1822	G	C5-N7-C8	-5.01	101.79	104.30
1	A	444	C	OP1-P-O3'	-5.01	94.17	105.20
1	A	553	U	C6-N1-C2	-5.01	117.99	121.00
1	A	607	U	C5-C4-O4	5.01	128.91	125.90
1	A	1434	A	N1-C6-N6	-5.01	115.59	118.60
1	A	1465	G	N3-C4-N9	5.01	129.01	126.00
1	A	2250	G	C4-C5-N7	5.01	112.80	110.80
1	A	680	G	C8-N9-C1'	-5.01	120.49	127.00
1	A	685	A	C5-C6-N1	5.01	120.20	117.70
1	A	729	G	N3-C4-N9	5.01	129.01	126.00
1	A	1223	C	N3-C4-C5	-5.01	119.90	121.90
1	A	2714	G	N3-C4-N9	5.01	129.00	126.00
1	A	270(W)	G	N3-C4-C5	-5.01	126.10	128.60
1	A	1267	U	OP2-P-O3'	5.01	116.22	105.20
1	A	2303	G	OP1-P-O3'	5.01	116.22	105.20
1	A	211	A	C6-C5-N7	-5.01	128.79	132.30
1	A	1197	G	C4-N9-C1'	5.01	133.01	126.50
1	A	1235	G	C4-C5-N7	-5.01	108.80	110.80
1	A	1416	G	C8-N9-C4	5.01	108.40	106.40
1	A	1541	U	C6-N1-C2	-5.01	118.00	121.00
1	A	2006	C	C6-N1-C1'	-5.01	114.79	120.80
1	A	2276	G	C8-N9-C4	5.01	108.40	106.40
1	A	2769	C	C4-C5-C6	5.01	119.90	117.40
1	A	1277	G	C6-C5-N7	5.00	133.40	130.40
1	A	680	G	N1-C2-N2	-5.00	111.70	116.20
1	A	1277	G	C5-C6-O6	5.00	131.60	128.60
1	A	1825	A	OP1-P-OP2	-5.00	112.09	119.60
1	A	1903	G	N3-C4-N9	5.00	129.00	126.00
1	A	2622	C	C2-N3-C4	-5.00	117.40	119.90
1	A	642	G	C5-C6-N1	-5.00	109.00	111.50
1	A	924	C	N3-C2-O2	-5.00	118.40	121.90
1	A	1626	G	N1-C6-O6	5.00	122.90	119.90
1	A	2261	C	N3-C2-O2	-5.00	118.40	121.90
1	A	2589	A	C8-N9-C4	5.00	107.80	105.80

There are no chirality outliers.

There are no planarity outliers.

5.2 Close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	62071	0	31285	1905	0
2	B	2573	0	1306	121	0
3	D	2115	0	2195	324	0
4	E	1568	0	1634	270	0
5	F	1585	0	1632	178	0
6	G	1474	0	1535	199	0
7	H	1307	0	1382	226	0
8	I	1136	0	1223	79	0
9	N	1104	0	1180	200	0
10	O	933	0	996	125	0
11	P	1145	0	1228	256	0
12	Q	1122	0	1179	157	0
13	R	968	0	1033	115	0
14	S	882	0	943	166	0
15	T	1141	0	1202	148	0
16	U	964	0	1022	130	0
17	V	779	0	852	130	0
18	W	900	0	964	100	0
19	X	725	0	778	70	0
20	Y	785	0	878	167	0
21	Z	1461	0	1493	81	0
22	0	648	0	671	48	0
23	1	763	0	848	142	0
24	2	581	0	629	83	0
25	3	469	0	518	41	0
26	4	581	0	574	132	0
27	5	459	0	480	73	0
28	6	424	0	450	90	0
29	7	430	0	480	42	0
30	8	517	0	582	104	0
31	9	307	0	335	23	0
32	a	74	0	51	0	0
33	0	1	0	0	0	0
33	5	1	0	0	0	0
33	8	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	A	239	0	0	0	0
33	B	2	0	0	0	0
33	D	1	0	0	0	0
33	E	2	0	0	0	0
33	F	1	0	0	0	0
33	P	1	0	0	0	0
33	R	2	0	0	0	0
34	9	1	0	0	0	0
All	All	92243	0	61558	5410	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 36.

All (5410) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:CG	7:H:128:PRO:HD3	1.35	1.53
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.43	1.34
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
12:Q:59:ARG:O	12:Q:60:ARG:HD2	1.38	1.22
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.70	1.20
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.19
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.17
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.16
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.14
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.13
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.12
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.12
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.11
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.31	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.50	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.10
7:H:86:GLU:HG3	7:H:165:ALA:H	1.06	1.10
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.09
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.08
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.34	1.07
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.07
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.06
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.06

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.05
2:B:45:A:O4'	6:G:95:ARG:NH1	1.89	1.05
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.05
9:N:134:ARG:H	9:N:135:PRO:HD3	1.12	1.04
12:Q:59:ARG:O	12:Q:60:ARG:CD	2.05	1.04
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.04
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.04
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.56	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.03
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.03
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.02
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.06	1.02
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	1.01
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	1.01
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.43	1.00
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.00
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.43	1.00
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	1.00
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	1.00
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.00
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.26	1.00
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.22	1.00
1:A:2701:C:H3'	1:A:2702:U:H5''	1.39	0.99
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.77	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
1:A:1019:U:HO2'	1:A:1021:A:H2	1.02	0.99
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	0.99
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
1:A:1542:G:O6	1:A:1543:A:N6	1.95	0.98
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.98
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.77	0.98
11:P:105:LEU:O	11:P:106:LEU:HB2	1.61	0.98
1:A:2638:G:OP2	4:E:82:ARG:NH2	1.96	0.98
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.98
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.98

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	0.98
4:E:20:ALA:O	4:E:21:VAL:HG22	1.65	0.97
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	0.97
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	0.96
1:A:2015:A:H1'	27:5:2:ALA:HA	1.45	0.96
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	0.96
1:A:1434:A:H61	1:A:1558:A:H62	1.11	0.96
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.46	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
1:A:1428:C:N4	1:A:1570:A:OP2	1.99	0.96
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	0.95
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.95
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
1:A:265:A:N6	1:A:427:U:O2'	2.00	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.94
11:P:62:LEU:HD22	11:P:62:LEU:N	1.82	0.94
28:6:41:PRO:HG2	28:6:45:LYS:H	1.29	0.94
1:A:674:G:H1'	5:F:74:ARG:HD3	1.49	0.94
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.94
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.94
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.94
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.94
27:5:56:LYS:H	27:5:56:LYS:HD2	1.30	0.93
4:E:78:LEU:HG	4:E:79:ARG:HE	1.31	0.93
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.93
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.51	0.93
12:Q:59:ARG:O	12:Q:60:ARG:CG	2.17	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.93
17:V:99:ILE:HD13	17:V:99:ILE:H	1.31	0.92
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.92
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.52	0.92

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.92
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.49	0.92
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.31	0.92
1:A:1270:C:H5''	1:A:1271:G:H5'	1.50	0.92
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.97	0.92
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.92
1:A:1019:U:H3	1:A:1142(A):A:H62	1.10	0.92
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.92
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.92
23:1:81:LYS:CE	23:1:81:LYS:HA	2.01	0.91
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.91
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.91
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.85	0.91
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.91
14:S:67:ARG:NH1	14:S:67:ARG:HB2	1.85	0.91
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.90
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.90
12:Q:59:ARG:O	12:Q:60:ARG:HG3	1.72	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.89
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
1:A:49:A:H4'	1:A:50:U:H5''	1.54	0.89
1:A:483:A:H4'	20:Y:49:VAL:HA	1.52	0.89
7:H:26:VAL:HG13	7:H:27:LYS:H	1.36	0.89
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.89
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.89
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.89
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.89
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.88
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.88
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.88
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.88
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.06	0.88
1:A:1068:G:N2	1:A:1095:A:O2'	2.07	0.88
4:E:63:LEU:HD12	4:E:64:LYS:N	1.88	0.88
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.88

