



Full wwPDB X-ray Structure Validation Report

Sep 15, 2014 – 02:34 PM EDT

PDB ID : 1VW0
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>

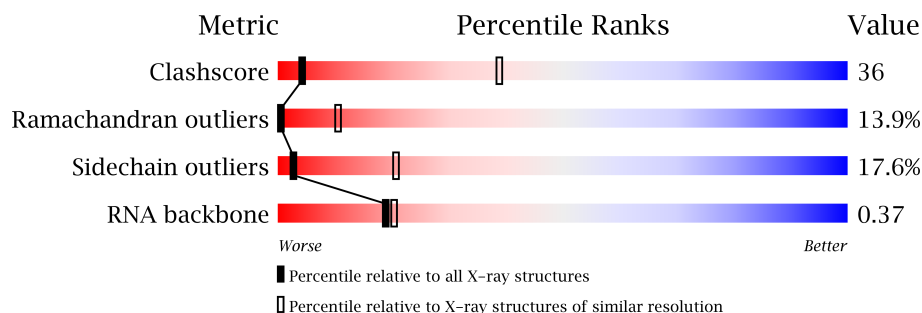
The following versions of software and data (see [references](#)) were used in the production of this report:

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 92289 atoms, of which 0 are hydrogen and 0 are deuterium.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 9 is a protein called 50S ribosomal protein 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	Q	1	Total	Mg	0	0
			1	1		
33	E	1	Total	Mg	0	0
			1	1		
33	B	3	Total	Mg	0	0
			3	3		
33	7	1	Total	Mg	0	0
			1	1		
33	A	269	Total	Mg	0	0
			269	269		

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

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

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

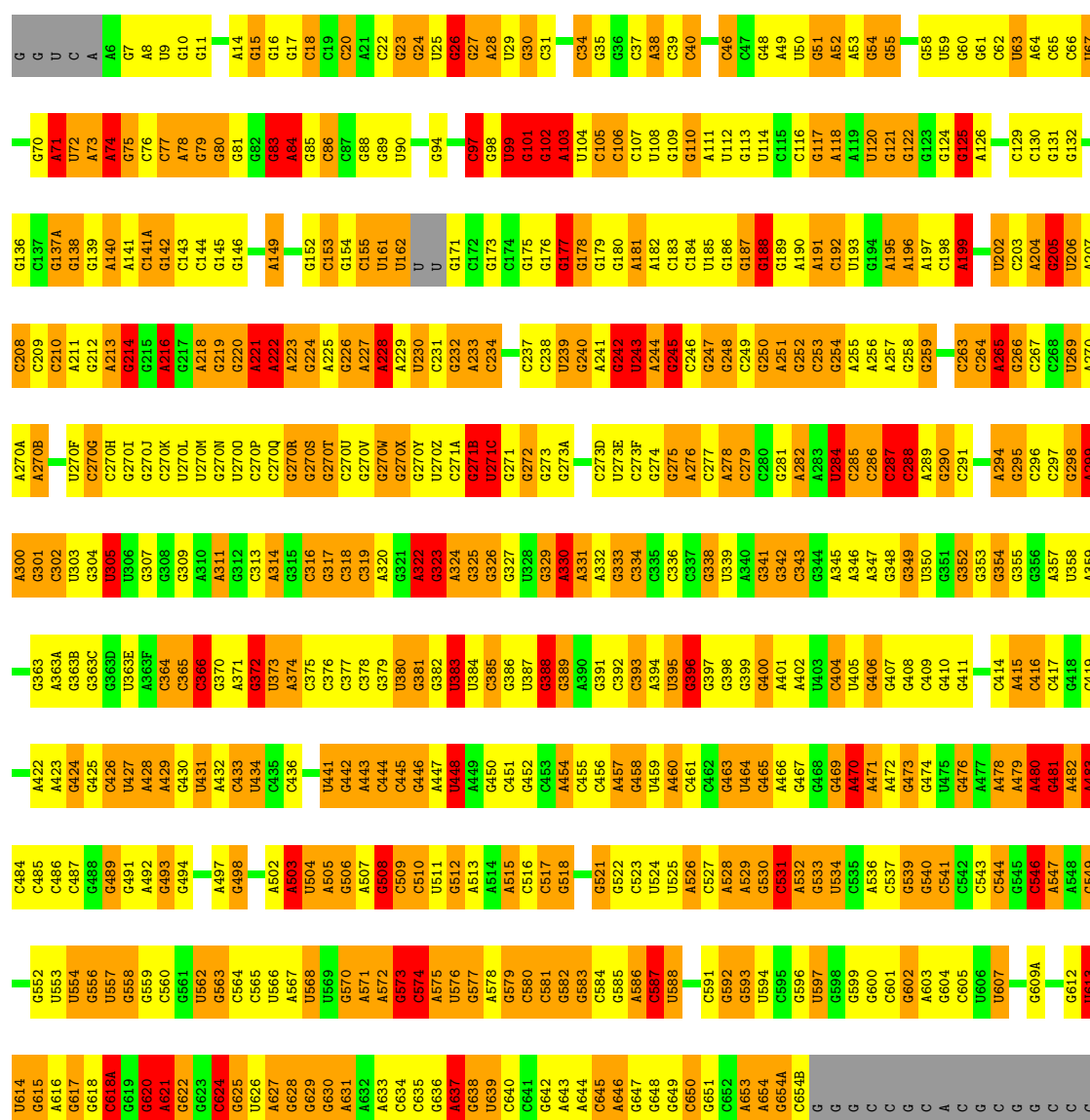
3 Residue-property plots

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

Note EDS was not executed.

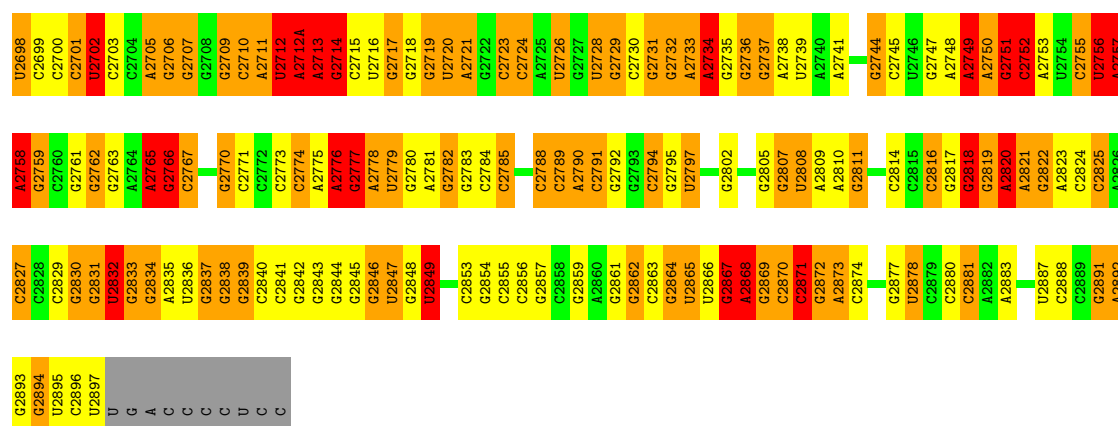
• Molecule 1: 23S rRNA

Chain A:



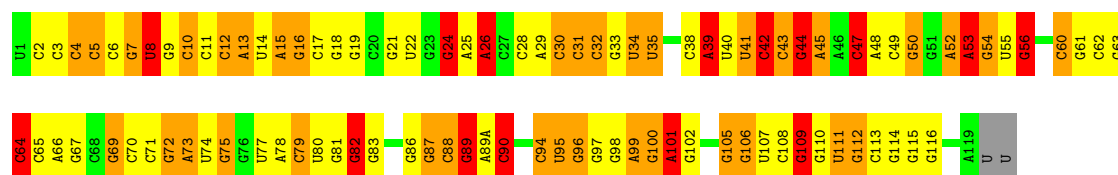
A1586	G1522	A1457	C1398	G1338	G1277	C1215	C1152	A1088	C961	C898	G836	G775	G713	G654S
A1587	G1523	C1458	C1399	G1339	A1278	G1216	C1153	G1089	G962	A899	C837	G776	G714	C654T
C1588	G1524	G1459	G1400	G1340	G1279	G1217	G1154	U1090	U963	A900	C839	A777	G715	A654U
A1589	G1525	A1460	G1401	U1341	G1280	C1218	A1155	G1091	C964	A901	U839	A778	A716	A654V
U1590	G1526	G1461	C1402	A1342	G1281	G1219	A1156	C1092	C965	C902	A840	U779	G717	A655
G1591	G1527	C1464	G1403	G1343	U1282	G1157	A1158	G1093	G966	C903	A841	G780	A718	G656
C1592	A1528	C1464	G1404	G1344	G1283	C1221	C1158	U1094	C967	C904	G842	A781		U657
G1593	A1529	C1467	U1405	G1345	A1284	C1222	U1159	A1095	G968	U905	G843	A782	C721	C658
G1594	G1530	C1468	U1406	G1346	G1285	C1223	U1159	A1096	G969	G906	G844	A783	A722	C659
C1595	C1531	A1468	C1407	G1347	A1286	G1224	C1161	U1097	C970	U907	G845	A784	G723	G660
A1596	G1532	A1469	C1408	G1348	A1287	C1225	G1162	A1098	C971	C908	G846	G785	U724	C661
C1597	C1533	G1470	G1409	A1349	U1288	G1226	G1163	G1099	G972	A909	U847	G786	G725	G662
	G1534	A1471	G1410	C1350	C1289	A1227	G1164	C1100	A973	A910	G848	U787	G726	G663
U1585	U1535	A1472	C1411	C1351	C1290	G1228	U1165	U1101	G974	A911	G849	A788	A727	C664
G1601	A1536	G1473	A1412	U1352	C1291	C1230	C1166	A1102	C974A		C850	A789	G728	C665
A1602	C1537		G1413	U1353	U1292	G1231		A1103	G975	U913	U851	G790	G729	G666
A1603	G1538	A1477	G1414	A1354	C1293	G1169	G1170	C1104	G976	C914	G852	C791	C730	U667
C1604	G1539	G1478	U1415	G1355	U1294	G1171	G1172	U1105	G977	C915	G853	G792	C731	G668
G1605	U1540	G1479	C1416	U1356	C1295	G1171	G1172	G1106	G978	G916	G854	A793	C732	G669
G1606	U1541	G1480	C1417	U1357	G1296	G1235	G1173		G979	A917	G855	G794	G733	A670
C1607	U1542	U1482	G1418	G1358	C1297	G1236	G1173	C1109	A980	A918	C856	C795	G734	C671
A1608	A1543	G1483	A1419	A1359	C1298	U1237	U1175	G1110	C981	G919	C857	C796	A735	C672
C1544	C1544	G1484	U1420	A1360	G1299	G1176	G1177	A1111	C982	G920	U858	C797	C736	C673
A1610	A1545	G1485	G1421	U1361	U1300	G1239	A1177	G1112	A983	G921	G859	G798	C737	G674
A1611	A1545A	A1486	G1422	C1362	A1301	U1240	C1178	U1113	A984	U922	U860	G799	G738	A675
C1612	C1546	G1487	G1423	C1363	A1302	A1241	C1179	G1114	C985	C923	A861	A800	G739	A676
G1613	C1547	G1488	G1424	G1364	G1303	A1242	C1180		C986		G862	G801	U740	A677
A1614	A1548	U1489	G1425	A1365	C1304	G1243	C1181	G1115	G987	G928	A863	A802	G741	C678
C1615	C1549	A1490	G1426	A1366	C1306	G1244	G1183	A1182	A988	G929	G864	U803	G742	C679
A1616	G1427	G1491	G1427	C1367	C1306	G1245	G1183	A1182	C989	U930	C965	A804	G743	G680
C1617	C1550	G1492	G1428	G1368	A1307	A1246	G1184	G1122	A990	G931	A866	G805	G744	G681
A1618	U1551	C1493	G1429	G1369	A1308	A1247	C1185	C1123	C991	G932	C967	C806	G745	G682
G1619		A1494	C1430	C1370	G1309	G1248	G1186	G1124	A992	A933	U868	U807		
C1557	C1557	A1495	U1431	G1371	G1310	U1249	G1187	G1125	G993	G934	G869	G808	A746	G683
U1621	A1558	A1496	C1432	A1372	G1311	G1250	U1188	A1126	C994	C935	A870	G809	C754	G684
G1622	G1559	U1497	U1433	A1373	U1312	C1251	A1189	A127	C995	C936	U871	U810	C755	C691
G1623	G1560	C1498	A1434	G1374	U1313	G1252	G1190	A128	A996	U937	A872	U811	C756	C692
G1624	G1561	C1499	G1435	C1375	C1314	A1253	G1191	A1129	G997	G938	G873	C812	U757	C693
G1625	A1562	G1500	G1436	C1376	U1315	U1254	G1192	U1130	G999	G939	G874	U813	G758	U694
G1626	G1563	C1501	C1437	G1377	U1316	U1255	G1193	G1131	G875	G940	G876	C814	C759	G690
G1627	C1564	U1438	U1438	A1378	A1317	G1256	A1194	A1132	C941	G942	U877	C815	C755	C691
G1628	C1565	U1503	A1439	G1379	C1318	C1257	G1195	U1133	G1002	G943	C884	G823	U762	C692
G1629	G1566	G1504	G1440	G1380	G1319	C1258	C1196	G1135	G1003	U943	C885	A824	G763	A699
G1630	A1567	C1505	G1441	G1381	C1320	G1259	G1197	G1136	C1004	G944	A878	C818	A764	G700
C1630A	G1568	C1506	G1442	G1382	A1321	G1260	U1198	G1137	C1005	A945	G881	A819	G765	G701
A1631	A1569	A1507	G1443	C1383	A1322	U1261	U1199	G1138	G1006	G946	G882	A820	G766	G702
A1632	A1570	A1508	G1444	A1384	U1323	U1263	C1200	G1139	C1007	G947	G883	U822	A761	U703
G1633	C1571	C1509	A1444A	G1385	G1324	G1264	C1201	C1140	C1008	G948	C884	G823	U762	C698
G1634	A1572	A1510	G1445	C1386	G1325	A1265	C1202	U1141	A1009	C949	C885	A824	G763	A699
G1635	C1573	A1511	G1446	C1387	U1326	G1266	G1203	U1142	C950	G950	C886	C825	A764	G700
C1636	C1574	G1512	G1447	G1388	C1327	U1267	A1204	A1142	G951	C951	A887	U826	G765	G701
A1637	C1575	C1513	G1448	G1389	G1328	A1268	U1205	A1143	U1012	G952	C888	U827	G766	G702
C1638	U1576	U1514	A1449	U1390	U1329	A1269	G1206	G1144	C953	A953	C889	U828	U767	U703
U1639	C1577	C1515	G1449A	U1391	C1330	C1270	C1207	U1081	U1014	G954	A890	A829	G768	G704
C1640	U1578	U1516	G1450	A1392	G1271	G1271	C1146	C1146	G955	C955	G892	G830	G769	G705
A1641	G1579	G1517	C1451	A1393	G1332	A1272	C1147	U1083	G1015	G956	C893	G831	G770	A706
G1642	A1580	C1518	U1453	U1394	C1333	U1273	U1211	A1148	G1017	A957	C894	G832	G771	G707
		U1454	U1454	A1395	U1396	A1274	A1212	A1085	C1018	U958	C895	U833	C772	C708
C1646		U1520	G1455	U1396	A1336	A1275	A1213	A1086	U1019	A959	A896	C834	C773	
G1647	C1585	G1521	G1456	U1397	G1337	A1276	A1214	G1151	A1020	A960	C897	A835	A774	G712





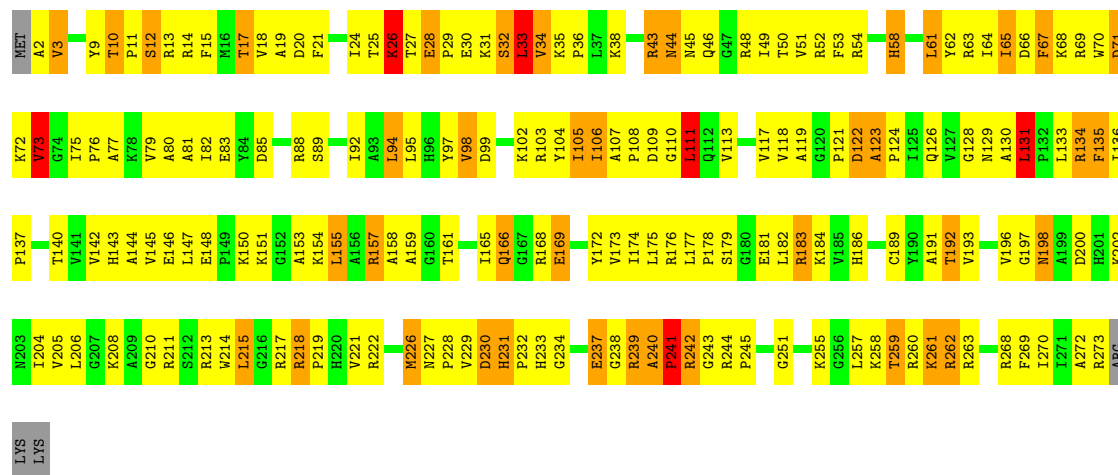
• Molecule 2: 5S rRNA

Chain B:



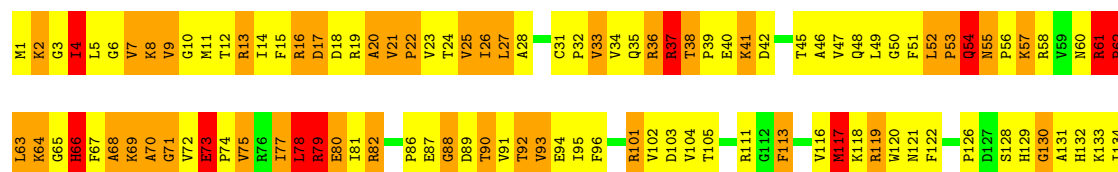
• Molecule 3: 50S ribosomal protein L2

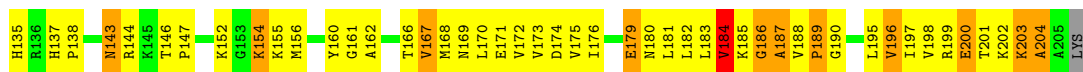
Chain D:



• Molecule 4: 50S ribosomal protein L3

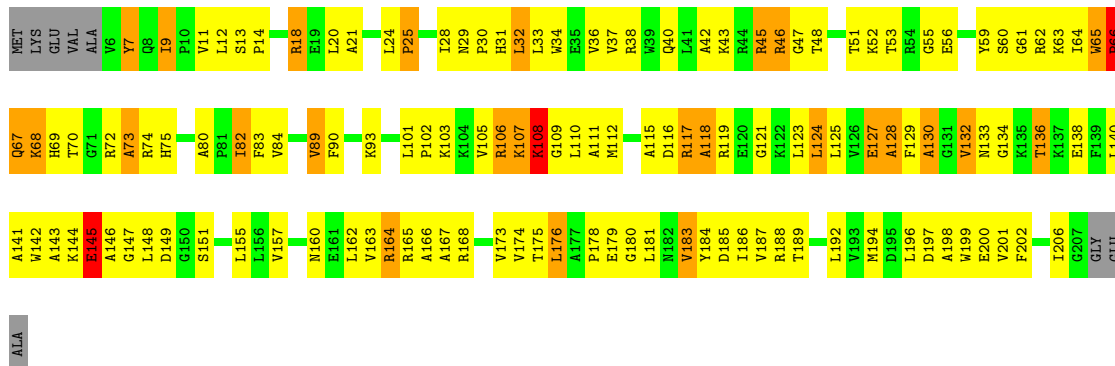
Chain E:





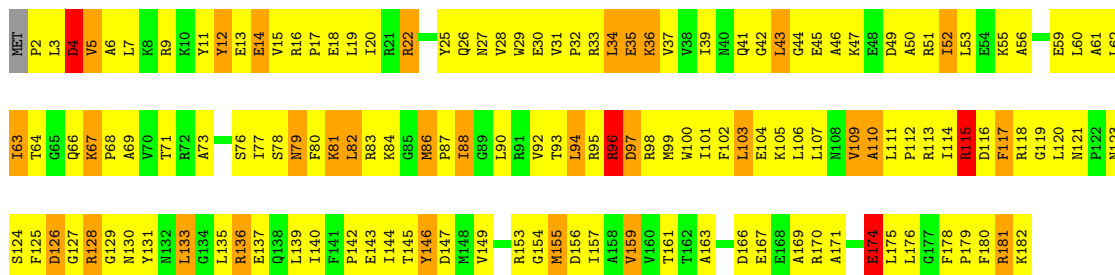
• Molecule 5: 50S ribosomal protein L4

Chain F:



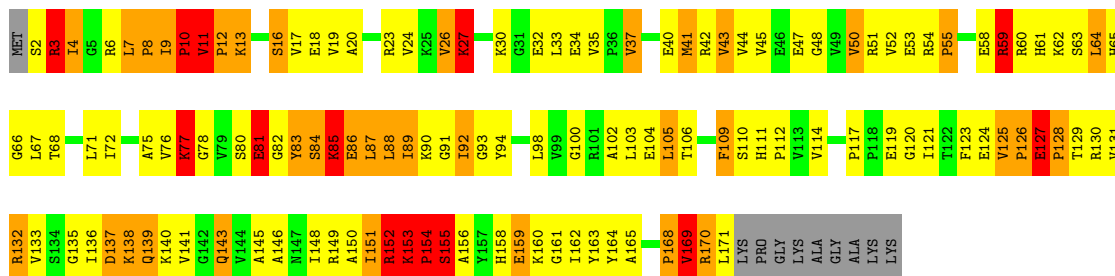
• Molecule 6: 50S ribosomal protein L5

Chain G:



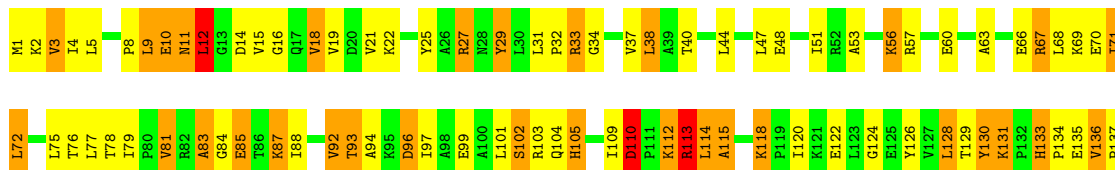
• Molecule 7: 50S ribosomal protein L6

Chain H:



• Molecule 8: 50S ribosomal protein L9

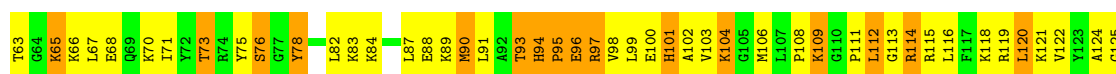
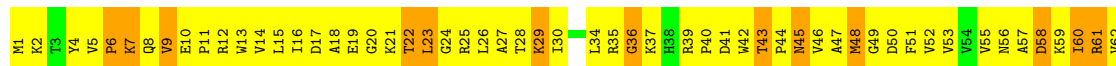
Chain I:





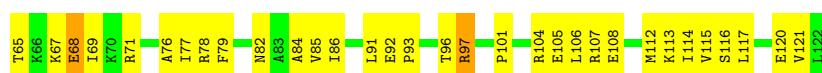
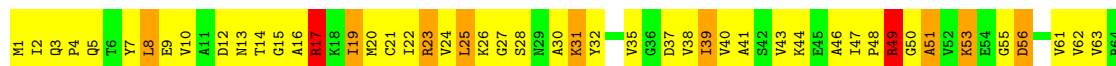
• Molecule 9: 50S ribosomal protein L13

Chain N:



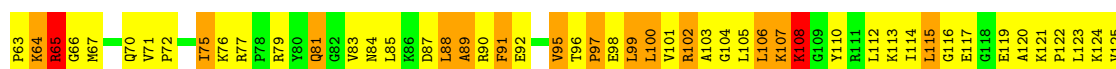
• Molecule 10: 50S ribosomal protein L14

Chain O:



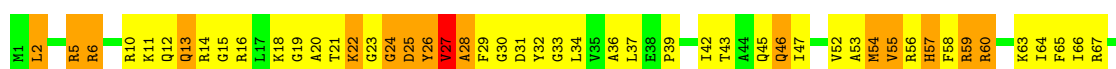
• Molecule 11: 50S ribosomal protein L15

Chain P:



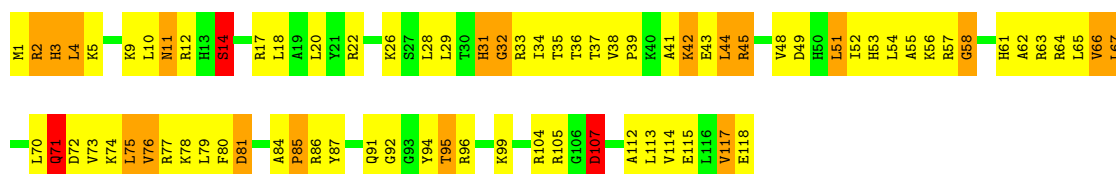
• Molecule 12: 50S ribosomal protein L16

Chain Q:



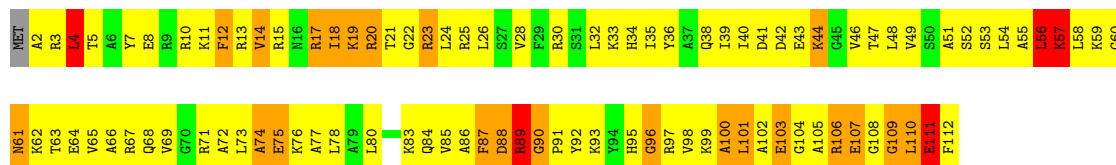
• Molecule 13: 50S ribosomal protein L17

Chain R:



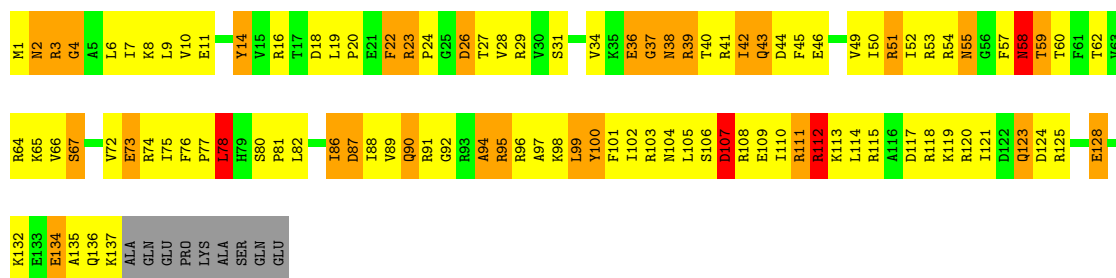
• Molecule 14: 50S ribosomal protein L18

Chain S:



• Molecule 15: 50S ribosomal protein L19

Chain T:



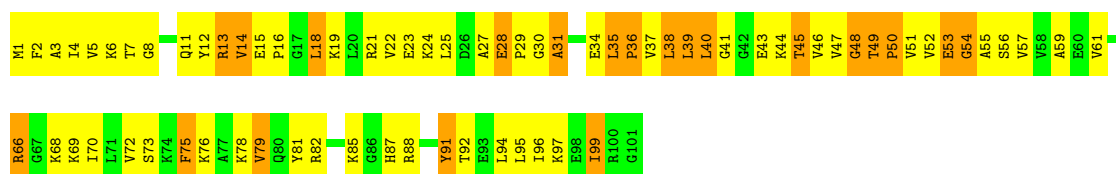
• Molecule 16: 50S ribosomal protein L20

Chain U:



• Molecule 17: 50S ribosomal protein L21

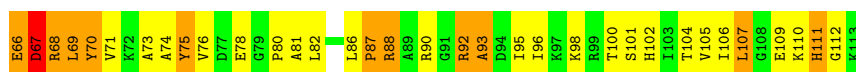
Chain V:



• Molecule 18: 50S ribosomal protein L22

Chain W:





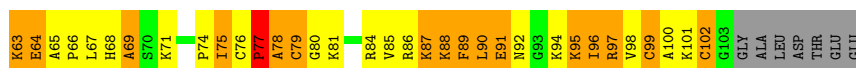
• Molecule 19: 50S ribosomal protein L23

Chain X:



• Molecule 20: 50S ribosomal protein L24

Chain Y:



• Molecule 21: 50S ribosomal protein L25

Chain Z:



• Molecule 22: 50S ribosomal protein L27

Chain 0:



• Molecule 23: 50S ribosomal protein L28

Chain 1:



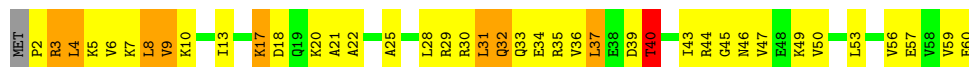
• Molecule 24: 50S ribosomal protein L29

Chain 2:



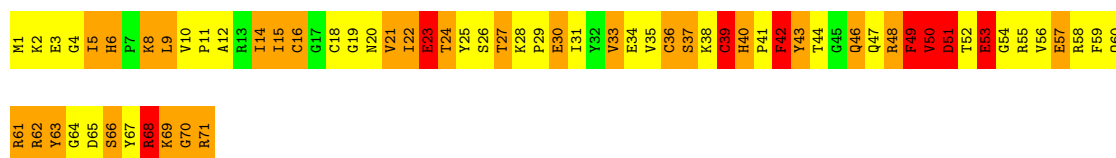
- Molecule 25: 50S ribosomal protein L30

Chain 3:



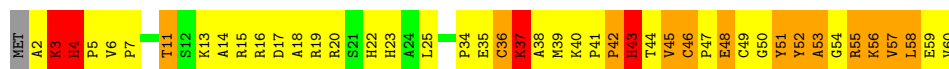
- Molecule 26: 50S ribosomal protein L31

Chain 4:



- Molecule 27: 50S ribosomal protein L32

Chain 5:



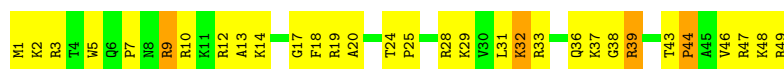
- Molecule 28: 50S ribosomal protein L33

Chain 6:



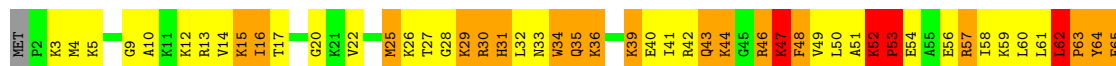
- Molecule 29: 50S ribosomal protein L34

Chain 7:



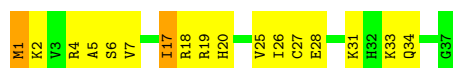
- Molecule 30: 50S ribosomal protein L35

Chain 8:



- Molecule 31: 50S ribosomal protein L36

Chain 9:



- Molecule 32: tRNA acceptor end mimic

Chain a: 



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, 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	92289	wwPDB-VP
Average B, all atoms (Å ²)	42.0	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	1.19	254/69543 (0.4%)	1.98	3497/108563 (3.2%)
2	B	0.86	1/2878 (0.0%)	1.72	76/4490 (1.7%)
3	D	0.56	1/2165 (0.0%)	0.90	4/2919 (0.1%)
4	E	0.52	0/1601	0.91	2/2160 (0.1%)
5	F	0.50	0/1620	0.76	0/2194
6	G	0.40	0/1499	0.66	0/2016
7	H	0.45	0/1332	0.85	4/1802 (0.2%)
8	I	0.44	0/1151	0.76	0/1558
9	N	0.46	0/1131	0.78	1/1525 (0.1%)
10	O	0.53	0/943	0.71	0/1269
11	P	0.49	0/1162	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.90	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.45	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	0.43	0/1493	0.70	0/2026
22	0	0.55	0/657	0.80	1/874 (0.1%)
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.83	1/771 (0.1%)
25	3	0.43	0/474	0.71	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.51	0/473	0.74	0/639
28	6	0.42	0/431	0.76	0/575
29	7	0.56	0/438	0.76	0/575
30	8	0.62	0/525	0.93	1/691 (0.1%)
31	9	0.37	0/310	0.61	0/407
32	a	0.79	0/40	1.81	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	1.04	256/100205 (0.3%)	1.75	3600/150318 (2.4%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
21	Z	0	1

All (256) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	783	A	N7-C5	-11.18	1.32	1.39
1	A	793	A	N7-C5	-10.74	1.32	1.39
1	A	783	A	C5-C6	-10.48	1.31	1.41
1	A	1378	A	N9-C4	-10.25	1.31	1.37
1	A	793	A	N9-C4	-10.17	1.31	1.37
1	A	686	G	N7-C5	-9.19	1.33	1.39
1	A	776	G	N7-C5	9.02	1.44	1.39
1	A	2060	A	N3-C4	-8.73	1.29	1.34
1	A	783	A	N3-C4	-8.69	1.29	1.34
1	A	503	A	C6-N1	-8.49	1.29	1.35
1	A	783	A	N9-C4	-8.48	1.32	1.37
1	A	512	G	N7-C5	8.32	1.44	1.39
1	A	686	G	N3-C4	-8.27	1.29	1.35
1	A	2251	G	C6-N1	-8.13	1.33	1.39
1	A	687	C	N1-C6	-7.99	1.32	1.37
1	A	71	A	N9-C4	-7.97	1.33	1.37
1	A	2542	A	N9-C4	-7.89	1.33	1.37
1	A	1439	A	N9-C4	-7.72	1.33	1.37
1	A	1543	A	C3'-C2'	7.69	1.61	1.52
1	A	745	G	N7-C5	-7.55	1.34	1.39
1	A	2060	A	C5-C6	-7.45	1.34	1.41
1	A	2067	G	N3-C4	-7.40	1.30	1.35
1	A	686	G	C6-N1	-7.40	1.34	1.39
1	A	2060	A	N9-C4	-7.36	1.33	1.37
1	A	793	A	N3-C4	-7.34	1.30	1.34
1	A	1899	G	N9-C4	-7.26	1.32	1.38
1	A	1247	A	N3-C4	-7.24	1.30	1.34
1	A	1938	A	N9-C4	-7.21	1.33	1.37
1	A	575	A	N9-C4	-7.14	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2360	A	N9-C4	-7.12	1.33	1.37
1	A	454	A	N9-C4	-7.09	1.33	1.37
1	A	793	A	C5-C6	-7.06	1.34	1.41
1	A	2247	A	N7-C5	-7.05	1.35	1.39
1	A	2060	A	N7-C5	-7.04	1.35	1.39
1	A	2062	A	N3-C4	7.04	1.39	1.34
1	A	203	C	N1-C6	-7.03	1.32	1.37
1	A	2227	A	N3-C4	-6.95	1.30	1.34
1	A	311	A	N9-C4	-6.92	1.33	1.37
1	A	788	A	C5-C6	-6.91	1.34	1.41
1	A	503	A	N3-C4	-6.90	1.30	1.34
1	A	1789	A	N9-C4	-6.89	1.33	1.37
1	A	2062	A	C5-C4	6.85	1.43	1.38
1	A	1247	A	N9-C4	-6.83	1.33	1.37
1	A	528	A	N9-C4	-6.82	1.33	1.37
1	A	473	G	C5-C4	-6.77	1.33	1.38
1	A	687	C	N1-C2	-6.75	1.33	1.40
1	A	1609	A	N9-C4	-6.71	1.33	1.37
1	A	1251	C	N1-C6	-6.71	1.33	1.37
1	A	1605	C	N1-C6	-6.70	1.33	1.37
1	A	1021	A	N9-C4	-6.69	1.33	1.37
1	A	1950	G	C2-N3	6.68	1.38	1.32
1	A	1668	A	C6-N1	-6.67	1.30	1.35
1	A	2252	G	N7-C5	-6.63	1.35	1.39
1	A	788	A	N9-C4	-6.63	1.33	1.37
1	A	2432	A	C5-C6	-6.61	1.35	1.41
1	A	1966	A	N9-C4	-6.60	1.33	1.37
1	A	2251	G	N3-C4	-6.55	1.30	1.35
1	A	2080	G	N7-C5	-6.49	1.35	1.39
1	A	1899	G	N3-C4	-6.49	1.30	1.35
1	A	246	C	N1-C6	-6.49	1.33	1.37
1	A	2335	A	N9-C4	-6.48	1.33	1.37
1	A	787	U	N1-C2	-6.48	1.32	1.38
1	A	794	G	N7-C5	-6.48	1.35	1.39
1	A	2227	A	N9-C4	-6.48	1.33	1.37
1	A	780	G	N7-C5	-6.43	1.35	1.39
1	A	1571	A	N9-C4	-6.42	1.33	1.37
1	A	2032	G	N9-C8	6.42	1.42	1.37
1	A	515	A	N9-C4	-6.41	1.34	1.37
1	A	1890	A	N9-C4	-6.41	1.34	1.37
1	A	2452	C	N1-C6	-6.40	1.33	1.37
1	A	142	G	N9-C4	-6.37	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1367	A	N7-C5	-6.35	1.35	1.39
1	A	2611	U	C2-N3	-6.32	1.33	1.37
1	A	1762	A	N9-C4	6.32	1.41	1.37
1	A	454	A	N7-C5	-6.29	1.35	1.39
1	A	2450	A	N7-C5	-6.29	1.35	1.39
1	A	216	A	N7-C5	-6.28	1.35	1.39
1	A	1613	G	C8-N7	-6.27	1.27	1.30
1	A	2450	A	N3-C4	-6.26	1.31	1.34
1	A	761	A	C5-C6	-6.26	1.35	1.41
1	A	1606	G	N9-C8	-6.25	1.33	1.37
1	A	1770	G	N7-C5	-6.24	1.35	1.39
1	A	309	G	N9-C4	6.23	1.43	1.38
1	A	469	G	C6-N1	-6.22	1.35	1.39
1	A	1610	A	C5-C6	-6.22	1.35	1.41
1	A	1675	C	N3-C4	-6.21	1.29	1.33
1	A	1626	G	N7-C5	-6.18	1.35	1.39
1	A	2518	A	N9-C4	-6.16	1.34	1.37
1	A	1380	G	N7-C5	-6.15	1.35	1.39
1	A	687	C	C4-C5	-6.14	1.38	1.43
1	A	2432	A	N7-C5	-6.10	1.35	1.39
1	A	563	G	C6-N1	-6.10	1.35	1.39
1	A	1698	A	N7-C5	-6.09	1.35	1.39
1	A	2430	A	N3-C4	-6.09	1.31	1.34
1	A	766	C	N3-C4	-6.09	1.29	1.33
1	A	2451	A	N7-C5	-6.08	1.35	1.39
1	A	469	G	N7-C5	-6.07	1.35	1.39
1	A	1774	C	N1-C2	-6.07	1.34	1.40
1	A	1610	A	N7-C5	-6.05	1.35	1.39
1	A	1203	G	N9-C4	6.03	1.42	1.38
1	A	2059	A	N9-C4	-6.03	1.34	1.37
1	A	818	G	N7-C5	-6.02	1.35	1.39
1	A	2252	G	C5-C6	-6.01	1.36	1.42
1	A	503	A	N7-C5	-6.00	1.35	1.39
1	A	627	A	N9-C4	-5.99	1.34	1.37
1	A	1543	A	C2'-C1'	-5.99	1.46	1.53
1	A	1616	A	N9-C4	-5.99	1.34	1.37
1	A	298	G	N9-C8	5.98	1.42	1.37
1	A	216	A	C5-C6	-5.95	1.35	1.41
1	A	1378	A	N3-C4	-5.94	1.31	1.34
1	A	775	G	N7-C5	-5.93	1.35	1.39
1	A	2686	G	N9-C4	5.93	1.42	1.38
1	A	701	G	N3-C4	-5.93	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	681	G	N3-C4	-5.92	1.31	1.35
1	A	1571	A	N3-C4	-5.91	1.31	1.34
1	A	574	C	N1-C6	-5.90	1.33	1.37
1	A	140	A	C5-C6	-5.88	1.35	1.41
1	A	793	A	C5-C4	-5.88	1.34	1.38
1	A	2621	A	N9-C4	-5.88	1.34	1.37
1	A	682	G	N7-C5	-5.88	1.35	1.39
1	A	782	A	N7-C5	-5.87	1.35	1.39
1	A	1771	C	N1-C6	-5.85	1.33	1.37
1	A	2597	G	N3-C4	-5.84	1.31	1.35
1	A	2577	A	N9-C4	-5.83	1.34	1.37
1	A	960	A	N9-C4	-5.82	1.34	1.37
1	A	512	G	C8-N7	5.81	1.34	1.30
1	A	1690	A	N9-C4	-5.81	1.34	1.37
1	A	820	A	N3-C4	-5.79	1.31	1.34
1	A	2502	G	N7-C5	-5.78	1.35	1.39
1	A	1972	A	N7-C5	-5.77	1.35	1.39
1	A	465	G	N9-C4	5.74	1.42	1.38
1	A	502	A	N3-C4	-5.72	1.31	1.34
1	A	966	G	N3-C4	-5.71	1.31	1.35
1	A	689	A	N7-C5	-5.70	1.35	1.39
1	A	1783	A	N9-C4	-5.70	1.34	1.37
1	A	2054	A	N7-C5	-5.70	1.35	1.39
1	A	2062	A	C6-N1	5.70	1.39	1.35
1	A	2060	A	C5-C4	-5.70	1.34	1.38
1	A	788	A	N7-C5	-5.69	1.35	1.39
1	A	785	G	N7-C5	-5.68	1.35	1.39
1	A	1204	A	N9-C4	-5.65	1.34	1.37
1	A	28	A	N7-C5	-5.64	1.35	1.39
1	A	774	A	N9-C4	-5.64	1.34	1.37
1	A	1621	U	N1-C2	-5.64	1.33	1.38
1	A	2583	G	N7-C5	-5.61	1.35	1.39
1	A	1607	C	N3-C4	5.59	1.37	1.33
1	A	502	A	N7-C5	-5.58	1.35	1.39
1	A	575	A	N3-C4	-5.57	1.31	1.34
1	A	74	A	N3-C4	-5.55	1.31	1.34
1	A	2450	A	C6-N1	-5.55	1.31	1.35
1	A	701	G	N7-C5	-5.54	1.35	1.39
1	A	686	G	C5-C6	-5.54	1.36	1.42
1	A	473	G	C6-N1	-5.52	1.35	1.39
1	A	1788	C	N1-C2	-5.52	1.34	1.40
1	A	2062	A	P-O5'	-5.52	1.54	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1800	C	N1-C6	-5.51	1.33	1.37
1	A	1956	U	C4-O4	5.51	1.28	1.23
1	A	966	G	N9-C4	-5.51	1.33	1.38
1	A	2441	C	N3-C4	-5.51	1.30	1.33
1	A	450	G	C5-C4	5.50	1.42	1.38
1	A	1899	G	C2-N3	-5.49	1.28	1.32
1	A	1602	U	C4-O4	5.49	1.28	1.23
1	A	2432	A	N9-C4	-5.49	1.34	1.37
1	A	1762	A	C5-C6	5.48	1.46	1.41
1	A	2589	A	N9-C4	-5.48	1.34	1.37
1	A	1328	G	C2-N3	5.48	1.37	1.32
1	A	1774	C	N1-C6	-5.47	1.33	1.37
1	A	1607	C	N1-C2	5.45	1.45	1.40
1	A	793	A	N9-C8	-5.45	1.33	1.37
1	A	1829	A	N3-C4	-5.44	1.31	1.34
1	A	2607	G	N7-C5	-5.44	1.35	1.39
1	A	1256	G	C6-N1	-5.44	1.35	1.39
1	A	1613	G	C5-C6	-5.43	1.36	1.42
1	A	1189	A	N9-C4	-5.43	1.34	1.37
1	A	2237	G	N9-C4	5.41	1.42	1.38
1	A	2844	G	N7-C5	-5.40	1.36	1.39
1	A	246	C	N1-C2	-5.40	1.34	1.40
1	A	228	A	N9-C4	5.39	1.41	1.37
1	A	774	A	C5-C6	-5.39	1.36	1.41
1	A	1328	G	N9-C4	5.39	1.42	1.38
1	A	1605	C	N3-C4	-5.39	1.30	1.33
1	A	613	U	N1-C2	-5.38	1.33	1.38
1	A	2014	A	C5-C6	-5.38	1.36	1.41
1	A	256	A	C5-C6	-5.38	1.36	1.41
1	A	2550	G	N7-C5	-5.38	1.36	1.39
1	A	1803	A	N9-C4	-5.37	1.34	1.37
1	A	469	G	N3-C4	-5.35	1.31	1.35
1	A	2446	G	N7-C5	-5.35	1.36	1.39
1	A	454	A	N3-C4	-5.33	1.31	1.34
1	A	1367	A	C5-C6	-5.33	1.36	1.41
1	A	2587	A	N9-C4	-5.33	1.34	1.37
1	A	2273	A	C5-C6	-5.32	1.36	1.41
1	A	2450	A	C5-C4	-5.32	1.35	1.38
1	A	2758	A	N9-C4	-5.31	1.34	1.37
1	A	686	G	N9-C8	-5.30	1.34	1.37
1	A	205	G	N9-C8	-5.30	1.34	1.37
1	A	1890	A	C5-C6	-5.29	1.36	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1606	G	C8-N7	-5.28	1.27	1.30
1	A	457	A	N3-C4	-5.27	1.31	1.34
1	A	457	A	N7-C5	-5.27	1.36	1.39
1	A	2004	G	N7-C5	-5.25	1.36	1.39
1	A	1190	G	N9-C4	-5.24	1.33	1.38
1	A	575	A	N7-C5	-5.24	1.36	1.39
1	A	74	A	C6-N1	-5.24	1.31	1.35
1	A	450	G	C6-O6	5.24	1.28	1.24
1	A	574	C	N1-C2	-5.23	1.34	1.40
1	A	2712(A)	A	N7-C5	-5.23	1.36	1.39
1	A	745	G	N3-C4	-5.22	1.31	1.35
1	A	2273	A	N7-C5	-5.22	1.36	1.39
1	A	953	A	N9-C4	-5.21	1.34	1.37
1	A	2502	G	N3-C4	-5.21	1.31	1.35
1	A	1701	A	N7-C5	-5.21	1.36	1.39
1	A	952	G	N7-C5	-5.21	1.36	1.39
1	A	1903	G	N9-C4	-5.21	1.33	1.38
1	A	1668	A	N3-C4	-5.20	1.31	1.34
1	A	1824	G	N7-C5	-5.20	1.36	1.39
1	A	972	G	C6-N1	-5.19	1.35	1.39
1	A	2441	C	C2-N3	-5.18	1.31	1.35
1	A	138	G	N7-C5	5.17	1.42	1.39
1	A	2020	A	C6-N1	-5.16	1.31	1.35
1	A	2247	A	C5-C6	-5.15	1.36	1.41
1	A	2256	G	N1-C2	-5.13	1.33	1.37
1	A	1567	A	N9-C4	-5.13	1.34	1.37
1	A	1905	C	N1-C6	-5.13	1.34	1.37
1	A	1774	C	C2-N3	-5.13	1.31	1.35
1	A	784	A	C5-C4	-5.12	1.35	1.38
1	A	764	A	N9-C4	-5.12	1.34	1.37
1	A	1813	G	N7-C5	-5.12	1.36	1.39
1	A	2073	C	N3-C4	-5.11	1.30	1.33
1	A	317	G	C6-N1	-5.10	1.35	1.39
1	A	78	A	C5-C6	-5.10	1.36	1.41
1	A	1774	C	N3-C4	-5.09	1.30	1.33
1	A	197	A	N9-C4	-5.08	1.34	1.37
1	A	799	G	C6-N1	-5.08	1.35	1.39
2	B	99	A	N9-C4	-5.08	1.34	1.37
1	A	117	G	C6-N1	-5.08	1.35	1.39
1	A	872	A	N9-C4	5.08	1.40	1.37
1	A	2247	A	C6-N1	-5.07	1.31	1.35
1	A	1528	A	N7-C5	-5.06	1.36	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1613	G	N7-C5	-5.06	1.36	1.39
1	A	2601	C	C4-N4	-5.06	1.29	1.33
1	A	1902	C	N1-C6	-5.05	1.34	1.37
1	A	452	G	N1-C2	-5.05	1.33	1.37
1	A	1773	A	N3-C4	-5.05	1.31	1.34
1	A	625	G	N9-C4	-5.04	1.33	1.38
1	A	2587	A	N7-C5	-5.04	1.36	1.39
1	A	799	G	N7-C5	-5.03	1.36	1.39
1	A	216	A	C5-C4	-5.03	1.35	1.38
1	A	1816	G	C6-N1	5.03	1.43	1.39
1	A	1270	C	N1-C6	-5.02	1.34	1.37
1	A	1477	A	N7-C5	-5.02	1.36	1.39
1	A	282	A	N3-C4	-5.01	1.31	1.34
3	D	241	PRO	N-CD	5.01	1.54	1.47
1	A	505	A	N9-C4	-5.00	1.34	1.37
1	A	1254	A	N3-C4	-5.00	1.31	1.34
1	A	1953	A	N9-C4	-5.00	1.34	1.37