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.39	0.88
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.88
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.88
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.87
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.87
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.87
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.87
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.87
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.86
1:A:518:G:H4'	18:W:18:ARG:HH12	1.37	0.86
1:A:526:A:OP1	1:A:527:C:OP1	1.93	0.86
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.07	0.86
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.86
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.57	0.86
1:A:1022:G:O2'	1:A:1023:U:OP2	1.93	0.86
1:A:2306:C:H3'	1:A:2307:G:H5''	1.57	0.86
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.86
1:A:1678:G:H22	1:A:1989:G:H22	1.22	0.86
2:B:56:G:OP1	6:G:27:ASN:ND2	2.08	0.86
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.86
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.86
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.86
1:A:1582:C:HO2'	1:A:1586:A:H8	1.21	0.86
1:A:768:G:O2'	1:A:1379:A:N6	2.09	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.86
1:A:2122:U:H2'	1:A:2123:G:H8	1.40	0.86
1:A:2302:G:N2	1:A:2314:C:O2	2.07	0.86
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.85
1:A:279:C:H42	1:A:361:G:H1	1.22	0.85
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.85
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.85
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.85
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
12:Q:83:MET:HB2	22:0:7:LEU:HD12	1.59	0.85
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.92	0.85
1:A:2210:G:H3'	1:A:2211:G:C8	2.11	0.85
4:E:95:ILE:HD12	4:E:95:ILE:H	1.41	0.85
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.85
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.85
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.85
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.40	0.84
7:H:89:ILE:HD11	7:H:129:THR:HB	1.58	0.84
1:A:1689:A:H62	1:A:1698:A:H2	1.22	0.84
1:A:270(S):G:H1'	23:1:78:LYS:HD2	1.59	0.84
3:D:17:THR:HG22	3:D:205:VAL:H	1.42	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.06	0.84
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.84
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.83
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.83
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.83
7:H:105:LEU:H	7:H:105:LEU:HD13	1.43	0.83
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.83
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.83
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.83
1:A:1833:U:H2'	1:A:1834:U:H6	1.43	0.83
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.83
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
21:Z:94:GLU:HB2	21:Z:130:PRO:HD2	1.59	0.83
1:A:631:A:OP2	30:8:46:ARG:NH2	2.10	0.83
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.08	0.83
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.83
26:4:36:CYS:O	26:4:39:CYS:HB2	1.79	0.82
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.82
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.11	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:6:C:HO2'	14:S:29:PHE:HE1	1.27	0.82
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.82
1:A:884:C:O2	1:A:892:G:N1	2.12	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.82
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.82
1:A:1476:C:N4	1:A:1517:G:O6	2.13	0.82
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.93	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.82
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.42	0.82
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.62	0.82
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.41	0.82
1:A:299:A:H5'	20:Y:84:ARG:HH21	1.43	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
1:A:1359:A:OP2	1:A:1371:G:N2	2.13	0.82
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.82
1:A:2637:U:H5''	4:E:82:ARG:HH21	1.44	0.82
1:A:2112:G:O6	1:A:2169:A:N6	2.12	0.82
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.44	0.82
1:A:2832:U:H4'	1:A:2833:G:H5''	1.61	0.82
1:A:1012:U:H3	9:N:25:ARG:HH11	1.26	0.82
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.81
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.81
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.81
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.94	0.81
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.81
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.81
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.81
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.60	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.81
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81
1:A:1447:G:N2	1:A:1464:C:O2	2.12	0.81
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:35:ARG:HG3	9:N:37:LYS:HG3	1.63	0.81
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.81
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.79	0.81
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.81
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.81
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.11	0.81
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.81
2:B:65:C:H41	2:B:108:C:H2'	1.46	0.80
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.80
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.11	0.80
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.80
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.61	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.62	0.80
1:A:2635:C:OP1	4:E:78:LEU:HD12	1.81	0.80
1:A:195:A:H61	1:A:198:C:H3'	1.46	0.80
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.64	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.80
8:I:78:THR:H	8:I:104:GLN:HE22	1.29	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.80
3:D:25:THR:HG22	3:D:82:ILE:H	1.47	0.80
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.79
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.79
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.79
3:D:34:VAL:O	3:D:34:VAL:HG13	1.80	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.64	0.79
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
1:A:2808:U:O2	1:A:2892:A:N6	2.15	0.79
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.79
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.79
1:A:384:U:H2'	1:A:385:C:H6	1.48	0.79
1:A:404:C:O2'	1:A:405:U:OP2	1.98	0.79
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.79
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.65	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.96	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.15	0.79
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.79
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.79
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.79
1:A:900:A:H3'	1:A:901:A:H8	1.48	0.79
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.79
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.79
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.79
1:A:1021:A:H62	1:A:1141:U:H3	1.29	0.79
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.79
1:A:102:G:OP2	24:2:7:ARG:NH2	2.16	0.78
1:A:873:G:H1	1:A:904:C:H42	1.30	0.78
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.78
1:A:1820:U:C2	3:D:202:LYS:HB3	2.18	0.78
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.78
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.78
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.78
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.78
1:A:1278:A:H61	1:A:1292:U:H3	1.30	0.78
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.78
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.78
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.78
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.78
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.99	0.78
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.78
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.97	0.78
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.19	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.78
2:B:8:U:H3	2:B:112:G:H1	1.32	0.78
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.78
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.78
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.49	0.78
1:A:2197:U:H1'	1:A:2198:A:C8	2.17	0.78
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.66	0.78
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
1:A:380:U:H2'	1:A:381:G:H8	1.48	0.78
1:A:855:G:H1	1:A:922:U:H3	1.28	0.78
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.48	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.78
8:I:4:ILE:HD11	8:I:44:LEU:HD12	1.65	0.78
11:P:75:ILE:N	11:P:75:ILE:HD13	1.99	0.78
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.78
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.48	0.77
3:D:25:THR:O	3:D:27:THR:N	2.17	0.77
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.77
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.77
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.77
22:0:68:GLU:HG2	22:0:80:HIS:HB2	1.66	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
1:A:222:A:O2'	1:A:223:A:O5'	2.01	0.77
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.67	0.77
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.77
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.77
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.77
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.77
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.77
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.66	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.77
1:A:1833:U:O2'	1:A:1969:A:N1	2.17	0.77
7:H:153:LYS:HA	7:H:153:LYS:NZ	1.99	0.77
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.77
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.77
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.77
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.00	0.77
12:Q:66:ILE:HG13	12:Q:67:ARG:N	2.00	0.77
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.77
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.76
1:A:498:G:N3	20:Y:47:LYS:NZ	2.30	0.76
1:A:693:C:O2	1:A:769:G:N2	2.15	0.76
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.67	0.76
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.76
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.76
1:A:1264:G:H3'	1:A:1265:A:H5''	1.67	0.76
6:G:101:ILE:HG13	6:G:102:PHE:H	1.48	0.76
1:A:1454:U:H5'	13:R:63:ARG:HE	1.50	0.76
1:A:2119:A:N6	1:A:2170:A:N7	2.34	0.76
1:A:242:G:H5''	30:8:3:LYS:HE3	1.67	0.76
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.76
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.76
1:A:338:G:OP1	20:Y:4:LYS:NZ	2.17	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.01	0.76
28:6:34:LEU:HD13	28:6:34:LEU:H	1.50	0.76
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.76
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.76
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.76
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.76
2:B:24:G:N3	2:B:27:C:N4	2.32	0.76
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.76
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.76
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.75
1:A:2529:G:O6	31:9:31:LYS:NZ	2.17	0.75
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.75
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.14	0.75
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.98	0.75
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.75
1:A:1167:U:O2	1:A:1183:G:N2	2.19	0.75
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.50	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.52	0.75
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.75
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.75
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.75
1:A:247:G:O6	30:8:12:LYS:NZ	2.15	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2593:U:H2'	1:A:2594:C:H6	1.51	0.75
1:A:305:U:H2'	1:A:306:U:C6	2.22	0.75
1:A:481:G:O6	1:A:509:C:N4	2.14	0.75
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.02	0.75
1:A:2701:C:H3'	1:A:2702:U:C5'	2.14	0.75
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.75
1:A:2068:U:H3	1:A:2430:A:H2	1.32	0.74
1:A:587:C:OP2	11:P:21:ARG:NH2	2.20	0.74
1:A:746:A:O2'	1:A:747:U:OP2	2.04	0.74
4:E:63:LEU:CD1	4:E:65:GLY:H	1.99	0.74
1:A:2636:U:OP2	4:E:79:ARG:NH1	2.20	0.74
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.74
1:A:2745:C:O2	7:H:139:GLN:NE2	2.20	0.74
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.74
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.74
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.74
1:A:77:C:O3'	24:2:14:ARG:NH2	2.20	0.74
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.74
1:A:196:A:OP2	11:P:46:LYS:NZ	2.21	0.74
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.49	0.74
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.15	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.87	0.74
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.74
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.74
8:I:12:LEU:HG	8:I:19:VAL:HG11	1.69	0.74
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.69	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.69	0.74
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.74
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.74
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.74
1:A:859:G:O2'	1:A:860:U:O2	2.06	0.74
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
1:A:1792:G:N2	1:A:1827:C:O2	2.20	0.74
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.70	0.74
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.74
1:A:1468:C:O2	1:A:1524:G:N2	2.19	0.74
1:A:1791:A:N6	1:A:1828:G:O2'	2.19	0.74
1:A:270(D):C:O2	1:A:270(V):G:N2	2.19	0.74
1:A:2818:G:O6	1:A:2828:C:N4	2.19	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.74
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.74
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.74
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.52	0.74
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.74
1:A:2006:C:O2'	1:A:2823:A:N3	2.18	0.74
12:Q:79:LEU:CD1	12:Q:79:LEU:O	2.35	0.74
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.74
18:W:70:TYR:H	18:W:70:TYR:HD2	1.36	0.74
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.74
1:A:305:U:H2'	1:A:306:U:H6	1.52	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.73
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.73
1:A:1795:C:O2	3:D:255:LYS:HE2	1.88	0.73
1:A:1050:A:H8	1:A:2751:G:HO2'	1.35	0.73
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.70	0.73
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.73
1:A:2582:G:H21	1:A:2583:G:H1'	1.51	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.73
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.73
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.06	0.73
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.73
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.73
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.73
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.36	0.73
1:A:1728:G:H3'	1:A:1729:A:H5''	1.69	0.73
1:A:270(L):U:H2'	8:I:50:ARG:HD2	1.71	0.73
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.54	0.73
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.73
8:I:64:GLU:O	8:I:67:ARG:NH2	2.21	0.73
26:4:41:PRO:O	26:4:42:PHE:HB3	1.87	0.73
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.73
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.73
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.73
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.73
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.89	0.73
1:A:2439:A:C8	1:A:2439:A:H5'	2.23	0.73
1:A:2477:C:H2'	31:9:1:MET:HG3	1.70	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
1:A:709:U:H3	1:A:722:A:H61	1.36	0.73
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.73
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.73
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.73
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.73
1:A:259:G:O2'	1:A:621:A:O2'	2.07	0.73
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.73
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.70	0.73
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.72
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.72
1:A:2394:C:OP1	11:P:63:PRO:HD2	1.90	0.72
2:B:4:C:N3	2:B:117:G:N2	2.36	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.72
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.72
1:A:2893:G:H5''	1:A:2894:G:H5'	1.71	0.72
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.88	0.72
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.72
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
1:A:593:G:H2'	1:A:594:U:H6	1.53	0.72
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.72
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.90	0.72
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.72
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.72
21:Z:102:LEU:HD11	21:Z:124:ILE:HG22	1.71	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.70	0.72
1:A:2289:G:N2	1:A:2344:U:O2	2.22	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.05	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.72
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.72
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.72
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.72
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.72
1:A:674:G:O6	1:A:806:C:N4	2.18	0.72
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.72
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.72
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.72
1:A:2210:G:H3'	1:A:2211:G:H8	1.52	0.72
2:B:40:U:H1'	2:B:45:A:H61	1.53	0.72
7:H:89:ILE:CD1	7:H:129:THR:HB	2.19	0.72
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.72
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.72
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.72
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.72
1:A:95:G:O2'	24:2:48:HIS:ND1	2.22	0.71
1:A:1080:C:N4	1:A:1088:A:OP2	2.20	0.71
1:A:2208:U:O2'	3:D:151:LYS:HG2	1.90	0.71
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.71
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.71
14:S:26:LEU:O	14:S:26:LEU:HD23	1.89	0.71
18:W:1:MET:HE2	18:W:2:GLU:H	1.55	0.71
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.71
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
1:A:779:U:O2	1:A:785:G:N1	2.19	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.71
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.71
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.71
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.71
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.71
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.71
1:A:1397:U:OP2	1:A:1398:C:N4	2.22	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.70	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.90	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
1:A:135:G:H1	1:A:144:C:H42	1.36	0.71
1:A:2443:C:H2'	1:A:2444:G:H8	1.54	0.71
1:A:323:G:O2'	1:A:1205:U:N3	2.23	0.71
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.71
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.91	0.71
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.71
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.71
1:A:2114:A:N6	1:A:2119:A:N7	2.39	0.71
1:A:2327:A:H2'	1:A:2328:A:C8	2.25	0.71
3:D:263:ARG:HB2	3:D:263:ARG:NH1	2.05	0.71
1:A:252:G:OP2	11:P:50:ARG:NH1	2.24	0.71
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.71
21:Z:108:PRO:HA	21:Z:142:SER:HA	1.70	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.71
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
1:A:2404:C:H1'	11:P:67:MET:HE1	1.73	0.71
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.24	0.71
1:A:2502:G:H5''	1:A:2503:A:H5''	1.73	0.71
1:A:270(T):G:O5'	23:1:97:LEU:HD22	1.90	0.71
1:A:995:C:N4	9:N:2:LYS:HG3	2.06	0.71
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.20	0.71
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.70
1:A:1266:G:C5	18:W:15:ARG:NH1	2.59	0.70
1:A:443:A:C5	5:F:45:ARG:HD2	2.26	0.70
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.70
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.70
1:A:2712:U:HO2'	1:A:2712(A):A:H8	1.40	0.70
2:B:82:G:H2'	2:B:83:G:H8	1.55	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.91	0.70
5:F:66:PRO:O	5:F:67:GLN:HB3	1.89	0.70
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.70
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.70
1:A:2667:C:H1'	7:H:109:PHE:CD2	2.24	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.70
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.70
1:A:507:A:H5''	1:A:508:G:H5'	1.72	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.70
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.70
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.70
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.70
1:A:958:U:O2	2:B:89(A):A:H4'	1.92	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.70
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.56	0.70
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.70
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
1:A:2582:G:N2	1:A:2583:G:H1'	2.06	0.70
1:A:2593:U:H2'	1:A:2594:C:C6	2.27	0.70
1:A:438:G:H2'	1:A:439:G:C8	2.26	0.70
1:A:674:G:C1'	5:F:74:ARG:HD3	2.21	0.70
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.70
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.70
1:A:2053:G:O6	1:A:2616:C:N4	2.20	0.70
1:A:372:G:H5''	23:1:66:HIS:CD2	2.26	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
12:Q:80:GLU:OE1	22:0:7:LEU:HB3	1.92	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.40	0.70
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.70
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.70
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.70
2:B:7:G:H3'	2:B:8:U:H5''	1.73	0.70
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.70
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
1:A:628:G:H2'	1:A:629:G:H8	1.56	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.69
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.69
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1341:U:H2'	1:A:1397:U:O2	1.92	0.69
1:A:32:C:N4	1:A:447:A:OP2	2.25	0.69
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.69
1:A:2245:U:H5'	1:A:2246:G:H5'	1.72	0.69
1:A:2531:A:N3	1:A:2658:C:O2'	2.21	0.69
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.69
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.69
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.73	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.69
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.69
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.69
1:A:1059:G:O6	1:A:1079:C:N4	2.26	0.69
1:A:1590:U:H2'	1:A:1591:G:H8	1.57	0.69
2:B:33:G:O5'	6:G:2:PRO:HG3	1.92	0.69
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.16	0.69
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.69
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.69
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.69
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.69
1:A:1061:U:H5'	1:A:1070:A:H1'	1.75	0.69
1:A:1153:C:OP1	16:U:76:TYR:OH	2.11	0.69
1:A:71:A:H4'	1:A:72:U:H5''	1.75	0.69
1:A:83:G:N2	1:A:103:A:OP2	2.25	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.07	0.69
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.69
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.69
1:A:1799:G:H5'	1:A:1819:A:H61	1.58	0.69
1:A:595:C:H42	1:A:662:G:H1	1.40	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.69
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.69
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
1:A:2626:C:H42	1:A:2777:G:H1	1.40	0.69
1:A:2630:G:N3	1:A:2894:G:N2	2.41	0.69
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.69
28:6:28:ARG:HB3	28:6:30:THR:H	1.56	0.69
1:A:249:C:O2	30:8:12:LYS:HE3	1.91	0.69
1:A:1041:C:H2'	1:A:1042:G:H8	1.58	0.69
1:A:1296:G:OP1	1:A:2709:G:O2'	2.10	0.69
1:A:813:U:H2'	1:A:814:C:C6	2.28	0.69
1:A:993:G:OP1	16:U:50:ARG:NH2	2.18	0.69
2:B:13:A:H2'	2:B:70:C:O2'	1.92	0.69
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
1:A:1614:A:H62	18:W:93:ALA:HB2	1.57	0.69
1:A:1043:C:N3	1:A:1112:G:N2	2.41	0.69
1:A:49:A:N7	1:A:120:U:H5	1.91	0.69
1:A:1930:G:O2'	1:A:1931:U:O5'	2.09	0.69
1:A:2291:U:H2'	1:A:2292:C:C6	2.28	0.69
1:A:2023:G:H5'	1:A:2617:C:H4'	1.75	0.69
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.75	0.69
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.69
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.75	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.69
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.69
1:A:1140:C:H5''	9:N:66:LYS:HZ1	1.58	0.69
1:A:141:A:H8	1:A:1595:G:H21	1.41	0.69
1:A:2392:A:C8	11:P:60:MET:HG3	2.27	0.69
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.06	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.69
1:A:1754:C:H2'	1:A:1755:A:C8	2.29	0.68
1:A:769:G:H5'	1:A:1379:A:N6	2.08	0.68
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.68
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.68
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
1:A:74:A:H4'	1:A:75:G:O5'	1.94	0.68
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
10:O:8:LEU:HD22	10:O:8:LEU:N	2.08	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.68
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.68
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.75	0.68
1:A:279:C:N4	1:A:361:G:H1	1.89	0.68
1:A:817:C:O2'	1:A:839:U:H5''	1.93	0.68
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.68
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.68
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.68
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.68
11:P:26:GLY:O	11:P:28:GLY:N	2.27	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
1:A:1140:C:P	9:N:66:LYS:HZ3	2.15	0.68
1:A:2198:A:C2	8:I:29:TYR:HB2	2.29	0.68
1:A:2287:A:N6	1:A:2344:U:H3	1.92	0.68
1:A:2420:C:N4	30:8:30:ARG:HD2	2.08	0.68
2:B:116:G:H4'	14:S:54:LEU:HD13	1.74	0.68
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.68
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.68
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.23	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.09	0.68
1:A:2831:G:H1'	1:A:2883:A:H2'	1.75	0.68
1:A:660:G:O3'	5:F:38:ARG:NH2	2.26	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
1:A:2393:A:H4'	11:P:61:ARG:O	1.93	0.68
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.68
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.59	0.68
1:A:1931:U:H6	1:A:1932:A:C8	2.11	0.68
1:A:372:G:HO2'	1:A:373:U:P	2.16	0.68
7:H:88:LEU:H	7:H:88:LEU:HD22	1.58	0.68
1:A:2470:G:H5'	12:Q:56:ARG:HH22	1.58	0.68
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.68
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
1:A:1043:C:HO2'	1:A:1048:A:HO2'	1.36	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1378:A:HO2'	1:A:1379:A:P	2.17	0.68
1:A:2537:U:H2'	1:A:2538:C:C6	2.29	0.68
1:A:380:U:H2'	1:A:381:G:C8	2.28	0.68
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
1:A:2663:G:H3'	1:A:2664:G:H8	1.59	0.68
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.68
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.59	0.68
5:F:184:TYR:O	5:F:188:ARG:HG3	1.93	0.67
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.60	0.67
1:A:848:G:H2'	1:A:849:A:C8	2.30	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
1:A:1509:C:H3'	1:A:1510:A:H5''	1.76	0.67
1:A:674:G:H2'	1:A:804:A:H61	1.57	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.67
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.67
1:A:1252:G:N3	16:U:33:ARG:HD2	2.10	0.67
1:A:2758:A:C2	1:A:2759:G:H1'	2.29	0.67
1:A:593:G:O3'	30:8:61:LEU:HD22	1.95	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.76	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
1:A:2041:U:H2'	1:A:2042:A:C8	2.30	0.67
1:A:873:G:H1	1:A:904:C:N4	1.93	0.67
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.67
1:A:1803:A:H4'	3:D:259:THR:HG21	1.76	0.67
4:E:10:GLY:H	4:E:25:VAL:HG23	1.59	0.67
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.76	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.67
1:A:1674:G:N2	1:A:1677:A:N1	2.42	0.67
1:A:2246:G:H2'	1:A:2247:A:C8	2.30	0.67
1:A:948:G:N2	1:A:970:C:O2	2.28	0.67
2:B:11:C:H3'	2:B:12:C:H6	1.57	0.67
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.67
7:H:89:ILE:HG12	7:H:89:ILE:O	1.93	0.67
1:A:389:G:H22	11:P:72:PRO:HD3	1.60	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.14	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1433:U:H5''	1:A:1433:U:H6	1.58	0.67
1:A:483:A:H3'	1:A:484:C:H6	1.60	0.67
4:E:16:ARG:HG3	4:E:16:ARG:O	1.93	0.67
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.67
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.67
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.60	0.67
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.08	0.67
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.67
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.67
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.67
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.67
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.67
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.67
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.67
1:A:1412:A:H2'	1:A:1413:G:O4'	1.95	0.67
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.75	0.67
1:A:29:U:H2'	1:A:30:G:C8	2.30	0.67
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.67
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.67
1:A:1473:G:H1	1:A:1520:U:H3	1.42	0.67
2:B:15:A:H5'	2:B:16:G:C8	2.30	0.67
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.67
1:A:2405:G:OP1	11:P:77:ARG:NH2	2.28	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.58	0.67
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.66
1:A:1339:G:N2	1:A:1603:A:H1'	2.10	0.66
3:D:241:PRO:O	3:D:243:GLY:N	2.28	0.66
1:A:1803:A:H4'	3:D:259:THR:CG2	2.25	0.66
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.66
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.66
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.25	0.66
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.66
1:A:1543:A:H1'	1:A:1545:A:H5''	1.77	0.66
2:B:97:G:H2'	2:B:98:G:O4'	1.95	0.66
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.26	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.66
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.25	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
26:4:37:SER:C	26:4:39:CYS:H	1.98	0.66
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.66
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.66
11:P:1:MET:CE	11:P:5:ASP:HB3	2.24	0.66
1:A:25:U:H5''	18:W:80:PRO:HD3	1.75	0.66
1:A:1190:G:OP1	11:P:30:THR:OG1	2.12	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.66
8:I:57:ARG:O	8:I:61:ARG:HG2	1.96	0.66
10:O:14:THR:O	10:O:51:ALA:HB3	1.95	0.66
10:O:86:ILE:HD12	10:O:86:ILE:H	1.61	0.66
1:A:637:A:H2'	11:P:117:GLU:OE2	1.94	0.66
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.66
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.66
1:A:997:G:OP1	16:U:93:LYS:HD3	1.94	0.66
1:A:270(T):G:OP1	23:1:97:LEU:HD13	1.95	0.66
1:A:227:A:OP1	11:P:76:LYS:HE3	1.95	0.66
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.66
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.25	0.66
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.75	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.95	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.66
1:A:27:G:H1'	1:A:513:A:H62	1.60	0.66
1:A:398:G:H2'	1:A:399:G:C8	2.30	0.66
1:A:583:G:H5''	16:U:10:ARG:HH12	1.61	0.66
1:A:675:A:N3	1:A:2443:C:O2'	2.29	0.66
1:A:813:U:H2'	1:A:814:C:H6	1.60	0.66
5:F:175:THR:O	5:F:176:LEU:HB2	1.96	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.76	0.66
1:A:577:G:O2'	1:A:1254:A:OP1	2.14	0.66
1:A:866:A:N3	1:A:866:A:H2'	2.09	0.66
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.26	0.66
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.66
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1065:U:O2	1:A:1074:G:N1	2.29	0.66
1:A:1190:G:H5'	11:P:32:THR:HA	1.78	0.66
1:A:1349:A:N6	1:A:1598:C:H42	1.94	0.66
3:D:237:GLU:N	3:D:237:GLU:OE1	2.29	0.66
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.60	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.09	0.66
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.26	0.66
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.66
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.66
1:A:67:U:H2'	1:A:68:G:H8	1.60	0.66
1:A:774:A:O2'	1:A:775:G:O5'	2.14	0.66
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.30	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.66
1:A:76:C:O2'	24:2:62:THR:HG21	1.96	0.65
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.76	0.65
1:A:288:C:H2'	1:A:289:A:H8	1.61	0.65
1:A:994:C:O2'	1:A:996:A:OP1	2.11	0.65
2:B:22:U:H3	2:B:61:G:H1	1.43	0.65
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.11	0.65
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.65
1:A:1636:C:H2'	1:A:1637:A:C8	2.32	0.65
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.78	0.65
1:A:846:C:H42	1:A:931:G:H1	1.43	0.65
1:A:2233:U:H2'	1:A:2234:G:C8	2.32	0.65
1:A:769:G:H2'	1:A:770:G:H8	1.60	0.65
1:A:910:A:N3	1:A:2264:C:O2'	2.25	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.09	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.60	0.65
1:A:1903:G:OP2	3:D:241:PRO:HB2	1.96	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
8:I:85:GLU:OE1	8:I:86:THR:OG1	2.14	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.65
21:Z:111:VAL:HG22	21:Z:112:ARG:H	1.62	0.65
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.65
1:A:2456:C:H42	1:A:2495:G:H1	1.43	0.65
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.65
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.65
12:Q:59:ARG:C	12:Q:60:ARG:HG3	2.17	0.65
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.65
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.65
1:A:1156:A:C8	16:U:51:LYS:HD2	2.32	0.65
1:A:597:U:H2'	1:A:598:G:H8	1.62	0.65
2:B:55:U:H4'	6:G:28:VAL:HG21	1.79	0.65
4:E:28:ALA:O	4:E:93:VAL:HG23	1.95	0.65
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.65
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.65
1:A:896:A:C2	21:Z:146:ILE:HD11	2.32	0.65
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.65
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.65
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.65
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.65
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.65
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.65
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.65
1:A:1292:U:H2'	1:A:1293:C:C6	2.31	0.65
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.65
1:A:2770:G:H5''	1:A:2771:C:OP2	1.96	0.65
1:A:443:A:N7	5:F:45:ARG:HD2	2.12	0.65
1:A:879:G:C2	1:A:880:G:H1'	2.32	0.65
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.65
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.65
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.65
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.64
1:A:363(B):G:H2'	1:A:363(C):G:C8	2.32	0.64
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.79	0.64
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:389:G:H1	11:P:70:GLN:HB3	1.62	0.64
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.64
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.64
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.64
1:A:2313:C:H2'	1:A:2314:C:H6	1.62	0.64
2:B:78:A:H2'	2:B:79:C:O4'	1.97	0.64
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.98	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.62	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.64
1:A:2517:C:N3	1:A:2542:A:N6	2.45	0.64
1:A:2680:C:H5'	4:E:189:PRO:HA	1.79	0.64
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.64
7:H:105:LEU:H	7:H:105:LEU:CD1	2.09	0.64
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.64
1:A:816:C:H2'	1:A:817:C:H6	1.62	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.64
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
1:A:1141:U:O2'	1:A:1142:U:OP2	2.16	0.64
1:A:2227:A:H5''	3:D:263:ARG:NH1	2.12	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
1:A:2746:U:H5''	7:H:138:LYS:HE2	1.79	0.64
8:I:116:LEU:O	8:I:118:LYS:N	2.31	0.64
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.64
1:A:1678:G:N2	1:A:1989:G:H22	1.94	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.64
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.64
3:D:182:LEU:H	3:D:272:ALA:HB3	1.63	0.64
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.64
1:A:882:G:H1	1:A:894:C:H42	1.46	0.64
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.64
23:1:91:LYS:HG3	23:1:92:LYS:H	1.63	0.64
1:A:1328:G:H2'	1:A:1330:C:C4	2.33	0.64
1:A:2688:U:H1'	1:A:2721:A:N6	2.13	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2774:C:H2'	1:A:2775:A:C8	2.33	0.64
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.64
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.64
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.64
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.64
1:A:1403:C:H5''	1:A:1471:A:H1'	1.80	0.64
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.33	0.64
1:A:2638:G:P	4:E:82:ARG:HH22	2.21	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.28	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.64
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.64
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.64
1:A:155:C:H42	1:A:171:G:H1	1.43	0.63
1:A:210:C:OP2	29:7:29:LYS:NZ	2.31	0.63
10:O:86:ILE:N	10:O:86:ILE:HD12	2.13	0.63
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.61	0.63
1:A:2122:U:H2'	1:A:2123:G:C8	2.29	0.63
1:A:573:G:N1	1:A:2031:A:OP2	2.26	0.63
3:D:135:PHE:N	3:D:135:PHE:HD2	1.96	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.63
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.63
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.63
24:2:40:SER:C	24:2:42:GLY:H	2.00	0.63
1:A:2015:A:N3	27:5:2:ALA:N	2.47	0.63
1:A:2477:C:H2'	31:9:1:MET:CG	2.28	0.63
1:A:2466:C:OP1	31:9:4:ARG:HB2	1.99	0.63
1:A:1543:A:O2'	1:A:1544:C:H3'	1.97	0.63
1:A:2563:U:H4'	10:O:28:SER:HA	1.81	0.63
1:A:844:C:H41	1:A:845:G:N2	1.95	0.63
1:A:923:C:H2'	1:A:924:C:C6	2.33	0.63
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.63
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.63
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.63
1:A:2839:G:H21	13:R:92:GLY:HA3	1.64	0.63
2:B:5:C:OP1	2:B:61:G:O2'	2.12	0.63
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.79	0.63
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.63
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.63
1:A:747:U:C2	27:5:2:ALA:HB3	2.34	0.63
1:A:2037:G:H2'	1:A:2038:G:C8	2.33	0.63
1:A:2415:G:H4'	11:P:66:GLY:C	2.19	0.63
2:B:83:G:H1	2:B:93:C:H42	1.46	0.63
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.63
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.63
1:A:2056:G:N2	27:5:4:HIS:O	2.29	0.63
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.63	0.63
1:A:825:C:H2'	1:A:826:U:O4'	1.97	0.63
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.64	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.28	0.63
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.98	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.12	0.63
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.63
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.63
1:A:2821:A:H2'	1:A:2822:G:H8	1.64	0.63
1:A:2812:G:N2	1:A:2889:C:O2	2.32	0.63
1:A:882:G:H1	1:A:894:C:N4	1.97	0.63
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.63
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.98	0.63
1:A:1527:G:H2'	1:A:1543:A:N1	2.13	0.63
1:A:1870:C:H2'	1:A:1871:A:O4'	1.99	0.63
1:A:187:G:H1	1:A:209:C:H42	1.45	0.63
1:A:2115:G:N2	1:A:2165:G:N7	2.46	0.63
1:A:2443:C:H2'	1:A:2444:G:C8	2.32	0.63
1:A:784:A:N7	3:D:229:VAL:HG21	2.13	0.63
2:B:6:C:C2	2:B:115:G:N2	2.66	0.63
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.63
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.81	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.81	0.63
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.63
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.63
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.63
1:A:2331:G:O2'	22:0:43:THR:HG22	1.99	0.63
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.80	0.63
1:A:1019:U:H3	1:A:1142(A):A:N6	1.91	0.63
1:A:1935:G:H1'	1:A:1964:G:N2	2.14	0.63
1:A:443:A:H1'	1:A:1201:C:O4'	1.98	0.63
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.63
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.63
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.63
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.63
13:R:117:VAL:O	13:R:118:GLU:HB3	1.99	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.63	0.63
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.62
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.62
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.29	0.62
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.62
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.62
1:A:372:G:O2'	1:A:373:U:P	2.57	0.62
1:A:624:C:H5''	1:A:624:C:H6	1.63	0.62
1:A:666:G:H4'	11:P:49:ARG:NH1	2.14	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.80	0.62
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.32	0.62
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.62
1:A:2593:U:C2	1:A:2594:C:C5	2.87	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.34	0.62
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.62
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.62
1:A:301:G:H1	1:A:316:C:H42	1.47	0.62
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.62
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.62
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.62
1:A:1224:G:OP2	17:V:66:ARG:NH2	2.32	0.62
1:A:1411:C:H42	1:A:1591:G:H1	1.48	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.62
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
24:2:40:SER:C	24:2:42:GLY:N	2.51	0.62
1:A:1871:A:H2'	1:A:1872:A:C8	2.34	0.62
1:A:512:G:OP1	1:A:1234:U:O2'	2.17	0.62
1:A:858:U:H1'	1:A:2268:A:H2'	1.82	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	1.99	0.62
1:A:2445:G:OP1	5:F:74:ARG:NH2	2.32	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.62
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.62
1:A:1332:G:H21	1:A:1610:A:H8	1.45	0.62
1:A:1582:C:O2'	1:A:1586:A:H8	1.81	0.62
1:A:270(I):G:H1	1:A:270(Q):C:H42	1.47	0.62
1:A:2883:A:H5'	1:A:2884:U:H5'	1.81	0.62
1:A:674:G:H2'	1:A:804:A:N6	2.14	0.62
2:B:33:G:H5''	2:B:33:G:H8	1.65	0.62
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.62
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.62
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.62
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.62
1:A:1341:U:OP2	1:A:1394:U:O2'	2.14	0.62
1:A:1826:G:H4'	3:D:242:ARG:NH2	2.14	0.62
1:A:2695:C:H2'	1:A:2696:U:C6	2.35	0.62
1:A:302:C:H2'	1:A:303:U:C6	2.35	0.62
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.62
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.14	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.80	0.62
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.62
1:A:2713:A:OP1	13:R:14:SER:OG	2.17	0.62
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.62
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.62
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.31	0.62
1:A:2395:C:O2'	23:1:30:VAL:HG12	1.99	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
1:A:1285:G:N2	1:A:1329:U:OP1	2.28	0.62
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.62
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.62
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.62
23:1:91:LYS:HA	23:1:91:LYS:HE3	1.82	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.30	0.62
6:G:6:ALA:HB2	26:4:23:GLU:OE2	2.00	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
1:A:1298:C:H2'	1:A:1299:G:O4'	2.00	0.62
1:A:1434:A:H61	1:A:1558:A:N6	1.91	0.62
1:A:2041:U:H2'	1:A:2042:A:H8	1.63	0.62
1:A:2415:G:H4'	11:P:67:MET:N	2.15	0.62
1:A:2723:C:H5''	13:R:1:MET:HG2	1.82	0.62
1:A:530:G:H1'	1:A:2021:C:O2'	1.98	0.62
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.62
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.62
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.62
6:G:170:ARG:O	6:G:174:GLU:HB2	1.99	0.62
1:A:2531:A:H4'	7:H:157:TYR:CE2	2.34	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.30	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.62
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
1:A:2361:A:O5'	30:8:27:THR:OG1	2.18	0.61
1:A:2847:U:H3	1:A:2869:G:H1	1.48	0.61
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.61
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.61
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.61
1:A:2439:A:H4'	1:A:2440:C:O5'	2.01	0.61
1:A:2529:G:H5''	1:A:2530:A:H5''	1.81	0.61
1:A:2688:U:H1'	1:A:2721:A:H62	1.64	0.61
3:D:237:GLU:OE1	3:D:237:GLU:CA	2.48	0.61
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.61
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.00	0.61
8:I:62:LYS:HE3	8:I:134:PRO:HG2	1.82	0.61
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
21:Z:53:ILE:HG22	21:Z:71:VAL:O	2.01	0.61
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.61
1:A:242:G:C8	30:8:5:LYS:HG2	2.35	0.61
1:A:301:G:N2	1:A:316:C:N3	2.40	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.61
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.61
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.61
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.61
1:A:1667:G:H2'	1:A:1991:U:O4	2.00	0.61
1:A:2114:A:N6	1:A:2119:A:H62	1.98	0.61
1:A:829:A:C8	1:A:2248:C:H5'	2.35	0.61
1:A:2849:U:H5	15:T:93:ARG:HH12	1.49	0.61
1:A:738:G:H2'	1:A:739:G:O4'	2.00	0.61
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.82	0.61
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.30	0.61
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.61
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.57	0.61
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.61
1:A:2419:U:H5'	28:6:23:THR:HG22	1.82	0.61
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.61
8:I:8:PRO:HG3	8:I:14:ASP:HB2	1.82	0.61
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.64	0.61
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.61
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.00	0.61
1:A:2072:G:N2	1:A:2073:C:O2	2.33	0.61
1:A:2152:G:H2'	1:A:2153:G:H8	1.66	0.61
1:A:2645:G:H3'	1:A:2646:C:H5'	1.81	0.61
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.61
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.61
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.61
23:1:80:LEU:O	23:1:81:LYS:HD2	2.01	0.61
1:A:49:A:N7	1:A:120:U:C5	2.69	0.61
1:A:2102:U:H3	1:A:2187:G:H1	1.49	0.61
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
19:X:66:LEU:O	19:X:66:LEU:HD23	2.01	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.82	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.61
1:A:1081:U:H3'	1:A:1082:U:H4'	1.83	0.61
1:A:2870:C:H2'	1:A:2871:C:O4'	2.00	0.61
1:A:547:A:H3'	1:A:548:A:C8	2.36	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:816:C:H2'	1:A:817:C:C6	2.36	0.61
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.61
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.61
21:Z:16:SER:O	21:Z:20:ARG:HB2	2.00	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.61
1:A:1678:G:H22	1:A:1989:G:N2	1.97	0.61
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.34	0.61
1:A:2392:A:H8	11:P:60:MET:HG3	1.66	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
27:5:52:TYR:O	27:5:53:ALA:HB3	2.01	0.61
1:A:1047:G:H2'	1:A:1110:G:N1	2.16	0.61
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
11:P:96:THR:HG22	11:P:126:VAL:HB	1.83	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.82	0.61
1:A:903:C:H2'	1:A:904:C:H6	1.66	0.60
2:B:28:C:H2'	2:B:29:A:C8	2.36	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
8:I:68:LEU:HA	8:I:71:ILE:HG22	1.82	0.60
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.60
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.60
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.60
1:A:108:U:H2'	1:A:109:G:H8	1.65	0.60
1:A:1113:U:H2'	1:A:1114:G:C8	2.36	0.60
1:A:2146:C:H4'	1:A:2147:G:C8	2.35	0.60
1:A:923:C:H2'	1:A:924:C:H6	1.65	0.60
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.01	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.14	0.60
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.60
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.80	0.60
1:A:558:G:P	9:N:111:PRO:HD2	2.41	0.60
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
1:A:1977:A:H8	1:A:1977:A:O5'	1.85	0.60
1:A:2111:C:N3	1:A:2118:U:O2'	2.34	0.60
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.60
7:H:126:PRO:CD	7:H:127:GLU:N	2.64	0.60
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.60
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.60
21:Z:166:SER:H	21:Z:167:PRO:HA	1.66	0.60
1:A:2336:A:H61	22:0:43:THR:HG21	1.64	0.60
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.80	0.60
1:A:96:G:H4'	24:2:48:HIS:NE2	2.17	0.60
1:A:1204:A:O2'	1:A:1205:U:O5'	2.19	0.60
1:A:270:A:H2'	1:A:270(A):A:C8	2.35	0.60
1:A:870:A:H2'	1:A:871:U:C6	2.37	0.60
4:E:4:ILE:C	4:E:5:LEU:HD23	2.22	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.60
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.60
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.60
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.60
1:A:2544:G:H2'	1:A:2545:G:H8	1.66	0.60
1:A:38:A:N3	5:F:48:THR:OG1	2.34	0.60
1:A:67:U:H3	1:A:74:A:H2	1.49	0.60
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.60
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.60
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.60
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.82	0.60
1:A:1329:U:H5''	1:A:1330:C:H5	1.65	0.60
1:A:2277:G:OP1	12:Q:85:LYS:HB2	2.01	0.60
1:A:2068:U:N3	1:A:2430:A:H2	1.98	0.60
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
6:G:112:PRO:HB3	26:4:37:SER:CB	2.26	0.60
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.60
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.66	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.60
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.65	0.60
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.60
1:A:654:A:O2'	1:A:654(A):G:N7	2.34	0.60
1:A:863:A:H2'	1:A:864:G:C8	2.36	0.60
1:A:892:G:N2	1:A:893:C:O2	2.35	0.60
1:A:955:C:N4	1:A:962:G:O6	2.17	0.60
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.60
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.60
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.60
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.60
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.02	0.60
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.60
1:A:2318:G:H22	14:S:2:ALA:N	2.00	0.60
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.84	0.60
1:A:1101:U:H2'	1:A:1102:C:C6	2.36	0.60
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.60
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.37	0.60
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.30	0.60
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.60
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.60
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.60
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.60
1:A:1805:U:O2	3:D:50:THR:HB	2.01	0.60
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.60
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.60
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.60
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.60
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:303:U:H2'	1:A:304:G:H8	1.65	0.59
1:A:530:G:C2	1:A:2022:U:OP1	2.55	0.59
1:A:649:G:H2'	1:A:650:C:O4'	2.02	0.59
3:D:25:THR:HG21	3:D:81:ALA:HA	1.83	0.59
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.59
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.59
1:A:565:C:OP1	17:V:82:ARG:NH2	2.35	0.59
21:Z:163:LEU:HD12	21:Z:163:LEU:H	1.66	0.59
21:Z:58:VAL:O	21:Z:60:GLU:N	2.35	0.59
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.59
1:A:589:C:H2'	1:A:590:A:H8	1.68	0.59
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.18	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.01	0.59
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.67	0.59
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.59
1:A:1027:A:N6	1:A:1126:A:C4	2.70	0.59
1:A:1062:G:H2'	1:A:1063:G:C8	2.37	0.59
1:A:1729:A:H2'	1:A:1730:U:H5''	1.84	0.59
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.59
3:D:236:GLY:C	3:D:237:GLU:OE1	2.40	0.59
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.59
1:A:2637:U:H5''	4:E:82:ARG:NH2	2.14	0.59
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.84	0.59
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.85	0.59
1:A:571:A:O2'	17:V:78:LYS:NZ	2.35	0.59
1:A:712:G:N2	1:A:719:C:O2	2.35	0.59
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.28	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.59
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.59
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.59
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.59
28:6:13:CYS:O	28:6:21:TYR:HA	2.02	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
1:A:1047:G:H2'	1:A:1110:G:H1	1.66	0.59
1:A:1530:G:H1	1:A:1541:U:H3	1.50	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1576:U:H2'	1:A:1577:C:H6	1.68	0.59
1:A:221:A:H4'	1:A:222:A:O5'	2.02	0.59
1:A:2456:C:C5	1:A:2457:U:C5	2.91	0.59
1:A:83:G:N2	1:A:102:G:H1'	2.17	0.59
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
6:G:13:GLU:O	6:G:14:GLU:CB	2.44	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.59
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.59
21:Z:102:LEU:HB3	21:Z:104:PHE:CE1	2.36	0.59
21:Z:117:LEU:HA	21:Z:174:VAL:HA	1.82	0.59
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.59
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.59
1:A:2843:G:H1	1:A:2874:C:H42	1.50	0.59
2:B:113:C:H2'	2:B:114:G:H8	1.67	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.59
1:A:2470:G:H5'	12:Q:56:ARG:NH2	2.18	0.59
1:A:108:U:H2'	1:A:109:G:C8	2.38	0.59
1:A:150:C:H2'	1:A:151:C:C6	2.37	0.59
1:A:2470:G:O6	1:A:2481:G:N2	2.36	0.59
1:A:859:G:H2'	1:A:916:G:O6	2.03	0.59
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.59
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.33	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.59
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.59
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.17	0.59
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.59
1:A:1478:G:O2'	1:A:1558:A:N1	2.36	0.59
1:A:623:G:H2'	1:A:624:C:C6	2.37	0.59
1:A:878:A:N6	1:A:899:A:O2'	2.35	0.59
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.03	0.59
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.59
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.59
1:A:116:C:H2'	1:A:117:G:O4'	2.02	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1564:C:O2'	1:A:1565:C:H5'	2.02	0.59
1:A:2255:G:H1	1:A:2275:C:H42	1.51	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.59
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
1:A:2298:A:H2'	1:A:2299:G:O4'	2.03	0.59
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.59
8:I:104:GLN:O	8:I:105:HIS:ND1	2.33	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.03	0.59
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.85	0.59
13:R:72:ASP:O	13:R:76:VAL:HB	2.02	0.59
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.59
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.58
1:A:2342:C:O2	1:A:2374:C:H4'	2.03	0.58
1:A:263:C:H2'	1:A:264:C:O4'	2.03	0.58
1:A:483:A:H3'	1:A:484:C:C6	2.38	0.58
1:A:628:G:H2'	1:A:629:G:C8	2.38	0.58
2:B:104:A:H2'	2:B:105:G:O4'	2.03	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:1667:G:O2'	1:A:1669:A:N6	2.35	0.58
1:A:224:G:O6	1:A:419:C:O2'	2.21	0.58
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.38	0.58
3:D:34:VAL:O	3:D:34:VAL:CG1	2.50	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.33	0.58
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
26:4:42:PHE:CG	26:4:43:TYR:N	2.72	0.58
1:A:620:G:H4'	1:A:621:A:H5''	1.85	0.58
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.58
7:H:86:GLU:O	7:H:131:VAL:O	2.21	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.58
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
21:Z:141:VAL:HG23	21:Z:144:LEU:HD23	1.84	0.58
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.58
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.58
1:A:1286:A:O2'	1:A:1288:U:OP2	2.11	0.58
3:D:35:LYS:CG	3:D:64:ILE:H	2.14	0.58
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.58
9:N:14:VAL:HG12	9:N:15:LEU:N	2.19	0.58
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.58
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.58
17:V:41:GLY:H	17:V:46:VAL:HG13	1.67	0.58
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.58
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:1359:A:N6	1:A:1372:U:C4	2.71	0.58
1:A:2250:G:C8	1:A:2496:C:H5''	2.39	0.58
1:A:389:G:H1	11:P:71:VAL:HG12	1.69	0.58
1:A:609(A):G:H2'	1:A:610:C:C6	2.39	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.58
2:B:55:U:H4'	6:G:28:VAL:CG2	2.33	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.58
1:A:1270:C:O2'	1:A:1648:C:OP2	2.22	0.58
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.68	0.58
1:A:812:C:H5'	11:P:22:GLY:HA3	1.85	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
1:A:328:U:H4'	20:Y:68:HIS:CE1	2.39	0.58
22:O:37:LEU:N	22:O:59:LEU:O	2.34	0.58
1:A:839:U:H1'	1:A:1191:G:H1'	1.85	0.58
1:A:903:C:H2'	1:A:904:C:C6	2.38	0.58
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.58
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.58
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.58
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.58
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:3:GLU:HG3	26:4:4:GLY:N	2.18	0.58
1:A:900:A:H5'	1:A:901:A:OP2	2.04	0.58
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.58
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.66	0.58
21:Z:54:HIS:O	21:Z:55:HIS:ND1	2.37	0.58
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.58
1:A:1454:U:O2'	1:A:1455:G:N7	2.33	0.58
1:A:2246:G:H2'	1:A:2247:A:H8	1.68	0.58
1:A:2313:C:H2'	1:A:2314:C:C6	2.38	0.58
1:A:669:G:H2'	1:A:669:G:N3	2.19	0.58
2:B:65:C:N4	2:B:108:C:H2'	2.15	0.58
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.39	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.03	0.58
1:A:2753:A:O2'	31:9:15:LYS:NZ	2.36	0.58
1:A:1485:G:H5''	1:A:1485:G:H8	1.69	0.58
7:H:153:LYS:HA	7:H:153:LYS:HZ3	1.68	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.58
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.69	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
22:0:50:ASN:ND2	22:0:81:VAL:O	2.36	0.57
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.57
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.57
1:A:2420:C:H41	30:8:30:ARG:HD2	1.68	0.57
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.57
1:A:1041:C:H2'	1:A:1042:G:C8	2.39	0.57
1:A:1230:C:H2'	1:A:1231:G:H8	1.68	0.57
1:A:1448:G:H1'	1:A:1528:A:H62	1.68	0.57
1:A:2061:G:OP2	1:A:2502:G:H5'	2.03	0.57
1:A:2814:C:H42	1:A:2886:G:H1	1.49	0.57
2:B:40:U:H3	2:B:43:C:H5''	1.69	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.85	0.57
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.57
2:B:42:C:O4'	6:G:69:ALA:HB2	2.04	0.57
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.57
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.57
8:I:77:LEU:HD11	8:I:140:LEU:HD12	1.86	0.57
1:A:637:A:H8	11:P:117:GLU:OE2	1.86	0.57
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.57
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.57
21:Z:52:SER:OG	21:Z:52:SER:O	2.15	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
26:4:38:LYS:C	26:4:40:HIS:N	2.53	0.57
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:1403:C:H5'	1:A:1471:A:C1'	2.34	0.57
1:A:2130:U:O2'	1:A:2133:G:O2'	2.17	0.57
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.57
5:F:138:GLU:O	5:F:141:ALA:HB3	2.04	0.57
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.57
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.57
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.57
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.03	0.57
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
1:A:1188:U:C2'	1:A:1189:A:H5'	2.34	0.57
1:A:1405:U:O2'	1:A:1406:U:O4'	2.13	0.57
1:A:1468:C:H2'	1:A:1469:A:C8	2.40	0.57
1:A:1889:A:H2'	1:A:1890:A:C8	2.39	0.57
1:A:2056:G:H2'	1:A:2056:G:N3	2.19	0.57
1:A:303:U:H2'	1:A:304:G:C8	2.39	0.57
1:A:323:G:HO2'	1:A:1205:U:H3	1.48	0.57
1:A:439:G:H8	1:A:439:G:O5'	1.87	0.57
2:B:116:G:O2'	14:S:54:LEU:HD11	2.04	0.57
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.67	0.57
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.86	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
7:H:4:ILE:HD13	7:H:4:ILE:H	1.68	0.57
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.57
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.04	0.57
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.57
2:B:6:C:O2'	14:S:29:PHE:HE1	1.86	0.57
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.18	0.57
21:Z:166:SER:OG	21:Z:168:GLU:N	2.36	0.57
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.57
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.57
1:A:2072:G:C2	1:A:2073:C:C2	2.91	0.57
1:A:2137:C:H42	1:A:2154:G:H1	1.51	0.57
1:A:2861:G:H2'	1:A:2862:G:H8	1.69	0.57
1:A:2892:A:H2'	1:A:2893:G:O4'	2.03	0.57
1:A:586:A:N1	1:A:809:G:O2'	2.31	0.57
1:A:960:A:H4'	1:A:2457:U:H5'	1.87	0.57
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1568:G:H5''	3:D:61:LEU:HD22	1.86	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.35	0.57
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.57
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.57
18:W:1:MET:HA	18:W:1:MET:HE3	1.86	0.57
1:A:1184:G:OP1	25:3:29:ARG:NH1	2.37	0.57
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.57
1:A:2061:G:H5''	1:A:2503:A:C2	2.39	0.57
1:A:554:U:HO2'	1:A:556:G:H8	1.51	0.57
1:A:888:C:O2'	1:A:889:C:H4'	2.03	0.57
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.57
1:A:443:A:OP1	5:F:46:ARG:HB2	2.04	0.57
1:A:451:C:H4'	5:F:52:LYS:NZ	2.20	0.57
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.57
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.57
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.57
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.04	0.57
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.57
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.86	0.57
1:A:1728:G:N1	1:A:1730:U:OP2	2.38	0.57
2:B:56:G:P	6:G:27:ASN:HD21	2.26	0.57
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.87	0.57
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.57
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.87	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.04	0.57
21:Z:153:SER:HB2	21:Z:167:PRO:HB3	1.86	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.05	0.57
1:A:121:G:C2	1:A:131:G:C4	2.92	0.57
1:A:1869:G:H5'	1:A:1870:C:OP2	2.05	0.57
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.39	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.04	0.57
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
23:1:89:GLU:O	23:1:93:GLU:HB2	2.04	0.57
1:A:270(T):G:P	23:1:97:LEU:HD13	2.44	0.57
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.57
1:A:1007:C:OP1	9:N:35:ARG:NH1	2.38	0.57
1:A:770:G:N3	1:A:1354:A:H2	2.03	0.57
1:A:1449:A:H5'	1:A:1449(A):G:OP2	2.05	0.57
1:A:2087:G:H2'	1:A:2088:G:H8	1.69	0.57
1:A:589:C:H2'	1:A:590:A:C8	2.39	0.57
1:A:664:C:OP1	11:P:18:ARG:NH2	2.31	0.57
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.68	0.57
14:S:103:GLU:O	14:S:106:ARG:CG	2.53	0.57
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.57
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.57
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.57
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.35	0.57
1:A:1230:C:H2'	1:A:1231:G:C8	2.40	0.57
1:A:177:G:H3'	1:A:178:G:H8	1.69	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.87	0.57
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.57
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.57
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.70	0.57
1:A:1480:G:O6	1:A:1513:C:N4	2.32	0.57
1:A:2367:G:O5'	1:A:2367:G:H8	1.87	0.57
1:A:2517:C:C2	1:A:2542:A:N6	2.73	0.57
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
2:B:42:C:N4	6:G:91:ARG:HH21	2.02	0.57
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.57
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.56
1:A:2273:A:H2'	1:A:2274:A:C8	2.40	0.56
1:A:2788:C:O2'	1:A:2809:A:N3	2.37	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:991:C:H5'	1:A:991:C:H6	1.69	0.56
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.56
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.56
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.56
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.56
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.56
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.56
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.56
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:1308:A:H2'	1:A:1309:G:O4'	2.05	0.56
1:A:2456:C:N4	1:A:2495:G:H1	2.03	0.56
1:A:612:G:H2'	1:A:613:U:O2	2.04	0.56
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.56
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.40	0.56
9:N:82:LEU:HD12	9:N:83:LYS:H	1.71	0.56
16:U:68:ALA:O	16:U:71:GLN:HB2	2.05	0.56
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.56
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.07	0.56
28:6:14:THR:O	28:6:49:HIS:HA	2.06	0.56
1:A:1769:G:O2'	1:A:1958:C:OP1	2.17	0.56
1:A:2293:C:H2'	1:A:2294:C:O4'	2.05	0.56
1:A:2287:A:H62	1:A:2344:U:H3	1.51	0.56
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.21	0.56
1:A:2416:C:H5''	11:P:64:LYS:HE3	1.86	0.56
1:A:270(K):C:H42	1:A:270(M):U:H5	1.50	0.56
1:A:2864:G:OP1	15:T:119:LYS:HD2	2.05	0.56
2:B:40:U:N3	2:B:43:C:H5''	2.21	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.03	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.56
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.56
21:Z:77:ASP:OD2	21:Z:80:ARG:HD3	2.05	0.56
23:1:53:VAL:HG12	23:1:54:ALA:N	2.20	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.04	0.56
1:A:1083:U:O2'	1:A:1085:A:H5''	2.05	0.56
1:A:1310:G:O6	1:A:1604:C:N4	2.38	0.56
1:A:2370:G:N3	28:6:45:LYS:NZ	2.51	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:236:GLY:O	3:D:237:GLU:OE1	2.23	0.56
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.54	0.56
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.56
1:A:851:U:O2'	25:3:45:GLY:HA3	2.05	0.56
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.56
1:A:139:G:N2	1:A:1596:A:H4'	2.20	0.56
1:A:1581:G:H8	1:A:1581:G:H5''	1.69	0.56
1:A:2308:G:H22	1:A:2311:A:H2	1.54	0.56
8:I:57:ARG:HB2	8:I:57:ARG:HH11	1.70	0.56
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.56
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.87	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.56
12:Q:132:VAL:HG11	21:Z:81:ARG:CZ	2.35	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
1:A:1351:C:H2'	1:A:1352:U:C6	2.40	0.56
1:A:1534:G:H2'	1:A:1534:G:N3	2.20	0.56
1:A:2747:G:H2'	1:A:2748:A:C8	2.41	0.56
1:A:66:C:C4	1:A:67:U:C4	2.94	0.56
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.09	0.56
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.35	0.56
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.67	0.56
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.56