All (3600) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	761	A	N1-C6-N6	19.13	130.07	118.60
1	A	783	A	N1-C6-N6	16.68	128.61	118.60
1	A	783	A	C6-C5-N7	-15.94	121.15	132.30
1	A	450	G	C5-C6-N1	-15.52	103.74	111.50
1	A	783	A	C5-N7-C8	-14.97	96.41	103.90
1	A	761	A	C6-C5-N7	-14.60	122.08	132.30
1	A	761	A	C5-N7-C8	-14.24	96.78	103.90
1	A	701	G	N1-C6-O6	13.79	128.17	119.90
1	A	2506	U	N3-C2-O2	-13.79	112.55	122.20
1	A	570	G	C5-C6-N1	-13.47	104.77	111.50
1	A	701	G	C6-C5-N7	-13.38	122.37	130.40
1	A	842	G	N1-C6-O6	13.35	127.91	119.90
1	A	1190	G	C5-N7-C8	-13.17	97.71	104.30
1	A	761	A	C4-C5-N7	13.02	117.21	110.70
1	A	1204	A	C2-N3-C4	-13.02	104.09	110.60
1	A	783	A	C4-C5-N7	12.96	117.18	110.70
1	A	613	U	N1-C2-O2	-12.93	113.75	122.80
1	A	783	A	N7-C8-N9	12.87	120.23	113.80
1	A	2681	C	C6-N1-C2	-12.84	115.17	120.30
1	A	265	A	O4'-C1'-N9	12.79	118.44	108.20
1	A	2432	A	N1-C6-N6	12.76	126.26	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	945	A	N1-C6-N6	12.62	126.17	118.60
1	A	2542	A	C2-N3-C4	-12.62	104.29	110.60
1	A	2576	G	O5'-P-OP2	-12.45	94.50	105.70
1	A	1899	G	N3-C4-N9	-12.44	118.53	126.00
1	A	450	G	C4-C5-C6	12.37	126.22	118.80
1	A	2451	A	C8-N9-C4	-12.35	100.86	105.80
1	A	662	G	C6-C5-N7	-12.24	123.06	130.40
1	A	338	G	N3-C4-C5	-11.84	122.68	128.60
1	A	1228	G	N1-C6-O6	11.83	127.00	119.90
1	A	2544	G	N1-C6-O6	11.81	126.99	119.90
1	A	761	A	C5-C6-N6	-11.76	114.29	123.70
1	A	1606	G	N3-C4-N9	11.72	133.03	126.00
1	A	2712(A)	A	N7-C8-N9	11.61	119.61	113.80
1	A	140	A	N1-C6-N6	11.60	125.56	118.60
1	A	1647	G	O5'-P-OP1	-11.59	95.27	105.70
1	A	1776	G	O5'-P-OP1	-11.59	95.27	105.70
1	A	1899	G	C2-N3-C4	-11.44	106.18	111.90
1	A	1158	C	C6-N1-C2	11.43	124.87	120.30
1	A	2712	U	C5-C4-O4	11.41	132.75	125.90
1	A	1899	G	N3-C4-C5	11.40	134.30	128.60
1	A	1409	C	C6-N1-C2	11.34	124.83	120.30
1	A	967	C	C6-N1-C2	11.25	124.80	120.30
1	A	2000	G	C6-C5-N7	-11.24	123.66	130.40
1	A	385	C	C6-N1-C2	-11.17	115.83	120.30
1	A	1602	U	C6-N1-C2	-11.15	114.31	121.00
1	A	1869	G	N3-C4-C5	-11.14	123.03	128.60
1	A	1763	G	O5'-P-OP2	-11.12	95.69	105.70
1	A	246	C	C6-N1-C2	11.10	124.74	120.30
1	A	761	A	N7-C8-N9	11.10	119.35	113.80
2	B	82	G	C5-C6-N1	-11.10	105.95	111.50
1	A	465	G	N3-C4-C5	-11.09	123.06	128.60
1	A	342	G	O5'-P-OP2	-11.07	95.73	105.70
1	A	512	G	O4'-C1'-N9	11.06	117.05	108.20
1	A	140	A	C5-N7-C8	-11.05	98.37	103.90
1	A	1228	G	C5-C6-N1	-11.04	105.98	111.50
1	A	1327	C	C6-N1-C2	-11.03	115.89	120.30
1	A	972	G	N1-C6-O6	-10.96	113.32	119.90
1	A	1403	C	N3-C2-O2	-10.94	114.24	121.90
1	A	783	A	C8-N9-C4	-10.91	101.44	105.80
1	A	1243	G	N1-C6-O6	10.90	126.44	119.90
1	A	2393	A	C8-N9-C4	-10.89	101.44	105.80
1	A	1979	C	C6-N1-C2	-10.85	115.96	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1190	G	C4-C5-N7	10.83	115.13	110.80
1	A	309	G	N3-C4-C5	-10.83	123.19	128.60
1	A	1204	A	C5-C6-N1	-10.80	112.30	117.70
1	A	1840	G	C2-N3-C4	-10.77	106.52	111.90
1	A	2490	G	C4-C5-N7	10.74	115.10	110.80
1	A	142	G	N3-C4-C5	10.68	133.94	128.60
1	A	2544	G	C5-C6-O6	-10.64	122.21	128.60
1	A	1332	G	C4-N9-C1'	10.58	140.25	126.50
1	A	2032	G	N3-C4-C5	10.58	133.89	128.60
2	B	79	C	C6-N1-C2	-10.57	116.07	120.30
1	A	1258	C	C6-N1-C2	10.54	124.52	120.30
1	A	140	A	C4-C5-N7	10.50	115.95	110.70
1	A	568	U	N3-C4-C5	-10.50	108.30	114.60
1	A	2839	G	N1-C6-O6	10.48	126.19	119.90
1	A	1271	G	C5-C6-N1	-10.47	106.27	111.50
1	A	2712(A)	A	C8-N9-C4	-10.46	101.62	105.80
1	A	701	G	C5-C6-N1	-10.42	106.29	111.50
1	A	1950	G	N3-C2-N2	10.41	127.19	119.90
1	A	487	C	C6-N1-C2	-10.40	116.14	120.30
1	A	1021	A	C2-N3-C4	-10.39	105.41	110.60
1	A	1984	G	C5-C6-N1	-10.39	106.31	111.50
1	A	2294	C	C6-N1-C2	-10.38	116.15	120.30
1	A	1840	G	C5-C6-N1	-10.35	106.33	111.50
1	A	1158	C	C5-C6-N1	-10.33	115.84	121.00
1	A	2518	A	N1-C6-N6	10.31	124.78	118.60
1	A	1888	G	C2-N3-C4	10.28	117.04	111.90
1	A	2432	A	C2-N3-C4	-10.25	105.47	110.60
1	A	1891	G	N1-C6-O6	10.23	126.04	119.90
1	A	2820	A	N1-C6-N6	10.21	124.73	118.60
1	A	209	C	C6-N1-C2	10.21	124.38	120.30
1	A	2054	A	C8-N9-C4	-10.21	101.72	105.80
1	A	481	G	O5'-P-OP2	-10.18	96.54	105.70
1	A	662	G	C5-C6-N1	-10.16	106.42	111.50
4	E	21	VAL	C-N-CD	-10.10	98.38	120.60
1	A	783	A	C2-N3-C4	-10.08	105.56	110.60
1	A	2254	C	N1-C2-O2	-10.07	112.86	118.90
1	A	1613	G	N9-C4-C5	-10.06	101.38	105.40
1	A	1786	A	C5-C6-N1	-10.04	112.68	117.70
1	A	1613	G	C6-C5-N7	-10.04	124.37	130.40
1	A	928	G	C8-N9-C4	-10.04	102.39	106.40
1	A	1606	G	C8-N9-C4	10.02	110.41	106.40
1	A	701	G	C4-C5-C6	10.01	124.81	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1699	G	N9-C4-C5	9.99	109.40	105.40
1	A	852	G	O5'-P-OP2	-9.96	96.73	105.70
1	A	697	C	C6-N1-C2	-9.93	116.33	120.30
1	A	1606	G	C8-N9-C1'	-9.93	114.09	127.00
1	A	2251	G	N1-C2-N3	9.92	129.85	123.90
1	A	338	G	N3-C4-N9	9.92	131.95	126.00
2	B	64	C	C6-N1-C2	9.91	124.26	120.30
1	A	1613	G	N3-C4-N9	9.89	131.94	126.00
1	A	2080	G	C6-C5-N7	-9.88	124.47	130.40
1	A	2032	G	C5-N7-C8	-9.88	99.36	104.30
1	A	1311	G	N9-C4-C5	-9.87	101.45	105.40
1	A	2237	G	N3-C4-N9	9.87	131.92	126.00
1	A	1607	C	N1-C2-O2	9.85	124.81	118.90
1	A	1840	G	N1-C6-O6	9.83	125.80	119.90
1	A	2231	C	C6-N1-C2	-9.79	116.38	120.30
1	A	63	U	C6-N1-C2	-9.78	115.14	121.00
1	A	458	G	C4-C5-N7	-9.78	106.89	110.80
1	A	393	C	C6-N1-C2	9.77	124.21	120.30
2	B	81	G	C4-C5-N7	9.77	114.71	110.80
1	A	1404	C	O5'-P-OP1	-9.76	96.92	105.70
1	A	696	G	N1-C6-O6	9.73	125.74	119.90
1	A	613	U	N3-C2-O2	9.73	129.01	122.20
1	A	863	A	O5'-P-OP2	-9.71	96.96	105.70
1	A	662	G	N1-C6-O6	9.71	125.73	119.90
1	A	1947	C	C6-N1-C2	-9.70	116.42	120.30
1	A	1950	G	C4-N9-C1'	9.68	139.09	126.50
1	A	780	G	C8-N9-C4	-9.66	102.54	106.40
1	A	2432	A	C6-C5-N7	-9.65	125.54	132.30
1	A	568	U	N1-C2-O2	-9.64	116.05	122.80
1	A	2682	U	OP1-P-OP2	-9.64	105.14	119.60
1	A	1259	G	C5-C6-O6	-9.59	122.84	128.60
1	A	1613	G	C8-N9-C1'	-9.58	114.55	127.00
1	A	1602	U	N3-C4-C5	-9.58	108.85	114.60
1	A	1776	G	C4-N9-C1'	9.56	138.93	126.50
1	A	867	C	C6-N1-C2	-9.56	116.48	120.30
1	A	2588	G	O5'-P-OP2	-9.51	97.14	105.70
1	A	836	G	C4-C5-N7	9.50	114.60	110.80
1	A	2590	A	N1-C6-N6	9.49	124.29	118.60
1	A	1956	U	N3-C4-C5	-9.47	108.92	114.60
1	A	637	A	C8-N9-C4	-9.46	102.02	105.80
1	A	1021	A	N7-C8-N9	9.44	118.52	113.80
1	A	2430	A	C5-C6-N1	-9.44	112.98	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	785	G	O5'-P-OP1	-9.42	97.22	105.70
1	A	287	C	O4'-C1'-N1	9.42	115.74	108.20
1	A	465	G	C4-C5-C6	9.40	124.44	118.80
1	A	38	A	N1-C6-N6	9.40	124.24	118.60
1	A	2573	C	N1-C2-O2	9.39	124.54	118.90
1	A	1776	G	C8-N9-C1'	-9.39	114.80	127.00
1	A	1528	A	C8-N9-C4	-9.38	102.05	105.80
1	A	1130	U	P-O3'-C3'	9.38	130.95	119.70
1	A	379	G	N9-C4-C5	-9.37	101.65	105.40
1	A	776	G	N7-C8-N9	9.37	117.79	113.10
1	A	1931	U	N1-C2-N3	9.37	120.52	114.90
1	A	1665	A	N1-C6-N6	9.36	124.22	118.60
1	A	783	A	C4-C5-C6	9.34	121.67	117.00
1	A	450	G	N1-C6-O6	9.33	125.50	119.90
1	A	662	G	C2-N3-C4	-9.32	107.24	111.90
1	A	140	A	N7-C8-N9	9.32	118.46	113.80
1	A	1647	G	C6-C5-N7	-9.30	124.82	130.40
1	A	327	G	C6-C5-N7	-9.30	124.82	130.40
1	A	1383	C	C2-N1-C1'	9.30	129.03	118.80
1	A	1021	A	C5-N7-C8	-9.29	99.26	103.90
1	A	2655	G	C4-N9-C1'	-9.28	114.44	126.50
1	A	1786	A	C2-N3-C4	-9.27	105.97	110.60
1	A	1950	G	N7-C8-N9	9.25	117.73	113.10
1	A	2420	C	O5'-P-OP1	-9.23	97.39	105.70
2	B	94	C	C6-N1-C2	-9.22	116.61	120.30
1	A	1253	A	C4-C5-C6	-9.21	112.39	117.00
1	A	568	U	N3-C4-O4	9.21	125.85	119.40
1	A	956	G	N9-C4-C5	-9.18	101.73	105.40
1	A	473	G	N1-C6-O6	-9.17	114.40	119.90
1	A	1342	A	C8-N9-C4	-9.17	102.13	105.80
1	A	2217	G	N1-C6-O6	9.17	125.41	119.90
1	A	1699	G	C4-C5-N7	-9.16	107.13	110.80
1	A	27	G	C4-C5-C6	9.16	124.30	118.80
1	A	2681	C	N3-C4-C5	-9.16	118.24	121.90
1	A	1332	G	C8-N9-C1'	-9.15	115.11	127.00
1	A	1881	C	C6-N1-C2	-9.14	116.64	120.30
1	A	2251	G	C4-N9-C1'	9.13	138.37	126.50
1	A	1383	C	N1-C2-O2	9.12	124.37	118.90
1	A	379	G	N3-C4-N9	9.12	131.47	126.00
1	A	512	G	C8-N9-C1'	9.12	138.86	127.00
1	A	791	C	C6-N1-C2	9.12	123.95	120.30
1	A	27	G	N1-C2-N3	9.10	129.36	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1606	G	N9-C4-C5	-9.10	101.76	105.40
1	A	681	G	C2-N3-C4	-9.09	107.35	111.90
1	A	2237	G	N3-C4-C5	-9.09	124.06	128.60
1	A	1763	G	N1-C6-O6	-9.09	114.45	119.90
1	A	1311	G	C4-C5-N7	9.09	114.43	110.80
1	A	2049	G	C2-N3-C4	-9.08	107.36	111.90
1	A	1351	C	C6-N1-C2	-9.08	116.67	120.30
1	A	662	G	C4-C5-C6	9.08	124.25	118.80
1	A	2849	U	C5-C6-N1	-9.07	118.16	122.70
1	A	494	G	C6-C5-N7	-9.07	124.96	130.40
1	A	568	U	C6-N1-C2	-9.07	115.56	121.00
1	A	2821	A	O5'-P-OP1	-9.06	97.55	105.70
1	A	1311	G	N1-C6-O6	9.05	125.33	119.90
1	A	2249	U	N3-C4-C5	-9.05	109.17	114.60
1	A	240	G	C5-C6-N1	-9.05	106.98	111.50
1	A	2073	C	C6-N1-C2	-9.05	116.68	120.30
1	A	2258	C	N3-C2-O2	-9.04	115.57	121.90
1	A	2487	G	C2-N3-C4	-9.04	107.38	111.90
1	A	570	G	C4-C5-N7	-9.03	107.19	110.80
1	A	639	U	C5-C4-O4	9.03	131.32	125.90
1	A	1328	G	N3-C4-C5	-9.01	124.09	128.60
1	A	1694	C	P-O3'-C3'	9.01	130.51	119.70
1	A	863	A	C8-N9-C4	9.01	109.40	105.80
1	A	567	A	O5'-P-OP2	-8.99	97.61	105.70
1	A	1228	G	C6-C5-N7	-8.99	125.01	130.40
1	A	1416	G	C8-N9-C4	8.98	109.99	106.40
1	A	621	A	N1-C6-N6	8.97	123.98	118.60
1	A	2490	G	C5-N7-C8	-8.97	99.82	104.30
1	A	582	G	C5-C6-O6	-8.96	123.22	128.60
1	A	450	G	C4-N9-C1'	8.95	138.13	126.50
1	A	1203	G	C8-N9-C4	-8.94	102.82	106.40
1	A	1203	G	N3-C4-C5	-8.92	124.14	128.60
1	A	29	U	N3-C4-O4	8.91	125.64	119.40
1	A	141	A	C5-N7-C8	-8.91	99.45	103.90
1	A	142	G	C4-N9-C1'	-8.90	114.92	126.50
1	A	2767	C	N1-C2-O2	8.90	124.24	118.90
1	A	1950	G	C8-N9-C4	-8.89	102.84	106.40
1	A	1206	G	C6-C5-N7	-8.88	125.07	130.40
1	A	63	U	C5-C4-O4	8.87	131.22	125.90
1	A	1699	G	C5-C6-O6	8.85	133.91	128.60
1	A	1269	A	C8-N9-C4	-8.84	102.26	105.80
1	A	768	G	N1-C6-O6	8.84	125.20	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2088	G	C2-N3-C4	-8.84	107.48	111.90
1	A	1008	C	C6-N1-C2	8.83	123.83	120.30
1	A	2032	G	C4-C5-N7	8.83	114.33	110.80
2	B	13	A	N1-C6-N6	-8.83	113.30	118.60
1	A	856	C	O5'-P-OP1	-8.82	97.77	105.70
1	A	741	G	N3-C4-C5	-8.81	124.19	128.60
1	A	2677	G	N3-C4-C5	-8.81	124.19	128.60
1	A	696	G	C6-C5-N7	-8.81	125.11	130.40
1	A	1791	A	C8-N9-C4	-8.80	102.28	105.80
1	A	2051	A	C8-N9-C4	8.80	109.32	105.80
1	A	786	C	C6-N1-C2	-8.79	116.78	120.30
1	A	1869	G	C8-N9-C4	-8.79	102.88	106.40
1	A	1774	C	N1-C2-O2	-8.79	113.62	118.90
1	A	1296	G	O5'-P-OP2	-8.79	97.79	105.70
1	A	2036	C	C6-N1-C2	-8.79	116.79	120.30
1	A	2432	A	N9-C4-C5	-8.78	102.29	105.80
1	A	1930	G	C4-C5-N7	-8.78	107.29	110.80
1	A	686	G	C6-C5-N7	-8.78	125.14	130.40
1	A	2051	A	N9-C4-C5	-8.77	102.29	105.80
1	A	972	G	C5-C6-O6	8.77	133.86	128.60
1	A	2839	G	C5-C6-N1	-8.75	107.12	111.50
1	A	192	C	C6-N1-C2	8.74	123.80	120.30
1	A	1190	G	N3-C4-C5	8.74	132.97	128.60
1	A	2593	U	C6-N1-C2	-8.74	115.75	121.00
1	A	83	G	C8-N9-C4	8.73	109.89	106.40
1	A	1695	G	C4-N9-C1'	8.73	137.84	126.50
12	Q	81	VAL	CB-CA-C	-8.72	94.83	111.40
1	A	613	U	C2-N1-C1'	-8.72	107.24	117.70
1	A	2002	G	C5-N7-C8	-8.72	99.94	104.30
1	A	2712	U	O4'-C1'-N1	8.71	115.17	108.20
1	A	2032	G	N1-C6-O6	8.71	125.12	119.90
1	A	2031	A	O4'-C1'-N9	8.71	115.16	108.20
1	A	1257	C	N1-C2-O2	-8.70	113.68	118.90
2	B	81	G	C6-C5-N7	-8.69	125.19	130.40
1	A	220	G	N1-C6-O6	8.69	125.11	119.90
1	A	776	G	C5-N7-C8	-8.69	99.96	104.30
1	A	2422	A	N1-C2-N3	-8.69	124.96	129.30
1	A	2593	U	N3-C4-C5	-8.68	109.39	114.60
2	B	30	C	C6-N1-C2	-8.68	116.83	120.30
1	A	523	C	C6-N1-C2	-8.67	116.83	120.30
1	A	1595	G	N1-C6-O6	8.67	125.10	119.90
1	A	461	C	N1-C2-O2	-8.67	113.70	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	141	A	N7-C8-N9	8.66	118.13	113.80
1	A	415	A	C8-N9-C4	8.66	109.26	105.80
1	A	1192	G	N1-C6-O6	8.65	125.09	119.90
1	A	928	G	N7-C8-N9	8.64	117.42	113.10
1	A	2422	A	C8-N9-C4	8.64	109.25	105.80
1	A	974	G	C8-N9-C4	-8.64	102.94	106.40
1	A	818	G	C4-N9-C1'	8.63	137.72	126.50
1	A	452	G	N3-C4-C5	-8.61	124.29	128.60
1	A	295	G	N1-C6-O6	8.61	125.06	119.90
1	A	554	U	N3-C2-O2	-8.61	116.17	122.20
1	A	774	A	N1-C6-N6	8.61	123.77	118.60
1	A	1311	G	C6-C5-N7	-8.61	125.23	130.40
1	A	338	G	C2-N3-C4	8.61	116.20	111.90
1	A	2686	G	O5'-P-OP2	-8.60	97.96	105.70
1	A	1903	G	O5'-P-OP2	-8.60	97.97	105.70
1	A	2767	C	N3-C2-O2	-8.58	115.89	121.90
1	A	1950	G	N1-C6-O6	-8.56	114.76	119.90
1	A	1964	G	C5-C6-O6	-8.55	123.47	128.60
1	A	944	G	C5-C6-N1	-8.54	107.23	111.50
1	A	2430	A	C2-N3-C4	-8.54	106.33	110.60
1	A	1496	A	N7-C8-N9	8.53	118.07	113.80
1	A	1621	U	N3-C2-O2	8.54	128.18	122.20
1	A	2688	U	C5-C4-O4	8.53	131.02	125.90
1	A	1560	G	N1-C6-O6	8.53	125.02	119.90
1	A	642	G	C8-N9-C4	-8.53	102.99	106.40
1	A	1332	G	C6-C5-N7	-8.52	125.29	130.40
1	A	140	A	C6-C5-N7	-8.51	126.34	132.30
1	A	503	A	N1-C2-N3	8.50	133.55	129.30
1	A	982	C	C6-N1-C2	-8.50	116.90	120.30
1	A	1439	A	C2-N3-C4	-8.49	106.35	110.60
1	A	2712	U	N3-C4-O4	-8.49	113.45	119.40
1	A	2227	A	N9-C4-C5	8.48	109.19	105.80
1	A	1776	G	N3-C4-N9	8.48	131.09	126.00
1	A	1782	C	O5'-P-OP1	-8.48	98.07	105.70
1	A	2258	C	O5'-P-OP1	-8.48	98.07	105.70
1	A	2215	G	C6-C5-N7	-8.48	125.31	130.40
1	A	2505	G	C8-N9-C4	-8.48	103.01	106.40
1	A	526	A	C8-N9-C4	-8.48	102.41	105.80
1	A	1981	A	C5-N7-C8	-8.47	99.66	103.90
2	B	90	C	C6-N1-C2	8.46	123.69	120.30
1	A	1396	U	N1-C2-O2	8.46	128.72	122.80
1	A	856	C	C5-C6-N1	8.46	125.23	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	287	C	N3-C4-C5	8.46	125.28	121.90
1	A	676	A	C2-N3-C4	-8.44	106.38	110.60
1	A	836	G	C5-C6-O6	-8.44	123.54	128.60
1	A	2251	G	C8-N9-C4	-8.44	103.03	106.40
1	A	713	G	N1-C6-O6	8.43	124.96	119.90
1	A	1309	G	N1-C6-O6	8.43	124.96	119.90
1	A	2389	G	C4-C5-N7	8.43	114.17	110.80
1	A	1332	G	N3-C4-N9	8.42	131.05	126.00
1	A	1930	G	C6-C5-N7	8.42	135.45	130.40
1	A	247	G	C5-C6-N1	8.42	115.71	111.50
1	A	1141	U	O4'-C1'-N1	8.42	114.94	108.20
1	A	1241	A	C2-N3-C4	-8.42	106.39	110.60
1	A	2178	C	C6-N1-C2	-8.42	116.93	120.30
1	A	1979	C	C5-C4-N4	-8.41	114.31	120.20
1	A	1814	G	C5-C6-N1	-8.41	107.29	111.50
1	A	2506	U	N1-C2-O2	8.40	128.68	122.80
1	A	1289	C	C6-N1-C2	-8.39	116.94	120.30
1	A	2655	G	C8-N9-C1'	8.38	137.90	127.00
1	A	793	A	O5'-P-OP2	-8.37	98.17	105.70
1	A	570	G	C4-C5-C6	8.37	123.82	118.80
1	A	2088	G	C5-C6-N1	-8.37	107.31	111.50
1	A	1698	A	C6-C5-N7	-8.37	126.44	132.30
1	A	1988	C	N1-C2-O2	-8.36	113.88	118.90
1	A	1763	G	C6-C5-N7	8.36	135.42	130.40
1	A	2271	G	N3-C4-N9	8.36	131.01	126.00
1	A	2259	G	C4-C5-N7	8.35	114.14	110.80
1	A	1926	U	N3-C2-O2	-8.35	116.36	122.20
1	A	2073	C	N1-C2-O2	-8.35	113.89	118.90
1	A	2558	C	N3-C4-C5	8.34	125.24	121.90
1	A	1207	C	C6-N1-C2	8.34	123.64	120.30
1	A	2515	C	C6-N1-C2	8.34	123.64	120.30
1	A	2242	G	C8-N9-C4	-8.33	103.07	106.40
1	A	673	C	N1-C2-O2	8.32	123.89	118.90
1	A	827	U	N3-C2-O2	-8.31	116.38	122.20
1	A	2849	U	C2-N1-C1'	-8.30	107.73	117.70
1	A	322	A	N1-C6-N6	-8.29	113.62	118.60
1	A	512	G	C5-N7-C8	-8.29	100.15	104.30
1	A	2731	G	N1-C6-O6	8.29	124.88	119.90
1	A	1559	G	N3-C4-C5	8.29	132.75	128.60
1	A	1614	A	C5-N7-C8	-8.29	99.76	103.90
1	A	187	G	C8-N9-C1'	-8.29	116.23	127.00
1	A	63	U	N1-C2-N3	8.29	119.87	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1613	G	C4-C5-N7	8.29	114.11	110.80
1	A	783	A	C5-C6-N6	-8.28	117.07	123.70
1	A	2711	A	C2-N3-C4	-8.28	106.46	110.60
1	A	943	U	N3-C4-C5	-8.28	109.63	114.60
1	A	2032	G	N3-C4-N9	-8.28	121.03	126.00
1	A	2381	C	C6-N1-C2	8.28	123.61	120.30
1	A	1528	A	N7-C8-N9	8.27	117.94	113.80
1	A	1668	A	N1-C6-N6	-8.27	113.64	118.60
1	A	242	G	P-O3'-C3'	8.27	129.62	119.70
1	A	1979	C	C2-N1-C1'	8.27	127.90	118.80
1	A	768	G	C6-C5-N7	-8.27	125.44	130.40
1	A	512	G	C4-C5-C6	-8.26	113.84	118.80
1	A	2301	C	C6-N1-C2	-8.26	117.00	120.30
1	A	1992	G	P-O3'-C3'	8.25	129.60	119.70
1	A	945	A	C6-C5-N7	-8.25	126.53	132.30
1	A	2237	G	N1-C2-N2	-8.24	108.78	116.20
1	A	503	A	C8-N9-C4	-8.24	102.50	105.80
1	A	2377	A	C8-N9-C4	8.22	109.09	105.80
1	A	995	C	C2-N1-C1'	8.22	127.84	118.80
1	A	827	U	N1-C2-O2	8.22	128.55	122.80
1	A	1287	A	N1-C6-N6	8.22	123.53	118.60
1	A	780	G	N7-C8-N9	8.21	117.21	113.10
1	A	1343	G	C8-N9-C4	-8.21	103.11	106.40
1	A	1891	G	C5-C6-O6	-8.21	123.67	128.60
1	A	2000	G	N3-C4-N9	8.21	130.93	126.00
1	A	1925	C	N1-C2-O2	-8.21	113.98	118.90
1	A	2312	U	C5-C6-N1	8.20	126.80	122.70
1	A	2694	G	C5-C6-O6	-8.19	123.68	128.60
1	A	1852	C	N3-C2-O2	-8.19	116.17	121.90
1	A	2537	U	N3-C4-C5	-8.19	109.69	114.60
1	A	1243	G	C6-C5-N7	-8.18	125.49	130.40
1	A	1788	C	N1-C2-O2	-8.18	113.99	118.90
1	A	512	G	N1-C6-O6	-8.17	115.00	119.90
1	A	1613	G	C4-N9-C1'	8.16	137.11	126.50
1	A	195	A	N1-C6-N6	8.16	123.49	118.60
1	A	841	A	C2-N3-C4	-8.16	106.52	110.60
1	A	2463	C	N1-C2-O2	-8.15	114.01	118.90
1	A	2450	A	C8-N9-C4	-8.15	102.54	105.80
1	A	772	C	C6-N1-C2	-8.14	117.04	120.30
1	A	1695	G	C6-C5-N7	-8.14	125.52	130.40
1	A	2217	G	C6-C5-N7	-8.14	125.52	130.40
1	A	1869	G	N3-C4-N9	8.13	130.88	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1982	C	C6-N1-C2	8.13	123.55	120.30
1	A	681	G	C5-C6-N1	-8.12	107.44	111.50
1	A	1647	G	C4-N9-C1'	8.12	137.06	126.50
1	A	1317	A	O5'-P-OP2	-8.12	98.39	105.70
1	A	1563	G	C6-C5-N7	-8.12	125.53	130.40
1	A	1626	G	C8-N9-C4	-8.12	103.15	106.40
1	A	299	A	OP2-P-O3'	8.11	123.05	105.20
1	A	1265	A	O5'-P-OP1	-8.11	98.40	105.70
1	A	142	G	N3-C4-N9	-8.11	121.13	126.00
1	A	636	G	N1-C6-O6	8.11	124.76	119.90
1	A	1654	A	N1-C6-N6	-8.11	113.74	118.60
2	B	82	G	C4-C5-C6	8.10	123.66	118.80
1	A	2107	C	C6-N1-C2	-8.10	117.06	120.30
1	A	2593	U	N3-C4-O4	8.09	125.06	119.40
1	A	788	A	N9-C4-C5	-8.09	102.56	105.80
1	A	2407	G	C4-N9-C1'	8.09	137.01	126.50
1	A	1271	G	C4-C5-C6	8.09	123.65	118.80
1	A	2818	G	N1-C6-O6	8.09	124.75	119.90
1	A	1869	G	C4-N9-C1'	8.08	137.01	126.50
1	A	74	A	C4-C5-C6	8.08	121.04	117.00
1	A	527	C	N1-C2-O2	8.07	123.74	118.90
1	A	701	G	C2-N3-C4	-8.07	107.86	111.90
1	A	2250	G	O5'-P-OP2	-8.07	98.44	105.70
1	A	1956	U	C6-N1-C1'	8.07	132.50	121.20
1	A	327	G	C4-N9-C1'	8.07	136.99	126.50
1	A	1332	G	N3-C4-C5	-8.06	124.57	128.60
1	A	1613	G	N1-C6-O6	8.06	124.74	119.90
1	A	2490	G	N1-C6-O6	8.06	124.74	119.90
2	B	100	G	C8-N9-C4	8.06	109.62	106.40
1	A	450	G	C6-C5-N7	-8.05	125.57	130.40
1	A	2390	U	O5'-P-OP1	-8.05	98.45	105.70
1	A	1506	C	C6-N1-C2	-8.05	117.08	120.30
1	A	788	A	N1-C6-N6	8.04	123.43	118.60
1	A	818	G	C6-C5-N7	-8.04	125.57	130.40
1	A	2607	G	C6-C5-N7	-8.04	125.58	130.40
1	A	554	U	C5-C4-O4	8.03	130.72	125.90
1	A	2318	G	N1-C6-O6	8.02	124.71	119.90
1	A	2059	A	C2-N3-C4	-8.02	106.59	110.60
1	A	1372	U	C5-C6-N1	8.01	126.71	122.70
1	A	1141	U	N3-C2-O2	-8.01	116.59	122.20
1	A	1279	G	N1-C6-O6	-8.01	115.09	119.90
1	A	1666	G	N1-C6-O6	8.01	124.70	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	576	U	N3-C2-O2	8.01	127.80	122.20
1	A	1742	C	O5'-P-OP2	-8.01	98.50	105.70
1	A	2451	A	N7-C8-N9	8.01	117.80	113.80
1	A	1699	G	N1-C6-O6	-8.00	115.10	119.90
1	A	2550	G	N1-C6-O6	8.00	124.70	119.90
1	A	625	G	N3-C4-N9	-8.00	121.20	126.00
1	A	782	A	C4-C5-C6	7.99	121.00	117.00
1	A	452	G	C8-N9-C4	-7.99	103.21	106.40
1	A	1158	C	C2-N1-C1'	-7.97	110.03	118.80
1	A	1950	G	N3-C4-C5	-7.97	124.61	128.60
1	A	1259	G	C4-C5-N7	7.97	113.99	110.80
1	A	2393	A	C4-C5-C6	7.97	120.98	117.00
2	B	90	C	N3-C4-C5	7.96	125.08	121.90
1	A	530	G	N3-C2-N2	7.96	125.47	119.90
1	A	1311	G	C5-C6-O6	-7.95	123.83	128.60
1	A	2697	G	N3-C4-C5	-7.95	124.62	128.60
1	A	1818	U	N1-C2-N3	7.95	119.67	114.90
1	A	2321	G	C8-N9-C4	-7.95	103.22	106.40
1	A	59	U	N3-C2-O2	-7.95	116.64	122.20
1	A	2523	G	C5-C6-O6	-7.94	123.84	128.60
1	A	2432	A	C4-C5-N7	7.94	114.67	110.70
1	A	1228	G	C2-N3-C4	-7.93	107.94	111.90
1	A	686	G	C4-C5-C6	7.93	123.56	118.80
1	A	2542	A	N1-C2-N3	7.92	133.26	129.30
1	A	245	G	O5'-P-OP1	-7.91	98.58	105.70
1	A	2448	A	N1-C6-N6	7.91	123.35	118.60
1	A	688	U	N1-C2-O2	-7.91	117.26	122.80
1	A	74	A	N1-C2-N3	7.90	133.25	129.30
1	A	431	U	N3-C2-O2	7.90	127.73	122.20
1	A	1542	G	N3-C4-C5	-7.90	124.65	128.60
1	A	1362	C	C6-N1-C2	-7.90	117.14	120.30
1	A	1015	G	C8-N9-C4	-7.89	103.24	106.40
1	A	1343	G	N3-C4-C5	-7.89	124.65	128.60
1	A	2487	G	N1-C2-N3	7.89	128.63	123.90
1	A	662	G	C4-N9-C1'	7.88	136.75	126.50
1	A	1190	G	N7-C8-N9	7.88	117.04	113.10
1	A	2829	C	C6-N1-C2	7.88	123.45	120.30
1	A	1761	C	C5-C6-N1	-7.88	117.06	121.00
1	A	1705	G	C6-C5-N7	-7.88	125.67	130.40
1	A	1698	A	N1-C6-N6	7.86	123.31	118.60
1	A	1647	G	O5'-P-OP2	7.85	120.12	110.70
2	B	56	G	C8-N9-C4	-7.85	103.26	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1187	G	C5-C6-N1	-7.85	107.58	111.50
1	A	188	G	C6-C5-N7	-7.84	125.69	130.40
1	A	1665	A	N9-C4-C5	-7.83	102.67	105.80
1	A	474	G	N1-C6-O6	7.83	124.60	119.90
1	A	2252	G	N1-C6-O6	7.83	124.60	119.90
1	A	1698	A	C4-C5-C6	7.82	120.91	117.00
1	A	58	G	C4-C5-C6	7.82	123.49	118.80
1	A	473	G	C5-C6-N1	7.82	115.41	111.50
23	1	79	GLY	N-CA-C	-7.82	93.56	113.10
1	A	1658	C	O5'-P-OP2	-7.82	98.67	105.70
1	A	2839	G	C6-C5-N7	-7.81	125.71	130.40
1	A	1613	G	C5-C6-O6	-7.81	123.92	128.60
1	A	27	G	N3-C2-N2	-7.81	114.44	119.90
1	A	240	G	C4-C5-C6	7.81	123.48	118.80
1	A	570	G	C5-C6-O6	7.80	133.28	128.60
1	A	991	C	OP1-P-OP2	-7.80	107.90	119.60
1	A	662	G	N1-C2-N3	7.80	128.58	123.90
1	A	1381	G	N3-C4-C5	-7.80	124.70	128.60
1	A	602	G	N1-C6-O6	7.80	124.58	119.90
1	A	397	G	N3-C4-N9	-7.79	121.32	126.00
1	A	979	G	O5'-P-OP1	-7.79	98.69	105.70
1	A	945	A	N9-C4-C5	-7.79	102.68	105.80
1	A	2231	C	N1-C2-N3	7.79	124.65	119.20
1	A	512	G	C4-N9-C1'	-7.79	116.38	126.50
1	A	585	G	OP2-P-O3'	7.78	122.32	105.20
1	A	2004	G	C6-C5-N7	-7.78	125.73	130.40
1	A	2080	G	N1-C6-O6	7.77	124.56	119.90
1	A	956	G	C8-N9-C4	7.77	109.51	106.40
1	A	465	G	N3-C4-N9	7.77	130.66	126.00
1	A	820	A	C8-N9-C4	-7.77	102.69	105.80
1	A	1369	G	C5-C6-O6	-7.77	123.94	128.60
1	A	842	G	C5-C6-O6	-7.77	123.94	128.60
1	A	309	G	C8-N9-C4	-7.76	103.30	106.40
1	A	1701	A	O5'-P-OP1	-7.76	98.71	105.70
1	A	2250	G	C8-N9-C4	-7.76	103.30	106.40
1	A	585	G	N3-C4-C5	-7.76	124.72	128.60
1	A	820	A	C5-C6-N6	7.75	129.90	123.70
1	A	1313	U	C5-C6-N1	7.75	126.58	122.70
1	A	676	A	C5-N7-C8	-7.75	100.02	103.90
1	A	141	A	C4-C5-N7	7.74	114.57	110.70
1	A	193	U	OP2-P-O3'	7.74	122.23	105.20
1	A	195	A	C5-N7-C8	-7.73	100.03	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	728	G	C8-N9-C1'	-7.73	116.95	127.00
1	A	870	A	C8-N9-C4	7.73	108.89	105.80
1	A	1353	A	C2-N3-C4	7.73	114.46	110.60
1	A	327	G	C8-N9-C1'	-7.72	116.96	127.00
1	A	585	G	C6-C5-N7	-7.72	125.77	130.40
1	A	2395	C	N3-C4-C5	-7.72	118.81	121.90
1	A	2340	G	O5'-P-OP2	-7.72	98.75	105.70
1	A	2439	A	N7-C8-N9	7.72	117.66	113.80
1	A	2035	G	C8-N9-C1'	7.72	137.03	127.00
1	A	2466	C	N3-C4-C5	7.72	124.99	121.90
1	A	1368	G	N3-C4-C5	-7.71	124.75	128.60
1	A	2251	G	C5-C6-O6	7.71	133.23	128.60
1	A	494	G	C8-N9-C4	-7.70	103.32	106.40
1	A	493	G	N1-C6-O6	7.70	124.52	119.90
1	A	177	G	N1-C6-O6	-7.70	115.28	119.90
1	A	684	G	C5-C6-N1	7.70	115.35	111.50
1	A	2532	G	C6-C5-N7	-7.69	125.78	130.40
1	A	139	G	N3-C4-C5	-7.69	124.75	128.60
1	A	1520	U	C5-C4-O4	7.69	130.52	125.90
1	A	2060	A	N1-C6-N6	7.68	123.21	118.60
1	A	798	G	N1-C6-O6	7.68	124.51	119.90
1	A	1496	A	C5-N7-C8	-7.68	100.06	103.90
1	A	1424	G	C6-C5-N7	-7.67	125.80	130.40
1	A	1908	C	C6-N1-C2	-7.67	117.23	120.30
1	A	1611	C	C6-N1-C2	7.66	123.36	120.30
1	A	196	A	N1-C6-N6	7.66	123.19	118.60
1	A	1358	G	C4-N9-C1'	7.65	136.45	126.50
1	A	2238	G	OP1-P-OP2	7.65	131.08	119.60
1	A	2413	G	C2-N3-C4	-7.65	108.07	111.90
1	A	2681	C	P-O3'-C3'	7.64	128.88	119.70
1	A	1506	C	C5-C6-N1	7.64	124.82	121.00
1	A	2366	A	C8-N9-C4	-7.64	102.74	105.80
1	A	787	U	N1-C2-O2	-7.64	117.45	122.80
1	A	818	G	C8-N9-C1'	-7.63	117.08	127.00
1	A	844	C	C5-C6-N1	-7.63	117.19	121.00
1	A	1956	U	C5-C4-O4	7.63	130.48	125.90
1	A	1984	G	C2-N3-C4	-7.62	108.09	111.90
1	A	2869	G	C5-C6-N1	-7.62	107.69	111.50
1	A	1381	G	C4-N9-C1'	7.61	136.39	126.50
1	A	2729	G	N3-C4-C5	7.61	132.41	128.60
1	A	995	C	N3-C2-O2	-7.61	116.57	121.90
1	A	2360	A	C2-N3-C4	-7.61	106.80	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1806	C	N1-C2-O2	-7.61	114.34	118.90