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.56
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.56
10:O:1:MET:HE3	10:O:67:LYS:HE2	1.87	0.56
12:Q:59:ARG:C	12:Q:60:ARG:CG	2.74	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.87	0.56
19:X:65:ARG:HD3	19:X:65:ARG:H	1.70	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
1:A:1210:A:C8	1:A:1210:A:H5''	2.40	0.56
1:A:2645:G:C3'	1:A:2646:C:H5'	2.35	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.56
18:W:20:VAL:C	18:W:22:ASP:N	2.59	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.70	0.56
1:A:1434:A:H2'	1:A:1435:G:C8	2.40	0.56
1:A:1930:G:HO2'	1:A:1931:U:P	2.29	0.56
1:A:195:A:N6	1:A:198:C:H3'	2.18	0.56
1:A:2821:A:H2'	1:A:2822:G:C8	2.41	0.56
1:A:398:G:H2'	1:A:399:G:H8	1.71	0.56
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.56
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.06	0.56
24:2:50:ILE:CD1	24:2:51:ARG:N	2.60	0.56
1:A:2271:G:H2'	1:A:2272:U:O4'	2.06	0.56
1:A:68:G:N2	1:A:69:C:H1'	2.21	0.56
3:D:94:LEU:HD22	3:D:95:LEU:H	1.69	0.56
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.56
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.56
1:A:389:G:N1	11:P:70:GLN:HB3	2.20	0.56
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.56
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.69	0.56
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.05	0.56
21:Z:150:LEU:O	21:Z:171:ILE:HG12	2.05	0.56
30:8:30:ARG:O	30:8:31:HIS:CB	2.54	0.56
1:A:2014:A:O2'	27:5:2:ALA:HB2	2.05	0.56
1:A:2576:G:OP2	1:A:2576:G:N2	2.38	0.56
1:A:597:U:H2'	1:A:598:G:C8	2.41	0.56
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.56
8:I:121:LYS:HG2	8:I:122:GLU:H	1.70	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.56
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.56
1:A:2364:C:OP1	22:0:55:ARG:NH1	2.38	0.56
1:A:1289:C:H2'	1:A:1290:C:H6	1.69	0.56
1:A:607:U:H3	1:A:621:A:H2	1.50	0.56
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.56
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.56
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.19	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.56
1:A:1005:C:C2	1:A:1143:A:C5	2.94	0.55
1:A:2419:U:OP1	28:6:23:THR:HG21	2.06	0.55
1:A:654(S):G:H2'	1:A:654(T):C:C6	2.40	0.55
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.55
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.72	0.55
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.55
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.55
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.55
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.55
1:A:1101:U:H2'	1:A:1102:C:H6	1.69	0.55
1:A:117:G:OP2	1:A:119:A:O2'	2.21	0.55
1:A:51:G:N3	1:A:119:A:C2	2.74	0.55
1:A:1607:C:H5''	1:A:1608:A:H5'	1.88	0.55
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.33	0.55
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.55
8:I:41:GLU:HA	8:I:44:LEU:HB2	1.89	0.55
2:B:27:C:H5''	14:S:33:LYS:HZ1	1.71	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
1:A:2636:U:OP1	4:E:79:ARG:HA	2.05	0.55
1:A:2779:U:O2'	1:A:2781:A:N7	2.39	0.55
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.55
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.55
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.06	0.55
1:A:1278:A:O3'	13:R:34:ILE:HG23	2.07	0.55
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.55
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.55
1:A:1854:A:H3'	1:A:1855:G:H8	1.71	0.55
1:A:2483:C:H5''	1:A:2484:G:OP2	2.06	0.55
1:A:2760:C:H2'	1:A:2761:G:O4'	2.05	0.55
1:A:918:A:C5	1:A:919:G:H1'	2.41	0.55
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.55
3:D:2:ALA:O	3:D:3:VAL:HB	2.05	0.55
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.55
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.55
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.55
1:A:1062:G:N3	1:A:1077:A:N6	2.55	0.55
1:A:1917:U:H2'	1:A:1918:A:C8	2.41	0.55
1:A:2078:C:H1'	1:A:2434:A:N3	2.21	0.55
1:A:2105:C:H2'	1:A:2106:G:H8	1.72	0.55
1:A:2355:C:H1'	22:0:39:ARG:HH21	1.70	0.55
1:A:412:A:N7	1:A:2411:A:H2	2.05	0.55
1:A:2506:U:O2	1:A:2506:U:H2'	2.05	0.55
1:A:2809:A:OP2	1:A:2891:G:N1	2.33	0.55
1:A:289:A:H2'	1:A:290:G:O4'	2.06	0.55
1:A:746:A:HO2'	1:A:747:U:P	2.28	0.55
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55
8:I:4:ILE:HG23	8:I:18:VAL:HG22	1.88	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.26	0.55
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.55
1:A:896:A:N3	21:Z:146:ILE:HD11	2.21	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.69	0.55
1:A:1202:C:H42	1:A:1243:G:H1	1.54	0.55
1:A:1265:A:H61	1:A:2013:A:H5''	1.71	0.55
1:A:2193:G:H2'	1:A:2194:G:H8	1.72	0.55
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.55
8:I:3:VAL:O	8:I:18:VAL:HA	2.06	0.55
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.55
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.55
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.55
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.55
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.55
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.55
1:A:2467:C:C2'	1:A:2468:G:H5'	2.37	0.55
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.88	0.55
2:B:44:G:C2	2:B:48:A:C2	2.94	0.55
9:N:109:LYS:HD2	9:N:109:LYS:N	2.22	0.55
10:O:79:PHE:HD2	15:T:72:VAL:HG22	1.72	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.22	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
21:Z:110:GLY:HA2	21:Z:111:VAL:C	2.27	0.55
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.55
1:A:1204:A:H2	1:A:1241:A:C2	2.24	0.55
1:A:2131:G:N2	1:A:2158:A:N7	2.54	0.55
1:A:2197:U:H1'	1:A:2198:A:H8	1.70	0.55
2:B:75:G:H1	2:B:102:G:N2	2.05	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
1:A:566:U:H5''	11:P:29:LYS:NZ	2.22	0.55
1:A:2405:G:P	11:P:77:ARG:NH2	2.80	0.55
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.55
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.55
1:A:1465:G:C2	1:A:1466:G:C8	2.95	0.55
1:A:975:G:H1'	1:A:990:A:C2	2.41	0.55
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.55
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.55
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.55
8:I:13:GLY:HA3	8:I:17:GLN:CD	2.27	0.55
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.72	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.55
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.72	0.55
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.55
1:A:1543:A:H2	1:A:1545:A:C5	2.25	0.55
1:A:1869:G:N2	1:A:1878:G:C5	2.75	0.55
1:A:2219:G:OP1	3:D:172:TYR:OH	2.20	0.55
5:F:147:GLY:O	5:F:148:LEU:HD23	2.07	0.55
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.55
7:H:8:PRO:O	7:H:9:ILE:HG23	2.07	0.55
8:I:52:ARG:HA	8:I:56:LYS:H	1.72	0.55
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.55
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.55
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.55
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.55
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1022:G:C6	1:A:1140:C:C4	2.95	0.54
1:A:1278:A:N6	1:A:1292:U:H3	2.04	0.54
1:A:198:C:O2'	1:A:199:A:H5'	2.08	0.54
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.54
6:G:116:ASP:O	6:G:117:PHE:CB	2.51	0.54
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.54
8:I:78:THR:HG22	8:I:141:LYS:HD2	1.89	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.38	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.54
1:A:2151:G:H2'	1:A:2152:G:C8	2.43	0.54
1:A:2881:C:H2'	1:A:2882:A:H8	1.71	0.54
1:A:507:A:C5'	1:A:508:G:H5'	2.37	0.54
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.54
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.54
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.54
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.54
14:S:13:ARG:HD2	14:S:13:ARG:O	2.06	0.54
15:T:107:ASP:O	15:T:111:ARG:NH1	2.40	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.54
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.54
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.55	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.37	0.54
1:A:987:G:O2'	1:A:1000:A:N3	2.34	0.54
1:A:2261:C:C6	22:0:16:SER:HB3	2.43	0.54
1:A:2505:G:C6	1:A:2576:G:C8	2.95	0.54
1:A:856:C:C6	1:A:856:C:H3'	2.42	0.54
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.54
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
1:A:1006:C:H1'	9:N:106:MET:HE3	1.90	0.54
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.54
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.06	0.54
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.07	0.54
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.54
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.54
1:A:1496:A:H8	1:A:1577:C:O2'	1.89	0.54
1:A:204:A:O3'	1:A:205:G:H4'	2.07	0.54
1:A:312:G:H4'	1:A:331:A:N3	2.23	0.54
1:A:483:A:C5'	20:Y:49:VAL:HG13	2.37	0.54
1:A:527:C:H4'	1:A:528:A:O5'	2.07	0.54
1:A:678:C:H2'	1:A:679:C:C6	2.43	0.54
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.54
4:E:186:GLY:O	4:E:188:VAL:N	2.41	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
12:Q:58:PHE:O	12:Q:59:ARG:C	2.43	0.54
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.54
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.54
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.54
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.54
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.54
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
1:A:2331:G:H4'	22:0:43:THR:H	1.72	0.54
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.54	0.54
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.54
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.54
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.06	0.54
1:A:1509:C:N3	1:A:1511:A:N6	2.56	0.54
1:A:1600:C:H2'	1:A:1601:G:H8	1.72	0.54
1:A:1727:U:H2'	1:A:1728:G:O4'	2.07	0.54
1:A:1837:C:N3	1:A:1903:G:N2	2.42	0.54
1:A:1835:G:C4	1:A:1931:U:N3	2.75	0.54
1:A:2287:A:O2'	1:A:2288:A:H5''	2.08	0.54
1:A:2578:G:N2	1:A:2579:C:C2	2.76	0.54
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.54
2:B:56:G:H5'	6:G:27:ASN:ND2	2.22	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.26	0.54
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.54
1:A:483:A:H4'	20:Y:49:VAL:HG13	1.89	0.54
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.11	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.71	0.54
1:A:1006:C:H1'	9:N:106:MET:CE	2.38	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:995:C:H42	9:N:2:LYS:HG3	1.72	0.54
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.54
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.54
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.54
1:A:1059:G:C6	1:A:1060:U:H1'	2.43	0.54
1:A:2351:G:H8	1:A:2351:G:O5'	1.89	0.54
1:A:2425:A:H4'	1:A:2426:A:H5''	1.88	0.54
1:A:744:G:H2'	1:A:745:G:O4'	2.08	0.54
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.54
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.54
4:E:54:GLN:NE2	4:E:54:GLN:N	2.55	0.54
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.54
1:A:1199:U:H1'	16:U:4:ALA:HB2	1.89	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.54
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
1:A:242:G:C5'	30:8:3:LYS:HE3	2.35	0.54
1:A:2283:C:P	28:6:5:VAL:HG13	2.48	0.54
1:A:310:A:OP1	20:Y:18:GLY:N	2.25	0.54
1:A:571:A:C6	1:A:575:A:C8	2.95	0.54
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
12:Q:60:ARG:HH12	12:Q:113:GLN:HE22	1.55	0.54
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:265:A:O2'	1:A:266:G:H4'	2.07	0.54
1:A:2867:G:O2'	1:A:2868:A:H8	1.91	0.54
1:A:602:G:HO2'	1:A:604:G:HO2'	1.45	0.54
2:B:27:C:H5''	14:S:33:LYS:NZ	2.23	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.89	0.54
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.54
7:H:153:LYS:CE	7:H:153:LYS:HA	2.37	0.54
7:H:26:VAL:CG1	7:H:27:LYS:N	2.64	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
8:I:99:GLU:OE2	8:I:103:ARG:NH2	2.38	0.54
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.54
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.54
12:Q:81:VAL:C	12:Q:82:ARG:CG	2.76	0.54
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
1:A:270(R):G:HI1'	23:1:78:LYS:HZ1	1.71	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
1:A:2030:A:H4'	1:A:2031:A:C8	2.43	0.54
1:A:2740:A:H2'	1:A:2741:A:C8	2.43	0.54
1:A:2635:C:H5''	4:E:78:LEU:HA	1.89	0.54
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.54
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.53
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.53
1:A:422:A:C6	1:A:423:A:C6	2.95	0.53
1:A:845:G:HO2'	1:A:846:C:H5	1.56	0.53
1:A:897:C:OP2	1:A:897:C:H3'	2.08	0.53
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.53
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.53
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.53
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.53
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.53
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:1359:A:H61	1:A:1372:U:H3	1.55	0.53
1:A:1600:C:H2'	1:A:1601:G:C8	2.42	0.53
1:A:2046:G:H2'	1:A:2047:U:C6	2.44	0.53
1:A:2723:C:OP1	13:R:3:HIS:HD2	1.91	0.53
1:A:2815:C:H5'	27:5:29:THR:HG21	1.91	0.53
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.53
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
9:N:109:LYS:HD2	9:N:109:LYS:H	1.74	0.53
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.53
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.53
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.53
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
1:A:1020:A:N1	1:A:1141:U:O2'	2.26	0.53
1:A:1427:A:H4'	1:A:1428:C:O5'	2.07	0.53
1:A:1992:G:O2'	1:A:1993:U:OP2	2.22	0.53
1:A:2359:C:H2'	1:A:2360:A:O4'	2.09	0.53
1:A:486:C:H4'	18:W:60:ASN:OD1	2.08	0.53
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.53
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.07	0.53
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.53
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
27:5:44:THR:O	27:5:46:CYS:N	2.40	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:1107:G:H2'	1:A:1108:U:H6	1.74	0.53
1:A:1754:C:H2'	1:A:1755:A:H8	1.71	0.53
1:A:2676:C:O2	1:A:2732:G:N2	2.31	0.53
1:A:2712:U:H1'	1:A:2712(A):A:C8	2.44	0.53
1:A:468:G:N7	29:7:39:ARG:NH2	2.57	0.53
1:A:843:G:N2	1:A:936:C:C2	2.77	0.53
1:A:856:C:H1'	22:0:27:GLU:HB3	1.89	0.53
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.53
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.53
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.53
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
1:A:153:C:P	23:1:88:LYS:HE2	2.48	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.90	0.53
1:A:1590:U:H2'	1:A:1591:G:C8	2.40	0.53
1:A:729:G:H2'	1:A:1775:U:H1'	1.90	0.53
1:A:2216:G:H2'	1:A:2217:G:H8	1.72	0.53
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.53
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.53
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.53
1:A:1140:C:H5''	9:N:66:LYS:NZ	2.24	0.53
1:A:135:G:H1	1:A:144:C:N4	2.05	0.53
1:A:1380:G:O2'	1:A:1569:A:N6	2.42	0.53
1:A:140:A:H8	1:A:1408:C:HO2'	1.55	0.53
1:A:1592:C:H2'	1:A:1593:G:C8	2.43	0.53
1:A:1852:C:H41	1:A:1888:G:N2	2.06	0.53
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.91	0.53
1:A:2061:G:C2	1:A:2063:C:C4	2.97	0.53
1:A:288:C:H2'	1:A:289:A:C8	2.42	0.53
2:B:31:C:H42	2:B:51:G:H1	1.55	0.53
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.53
4:E:14:ILE:HG23	4:E:15:PHE:N	2.22	0.53
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.53
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
1:A:138:G:N2	19:X:44:GLU:OE2	2.38	0.53
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.53
21:Z:157:LEU:HD23	21:Z:161:VAL:HG12	1.90	0.53
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
26:4:15:ILE:HD13	26:4:15:ILE:H	1.74	0.53
1:A:1416:G:H2'	1:A:1417:C:C6	2.44	0.53
1:A:1949:G:H1	1:A:1957:C:N4	2.06	0.53
1:A:2032:G:H21	4:E:146:THR:CG2	2.22	0.53
1:A:2698:U:H2'	1:A:2699:C:C6	2.44	0.53
1:A:345:A:N3	1:A:347:A:N6	2.57	0.53
1:A:871:U:H5'	1:A:872:A:OP1	2.09	0.53
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.39	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.53
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.53
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:111:A:O3'	24:2:69:ARG:NH2	2.41	0.53
1:A:1989:G:C5	1:A:1990:C:C5	2.97	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2781:A:H5''	1:A:2782:G:H5'	1.90	0.53
3:D:34:VAL:C	3:D:35:LYS:HG3	2.29	0.53
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.53
1:A:323:G:H2'	5:F:169:ASN:OD1	2.08	0.53
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.53
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.53
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.53
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.53
1:A:1341:U:OP1	1:A:1397:U:N3	2.42	0.53
1:A:2345:G:N2	1:A:2382:G:OP2	2.39	0.53
1:A:2663:G:H3'	1:A:2664:G:C8	2.42	0.53
1:A:593:G:H2'	1:A:594:U:C6	2.40	0.53
1:A:709:U:H3	1:A:722:A:N6	2.04	0.53
2:B:16:G:H1	2:B:68:C:H42	1.56	0.53
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.53
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.53
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.53
1:A:389:G:H22	11:P:72:PRO:CD	2.21	0.53
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.53
22:0:56:ASP:CG	22:0:58:THR:HG1	2.12	0.53
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.91	0.53
1:A:2419:U:O4	30:8:30:ARG:NE	2.42	0.53
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.53
1:A:1021:A:H3'	1:A:1021:A:C8	2.44	0.53
1:A:1131:G:HO2'	1:A:1132:A:H8	1.57	0.53
1:A:2338:G:C2	1:A:2339:G:C8	2.97	0.53
1:A:384:U:H2'	1:A:385:C:C6	2.37	0.53
1:A:922:U:H2'	1:A:923:C:C6	2.43	0.53
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.08	0.53
8:I:97:ILE:HD12	8:I:140:LEU:HD11	1.90	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.53
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.53
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
26:4:49:PHE:N	26:4:49:PHE:CD1	2.76	0.52
1:A:1195:G:H8	1:A:1195:G:H5''	1.75	0.52
1:A:638:G:H5''	1:A:638:G:H8	1.75	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:7:G:H8	2:B:7:G:H5''	1.74	0.52
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.52
27:5:55:ARG:HG3	27:5:57:VAL:H	1.74	0.52
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.52
1:A:2336:A:H61	22:0:43:THR:CG2	2.21	0.52
1:A:2469:A:C5	1:A:2482:G:C8	2.97	0.52
1:A:2523:G:O2'	1:A:2764:A:O3'	2.26	0.52
1:A:2525:G:N2	1:A:2538:C:O2	2.40	0.52
1:A:312:G:H5'	1:A:331:A:O2'	2.10	0.52
1:A:333:G:H5''	1:A:334:C:OP2	2.09	0.52
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.08	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.52
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.52
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.43	0.52
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.52
1:A:1178:C:H2'	1:A:1179:C:C6	2.45	0.52
1:A:1401:G:H2'	1:A:1402:C:O4'	2.08	0.52
1:A:2011:U:OP2	18:W:16:LYS:NZ	2.42	0.52
1:A:2508:G:HO2'	1:A:2554:U:HO2'	1.57	0.52
1:A:27:G:H1'	1:A:513:A:N6	2.24	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.52
9:N:94:HIS:O	9:N:95:PRO:O	2.27	0.52
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52
14:S:86:ALA:O	14:S:87:PHE:HB3	2.10	0.52
21:Z:20:ARG:O	21:Z:20:ARG:HD3	2.09	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.24	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:1022:G:H22	1:A:1142(A):A:H2	1.57	0.52
1:A:171:G:N2	1:A:172:C:O2	2.42	0.52
1:A:235:U:H2'	1:A:236:C:C6	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2393:A:C2'	1:A:2394:C:H5'	2.39	0.52
1:A:517:C:O2'	18:W:18:ARG:NH2	2.42	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.91	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.52
8:I:14:ASP:O	8:I:16:GLY:N	2.42	0.52
11:A:832:G:OP1	11:P:38:GLN:HB3	2.09	0.52
15:T:14:TYR:N	15:T:14:TYR:CD1	2.77	0.52
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.52
21:Z:5:LEU:HD12	21:Z:7:ALA:HB2	1.90	0.52
25:3:56:VAL:CG1	25:3:57:GLU:H	2.19	0.52
26:4:63:TYR:C	26:4:65:ASP:N	2.62	0.52
1:A:1342:A:C5	1:A:1397:U:C6	2.98	0.52
1:A:1352:U:O2'	1:A:1353:A:H5'	2.08	0.52
1:A:1359:A:N6	1:A:1373:A:C4	2.78	0.52
1:A:1448:G:H1'	1:A:1528:A:N6	2.24	0.52
1:A:155:C:N4	1:A:171:G:H1	2.06	0.52
1:A:1728:G:H5''	1:A:1728:G:N3	2.24	0.52
1:A:900:A:H3'	1:A:901:A:C8	2.36	0.52
1:A:952:G:C6	1:A:966:G:C6	2.98	0.52
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
8:I:21:VAL:HG13	8:I:22:LYS:O	2.10	0.52
8:I:68:LEU:HA	8:I:71:ILE:CG2	2.40	0.52
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.52
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
1:A:1001:A:H2'	1:A:1002:G:O4'	2.09	0.52
1:A:2695:C:H2'	1:A:2696:U:H6	1.74	0.52
1:A:515:A:H1'	1:A:581:C:H1'	1.91	0.52
1:A:571:A:C5	1:A:575:A:C8	2.98	0.52
1:A:582:G:H2'	1:A:583:G:C8	2.44	0.52
1:A:704:G:H1'	1:A:727:A:N6	2.25	0.52
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.52
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.52
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
11:P:13:ASN:O	11:P:14:LYS:C	2.48	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
22:0:21:LEU:HD11	22:0:41:ARG:HG2	1.92	0.52
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.19	0.52
1:A:1050:A:H2'	1:A:1051:G:O4'	2.09	0.52
1:A:1478:G:HO2'	1:A:1558:A:H2	1.55	0.52
1:A:151:C:H6	1:A:151:C:O5'	1.93	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.52
21:Z:111:VAL:O	21:Z:113:ALA:N	2.43	0.52
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.52
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.52
31:9:27:CYS:SG	31:9:28:GLU:N	2.83	0.52
1:A:222:A:HO2'	1:A:223:A:P	2.31	0.52
1:A:2697:G:C2	1:A:2711:A:C2	2.97	0.52
1:A:2861:G:H2'	1:A:2862:G:C8	2.45	0.52
1:A:746:A:O2'	1:A:747:U:P	2.67	0.52
2:B:30:C:H4'	2:B:58:A:H2	1.73	0.52
2:B:75:G:H1	2:B:102:G:H22	1.54	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.92	0.52
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.52
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.52
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.92	0.52
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
1:A:1140:C:H1'	1:A:1143:A:C2	2.45	0.52
1:A:155:C:H5'	1:A:161:U:OP2	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2867:G:O2'	1:A:2868:A:P	2.67	0.52
1:A:2814:C:N4	1:A:2886:G:H1	2.07	0.52
1:A:483:A:H4'	20:Y:49:VAL:CA	2.32	0.52
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.52
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.52
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.52
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.52
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.52
1:A:1666:G:H2'	1:A:1667:G:H1'	1.92	0.52
1:A:1844:C:H2'	1:A:1845:G:C8	2.45	0.52
1:A:220:G:H21	1:A:429:A:H62	1.58	0.52
1:A:769:G:H2'	1:A:770:G:C8	2.43	0.52
1:A:806:C:OP2	11:P:41:ARG:NE	2.41	0.52
2:B:2:C:H2'	2:B:3:C:C6	2.45	0.52
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
8:I:60:GLU:HG3	8:I:61:ARG:NH1	2.25	0.52
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.52
10:O:23:ARG:O	10:O:39:ILE:HB	2.10	0.52
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.52
21:Z:17:ALA:O	21:Z:21:ALA:N	2.41	0.52
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.51
1:A:1012:U:H3	9:N:25:ARG:NH1	2.02	0.51
1:A:1405:U:O2'	1:A:1406:U:O5'	2.28	0.51
1:A:1466:G:H2'	1:A:1466:G:N3	2.24	0.51
1:A:2028:U:H2'	1:A:2029:G:C8	2.46	0.51
1:A:2469:A:H2	1:A:2481:G:H21	1.58	0.51
1:A:2543:G:H21	1:A:2646:C:H5''	1.74	0.51
1:A:375:C:O5'	1:A:375:C:H6	1.92	0.51
1:A:530:G:C5	1:A:2022:U:H5''	2.45	0.51
1:A:704:G:H2'	1:A:726:G:H22	1.75	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.25	0.51
10:O:2:ILE:HD12	10:O:2:ILE:N	2.24	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.51
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.23	0.51
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.30	0.51
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.51
21:Z:129:SER:O	21:Z:131:ARG:N	2.39	0.51
21:Z:129:SER:C	21:Z:131:ARG:H	2.12	0.51
21:Z:3:TYR:O	21:Z:57:ILE:HG23	2.10	0.51
22:O:10:THR:HG22	22:O:12:ASN:H	1.75	0.51
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
1:A:109:G:C2	1:A:110:G:C8	2.99	0.51
1:A:1356:G:N2	1:A:1376:C:C2	2.78	0.51
1:A:1410:G:H8	1:A:1410:G:H5''	1.74	0.51
1:A:1681:G:H8	1:A:1681:G:O5'	1.93	0.51
2:B:12:C:H2'	22:O:73:GLY:HA3	1.92	0.51
2:B:50:G:OP1	14:S:63:THR:HG23	2.10	0.51
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.51
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
7:H:126:PRO:HD2	7:H:127:GLU:N	2.25	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.26	0.51
11:P:112:LEU:HD22	11:P:113:LYS:N	2.25	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
1:A:2881:C:H5''	13:R:117:VAL:HG21	1.92	0.51
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.51
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.51
16:U:59:ARG:O	16:U:63:VAL:HG23	2.11	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.93	0.51
1:A:120:U:H4'	1:A:121:G:H5''	1.91	0.51
1:A:190:A:N6	1:A:207:A:H1'	2.25	0.51
1:A:2627:G:N3	1:A:2781:A:H2	2.09	0.51
2:B:37:C:N4	2:B:38:C:N3	2.59	0.51
2:B:46:A:C5	2:B:47:C:C5	2.98	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.10	0.51
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.28	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.51
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.51
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.51
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.51
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.10	0.51
1:A:1378:A:O2'	1:A:1379:A:O5'	2.18	0.51
1:A:246:C:N4	30:8:8:LYS:HG3	2.25	0.51
1:A:626:U:H5''	1:A:627:A:H5'	1.93	0.51
2:B:66:A:C2	2:B:108:C:C4	2.98	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.47	0.51
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.51
8:I:120:ILE:HG12	8:I:126:TYR:CE1	2.46	0.51
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.51
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.51
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.51
1:A:336:C:HO2'	20:Y:35:TYR:HH	1.59	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
1:A:2516:G:C5	1:A:2517:C:C4	2.98	0.51
1:A:2600:A:C6	1:A:2601:C:N4	2.79	0.51
1:A:2745:C:C4	1:A:2746:U:C4	2.98	0.51
1:A:247:G:H4'	1:A:386:G:C5	2.46	0.51
1:A:828:U:H4'	1:A:831:G:N1	2.26	0.51
1:A:829:A:N7	1:A:2247:A:O2'	2.37	0.51
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.51
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.51
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.51
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
28:6:9:LEU:HB3	28:6:26:ASN:O	2.11	0.51
29:7:36:GLN:HG2	29:7:36:GLN:O	2.10	0.51
1:A:1188:U:O2'	1:A:1189:A:H5'	2.10	0.51
1:A:130:C:H4'	1:A:1349:A:O4'	2.11	0.51
1:A:1705:G:C6	1:A:1706:U:C4	2.98	0.51
1:A:1899:G:H21	1:A:1902:C:H42	1.58	0.51
1:A:2625:G:H2'	1:A:2626:C:C6	2.46	0.51
1:A:2643:G:H2'	1:A:2644:G:O4'	2.10	0.51
1:A:848:G:C2	1:A:933:A:H1'	2.45	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.92	0.51
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.51
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.51
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.51
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.51
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.51
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.51
23:1:87:PRO:O	23:1:91:LYS:HB2	2.11	0.51
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.51
1:A:2414:G:H21	11:P:67:MET:CE	2.23	0.51
1:A:2459:A:C2	1:A:2460:U:H1'	2.46	0.51
1:A:2475:C:H42	1:A:2529:G:H22	1.57	0.51
1:A:554:U:O2'	1:A:556:G:H8	1.93	0.51
1:A:860:U:C5	1:A:917:A:C2	2.98	0.51
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.92	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
1:A:558:G:OP1	9:N:111:PRO:HD2	2.11	0.51
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.51
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.51
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.10	0.51
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.51
1:A:1392:A:H62	1:A:1393:A:N6	2.09	0.51
1:A:1826:G:H2'	1:A:1827:C:C6	2.45	0.51
1:A:1832:C:N4	1:A:1833:U:C4	2.79	0.51
1:A:185:U:H4'	1:A:218:A:H4'	1.93	0.51
1:A:2818:G:H2'	1:A:2819:G:C8	2.46	0.51
1:A:531:C:OP1	1:A:561:G:N1	2.44	0.51
1:A:930:U:H4'	1:A:931:G:O5'	2.11	0.51
1:A:947:G:H2'	1:A:948:G:C8	2.46	0.51
2:B:89(A):A:C5	2:B:90:C:H1'	2.46	0.51
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.51
5:F:127:GLU:O	5:F:129:PHE:N	2.40	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51
10:O:35:VAL:HG23	10:O:35:VAL:O	2.11	0.51
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.51
21:Z:151:HIS:HA	21:Z:170:THR:HA	1.92	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
1:A:1043:C:O2'	1:A:1048:A:O2'	2.14	0.51
1:A:363(B):G:H2'	1:A:363(C):G:H8	1.73	0.51
1:A:879:G:H2'	1:A:880:G:O4'	2.10	0.51
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.51
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.51
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.51
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.51
20:Y:2:ARG:HG2	20:Y:2:ARG:NH1	2.22	0.51
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
1:A:201:C:O2'	1:A:386:G:N1	2.41	0.51
1:A:2406:U:C2	11:P:72:PRO:HB2	2.46	0.51
1:A:2612:C:C4	1:A:2613:U:H5	2.29	0.51
1:A:856:C:H5''	1:A:856:C:H6	1.75	0.51
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.51
14:S:89:ARG:HD2	14:S:89:ARG:O	2.11	0.51
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.93	0.51
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
1:A:1711:C:H2'	1:A:1712:C:C6	2.47	0.50
1:A:1930:G:O2'	1:A:1931:U:P	2.68	0.50
1:A:2404:C:H1'	11:P:67:MET:CE	2.40	0.50
1:A:257:A:H2'	1:A:258:G:O4'	2.11	0.50
1:A:404:C:HO2'	1:A:405:U:P	2.32	0.50
1:A:826:U:C6	1:A:828:U:H6	2.29	0.50
1:A:974(A):C:H4'	1:A:975:G:O5'	2.10	0.50
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.25	0.50
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.08	0.50
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.50
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.50
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.50
13:R:1:MET:O	13:R:2:ARG:CB	2.60	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
1:A:2666:C:H3'	1:A:2667:C:H6	1.76	0.50
1:A:2726:U:O2'	1:A:2727:G:H5'	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:49:A:H5''	1:A:51:G:C5'	2.41	0.50
1:A:654(U):A:O5'	1:A:654(U):A:H8	1.95	0.50
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.50
1:A:2032:G:H1'	4:E:145:LYS:HD3	1.93	0.50
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.50
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.50
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.41	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.40	0.50
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.50
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.41	0.50
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.25	0.50
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.50
21:Z:103:ARG:HD3	21:Z:136:PHE:CG	2.46	0.50
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
1:A:1413:G:N2	1:A:1414:G:H1'	2.26	0.50
1:A:1530:G:H2'	1:A:1531:C:C6	2.47	0.50
1:A:1538:G:H2'	1:A:1539:G:H8	1.75	0.50
1:A:1568:G:OP2	3:D:63:ARG:NH2	2.39	0.50
1:A:1860:G:H1	1:A:1882:C:H42	1.57	0.50
1:A:2069:G:C2'	1:A:2070:G:H5'	2.42	0.50
1:A:2151:G:H2'	1:A:2152:G:H8	1.74	0.50
1:A:2377:A:H2'	1:A:2378:A:C8	2.46	0.50
1:A:2548:G:N2	1:A:2560:C:O2	2.37	0.50
1:A:315:G:H2'	1:A:316:C:C6	2.45	0.50
1:A:676:A:H2	1:A:802:A:H61	1.60	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
8:I:29:TYR:O	8:I:33:ARG:HD3	2.11	0.50
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.50
1:A:1359:A:N6	1:A:1372:U:N3	2.59	0.50
1:A:1534:G:OP1	1:A:1534:G:H8	1.95	0.50
1:A:1770:G:C6	1:A:1771:C:C4	2.99	0.50
1:A:2106:G:N2	1:A:2107:C:O2	2.43	0.50
1:A:2477:C:H41	31:9:10:ILE:HG23	1.75	0.50
1:A:508:G:O2'	1:A:509:C:P	2.69	0.50
1:A:869:G:C2	1:A:870:A:C8	2.99	0.50
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.50
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.50
8:I:102:SER:O	8:I:106:GLY:N	2.40	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
13:R:70:LEU:O	13:R:72:ASP:N	2.42	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.23	0.50
21:Z:8:TYR:HB2	21:Z:38:TYR:CE2	2.47	0.50
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.50
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.50
1:A:1091:G:N2	1:A:1101:U:H1'	2.26	0.50
1:A:27:G:N2	1:A:512:G:O2'	2.44	0.50
1:A:747:U:N3	27:5:2:ALA:N	2.58	0.50
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.50
14:S:60:GLY:O	14:S:61:ASN:CB	2.56	0.50
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.94	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.50
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.50
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.50
1:A:2828:C:O2'	1:A:2829:C:H5'	2.11	0.50
1:A:278:A:H61	1:A:362:U:H3	1.57	0.50
1:A:652:C:H5'	1:A:653:A:OP2	2.11	0.50
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.46	0.50
3:D:237:GLU:OE1	3:D:237:GLU:HA	2.12	0.50
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.50
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.50
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.50
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.76	0.50
21:Z:103:ARG:O	21:Z:138:GLU:HA	2.11	0.50
1:A:153:C:OP2	23:1:88:LYS:HE2	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
1:A:1028:A:H2'	1:A:1029:A:C8	2.47	0.50
1:A:1061:U:H2'	1:A:1063:G:P	2.52	0.50
1:A:107:C:H2'	1:A:108:U:H6	1.76	0.50
1:A:1022:G:C2	1:A:1140:C:N3	2.80	0.50
1:A:1278:A:OP1	13:R:36:THR:HG22	2.11	0.50
1:A:1764:G:C6	1:A:1989:G:C2	3.00	0.50
1:A:1854:A:H5''	1:A:1855:G:OP2	2.11	0.50
1:A:2524:G:C2	1:A:2525:G:H1'	2.47	0.50
1:A:2555:U:H2'	1:A:2556:C:H5'	1.94	0.50
1:A:2625:G:C6	1:A:2626:C:C4	3.00	0.50
1:A:2679:A:H1'	1:A:2729:G:H22	1.77	0.50
1:A:696:G:C2	1:A:697:C:C6	3.00	0.50
1:A:703:U:H2'	1:A:704:G:O4'	2.12	0.50
1:A:727:A:C2'	1:A:728:G:H5'	2.42	0.50
1:A:999:U:C5	1:A:1154:G:C5	2.99	0.50
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.50
2:B:42:C:O2'	6:G:67:LYS:O	2.20	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.10	0.50
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.50
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.50
1:A:483:A:C4'	20:Y:49:VAL:HA	2.34	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
1:A:565:C:H4'	1:A:1253:A:C6	2.47	0.50
1:A:1869:G:C2	1:A:1878:G:C6	3.00	0.50
1:A:531:C:C5	1:A:2035:G:C2	3.00	0.50
1:A:2123:G:H22	1:A:2176:A:H1'	1.77	0.50
1:A:314:A:O2'	1:A:315:G:H5'	2.12	0.50
1:A:604:G:O6	1:A:624:C:N4	2.44	0.50
1:A:833:U:O4	1:A:834:C:N4	2.45	0.50
1:A:860:U:O2'	1:A:2267:A:H4'	2.11	0.50
1:A:999:U:H5	1:A:1154:G:C5	2.29	0.50
2:B:32:C:C2	2:B:51:G:N2	2.80	0.50
3:D:2:ALA:CB	3:D:20:ASP:CB	2.90	0.50
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.50
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
8:I:57:ARG:HA	8:I:60:GLU:HB3	1.93	0.50
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.50
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.50
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.50
1:A:1190:G:C5'	11:P:32:THR:HA	2.41	0.50
1:A:1336:A:H2'	1:A:1337:G:C8	2.47	0.50
1:A:1534:G:H1	1:A:1538:G:N2	2.10	0.50
1:A:1570:A:H2'	1:A:1571:A:C8	2.47	0.50
1:A:2131:G:O3'	1:A:2132:U:H4'	2.12	0.50
1:A:2154:G:H2'	1:A:2155:G:C8	2.47	0.50
1:A:222:A:O2'	1:A:223:A:P	2.70	0.50
1:A:595:C:N4	1:A:662:G:H1	2.08	0.50
1:A:611:C:C2	1:A:618:G:N2	2.80	0.50
1:A:870:A:C2	1:A:908:C:C2	3.00	0.50
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.50
7:H:153:LYS:O	7:H:154:PRO:O	2.30	0.50
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.50
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.50
8:I:52:ARG:HB2	8:I:56:LYS:HG2	1.94	0.50
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.50
9:N:46:VAL:O	9:N:47:ALA:CB	2.58	0.50
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.50
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.50
1:A:2495:G:H5''	12:Q:81:VAL:CG1	2.41	0.50
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.50
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.50
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.49
1:A:530:G:N1	1:A:2022:U:OP1	2.45	0.49
1:A:2818:G:H2'	1:A:2819:G:H8	1.77	0.49
1:A:622:G:O2'	1:A:623:G:H5'	2.12	0.49
1:A:738:G:C6	1:A:739:G:C2	2.99	0.49
1:A:774:A:H2	1:A:787:U:HO2'	1.58	0.49
2:B:15:A:H1'	2:B:109:G:C4	2.47	0.49
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.49
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.49
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.49
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.49
8:I:9:LEU:O	8:I:10:GLU:HG3	2.11	0.49
8:I:130:TYR:O	8:I:131:LYS:HD2	2.11	0.49
8:I:63:ALA:HA	8:I:66:GLU:HG2	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.49
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.49
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.49
22:0:41:ARG:O	22:0:57:PHE:HD1	1.95	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:1517:G:H2'	1:A:1518:C:C6	2.47	0.49
1:A:570:G:H2'	1:A:2030:A:C6	2.47	0.49
1:A:2507:C:H2'	1:A:2508:G:O4'	2.12	0.49
1:A:2720:U:H2'	1:A:2721:A:O4'	2.11	0.49
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.49
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.50	0.49
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.49
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.49
26:4:23:GLU:C	26:4:24:THR:HG1	2.16	0.49
1:A:137:C:N4	1:A:137(A):G:O6	2.44	0.49
1:A:1949:G:H1	1:A:1957:C:H42	1.60	0.49
1:A:2309:A:C6	1:A:2310:A:C6	3.01	0.49
1:A:2495:G:H2'	1:A:2496:C:C6	2.47	0.49
1:A:2872:G:C2	1:A:2873:A:N6	2.80	0.49
1:A:602:G:H8	1:A:602:G:OP2	1.96	0.49
1:A:607:U:OP1	5:F:102:PRO:HA	2.13	0.49
2:B:15:A:H1'	2:B:109:G:N9	2.27	0.49
2:B:5:C:O2	2:B:116:G:N2	2.45	0.49
2:B:2:C:H2'	2:B:3:C:H6	1.78	0.49
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.49
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.49
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.49
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.49
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.47	0.49
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.49
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.49
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.49
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.49
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.49
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.49
1:A:1021:A:H8	1:A:1021:A:H3'	1.77	0.49
1:A:1312:U:C4	1:A:1603:A:C6	3.00	0.49
1:A:1425:G:H2'	1:A:1426:G:C8	2.48	0.49
1:A:2464:C:H2'	1:A:2465:C:O4'	2.12	0.49
1:A:352:G:H3'	1:A:353:G:C8	2.47	0.49
1:A:638:G:C5	1:A:639:U:C4	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:67:U:N3	1:A:74:A:H2	2.10	0.49
1:A:751:A:C6	1:A:789:A:C5	3.01	0.49
1:A:842:G:N2	1:A:937:U:C2	2.80	0.49
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.49
3:D:72:LYS:O	3:D:73:VAL:C	2.51	0.49
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.49
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.28	0.49
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.49
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.49
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.49
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.49
11:P:64:LYS:C	11:P:66:GLY:N	2.56	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
1:A:1341:U:O4	19:X:16:LYS:HE2	2.11	0.49
22:0:27:GLU:HB2	22:0:69:PHE:HD1	1.76	0.49
1:A:270(T):G:C5'	23:1:97:LEU:HD22	2.42	0.49
1:A:94:G:N3	24:2:47:ASN:OD1	2.46	0.49
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
1:A:1293:C:H6	1:A:1293:C:O5'	1.95	0.49
1:A:1668:A:C5	1:A:1674:G:C5	3.00	0.49
1:A:222:A:N6	1:A:224:G:C2	2.81	0.49
1:A:2404:C:H2'	1:A:2405:G:O4'	2.12	0.49
1:A:752:A:O2'	1:A:753:C:OP2	2.23	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
4:E:55:ASN:O	4:E:57:LYS:N	2.44	0.49
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.49
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.49
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.49
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.49
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.49
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.49
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
19:X:70:LEU:CD2	19:X:70:LEU:N	2.72	0.49
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.11	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.49
1:A:928:G:O2'	25:3:43:ILE:HD11	2.13	0.49
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.49
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.93	0.49
1:A:1107:G:H2'	1:A:1108:U:C6	2.48	0.49
1:A:1191:G:N2	1:A:1192:G:H1'	2.27	0.49
1:A:1405:U:H2'	1:A:1406:U:C6	2.46	0.49
1:A:1844:C:H2'	1:A:1845:G:H8	1.77	0.49
1:A:858:U:O2	1:A:2268:A:H2'	2.12	0.49
1:A:2481:G:O2'	1:A:2482:G:P	2.70	0.49
1:A:307:G:N2	1:A:310:A:O5'	2.42	0.49
1:A:273(A):G:C2	1:A:364:C:N3	2.81	0.49
1:A:449:A:C2'	1:A:450:G:H5'	2.43	0.49
1:A:751:A:H5''	1:A:752:A:OP1	2.13	0.49
1:A:818:G:H5'	1:A:819:A:OP2	2.12	0.49
1:A:868:U:C4	1:A:869:G:N7	2.81	0.49
1:A:877:U:H6	1:A:877:U:OP2	1.94	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
10:O:8:LEU:N	10:O:8:LEU:CD2	2.76	0.49
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.49
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.49
22:O:14:ARG:O	22:O:15:ASP:HB2	2.11	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
1:A:2277:G:P	12:Q:85:LYS:HB2	2.53	0.49
1:A:2556:C:H2'	1:A:2557:G:O4'	2.12	0.49
1:A:2576:G:O2'	1:A:2579:C:OP2	2.22	0.49
1:A:863:A:H2'	1:A:864:G:H8	1.76	0.49
2:B:81:G:C2	2:B:82:G:N7	2.80	0.49
1:A:1695:G:H1'	3:D:8:PRO:O	2.12	0.49
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.49
6:G:35:GLU:C	6:G:35:GLU:CD	2.71	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.28	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
22:O:18:ALA:HB3	22:O:20:ARG:NH1	2.28	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
1:A:270(S):G:C1'	23:1:78:LYS:HD2	2.38	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.49
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.49
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.49
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.49
1:A:1265:A:C8	1:A:1267:U:C2	3.00	0.49
1:A:1797:C:O2'	3:D:259:THR:HB	2.13	0.49
1:A:2566:A:H4'	1:A:2567:G:O5'	2.13	0.49
1:A:2838:G:C6	1:A:2839:G:C5	3.00	0.49
1:A:31:C:O3'	1:A:1238:G:H5''	2.12	0.49
1:A:704:G:H2'	1:A:726:G:N2	2.28	0.49
1:A:871:U:H4'	12:Q:69:PHE:CE2	2.48	0.49
1:A:977:G:C6	1:A:987:G:C5	3.01	0.49
1:A:1820:U:O4	3:D:199:ALA:HB1	2.13	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.49
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.49
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:1059:G:H2'	1:A:1060:U:H4'	1.95	0.49
1:A:1247:A:O2'	1:A:1248:G:H5''	2.13	0.49
1:A:579:G:O2'	1:A:2019:A:OP1	2.21	0.49
1:A:2851:A:H2'	1:A:2852:G:O4'	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.49
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.49
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.49
4:E:95:ILE:CD1	4:E:95:ILE:H	2.18	0.49
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.27	0.49
12:Q:132:VAL:HG11	21:Z:81:ARG:NH2	2.28	0.49
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.49
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.49
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.49
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.49
23:1:25:LYS:C	23:1:27:GLU:H	2.16	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.61	0.49
27:5:52:TYR:O	27:5:53:ALA:CB	2.60	0.49
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.49
1:A:1201:C:N4	1:A:1244:G:H1	2.11	0.49
1:A:1773:A:H2'	1:A:1774:C:O4'	2.12	0.49
1:A:182:A:N3	1:A:433:C:O2'	2.41	0.49
1:A:1872:A:H5'	1:A:1878:G:OP2	2.12	0.49
1:A:2404:C:O2	1:A:2414:G:C2	2.66	0.49
1:A:2422:A:C8	1:A:2424:C:C5	3.01	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.42	0.49
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.96	0.49
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.49
16:U:81:HIS:CE1	16:U:117:GLN:HG3	2.48	0.49
1:A:372:G:H8	23:1:65:SER:O	1.96	0.48
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.48
1:A:1251:C:OP1	16:U:10:ARG:HG3	2.12	0.48
1:A:1349:A:N3	1:A:1349:A:H3'	2.27	0.48
1:A:1427:A:C4	1:A:1428:C:N4	2.81	0.48
1:A:1462:C:H4'	1:A:2703:C:H5'	1.94	0.48
1:A:676:A:C8	1:A:2069:G:N2	2.80	0.48
1:A:2199:A:H5''	1:A:2205:C:OP2	2.12	0.48
1:A:862:G:H2'	1:A:863:A:O4'	2.13	0.48
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.48
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.48
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.43	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.12	0.48
1:A:2747:G:H5'	7:H:70:THR:HG21	1.94	0.48
8:I:86:THR:H	8:I:123:LEU:HD12	1.78	0.48
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.43	0.48
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.48
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.48
21:Z:4:ARG:NH1	21:Z:58:VAL:HG21	2.28	0.48
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.48
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.48
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.48
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.48
1:A:1059:G:C5	1:A:1060:U:H1'	2.48	0.48
1:A:130:C:O3'	1:A:1349:A:H1'	2.13	0.48
1:A:1469:A:H2'	1:A:1470:G:O4'	2.13	0.48
1:A:1718:G:C2	1:A:1725:G:C8	3.01	0.48
1:A:1839:G:C8	1:A:1927:A:H1'	2.48	0.48
1:A:1995:U:N3	1:A:1996:C:C4	2.81	0.48
2:B:4:C:C2	2:B:117:G:N2	2.80	0.48
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.48
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.48
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.74	0.48
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.48
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.48
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.48
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.48
22:O:56:ASP:OD2	22:O:58:THR:N	2.43	0.48
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.78	0.48
29:7:12:ARG:HG3	29:7:12:ARG:HH11	1.78	0.48
1:A:1047:G:O2'	1:A:1110:G:N2	2.47	0.48
1:A:1399:C:O5'	1:A:1399:C:H6	1.96	0.48
1:A:1661:G:C6	1:A:2000:G:C6	3.01	0.48
1:A:1783:A:H5'	1:A:2608:G:H4'	1.95	0.48
1:A:270(I):G:H1	1:A:270(Q):C:N4	2.10	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2747:G:H2'	1:A:2748:A:H8	1.78	0.48
1:A:67:U:H2'	1:A:68:G:C8	2.44	0.48
1:A:693:C:O4'	1:A:1354:A:H1'	2.13	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.48
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.48
2:B:9:G:H5'	14:S:19:LYS:NZ	2.28	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.48
1:A:96:G:H4'	24:2:48:HIS:CD2	2.48	0.48
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.13	0.48
1:A:2607:G:H2'	1:A:2608:G:O4'	2.14	0.48
1:A:301:G:H1'	1:A:302:C:C6	2.48	0.48
1:A:476:G:H4'	1:A:502:A:N1	2.29	0.48
1:A:724:U:H2'	1:A:725:G:O4'	2.14	0.48
2:B:16:G:H2'	2:B:17:C:C6	2.49	0.48
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.48
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.48
15:T:132:LYS:O	15:T:136:GLN:HG3	2.14	0.48
17:V:35:LEU:HD22	17:V:57:VAL:O	2.14	0.48
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.48
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.48
1:A:1163:G:C2	1:A:1164:G:C8	3.02	0.48
1:A:1954:G:H21	1:A:1956:U:H3	1.62	0.48
1:A:2320:A:C8	1:A:2333:A:N6	2.81	0.48
1:A:2524:G:H2'	1:A:2525:G:O4'	2.13	0.48
2:B:42:C:O2	6:G:93:THR:N	2.30	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.48
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.48
8:I:29:TYR:O	8:I:32:PRO:HD2	2.12	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.96	0.48
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.48
19:X:35:THR:O	19:X:37:THR:N	2.47	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
21:Z:150:LEU:HD23	21:Z:171:ILE:CG1	2.43	0.48
22:O:68:GLU:OE1	22:O:82:ARG:NH1	2.47	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.48
28:6:14:THR:OG1	28:6:19:ARG:NE	2.40	0.48
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.48
1:A:103:A:OP2	1:A:103:A:H8	1.96	0.48
1:A:1322:A:C5	1:A:1323:U:C5	3.01	0.48
1:A:1433:U:H5''	1:A:1433:U:C6	2.44	0.48
1:A:1534:G:N1	1:A:1538:G:N2	2.61	0.48
1:A:1790:C:H5''	1:A:1791:A:OP1	2.13	0.48
1:A:1792:G:H2'	1:A:1793:C:H6	1.77	0.48
1:A:2143:C:H2'	1:A:2144:U:O4'	2.14	0.48
1:A:2417:C:H2'	1:A:2418:A:H8	1.78	0.48
1:A:2877:G:O2'	1:A:2878:U:H5'	2.14	0.48
1:A:327:G:N2	20:Y:70:SER:OG	2.46	0.48
1:A:449:A:O2'	1:A:450:G:H5'	2.14	0.48
1:A:628:G:H4'	1:A:651:G:O2'	2.14	0.48
1:A:624:C:O2	1:A:657:U:H4'	2.14	0.48
1:A:71:A:H5'	1:A:72:U:H2'	1.95	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
4:E:93:VAL:H	4:E:95:ILE:CD1	2.23	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
1:A:1077:A:N3	1:A:1077:A:H3'	2.28	0.48
1:A:1373:A:N6	1:A:1374:G:C2	2.82	0.48
1:A:1478:G:C2	1:A:1479:G:C8	3.01	0.48
1:A:1654:A:OP2	13:R:2:ARG:HD2	2.14	0.48
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.28	0.48
1:A:2867:G:HO2'	1:A:2868:A:H8	1.60	0.48
1:A:418:G:O2'	1:A:419:C:H5'	2.13	0.48
1:A:57:C:H2'	1:A:58:G:O4'	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:113:C:H2'	2:B:114:G:C8	2.47	0.48
2:B:5:C:H2'	2:B:6:C:H6	1.78	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.48
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.48
8:I:52:ARG:HB3	8:I:52:ARG:NH1	2.29	0.48
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.48
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.48
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
1:A:2115:G:N1	1:A:2164:C:OP2	2.47	0.48
1:A:719:C:O2'	1:A:720:C:H5'	2.14	0.48
1:A:807:U:C2	1:A:808:G:C8	3.01	0.48
2:B:11:C:H5''	2:B:12:C:OP2	2.14	0.48
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.17	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
2:B:56:G:P	6:G:27:ASN:ND2	2.87	0.48
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.48
9:N:18:ALA:O	9:N:19:GLU:C	2.52	0.48
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.48
21:Z:9:TYR:HE2	21:Z:61:LEU:HD13	1.79	0.48
26:4:60:GLN:O	26:4:63:TYR:HB3	2.14	0.48
1:A:2351:G:O6	30:8:39:LYS:HG2	2.14	0.48
1:A:1259:G:H2'	1:A:1260:G:C8	2.49	0.48
1:A:135:G:C2	1:A:136:G:C8	3.02	0.48
1:A:1946:U:H2'	1:A:1947:C:H6	1.79	0.48
1:A:804:A:H2'	1:A:806:C:C4	2.49	0.48
1:A:836:G:H2'	1:A:837:C:C6	2.48	0.48
1:A:845:G:O2'	1:A:846:C:H5	1.97	0.48
1:A:857:C:H4'	22:0:23:VAL:HG21	1.95	0.48
1:A:934:G:H2'	1:A:935:C:C6	2.49	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.96	0.48
8:I:3:VAL:HG12	8:I:38:LEU:HA	1.95	0.48
9:N:56:ASN:ND2	9:N:125:GLY:C	2.66	0.48
9:N:57:ALA:O	9:N:58:ASP:CB	2.61	0.48
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.44	0.48
11:P:75:ILE:CD1	11:P:75:ILE:H	2.14	0.48
13:R:63:ARG:HG3	13:R:63:ARG:NH1	2.29	0.48
21:Z:103:ARG:HD3	21:Z:136:PHE:CD1	2.49	0.48
1:A:1359:A:N6	1:A:1372:U:H3	2.11	0.48
1:A:1576:U:O2'	1:A:1577:C:H5'	2.14	0.48
1:A:226:G:O2'	1:A:228:A:N6	2.47	0.48
1:A:2712:U:O2'	1:A:2712(A):A:P	2.71	0.48
1:A:39:C:H2'	1:A:40:C:H6	1.79	0.48
1:A:646:A:N3	1:A:646:A:H5'	2.29	0.48
1:A:71:A:H4'	1:A:72:U:C5'	2.42	0.48
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.68	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.48
1:A:1007:C:H5''	9:N:35:ARG:NH1	2.29	0.48
12:Q:119:ARG:O	12:Q:123:HIS:HD2	1.97	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.27	0.48
27:5:57:VAL:HG13	27:5:57:VAL:O	2.13	0.47
30:8:43:GLN:C	30:8:44:LYS:HD2	2.34	0.47
1:A:1005:C:O2'	9:N:28:THR:HG21	2.13	0.47
1:A:1181:C:H2'	1:A:1182:A:C8	2.49	0.47
1:A:1628:G:H2'	1:A:1629:U:H6	1.78	0.47
1:A:2384:G:H5''	1:A:2386:C:OP1	2.14	0.47
1:A:335:C:H4'	20:Y:73:ARG:CZ	2.44	0.47
1:A:469:G:O6	29:7:37:LYS:HE2	2.12	0.47
1:A:492:A:H2'	1:A:493:G:O4'	2.13	0.47
1:A:966:G:H1'	1:A:2267:A:H62	1.79	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.67	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.77	0.47
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.47
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.47
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.47
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.47
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.47	0.47
23:1:8:SER:OG	23:1:10:LYS:HG3	2.13	0.47
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.47
1:A:1356:G:C6	1:A:1357:U:C4	3.02	0.47
1:A:2544:G:H2'	1:A:2545:G:C8	2.46	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.49	0.47
1:A:301:G:H1	1:A:316:C:N4	2.12	0.47
1:A:582:G:H2'	1:A:583:G:H8	1.78	0.47
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.14	0.47
6:G:12:TYR:O	6:G:16:ARG:HB3	2.15	0.47
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.47
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.47
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.28	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.15	0.47
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.47
26:4:50:VAL:CG1	26:4:50:VAL:O	2.63	0.47
1:A:2372:G:H4'	28:6:46:HIS:CD2	2.49	0.47
1:A:1009:A:OP1	9:N:37:LYS:NZ	2.47	0.47
1:A:1058:G:N2	1:A:1080:C:O2	2.25	0.47
1:A:1165:U:H3	1:A:1184:G:H1	1.60	0.47
1:A:1932:A:N6	1:A:1933:G:C2	2.82	0.47
1:A:2025:C:H2'	1:A:2026:C:C6	2.49	0.47
1:A:2126:A:H4'	1:A:2127:G:O5'	2.14	0.47
1:A:2469:A:N7	1:A:2482:G:C8	2.82	0.47
1:A:388:G:H5'	1:A:389:G:OP2	2.13	0.47
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.47
2:B:57:A:C4	6:G:29:TRP:HB2	2.49	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.47
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.96	0.47
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.47
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.47
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.62	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.53	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.82	0.47
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.62	0.47
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.47
21:Z:102:LEU:HB3	21:Z:104:PHE:HE1	1.78	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
1:A:1328:G:H8	1:A:1328:G:O5'	1.98	0.47
1:A:1711:C:H2'	1:A:1712:C:H6	1.80	0.47
1:A:2439:A:C8	1:A:2439:A:C5'	2.96	0.47
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.47
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.47
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.47
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.47
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.47
7:H:82:GLY:O	7:H:83:TYR:O	2.32	0.47
8:I:19:VAL:HG22	8:I:20:ASP:H	1.78	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
1:A:2404:C:C1'	11:P:67:MET:HE1	2.43	0.47
14:S:43:GLU:HG2	22:0:49:LYS:HE2	1.96	0.47
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.47
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.95	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.30	0.47
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.15	0.47
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.14	0.47
1:A:2854:G:C6	1:A:2855:C:C4	3.02	0.47
1:A:34:C:OP1	1:A:34:C:O4'	2.33	0.47
1:A:540:G:H5'	1:A:541:C:OP2	2.14	0.47
1:A:595:C:H6	1:A:595:C:H5''	1.79	0.47
1:A:83:G:C2	1:A:102:G:H1'	2.49	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.27	0.47
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.14	0.47
8:I:78:THR:H	8:I:104:GLN:NE2	2.05	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
11:P:19:VAL:CG2	11:P:20:GLY:H	1.98	0.47
1:A:2710:C:OP1	13:R:15:SER:HB2	2.14	0.47
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.47
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.47
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.47
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.26	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.47
31:9:1:MET:SD	31:9:31:LYS:O	2.72	0.47
1:A:103:A:OP2	1:A:103:A:C8	2.67	0.47
1:A:1054:A:N6	1:A:1055:G:C6	2.82	0.47
1:A:1328:G:H2'	1:A:1330:C:C5	2.50	0.47
1:A:1468:C:H2'	1:A:1469:A:H8	1.78	0.47
1:A:1889:A:O2'	1:A:2087:G:H5'	2.15	0.47
1:A:26:G:H1'	1:A:514:A:H61	1.79	0.47
1:A:516:C:O2'	1:A:517:C:H5'	2.14	0.47
1:A:2531:A:H4'	7:H:157:TYR:CD2	2.50	0.47
8:I:133:HIS:HB2	8:I:134:PRO:CD	2.45	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.47
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.78	0.47
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.47
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.47
1:A:1153:C:H2'	1:A:1154:G:O4'	2.14	0.47
1:A:120:U:H4'	1:A:121:G:C5'	2.45	0.47
1:A:1335:U:OP2	19:X:65:ARG:NH2	2.47	0.47
1:A:1630:G:N2	1:A:1636:C:O2	2.40	0.47
1:A:1652:A:N7	1:A:1653:G:C6	2.83	0.47
1:A:2284:C:C5	28:6:27:LYS:HE2	2.49	0.47
1:A:2845:G:O2'	1:A:2846:G:H5'	2.14	0.47
1:A:389:G:N1	11:P:71:VAL:HG12	2.28	0.47
1:A:483:A:O5'	1:A:484:C:H5	1.98	0.47
1:A:656:G:H2'	1:A:657:U:O4'	2.14	0.47
1:A:796:C:H2'	1:A:797:C:C6	2.50	0.47
1:A:863:A:O2'	1:A:864:G:H5'	2.14	0.47
2:B:21:G:H2'	2:B:22:U:O4'	2.15	0.47
2:B:47:C:H5'	2:B:48:A:OP2	2.15	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.77	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.80	0.47
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.14	0.47
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.80	0.47
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.29	0.47
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.47
1:A:300:A:OP1	20:Y:84:ARG:NH2	2.47	0.47
1:A:1045:A:H4'	1:A:1046:A:C5'	2.45	0.47
1:A:1222:C:C2	1:A:1229(A):G:C2	3.03	0.47
1:A:1346:G:C6	1:A:1347:G:N7	2.83	0.47
1:A:2380:C:C4	1:A:2381:C:C4	3.03	0.47
1:A:244:A:H2'	1:A:245:G:O4'	2.15	0.47
1:A:2543:G:H2'	1:A:2544:G:C8	2.49	0.47
1:A:2734:A:N6	1:A:2770:G:O2'	2.32	0.47
1:A:2832:U:O2'	1:A:2833:G:P	2.73	0.47
1:A:459:U:H5''	29:7:40:TRP:CD2	2.50	0.47
1:A:852:G:H2'	1:A:853:G:C8	2.49	0.47
1:A:968:G:C2	1:A:969:U:C2	3.03	0.47
2:B:49:C:H2'	2:B:50:G:C8	2.49	0.47
2:B:59:A:H2'	2:B:60:C:O4'	2.14	0.47
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.47
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.47
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.47
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
12:Q:83:MET:H	22:0:7:LEU:HD12	1.78	0.47
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.77	0.47
1:A:1042:G:H2'	1:A:1043:C:C6	2.50	0.47
1:A:1139:G:O2'	1:A:1143:A:N1	2.29	0.47
1:A:1204:A:C2	1:A:1241:A:C2	3.02	0.47
1:A:1285:G:N2	1:A:1328:G:H5''	2.29	0.47
1:A:1286:A:HO2'	1:A:1288:U:P	2.31	0.47
1:A:1301:A:H2'	1:A:1301:A:N3	2.30	0.47
1:A:1342:A:C6	1:A:1345:C:N3	2.82	0.47
1:A:1910:G:H1	1:A:1920:C:H42	1.63	0.47
1:A:2558:C:H2'	1:A:2559:C:O4'	2.15	0.47
1:A:826:U:H2'	1:A:828:U:O4'	2.15	0.47
2:B:24:G:H4'	2:B:25:A:O5'	2.15	0.47
2:B:44:G:N2	2:B:48:A:N3	2.63	0.47
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.47
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.45	0.47
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.47
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.28	0.47
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.47
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
1:A:1009:A:OP2	1:A:1010:A:OP2	2.32	0.47
1:A:1210:A:O5'	1:A:1212:G:H5'	2.15	0.47
1:A:1281:G:C5	1:A:1282:U:C5	3.03	0.47
1:A:1543:A:C2	1:A:1545:A:C8	3.03	0.47
1:A:217:G:H2'	1:A:218:A:O4'	2.14	0.47
1:A:2549:G:N2	1:A:2560:C:C2	2.82	0.47
1:A:2626:C:N4	1:A:2777:G:H1	2.10	0.47
1:A:2842:G:N2	1:A:2876:G:H1'	2.30	0.47
1:A:2881:C:H2'	1:A:2882:A:C8	2.50	0.47
1:A:2887:U:O2'	1:A:2888:C:H5'	2.14	0.47
1:A:413:C:H6	1:A:413:C:O5'	1.98	0.47
1:A:467:G:H8	1:A:467:G:O5'	1.98	0.47
1:A:47:C:O2	1:A:178:G:N2	2.30	0.47
1:A:520:G:H2'	1:A:521:G:C8	2.50	0.47
1:A:804:A:H2'	1:A:806:C:N4	2.29	0.47
2:B:45:A:C2'	2:B:46:A:H5'	2.45	0.47
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.47
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.97	0.47
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.14	0.47
8:I:69:LYS:O	8:I:73:GLU:HB2	2.15	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
11:P:23:PRO:HG2	11:P:23:PRO:O	2.14	0.47
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.47
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.47
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.47
21:Z:165:VAL:HG12	21:Z:166:SER:N	2.30	0.47
21:Z:35:ARG:HH11	21:Z:35:ARG:HB3	1.79	0.47
26:4:53:GLU:O	26:4:57:GLU:HG3	2.14	0.47
29:7:2:LYS:HG2	29:7:3:ARG:N	2.30	0.47
1:A:134:C:H2'	1:A:135:G:C8	2.50	0.47
1:A:1614:A:N1	18:W:91:GLY:HA2	2.29	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1678:G:N2	1:A:1989:G:N2	2.60	0.47
1:A:1826:G:H2'	1:A:1827:C:H6	1.79	0.47
1:A:2123:G:N2	1:A:2176:A:H1'	2.30	0.47
1:A:322:A:C5	1:A:340:A:C2	3.02	0.47
1:A:76:C:H1'	24:2:62:THR:HG21	1.96	0.47
1:A:971:C:H2'	1:A:972:G:O4'	2.15	0.47
2:B:36:C:H42	2:B:49:C:H1'	1.80	0.47
2:B:46:A:H2'	2:B:47:C:H6	1.79	0.47
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.47
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.47
8:I:78:THR:N	8:I:104:GLN:HE22	2.05	0.47
11:P:12:ALA:C	11:P:14:LYS:H	2.17	0.47
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.47
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.14	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.46
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.46
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.30	0.46
1:A:1605:C:H5'	1:A:1610:A:N6	2.30	0.46
1:A:154:G:C2	1:A:173:G:C2	3.03	0.46
1:A:2380:C:H2'	1:A:2381:C:O4'	2.16	0.46
1:A:2590:A:O2'	1:A:2591:C:H5'	2.14	0.46
1:A:270(S):G:C2'	1:A:270(T):G:H5'	2.45	0.46
1:A:571:A:C5	1:A:575:A:N7	2.83	0.46
1:A:747:U:N1	27:5:2:ALA:HB3	2.30	0.46
1:A:733:G:O6	1:A:761:A:C8	2.68	0.46
2:B:80:U:O2'	2:B:81:G:H5''	2.15	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.46
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.46
4:E:47:VAL:O	4:E:48:GLN:C	2.51	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.46
2:B:43:C:H1'	6:G:93:THR:O	2.15	0.46
8:I:11:ASN:O	8:I:12:LEU:HB2	2.15	0.46
9:N:9:VAL:HG21	9:N:48:MET:CB	2.45	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.46
1:A:1365:A:OP2	23:1:3:LYS:HB2	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:1542:G:O6	1:A:1543:A:C6	2.65	0.46
1:A:1846:G:H5'	1:A:1847:A:OP2	2.15	0.46
1:A:2102:U:H2'	1:A:2103:C:C6	2.50	0.46
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.15	0.46
1:A:224:G:C2	1:A:225:A:C4	3.03	0.46
1:A:2071:A:H2	1:A:2441:C:N3	2.12	0.46
1:A:2538:C:H2'	1:A:2539:C:C6	2.50	0.46
1:A:1662:C:O2'	1:A:2687:U:OP1	2.29	0.46
1:A:2711:A:H5''	1:A:2712:U:H5'	1.97	0.46
1:A:612:G:C2	1:A:617:G:C5	3.03	0.46
2:B:33:G:O2'	2:B:34:U:H5'	2.16	0.46
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.46
7:H:153:LYS:HG3	7:H:162:ILE:H	1.78	0.46
7:H:4:ILE:CD1	7:H:4:ILE:H	2.25	0.46
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.46
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.46
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.46
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.15	0.46
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.46
1:A:2419:U:O4	30:8:30:ARG:CZ	2.63	0.46
1:A:1749:A:H2'	1:A:1750:G:O4'	2.15	0.46
1:A:1777:U:O2'	1:A:1778:U:H5'	2.15	0.46
1:A:2197:U:H1'	1:A:2198:A:N7	2.30	0.46
1:A:2327:A:N6	1:A:2387:U:O4	2.48	0.46
1:A:587:C:C5	1:A:671:C:H1'	2.50	0.46
1:A:869:G:N2	1:A:908:C:O2	2.48	0.46
2:B:48:A:H2'	2:B:49:C:C6	2.50	0.46
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.46
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.47	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.46
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.46
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.46
1:A:309:G:O3'	20:Y:18:GLY:HA2	2.15	0.46
21:Z:43:GLU:O	21:Z:47:VAL:HG23	2.15	0.46
1:A:2232:U:P	23:1:40:ARG:HH12	2.39	0.46
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.28	0.46
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.46
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.46
1:A:1135:C:N4	1:A:1139:G:C6	2.84	0.46
1:A:1309:G:HO2'	1:A:1611:C:HO2'	1.60	0.46
1:A:195:A:H2'	1:A:198:C:N4	2.30	0.46
1:A:2156:G:C6	1:A:2157:G:N2	2.83	0.46
1:A:219:G:O2'	1:A:220:G:H5'	2.16	0.46
1:A:2320:A:N3	1:A:2320:A:H2'	2.31	0.46
1:A:2667:C:O2	7:H:109:PHE:HB3	2.15	0.46
1:A:966:G:H2'	1:A:967:C:C6	2.50	0.46
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.46
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.46
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
8:I:112:LYS:H	8:I:112:LYS:HG2	1.33	0.46
8:I:48:GLU:O	8:I:51:ILE:HB	2.15	0.46
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.46
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.46
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.46
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.46
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.46
18:W:4:LYS:HA	18:W:106:ILE:HA	1.98	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.16	0.46
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.46
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.46
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.46
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.63	0.46
1:A:1204:A:C2	1:A:1206:G:C2	3.04	0.46
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.98	0.46
1:A:1988:C:H2'	1:A:1989:G:O4'	2.16	0.46
1:A:2703:C:H2'	1:A:2703:C:O2	2.14	0.46
1:A:588:U:O4	1:A:670:A:H1'	2.16	0.46
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.15	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.31	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
13:R:85:PRO:C	13:R:87:TYR:H	2.19	0.46
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:0:43:THR:HG23	22:0:43:THR:O	2.16	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
1:A:1461:G:H2'	1:A:1462:C:H6	1.79	0.46
1:A:145:G:H2'	1:A:146:G:C8	2.51	0.46
1:A:1797:C:C4	1:A:1798:U:C5	3.04	0.46
1:A:2197:U:O2'	1:A:2198:A:H5''	2.16	0.46
1:A:2211:G:H2'	1:A:2211:G:N3	2.31	0.46
1:A:256:A:C2	1:A:257:A:C4	3.03	0.46
1:A:26:G:C6	1:A:27:G:N1	2.84	0.46
1:A:345:A:C2'	1:A:347:A:H62	2.29	0.46
2:B:116:G:H4'	14:S:54:LEU:O	2.16	0.46
2:B:29:A:P	14:S:32:LEU:HG	2.56	0.46
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.63	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.97	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.16	0.46
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.46
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.46
1:A:1386:C:C5'	1:A:1396:U:H5	2.28	0.46
1:A:140:A:C8	1:A:1408:C:O2'	2.66	0.46
1:A:1632:A:N7	1:A:1633:G:C6	2.83	0.46
1:A:1638:C:H2'	1:A:1639:U:O4'	2.15	0.46
1:A:1764:G:OP2	1:A:1764:G:H4'	2.16	0.46
1:A:186:G:H2'	1:A:187:G:H8	1.81	0.46
1:A:2100:G:H1	1:A:2189:U:H3	1.63	0.46
1:A:2426:A:H3'	1:A:2427:C:H5'	1.98	0.46
1:A:250:G:H2'	1:A:251:A:C8	2.51	0.46
1:A:2801:A:H8	1:A:2801:A:O5'	1.98	0.46
1:A:451:C:H4'	5:F:52:LYS:HZ1	1.79	0.46
1:A:462:C:C2	1:A:463:G:C8	3.03	0.46
1:A:787:U:H5''	1:A:788:A:H5'	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:78:A:H2'	1:A:79:G:H8	1.81	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.46
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.45	0.46
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.96	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.98	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.46
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
1:A:2376:A:N6	14:S:89:ARG:HH11	2.12	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.46
21:Z:48:PHE:CZ	21:Z:52:SER:HA	2.51	0.46
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.46
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.46
1:A:1709:U:H2'	1:A:1710:C:C6	2.51	0.46
1:A:2128:C:O2'	1:A:2129:C:H5'	2.16	0.46
1:A:2226:C:H2'	1:A:2227:A:O4'	2.16	0.46
1:A:271:G:H2'	1:A:272:G:H8	1.81	0.46
1:A:807:U:H2'	1:A:808:G:H8	1.80	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
7:H:13:LYS:CA	7:H:13:LYS:HE2	2.40	0.46
8:I:13:GLY:HA3	8:I:17:GLN:OE1	2.16	0.46
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.46
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.46
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.46
21:Z:5:LEU:HB3	21:Z:59:LEU:HA	1.98	0.46
22:0:51:VAL:HG21	22:0:79:VAL:O	2.16	0.46
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.46
1:A:686:G:N7	29:7:5:TRP:CH2	2.84	0.46
1:A:1312:U:H6	1:A:1312:U:H5'	1.81	0.46
1:A:1853:A:N3	1:A:2233:U:O2'	2.43	0.46
1:A:1854:A:N1	1:A:2087:G:O2'	2.36	0.46
1:A:2298:A:C8	1:A:2299:G:C8	3.04	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2466:C:H5'	31:9:5:ALA:HB3	1.98	0.46
1:A:2723:C:O3'	13:R:1:MET:HE2	2.16	0.46
1:A:452:G:C2	1:A:458:G:C5	3.04	0.46
1:A:49:A:H5''	1:A:51:G:H5'	1.97	0.46
1:A:689:A:H2'	1:A:690:G:C8	2.51	0.46
1:A:879:G:N3	1:A:880:G:H1'	2.31	0.46
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.31	0.46
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.46
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.46
6:G:121:ASN:C	6:G:123:ASN:H	2.19	0.46
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.46
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.46
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.16	0.46
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.46
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.46
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.46
1:A:1654:A:OP1	13:R:1:MET:O	2.33	0.46