1	A	177	G	C8-N9-C4	-7.60	103.36	106.40
1	A	1763	G	C4-C5-N7	-7.60	107.76	110.80
1	A	2830	G	C4-N9-C1'	7.60	136.38	126.50
1	A	1642	G	C5-C6-N1	-7.60	107.70	111.50
1	A	752	A	P-O3'-C3'	7.60	128.82	119.70
1	A	1944	U	C5-C6-N1	-7.60	118.90	122.70
1	A	741	G	N3-C4-N9	7.60	130.56	126.00
1	A	820	A	N9-C4-C5	7.59	108.84	105.80
1	A	102	G	P-O3'-C3'	7.59	128.81	119.70
1	A	728	G	C6-C5-N7	-7.59	125.84	130.40
1	A	2000	G	N3-C4-C5	-7.59	124.80	128.60
1	A	1906	G	C5-C6-N1	-7.58	107.71	111.50
1	A	1929	G	C4-C5-N7	7.58	113.83	110.80
1	A	832	G	C6-C5-N7	-7.58	125.85	130.40
1	A	1395	A	O4'-C1'-N9	7.58	114.26	108.20
1	A	2451	A	N9-C4-C5	7.58	108.83	105.80
1	A	450	G	C8-N9-C4	-7.57	103.37	106.40
1	A	2393	A	N7-C8-N9	7.57	117.59	113.80
1	A	272	G	N3-C4-N9	-7.57	121.46	126.00
1	A	1647	G	N7-C8-N9	7.57	116.88	113.10
1	A	952	G	C8-N9-C4	-7.56	103.38	106.40
1	A	1950	G	N1-C2-N2	-7.56	109.39	116.20
1	A	791	C	C5-C6-N1	-7.56	117.22	121.00
1	A	1790	C	N1-C2-O2	7.56	123.43	118.90
1	A	772	C	N3-C4-C5	-7.55	118.88	121.90
1	A	1820	U	C5-C6-N1	-7.55	118.92	122.70
1	A	88	G	C6-C5-N7	-7.55	125.87	130.40
1	A	58	G	C4-N9-C1'	7.54	136.31	126.50
1	A	1894	C	C6-N1-C2	-7.54	117.28	120.30
1	A	494	G	N7-C8-N9	7.54	116.87	113.10
1	A	1336	A	C5-C6-N1	7.54	121.47	117.70
1	A	797	C	C6-N1-C2	-7.53	117.29	120.30
1	A	916	G	N3-C4-C5	-7.52	124.84	128.60
1	A	774	A	C2-N3-C4	-7.51	106.84	110.60
1	A	2389	G	O5'-P-OP1	-7.51	98.94	105.70
1	A	2869	G	C4-C5-C6	7.51	123.31	118.80
1	A	1251	C	C6-N1-C2	7.51	123.31	120.30
1	A	832	G	C4-N9-C1'	7.51	136.26	126.50
1	A	1840	G	C6-C5-N7	-7.51	125.89	130.40
1	A	1777	U	N3-C2-O2	-7.50	116.95	122.20
1	A	327	G	N3-C4-N9	7.50	130.50	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1956	U	N1-C2-O2	-7.50	117.55	122.80
1	A	701	G	N1-C2-N3	7.50	128.40	123.90
1	A	2617	C	C6-N1-C2	7.49	123.30	120.30
1	A	1573	G	C8-N9-C4	7.49	109.39	106.40
1	A	1929	G	C6-C5-N7	-7.49	125.91	130.40
1	A	2445	G	N9-C4-C5	7.48	108.39	105.40
1	A	379	G	C8-N9-C1'	-7.48	117.28	127.00
1	A	1614	A	N7-C8-N9	7.48	117.54	113.80
1	A	676	A	N7-C8-N9	7.48	117.54	113.80
1	A	2728	U	C5-C4-O4	-7.48	121.41	125.90
1	A	2779	U	C2-N1-C1'	7.48	126.67	117.70
1	A	2655	G	O4'-C1'-N9	7.47	114.18	108.20
1	A	2686	G	N3-C4-C5	-7.47	124.86	128.60
1	A	1678	G	C2-N3-C4	-7.47	108.16	111.90
1	A	1632	A	O5'-P-OP1	-7.47	98.98	105.70
1	A	728	G	N3-C4-N9	7.46	130.48	126.00
1	A	2710	C	N3-C2-O2	-7.46	116.67	121.90
1	A	974	G	N7-C8-N9	7.46	116.83	113.10
1	A	2227	A	N1-C6-N6	-7.46	114.12	118.60
1	A	667	U	N1-C2-O2	-7.45	117.58	122.80
1	A	2463	C	C5-C6-N1	-7.45	117.28	121.00
1	A	793	A	C2-N3-C4	-7.45	106.88	110.60
1	A	2622	C	C6-N1-C2	7.45	123.28	120.30
1	A	1196	C	C6-N1-C2	-7.44	117.32	120.30
1	A	397	G	N3-C4-C5	7.43	132.32	128.60
1	A	1382	G	C2-N3-C4	-7.43	108.18	111.90
1	A	1929	G	OP1-P-O3'	7.43	121.55	105.20
1	A	713	G	C6-C5-N7	-7.43	125.94	130.40
1	A	776	G	C5-C6-O6	7.43	133.06	128.60
1	A	792	G	O5'-P-OP2	-7.43	99.01	105.70
1	A	1017	G	N1-C6-O6	7.43	124.36	119.90
1	A	621	A	C5-N7-C8	-7.43	100.19	103.90
1	A	2215	G	N3-C4-N9	7.43	130.46	126.00
1	A	2458	G	N1-C6-O6	7.42	124.35	119.90
1	A	2818	G	C2-N3-C4	-7.42	108.19	111.90
1	A	2728	U	N3-C2-O2	7.42	127.39	122.20
1	A	761	A	C4-C5-C6	7.42	120.71	117.00
1	A	2422	A	C6-N1-C2	7.41	123.05	118.60
1	A	836	G	N9-C4-C5	-7.41	102.44	105.40
1	A	2292	C	C6-N1-C2	-7.41	117.34	120.30
1	A	1786	A	C6-C5-N7	-7.41	127.12	132.30
1	A	2252	G	C5-C6-O6	-7.41	124.16	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1819	A	P-O3'-C3'	7.40	128.58	119.70
1	A	1701	A	C8-N9-C4	-7.40	102.84	105.80
1	A	1734	C	C6-N1-C2	-7.40	117.34	120.30
1	A	2407	G	C6-C5-N7	-7.40	125.96	130.40
1	A	74	A	P-O3'-C3'	7.40	128.58	119.70
1	A	2000	G	C4-C5-C6	7.40	123.24	118.80
1	A	2063	C	O5'-P-OP2	-7.39	99.05	105.70
1	A	1307	A	C8-N9-C4	-7.39	102.84	105.80
1	A	1829	A	N9-C4-C5	7.39	108.75	105.80
1	A	2215	G	C8-N9-C1'	-7.38	117.40	127.00
1	A	1950	G	O4'-C1'-N9	7.38	114.11	108.20
1	A	966	G	C2-N3-C4	-7.38	108.21	111.90
1	A	979	G	N7-C8-N9	7.38	116.79	113.10
1	A	1249	U	O5'-P-OP2	-7.38	99.06	105.70
1	A	670	A	N1-C6-N6	-7.37	114.18	118.60
1	A	929	G	C5-C6-N1	-7.37	107.81	111.50
1	A	1786	A	C4-C5-C6	7.37	120.68	117.00
1	A	1381	G	C4-C5-C6	7.37	123.22	118.80
1	A	1774	C	C2-N3-C4	-7.36	116.22	119.90
1	A	203	C	C6-N1-C2	7.36	123.25	120.30
1	A	146	G	N1-C6-O6	7.36	124.32	119.90
1	A	1929	G	N1-C6-O6	7.36	124.32	119.90
1	A	298	G	C4-C5-C6	-7.36	114.39	118.80
1	A	2537	U	C6-N1-C2	-7.36	116.59	121.00
1	A	979	G	C8-N9-C4	-7.35	103.46	106.40
1	A	2487	G	C5-C6-N1	-7.35	107.82	111.50
1	A	2607	G	C4-C5-C6	7.35	123.21	118.80
1	A	2705	A	N1-C6-N6	-7.35	114.19	118.60
1	A	1616	A	O4'-C1'-N9	7.34	114.08	108.20
1	A	2607	G	C4-N9-C1'	7.34	136.05	126.50
1	A	1835	G	N3-C4-C5	-7.34	124.93	128.60
1	A	2524	G	C8-N9-C4	-7.34	103.46	106.40
1	A	684	G	C6-N1-C2	-7.34	120.70	125.10
1	A	270(Y)	G	C8-N9-C4	-7.33	103.47	106.40
1	A	1021	A	C8-N9-C4	-7.33	102.87	105.80
1	A	818	G	C4-C5-C6	7.33	123.20	118.80
1	A	943	U	C6-N1-C2	-7.33	116.60	121.00
1	A	2434	A	N1-C6-N6	7.33	123.00	118.60
2	B	82	G	C8-N9-C4	-7.33	103.47	106.40
1	A	622	G	C5-C6-N1	-7.33	107.83	111.50
1	A	2251	G	C4-C5-C6	7.33	123.20	118.80
1	A	1298	C	C6-N1-C2	-7.32	117.37	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1829	A	N1-C6-N6	-7.32	114.21	118.60
1	A	24	G	N1-C6-O6	7.32	124.29	119.90
1	A	713	G	C5-C6-N1	-7.32	107.84	111.50
1	A	259	G	N1-C6-O6	7.31	124.29	119.90
1	A	1187	G	C4-C5-N7	-7.31	107.88	110.80
1	A	1502	C	C6-N1-C2	-7.31	117.38	120.30
1	A	2816	C	C6-N1-C2	7.31	123.22	120.30
1	A	2515	C	N3-C4-C5	7.31	124.82	121.90
1	A	1192	G	C5-C6-N1	-7.31	107.84	111.50
1	A	1776	G	N3-C4-C5	-7.31	124.95	128.60
1	A	258	G	O5'-P-OP2	-7.31	99.12	105.70
1	A	791	C	C2-N1-C1'	-7.31	110.76	118.80
1	A	1287	A	C2-N3-C4	-7.31	106.95	110.60
1	A	142	G	C8-N9-C1'	7.30	136.49	127.00
1	A	613	U	C6-N1-C1'	7.30	131.42	121.20
1	A	121	G	C2-N3-C4	7.30	115.55	111.90
1	A	1383	C	C6-N1-C1'	-7.30	112.04	120.80
1	A	2732	G	C4-C5-N7	7.30	113.72	110.80
1	A	2275	C	C6-N1-C2	7.30	123.22	120.30
1	A	2032	G	C2-N3-C4	-7.29	108.25	111.90
1	A	828	U	C6-N1-C2	-7.29	116.63	121.00
1	A	621	A	C2-N3-C4	-7.29	106.96	110.60
1	A	1049	C	N1-C2-O2	7.28	123.27	118.90
1	A	2698	U	O5'-P-OP2	-7.28	99.15	105.70
1	A	2547	U	N1-C2-N3	7.28	119.27	114.90
1	A	1142(A)	A	C2-N3-C4	-7.28	106.96	110.60
1	A	487	C	N3-C2-O2	-7.27	116.81	121.90
1	A	587	C	P-O3'-C3'	7.27	128.42	119.70
1	A	795	C	C5-C6-N1	-7.26	117.37	121.00
1	A	2326	C	N1-C2-O2	7.26	123.26	118.90
1	A	663	G	C8-N9-C1'	-7.26	117.56	127.00
1	A	794	G	C6-C5-N7	-7.26	126.04	130.40
11	P	59	LEU	N-CA-C	-7.26	91.40	111.00
1	A	642	G	N7-C8-N9	7.26	116.73	113.10
1	A	2051	A	N1-C6-N6	7.26	122.95	118.60
1	A	570	G	O5'-P-OP2	7.25	119.41	110.70
1	A	1773	A	N1-C6-N6	-7.25	114.25	118.60
1	A	1988	C	C2-N1-C1'	-7.25	110.82	118.80
1	A	1029	A	N1-C6-N6	-7.25	114.25	118.60
1	A	270(T)	G	OP1-P-OP2	-7.25	108.73	119.60
1	A	585	G	C4-N9-C1'	7.25	135.92	126.50
1	A	1906	G	C2-N3-C4	-7.25	108.28	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1381	G	C6-C5-N7	-7.24	126.05	130.40
1	A	1763	G	N9-C4-C5	7.24	108.30	105.40
1	A	2073	C	N1-C2-N3	7.24	124.27	119.20
1	A	2620	C	O5'-P-OP1	-7.24	99.18	105.70
1	A	2655	G	N3-C4-N9	-7.24	121.66	126.00
1	A	269	U	C2-N1-C1'	7.24	126.38	117.70
1	A	1691	C	C6-N1-C2	-7.24	117.41	120.30
1	A	1256	G	C4-N9-C1'	7.23	135.91	126.50
1	A	1931	U	C5-C4-O4	7.23	130.24	125.90
1	A	1742	C	C5-C6-N1	7.23	124.61	121.00
1	A	2389	G	C5-C6-O6	-7.22	124.27	128.60
1	A	2844	G	C6-C5-N7	-7.22	126.07	130.40
1	A	831	G	O5'-P-OP2	-7.22	99.20	105.70
1	A	153	C	C6-N1-C2	-7.21	117.41	120.30
1	A	974(A)	C	C5-C4-N4	7.21	125.25	120.20
1	A	2407	G	N7-C8-N9	7.21	116.71	113.10
1	A	2495	G	C8-N9-C4	7.21	109.29	106.40
1	A	221	A	N9-C1'-C2'	-7.21	104.07	112.00
1	A	592	G	N3-C4-C5	-7.21	125.00	128.60
1	A	2055	C	N1-C2-O2	-7.21	114.58	118.90
1	A	2446	G	C6-C5-N7	-7.21	126.08	130.40
1	A	1279	G	C5-C6-N1	7.20	115.10	111.50
1	A	1402	C	C5-C6-N1	7.20	124.60	121.00
1	A	1142(A)	A	N1-C2-N3	7.20	132.90	129.30
1	A	1269	A	N7-C8-N9	7.20	117.40	113.80
1	A	1614	A	C4-C5-N7	7.20	114.30	110.70
1	A	2711	A	N1-C2-N3	7.20	132.90	129.30
1	A	2779	U	O4'-C1'-N1	7.20	113.96	108.20
1	A	333	G	C4-C5-N7	7.20	113.68	110.80
1	A	780	G	C5-N7-C8	-7.20	100.70	104.30
1	A	1831	G	N3-C4-N9	7.20	130.32	126.00
1	A	1906	G	N1-C6-O6	7.20	124.22	119.90
1	A	1964	G	N1-C6-O6	7.20	124.22	119.90
2	B	94	C	N3-C4-C5	-7.20	119.02	121.90
1	A	1997	G	C2-N3-C4	-7.20	108.30	111.90
1	A	1728	G	N3-C4-N9	7.19	130.32	126.00
1	A	141	A	C8-N9-C4	-7.19	102.92	105.80
1	A	58	G	N1-C2-N3	7.19	128.22	123.90
1	A	2237	G	C4-N9-C1'	7.19	135.85	126.50
1	A	2655	G	C6-C5-N7	7.19	134.71	130.40
1	A	731	C	C5-C4-N4	-7.19	115.17	120.20
1	A	794	G	C4-C5-C6	7.19	123.11	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1328	G	N3-C4-N9	7.19	130.31	126.00
1	A	296	C	N3-C4-N4	-7.19	112.97	118.00
1	A	2785	C	C6-N1-C2	-7.18	117.43	120.30
1	A	132	G	C5-C6-N1	-7.18	107.91	111.50
1	A	259	G	C5-C6-N1	-7.18	107.91	111.50
1	A	974(A)	C	N3-C2-O2	-7.18	116.87	121.90
1	A	1256	G	C8-N9-C4	-7.18	103.53	106.40
1	A	624	C	C2-N1-C1'	7.17	126.69	118.80
1	A	222	A	P-O3'-C3'	7.17	128.30	119.70
1	A	761	A	N9-C4-C5	-7.17	102.93	105.80
1	A	1899	G	C8-N9-C1'	7.17	136.31	127.00
1	A	692	C	N3-C4-C5	7.16	124.77	121.90
1	A	28	A	C4-C5-C6	7.16	120.58	117.00
1	A	2728	U	N3-C4-O4	7.16	124.41	119.40
2	B	98	G	C8-N9-C4	7.16	109.27	106.40
1	A	67	U	N3-C4-O4	7.16	124.41	119.40
1	A	1666	G	N9-C4-C5	-7.16	102.54	105.40
1	A	493	G	C5-C6-O6	-7.15	124.31	128.60
1	A	2686	G	C2-N3-C4	7.15	115.48	111.90
1	A	2776	A	P-O3'-C3'	7.15	128.28	119.70
1	A	624	C	C5-C6-N1	7.15	124.58	121.00
1	A	1767	C	N3-C4-C5	7.15	124.76	121.90
1	A	1187	G	C4-C5-C6	7.15	123.09	118.80
1	A	226	G	O4'-C1'-N9	7.15	113.92	108.20
1	A	512	G	C5-C6-N1	7.15	115.07	111.50
1	A	1306	C	N3-C4-C5	7.14	124.76	121.90
1	A	388	G	C8-N9-C4	-7.14	103.54	106.40
1	A	295	G	C6-C5-N7	-7.14	126.12	130.40
1	A	2228	G	C6-C5-N7	-7.14	126.12	130.40
1	A	734	A	N1-C6-N6	7.13	122.88	118.60
1	A	1869	G	N7-C8-N9	7.13	116.67	113.10
1	A	842	G	C6-C5-N7	-7.13	126.12	130.40
1	A	27	G	N9-C4-C5	7.12	108.25	105.40
1	A	681	G	C6-C5-N7	-7.12	126.13	130.40
1	A	952	G	C6-C5-N7	-7.12	126.13	130.40
1	A	1358	G	C8-N9-C1'	-7.12	117.74	127.00
1	A	2506	U	C5-C4-O4	7.12	130.17	125.90
1	A	391	G	N1-C6-O6	7.12	124.17	119.90
1	A	58	G	N3-C4-C5	-7.12	125.04	128.60
1	A	1216	G	N1-C6-O6	7.12	124.17	119.90
1	A	2321	G	N7-C8-N9	7.12	116.66	113.10
1	A	2558	C	C2-N3-C4	-7.12	116.34	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	583	G	O5'-P-OP2	-7.11	99.30	105.70
1	A	1906	G	C6-C5-N7	-7.11	126.13	130.40
1	A	1369	G	N1-C6-O6	7.11	124.17	119.90
1	A	728	G	C4-N9-C1'	7.11	135.74	126.50
1	A	1468	C	N1-C2-O2	7.11	123.17	118.90
1	A	2051	A	C2-N3-C4	-7.11	107.05	110.60
1	A	63	U	N3-C4-C5	-7.10	110.34	114.60
1	A	434	U	N1-C2-O2	-7.10	117.83	122.80
1	A	867	C	C5-C6-N1	7.10	124.55	121.00
1	A	2422	A	O5'-P-OP2	-7.10	99.31	105.70
1	A	544	C	N1-C2-O2	7.10	123.16	118.90
1	A	636	G	C5-C6-O6	-7.10	124.34	128.60
1	A	2550	G	C6-C5-N7	-7.10	126.14	130.40
1	A	2518	A	N9-C4-C5	-7.10	102.96	105.80
1	A	2292	C	N3-C2-O2	-7.09	116.94	121.90
1	A	391	G	N9-C4-C5	-7.09	102.56	105.40
1	A	2820	A	C6-C5-N7	-7.08	127.34	132.30
1	A	338	G	C4-N9-C1'	7.08	135.71	126.50
1	A	741	G	C4-N9-C1'	7.08	135.71	126.50
1	A	1241	A	C5-C6-N1	-7.08	114.16	117.70
1	A	2570	G	C8-N9-C4	7.08	109.23	106.40
1	A	1401	G	C5-C6-N1	-7.08	107.96	111.50
1	A	2818	G	C6-C5-N7	-7.07	126.16	130.40
1	A	658	C	O5'-P-OP2	-7.07	99.34	105.70
1	A	701	G	C4-N9-C1'	7.07	135.69	126.50
1	A	1256	G	N3-C4-C5	-7.07	125.06	128.60
1	A	788	A	C8-N9-C4	7.07	108.63	105.80
1	A	1280	G	C2-N3-C4	7.07	115.43	111.90
1	A	1657	C	OP1-P-O3'	7.06	120.74	105.20
1	A	2215	G	N9-C4-C5	-7.06	102.58	105.40
1	A	2420	C	O5'-P-OP2	7.06	119.17	110.70
2	B	41	U	N1-C2-O2	7.06	127.74	122.80
1	A	1799	G	P-O3'-C3'	7.06	128.17	119.70
1	A	1259	G	N1-C6-O6	7.06	124.13	119.90