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.46
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.46
16:U:98:LEU:C	16:U:98:LEU:HD23	2.36	0.46
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.46
20:Y:90:LEU:CD2	20:Y:90:LEU:N	2.73	0.46
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.46
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.46
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.79	0.46
1:A:1090:U:H3	1:A:1102:C:H1'	1.81	0.46
1:A:1731:G:N2	1:A:1732:A:C4	2.84	0.46
1:A:1870:C:O5'	1:A:1870:C:H6	1.98	0.46
1:A:2094:G:N2	1:A:2196:C:H1'	2.31	0.46
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.16	0.46
1:A:2455:G:H8	1:A:2455:G:O5'	1.98	0.46
1:A:2724:C:OP1	4:E:118:LYS:NZ	2.43	0.46
1:A:29:U:H2'	1:A:30:G:H8	1.78	0.46
1:A:307:G:H22	1:A:310:A:P	2.39	0.46
1:A:34:C:H41	1:A:447:A:H61	1.64	0.46
1:A:464:U:H4'	29:7:5:TRP:CZ3	2.51	0.46
1:A:709:U:O2	1:A:723:G:N2	2.49	0.46
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.46
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.46
6:G:76:SER:CB	6:G:83:ARG:HA	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:88:ILE:HD11	8:I:122:GLU:O	2.16	0.46
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.46
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.80	0.46
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.46
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.46
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.46
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.45
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.45
1:A:1558:A:H4'	1:A:1559:G:O5'	2.16	0.45
1:A:1731:G:C2	1:A:1732:A:C4	3.04	0.45
1:A:2134:A:H62	1:A:2157:G:H1'	1.80	0.45
1:A:2252:G:H2'	1:A:2253:G:C8	2.51	0.45
1:A:2536:G:C6	1:A:2537:U:C4	3.04	0.45
1:A:399:G:O6	1:A:400:G:C2	2.68	0.45
1:A:719:C:O5'	1:A:719:C:H6	1.99	0.45
2:B:71:C:C4	2:B:72:G:N7	2.84	0.45
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.45
6:G:52:ILE:O	6:G:52:ILE:HG22	2.15	0.45
1:A:2311:A:H1'	6:G:82:LEU:HD11	1.98	0.45
1:A:270(L):U:C4	8:I:50:ARG:NH1	2.84	0.45
1:A:637:A:C8	11:P:117:GLU:OE2	2.69	0.45
11:P:90:ARG:HB3	11:P:91:PHE:H	1.60	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.50	0.45
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.45
1:A:1266:G:N7	18:W:15:ARG:NH1	2.64	0.45
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.45
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.45
1:A:1085:A:O2'	1:A:1086:A:OP1	2.28	0.45
1:A:1321:A:H2'	1:A:1322:A:O4'	2.16	0.45
1:A:1533:C:H2'	1:A:1534:G:N7	2.31	0.45
1:A:1628:G:H2'	1:A:1629:U:C6	2.51	0.45
1:A:177:G:H3'	1:A:178:G:C8	2.50	0.45
1:A:2116:G:H1	1:A:2162:G:P	2.40	0.45
1:A:2505:G:H2'	1:A:2576:G:O6	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2712:U:C2'	1:A:2712(A):A:O5'	2.64	0.45
1:A:2776:A:C6	1:A:2778:A:C6	3.04	0.45
1:A:292:C:O5'	1:A:292:C:H6	1.98	0.45
2:B:16:G:C2	2:B:17:C:C4	3.04	0.45
2:B:17:C:H2'	2:B:18:G:O4'	2.15	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.50	0.45
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.45
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.45
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.45
8:I:14:ASP:H	8:I:17:GLN:HB2	1.81	0.45
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.45
11:P:21:ARG:HB3	11:P:22:GLY:H	1.65	0.45
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.45
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.45
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.45
21:Z:165:VAL:HG12	21:Z:166:SER:OG	2.17	0.45
22:O:26:TYR:H	22:O:29:GLN:NE2	2.13	0.45
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.45
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.45
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.45
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.45
1:A:1540:G:C6	1:A:1541:U:C4	3.05	0.45
1:A:910:A:H2	1:A:2264:C:O2	1.99	0.45
1:A:2405:G:HO2'	1:A:2406:U:P	2.39	0.45
1:A:570:G:H2'	1:A:2030:A:C5	2.51	0.45
1:A:675:A:C8	1:A:804:A:C6	3.05	0.45
2:B:70:C:H2'	2:B:71:C:C6	2.52	0.45
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.45
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.45
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.45
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.45
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.45
7:H:94:TYR:N	7:H:94:TYR:CD1	2.82	0.45
8:I:124:GLY:H	8:I:142:VAL:HG23	1.81	0.45
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.45
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.34	0.45
16:U:73:GLY:O	16:U:74:LEU:CB	2.64	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.45
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.45
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.45
21:Z:54:HIS:NE2	21:Z:101:PRO:HG3	2.31	0.45
21:Z:94:GLU:HB2	21:Z:130:PRO:CD	2.39	0.45
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.45
1:A:1061:U:H2'	1:A:1063:G:OP1	2.16	0.45
1:A:1658:C:H42	1:A:2002:G:H1	1.64	0.45
1:A:1848:A:H2'	1:A:1849:G:O4'	2.17	0.45
1:A:2046:G:C4	1:A:2047:U:C5	3.04	0.45
1:A:2736:G:C2	1:A:2737:G:C8	3.04	0.45
1:A:85:G:C5	1:A:98:G:C2	3.05	0.45
1:A:92:G:H2'	1:A:93:C:C6	2.52	0.45
1:A:977:G:C6	1:A:987:G:C6	3.03	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.45
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.84	0.45
7:H:89:ILE:H	7:H:89:ILE:HD13	1.81	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.45
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.84	0.45
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.36	0.45
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
1:A:54:G:C6	1:A:117:G:N2	2.84	0.45
1:A:172:C:H2'	1:A:173:G:C8	2.52	0.45
1:A:1943:U:C4	1:A:1945:G:O4'	2.69	0.45
1:A:1986:A:H2'	1:A:1987:G:C8	2.51	0.45
1:A:2272:U:H5''	1:A:2273:A:OP1	2.16	0.45
1:A:328:U:H4'	20:Y:68:HIS:CD2	2.52	0.45
1:A:35:G:H1'	1:A:454:A:C4	2.51	0.45
1:A:698:C:O2'	1:A:734:A:N6	2.49	0.45
1:A:774:A:HO2'	1:A:775:G:P	2.38	0.45
2:B:87:G:N2	2:B:90:C:C2	2.84	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:6:LEU:HB2	8:I:35:LEU:HA	1.97	0.45
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.45
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.45
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.45
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.45
1:A:2468:G:H5''	12:Q:120:ILE:HD12	1.97	0.45
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.45
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.45
16:U:53:ARG:C	16:U:55:ARG:H	2.20	0.45
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.45
18:W:48:ALA:O	18:W:49:LYS:C	2.54	0.45
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.45
21:Z:25:PRO:HD2	21:Z:84:GLU:O	2.15	0.45
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.44	0.45
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.45
1:A:1534:G:H1	1:A:1538:G:H21	1.63	0.45
1:A:2396:G:C2'	1:A:2397:G:H5'	2.47	0.45
1:A:241:A:H5'	1:A:243:U:O4'	2.17	0.45
1:A:70:G:C2	1:A:114:U:C4	3.04	0.45
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.45
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.45
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.45
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.45
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.98	0.45
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
21:Z:104:PHE:HB3	21:Z:141:VAL:CG1	2.47	0.45
22:0:50:ASN:HB3	22:0:63:VAL:HG22	1.98	0.45
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.98	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
1:A:1022:G:N2	1:A:1142(A):A:H2	2.14	0.45
1:A:1032:A:H4'	31:9:16:VAL:HG11	1.98	0.45
1:A:1429:G:C5	1:A:1568:G:C6	3.05	0.45
1:A:1510:A:N3	1:A:1510:A:H2'	2.32	0.45
1:A:48:G:C2	1:A:178:G:C6	3.05	0.45
1:A:1831:G:H1	1:A:1974:C:H42	1.65	0.45
1:A:2649:U:H2'	1:A:2650:U:C6	2.52	0.45
1:A:2722:G:H4'	13:R:4:LEU:HB2	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:27:G:C4	1:A:512:G:N2	2.85	0.45
1:A:590:A:H2'	1:A:591:C:C6	2.52	0.45
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.45
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.45
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.45
9:N:35:ARG:HG3	9:N:35:ARG:O	2.16	0.45
1:A:557:U:O2	9:N:45:ASN:HB2	2.16	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.45
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.45
1:A:1181:C:H2'	1:A:1182:A:H8	1.81	0.45
1:A:1303:G:H1'	1:A:1641:A:N1	2.32	0.45
1:A:1937:A:N7	1:A:1939:U:H2'	2.32	0.45
1:A:1693:U:C5	1:A:1977:A:H1'	2.52	0.45
1:A:2075:U:H2'	1:A:2238:G:N2	2.32	0.45
1:A:2086:U:H2'	1:A:2087:G:C8	2.52	0.45
1:A:330:A:H2	1:A:1210:A:H2'	1.80	0.45
1:A:902:C:H2'	1:A:903:C:H6	1.81	0.45
2:B:105:G:C2	2:B:106:G:C8	3.05	0.45
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.81	0.45
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.45
5:F:119:ARG:HH11	5:F:119:ARG:CG	2.29	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
6:G:36:LYS:O	6:G:37:VAL:HG23	2.16	0.45
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.98	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.98	0.45
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
1:A:64:A:C4	19:X:66:LEU:HD13	2.52	0.45
21:Z:74:VAL:HG22	21:Z:86:VAL:HG22	1.98	0.45
23:1:82:LEU:HD13	23:1:83:GLU:C	2.36	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.79	0.45
1:A:1062:G:H2'	1:A:1063:G:H8	1.81	0.45
1:A:1167:U:C2	1:A:1183:G:N2	2.85	0.45
1:A:1310:G:OP2	29:7:9:ARG:NH1	2.49	0.45
1:A:1429:G:H2'	1:A:1430:C:H6	1.82	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1567:A:HO2'	1:A:1568:G:P	2.40	0.45
1:A:1588:C:H2'	1:A:1589:C:H6	1.81	0.45
1:A:2510:C:H2'	1:A:2511:U:C6	2.52	0.45
1:A:2655:G:O2'	1:A:2656:U:C5	2.70	0.45
1:A:264:C:C2'	1:A:265:A:H5''	2.47	0.45
1:A:783:A:H2'	1:A:783:A:H8	1.46	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.34	0.45
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.45
9:N:120:LEU:C	9:N:120:LEU:HD13	2.37	0.45
1:A:2562:U:C1'	10:O:23:ARG:NH1	2.76	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.47	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
11:P:96:THR:HG22	11:P:126:VAL:CB	2.47	0.45
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.45
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.45
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.82	0.45
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.45
23:1:94:LEU:O	23:1:95:LEU:HB2	2.17	0.45
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.99	0.45
30:8:9:GLY:O	30:8:13:ARG:HG2	2.16	0.45
1:A:1258:C:O4'	5:F:84:VAL:HG11	2.17	0.45
1:A:1431:U:H2'	1:A:1432:C:C6	2.52	0.45
1:A:781:A:H2	1:A:1776:G:N3	2.15	0.45
1:A:1977:A:H2'	1:A:1978:A:O4'	2.17	0.45
1:A:2188:C:H2'	1:A:2189:U:O4'	2.17	0.45
1:A:2216:G:H2'	1:A:2217:G:C8	2.52	0.45
1:A:2525:G:N2	1:A:2539:C:C2	2.85	0.45
1:A:2817:G:C2	1:A:2830:G:N3	2.85	0.45
1:A:459:U:H2'	1:A:460:A:H8	1.80	0.45
1:A:547:A:H3'	1:A:548:A:H8	1.79	0.45
1:A:710:G:H2'	1:A:711:G:C8	2.52	0.45
3:D:241:PRO:O	3:D:242:ARG:C	2.55	0.45
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.98	0.45
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.45
8:I:19:VAL:HG22	8:I:20:ASP:N	2.32	0.45
9:N:63:THR:HG22	9:N:66:LYS:HZ1	1.82	0.45
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:19:ILE:HD13	10:O:19:ILE:H	1.82	0.45
10:O:2:ILE:HD11	10:O:82:ASN:ND2	2.16	0.45
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.45
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.45
12:Q:10:ARG:O	12:Q:11:LYS:CB	2.64	0.45
12:Q:90:VAL:C	12:Q:92:GLY:N	2.70	0.45
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.45
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.47	0.45
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.45
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.45
20:Y:73:ARG:HB3	20:Y:73:ARG:HE	1.51	0.45
21:Z:9:TYR:CE2	21:Z:61:LEU:HD13	2.53	0.45
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.44
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.44
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.44
1:A:1005:C:N4	1:A:1006:C:H41	2.15	0.44
1:A:1115:G:C6	1:A:1116:C:N4	2.85	0.44
1:A:1131:G:C2	1:A:1132:A:C5	3.05	0.44
1:A:1286:A:O2'	1:A:1287:A:H5''	2.17	0.44
1:A:1319:G:C6	1:A:1320:C:N4	2.85	0.44
1:A:142:G:H2'	1:A:143:C:H6	1.82	0.44
1:A:2026:C:C2	1:A:2027:G:C8	3.05	0.44
1:A:2252:G:H2'	1:A:2253:G:H8	1.81	0.44
1:A:2303:G:C2'	1:A:2304:G:H5'	2.47	0.44
1:A:2517:C:C6	1:A:2542:A:N7	2.86	0.44
1:A:2532:G:H1'	1:A:2663:G:N2	2.33	0.44
1:A:2630:G:H2'	1:A:2631:G:C8	2.51	0.44
1:A:2631:G:N3	1:A:2810:A:H2	2.15	0.44
1:A:476:G:N1	1:A:479:A:OP2	2.49	0.44
1:A:520:G:H2'	1:A:521:G:H8	1.82	0.44
1:A:612:G:N2	1:A:617:G:C5	2.85	0.44
1:A:974(A):C:O2	1:A:974(A):C:H2'	2.16	0.44
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.44
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.44
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.97	0.44
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.44
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
1:A:2311:A:C8	6:G:82:LEU:HD11	2.52	0.44
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.44
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.44
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:119:ARG:CG	12:Q:119:ARG:HH11	2.25	0.44
15:T:54:ARG:NH1	15:T:54:ARG:CG	2.80	0.44
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.44
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.44
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.98	0.44
21:Z:93:ASP:OD1	21:Z:93:ASP:N	2.47	0.44
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
1:A:1077:A:H2	1:A:1078:U:H4'	1.82	0.44
1:A:118:A:H1'	1:A:178:G:O4'	2.18	0.44
1:A:1509:C:H2'	1:A:1511:A:C8	2.53	0.44
1:A:1498:C:O4'	1:A:1577:C:H4'	2.17	0.44
1:A:1301:A:H2	1:A:1626:G:N3	2.14	0.44
1:A:2261:C:HO2'	1:A:2327:A:H2	1.65	0.44
1:A:2377:A:H4'	14:S:111:GLU:O	2.17	0.44
1:A:2518:A:H8	1:A:2518:A:O5'	1.99	0.44
1:A:2528:U:O3'	1:A:2529:G:H8	2.01	0.44
1:A:2641:G:H5''	9:N:76:SER:HB3	1.99	0.44
1:A:934:G:H2'	1:A:935:C:H6	1.82	0.44
2:B:75:G:HO2'	21:Z:85:HIS:CD2	2.31	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.83	0.44
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.44
1:A:2572:A:H62	4:E:145:LYS:HG3	1.82	0.44
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.44
5:F:7:TYR:CD1	5:F:7:TYR:N	2.85	0.44
6:G:44:GLY:HA2	6:G:88:ILE:HD11	1.99	0.44
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.44
9:N:7:LYS:HD3	9:N:9:VAL:H	1.81	0.44
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.44
14:S:29:PHE:HD2	14:S:92:TYR:HH	1.64	0.44
15:T:49:VAL:CG1	15:T:49:VAL:O	2.64	0.44
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.44
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.44
21:Z:177:PRO:HB2	21:Z:178:GLU:H	1.58	0.44
21:Z:53:ILE:HA	21:Z:70:LEU:HD21	2.00	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
24:2:41:ILE:O	24:2:41:ILE:HD12	2.16	0.44
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.44
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.44
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:1270:C:H5''	1:A:1271:G:C5'	2.34	0.44
1:A:1363:C:C2	1:A:1364:G:C8	3.05	0.44
1:A:1519:G:C6	1:A:1520:U:C4	3.05	0.44
1:A:1581:G:C8	1:A:1581:G:H5''	2.52	0.44
1:A:2261:C:C2	1:A:2280:G:C2	3.06	0.44
1:A:2656:U:C5	1:A:2664:G:N2	2.85	0.44
1:A:264:C:O2'	1:A:265:A:H5''	2.17	0.44
1:A:270(S):G:H2'	1:A:270(T):G:H5'	1.98	0.44
1:A:322:A:C6	1:A:340:A:C2	3.05	0.44
1:A:428:A:H3'	1:A:429:A:C8	2.51	0.44
1:A:44:A:O2'	1:A:45:G:H5'	2.16	0.44
1:A:688:U:H5'	1:A:1780:A:C2	2.52	0.44
1:A:778:G:H8	1:A:778:G:O5'	2.00	0.44
5:F:132:VAL:HG23	5:F:133:ASN:H	1.82	0.44
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.44
1:A:1006:C:H5'	9:N:28:THR:HG23	1.98	0.44
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.44
9:N:96:GLU:CG	9:N:97:ARG:N	2.72	0.44
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.98	0.44
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.44
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.44
18:W:88:ARG:HH11	18:W:88:ARG:HG2	1.82	0.44
19:X:87:GLN:HE21	19:X:87:GLN:HB2	1.55	0.44
21:Z:150:LEU:HD23	21:Z:171:ILE:HG12	2.00	0.44
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.44
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
1:A:1061:U:H3'	1:A:1062:G:H5''	1.98	0.44
1:A:1464:C:H2'	1:A:1465:G:H8	1.82	0.44
1:A:1466:G:H2'	1:A:1547:C:C5	2.53	0.44
1:A:1542:G:H5''	1:A:1543:A:OP2	2.17	0.44
1:A:1948:G:N2	1:A:1958:C:O2	2.43	0.44
1:A:2458:G:O2'	1:A:2490:G:O6	2.24	0.44
1:A:2584:U:C6	1:A:2585:U:N3	2.86	0.44
1:A:2623:G:C2	1:A:2624:G:C8	3.05	0.44
1:A:2693:A:H2'	1:A:2694:G:H8	1.81	0.44
1:A:278:A:H8	1:A:278:A:OP2	2.01	0.44
1:A:2837:G:C2'	1:A:2838:G:H5'	2.47	0.44
1:A:681:G:H2'	1:A:682:G:C8	2.53	0.44
1:A:780:G:H21	1:A:783:A:H62	1.63	0.44
1:A:929:G:O5'	1:A:929:G:H8	2.01	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
12:Q:81:VAL:HG23	22:O:7:LEU:CD1	2.48	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.20	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.44
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.44
21:Z:54:HIS:CE1	21:Z:101:PRO:HG3	2.53	0.44
21:Z:1:MET:HG2	21:Z:2:GLU:H	1.81	0.44
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.44
29:7:32:LYS:O	29:7:33:ARG:C	2.56	0.44
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.44
1:A:2539:C:H5''	31:9:3:VAL:HG21	1.99	0.44
1:A:1437:C:C4	1:A:1438:U:C4	3.05	0.44
1:A:2061:G:H5''	1:A:2503:A:N1	2.32	0.44
1:A:2088:G:C2	1:A:2089:U:C2	3.05	0.44
1:A:2404:C:C2	1:A:2414:G:C2	3.06	0.44
1:A:2494:G:H2'	1:A:2495:G:H8	1.81	0.44
1:A:2623:G:H2'	1:A:2624:G:H8	1.82	0.44
1:A:2693:A:H2'	1:A:2694:G:C8	2.53	0.44
1:A:2805:G:H2'	1:A:2807:G:C8	2.53	0.44
1:A:301:G:C4	1:A:302:C:C5	3.05	0.44
1:A:445:C:O2'	1:A:446:G:H5'	2.17	0.44
1:A:671:C:H5	11:P:33:ARG:HE	1.66	0.44
1:A:715:G:H2'	1:A:716:A:C8	2.52	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.53	0.44
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.44
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.44
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.44
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.44
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.44
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.44
13:R:3:HIS:C	13:R:5:LYS:H	2.16	0.44
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.18	0.44
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.44
21:Z:102:LEU:HD13	21:Z:123:ASP:HA	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.44
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.44
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.44
1:A:1221:C:OP1	17:V:68:LYS:HE2	2.18	0.44
1:A:1882:C:H5'	1:A:1883:G:OP2	2.18	0.44
1:A:2176:A:C5	1:A:2177:C:C4	3.06	0.44
1:A:2845:G:C2'	1:A:2846:G:H5'	2.47	0.44
1:A:428:A:H3'	1:A:429:A:H8	1.83	0.44
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.44
1:A:588:U:H1'	5:F:90:PHE:CG	2.52	0.44
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.44
8:I:102:SER:OG	8:I:108:THR:HG22	2.18	0.44
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.44
1:A:1199:U:H2'	1:A:1200:C:C6	2.53	0.44
1:A:1334:G:H2'	1:A:1335:U:H6	1.82	0.44
1:A:1373:A:C6	1:A:1374:G:C4	3.05	0.44
1:A:1448:G:H5'	1:A:1543:A:OP1	2.18	0.44
1:A:2055:C:H4'	1:A:2056:G:H5''	2.00	0.44
1:A:2702:U:H2'	1:A:2702:U:O2	2.17	0.44
1:A:2821:A:OP2	1:A:2822:G:OP2	2.36	0.44
1:A:2867:G:O2'	1:A:2868:A:O5'	2.36	0.44
1:A:57:C:H6	1:A:57:C:O5'	2.01	0.44
1:A:997:G:OP2	16:U:58:ARG:HD2	2.18	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.44
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.44
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.44
1:A:2562:U:C2'	10:O:23:ARG:HH12	2.30	0.44
11:P:81:GLN:HG3	11:P:82:GLY:N	2.33	0.44
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.44
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.44
27:5:52:TYR:CD1	27:5:52:TYR:N	2.85	0.44
1:A:1264:G:H5'	27:5:11:THR:HG21	2.00	0.44
1:A:1359:A:C6	1:A:1373:A:C4	3.05	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1460:A:H5''	1:A:1461:G:O5'	2.18	0.44
1:A:1523:U:O5'	1:A:1523:U:H6	2.00	0.44
1:A:1339:G:H21	1:A:1603:A:H1'	1.79	0.44
1:A:1680:U:H5''	1:A:1681:G:OP2	2.18	0.44
1:A:1946:U:H2'	1:A:1947:C:C6	2.53	0.44
1:A:1954:G:H1'	1:A:1956:U:O4	2.18	0.44
1:A:2083:G:C6	1:A:2084:C:C4	3.06	0.44
1:A:2241:A:H2'	1:A:2242:G:C8	2.53	0.44
1:A:2262:U:O4	22:O:15:ASP:HA	2.18	0.44
1:A:2458:G:C4	1:A:2490:G:C6	3.06	0.44
1:A:2626:C:H2'	1:A:2627:G:O4'	2.18	0.44
1:A:455:C:C4	1:A:472:A:C5	3.06	0.44
1:A:526:A:N1	1:A:2625:G:O2'	2.44	0.44
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.44
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.44
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.44
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.44
8:I:144:VAL:HG22	8:I:145:VAL:H	1.83	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.44
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.00	0.44
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.44
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.44
1:A:1022:G:HO2'	1:A:1023:U:P	2.37	0.44
1:A:1027:A:C6	1:A:1126:A:C4	3.06	0.44
1:A:1022:G:N1	1:A:1140:C:N3	2.65	0.44
1:A:140:A:C6	1:A:141:A:N6	2.86	0.44
1:A:270(I):G:H2'	1:A:270(J):G:C8	2.52	0.44
1:A:2877:G:C2'	1:A:2878:U:H5'	2.48	0.44
1:A:324:A:H61	1:A:338:G:C2'	2.30	0.44
1:A:738:G:C2	1:A:759:G:C5	3.06	0.44
1:A:76:C:O2'	1:A:77:C:H5'	2.18	0.44
1:A:922:U:C4	1:A:923:C:N4	2.86	0.44
2:B:55:U:C5'	6:G:28:VAL:HG21	2.48	0.44
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.44
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.44
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.44
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.44
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.44
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.44
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.44
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	2.00	0.44
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.44
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.43
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
1:A:1046:A:H3'	1:A:1046:A:N3	2.33	0.43
1:A:1306:C:O2	1:A:1623:G:C2	2.71	0.43
1:A:145:G:H2'	1:A:146:G:H8	1.83	0.43
1:A:1592:C:H2'	1:A:1593:G:H8	1.83	0.43
1:A:1441:G:H4'	1:A:1627:G:O3'	2.18	0.43
1:A:1676:A:N6	1:A:1677:A:C6	2.86	0.43
1:A:1678:G:N3	1:A:1678:G:H2'	2.33	0.43
1:A:16:G:H2'	1:A:17:G:H8	1.82	0.43
1:A:1858:G:O2'	1:A:1884:A:N6	2.51	0.43
1:A:1900:A:N1	1:A:1970:A:C6	2.86	0.43
1:A:1975:G:C4	1:A:1976:U:C6	3.05	0.43
1:A:222:A:H5''	1:A:421:U:OP1	2.17	0.43
1:A:2292:C:H2'	1:A:2293:C:C6	2.53	0.43
1:A:2341:G:H2'	1:A:2342:C:C6	2.53	0.43
1:A:2704:C:H2'	1:A:2705:A:O4'	2.18	0.43
1:A:1638:C:H5''	1:A:2710:C:O2'	2.18	0.43
1:A:2737:G:C2	1:A:2738:A:C4	3.06	0.43
1:A:312:G:H4'	1:A:331:A:C2	2.52	0.43
1:A:512:G:O2'	1:A:513:A:P	2.76	0.43
1:A:593:G:O2'	30:8:61:LEU:HD13	2.17	0.43
1:A:612:G:C4	1:A:613:U:O2	2.71	0.43
1:A:259:G:H21	1:A:621:A:H8	1.66	0.43
1:A:776:G:C6	1:A:793:A:C8	3.06	0.43
1:A:846:C:N4	1:A:931:G:H1	2.10	0.43
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.43
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.48	0.43
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.43
1:A:442:G:H1'	5:F:48:THR:HG21	1.99	0.43
8:I:129:THR:HA	8:I:137:PRO:HA	2.00	0.43
8:I:60:GLU:HG3	8:I:61:ARG:HH12	1.83	0.43
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
10:O:97:ARG:HA	10:O:117:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.43
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.43
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.43
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.43
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.43
17:V:25:LEU:H	17:V:92:THR:CG2	2.28	0.43
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.43
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.43
26:4:49:PHE:N	26:4:49:PHE:HD1	2.16	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1337:G:C4	1:A:1338:G:C8	3.06	0.43
1:A:1442:G:O2'	1:A:1443:G:H5'	2.18	0.43
1:A:1557:C:H5''	1:A:1558:A:OP2	2.19	0.43
1:A:1627:G:N2	1:A:1640:C:H1'	2.32	0.43
1:A:2142:C:H2'	1:A:2143:C:H6	1.82	0.43
1:A:2154:G:H2'	1:A:2155:G:H8	1.83	0.43
1:A:2315:G:H2'	1:A:2316:C:C6	2.53	0.43
1:A:2353:G:H2'	1:A:2354:G:O4'	2.17	0.43
1:A:2419:U:H2'	1:A:2420:C:H6	1.83	0.43
1:A:2549:G:H8	1:A:2549:G:H5''	1.83	0.43
1:A:2591:C:OP1	3:D:239:ARG:HG3	2.17	0.43
1:A:2689:U:H4'	1:A:2690:C:O5'	2.18	0.43
1:A:479:A:N3	1:A:481:G:H5''	2.33	0.43
1:A:571:A:N1	1:A:575:A:OP1	2.51	0.43
1:A:780:G:H21	1:A:783:A:N6	2.16	0.43
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
3:D:237:GLU:HB3	3:D:238:GLY:H	1.49	0.43
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.43
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.48	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.43
7:H:109:PHE:C	7:H:111:HIS:H	2.22	0.43
8:I:118:LYS:HA	8:I:119:PRO:HD3	1.82	0.43
8:I:114:LEU:HD12	8:I:129:THR:O	2.18	0.43
8:I:128:LEU:N	8:I:138:ILE:O	2.47	0.43
8:I:5:LEU:HA	8:I:36:ALA:HA	1.99	0.43
10:O:63:VAL:O	10:O:63:VAL:HG23	2.18	0.43
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.43
19:X:7:VAL:O	19:X:30:VAL:CG1	2.66	0.43
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.43
20:Y:88:LYS:HA	20:Y:88:LYS:HZ2	1.83	0.43
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	0.43
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
1:A:1056:G:N1	1:A:1104:C:N4	2.67	0.43
1:A:1138:G:H21	9:N:106:MET:HE3	1.83	0.43
1:A:1197:G:N2	1:A:1250:G:C5	2.87	0.43
1:A:1485:G:H5'	1:A:1485:G:C8	2.51	0.43
1:A:1653:G:H4'	1:A:1654:A:O5'	2.18	0.43
1:A:1725:G:H5'	1:A:1726:G:OP2	2.17	0.43
1:A:186:G:C2	1:A:211:A:C2	3.06	0.43
1:A:1954:G:N2	1:A:1956:U:H3	2.16	0.43
1:A:2273:A:O2'	1:A:2274:A:H5'	2.18	0.43
1:A:2536:G:C5	1:A:2537:U:C5	3.06	0.43
1:A:2674:G:H2'	1:A:2675:A:C8	2.53	0.43
1:A:27:G:O2'	1:A:28:A:C8	2.68	0.43
1:A:298:G:P	20:Y:85:VAL:HG22	2.58	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.97	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.43
5:F:144:LYS:C	5:F:146:ALA:H	2.20	0.43
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.43
13:R:81:ASP:OD2	13:R:81:ASP:N	2.50	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.43
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.43
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.43
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
12:Q:62:GLY:O	21:Z:178:GLU:HG2	2.18	0.43
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.43
1:A:111:A:C2	1:A:112:U:C2	3.06	0.43
1:A:693:C:O2'	1:A:1353:A:N3	2.46	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2016:U:H2'	1:A:2017:U:O4'	2.18	0.43
1:A:2133:G:H2'	1:A:2157:G:N2	2.33	0.43
1:A:2159:G:H2'	1:A:2160:G:C8	2.54	0.43
1:A:856:C:C3'	1:A:856:C:C6	3.02	0.43
2:B:45:A:C2	2:B:46:A:H1'	2.54	0.43
1:A:1500:G:O2'	3:D:100:GLY:O	2.28	0.43
3:D:227:ASN:CB	3:D:228:PRO:CD	2.93	0.43
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.30	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.18	0.43
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.43
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.99	0.43
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.43
15:T:105:LEU:O	15:T:105:LEU:HG	2.19	0.43
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
16:U:88:ILE:HG22	16:U:90:VAL:CG2	2.44	0.43
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.43
1:A:1078:U:O2'	1:A:1079:C:OP2	2.30	0.43
1:A:1747:G:C2'	1:A:1748:G:H5'	2.48	0.43
1:A:1774:C:O5'	1:A:1774:C:H6	2.00	0.43
1:A:2114:A:H5"	1:A:2117:A:O5'	2.18	0.43
1:A:2163:C:OP1	1:A:2172:U:H5"	2.19	0.43
1:A:2400:G:N2	1:A:2417:C:C2	2.86	0.43
1:A:2417:C:H2'	1:A:2418:A:C8	2.52	0.43
1:A:571:A:C6	1:A:575:A:H8	2.37	0.43
1:A:846:C:O2'	1:A:847:U:OP2	2.16	0.43
1:A:864:G:N2	1:A:913:U:C2	2.87	0.43
2:B:28:C:OP2	14:S:33:LYS:HE3	2.18	0.43
1:A:728:G:H4'	3:D:13:ARG:HD2	1.99	0.43
3:D:206:LEU:HA	3:D:206:LEU:HD23	1.49	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.84	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.19	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
8:I:109:ILE:HB	8:I:130:TYR:OH	2.19	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.57	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
1:A:832:G:P	11:P:38:GLN:HB3	2.59	0.43
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.43
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:14:LYS:HA	21:Z:15:PRO:HD3	1.87	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.43
1:A:1332:G:H2'	1:A:1332:G:H8	1.70	0.43
1:A:1434:A:N6	1:A:1558:A:H62	1.95	0.43
1:A:1718:G:C2	1:A:1742:C:C2	3.07	0.43
1:A:1853:A:C6	1:A:1889:A:C5	3.05	0.43
1:A:1929:G:H4'	1:A:1930:G:OP1	2.19	0.43
1:A:1995:U:C2	1:A:1996:C:C5	3.07	0.43
1:A:2329:G:H2'	1:A:2330:G:C8	2.54	0.43
1:A:2338:G:C2	1:A:2339:G:N7	2.86	0.43
1:A:2645:G:H8	1:A:2645:G:O5'	2.01	0.43
1:A:270(V):G:H2'	1:A:270(W):G:H8	1.83	0.43
1:A:2847:U:C5	1:A:2848:G:C6	3.06	0.43
1:A:464:U:H2'	1:A:465:G:O4'	2.19	0.43
1:A:572:A:C5	1:A:573:G:C8	3.07	0.43
1:A:602:G:O2'	1:A:604:G:O2'	2.23	0.43
1:A:620:G:H4'	1:A:621:A:C5'	2.47	0.43
1:A:70:G:H4'	1:A:71:A:OP1	2.18	0.43
3:D:69:ARG:NH2	3:D:130:ALA:HB2	2.19	0.43
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.43
3:D:76:PRO:O	3:D:98:VAL:CG2	2.65	0.43
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.43
4:E:143:ASN:N	4:E:143:ASN:ND2	2.65	0.43
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.43
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.53	0.43
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.00	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
31:9:7:VAL:HG21	31:9:36:GLN:HB2	2.00	0.43
1:A:1027:A:C6	1:A:1126:A:C5	3.06	0.43
1:A:1068:G:O2'	1:A:1096:A:N3	2.52	0.43
1:A:1526:G:C6	1:A:1527:G:C2	3.06	0.43
1:A:2029:G:H2'	1:A:2031:A:OP2	2.19	0.43
1:A:2255:G:H21	22:0:9:SER:HB3	1.83	0.43
1:A:2642:G:C2	1:A:2643:G:C4	3.07	0.43
1:A:26:G:C2	1:A:27:G:N2	2.87	0.43
1:A:220:G:H21	1:A:429:A:N6	2.17	0.43
1:A:847:U:OP2	1:A:929:G:O6	2.36	0.43
2:B:52:A:O2'	2:B:53:A:N7	2.52	0.43
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.43
4:E:188:VAL:HA	4:E:189:PRO:HD2	1.79	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.43
1:A:588:U:H1'	5:F:90:PHE:CD1	2.53	0.43
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.43
1:A:2653:U:O2'	7:H:110:SER:HB2	2.19	0.43
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.43
1:A:1022:G:O6	9:N:66:LYS:HE2	2.18	0.43
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.43
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.43
12:Q:83:MET:H	22:O:7:LEU:CD1	2.32	0.43
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.43
1:A:1069:A:H4'	1:A:1070:A:H5''	2.01	0.43
1:A:1285:G:H21	1:A:1328:G:H5''	1.83	0.43
1:A:144:C:H2'	1:A:145:G:C8	2.54	0.43
1:A:1527:G:H5''	1:A:1528:A:OP1	2.19	0.43
1:A:2056:G:C2	1:A:2057:A:C8	3.06	0.43
1:A:2128:C:H2'	1:A:2129:C:C6	2.53	0.43
1:A:2422:A:N7	1:A:2424:C:C5	2.87	0.43
1:A:2516:G:C6	1:A:2517:C:C4	3.07	0.43
1:A:2572:A:C2	4:E:144:ARG:NH2	2.87	0.43
1:A:624:C:H2'	1:A:625:G:H5'	2.01	0.43
2:B:39:A:O2'	2:B:46:A:N1	2.34	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.43
9:N:42:TRP:HA	9:N:48:MET:HE1	1.99	0.43
9:N:61:ARG:HA	9:N:61:ARG:NE	2.33	0.43
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.43
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.43
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.43
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.43
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.18	0.43
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.43
22:O:7:LEU:N	22:O:7:LEU:HD23	2.34	0.43
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.43
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
1:A:107:C:H2'	1:A:108:U:C6	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1590:U:C2	1:A:1591:G:C8	3.06	0.43
1:A:1666:G:N2	1:A:1995:U:C2	2.86	0.43
1:A:2087:G:C4	1:A:2088:G:C8	3.06	0.43
1:A:2128:C:C2'	1:A:2129:C:H5'	2.49	0.43
1:A:2168:G:N3	1:A:2168:G:H2'	2.34	0.43
1:A:2317:C:H2'	1:A:2318:G:O4'	2.19	0.43
1:A:2560:C:H2'	1:A:2561:A:C8	2.54	0.43
1:A:2578:G:O2'	1:A:2579:C:H5'	2.18	0.43
1:A:2728:U:O2'	1:A:2729:G:H5'	2.18	0.43
1:A:482:A:O2'	1:A:497:A:N1	2.45	0.43
1:A:715:G:C6	1:A:716:A:C6	3.06	0.43
1:A:84:A:N1	1:A:98:G:O2'	2.39	0.43
3:D:33:LEU:HB3	3:D:34:VAL:H	1.49	0.43
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.43
1:A:615:G:C8	5:F:44:ARG:NH1	2.87	0.43
8:I:79:ILE:HA	8:I:79:ILE:HD13	1.70	0.43
9:N:7:LYS:HD2	9:N:7:LYS:N	2.29	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.86	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.84	0.43
16:U:91:ASP:O	16:U:95:LEU:N	2.42	0.43
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.50	0.43
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.19	0.43
26:4:22:ILE:CG2	26:4:23:GLU:N	2.81	0.43
1:A:2370:G:H21	28:6:45:LYS:CE	2.32	0.43
28:6:50:ARG:HG2	28:6:50:ARG:HH11	1.84	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.19	0.43
30:8:28:GLY:O	30:8:29:LYS:O	2.36	0.43
1:A:1006:C:H2'	1:A:1007:C:C6	2.54	0.43
1:A:1026:U:H1'	1:A:1027:A:O5'	2.19	0.43
1:A:1341:U:H4'	1:A:1342:A:OP2	2.19	0.43
1:A:1640:C:H5'	1:A:1641:A:OP2	2.19	0.43
1:A:1728:G:C6	1:A:1730:U:OP2	2.72	0.43
1:A:1933:G:C2	1:A:1934:C:C2	3.07	0.43
1:A:2094:G:C6	1:A:2095:C:C4	3.07	0.43
1:A:2104:G:H1	1:A:2185:C:H42	1.67	0.43
1:A:2340:G:O2'	1:A:2341:G:H5'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2539:C:C5'	31:9:3:VAL:HG21	2.49	0.43
1:A:273(A):G:C2	1:A:273(B):C:C2	3.07	0.43
1:A:316:C:H5''	1:A:316:C:H6	1.84	0.43
1:A:535:C:H1'	1:A:559:G:N2	2.34	0.43
1:A:448:U:O4	1:A:583:G:H1'	2.18	0.43
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.43
4:E:18:ASP:O	4:E:19:ARG:C	2.56	0.43
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.43
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
8:I:37:VAL:CG1	8:I:38:LEU:HD12	2.49	0.43
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.43
17:V:44:LYS:HB3	17:V:45:THR:H	1.56	0.43
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.43
18:W:28:SER:O	18:W:30:GLU:N	2.50	0.43
21:Z:158:PRO:HG2	21:Z:161:VAL:HG21	2.01	0.43
21:Z:1:MET:HG2	21:Z:2:GLU:N	2.34	0.43
21:Z:5:LEU:O	21:Z:6:LYS:HB2	2.19	0.43
22:0:47:PRO:HB2	22:0:51:VAL:O	2.19	0.42
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.76	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:1743:G:C2	1:A:1746:G:C8	3.07	0.42
1:A:1924:C:H2'	1:A:1925:C:O4'	2.18	0.42
1:A:234:C:H2'	1:A:235:U:O4'	2.19	0.42
1:A:2538:C:C2	1:A:2539:C:C5	3.07	0.42
1:A:2562:U:C2'	1:A:2563:U:H5'	2.49	0.42
1:A:2650:U:H2'	1:A:2651:C:H6	1.84	0.42
1:A:2752:C:H5'	1:A:2753:A:OP2	2.19	0.42
1:A:28:A:C4	1:A:513:A:C8	3.07	0.42
1:A:291:C:H2'	1:A:292:C:C6	2.53	0.42
1:A:532:A:N7	1:A:2021:C:H2'	2.34	0.42
1:A:784:A:O2'	1:A:785:G:H5''	2.19	0.42
1:A:945:A:C6	1:A:2448:A:C5	3.07	0.42
2:B:15:A:H1'	2:B:109:G:C8	2.54	0.42
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.42
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.42
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.42
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.42
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.42
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.42
8:I:78:THR:OG1	8:I:104:GLN:NE2	2.52	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.42
14:S:105:ALA:C	14:S:110:LEU:HD21	2.39	0.42
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.42
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.42
16:U:98:LEU:O	16:U:102:GLU:N	2.49	0.42
21:Z:121:HIS:CE1	21:Z:169:GLU:HG2	2.54	0.42
27:5:3:LYS:CE	27:5:3:LYS:HA	2.36	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
1:A:110:G:C2	1:A:111:A:C8	3.07	0.42
1:A:1487:G:C4	1:A:1488:G:C8	3.06	0.42
1:A:1927:A:H2'	1:A:1928:A:C8	2.55	0.42
1:A:2050:C:C4	1:A:2051:A:C6	3.07	0.42
1:A:2198:A:O2'	1:A:2199:A:O5'	2.31	0.42
1:A:2210:G:C3'	1:A:2211:G:H8	2.26	0.42
1:A:2410:G:H2'	1:A:2411:A:O4'	2.20	0.42
1:A:270(O):U:H5''	1:A:270(P):C:OP2	2.19	0.42
1:A:2891:G:H8	1:A:2891:G:OP2	2.02	0.42
1:A:418:G:C2'	1:A:419:C:H5'	2.48	0.42
1:A:833:U:C4	1:A:834:C:N4	2.87	0.42
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.47	0.42
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.49	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.67	0.42
9:N:15:LEU:C	9:N:15:LEU:HD13	2.40	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.18	0.42
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.42
12:Q:81:VAL:HG23	22:0:7:LEU:HD11	2.00	0.42
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
1:A:994:C:H3'	16:U:54:LYS:HE3	2.00	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.42
21:Z:27:VAL:HG12	21:Z:87:ASP:HB3	2.00	0.42
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
1:A:459:U:OP1	29:7:39:ARG:HA	2.19	0.42
1:A:1021:A:N6	1:A:1141:U:H3	2.07	0.42
1:A:1285:G:H22	1:A:1329:U:P	2.38	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1568:G:H1'	3:D:58:HIS:HE1	1.83	0.42
1:A:1779:U:C6	1:A:1783:A:C5	3.07	0.42
1:A:1889:A:C6	1:A:1890:A:C6	3.07	0.42
1:A:1899:G:O4'	1:A:1901:A:C8	2.73	0.42
1:A:2053:G:O6	1:A:2614:A:H2	2.03	0.42
1:A:2128:C:H2'	1:A:2129:C:H6	1.85	0.42
1:A:2207:C:O2'	3:D:151:LYS:NZ	2.41	0.42
1:A:2261:C:C2	1:A:2280:G:N2	2.87	0.42
1:A:2289:G:N2	1:A:2344:U:C2	2.86	0.42
1:A:299:A:N3	1:A:319:C:O2'	2.41	0.42
1:A:345:A:H5''	1:A:346:A:OP1	2.19	0.42
1:A:817:C:H3'	1:A:818:G:H8	1.84	0.42
1:A:867:C:C4	1:A:868:U:C4	3.08	0.42
2:B:43:C:C4	2:B:45:A:C6	3.07	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.42
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.42
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.42
6:G:63:ILE:HG12	6:G:64:THR:N	2.33	0.42
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
10:O:31:LYS:O	10:O:32:TYR:HD2	2.02	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.42
1:A:2839:G:N2	13:R:92:GLY:HA3	2.33	0.42
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.42
20:Y:42:VAL:HG11	20:Y:65:ALA:HB3	2.02	0.42
21:Z:150:LEU:HD21	21:Z:172:ALA:HB3	2.01	0.42
21:Z:24:LEU:HD12	21:Z:25:PRO:N	2.35	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42
1:A:2756:U:OP2	31:9:19:ARG:NE	2.53	0.42
1:A:1069:A:H2'	1:A:1073:A:N7	2.34	0.42
1:A:1003:G:N2	1:A:1153:C:C2	2.87	0.42
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.19	0.42
1:A:1416:G:H2'	1:A:1417:C:C5	2.54	0.42
1:A:1494:A:C6	1:A:1495:A:C6	3.06	0.42
1:A:1507:A:N6	1:A:1508:A:N7	2.67	0.42
1:A:2712:U:O2'	1:A:2712(A):A:H8	1.99	0.42
1:A:2795:G:H3'	1:A:2797:U:H5'	2.01	0.42
1:A:301:G:HO2'	1:A:302:C:H6	1.67	0.42
1:A:686:G:O6	29:7:12:ARG:NH1	2.51	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:727:A:C2	3:D:9:TYR:CD2	3.07	0.42
1:A:859:G:O2'	1:A:860:U:O5'	2.37	0.42
1:A:822:U:H5	1:A:944:G:H1'	1.84	0.42
1:A:948:G:C2	1:A:970:C:O2	2.71	0.42
1:A:977:G:H2'	1:A:978:G:H8	1.84	0.42
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.42
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.42
4:E:24:THR:HB	4:E:184:VAL:HG23	2.01	0.42
5:F:132:VAL:CG2	5:F:133:ASN:N	2.80	0.42
5:F:63:LYS:HE2	5:F:67:GLN:HB2	2.00	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.39	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.20	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
7:H:89:ILE:CD1	7:H:89:ILE:H	2.32	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.42
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.42
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.42
22:O:53:MET:HA	22:O:58:THR:O	2.18	0.42
22:O:66:VAL:O	22:O:82:ARG:N	2.52	0.42
24:2:59:ARG:O	24:2:62:THR:HG23	2.19	0.42
1:A:1716:U:O2'	1:A:1717:G:H5'	2.20	0.42
1:A:16:G:O2'	1:A:17:G:H5'	2.19	0.42
1:A:1824:G:O2'	1:A:1825:A:H5'	2.20	0.42
1:A:1837:C:H42	1:A:1903:G:H1	1.67	0.42
1:A:532:A:C8	1:A:2021:C:C5	3.07	0.42
1:A:2059:A:H5'	1:A:2060:A:OP2	2.20	0.42
1:A:2088:G:C6	1:A:2089:U:C4	3.07	0.42
1:A:2509:G:C2'	1:A:2510:C:H5'	2.49	0.42
1:A:2583:G:C6	1:A:2584:U:C5	3.07	0.42
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.42	0.42
1:A:822:U:H2'	1:A:823:G:C8	2.55	0.42
1:A:856:C:H3'	1:A:857:C:H5	1.85	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.46	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.42
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
1:A:2405:G:P	11:P:77:ARG:HH21	2.41	0.42
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.42
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
1:A:1149:G:H2'	1:A:1150:C:C6	2.55	0.42
1:A:142:G:H1'	19:X:37:THR:HG22	2.01	0.42
1:A:1464:C:H2'	1:A:1465:G:C8	2.54	0.42
1:A:2396:G:N2	1:A:2421:G:C8	2.81	0.42
1:A:2464:C:O2	1:A:2487:G:C2	2.73	0.42
1:A:271(A):C:H1'	1:A:272:G:H1'	2.02	0.42
1:A:2870:C:H5''	13:R:65:LEU:HD21	2.02	0.42
1:A:319:C:H2'	1:A:320:A:C8	2.54	0.42
1:A:604:G:H2'	1:A:605:C:C6	2.55	0.42
1:A:638:G:C6	1:A:639:U:C4	3.07	0.42
1:A:685:A:C2	1:A:689:A:C6	3.07	0.42
1:A:820:A:H2'	1:A:821:A:O4'	2.20	0.42
2:B:6:C:H42	2:B:114:G:H1	1.67	0.42
2:B:45:A:H2'	2:B:46:A:O4'	2.19	0.42
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.42
1:A:1567:A:H4'	3:D:58:HIS:CE1	2.54	0.42
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.00	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
5:F:164:ARG:NH1	5:F:164:ARG:HG2	2.34	0.42
1:A:598:G:O2'	5:F:31:HIS:NE2	2.46	0.42
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.42
1:A:2758:A:C4	7:H:67:LEU:HD21	2.55	0.42
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.01	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
1:A:911:A:H2'	12:Q:9:TYR:OH	2.19	0.42
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
21:Z:69:THR:HB	21:Z:88:PHE:HB3	2.01	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.20	0.42
24:2:41:ILE:C	24:2:41:ILE:CD1	2.81	0.42
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.93	0.42
1:A:1414:G:C6	1:A:1415:U:C4	3.07	0.42
1:A:1411:C:N4	1:A:1591:G:H1	2.17	0.42
1:A:1966:A:H4'	1:A:1967:C:OP1	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:190:A:C8	1:A:207:A:C6	3.08	0.42
1:A:2255:G:H1	1:A:2275:C:N4	2.18	0.42
1:A:2324:C:H5''	1:A:2325:G:C5'	2.49	0.42
1:A:2335:A:C8	1:A:2337:G:C5	3.07	0.42
1:A:2352:A:C2	22:0:33:ALA:O	2.72	0.42
1:A:2399:G:C2	1:A:2400:G:C4	3.08	0.42
1:A:250:G:OP1	30:8:13:ARG:NH2	2.53	0.42
1:A:302:C:H2'	1:A:303:U:H6	1.83	0.42
1:A:792:G:H5''	1:A:793:A:H5'	2.02	0.42
1:A:90:U:OP1	1:A:90:U:H6	2.02	0.42
2:B:85:G:H2'	2:B:86:G:H8	1.85	0.42
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.42
4:E:121:ASN:O	4:E:122:PHE:C	2.57	0.42
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.01	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.02	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.42
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.49	0.42
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.42
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.42
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.42
21:Z:110:GLY:HA2	21:Z:111:VAL:O	2.20	0.42
1:A:1137:G:H2'	1:A:1138:G:O4'	2.20	0.42
1:A:1326:U:O2'	1:A:1327:C:H5'	2.20	0.42
1:A:1475:G:C2	1:A:1519:G:C2	3.08	0.42
1:A:171:G:N2	1:A:172:C:C2	2.88	0.42
1:A:1844:C:O2'	1:A:1845:G:H5'	2.20	0.42
1:A:2441:C:H2'	1:A:2442:C:H6	1.85	0.42
1:A:2588:G:O6	1:A:2607:G:C6	2.73	0.42
1:A:2787:C:O2'	4:E:61:ARG:HB3	2.20	0.42
1:A:2831:G:O2'	1:A:2883:A:H2'	2.19	0.42
1:A:528:A:C2	1:A:2043:C:H4'	2.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:92:G:O2'	1:A:93:C:H5'	2.20	0.42
1:A:974(A):C:H4'	1:A:975:G:C5'	2.49	0.42
2:B:42:C:C4	2:B:43:C:C5	3.07	0.42
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.19	0.42
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.42	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.42
12:Q:118:LEU:HA	12:Q:118:LEU:HD23	1.87	0.42
13:R:44:LEU:HD23	13:R:44:LEU:HA	1.79	0.42
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.02	0.42
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.42
1:A:1216:G:P	16:U:12:ARG:HH21	2.43	0.42
19:X:54:VAL:C	19:X:55:ASN:HD22	2.23	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.42
26:4:26:SER:C	26:4:27:THR:O	2.58	0.42
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.42
26:4:68:ARG:HB2	26:4:69:LYS:H	1.35	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.42
1:A:1335:U:OP1	19:X:65:ARG:NE	2.52	0.42
1:A:1612:C:N4	1:A:1619:G:H1	2.18	0.42
1:A:1785:A:O2'	1:A:1786:A:H2'	2.20	0.42
1:A:1835:G:N3	1:A:1931:U:N3	2.67	0.42
1:A:195:A:OP1	11:P:46:LYS:HE2	2.19	0.42
1:A:1975:G:C5	1:A:1976:U:C5	3.08	0.42
1:A:570:G:H2'	1:A:2030:A:N6	2.35	0.42
1:A:2123:G:N1	1:A:2176:A:C4	2.88	0.42
1:A:2259:G:C2	1:A:2282:G:N1	2.88	0.42
1:A:2341:G:C6	1:A:2342:C:C4	3.08	0.42
1:A:2508:G:C2	1:A:2582:G:O6	2.73	0.42
1:A:2627:G:N3	1:A:2781:A:C2	2.87	0.42
1:A:28:A:C2	1:A:513:A:C8	3.08	0.42
1:A:714:U:O2	1:A:716:A:C8	2.72	0.42
2:B:63:G:C2	2:B:64:C:C2	3.07	0.42
2:B:70:C:H2'	2:B:71:C:H6	1.84	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.46	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.01	0.42
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.42
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.42
18:W:59:VAL:CG1	18:W:60:ASN:N	2.78	0.42
23:1:74:VAL:O	23:1:74:VAL:CG1	2.64	0.42
23:1:76:ARG:H	23:1:76:ARG:CD	2.29	0.42
25:3:37:LEU:HD23	25:3:37:LEU:N	2.35	0.42
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.42
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.49	0.42
29:7:9:ARG:NH1	29:7:47:ARG:HG3	2.35	0.42
1:A:1024:G:O6	1:A:1025:G:C2	2.73	0.42
1:A:1197:G:O5'	1:A:1197:G:H8	2.03	0.42
1:A:1495:A:H2'	1:A:1496:A:N3	2.35	0.42
1:A:1418:G:N1	1:A:1579:A:OP2	2.35	0.42
1:A:1718:G:N2	1:A:1742:C:C2	2.88	0.42
1:A:1844:C:OP1	3:D:257:LEU:HD23	2.19	0.42
1:A:1948:G:C2'	1:A:1949:G:H5'	2.49	0.42
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.54	0.42
1:A:2347:C:C2	1:A:2348:U:C5	3.08	0.42
1:A:2745:C:H2'	1:A:2746:U:C6	2.54	0.42
1:A:2757:A:C2	7:H:63:SER:HB3	2.54	0.42
1:A:2773:C:O2'	1:A:2774:C:H5'	2.20	0.42
1:A:2817:G:N2	1:A:2830:G:H1'	2.35	0.42
1:A:2875:C:H4'	15:T:5:ALA:HB2	2.02	0.42
1:A:39:C:H2'	1:A:40:C:C6	2.53	0.42
1:A:579:G:H2'	1:A:580:C:H6	1.85	0.42
1:A:629:G:H1	1:A:634:C:H42	1.68	0.42
1:A:747:U:OP1	27:5:3:LYS:HG2	2.20	0.42
1:A:859:G:O2'	1:A:860:U:P	2.77	0.42
2:B:63:G:H2'	2:B:64:C:C6	2.55	0.42
3:D:110:GLY:O	3:D:111:LEU:C	2.59	0.42
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.42
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.42
4:E:7:VAL:CG2	4:E:8:LYS:H	2.11	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.42
5:F:61:GLY:O	5:F:62:ARG:C	2.58	0.42
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.42
7:H:146:ALA:HA	7:H:164:TYR:OH	2.20	0.42
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.42
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.58	0.42
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.42
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.42
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.42
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.42
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.42
18:W:19:LEU:HA	18:W:19:LEU:HD12	1.79	0.42
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.42
12:Q:134:ARG:HD3	21:Z:122:ARG:NH1	2.34	0.42
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.41
23:1:81:LYS:N	23:1:81:LYS:CD	2.83	0.41
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.41
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.41
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.41
1:A:1053:C:C4	1:A:1054:A:N7	2.88	0.41
1:A:78:A:C2	1:A:109:G:C2	3.08	0.41
1:A:1677:A:H2'	1:A:1678:G:C8	2.54	0.41
1:A:415:A:N1	1:A:2409:G:C6	2.88	0.41
1:A:2399:G:C6	1:A:2418:A:C6	3.08	0.41
1:A:2469:A:H3'	1:A:2470:G:H8	1.83	0.41
1:A:2620:C:H6	1:A:2620:C:O5'	2.01	0.41
1:A:2837:G:O5'	1:A:2837:G:H8	2.03	0.41
1:A:397:G:H1'	1:A:2231:C:O2'	2.19	0.41
1:A:452:G:C6	1:A:453:C:N4	2.88	0.41
1:A:510:C:H2'	1:A:511:U:O4'	2.20	0.41
2:B:116:G:H5'	14:S:55:ALA:HA	2.02	0.41
1:A:1798:U:H5''	3:D:259:THR:HG22	2.01	0.41
4:E:11:MET:HE3	4:E:186:GLY:HA2	2.02	0.41
4:E:144:ARG:HB3	4:E:145:LYS:H	1.58	0.41
4:E:176:ILE:HD12	4:E:176:ILE:N	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.41
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.41
8:I:135:GLU:HB2	8:I:136:VAL:H	1.55	0.41
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.41
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.41
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.41
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.41
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.41
21:Z:71:VAL:HB	21:Z:88:PHE:CE2	2.55	0.41
24:2:50:ILE:HG13	24:2:50:ILE:H	1.64	0.41
6:G:143:GLU:C	26:4:28:LYS:HZ2	2.24	0.41
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.35	0.41
1:A:1229(A):G:C6	1:A:1230:C:C4	3.09	0.41
1:A:1535:U:H5''	1:A:1537:C:C4	2.55	0.41
1:A:1824:G:OP1	3:D:52:ARG:HD3	2.21	0.41
1:A:2397:G:H5''	23:1:28:GLY:HA2	2.01	0.41
1:A:1783:A:C6	1:A:2587:A:C2	3.08	0.41
1:A:270(E):G:C2	1:A:270(F):U:C2	3.08	0.41
1:A:270(I):G:H2'	1:A:270(J):G:H8	1.86	0.41
1:A:2712:U:H1'	1:A:2712(A):A:N7	2.35	0.41
1:A:328:U:H4'	20:Y:68:HIS:NE2	2.35	0.41
1:A:432:A:H2'	1:A:433:C:O4'	2.20	0.41
1:A:544:C:C2	1:A:550:G:N2	2.88	0.41
1:A:825:C:O2'	1:A:2428:G:H2'	2.20	0.41
2:B:31:C:C2'	2:B:32:C:H5'	2.50	0.41
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.41
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.41
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.41
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.41
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.41
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.41
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.41
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.41
17:V:16:PRO:HB3	17:V:97:LYS:O	2.20	0.41
17:V:81:TYR:C	17:V:82:ARG:CG	2.89	0.41
1:A:1389:G:C2	1:A:1399:C:O2	2.72	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1437:C:N4	1:A:1438:U:O4	2.53	0.41
1:A:1569:A:H2'	1:A:1570:A:O4'	2.20	0.41
1:A:2259:G:C2	1:A:2282:G:C2	3.08	0.41
1:A:648:G:H1'	1:A:2351:G:OP1	2.20	0.41
1:A:2621:A:OP1	4:E:119:ARG:NH2	2.53	0.41
1:A:709:U:H2'	1:A:710:G:H8	1.85	0.41
1:A:816:C:C4	1:A:1192:G:C2	3.07	0.41
1:A:834:C:H2'	1:A:835:A:H8	1.85	0.41
2:B:9:G:H5'	14:S:19:LYS:HZ3	1.84	0.41
3:D:13:ARG:HG2	3:D:13:ARG:O	2.20	0.41
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.82	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
2:B:45:A:C4'	6:G:95:ARG:NH1	2.83	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
8:I:94:ALA:HB1	8:I:114:LEU:HD23	2.02	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.02	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.68	0.41
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.41
21:Z:94:GLU:HG3	21:Z:129:SER:OG	2.21	0.41
22:O:48:GLY:H	22:O:51:VAL:HB	1.86	0.41
30:8:16:ILE:HD11	30:8:57:ARG:CG	2.44	0.41
1:A:1371:G:H8	1:A:1371:G:O5'	2.03	0.41
1:A:2037:G:C6	1:A:2038:G:C6	3.08	0.41
1:A:2257:U:C4	1:A:2258:C:N4	2.88	0.41
1:A:2413:G:N2	1:A:2414:G:H1'	2.35	0.41
1:A:2439:A:H5'	1:A:2439:A:H8	1.78	0.41
1:A:9:U:O4	1:A:2629:A:C8	2.74	0.41
1:A:270(A):A:O2'	1:A:270(B):A:H5'	2.19	0.41
1:A:527:C:H2'	1:A:2779:U:C5	2.56	0.41
1:A:534:U:O2	16:U:49:HIS:HE1	2.04	0.41
2:B:109:G:C6	2:B:110:G:C5	3.09	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.23	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
6:G:135:LEU:CD1	6:G:135:LEU:N	2.84	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.41
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
1:A:871:U:OP1	12:Q:5:ARG:HG2	2.21	0.41
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.01	0.41
15:T:134:GLU:O	15:T:135:ALA:CB	2.69	0.41
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
1:A:142:G:H1'	19:X:37:THR:CG2	2.50	0.41
22:O:70:GLN:NE2	22:O:72:ARG:HD3	2.36	0.41
24:2:61:LEU:HD23	24:2:64:LEU:HD12	2.03	0.41
26:4:12:ALA:HB1	26:4:30:GLU:N	2.34	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
1:A:686:G:C2	29:7:11:LYS:HE3	2.54	0.41
1:A:1021:A:C3'	1:A:1021:A:C8	3.03	0.41
1:A:1085:A:O2'	1:A:1086:A:P	2.78	0.41
1:A:121:G:H1'	1:A:148:C:C2	2.56	0.41
1:A:1337:G:O5'	1:A:1337:G:H8	2.02	0.41
1:A:1451:C:H4'	1:A:1453:A:H5'	2.03	0.41
1:A:1565:C:C2	1:A:1567:A:C8	3.08	0.41
1:A:1820:U:O2	3:D:202:LYS:N	2.53	0.41
1:A:2456:C:C4	1:A:2457:U:C5	3.08	0.41
1:A:2572:A:N3	4:E:144:ARG:NH2	2.68	0.41
1:A:363:G:H2'	1:A:363(A):A:H8	1.84	0.41
1:A:685:A:H5''	1:A:788:A:H62	1.86	0.41
1:A:871:U:H2'	1:A:872:A:C8	2.55	0.41
2:B:31:C:H2'	2:B:32:C:H5'	2.02	0.41
3:D:134:ARG:HD3	3:D:135:PHE:HE2	1.82	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.41
5:F:111:ALA:O	5:F:112:MET:C	2.59	0.41
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.41
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.41
8:I:29:TYR:O	8:I:33:ARG:HB2	2.21	0.41
8:I:37:VAL:HG12	8:I:38:LEU:HD12	2.03	0.41
1:A:2318:G:N2	14:S:2:ALA:HA	2.35	0.41
17:V:61:VAL:CG2	17:V:61:VAL:O	2.68	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.21	0.41
20:Y:86:ARG:HD2	20:Y:86:ARG:HA	1.91	0.41
22:O:12:ASN:HB3	22:O:13:GLY:H	1.57	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:14:ILE:HA	26:4:31:ILE:O	2.21	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.20	0.41
1:A:1065:U:O2'	1:A:1074:G:N2	2.54	0.41
1:A:1619:G:O5'	1:A:1619:G:H8	2.03	0.41
1:A:1649:G:C6	1:A:2009:G:C6	3.08	0.41
1:A:1668:A:N7	1:A:1674:G:C6	2.88	0.41
1:A:1716:U:H2'	1:A:1717:G:H8	1.84	0.41
1:A:226:G:O2'	1:A:227:A:H5'	2.21	0.41
1:A:2415:G:C6	1:A:2416:C:C4	3.08	0.41
1:A:2259:G:H1'	1:A:2427:C:H2'	2.01	0.41
1:A:2871:C:H5''	1:A:2872:G:OP1	2.20	0.41
1:A:639:U:H2'	1:A:640:C:H6	1.85	0.41
1:A:78:A:H2'	1:A:79:G:C8	2.55	0.41
1:A:912:C:H2'	1:A:912:C:O2	2.19	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.41
4:E:197:ILE:HD11	4:E:199:ARG:NH1	2.30	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
11:P:9:ASN:HB2	11:P:10:PRO:HD2	2.03	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.50	0.41
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.21	0.41
1:A:1155:A:HO2'	1:A:1156:A:H2'	1.85	0.41
1:A:1429:G:H2'	1:A:1430:C:C6	2.56	0.41
1:A:1443:G:H1	1:A:1548:C:H42	1.69	0.41
1:A:2338:G:N1	1:A:2339:G:C5	2.89	0.41
1:A:2463:C:O5'	1:A:2463:C:H6	2.04	0.41
1:A:2654:A:N6	1:A:2667:C:N4	2.69	0.41
1:A:2653:U:C2	1:A:2668:G:N2	2.89	0.41
1:A:1050:A:C8	1:A:2751:G:C8	3.09	0.41
1:A:297:C:H5''	20:Y:85:VAL:HG21	2.03	0.41
1:A:312:G:C6	1:A:313:C:N3	2.89	0.41
1:A:556:G:C6	1:A:557:U:C4	3.08	0.41
1:A:668:G:N7	1:A:670:A:C8	2.89	0.41
1:A:780:G:C2	1:A:782:A:C2	3.09	0.41
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.41
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
8:I:97:ILE:HD12	8:I:140:LEU:CD1	2.51	0.41
9:N:133:GLN:CB	9:N:135:PRO:HD3	2.42	0.41
13:R:47:PHE:O	13:R:51:LEU:HD23	2.21	0.41
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.41
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.41
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.41
17:V:22:VAL:CG1	17:V:23:GLU:H	2.32	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
21:Z:4:ARG:HH12	21:Z:58:VAL:HG21	1.86	0.41
23:1:94:LEU:HA	23:1:94:LEU:HD23	1.81	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.74	0.41
30:8:3:LYS:HB3	30:8:3:LYS:HE2	1.82	0.41
1:A:1530:G:H2'	1:A:1531:C:H6	1.86	0.41
1:A:1980:G:O2'	1:A:1982:C:OP2	2.35	0.41
1:A:2032:G:N3	1:A:2032:G:O4'	2.50	0.41
1:A:2125:G:O2'	1:A:2173:A:N6	2.54	0.41
1:A:2164:C:H2'	1:A:2165:G:O4'	2.20	0.41
1:A:2199:A:H3'	1:A:2205:C:C6	2.55	0.41
1:A:2308:G:N3	1:A:2308:G:H2'	2.35	0.41
1:A:2445:G:C2'	1:A:2446:G:H5'	2.51	0.41
1:A:2625:G:C2	1:A:2626:C:C2	3.08	0.41
1:A:2647:U:H2'	1:A:2648:C:C6	2.56	0.41
1:A:298:G:H5''	1:A:299:A:OP1	2.21	0.41
1:A:415:A:H2'	1:A:416:C:C6	2.56	0.41
1:A:422:A:H2'	1:A:423:A:C8	2.56	0.41
1:A:546:C:C5	1:A:547:A:C4	3.08	0.41
1:A:80:G:C2	1:A:81:G:C4	3.09	0.41
1:A:83:G:O2'	1:A:84:A:C8	2.74	0.41
1:A:870:A:H2'	1:A:871:U:H6	1.82	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.41
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.72	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
6:G:61:ALA:CB	6:G:67:LYS:HA	2.50	0.41
1:A:2311:A:C1'	6:G:82:LEU:HD11	2.51	0.41
6:G:95:ARG:HA	6:G:99:MET:HB3	2.03	0.41
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41
11:P:55:ARG:HG2	11:P:55:ARG:NH2	2.36	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.41
15:T:84:GLN:HG2	15:T:85:LYS:N	2.36	0.41
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.41
17:V:67:GLY:O	17:V:68:LYS:C	2.59	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
23:1:18:ILE:O	23:1:18:ILE:HG22	2.21	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
1:A:1110:G:H2'	1:A:1111:A:C8	2.56	0.41
1:A:1132:A:O2'	1:A:1133:U:H5'	2.20	0.41
1:A:1008:C:N4	1:A:1136:G:C6	2.89	0.41
1:A:51:G:N2	1:A:120:U:O2'	2.53	0.41
1:A:1821:A:H8	1:A:1821:A:O5'	2.04	0.41
1:A:1268:A:C2	1:A:2013:A:C4	3.08	0.41
1:A:2152:G:H2'	1:A:2153:G:C8	2.51	0.41
1:A:2256:G:C2	1:A:2275:C:N4	2.89	0.41
1:A:304:G:N1	1:A:305:U:C2	2.89	0.41
1:A:370:G:H3'	1:A:423:A:C2	2.56	0.41
1:A:951:C:O2'	1:A:952:G:H5'	2.21	0.41
1:A:959:A:N3	1:A:2457:U:O2'	2.45	0.41
1:A:978:G:H1	1:A:985:C:N4	2.19	0.41
2:B:42:C:N4	2:B:43:C:C4	2.89	0.41
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
8:I:16:GLY:O	8:I:18:VAL:HG23	2.21	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
11:P:66:GLY:O	11:P:67:MET:CB	2.63	0.41
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.41
14:S:100:ALA:CA	14:S:103:GLU:HG2	2.49	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
20:Y:43:ASN:OD1	20:Y:43:ASN:O	2.39	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:0:40:GLN:OE1	22:0:45:PHE:N	2.54	0.41
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.41
1:A:1401:G:C6	1:A:1402:C:C4	3.09	0.41
1:A:1484:G:H2'	1:A:1485:G:H5''	2.03	0.41
1:A:1579:A:H2'	1:A:1580:A:O4'	2.20	0.41
1:A:1271:G:N2	1:A:1617:C:O4'	2.54	0.41
1:A:1694:C:H4'	1:A:1695:G:O5'	2.20	0.41
1:A:1837:C:C2	1:A:1903:G:N2	2.83	0.41
1:A:194:G:H2'	1:A:195:A:O4'	2.21	0.41
1:A:224:G:H2'	1:A:225:A:O4'	2.21	0.41
1:A:2287:A:N6	1:A:2344:U:N3	2.66	0.41
1:A:2351:G:H2'	1:A:2365:G:N2	2.36	0.41
1:A:2250:G:H8	1:A:2496:C:H5''	1.82	0.41
1:A:24:G:C5	1:A:25:U:C5	3.09	0.41
1:A:2767:C:H2'	1:A:2768:C:C6	2.55	0.41
1:A:2795:G:H3'	1:A:2797:U:C5'	2.50	0.41
1:A:312:G:H5''	1:A:313:C:OP2	2.20	0.41
1:A:503:A:C4	1:A:506:G:N7	2.89	0.41
1:A:529:A:N3	1:A:529:A:H2'	2.36	0.41
1:A:537:C:H5'	1:A:539:G:OP2	2.20	0.41
1:A:658:C:H2'	1:A:659:C:C6	2.55	0.41
1:A:893:C:H5'	1:A:894:C:OP2	2.21	0.41
1:A:944:G:H5''	1:A:945:A:O5'	2.21	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.83	0.41
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
4:E:51:PHE:CG	4:E:52:LEU:N	2.89	0.41
1:A:2633:G:H1'	4:E:62:PRO:HG2	2.03	0.41
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
8:I:88:ILE:HG12	8:I:88:ILE:H	1.46	0.41
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.41
9:N:56:ASN:ND2	9:N:126:PRO:N	2.69	0.41
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
12:Q:76:LYS:HB3	12:Q:90:VAL:CG1	2.51	0.41
14:S:6:ALA:O	14:S:10:ARG:HD3	2.21	0.41
16:U:83:LEU:CD1	16:U:113:ALA:HB2	2.50	0.41
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.41
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.41
1:A:1123:C:H2'	1:A:1124:C:C6	2.56	0.41
1:A:1130:U:O2'	1:A:1131:G:O5'	2.36	0.41
1:A:1188:U:H2'	1:A:1189:A:H5'	2.03	0.41
1:A:1350:C:C2'	1:A:1351:C:H5'	2.51	0.41
1:A:188:G:N2	1:A:209:C:C2	2.89	0.41
1:A:1910:G:N2	1:A:1921:G:C4	2.89	0.41
1:A:229:A:H4'	1:A:229:A:OP1	2.21	0.41
1:A:2305:A:H2'	1:A:2306:C:C6	2.56	0.41
1:A:2331:G:H4'	22:0:43:THR:N	2.36	0.41
1:A:244:A:C8	1:A:245:G:C8	3.09	0.41
1:A:2536:G:H2'	1:A:2537:U:O4'	2.21	0.41
1:A:2563:U:O2	1:A:2565:A:H8	2.04	0.41
1:A:303:U:O5'	1:A:303:U:H6	2.02	0.41
1:A:553:U:H2'	1:A:554:U:O4'	2.21	0.41
1:A:581:C:N4	1:A:582:G:O6	2.53	0.41
1:A:663:G:C6	1:A:664:C:C4	3.09	0.41
1:A:816:C:N4	1:A:1192:G:N1	2.68	0.41
1:A:921:G:H2'	1:A:922:U:O4'	2.20	0.41
2:B:14:U:H2'	2:B:15:A:C2	2.56	0.41
2:B:46:A:C4	2:B:47:C:C6	3.08	0.41
2:B:54:G:H2'	2:B:55:U:H5'	2.03	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.41
4:E:147:PRO:HB2	4:E:149:ARG:HG2	2.03	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.41
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.41
10:O:31:LYS:C	10:O:32:TYR:CD2	2.94	0.41
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.41
11:P:65:ARG:C	11:P:66:GLY:O	2.59	0.41
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.41
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.41
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.41
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.41
16:U:27:LEU:C	16:U:29:SER:N	2.74	0.41
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.41
22:0:36:ILE:HD13	22:0:36:ILE:O	2.21	0.40
22:0:64:ASP:HB3	22:0:65:GLY:H	1.61	0.40
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.40
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.40
24:2:32:LEU:HD23	24:2:32:LEU:O	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:26:SER:O	26:4:27:THR:O	2.40	0.40
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.40
1:A:1216:G:N2	1:A:1233:C:O2	2.28	0.40
1:A:1574:C:O5'	1:A:1574:C:H6	2.03	0.40
1:A:1587:A:OP2	1:A:1587:A:H8	2.05	0.40
1:A:2134:A:H62	1:A:2157:G:C1'	2.34	0.40
1:A:2193:G:C5	1:A:2194:G:N7	2.89	0.40
1:A:2360:A:H2'	1:A:2361:A:O4'	2.21	0.40
1:A:2485:G:C2	1:A:2486:G:C8	3.09	0.40
1:A:2600:A:H2'	1:A:2601:C:C6	2.56	0.40
1:A:2839:G:H5'	13:R:46:GLY:HA2	2.03	0.40
1:A:2846:G:C6	1:A:2847:U:C4	3.09	0.40
1:A:282:A:C6	1:A:284:U:C2	3.09	0.40
1:A:852:G:O2'	1:A:853:G:H5'	2.21	0.40
1:A:841:A:C2	1:A:938:G:C2	3.09	0.40
2:B:113:C:C2	2:B:114:G:C8	3.08	0.40
3:D:263:ARG:NH1	3:D:263:ARG:CB	2.75	0.40
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.40
5:F:144:LYS:C	5:F:146:ALA:N	2.75	0.40
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.40
9:N:23:LEU:CD1	9:N:99:LEU:HD23	2.51	0.40
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.22	0.40
17:V:38:LEU:O	17:V:51:VAL:HA	2.21	0.40
17:V:55:ALA:O	17:V:56:SER:OG	2.31	0.40
18:W:88:ARG:HD2	18:W:88:ARG:HA	1.92	0.40
20:Y:87:LYS:HZ2	20:Y:87:LYS:HB2	1.85	0.40
23:1:96:LYS:O	23:1:96:LYS:HG2	2.21	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.37	0.40
28:6:7:ILE:CG1	28:6:8:LYS:N	2.75	0.40
1:A:1022:G:H4'	1:A:1023:U:H5'	2.02	0.40
1:A:1079:C:O4'	1:A:1088:A:N6	2.53	0.40
1:A:1439:A:H2'	1:A:1440:G:O4'	2.21	0.40
1:A:1487:G:H1	1:A:1502:C:H42	1.69	0.40
1:A:14:A:N1	1:A:2044:C:O2'	2.34	0.40
1:A:1644:C:H2'	1:A:1644:C:O2	2.20	0.40
1:A:1691:C:H2'	1:A:1692:U:O4'	2.20	0.40
1:A:1930:G:H2'	1:A:1968:G:H1	1.84	0.40
1:A:2116:G:H22	1:A:2162:G:P	2.45	0.40
1:A:2193:G:C4	1:A:2194:G:C8	3.09	0.40
1:A:2320:A:H1'	1:A:2321:G:C6	2.56	0.40
1:A:2328:A:H2'	1:A:2329:G:C8	2.56	0.40
1:A:2259:G:C1'	1:A:2427:C:H2'	2.52	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2439:A:H8	1:A:2439:A:C5'	2.32	0.40
1:A:2534:A:C6	1:A:2535:G:N7	2.89	0.40
1:A:2623:G:N3	1:A:2624:G:C8	2.89	0.40
1:A:2841:C:C2	1:A:2877:G:N2	2.89	0.40
1:A:2847:U:C2'	1:A:2848:G:H5'	2.52	0.40
1:A:472:A:H2'	1:A:473:G:H5'	2.03	0.40
1:A:478:A:N6	1:A:480:A:N1	2.69	0.40
1:A:563:G:C6	1:A:564:C:C4	3.09	0.40
2:B:66:A:N3	2:B:108:C:C4	2.90	0.40
2:B:83:G:N2	2:B:84:C:C2	2.89	0.40
3:D:176:ARG:HH11	3:D:176:ARG:CG	2.30	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.40
9:N:137:LYS:HA	9:N:137:LYS:HD2	1.88	0.40
10:O:106:LEU:HD23	10:O:106:LEU:HA	1.89	0.40
11:P:19:VAL:HG22	11:P:21:ARG:N	2.36	0.40
14:S:106:ARG:CZ	14:S:106:ARG:HB2	2.49	0.40
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.40
1:A:1252:G:O4'	16:U:33:ARG:HD3	2.20	0.40
16:U:34:LYS:CA	16:U:34:LYS:CE	2.96	0.40
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
2:B:104:A:H4'	21:Z:89:PHE:CE2	2.57	0.40
23:1:82:LEU:HD13	23:1:83:GLU:CA	2.49	0.40
27:5:6:VAL:HA	27:5:7:PRO:HD3	1.81	0.40
28:6:36:LEU:CD1	28:6:50:ARG:NH1	2.82	0.40
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.40
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.40
30:8:53:PRO:CG	30:8:54:GLU:N	2.84	0.40
1:A:1026:U:H4'	1:A:1027:A:OP1	2.20	0.40
1:A:1360:A:C6	1:A:1372:U:C4	3.10	0.40
1:A:14:A:C6	1:A:526:A:C2	3.10	0.40
1:A:1543:A:H2	1:A:1545:A:N7	2.20	0.40
1:A:1563:G:C5	1:A:1564:C:C5	3.09	0.40
1:A:1797:C:H4'	3:D:257:LEU:O	2.22	0.40
1:A:1839:G:N3	1:A:1839:G:H2'	2.35	0.40
1:A:2067:G:C2	1:A:2069:G:C8	3.09	0.40
1:A:2105:C:H2'	1:A:2106:G:C8	2.55	0.40
1:A:2171:A:C2	1:A:2172:U:C2	3.08	0.40
1:A:2352:A:C5	1:A:2366:A:C2	3.09	0.40
1:A:2623:G:H5'	1:A:2826:A:H1'	2.04	0.40
1:A:572:A:H2'	1:A:573:G:O4'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:111:U:H2'	2:B:112:G:H8	1.85	0.40
3:D:117:VAL:HG22	3:D:118:VAL:N	2.36	0.40
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.52	0.40
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.40
6:G:41:GLN:HB3	6:G:43:LEU:CD1	2.51	0.40
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.40
8:I:45:LYS:O	8:I:48:GLU:N	2.54	0.40
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.84	0.40
11:P:65:ARG:O	11:P:66:GLY:C	2.60	0.40
14:S:12:PHE:HA	14:S:12:PHE:HD2	1.80	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.36	0.40
14:S:62:LYS:HD3	14:S:97:ARG:CZ	2.52	0.40
17:V:95:LEU:C	17:V:95:LEU:HD13	2.42	0.40
20:Y:5:MET:CE	20:Y:32:PRO:HB3	2.51	0.40
20:Y:57:GLN:O	20:Y:58:GLY:C	2.60	0.40
21:Z:111:VAL:HG22	21:Z:112:ARG:N	2.34	0.40
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.40
1:A:1309:G:P	29:7:9:ARG:HD3	2.61	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
31:9:10:ILE:HD12	31:9:32:HIS:CG	2.56	0.40
1:A:1005:C:O2	1:A:1143:A:C5	2.75	0.40
1:A:1007:C:OP2	1:A:1008:C:O2'	2.31	0.40
1:A:1312:U:H4'	1:A:1313:U:O5'	2.21	0.40
1:A:191:A:H2'	1:A:192:C:C6	2.57	0.40
1:A:1973:G:H2'	1:A:1974:C:C6	2.56	0.40
1:A:1985:G:C2'	1:A:1986:A:H5'	2.52	0.40
1:A:2224:G:H4'	1:A:2226:C:C2	2.57	0.40
1:A:2376:A:OP1	1:A:2376:A:H8	2.04	0.40
1:A:2422:A:OP2	28:6:6:ARG:NH1	2.54	0.40
1:A:2592:G:H2'	1:A:2593:U:O4'	2.22	0.40
1:A:270(T):G:C6	1:A:270(U):C:C4	3.09	0.40
1:A:320:A:N3	5:F:169:ASN:ND2	2.70	0.40
1:A:43:G:C6	1:A:44:A:C5	3.09	0.40
1:A:259:G:C2'	1:A:621:A:O2'	2.70	0.40
1:A:88:G:N3	1:A:88:G:H2'	2.34	0.40
2:B:5:C:H2'	2:B:6:C:C6	2.57	0.40
3:D:185:VAL:HG12	3:D:186:HIS:N	2.37	0.40
3:D:72:LYS:HG3	3:D:97:TYR:CE2	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:93:VAL:C	4:E:95:ILE:N	2.75	0.40
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.40
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.40
8:I:52:ARG:HB3	8:I:52:ARG:HH11	1.87	0.40
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.86	0.40
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.40
12:Q:66:ILE:O	12:Q:67:ARG:HB2	2.22	0.40
13:R:18:LEU:HD11	13:R:22:ARG:NE	2.36	0.40
13:R:84:ALA:O	13:R:85:PRO:C	2.59	0.40
1:A:2882:A:P	13:R:96:ARG:NH1	2.95	0.40
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.40
15:T:23:ARG:O	15:T:49:VAL:HG11	2.21	0.40
18:W:100:THR:HG23	18:W:100:THR:O	2.22	0.40
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.40
20:Y:90:LEU:HB2	20:Y:91:GLU:H	1.53	0.40
20:Y:98:VAL:O	20:Y:99:CYS:HB3	2.21	0.40
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.40
25:3:7:LYS:HG2	25:3:7:LYS:O	2.20	0.40
28:6:36:LEU:HD23	28:6:36:LEU:N	2.37	0.40
1:A:1204:A:C2	1:A:1206:G:N2	2.90	0.40
1:A:1225:C:O2'	17:V:85:LYS:HA	2.21	0.40
1:A:1480:G:C2	1:A:1514:U:O2	2.74	0.40
1:A:1771:C:H2'	1:A:1772:G:C8	2.56	0.40
1:A:1799:G:H5'	1:A:1819:A:N6	2.33	0.40
1:A:199:A:N1	1:A:2434:A:C2	2.90	0.40
1:A:2464:C:O2	1:A:2487:G:N2	2.54	0.40
1:A:2472:G:H21	1:A:2478:A:H62	1.69	0.40
1:A:2654:A:O3'	1:A:2655:G:H4'	2.22	0.40
1:A:2711:A:C8	1:A:2714:G:O4'	2.75	0.40
1:A:511:U:C5	1:A:512:G:C5	3.10	0.40
3:D:92:ILE:CD1	3:D:104:TYR:CD2	3.05	0.40
3:D:142:VAL:HA	3:D:194:GLY:H	1.86	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
5:F:64:ILE:HD12	5:F:64:ILE:HA	1.89	0.40
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.40
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.40
9:N:75:TYR:O	9:N:76:SER:O	2.40	0.40
10:O:112:MET:O	10:O:115:VAL:HG23	2.22	0.40
1:A:2684:U:O2'	10:O:68:GLU:HG3	2.21	0.40
11:P:2:LYS:O	11:P:5:ASP:CB	2.70	0.40
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:5:THR:HG1	14:S:7:TYR:HB3	1.86	0.40
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.40
15:T:50:ILE:HD11	15:T:102:ILE:CG1	2.52	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.59	0.40
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.40
16:U:62:ILE:HG23	16:U:76:TYR:CE1	2.57	0.40
21:Z:119:GLU:HG3	21:Z:122:ARG:HD2	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	D	270/276 (98%)	203 (75%)	48 (18%)	19 (7%)	2	33
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	3
5	F	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	1	20
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	15
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	2
8	I	144/148 (97%)	99 (69%)	32 (22%)	13 (9%)	1	24
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	7
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	30
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	3
12	Q	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	1	20
13	R	116/118 (98%)	82 (71%)	20 (17%)	14 (12%)	1	14
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	6
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	9
16	U	115/118 (98%)	87 (76%)	19 (16%)	9 (8%)	1	29
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	13
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	40
20	Y	100/110 (91%)	58 (58%)	16 (16%)	26 (26%)	0	2
21	Z	181/206 (88%)	113 (62%)	46 (25%)	22 (12%)	1	14
22	0	80/85 (94%)	66 (82%)	10 (12%)	4 (5%)	3	43
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	15
24	2	67/72 (93%)	47 (70%)	11 (16%)	9 (13%)	0	11
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	41
26	4	69/71 (97%)	23 (33%)	20 (29%)	26 (38%)	0	0
27	5	57/60 (95%)	33 (58%)	9 (16%)	15 (26%)	0	2
28	6	47/54 (87%)	15 (32%)	18 (38%)	14 (30%)	0	1
29	7	47/49 (96%)	37 (79%)	7 (15%)	3 (6%)	2	36
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	5
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3379/3526 (96%)	2252 (67%)	662 (20%)	465 (14%)	0	11