1	A	1695	G	N3-C4-N9	7.05	130.23	126.00
1	A	209	C	N3-C4-C5	7.05	124.72	121.90
1	A	465	G	C4-N9-C1'	7.05	135.67	126.50
1	A	1753	G	C8-N9-C4	-7.05	103.58	106.40
1	A	1049	C	N3-C2-O2	-7.05	116.96	121.90
1	A	911	A	C5-C6-N1	-7.05	114.18	117.70
1	A	1424	G	C4-C5-C6	7.05	123.03	118.80
1	A	1614	A	O4'-C1'-N9	7.05	113.84	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2518	A	C8-N9-C4	7.05	108.62	105.80
1	A	1705	G	C8-N9-C1'	-7.05	117.84	127.00
1	A	2224	G	C4-C5-N7	-7.04	107.98	110.80
1	A	480	A	OP1-P-O3'	7.04	120.70	105.20
1	A	974(A)	C	N3-C4-N4	-7.04	113.07	118.00
1	A	2445	G	C8-N9-C4	-7.04	103.58	106.40
1	A	2665	A	N1-C6-N6	7.04	122.83	118.60
1	A	2463	C	N1-C2-N3	7.04	124.13	119.20
12	Q	81	VAL	N-CA-C	7.04	130.01	111.00
1	A	1496	A	N1-C6-N6	7.04	122.82	118.60
1	A	2732	G	N1-C6-O6	7.04	124.12	119.90
1	A	2246	G	C5-C6-N1	7.03	115.02	111.50
1	A	228	A	C8-N9-C4	-7.03	102.99	105.80
1	A	270(Y)	G	C5-C6-O6	7.03	132.81	128.60
1	A	2490	G	C6-C5-N7	-7.03	126.19	130.40
1	A	300	A	O5'-P-OP2	-7.02	99.38	105.70
1	A	2458	G	C6-C5-N7	-7.01	126.19	130.40
1	A	976	C	C6-N1-C2	-7.01	117.50	120.30
1	A	1192	G	C6-C5-N7	-7.00	126.20	130.40
1	A	2458	G	C5-C6-N1	-7.00	108.00	111.50
1	A	27	G	C8-N9-C4	-7.00	103.60	106.40
1	A	73	A	N1-C6-N6	-7.00	114.40	118.60
1	A	385	C	C5-C6-N1	7.00	124.50	121.00
1	A	129	C	C6-N1-C2	7.00	123.10	120.30
1	A	379	G	C6-C5-N7	-7.00	126.20	130.40
1	A	84	A	N7-C8-N9	7.00	117.30	113.80
1	A	141	A	C6-C5-N7	-7.00	127.40	132.30
1	A	2458	G	C2-N3-C4	-6.99	108.40	111.90
1	A	140	A	C5-C6-N6	-6.99	118.11	123.70
1	A	1497	U	N1-C2-O2	6.99	127.69	122.80
1	A	2622	C	C5-C6-N1	-6.99	117.51	121.00
1	A	298	G	N3-C4-N9	-6.99	121.81	126.00
1	A	2576	G	N1-C6-O6	-6.99	115.71	119.90
1	A	63	U	C6-N1-C1'	6.98	130.98	121.20
1	A	2315	G	O5'-P-OP1	-6.98	99.42	105.70
1	A	2360	A	C8-N9-C4	6.98	108.59	105.80
1	A	1930	G	C5-N7-C8	6.98	107.79	104.30
1	A	153	C	C5-C6-N1	6.98	124.49	121.00
1	A	202	U	C5-C4-O4	6.98	130.09	125.90
1	A	1956	U	C2-N1-C1'	-6.98	109.33	117.70
1	A	741	G	C4-C5-C6	6.98	122.98	118.80
1	A	1770	G	C6-C5-N7	-6.97	126.22	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2677	G	C4-N9-C1'	6.97	135.57	126.50
1	A	1834	U	N3-C2-O2	-6.97	117.32	122.20
1	A	2080	G	C2-N3-C4	-6.97	108.41	111.90
1	A	2320	A	C8-N9-C4	-6.97	103.01	105.80
1	A	2656	U	OP1-P-OP2	-6.97	109.14	119.60
1	A	259	G	C6-C5-N7	-6.97	126.22	130.40
1	A	2838	G	C8-N9-C4	-6.97	103.61	106.40
1	A	663	G	C4-N9-C1'	6.97	135.56	126.50
1	A	2706	G	C8-N9-C4	6.96	109.19	106.40
1	A	327	G	N1-C6-O6	6.96	124.08	119.90
1	A	2694	G	N1-C6-O6	6.96	124.08	119.90
1	A	2712	U	N1-C2-N3	6.96	119.08	114.90
1	A	144	C	N3-C2-O2	-6.96	117.03	121.90
1	A	290	G	C8-N9-C4	6.96	109.18	106.40
1	A	503	A	C4-C5-C6	6.96	120.48	117.00
1	A	916	G	C8-N9-C4	-6.96	103.62	106.40
1	A	975	G	OP1-P-OP2	-6.95	109.17	119.60
1	A	2431	U	N3-C4-C5	-6.95	110.43	114.60
1	A	1266	G	C8-N9-C4	6.95	109.18	106.40
1	A	1603	A	C8-N9-C4	-6.95	103.02	105.80
1	A	2053	G	C5-C6-O6	-6.95	124.43	128.60
1	A	2616	C	C6-N1-C2	6.95	123.08	120.30
1	A	585	G	N3-C4-N9	6.94	130.16	126.00
1	A	1695	G	C8-N9-C1'	-6.94	117.98	127.00
1	A	1930	G	C2-N3-C4	6.94	115.37	111.90
1	A	1017	G	C4-C5-N7	6.93	113.57	110.80
1	A	2258	C	N1-C2-O2	6.93	123.06	118.90
1	A	2548	G	C6-C5-N7	-6.93	126.24	130.40
1	A	1203	G	C5-C6-O6	6.92	132.75	128.60
1	A	2567	G	O5'-P-OP1	-6.92	99.47	105.70
1	A	787	U	N3-C2-O2	6.92	127.04	122.20
1	A	1028	A	C8-N9-C4	-6.92	103.03	105.80
1	A	1141	U	N1-C2-N3	6.92	119.05	114.90
1	A	1186	G	N1-C6-O6	-6.92	115.75	119.90
1	A	1606	G	C4-N9-C1'	6.92	135.49	126.50
1	A	2395	C	C2-N3-C4	6.92	123.36	119.90
1	A	400	G	N3-C4-N9	-6.91	121.85	126.00
1	A	1369	G	C4-C5-N7	6.91	113.57	110.80
1	A	2228	G	O5'-P-OP2	-6.91	99.48	105.70
1	A	1183	G	N1-C6-O6	6.91	124.05	119.90
1	A	2035	G	C4-N9-C1'	-6.91	117.52	126.50
1	A	866	A	N1-C6-N6	6.91	122.74	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2022	U	C2-N1-C1'	-6.91	109.41	117.70
1	A	1776	G	C6-C5-N7	-6.90	126.26	130.40
1	A	705	A	O5'-P-OP1	-6.90	99.49	105.70
1	A	2432	A	C5-C6-N1	-6.90	114.25	117.70
1	A	989	G	N9-C4-C5	-6.89	102.64	105.40
1	A	1950	G	C8-N9-C1'	-6.89	118.04	127.00
1	A	2367	G	C6-C5-N7	-6.89	126.27	130.40
1	A	27	G	C4-C5-N7	-6.89	108.05	110.80
1	A	1854	A	C8-N9-C4	6.89	108.56	105.80
1	A	2235	G	C2-N3-C4	-6.88	108.46	111.90
1	A	510	C	OP1-P-OP2	6.88	129.92	119.60
1	A	388	G	N9-C4-C5	6.88	108.15	105.40
1	A	563	G	N1-C6-O6	-6.88	115.77	119.90
1	A	928	G	C5-N7-C8	-6.88	100.86	104.30
1	A	51	G	N1-C2-N3	6.88	128.03	123.90
1	A	636	G	C8-N9-C4	-6.87	103.65	106.40
1	A	845	G	C4-C5-N7	6.87	113.55	110.80
1	A	2752	C	C2-N1-C1'	6.87	126.36	118.80
1	A	301	G	N3-C4-C5	-6.87	125.17	128.60
1	A	1929	G	C5-N7-C8	-6.87	100.87	104.30
1	A	774	A	C5-C6-N1	-6.87	114.27	117.70
1	A	469	G	C6-C5-N7	-6.87	126.28	130.40
1	A	284	U	C5-C6-N1	6.86	126.13	122.70
1	A	465	G	C6-C5-N7	-6.86	126.28	130.40
1	A	246	C	C5-C6-N1	-6.86	117.57	121.00
1	A	388	G	C5-C6-O6	6.86	132.72	128.60
1	A	777	A	C6-N1-C2	-6.86	114.48	118.60
1	A	1944	U	C6-N1-C2	6.86	125.12	121.00
1	A	2012	G	C4-C5-N7	6.86	113.54	110.80
1	A	2544	G	C6-C5-N7	-6.86	126.28	130.40
1	A	1989	G	C5-C6-N1	-6.86	108.07	111.50
1	A	1978	A	N1-C2-N3	6.85	132.73	129.30
1	A	2251	G	N1-C2-N2	-6.85	110.03	116.20
1	A	1997	G	N3-C4-C5	6.85	132.03	128.60
1	A	729	G	C5-C6-O6	-6.85	124.49	128.60
1	A	2544	G	N9-C4-C5	-6.85	102.66	105.40
1	A	83	G	N7-C8-N9	-6.84	109.68	113.10
1	A	1559	G	C4-C5-N7	6.84	113.54	110.80
1	A	259	G	C2-N3-C4	-6.84	108.48	111.90
1	A	662	G	C8-N9-C1'	-6.84	118.11	127.00
1	A	1904	G	N3-C4-N9	6.84	130.10	126.00
1	A	2307	G	O4'-C1'-N9	6.84	113.67	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2389	G	O5'-P-OP2	6.84	118.91	110.70
1	A	433	C	C5-C6-N1	-6.83	117.58	121.00
1	A	1279	G	N9-C4-C5	6.83	108.13	105.40
1	A	2383	G	C4-N9-C1'	6.83	135.38	126.50
1	A	554	U	C5-C6-N1	-6.83	119.29	122.70
1	A	2436	G	C4-C5-N7	-6.83	108.07	110.80
1	A	2820	A	C4-C5-N7	6.83	114.11	110.70
1	A	2028	U	N3-C4-O4	6.82	124.18	119.40
1	A	2870	C	C6-N1-C2	-6.82	117.57	120.30
1	A	1021	A	N1-C2-N3	6.82	132.71	129.30
1	A	1187	G	C4-N9-C1'	6.82	135.37	126.50
1	A	2079	U	O5'-P-OP1	-6.82	99.56	105.70
1	A	55	G	N3-C4-N9	6.82	130.09	126.00
1	A	1043	C	C6-N1-C2	-6.82	117.57	120.30
1	A	1450	C	N3-C2-O2	-6.81	117.13	121.90
1	A	1869	G	C4-C5-C6	6.81	122.89	118.80
1	A	822	U	C5-C4-O4	6.81	129.98	125.90
1	A	1813	G	N1-C6-O6	6.81	123.98	119.90
1	A	835	A	C8-N9-C4	-6.81	103.08	105.80
1	A	2037	G	C5-C6-O6	-6.81	124.52	128.60
1	A	327	G	C4-C5-C6	6.80	122.88	118.80
1	A	512	G	N7-C8-N9	6.80	116.50	113.10
1	A	1620	G	C6-C5-N7	-6.80	126.32	130.40
1	A	1606	G	N3-C4-C5	-6.80	125.20	128.60
1	A	1332	G	N3-C2-N2	6.80	124.66	119.90
1	A	1446	C	C6-N1-C2	-6.80	117.58	120.30
1	A	1665	A	C8-N9-C4	6.80	108.52	105.80
1	A	2064	C	C6-N1-C2	-6.80	117.58	120.30
1	A	557	U	C5-C6-N1	-6.80	119.30	122.70
1	A	576	U	N1-C2-O2	-6.80	118.04	122.80
1	A	1437	C	C6-N1-C2	-6.80	117.58	120.30
1	A	2434	A	C5-C6-N6	-6.80	118.26	123.70
1	A	2029	G	C5-C6-N1	-6.80	108.10	111.50
1	A	1528	A	C6-C5-N7	-6.80	127.54	132.30
1	A	1705	G	C4-C5-C6	6.79	122.88	118.80
1	A	526	A	N9-C4-C5	6.79	108.52	105.80
1	A	916	G	C4-N9-C1'	6.79	135.33	126.50
1	A	29	U	C5-C4-O4	-6.79	121.83	125.90
1	A	269	U	C6-N1-C1'	-6.79	111.69	121.20
1	A	138	G	C2-N3-C4	6.79	115.30	111.90
1	A	530	G	N1-C6-O6	-6.79	115.83	119.90
1	A	1857	G	C4-C5-C6	6.79	122.87	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2025	C	N3-C4-C5	-6.79	119.18	121.90
2	B	30	C	C5-C6-N1	6.79	124.39	121.00
1	A	199	A	C8-N9-C4	6.79	108.51	105.80
1	A	979	G	C5-N7-C8	-6.79	100.91	104.30
1	A	1907	G	N3-C2-N2	-6.78	115.15	119.90
1	A	1559	G	C5-N7-C8	-6.78	100.91	104.30
1	A	1891	G	N9-C4-C5	-6.78	102.69	105.40
1	A	2237	G	N3-C2-N2	6.77	124.64	119.90
1	A	568	U	N1-C2-N3	6.77	118.96	114.90
1	A	783	A	C5-C6-N1	-6.77	114.31	117.70
1	A	2029	G	C4-C5-C6	6.77	122.86	118.80
1	A	2049	G	C5-C6-N1	-6.77	108.12	111.50
1	A	2329	G	C8-N9-C4	6.77	109.11	106.40
1	A	585	G	C4-C5-C6	6.77	122.86	118.80
1	A	973	A	C5-C6-N1	-6.77	114.32	117.70
1	A	735	A	N1-C6-N6	6.76	122.66	118.60
1	A	1931	U	C6-N1-C2	-6.76	116.94	121.00
1	A	2500	U	OP2-P-O3'	6.76	120.08	105.20
1	A	324	A	O5'-P-OP1	-6.76	99.62	105.70
1	A	687	C	N1-C2-O2	-6.76	114.85	118.90
1	A	2655	G	P-O3'-C3'	6.76	127.81	119.70
1	A	658	C	O5'-P-OP1	6.75	118.81	110.70
1	A	859	G	N3-C4-C5	6.75	131.98	128.60
1	A	2088	G	N1-C2-N3	6.75	127.95	123.90
1	A	2291	U	N3-C4-C5	-6.75	110.55	114.60
1	A	130	C	N3-C4-C5	6.75	124.60	121.90
1	A	2272	U	O5'-P-OP2	-6.75	99.63	105.70
1	A	1403	C	C6-N1-C2	-6.75	117.60	120.30
1	A	2032	G	C5-C6-O6	-6.75	124.55	128.60
1	A	1695	G	N3-C4-C5	-6.75	125.23	128.60
1	A	1833	U	N1-C2-N3	6.74	118.94	114.90
1	A	2490	G	C5-C6-O6	-6.74	124.56	128.60
1	A	995	C	N1-C2-O2	6.74	122.94	118.90
1	A	1203	G	C4-C5-N7	-6.73	108.11	110.80
1	A	1496	A	C4-C5-N7	6.73	114.07	110.70
1	A	1522	G	C8-N9-C4	-6.73	103.71	106.40
1	A	1899	G	N1-C6-O6	6.73	123.94	119.90
1	A	458	G	C5-C6-O6	6.73	132.64	128.60
1	A	71	A	C8-N9-C4	6.73	108.49	105.80
1	A	1049	C	C6-N1-C2	-6.72	117.61	120.30
1	A	696	G	C5-C6-O6	-6.72	124.57	128.60
1	A	2463	C	C2-N3-C4	-6.72	116.54	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2731	G	C6-C5-N7	-6.72	126.37	130.40
1	A	639	U	N3-C4-C5	-6.72	110.57	114.60
1	A	2093	G	C6-C5-N7	-6.71	126.37	130.40
1	A	2859	G	C4-C5-N7	-6.71	108.12	110.80
1	A	1344	G	O5'-P-OP2	-6.71	99.66	105.70
1	A	1694	C	N1-C2-O2	6.71	122.93	118.90
1	A	1653	G	P-O3'-C3'	6.71	127.75	119.70
1	A	258	G	C8-N9-C4	-6.71	103.72	106.40
1	A	1325	G	N3-C4-N9	-6.71	121.98	126.00
1	A	1699	G	C8-N9-C4	-6.71	103.72	106.40
1	A	2732	G	C5-C6-O6	-6.71	124.58	128.60
1	A	298	G	C8-N9-C1'	6.70	135.71	127.00
1	A	1422	G	N3-C4-N9	-6.70	121.98	126.00
1	A	2054	A	N7-C8-N9	6.70	117.15	113.80
1	A	2284	C	O5'-P-OP2	-6.70	99.67	105.70
1	A	2686	G	N3-C4-N9	6.70	130.02	126.00
1	A	1790	C	N3-C2-O2	-6.70	117.21	121.90
1	A	2399	G	C8-N9-C4	6.70	109.08	106.40
1	A	842	G	C5-C6-N1	-6.70	108.15	111.50
1	A	2474	C	C6-N1-C2	-6.70	117.62	120.30
2	B	8	U	C5-C6-N1	6.70	126.05	122.70
1	A	676	A	C8-N9-C4	-6.69	103.12	105.80
1	A	2060	A	C6-C5-N7	-6.69	127.61	132.30
1	A	97	C	N3-C2-O2	-6.69	117.22	121.90
1	A	760	G	C2-N3-C4	-6.69	108.56	111.90
1	A	105	C	O5'-P-OP2	-6.69	99.68	105.70
1	A	441	U	N1-C2-O2	-6.69	118.12	122.80
1	A	804	A	OP1-P-O3'	6.68	119.91	105.20
1	A	2688	U	N3-C2-O2	-6.68	117.52	122.20
1	A	1022	G	P-O3'-C3'	6.68	127.72	119.70
1	A	2548	G	N1-C6-O6	6.68	123.91	119.90
1	A	2251	G	N7-C8-N9	6.68	116.44	113.10
2	B	102	G	O5'-P-OP2	-6.68	99.69	105.70
1	A	117	G	N3-C4-C5	-6.68	125.26	128.60
1	A	1571	A	C2-N3-C4	-6.67	107.26	110.60
1	A	1741	C	C5-C6-N1	6.67	124.34	121.00
1	A	1017	G	C6-C5-N7	-6.67	126.40	130.40
1	A	1831	G	C8-N9-C1'	-6.67	118.33	127.00
1	A	2532	G	C4-C5-C6	6.67	122.80	118.80
1	A	2712	U	P-O3'-C3'	6.67	127.70	119.70
1	A	1899	G	C5-C6-N1	-6.67	108.17	111.50
1	A	2690	C	N1-C2-O2	-6.67	114.90	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	62	C	C6-N1-C2	6.67	122.97	120.30
1	A	694	U	N3-C2-O2	-6.67	117.53	122.20
1	A	379	G	N1-C6-O6	6.67	123.90	119.90
1	A	1698	A	C5-C6-N1	-6.67	114.37	117.70
32	a	74	C	N1-C2-O2	6.67	122.90	118.90
1	A	1228	G	C4-C5-C6	6.66	122.80	118.80
1	A	2217	G	C2-N3-C4	-6.66	108.57	111.90
1	A	2318	G	N7-C8-N9	6.66	116.43	113.10
1	A	1786	A	N7-C8-N9	6.66	117.13	113.80
1	A	2335	A	C8-N9-C4	6.66	108.46	105.80
1	A	117	G	N3-C4-N9	6.66	130.00	126.00
1	A	298	G	N3-C4-C5	6.66	131.93	128.60
1	A	1362	C	N3-C4-C5	-6.66	119.24	121.90
1	A	2012	G	C5-C6-O6	-6.66	124.61	128.60
1	A	2237	G	C8-N9-C1'	-6.66	118.34	127.00
1	A	342	G	O5'-P-OP1	6.66	118.69	110.70
1	A	192	C	OP1-P-OP2	-6.65	109.62	119.60
1	A	2215	G	C4-N9-C1'	6.65	135.15	126.50
1	A	2544	G	C4-C5-N7	6.65	113.46	110.80
1	A	2619	C	N3-C2-O2	6.65	126.55	121.90
1	A	1919	A	C8-N9-C4	-6.65	103.14	105.80
1	A	593	G	C2-N3-C4	-6.64	108.58	111.90
1	A	1424	G	C8-N9-C1'	-6.64	118.36	127.00
1	A	2607	G	C8-N9-C1'	-6.64	118.36	127.00
1	A	1022	G	N3-C4-C5	-6.64	125.28	128.60