All (465) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	26	LYS
3	D	28	GLU
3	D	123	ALA
3	D	231	HIS
4	E	4	ILE
4	E	7	VAL
4	E	9	VAL
4	E	22	PRO
4	E	54	GLN
4	E	57	LYS
4	E	60	ASN
4	E	63	LEU
4	E	64	LYS
4	E	68	ALA
4	E	70	ALA
4	E	73	GLU
4	E	90	THR
4	E	92	THR

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Mol	Chain	Res	Type
4	E	93	VAL
4	E	169	ASN
4	E	187	ALA
4	E	189	PRO
5	F	25	PRO
5	F	66	PRO
5	F	68	LYS
5	F	73	ALA
5	F	89	VAL
5	F	128	ALA
5	F	176	LEU
6	G	4	ASP
6	G	14	GLU
6	G	79	ASN
6	G	86	MET
7	H	10	PRO
7	H	12	PRO
7	H	83	TYR
7	H	85	LYS
7	H	86	GLU
7	H	87	LEU
7	H	90	LYS
7	H	92	ILE
7	H	126	PRO
7	H	127	GLU
7	H	128	PRO
7	H	137	ASP
7	H	138	LYS
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	169	VAL
8	I	10	GLU
8	I	117	GLU
8	I	133	HIS
9	N	6	PRO
9	N	9	VAL
9	N	22	THR
9	N	36	GLY
9	N	58	ASP
9	N	95	PRO
9	N	97	ARG

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Mol	Chain	Res	Type
9	N	119	ARG
9	N	131	GLN
9	N	133	GLN
9	N	134	ARG
10	O	49	ARG
11	P	5	ASP
11	P	10	PRO
11	P	15	ARG
11	P	19	VAL
11	P	21	ARG
11	P	25	SER
11	P	27	HIS
11	P	36	LYS
11	P	38	GLN
11	P	42	SER
11	P	65	ARG
11	P	95	VAL
11	P	106	LEU
11	P	107	LYS
11	P	141	ALA
11	P	148	LEU
12	Q	6	ARG
12	Q	18	LYS
12	Q	22	LYS
12	Q	27	VAL
12	Q	81	VAL
12	Q	90	VAL
12	Q	134	ARG
13	R	2	ARG
13	R	3	HIS
13	R	4	LEU
13	R	14	SER
13	R	58	GLY
13	R	86	ARG
13	R	117	VAL
14	S	4	LEU
14	S	12	PHE
14	S	14	VAL
14	S	23	ARG
14	S	56	LEU
14	S	57	LYS
14	S	88	ASP

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Mol	Chain	Res	Type
14	S	89	ARG
14	S	90	GLY
14	S	107	GLU
15	T	2	ASN
15	T	3	ARG
15	T	39	ARG
15	T	55	ASN
15	T	58	ASN
15	T	90	GLN
15	T	94	ALA
15	T	97	ALA
15	T	106	SER
15	T	107	ASP
17	V	28	GLU
17	V	31	ALA
17	V	45	THR
17	V	48	GLY
17	V	49	THR
17	V	50	PRO
17	V	53	GLU
17	V	79	VAL
18	W	59	VAL
18	W	67	ASP
18	W	75	TYR
18	W	111	HIS
19	X	36	LYS
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	53	PRO
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA
20	Y	96	ILE
21	Z	6	LYS
21	Z	51	ALA
21	Z	179	ASP
23	1	30	VAL
23	1	54	ALA