1	A	450	G	C8-N9-C1'	-6.64	118.37	127.00
1	A	1869	G	C6-C5-N7	-6.64	126.42	130.40
1	A	1676	A	N7-C8-N9	6.64	117.12	113.80
1	A	1356	G	C8-N9-C4	-6.63	103.75	106.40
1	A	602	G	C5-C6-N1	-6.63	108.19	111.50
1	A	1678	G	N3-C4-C5	6.63	131.91	128.60
1	A	1668	A	C5-C6-N6	6.63	129.00	123.70
1	A	1925	C	C2-N1-C1'	-6.63	111.51	118.80
1	A	1423	G	C8-N9-C4	6.63	109.05	106.40
1	A	1698	A	C2-N3-C4	-6.62	107.29	110.60
1	A	2049	G	N1-C2-N3	6.62	127.88	123.90
1	A	539	G	C6-C5-N7	-6.62	126.43	130.40
1	A	2820	A	C5-N7-C8	-6.62	100.59	103.90
1	A	1216	G	C5-C6-O6	-6.62	124.63	128.60
1	A	1311	G	C8-N9-C1'	-6.62	118.39	127.00
1	A	793	A	O5'-P-OP1	6.62	118.64	110.70
1	A	1814	G	N3-C2-N2	-6.62	115.27	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1929	G	C2-N3-C4	-6.62	108.59	111.90
1	A	1829	A	C8-N9-C4	-6.62	103.15	105.80
1	A	621	A	C6-C5-N7	-6.61	127.67	132.30
1	A	1203	G	C4-C5-C6	6.61	122.77	118.80
1	A	1332	G	C4-C5-C6	6.61	122.77	118.80
1	A	271(B)	G	P-O3'-C3'	6.61	127.63	119.70
1	A	187	G	C4-N9-C1'	6.61	135.09	126.50
1	A	220	G	C5-C6-N1	-6.61	108.20	111.50
1	A	828	U	N1-C2-N3	6.61	118.86	114.90
1	A	253	C	C4-C5-C6	6.61	120.70	117.40
1	A	1325	G	C8-N9-C1'	6.61	135.59	127.00
1	A	1614	A	N1-C6-N6	6.61	122.56	118.60
1	A	1815	A	C4-C5-N7	-6.61	107.40	110.70
1	A	511	U	O5'-P-OP2	6.60	118.62	110.70
1	A	1984	G	N1-C6-O6	6.60	123.86	119.90
1	A	450	G	O5'-P-OP1	-6.60	99.76	105.70
1	A	2443	C	C6-N1-C2	-6.60	117.66	120.30
1	A	424	G	C5-C6-N1	6.60	114.80	111.50
1	A	2677	G	N3-C4-N9	6.59	129.96	126.00
1	A	2830	G	N3-C4-C5	-6.59	125.30	128.60
1	A	782	A	O5'-P-OP1	-6.59	99.77	105.70
1	A	1835	G	C4-N9-C1'	6.59	135.07	126.50
1	A	1903	G	OP1-P-OP2	6.59	129.49	119.60
1	A	1647	G	C8-N9-C1'	-6.59	118.44	127.00
1	A	226	G	C8-N9-C1'	6.59	135.56	127.00
1	A	1543	A	C4'-C3'-C2'	-6.59	96.01	102.60
1	A	2502	G	C6-C5-N7	-6.59	126.45	130.40
1	A	2616	C	C2-N1-C1'	-6.59	111.56	118.80
1	A	1768	U	C5-C4-O4	6.58	129.85	125.90
1	A	253	C	N3-C4-C5	-6.58	119.27	121.90
1	A	1609	A	C8-N9-C4	6.58	108.43	105.80
1	A	2315	G	O5'-P-OP2	6.58	118.60	110.70
1	A	2375	G	N1-C6-O6	6.58	123.85	119.90
1	A	137(A)	G	N1-C6-O6	6.58	123.84	119.90
1	A	676	A	C5-C6-N1	-6.58	114.41	117.70
1	A	2251	G	C8-N9-C1'	-6.58	118.45	127.00
1	A	385	C	C2-N1-C1'	6.57	126.03	118.80
1	A	2550	G	C5-C6-O6	-6.57	124.66	128.60
1	A	205	G	P-O3'-C3'	6.57	127.58	119.70
1	A	866	A	C6-C5-N7	-6.57	127.70	132.30
1	A	23	G	N1-C6-O6	6.56	123.84	119.90
1	A	397	G	C2-N3-C4	-6.56	108.62	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1857	G	N3-C4-C5	-6.56	125.32	128.60
1	A	2782	G	C4-N9-C1'	6.56	135.03	126.50
1	A	681	G	N1-C2-N3	6.56	127.84	123.90
1	A	639	U	C4-C5-C6	6.56	123.64	119.70
1	A	728	G	C4-C5-C6	6.56	122.74	118.80
1	A	1264	G	OP2-P-O3'	6.56	119.63	105.20
1	A	1686	C	C6-N1-C2	-6.56	117.68	120.30
2	B	111	U	C5-C4-O4	6.56	129.83	125.90
1	A	1307	A	C6-N1-C2	-6.56	114.67	118.60
1	A	718	A	C8-N9-C4	-6.55	103.18	105.80
1	A	2014	A	C5-C6-N6	-6.55	118.46	123.70
1	A	1328	G	N1-C6-O6	-6.55	115.97	119.90
1	A	1773	A	N9-C4-C5	6.55	108.42	105.80
1	A	55	G	N3-C4-C5	-6.55	125.33	128.60
1	A	842	G	N3-C2-N2	-6.55	115.31	119.90
1	A	833	U	N1-C2-O2	-6.55	118.22	122.80
1	A	753	C	N3-C4-N4	6.54	122.58	118.00
1	A	1756	G	C5-C6-N1	-6.54	108.23	111.50
1	A	541	C	C6-N1-C2	-6.54	117.69	120.30
1	A	1192	G	C4-C5-C6	6.54	122.72	118.80
1	A	1934	C	N3-C4-N4	6.54	122.58	118.00
1	A	2252	G	C6-C5-N7	-6.54	126.48	130.40
1	A	568	U	C4-C5-C6	6.53	123.62	119.70
3	D	131	LEU	CA-CB-CG	6.53	130.32	115.30
1	A	1237	A	N9-C4-C5	6.53	108.41	105.80
1	A	287	C	C5-C4-N4	-6.53	115.63	120.20
1	A	1381	G	N3-C4-N9	6.53	129.92	126.00
1	A	1818	U	C6-N1-C2	-6.53	117.08	121.00
1	A	2263	C	C6-N1-C2	-6.53	117.69	120.30
1	A	2681	C	C2-N1-C1'	6.53	125.98	118.80
1	A	2712(A)	A	C4-C5-C6	6.52	120.26	117.00
1	A	2404	C	O5'-P-OP1	-6.52	99.83	105.70
1	A	650	C	C6-N1-C2	-6.52	117.69	120.30
1	A	2569	G	C4-N9-C1'	6.51	134.97	126.50
1	A	1377	G	N3-C4-C5	-6.51	125.34	128.60
2	B	56	G	N3-C4-C5	-6.51	125.34	128.60
1	A	741	G	C8-N9-C1'	-6.51	118.54	127.00
1	A	1926	U	C6-N1-C2	-6.51	117.10	121.00
1	A	2294	C	N3-C2-O2	-6.50	117.35	121.90
1	A	1907	G	C2-N3-C4	-6.50	108.65	111.90
1	A	1639	U	N3-C4-O4	-6.50	114.85	119.40
1	A	941	A	N1-C2-N3	6.49	132.55	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1621	U	N3-C4-O4	6.49	123.95	119.40
1	A	2523	G	C4-C5-N7	6.49	113.40	110.80
1	A	247	G	C5-C6-O6	-6.49	124.71	128.60
1	A	1287	A	C5-C6-N1	-6.49	114.45	117.70
1	A	2814	C	C6-N1-C2	-6.49	117.70	120.30
1	A	745	G	C4-C5-C6	6.49	122.69	118.80
1	A	1835	G	C2-N3-C4	6.49	115.14	111.90
1	A	957	A	C8-N9-C4	6.48	108.39	105.80
1	A	138	G	C5-C6-N1	6.48	114.74	111.50
1	A	27	G	N3-C4-C5	-6.48	125.36	128.60
1	A	295	G	C2-N3-C4	-6.48	108.66	111.90
1	A	1190	G	N1-C6-O6	6.48	123.79	119.90
1	A	1997	G	O5'-P-OP2	6.48	118.48	110.70
1	A	2590	A	C5-C6-N6	-6.48	118.52	123.70
1	A	845	G	N9-C4-C5	-6.48	102.81	105.40
1	A	414	C	C5-C6-N1	-6.48	117.76	121.00
1	A	1788	C	C6-N1-C2	6.47	122.89	120.30
1	A	311	A	C2-N3-C4	-6.47	107.36	110.60
1	A	1742	C	C6-N1-C2	-6.47	117.71	120.30
1	A	193	U	N3-C4-C5	-6.47	110.72	114.60
1	A	450	G	C4-C5-N7	-6.47	108.21	110.80
1	A	681	G	C4-C5-C6	6.47	122.68	118.80
1	A	1632	A	C5-N7-C8	-6.47	100.67	103.90
1	A	1824	G	C4-C5-C6	6.47	122.68	118.80
1	A	248	G	OP1-P-O3'	6.47	119.43	105.20
1	A	1347	G	C5-C6-N1	-6.47	108.27	111.50
1	A	2427	C	N3-C4-N4	-6.47	113.47	118.00
1	A	2777	G	C2-N3-C4	-6.47	108.67	111.90
1	A	1017	G	N7-C8-N9	6.46	116.33	113.10
1	A	637	A	N7-C8-N9	6.46	117.03	113.80
1	A	2447	G	C5-N7-C8	-6.46	101.07	104.30
1	A	254	G	N9-C4-C5	6.46	107.98	105.40
1	A	541	C	N3-C2-O2	-6.46	117.38	121.90
1	A	1937	A	N1-C6-N6	6.46	122.47	118.60
1	A	443	A	C5-C6-N1	-6.46	114.47	117.70
1	A	1635	G	OP2-P-O3'	6.46	119.40	105.20
1	A	530	G	O4'-C1'-N9	6.45	113.36	108.20
1	A	961	C	C2-N1-C1'	6.45	125.89	118.80
1	A	2825	C	N3-C2-O2	-6.45	117.38	121.90
1	A	2691	C	C6-N1-C2	6.45	122.88	120.30
1	A	917	A	C4-C5-C6	6.45	120.22	117.00
1	A	1777	U	C5-C4-O4	6.45	129.77	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1857	G	C4-N9-C1'	6.45	134.88	126.50
1	A	234	C	C6-N1-C2	-6.44	117.72	120.30
1	A	469	G	C4-C5-C6	6.44	122.67	118.80
1	A	577	G	C6-C5-N7	-6.44	126.53	130.40
1	A	2439	A	C6-C5-N7	-6.44	127.79	132.30
1	A	2549	G	C4-C5-C6	6.44	122.67	118.80
1	A	2766	G	N1-C6-O6	6.44	123.77	119.90
1	A	15	G	C8-N9-C4	-6.44	103.82	106.40
1	A	2243	U	OP2-P-O3'	6.44	119.36	105.20
1	A	1906	G	C4-C5-C6	6.44	122.66	118.80
1	A	701	G	N3-C2-N2	-6.44	115.39	119.90
1	A	51	G	C4-C5-N7	-6.43	108.23	110.80
1	A	197	A	OP2-P-O3'	6.43	119.35	105.20
1	A	1211	U	N3-C2-O2	6.43	126.70	122.20
1	A	733	G	C5-N7-C8	-6.43	101.08	104.30
1	A	974(A)	C	C6-N1-C2	-6.43	117.73	120.30
1	A	2495	G	O5'-P-OP2	-6.43	99.91	105.70
1	A	2020	A	N1-C2-N3	6.43	132.51	129.30
1	A	2542	A	C5-C6-N1	-6.43	114.49	117.70
1	A	2825	C	C6-N1-C2	-6.43	117.73	120.30
1	A	2506	U	N1-C2-N3	6.43	118.76	114.90
1	A	2665	A	C6-C5-N7	-6.43	127.80	132.30
1	A	2685	G	C5-C6-N1	-6.43	108.29	111.50
1	A	2818	G	C4-C5-N7	6.43	113.37	110.80
1	A	582	G	N1-C6-O6	6.42	123.75	119.90
1	A	1186	G	OP2-P-O3'	6.42	119.33	105.20
1	A	2239	G	C6-C5-N7	-6.42	126.55	130.40
1	A	1195	G	C6-C5-N7	-6.42	126.55	130.40
1	A	1257	C	OP2-P-O3'	6.42	119.33	105.20
1	A	1979	C	N3-C4-N4	6.42	122.49	118.00
1	A	2429	G	OP2-P-O3'	6.42	119.32	105.20
1	A	1638	C	C6-N1-C2	-6.42	117.73	120.30
1	A	701	G	N7-C8-N9	6.42	116.31	113.10
1	A	1339	G	O5'-P-OP1	-6.42	99.92	105.70
1	A	256	A	N1-C6-N6	6.42	122.45	118.60
1	A	2002	G	N7-C8-N9	6.41	116.31	113.10
1	A	121	G	N3-C4-C5	-6.41	125.39	128.60
1	A	1358	G	C6-C5-N7	-6.41	126.55	130.40
1	A	74	A	C4-N9-C1'	6.41	137.84	126.30
1	A	1158	C	N3-C4-N4	-6.41	113.52	118.00
1	A	1970	A	O5'-P-OP2	-6.41	99.93	105.70
1	A	2822	G	N3-C4-C5	6.41	131.80	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	774	A	C5-N7-C8	-6.41	100.70	103.90
1	A	2256	G	C8-N9-C4	-6.41	103.84	106.40
1	A	2571	C	C6-N1-C2	-6.40	117.74	120.30
1	A	989	G	C4-C5-N7	6.40	113.36	110.80
1	A	1528	A	O4'-C1'-N9	6.40	113.32	108.20
1	A	820	A	C5-C6-N1	-6.40	114.50	117.70
1	A	1956	U	C4-C5-C6	6.40	123.54	119.70
1	A	2776	A	C8-N9-C4	-6.40	103.24	105.80
1	A	1939	U	N3-C4-O4	-6.40	114.92	119.40
1	A	1676	A	C8-N9-C4	-6.39	103.24	105.80
1	A	1675	C	C2-N3-C4	-6.39	116.70	119.90
1	A	2219	G	N1-C6-O6	6.39	123.73	119.90
1	A	1979	C	N3-C2-O2	-6.39	117.43	121.90
1	A	2726	U	C5-C4-O4	6.39	129.73	125.90
1	A	570	G	N9-C4-C5	6.39	107.95	105.40
1	A	263	C	N3-C2-O2	-6.38	117.43	121.90
1	A	1214	A	N1-C6-N6	-6.38	114.77	118.60
1	A	1243	G	C4-C5-N7	6.38	113.35	110.80
1	A	18	C	C2-N3-C4	-6.38	116.71	119.90
1	A	531	C	N3-C4-C5	-6.38	119.35	121.90
1	A	577	G	C2-N3-C4	-6.38	108.71	111.90
1	A	704	G	N1-C2-N2	-6.38	110.46	116.20
1	A	842	G	C2-N3-C4	-6.38	108.71	111.90
1	A	827	U	C5-C4-O4	6.38	129.73	125.90
1	A	2228	G	C4-N9-C1'	6.38	134.79	126.50
1	A	2569	G	C8-N9-C1'	-6.38	118.71	127.00
1	A	177	G	N9-C4-C5	6.38	107.95	105.40
1	A	1705	G	C4-N9-C1'	6.38	134.79	126.50
1	A	2608	G	C4-C5-N7	6.38	113.35	110.80
1	A	99	U	P-O3'-C3'	6.37	127.35	119.70
1	A	1557	C	C6-N1-C2	6.37	122.85	120.30
1	A	2751	G	C4-C5-N7	6.37	113.35	110.80
1	A	1568	G	N1-C6-O6	-6.37	116.08	119.90
1	A	1669	A	C5-N7-C8	-6.37	100.72	103.90
1	A	1916	A	C5-C6-N1	-6.37	114.52	117.70
1	A	372	G	O4'-C1'-N9	6.37	113.29	108.20
1	A	1560	G	C5-C6-O6	-6.37	124.78	128.60
1	A	2383	G	C8-N9-C1'	-6.37	118.73	127.00
1	A	265	A	N1-C6-N6	-6.36	114.78	118.60
1	A	323	G	C5-C6-N1	-6.36	108.32	111.50
1	A	780	G	C6-C5-N7	-6.36	126.58	130.40
1	A	1831	G	N1-C2-N2	-6.36	110.47	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1241	A	N1-C6-N6	6.36	122.42	118.60
1	A	2694	G	N3-C4-N9	6.36	129.81	126.00
1	A	1015	G	C5-C6-N1	6.36	114.68	111.50
1	A	1219	G	O5'-P-OP2	-6.36	99.98	105.70
1	A	1439	A	N3-C4-C5	6.36	131.25	126.80
1	A	2447	G	C6-C5-N7	-6.36	126.59	130.40
1	A	1602	U	N1-C2-N3	6.36	118.71	114.90
1	A	218	A	N1-C6-N6	-6.35	114.79	118.60
1	A	1795	C	C6-N1-C2	-6.35	117.76	120.30
1	A	59	U	C6-N1-C2	-6.35	117.19	121.00
1	A	1015	G	N7-C8-N9	6.35	116.28	113.10
1	A	2839	G	C4-C5-C6	6.35	122.61	118.80
1	A	1204	A	N1-C2-N3	6.35	132.48	129.30
1	A	305	U	C2-N1-C1'	6.35	125.32	117.70
1	A	990	A	N1-C2-N3	6.35	132.47	129.30
1	A	427	U	N3-C2-O2	-6.35	117.76	122.20
1	A	696	G	C4-C5-N7	6.35	113.34	110.80
1	A	1122	G	C8-N9-C4	-6.35	103.86	106.40
1	A	2573	C	N3-C2-O2	-6.35	117.46	121.90
1	A	1862	G	N3-C4-N9	-6.35	122.19	126.00
1	A	1511	A	N1-C6-N6	-6.34	114.79	118.60
1	A	974(A)	C	P-O3'-C3'	6.34	127.31	119.70
1	A	204	A	N1-C6-N6	-6.34	114.80	118.60
1	A	554	U	C4-C5-C6	6.34	123.50	119.70
1	A	745	G	C6-C5-N7	-6.34	126.59	130.40
1	A	2394	C	C2-N1-C1'	6.34	125.78	118.80
1	A	832	G	C8-N9-C1'	-6.34	118.76	127.00
1	A	382	G	C5-C6-O6	-6.34	124.80	128.60
1	A	636	G	N7-C8-N9	6.34	116.27	113.10
1	A	1326	U	N3-C2-O2	6.34	126.64	122.20
1	A	530	G	N1-C2-N2	-6.33	110.50	116.20
1	A	1258	C	N3-C4-C5	6.33	124.43	121.90
2	B	29	A	C8-N9-C4	-6.33	103.27	105.80
1	A	1424	G	C4-N9-C1'	6.33	134.73	126.50
1	A	2217	G	C5-C6-N1	-6.33	108.34	111.50
1	A	2555	U	C5-C4-O4	6.33	129.70	125.90
1	A	574	C	C6-N1-C2	6.33	122.83	120.30
1	A	2428	G	C5-C6-N1	-6.33	108.34	111.50
1	A	28	A	C8-N9-C4	-6.32	103.27	105.80
1	A	1676	A	C5-N7-C8	-6.32	100.74	103.90
1	A	1761	C	C2-N3-C4	-6.32	116.74	119.90
1	A	1193	G	C8-N9-C4	6.32	108.93	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1228	G	O5'-P-OP1	-6.32	100.01	105.70
1	A	1606	G	N7-C8-N9	-6.32	109.94	113.10
1	A	58	G	C8-N9-C4	-6.32	103.87	106.40
1	A	326	G	N1-C6-O6	6.32	123.69	119.90
1	A	2407	G	C8-N9-C4	-6.32	103.87	106.40
1	A	1243	G	C5-C6-O6	-6.32	124.81	128.60
1	A	1951	U	O5'-P-OP2	-6.31	100.02	105.70
1	A	1031	G	N1-C6-O6	-6.31	116.11	119.90
1	A	1647	G	C4-C5-N7	6.31	113.32	110.80
1	A	753	C	C2-N1-C1'	6.31	125.74	118.80
1	A	1413	G	C5-C6-O6	-6.31	124.81	128.60
1	A	1915	U	C6-N1-C2	-6.31	117.22	121.00
1	A	917	A	C2-N3-C4	-6.30	107.45	110.60
1	A	956	G	N1-C6-O6	6.30	123.68	119.90
1	A	2025	C	C6-N1-C2	-6.30	117.78	120.30