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Mol	Chain	Res	Type
23	1	81	LYS
23	1	82	LEU
23	1	95	LEU
24	2	16	LEU
24	2	43	GLN
24	2	47	ASN
24	2	48	HIS
24	2	71	ASN
25	3	3	ARG
26	4	5	ILE
26	4	14	ILE
26	4	16	CYS
26	4	22	ILE
26	4	23	GLU
26	4	36	CYS
26	4	37	SER
26	4	40	HIS
26	4	42	PHE
26	4	43	TYR
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	62	ARG
26	4	66	SER
26	4	68	ARG
27	5	3	LYS
27	5	4	HIS
27	5	35	GLU
27	5	51	TYR
27	5	53	ALA
28	6	7	ILE
28	6	14	THR
28	6	15	GLU
28	6	19	ARG
28	6	21	TYR
28	6	33	LYS
28	6	45	LYS
28	6	48	VAL
30	8	29	LYS
30	8	31	HIS
30	8	34	TRP

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Mol	Chain	Res	Type
30	8	52	LYS
30	8	62	LEU
3	D	3	VAL
3	D	32	SER
3	D	58	HIS
3	D	122	ASP
3	D	169	GLU
4	E	8	LYS
4	E	37	ARG
4	E	53	PRO
4	E	61	ARG
4	E	78	LEU
4	E	88	GLY
4	E	186	GLY
4	E	190	GLY
4	E	204	ALA
5	F	18	ARG
5	F	107	LYS
5	F	108	LYS
5	F	111	ALA
5	F	132	VAL
5	F	134	GLY
5	F	168	ARG
6	G	5	VAL
6	G	36	LYS
6	G	81	LYS
6	G	82	LEU
6	G	96	ARG
6	G	110	ALA
6	G	115	ARG
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO
7	H	55	PRO
7	H	59	ARG
7	H	84	SER
7	H	151	ILE
7	H	156	ALA
7	H	168	PRO
8	I	11	ASN
8	I	13	GLY

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Mol	Chain	Res	Type
8	I	72	LEU
8	I	115	ALA
8	I	145	VAL
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU
11	P	6	LEU
11	P	11	GLY
11	P	12	ALA
11	P	16	ARG
12	Q	13	GLN
12	Q	24	GLY
12	Q	28	ALA
12	Q	57	HIS
13	R	11	ASN
14	S	87	PHE
14	S	96	GLY
14	S	100	ALA
14	S	109	GLY
14	S	111	GLU
15	T	4	GLY
15	T	36	GLU
15	T	43	GLN
15	T	67	SER
15	T	124	ASP
16	U	9	VAL
16	U	28	ARG
16	U	73	GLY
16	U	90	VAL
18	W	63	ASP
18	W	66	GLU
18	W	68	ARG
19	X	67	GLY
20	Y	4	LYS
20	Y	41	GLY
20	Y	56	PRO
20	Y	57	GLN
20	Y	99	CYS
21	Z	66	SER
21	Z	111	VAL

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Mol	Chain	Res	Type
21	Z	112	ARG
21	Z	116	VAL
21	Z	130	PRO
21	Z	158	PRO
21	Z	177	PRO
22	0	3	HIS
22	0	64	ASP
23	1	45	ASN
23	1	55	GLY
23	1	84	GLY
24	2	24	LEU
24	2	44	LEU
24	2	70	GLN
26	4	9	LEU
26	4	24	THR
27	5	43	HIS
27	5	55	ARG
29	7	39	ARG
3	D	111	LEU
3	D	242	ARG
3	D	262	ARG
4	E	20	ALA
4	E	62	PRO
4	E	69	LYS
4	E	71	GLY
4	E	82	ARG
4	E	117	MET
4	E	130	GLY
4	E	132	HIS
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL
7	H	81	GLU
7	H	152	ARG
8	I	15	VAL
8	I	112	LYS
9	N	45	ASN
9	N	130	HIS
9	N	132	ALA
9	N	135	PRO
11	P	7	ARG
11	P	14	LYS

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Mol	Chain	Res	Type
11	P	43	GLY
11	P	89	ALA
11	P	102	ARG
11	P	115	LEU
12	Q	88	GLY
12	Q	91	GLU
13	R	42	LYS
13	R	45	ARG
13	R	71	GLN
13	R	107	ASP
14	S	19	LYS
14	S	61	ASN
14	S	74	ALA
14	S	75	GLU
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG
16	U	93	LYS
17	V	54	GLY
18	W	93	ALA
19	X	48	LYS
19	X	87	GLN
20	Y	21	LYS
20	Y	39	VAL
20	Y	42	VAL
20	Y	69	ALA
20	Y	91	GLU
20	Y	102	CYS
21	Z	61	LEU
21	Z	81	ARG
21	Z	108	PRO
21	Z	166	SER
22	0	15	ASP
22	0	57	PHE
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU
26	4	27	THR
26	4	46	GLN
28	6	18	ARG
29	7	32	LYS
30	8	46	ARG

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Mol	Chain	Res	Type
30	8	47	LYS
3	D	12	SER
3	D	73	VAL
3	D	238	GLY
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
5	F	136	THR
5	F	145	GLU
6	G	12	TYR
6	G	117	PHE
6	G	146	TYR
7	H	13	LYS
7	H	109	PHE
7	H	159	GLU
8	I	80	PRO
9	N	96	GLU
9	N	127	ASP
10	O	17	ARG
10	O	97	ARG
11	P	29	LYS
11	P	47	ASP
11	P	139	LYS
15	T	37	GLY
15	T	78	LEU
15	T	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
21	Z	13	GLU
21	Z	59	LEU
21	Z	62	PRO
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS

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Mol	Chain	Res	Type
30	8	25	MET
30	8	53	PRO
30	8	57	ARG
3	D	33	LEU
4	E	79	ARG
5	F	47	GLY
5	F	118	ALA
7	H	11	VAL
7	H	27	LYS
7	H	47	GLU
7	H	77	LYS
7	H	170	ARG
8	I	118	LYS
9	N	29	LYS
9	N	104	LYS
9	N	128	HIS
10	O	25	LEU
11	P	50	ARG
11	P	97	PRO
11	P	108	LYS
13	R	85	PRO
16	U	91	ASP
18	W	32	ALA
20	Y	7	VAL
21	Z	5	LEU
21	Z	7	ALA
21	Z	153	SER
21	Z	165	VAL
25	3	13	ILE
26	4	30	GLU
26	4	33	VAL
27	5	42	PRO
28	6	35	GLU
30	8	64	TYR
3	D	178	PRO
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
15	T	38	ASN
17	V	36	PRO
18	W	11	ARG

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Mol	Chain	Res	Type
18	W	33	ARG
19	X	19	ALA
26	4	69	LYS
26	4	70	GLY
27	5	57	VAL
29	7	44	PRO
4	E	86	PRO
4	E	184	VAL
12	Q	86	GLY
13	R	32	GLY
18	W	35	ILE
21	Z	53	ILE
3	D	241	PRO
20	Y	27	VAL
20	Y	32	PRO
27	5	46	CYS
3	D	34	VAL
6	G	52	ILE
10	O	114	ILE
20	Y	51	VAL
27	5	34	PRO
4	E	52	LEU
4	E	55	ASN
8	I	18	VAL
10	O	27	GLY
25	3	40	THR
24	2	18	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	D	214/218 (98%)	177 (83%)	37 (17%)	3	21
4	E	165/166 (99%)	128 (78%)	37 (22%)	1	11
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	38
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	15
8	I	122/124 (98%)	94 (77%)	28 (23%)	1	9
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	26
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	52
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	9
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	26
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	24
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	30
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	16
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	34
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	36
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	26
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	30
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	21
21	Z	162/179 (90%)	133 (82%)	29 (18%)	2	20
22	0	65/67 (97%)	58 (89%)	7 (11%)	9	48
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	18
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	47
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	11
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	5
27	5	51/52 (98%)	39 (76%)	12 (24%)	1	9
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	13
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	68
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	6
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	75
All	All	2853/2923 (98%)	2355 (82%)	498 (18%)	3	21

All (498) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	10	THR
3	D	17	THR
3	D	26	LYS

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Mol	Chain	Res	Type
3	D	33	LEU
3	D	43	ARG
3	D	44	ASN
3	D	61	LEU
3	D	65	ILE
3	D	67	PHE
3	D	71	ASP
3	D	73	VAL
3	D	94	LEU
3	D	98	VAL
3	D	105	ILE
3	D	106	ILE
3	D	131	LEU
3	D	134	ARG
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN
3	D	173	VAL
3	D	183	ARG
3	D	192	THR
3	D	198	ASN
3	D	200	ASP
3	D	215	LEU
3	D	217	ARG
3	D	218	ARG
3	D	226	MET
3	D	230	ASP
3	D	237	GLU
3	D	257	LEU
3	D	259	THR
3	D	261	LYS
3	D	262	ARG
3	D	271	ILE
4	E	2	LYS
4	E	4	ILE
4	E	13	ARG
4	E	16	ARG
4	E	17	ASP
4	E	25	VAL
4	E	26	ILE
4	E	27	LEU

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Mol	Chain	Res	Type
4	E	33	VAL
4	E	36	ARG
4	E	37	ARG
4	E	38	THR
4	E	41	LYS
4	E	45	THR
4	E	54	GLN
4	E	61	ARG
4	E	62	PRO
4	E	66	HIS
4	E	73	GLU
4	E	75	VAL
4	E	77	ILE
4	E	79	ARG
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE
4	E	117	MET
4	E	119	ARG
4	E	143	ASN
4	E	146	THR
4	E	154	LYS
4	E	167	VAL
4	E	179	GLU
4	E	184	VAL
4	E	196	VAL
4	E	200	GLU
4	E	202	LYS
4	E	203	LYS
5	F	7	TYR
5	F	9	ILE
5	F	25	PRO
5	F	32	LEU
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	66	PRO
5	F	67	GLN
5	F	70	THR
5	F	82	ILE
5	F	106	ARG
5	F	108	LYS

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Mol	Chain	Res	Type
5	F	117	ARG
5	F	124	LEU
5	F	127	GLU
5	F	145	GLU
5	F	164	ARG
5	F	181	LEU
5	F	183	VAL
5	F	206	ILE
6	G	4	ASP
6	G	22	ARG
6	G	26	GLN
6	G	33	ARG
6	G	34	LEU
6	G	35	GLU
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE
6	G	67	LYS
6	G	71	THR
6	G	88	ILE
6	G	94	LEU
6	G	96	ARG
6	G	97	ASP
6	G	103	LEU
6	G	115	ARG
6	G	118	ARG
6	G	133	LEU
6	G	147	ASP
6	G	155	MET
6	G	156	ASP
6	G	159	VAL
6	G	167	GLU
6	G	174	GLU
7	H	3	ARG
7	H	4	ILE
7	H	9	ILE
7	H	10	PRO
7	H	11	VAL
7	H	16	SER
7	H	27	LYS
7	H	32	GLU
7	H	37	VAL

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Mol	Chain	Res	Type
7	H	41	MET
7	H	43	VAL
7	H	59	ARG
7	H	64	LEU
7	H	77	LYS
7	H	81	GLU
7	H	85	LYS
7	H	88	LEU
7	H	89	ILE
7	H	105	LEU
7	H	132	ARG
7	H	139	GLN
7	H	143	GLN
7	H	152	ARG
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	158	HIS
7	H	169	VAL
8	I	1	MET
8	I	2	LYS
8	I	3	VAL
8	I	10	GLU
8	I	27	ARG
8	I	31	LEU
8	I	33	ARG
8	I	38	LEU
8	I	40	THR
8	I	42	SER
8	I	51	ILE
8	I	56	LYS
8	I	57	ARG
8	I	67	ARG
8	I	70	GLU
8	I	85	GLU
8	I	88	ILE
8	I	93	THR
8	I	101	LEU
8	I	112	LYS
8	I	113	ARG
8	I	118	LYS
8	I	129	THR

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Mol	Chain	Res	Type
8	I	135	GLU
8	I	138	ILE
8	I	139	GLN
8	I	142	VAL
8	I	145	VAL
9	N	2	LYS
9	N	7	LYS
9	N	43	THR
9	N	48	MET
9	N	60	ILE
9	N	61	ARG
9	N	65	LYS
9	N	73	THR
9	N	78	TYR
9	N	90	MET
9	N	93	THR
9	N	94	HIS
9	N	101	HIS
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU
9	N	127	ASP
9	N	131	GLN
9	N	136	GLU
10	O	8	LEU
10	O	9	GLU
10	O	17	ARG
10	O	19	ILE
10	O	23	ARG
10	O	31	LYS
10	O	39	ILE
10	O	49	ARG
10	O	53	LYS
10	O	65	THR
11	P	5	ASP
11	P	9	ASN
11	P	10	PRO
11	P	16	ARG
11	P	21	ARG
11	P	27	HIS
11	P	29	LYS
11	P	30	THR

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Mol	Chain	Res	Type
11	P	32	THR
11	P	36	LYS
11	P	38	GLN
11	P	41	ARG
11	P	50	ARG
11	P	55	ARG
11	P	61	ARG
11	P	62	LEU
11	P	64	LYS
11	P	65	ARG
11	P	75	ILE
11	P	81	GLN
11	P	88	LEU
11	P	91	PHE
11	P	99	LEU
11	P	100	LEU
11	P	108	LYS
11	P	144	GLU
11	P	146	VAL
12	Q	2	LEU
12	Q	25	ASP
12	Q	26	TYR
12	Q	27	VAL
12	Q	45	GLN
12	Q	46	GLN
12	Q	54	MET
12	Q	55	VAL
12	Q	58	PHE
12	Q	60	ARG
12	Q	79	LEU
12	Q	83	MET
12	Q	89	ASN
12	Q	90	VAL
12	Q	91	GLU
12	Q	130	LYS
12	Q	135	ASP
12	Q	139	GLU
13	R	14	SER
13	R	31	HIS
13	R	37	THR
13	R	44	LEU
13	R	51	LEU

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Mol	Chain	Res	Type
13	R	57	ARG
13	R	66	VAL
13	R	67	LEU
13	R	71	GLN
13	R	75	LEU
13	R	76	VAL
13	R	81	ASP
13	R	95	THR
13	R	104	ARG
13	R	105	ARG
13	R	107	ASP
13	R	113	LEU
14	S	4	LEU
14	S	12	PHE
14	S	17	ARG
14	S	18	ILE
14	S	20	ARG
14	S	44	LYS
14	S	56	LEU
14	S	57	LYS
14	S	89	ARG
14	S	101	LEU
14	S	103	GLU
14	S	106	ARG
14	S	111	GLU
15	T	2	ASN
15	T	14	TYR
15	T	22	PHE
15	T	23	ARG
15	T	26	ASP
15	T	27	THR
15	T	42	ILE
15	T	51	ARG
15	T	58	ASN
15	T	65	LYS
15	T	73	GLU
15	T	78	LEU
15	T	86	ILE
15	T	87	ASP
15	T	99	LEU
15	T	100	TYR
15	T	104	ASN

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Mol	Chain	Res	Type
15	T	107	ASP
15	T	111	ARG
15	T	112	ARG
15	T	115	ARG
15	T	128	GLU
15	T	134	GLU
16	U	5	LYS
16	U	9	VAL
16	U	31	SER
16	U	52	ARG
16	U	74	LEU
16	U	76	TYR
16	U	79	PHE
16	U	88	ILE
16	U	92	ARG
16	U	98	LEU
16	U	108	GLU
16	U	114	LYS
16	U	117	GLN
17	V	13	ARG
17	V	14	VAL
17	V	18	LEU
17	V	35	LEU
17	V	38	LEU
17	V	39	LEU
17	V	40	LEU
17	V	66	ARG
17	V	75	PHE
17	V	91	TYR
17	V	99	ILE
18	W	11	ARG
18	W	14	PRO
18	W	16	LYS
18	W	18	ARG
18	W	19	LEU
18	W	20	VAL
18	W	63	ASP
18	W	67	ASP
18	W	69	LEU
18	W	70	TYR
18	W	87	PRO
18	W	88	ARG

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Mol	Chain	Res	Type
18	W	92	ARG
18	W	107	LEU
18	W	109	GLU
19	X	3	THR
19	X	6	ASP
19	X	15	GLU
19	X	27	THR
19	X	30	VAL
19	X	55	ASN
19	X	57	LEU
19	X	65	ARG
19	X	70	LEU
19	X	80	ILE
19	X	88	LYS
20	Y	7	VAL
20	Y	11	ASP
20	Y	27	VAL
20	Y	45	VAL
20	Y	57	GLN
20	Y	64	GLU
20	Y	75	ILE
20	Y	77	PRO
20	Y	79	CYS
20	Y	87	LYS
20	Y	88	LYS
20	Y	89	PHE
20	Y	90	LEU
20	Y	95	LYS
20	Y	97	ARG
21	Z	2	GLU
21	Z	4	ARG
21	Z	16	SER
21	Z	20	ARG
21	Z	24	LEU
21	Z	35	ARG
21	Z	76	LEU
21	Z	81	ARG
21	Z	82	ARG
21	Z	87	ASP
21	Z	90	VAL
21	Z	92	SER
21	Z	93	ASP

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Mol	Chain	Res	Type
21	Z	94	GLU
21	Z	112	ARG
21	Z	117	LEU
21	Z	121	HIS
21	Z	123	ASP
21	Z	128	VAL
21	Z	145	GLU
21	Z	148	ASP
21	Z	150	LEU
21	Z	151	HIS
21	Z	163	LEU
21	Z	166	SER
21	Z	168	GLU
21	Z	179	ASP
21	Z	182	LYS
21	Z	183	LEU
22	0	5	LYS
22	0	7	LEU
22	0	10	THR
22	0	11	ARG
22	0	36	ILE
22	0	43	THR
22	0	74	ARG
23	1	2	SER
23	1	11	ARG
23	1	21	ARG
23	1	30	VAL
23	1	40	ARG
23	1	41	ARG
23	1	56	GLN
23	1	76	ARG
23	1	80	LEU
23	1	81	LYS
23	1	83	GLU
23	1	87	PRO
23	1	91	LYS
23	1	92	LYS
23	1	97	LEU
24	2	7	ARG
24	2	9	GLN
24	2	16	LEU
24	2	24	LEU

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Mol	Chain	Res	Type
24	2	53	LEU
24	2	62	THR
24	2	64	LEU
25	3	4	LEU
25	3	8	LEU
25	3	9	VAL
25	3	10	LYS
25	3	17	LYS
25	3	30	ARG
25	3	31	LEU
25	3	32	GLN
25	3	37	LEU
25	3	40	THR
25	3	44	ARG
26	4	6	HIS
26	4	15	ILE
26	4	18	CYS
26	4	21	VAL
26	4	23	GLU
26	4	39	CYS
26	4	42	PHE
26	4	48	ARG
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	57	GLU
26	4	61	ARG
26	4	62	ARG
26	4	63	TYR
26	4	67	TYR
26	4	68	ARG
26	4	71	ARG
27	5	3	LYS
27	5	4	HIS
27	5	6	VAL
27	5	11	THR
27	5	19	ARG
27	5	25	LEU
27	5	36	CYS
27	5	37	LYS
27	5	43	HIS

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

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

Mol	Chain	Res	Type
3	D	44	ASN
3	D	143	HIS
3	D	166	GLN
3	D	198	ASN
4	E	48	GLN

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Mol	Chain	Res	Type
7	H	143	GLN
7	H	147	ASN
8	I	104	GLN
9	N	56	ASN
9	N	101	HIS
9	N	131	GLN
10	O	5	GLN
10	O	82	ASN
11	P	81	GLN
11	P	84	ASN
12	Q	123	HIS
13	R	3	HIS
15	T	55	ASN
15	T	58	ASN
16	U	81	HIS
16	U	94	ASN
17	V	11	GLN
18	W	61	ASN
19	X	55	ASN
19	X	87	GLN
20	Y	57	GLN
22	0	29	GLN
23	1	56	GLN
24	2	9	GLN
24	2	47	ASN
25	3	19	GLN
25	3	32	GLN
28	6	32	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2879/2916 (98%)	835 (29%)	82 (2%)
2	B	119/122 (97%)	32 (26%)	3 (2%)
32	a	1/3 (33%)	0	0
All	All	2999/3041 (98%)	867 (28%)	85 (2%)

All (867) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U

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Mol	Chain	Res	Type
1	A	10	G
1	A	11	G
1	A	15	G
1	A	27	G
1	A	34	C
1	A	35	G
1	A	46	C
1	A	49	A
1	A	50	U
1	A	51	G
1	A	54	G
1	A	55	G
1	A	61	G
1	A	63	U
1	A	69	C
1	A	71	A
1	A	72	U
1	A	73	A
1	A	74	A
1	A	75	G
1	A	83	G
1	A	84	A
1	A	88	G
1	A	95	G
1	A	99	U
1	A	101	G
1	A	102	G
1	A	103	A
1	A	104	U
1	A	118	A
1	A	120	U
1	A	121	G
1	A	122	G
1	A	131	G
1	A	137(A)	G
1	A	146	G
1	A	149	A
1	A	154	G
1	A	161	U
1	A	177	G
1	A	181	A
1	A	195	A

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Mol	Chain	Res	Type
1	A	196	A
1	A	200	U
1	A	201	C
1	A	205	G
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	224	G
1	A	226	G
1	A	227	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	233	A
1	A	242	G
1	A	243	U
1	A	248	G
1	A	249	C
1	A	252	G
1	A	265	A
1	A	266	G
1	A	269	U
1	A	270(K)	C
1	A	270(L)	U
1	A	270(M)	U
1	A	270(N)	G
1	A	270(P)	C
1	A	270(T)	G
1	A	270(W)	G
1	A	271(C)	U
1	A	271	G
1	A	273(E)	U
1	A	275	G
1	A	276	A
1	A	277	C
1	A	278	A
1	A	279	C
1	A	283	A
1	A	299	A

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Mol	Chain	Res	Type
1	A	300	A
1	A	305	U
1	A	306	U
1	A	311	A
1	A	316	C
1	A	317	G
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	333	G
1	A	334	C
1	A	335	C
1	A	338	G
1	A	342	G
1	A	346	A
1	A	347	A
1	A	350	U
1	A	352	G
1	A	354	G
1	A	360	G
1	A	363(E)	U
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	385	C
1	A	386	G
1	A	395	U
1	A	396	G
1	A	405	U
1	A	411	G
1	A	412	A
1	A	413	C
1	A	416	C
1	A	428	A
1	A	442	G
1	A	444	C
1	A	448	U
1	A	454	A
1	A	455	C
1	A	456	C

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Mol	Chain	Res	Type
1	A	457	A
1	A	470	A
1	A	477	A
1	A	481	G
1	A	483	A
1	A	493	G
1	A	494	G
1	A	498	G
1	A	503	A
1	A	504	U
1	A	505	A
1	A	509	C
1	A	513	A
1	A	518	G
1	A	527	C
1	A	528	A
1	A	529	A
1	A	531	C
1	A	532	A
1	A	533	G
1	A	537	C
1	A	539	G
1	A	540	G
1	A	546	C
1	A	549	G
1	A	553	U
1	A	556	G
1	A	563	G
1	A	567	A
1	A	568	U
1	A	571	A
1	A	573	G
1	A	574	C
1	A	575	A
1	A	588	U
1	A	595	C
1	A	598	G
1	A	599	G
1	A	603	A
1	A	604	G
1	A	607	U
1	A	609(A)	G

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Mol	Chain	Res	Type
1	A	614	U
1	A	615	G
1	A	617	G
1	A	621	A
1	A	624	C
1	A	627	A
1	A	629	G
1	A	631	A
1	A	637	A
1	A	638	G
1	A	645	C
1	A	646	A
1	A	647	G
1	A	651	G
1	A	652	C
1	A	654	A
1	A	654(B)	C
1	A	654(V)	A
1	A	657	U
1	A	664	C
1	A	668	G
1	A	669	G
1	A	676	A
1	A	686	G
1	A	690	G
1	A	696	G
1	A	698	C
1	A	702	G
1	A	704	G
1	A	705	A
1	A	714	U
1	A	717	G
1	A	722	A
1	A	728	G
1	A	730	C
1	A	747	U
1	A	751	A
1	A	752	A
1	A	753	C
1	A	758	C
1	A	765	G
1	A	775	G

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Mol	Chain	Res	Type
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	789	A
1	A	790	C
1	A	791	C
1	A	792	G
1	A	801	G
1	A	805	G
1	A	811	U
1	A	812	C
1	A	818	G
1	A	819	A
1	A	822	U
1	A	825	C
1	A	827	U
1	A	828	U
1	A	831	G
1	A	846	C
1	A	847	U
1	A	856	C
1	A	857	C
1	A	859	G
1	A	860	U
1	A	861	A
1	A	865	C
1	A	869	G
1	A	872	A
1	A	875	G
1	A	877	U
1	A	881	G
1	A	882	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C
1	A	893	C
1	A	896	A
1	A	897	C
1	A	899	A

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Mol	Chain	Res	Type
1	A	900	A
1	A	901	A
1	A	904	C
1	A	907	U
1	A	909	A
1	A	910	A
1	A	914	C
1	A	915	C
1	A	916	G
1	A	917	A
1	A	932	G
1	A	941	A
1	A	942	G
1	A	944	G
1	A	945	A
1	A	946	G
1	A	957	A
1	A	959	A
1	A	961	C
1	A	969	U
1	A	972	G
1	A	973	A
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	983	A
1	A	989	G
1	A	990	A
1	A	991	C
1	A	996	A
1	A	1003	G
1	A	1005	C
1	A	1008	C
1	A	1010	A
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1015	G
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1025	G

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Mol	Chain	Res	Type
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1037	G
1	A	1038	C
1	A	1044	G
1	A	1045	A
1	A	1046	A
1	A	1049	C
1	A	1050	A
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1065	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1069	A
1	A	1070	A
1	A	1071	G
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1087	G
1	A	1088	A
1	A	1090	U
1	A	1091	G
1	A	1093	G
1	A	1095	A
1	A	1096	A
1	A	1099	G
1	A	1104	C
1	A	1105	U
1	A	1110	G

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Mol	Chain	Res	Type
1	A	1111	A
1	A	1112	G
1	A	1115	G
1	A	1126	A
1	A	1128	A
1	A	1130	U
1	A	1131	G
1	A	1135	C
1	A	1136	G
1	A	1142	U
1	A	1142(A)	A
1	A	1143	A
1	A	1151	G
1	A	1155	A
1	A	1169	G
1	A	1173	G
1	A	1174	A
1	A	1175	U
1	A	1176	G
1	A	1178	C
1	A	1179	C
1	A	1180	C
1	A	1183	G
1	A	1186	G
1	A	1195	G
1	A	1197	G
1	A	1204	A
1	A	1205	U
1	A	1206	G
1	A	1210	A
1	A	1211	U
1	A	1212	G
1	A	1220	A
1	A	1238	G
1	A	1247	A
1	A	1248	G
1	A	1249	U
1	A	1251	C
1	A	1253	A
1	A	1255	U
1	A	1256	G
1	A	1265	A

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Mol	Chain	Res	Type
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1274	A
1	A	1275	A
1	A	1287	A
1	A	1288	U
1	A	1292	U
1	A	1300	U
1	A	1301	A
1	A	1302	A
1	A	1306	C
1	A	1308	A
1	A	1312	U
1	A	1313	U
1	A	1314	C
1	A	1316	U
1	A	1319	G
1	A	1320	C
1	A	1321	A
1	A	1329	U
1	A	1331	A
1	A	1332	G
1	A	1342	A
1	A	1349	A
1	A	1351	C
1	A	1356	G
1	A	1365	A
1	A	1368	G
1	A	1374	G
1	A	1379	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1391	U
1	A	1393	A
1	A	1406	U
1	A	1407	C
1	A	1408	C
1	A	1410	G
1	A	1411	C

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Mol	Chain	Res	Type
1	A	1416	G
1	A	1419	A
1	A	1420	U
1	A	1421	G
1	A	1427	A
1	A	1428	C
1	A	1429	G
1	A	1433	U
1	A	1444(A)	A
1	A	1445	C
1	A	1448	G
1	A	1449	A
1	A	1449(A)	G
1	A	1455	G
1	A	1458	C
1	A	1459	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1479	G
1	A	1482	U
1	A	1483	G
1	A	1485	G
1	A	1486	A
1	A	1493	C
1	A	1497	U
1	A	1502	C
1	A	1503	U
1	A	1504	C
1	A	1506	C
1	A	1507	A
1	A	1508	A
1	A	1510	A
1	A	1514	U
1	A	1515	C
1	A	1520	U
1	A	1522	G
1	A	1526	G
1	A	1529	A
1	A	1534	G
1	A	1535	U

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Mol	Chain	Res	Type
1	A	1536	A
1	A	1537	C
1	A	1541	U
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1554	A
1	A	1558	A
1	A	1559	G
1	A	1560	G
1	A	1568	G
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1580	A
1	A	1581	G
1	A	1582	C
1	A	1585	C
1	A	1586	A
1	A	1587	A
1	A	1592	C
1	A	1593	G
1	A	1595	G
1	A	1597	A
1	A	1602	U
1	A	1608	A
1	A	1609	A
1	A	1616	A
1	A	1617	C
1	A	1618	A
1	A	1639	U
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1674	G
1	A	1681	G
1	A	1694	C
1	A	1695	G
1	A	1699	G
1	A	1701	A
1	A	1704	G

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Mol	Chain	Res	Type
1	A	1725	G
1	A	1728	G
1	A	1729	A
1	A	1730	U
1	A	1731	G
1	A	1733	G
1	A	1741	C
1	A	1742	C
1	A	1743	G
1	A	1749	A
1	A	1752	C
1	A	1754	C
1	A	1756	G
1	A	1763	G
1	A	1764	G
1	A	1766	U
1	A	1773	A
1	A	1776	G
1	A	1779	U
1	A	1780	A
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1811	G
1	A	1815	A
1	A	1816	G
1	A	1817	G
1	A	1819	A
1	A	1820	U
1	A	1829	A
1	A	1830	C
1	A	1835	G
1	A	1839	G
1	A	1843	C
1	A	1845	G
1	A	1847	A
1	A	1848	A
1	A	1850	G
1	A	1858	G
1	A	1869	G
1	A	1870	C

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Mol	Chain	Res	Type
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1887	C
1	A	1888	G
1	A	1889	A
1	A	1896	G
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1918	A
1	A	1927	A
1	A	1930	G
1	A	1931	U
1	A	1934	C
1	A	1936	A
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1941	C
1	A	1947	C
1	A	1955	U
1	A	1963	U
1	A	1964	G
1	A	1966	A
1	A	1967	C
1	A	1968	G
1	A	1969	A
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1981	A
1	A	1982	C
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	2000	G
1	A	2004	G
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A

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Mol	Chain	Res	Type
1	A	2039	C
1	A	2043	C
1	A	2049	G
1	A	2055	C
1	A	2056	G
1	A	2058	A
1	A	2059	A
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2069	G
1	A	2076	U
1	A	2086	U
1	A	2089	U
1	A	2093	G
1	A	2097	C
1	A	2099	U
1	A	2100	G
1	A	2107	C
1	A	2108	C
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2119	A
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2128	C
1	A	2129	C
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2135	A
1	A	2136	C
1	A	2146	C
1	A	2148	G
1	A	2157	G
1	A	2158	A
1	A	2161	C

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Mol	Chain	Res	Type
1	A	2166	G
1	A	2167	U
1	A	2168	G
1	A	2169	A
1	A	2173	A
1	A	2176	A
1	A	2190	G
1	A	2192	G
1	A	2198	A
1	A	2199	A
1	A	2205	C
1	A	2208	U
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2215	G
1	A	2225	A
1	A	2226	C
1	A	2238	G
1	A	2239	G
1	A	2248	C
1	A	2251	G
1	A	2257	U
1	A	2268	A
1	A	2273	A
1	A	2275	C
1	A	2280	G
1	A	2283	C
1	A	2286	A
1	A	2287	A
1	A	2288	A
1	A	2294	C
1	A	2299	G
1	A	2303	G
1	A	2305	A
1	A	2307	G
1	A	2308	G
1	A	2310	A
1	A	2311	A
1	A	2319	G
1	A	2320	A
1	A	2322	A

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Mol	Chain	Res	Type
1	A	2325	G
1	A	2326	C
1	A	2328	A
1	A	2334	G
1	A	2336	A
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2354	G
1	A	2362	G
1	A	2372	G
1	A	2376	A
1	A	2382	G
1	A	2383	G
1	A	2384	G
1	A	2385	C
1	A	2388	A
1	A	2392	A
1	A	2394	C
1	A	2397	G
1	A	2399	G
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2426	A
1	A	2429	G
1	A	2430	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2445	G
1	A	2446	G
1	A	2448	A
1	A	2450	A
1	A	2452	C
1	A	2468	G
1	A	2469	A

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Mol	Chain	Res	Type
1	A	2474	C
1	A	2475	C
1	A	2476	A
1	A	2482	G
1	A	2483	C
1	A	2484	G
1	A	2494	G
1	A	2497	A
1	A	2498	C
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2519	U
1	A	2525	G
1	A	2529	G
1	A	2538	C
1	A	2539	C
1	A	2542	A
1	A	2543	G
1	A	2544	G
1	A	2551	C
1	A	2554	U
1	A	2557	G
1	A	2559	C
1	A	2563	U
1	A	2567	G
1	A	2568	C
1	A	2569	G
1	A	2572	A
1	A	2573	C
1	A	2574	G
1	A	2582	G
1	A	2586	C
1	A	2591	C
1	A	2596	U
1	A	2602	A
1	A	2605	U
1	A	2609	U
1	A	2610	C
1	A	2611	U
1	A	2612	C

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Mol	Chain	Res	Type
1	A	2614	A
1	A	2621	A
1	A	2623	G
1	A	2629	A
1	A	2630	G
1	A	2636	U
1	A	2638	G
1	A	2646	C
1	A	2655	G
1	A	2656	U
1	A	2665	A
1	A	2666	C
1	A	2667	C
1	A	2669	G
1	A	2673	G
1	A	2675	A
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2693	A
1	A	2698	U
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2744	G
1	A	2748	A
1	A	2750	A
1	A	2751	G
1	A	2752	C
1	A	2757	A
1	A	2761	G
1	A	2764	A
1	A	2765	A
1	A	2766	G

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Mol	Chain	Res	Type
1	A	2770	G
1	A	2771	C
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2780	G
1	A	2790	A
1	A	2791	C
1	A	2797	U
1	A	2807	G
1	A	2810	A
1	A	2812	G
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2825	C
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2838	G
1	A	2839	G
1	A	2844	G
1	A	2846	G
1	A	2849	U
1	A	2853	C
1	A	2866	U
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2878	U
1	A	2880	C
1	A	2886	G
1	A	2891	G
1	A	2892	A
1	A	2893	G
1	A	2894	G
2	B	8	U
2	B	11	C
2	B	12	C
2	B	13	A
2	B	15	A
2	B	19	G

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Mol	Chain	Res	Type
2	B	21	G
2	B	24	G
2	B	25	A
2	B	26	A
2	B	27	C
2	B	28	C
2	B	32	C
2	B	33	G
2	B	41	U
2	B	42	C
2	B	44	G
2	B	45	A
2	B	52	A
2	B	53	A
2	B	56	G
2	B	59	A
2	B	67	G
2	B	73	A
2	B	81	G
2	B	82	G
2	B	89	G
2	B	90	C
2	B	96	G
2	B	101	A
2	B	109	G
2	B	112	G

All (85) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	74	A
1	A	83	G
1	A	99	U
1	A	102	G
1	A	196	A
1	A	221	A
1	A	222	A
1	A	227	A
1	A	229	A
1	A	242	G
1	A	271(B)	G
1	A	271(C)	U

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Mol	Chain	Res	Type
1	A	277	C
1	A	345	A
1	A	370	G
1	A	372	G
1	A	503	A
1	A	508	G
1	A	512	G
1	A	562	U
1	A	587	C
1	A	620	G
1	A	627	A
1	A	637	A
1	A	704	G
1	A	746	A
1	A	752	A
1	A	762	U
1	A	774	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	974(A)	C
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1130	U
1	A	1141	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1220	A
1	A	1247	A
1	A	1265	A
1	A	1301	A
1	A	1312	U
1	A	1405	U
1	A	1427	A
1	A	1460	A
1	A	1558	A
1	A	1608	A
1	A	1653	G

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Mol	Chain	Res	Type
1	A	1694	C
1	A	1698	A
1	A	1799	G
1	A	1801	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1992	G
1	A	2031	A
1	A	2060	A
1	A	2126	A
1	A	2238	G
1	A	2282	G
1	A	2311	A
1	A	2335	A
1	A	2405	G
1	A	2439	A
1	A	2481	G
1	A	2506	U
1	A	2518	A
1	A	2581	G
1	A	2610	C
1	A	2689	U
1	A	2712	U
1	A	2776	A
1	A	2832	U
1	A	2848	G
1	A	2867	G
2	B	24	G
2	B	66	A
2	B	108	C

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	PPU	a	76	1,32	38,40,41	2.43	9 (23%)	54,57,60	2.62	14 (25%)

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

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

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	O-C	9.20	1.41	1.23
32	a	76	PPU	C-N3'	5.46	1.46	1.34
32	a	76	PPU	C9-N6	-5.39	1.32	1.45
32	a	76	PPU	C10-N6	-5.14	1.32	1.45
32	a	76	PPU	C8-N9	-3.09	1.32	1.36
32	a	76	PPU	C4-N9	-3.07	1.33	1.37
32	a	76	PPU	O4'-C1'	2.94	1.44	1.41
32	a	76	PPU	C6-C5	-2.57	1.40	1.44
32	a	76	PPU	C5-N7	-2.02	1.32	1.39

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	N3-C2-N1	-8.53	121.39	128.89
32	a	76	PPU	C3'-N3'-C	-8.18	110.17	123.19
32	a	76	PPU	C5-C4-N3	-6.38	119.76	125.98
32	a	76	PPU	C2'-C1'-N9	-5.44	98.53	113.35
32	a	76	PPU	C2'-C3'-N3'	5.17	125.08	113.08
32	a	76	PPU	C2-N1-C6	4.74	121.80	111.52
32	a	76	PPU	C4'-O4'-C1'	-4.00	105.33	109.72
32	a	76	PPU	N3-C4-N9	3.94	132.14	125.39
32	a	76	PPU	C4-C5-N7	-3.56	105.97	109.41
32	a	76	PPU	CM-OC-CZ	-3.18	110.14	117.54
32	a	76	PPU	O4'-C1'-N9	-2.69	102.25	108.10
32	a	76	PPU	C4'-C3'-N3'	-2.66	107.95	113.56
32	a	76	PPU	C2-N3-C4	2.63	120.83	113.27
32	a	76	PPU	CA-C-N3'	2.06	121.73	115.94

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 252 ligands modelled in this entry, 252 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

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

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

6.3 Carbohydrates ⓘ

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

6.4 Ligands ⓘ

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

6.5 Other polymers ⓘ

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