1	A	1422	G	N9-C4-C5	6.30	107.92	105.40
1	A	1544	C	N1-C2-O2	6.30	122.68	118.90
1	A	2080	G	C4-C5-N7	6.30	113.32	110.80
1	A	788	A	C4-C5-N7	6.30	113.85	110.70
1	A	1606	G	N3-C2-N2	6.30	124.31	119.90
1	A	1786	A	N9-C1'-C2'	6.30	122.19	114.00
1	A	680	G	N1-C2-N3	6.29	127.68	123.90
1	A	820	A	C2-N3-C4	-6.29	107.45	110.60
1	A	945	A	C5-C6-N1	-6.29	114.55	117.70
1	A	74	A	C6-C5-N7	-6.29	127.90	132.30
1	A	270(R)	G	N3-C4-C5	-6.29	125.45	128.60
1	A	1897	G	C6-C5-N7	-6.29	126.62	130.40
1	A	2299	G	N1-C6-O6	6.29	123.67	119.90
1	A	2661	G	N3-C4-C5	-6.29	125.45	128.60
1	A	792	G	N1-C2-N2	-6.29	110.54	116.20
1	A	1825	A	N9-C4-C5	6.29	108.32	105.80
1	A	2068	U	C6-N1-C2	6.29	124.77	121.00
1	A	2391	G	C5-C6-O6	-6.29	124.83	128.60
1	A	311	A	N1-C6-N6	6.29	122.37	118.60
1	A	577	G	C5-C6-N1	-6.29	108.36	111.50
1	A	1595	G	C5-C6-N1	-6.29	108.36	111.50
1	A	2675	A	C5-C6-N1	6.29	120.84	117.70
2	B	49	C	C6-N1-C2	-6.29	117.78	120.30
1	A	636	G	C4-C5-N7	6.28	113.31	110.80
1	A	2447	G	OP1-P-O3'	6.28	119.02	105.20
1	A	465	G	C8-N9-C4	-6.28	103.89	106.40
1	A	1787	A	O4'-C1'-N9	-6.28	103.17	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1187	G	C5-C6-O6	6.28	132.37	128.60
1	A	1734	C	N3-C4-C5	-6.28	119.39	121.90
2	B	8	U	O5'-P-OP2	-6.28	100.05	105.70
1	A	46	C	OP2-P-O3'	6.28	119.01	105.20
1	A	621	A	C4-C5-N7	6.28	113.84	110.70
1	A	650	C	C5-C6-N1	6.28	124.14	121.00
1	A	1939	U	C5-C4-O4	6.28	129.66	125.90
1	A	2566	A	P-O3'-C3'	6.28	127.23	119.70
1	A	2715	C	N3-C4-C5	6.28	124.41	121.90
1	A	676	A	C6-C5-N7	-6.27	127.91	132.30
1	A	1329	U	O5'-P-OP2	-6.27	100.05	105.70
1	A	1499	C	C5-C6-N1	-6.27	117.86	121.00
1	A	1666	G	C6-C5-N7	-6.27	126.64	130.40
1	A	1403	C	N1-C2-N3	6.27	123.59	119.20
1	A	1607	C	C2-N1-C1'	6.27	125.70	118.80
1	A	2523	G	N1-C6-O6	6.27	123.66	119.90
1	A	270(X)	G	C5-C6-N1	-6.27	108.37	111.50
1	A	333	G	C5-C6-O6	-6.27	124.84	128.60
1	A	2486	G	C8-N9-C4	6.27	108.91	106.40
1	A	592	G	C4-N9-C1'	6.26	134.64	126.50
1	A	2767	C	C2-N1-C1'	6.26	125.69	118.80
1	A	2419	U	OP1-P-O3'	6.26	118.98	105.20
1	A	2430	A	C4-C5-C6	6.26	120.13	117.00
1	A	354	G	N9-C4-C5	-6.26	102.90	105.40
1	A	404	C	P-O3'-C3'	6.26	127.21	119.70
1	A	972	G	N1-C2-N2	-6.26	110.56	116.20
1	A	1950	G	N3-C4-N9	6.26	129.76	126.00
1	A	342	G	N1-C6-O6	6.26	123.66	119.90
1	A	1831	G	C4-N9-C1'	6.26	134.64	126.50
1	A	483	A	N1-C2-N3	6.26	132.43	129.30
1	A	1351	C	N1-C2-O2	-6.26	115.15	118.90
1	A	815	C	C5-C6-N1	-6.25	117.87	121.00
1	A	258	G	N3-C4-C5	-6.25	125.47	128.60
1	A	400	G	C2-N3-C4	-6.25	108.77	111.90
1	A	1559	G	C2-N3-C4	-6.25	108.77	111.90
1	A	2779	U	N3-C2-O2	-6.25	117.82	122.20
1	A	2276	G	O5'-P-OP1	-6.25	100.08	105.70
1	A	494	G	C4-C5-N7	6.25	113.30	110.80
1	A	2532	G	C4-N9-C1'	6.25	134.62	126.50
1	A	2592	G	O5'-P-OP2	-6.25	100.08	105.70
1	A	450	G	N3-C2-N2	-6.25	115.53	119.90
1	A	296	C	N3-C2-O2	-6.24	117.53	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2367	G	C4-C5-N7	6.24	113.30	110.80
2	B	99	A	C2-N3-C4	-6.24	107.48	110.60
1	A	318	C	N1-C2-O2	-6.24	115.16	118.90
1	A	794	G	C4-N9-C1'	6.24	134.61	126.50
1	A	1159	U	C5-C6-N1	-6.24	119.58	122.70
1	A	1264	G	C4-C5-N7	-6.24	108.31	110.80
1	A	1496	A	C8-N9-C4	-6.24	103.30	105.80
1	A	2702	U	N1-C2-O2	6.24	127.17	122.80
1	A	734	A	C5-C6-N1	-6.24	114.58	117.70
1	A	1256	G	N1-C2-N3	6.24	127.64	123.90
1	A	1495	A	C8-N9-C4	-6.24	103.31	105.80
1	A	1658	C	C6-N1-C2	-6.24	117.81	120.30
1	A	2655	G	C4-C5-N7	-6.24	108.31	110.80
1	A	385	C	N3-C4-C5	-6.23	119.41	121.90
1	A	1607	C	C5-C6-N1	6.23	124.12	121.00
1	A	2584	U	N1-C2-N3	6.23	118.64	114.90
1	A	2590	A	C6-C5-N7	-6.23	127.94	132.30
1	A	2752	C	C6-N1-C1'	-6.23	113.32	120.80
1	A	34	C	N1-C2-O2	6.23	122.64	118.90
1	A	393	C	N3-C4-C5	6.23	124.39	121.90
1	A	1326	U	C6-N1-C2	6.23	124.74	121.00
1	A	1728	G	C4-C5-N7	6.23	113.29	110.80
1	A	380	U	N3-C4-O4	6.23	123.76	119.40
1	A	1743	G	C8-N9-C4	-6.23	103.91	106.40
1	A	2468	G	C8-N9-C4	-6.23	103.91	106.40
1	A	139	G	C8-N9-C4	-6.23	103.91	106.40
1	A	1163	G	C8-N9-C4	-6.22	103.91	106.40
1	A	2249	U	C6-N1-C2	-6.22	117.27	121.00
1	A	132	G	C4-C5-C6	6.22	122.53	118.80
1	A	2871	C	C5-C4-N4	-6.22	115.84	120.20
1	A	1204	A	N3-C4-C5	6.22	131.16	126.80
1	A	2313	C	N3-C2-O2	-6.22	117.55	121.90
1	A	2440	C	N1-C2-O2	-6.22	115.17	118.90
1	A	2713	A	N7-C8-N9	6.22	116.91	113.80
1	A	580	C	N3-C2-O2	-6.22	117.55	121.90
1	A	760	G	C5-C6-N1	-6.22	108.39	111.50
1	A	1607	C	C2-N3-C4	6.22	123.01	119.90
1	A	286	C	C6-N1-C2	6.21	122.79	120.30
1	A	1341	U	OP2-P-O3'	6.21	118.87	105.20
1	A	471	A	C8-N9-C4	-6.21	103.31	105.80
1	A	697	C	C2-N1-C1'	6.21	125.63	118.80
1	A	2607	G	N3-C4-N9	6.21	129.73	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	745	G	C5-C6-N1	-6.21	108.39	111.50
1	A	2689	U	P-O3'-C3'	6.21	127.15	119.70
1	A	580	C	C6-N1-C2	-6.21	117.82	120.30
1	A	1903	G	N3-C4-C5	6.21	131.70	128.60
1	A	2557	G	C4-N9-C1'	6.21	134.57	126.50
1	A	1969	A	OP1-P-O3'	6.20	118.85	105.20
1	A	2362	G	C8-N9-C4	6.20	108.88	106.40
1	A	820	A	N3-C4-N9	-6.20	122.44	127.40
1	A	1933	G	N3-C4-C5	-6.20	125.50	128.60
1	A	2235	G	C5-C6-N1	-6.20	108.40	111.50
1	A	955	C	N1-C2-O2	-6.20	115.18	118.90
1	A	1150	C	C6-N1-C2	-6.20	117.82	120.30
1	A	1022	G	C4-C5-N7	-6.19	108.32	110.80
1	A	670	A	N9-C4-C5	6.19	108.28	105.80
1	A	591	C	N3-C4-C5	6.19	124.38	121.90
1	A	1392	A	N1-C6-N6	-6.19	114.89	118.60
1	A	2325	G	O5'-P-OP1	-6.19	100.13	105.70
1	A	528	A	N3-C4-C5	6.19	131.13	126.80
1	A	1385	G	C4-N9-C1'	-6.19	118.45	126.50
1	A	125	G	N1-C6-O6	-6.19	116.19	119.90
1	A	246	C	N1-C2-O2	-6.18	115.19	118.90
1	A	1017	G	C5-C6-O6	-6.18	124.89	128.60
1	A	1328	G	C5-C6-N1	6.18	114.59	111.50
1	A	2218	G	C5-C6-N1	-6.18	108.41	111.50
1	A	948	G	N1-C6-O6	6.18	123.61	119.90
1	A	2079	U	N3-C4-O4	6.18	123.73	119.40
1	A	2228	G	N3-C4-N9	6.18	129.71	126.00
1	A	1628	G	C8-N9-C1'	-6.18	118.97	127.00
1	A	28	A	C6-C5-N7	-6.18	127.97	132.30
2	B	28	C	C6-N1-C2	-6.18	117.83	120.30
1	A	256	A	C4-C5-N7	6.18	113.79	110.70
1	A	2880	C	C6-N1-C2	-6.18	117.83	120.30
1	A	859	G	N3-C4-N9	-6.17	122.30	126.00
1	A	1889	A	N1-C6-N6	-6.17	114.89	118.60
1	A	290	G	N7-C8-N9	-6.17	110.01	113.10
1	A	1774	C	N3-C4-C5	6.17	124.37	121.90
1	A	2230	G	N1-C6-O6	6.17	123.60	119.90
1	A	1027	A	OP1-P-OP2	-6.17	110.35	119.60
1	A	1981	A	N7-C8-N9	6.17	116.88	113.80
2	B	81	G	C5-N7-C8	-6.17	101.22	104.30
1	A	314	A	C5-C6-N1	6.16	120.78	117.70
1	A	2639	A	C5-C6-N1	-6.16	114.62	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2686	G	OP2-P-O3'	6.16	118.76	105.20
2	B	69	G	C8-N9-C4	-6.16	103.94	106.40
1	A	1259	G	C6-C5-N7	-6.16	126.70	130.40
1	A	1670	C	C6-N1-C2	6.16	122.76	120.30
1	A	952	G	N3-C4-C5	-6.16	125.52	128.60
1	A	1934	C	C5-C4-N4	-6.16	115.89	120.20
1	A	2581	G	C5-C6-O6	6.16	132.29	128.60
1	A	2837	G	C5-N7-C8	-6.16	101.22	104.30
1	A	193	U	N3-C4-O4	6.16	123.71	119.40
1	A	784	A	C6-N1-C2	-6.16	114.91	118.60
1	A	2299	G	C4-C5-N7	6.16	113.26	110.80
1	A	773	U	N1-C2-N3	6.15	118.59	114.90
1	A	1955	U	N1-C2-N3	6.15	118.59	114.90
1	A	622	G	C4-C5-C6	6.15	122.49	118.80
1	A	663	G	N3-C4-C5	-6.15	125.52	128.60
1	A	867	C	C2-N1-C1'	6.15	125.57	118.80
1	A	1135	C	N1-C2-O2	6.15	122.59	118.90
1	A	2309	A	C5-C6-N1	-6.15	114.62	117.70
1	A	2620	C	N1-C2-O2	6.15	122.59	118.90
1	A	2710	C	C5-C6-N1	-6.15	117.92	121.00
1	A	1563	G	C2-N3-C4	-6.15	108.83	111.90
1	A	692	C	OP2-P-O3'	6.15	118.72	105.20
2	B	50	G	N3-C4-N9	-6.15	122.31	126.00
1	A	1206	G	N1-C6-O6	6.15	123.59	119.90
1	A	221	A	C8-N9-C1'	-6.14	116.64	127.70
1	A	1204	A	N1-C6-N6	6.14	122.29	118.60
1	A	1325	G	C4-N9-C1'	-6.14	118.51	126.50
1	A	1776	G	C4-C5-C6	6.14	122.48	118.80
1	A	1406	U	N3-C2-O2	-6.14	117.90	122.20
1	A	769	G	C6-C5-N7	-6.14	126.72	130.40
1	A	2782	G	C6-C5-N7	-6.14	126.72	130.40
1	A	1890	A	C4-C5-N7	6.14	113.77	110.70
1	A	2672	G	C4-C5-N7	6.13	113.25	110.80
1	A	204	A	C2-N3-C4	6.13	113.67	110.60
1	A	1409	C	N3-C2-O2	6.13	126.19	121.90
1	A	2251	G	C6-C5-N7	-6.13	126.72	130.40
1	A	2481	G	P-O3'-C3'	6.13	127.06	119.70
1	A	529	A	N7-C8-N9	6.13	116.86	113.80
1	A	445	C	OP2-P-O3'	6.13	118.68	105.20
1	A	1610	A	C6-C5-N7	-6.13	128.01	132.30
1	A	62	C	C5-C6-N1	-6.12	117.94	121.00
1	A	1673	U	C5-C6-N1	-6.12	119.64	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	338	G	C8-N9-C1'	-6.12	119.04	127.00
1	A	1610	A	N1-C6-N6	6.12	122.27	118.60
1	A	2058	A	C4-C5-C6	6.12	120.06	117.00
1	A	2254	C	N3-C2-O2	6.12	126.19	121.90
1	A	208	C	C5-C6-N1	-6.12	117.94	121.00
1	A	301	G	N3-C4-N9	6.12	129.67	126.00
1	A	1402	C	N3-C4-N4	6.12	122.28	118.00
1	A	688	U	N3-C4-O4	6.11	123.68	119.40
1	A	776	G	N3-C4-N9	-6.11	122.33	126.00
1	A	1343	G	C4-N9-C1'	6.11	134.45	126.50
1	A	2005	A	C5-C6-N6	6.11	128.59	123.70
1	A	2446	G	C4-C5-C6	6.11	122.47	118.80
1	A	967	C	C5-C6-N1	-6.11	117.94	121.00
1	A	858	U	C5-C6-N1	-6.11	119.64	122.70
1	A	2318	G	O4'-C1'-N9	6.11	113.09	108.20
1	A	305	U	N3-C2-O2	-6.10	117.93	122.20
1	A	2574	G	O5'-P-OP2	-6.10	100.21	105.70
1	A	81	G	N1-C6-O6	6.10	123.56	119.90
1	A	414	C	C6-N1-C2	6.10	122.74	120.30
1	A	1978	A	C2-N3-C4	-6.10	107.55	110.60
1	A	2331	G	N1-C6-O6	6.10	123.56	119.90
1	A	697	C	N3-C2-O2	-6.10	117.63	121.90
1	A	1785	A	C4-C5-C6	6.10	120.05	117.00
1	A	917	A	N1-C2-N3	6.10	132.35	129.30
1	A	1477	A	C8-N9-C4	-6.10	103.36	105.80
1	A	247	G	N3-C4-N9	6.10	129.66	126.00
1	A	1187	G	C8-N9-C1'	-6.09	119.08	127.00
1	A	1647	G	N3-C4-N9	6.09	129.66	126.00
1	A	1238	G	O5'-P-OP2	-6.09	100.22	105.70
1	A	389	G	O5'-P-OP2	-6.09	100.22	105.70
1	A	775	G	C6-C5-N7	-6.09	126.75	130.40
1	A	2067	G	N1-C2-N3	6.09	127.55	123.90
1	A	376	C	C6-N1-C2	6.09	122.74	120.30
1	A	2312	U	C6-N1-C2	-6.09	117.35	121.00
1	A	2509	G	N1-C6-O6	6.09	123.55	119.90
1	A	1969	A	N9-C4-C5	6.09	108.23	105.80
1	A	491	G	N1-C6-O6	-6.08	116.25	119.90
1	A	323	G	N1-C6-O6	6.08	123.55	119.90
1	A	1780	A	N9-C4-C5	6.08	108.23	105.80
1	A	810	U	OP1-P-OP2	-6.08	110.48	119.60
1	A	1271	G	C6-C5-N7	-6.08	126.75	130.40
1	A	2020	A	N9-C4-C5	6.08	108.23	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1285	G	C8-N9-C4	-6.08	103.97	106.40
1	A	1788	C	C5-C6-N1	-6.08	117.96	121.00
1	A	1816	G	N3-C4-N9	-6.08	122.36	126.00
1	A	1899	G	C4-N9-C1'	-6.08	118.60	126.50
1	A	2407	G	C8-N9-C1'	-6.08	119.10	127.00
1	A	2508	G	C6-C5-N7	-6.08	126.75	130.40
1	A	309	G	N3-C4-N9	6.07	129.64	126.00
1	A	2502	G	C8-N9-C4	-6.07	103.97	106.40
1	A	2635	C	N3-C2-O2	-6.07	117.65	121.90
1	A	2751	G	C5-N7-C8	-6.07	101.26	104.30
1	A	1264	G	N1-C6-O6	-6.07	116.26	119.90
1	A	2697	G	N3-C4-N9	6.07	129.64	126.00
1	A	38	A	C6-C5-N7	-6.07	128.05	132.30
1	A	728	G	N1-C6-O6	6.06	123.54	119.90
1	A	2228	G	OP2-P-O3'	6.06	118.54	105.20
2	B	5	C	C6-N1-C2	6.06	122.72	120.30
1	A	814	C	N1-C2-O2	-6.06	115.26	118.90
1	A	38	A	C5-C6-N6	-6.06	118.85	123.70
1	A	1559	G	N1-C6-O6	6.06	123.53	119.90
1	A	918	A	N1-C6-N6	6.06	122.23	118.60
1	A	1889	A	O5'-P-OP1	-6.06	100.25	105.70
1	A	582	G	C4-C5-N7	6.05	113.22	110.80
1	A	1380	G	C6-C5-N7	-6.05	126.77	130.40
1	A	1786	A	O4'-C1'-N9	6.05	113.04	108.20
1	A	2318	G	C8-N9-C4	-6.05	103.98	106.40
1	A	199	A	N1-C2-N3	-6.05	126.28	129.30
1	A	528	A	N3-C4-N9	-6.05	122.56	127.40
1	A	2687	U	O5'-P-OP1	-6.05	100.25	105.70
1	A	798	G	C6-C5-N7	-6.05	126.77	130.40
1	A	1332	G	O5'-P-OP2	-6.05	100.26	105.70
1	A	1789	A	C8-N9-C4	6.05	108.22	105.80
1	A	1993	U	O5'-P-OP1	-6.04	100.26	105.70
1	A	197	A	O5'-P-OP2	-6.04	100.26	105.70
1	A	483	A	C4-C5-C6	6.04	120.02	117.00
1	A	762	U	N1-C2-N3	-6.04	111.27	114.90
1	A	956	G	C6-C5-N7	-6.04	126.77	130.40
1	A	1289	C	C5-C6-N1	6.04	124.02	121.00
1	A	1353	A	C5-C6-N1	6.04	120.72	117.70
1	A	1679	U	N3-C2-O2	-6.04	117.97	122.20
1	A	188	G	C4-C5-C6	6.04	122.42	118.80
1	A	865	C	C6-N1-C2	6.04	122.72	120.30
1	A	1506	C	C2-N1-C1'	6.04	125.45	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1897	G	C2-N3-C4	-6.04	108.88	111.90
1	A	967	C	N3-C4-C5	6.04	124.32	121.90
1	A	1858	G	C4-N9-C1'	6.04	134.35	126.50
1	A	141	A	N1-C6-N6	6.04	122.22	118.60
1	A	1130	U	C6-N1-C2	-6.04	117.38	121.00
1	A	1256	G	C6-C5-N7	-6.04	126.78	130.40
1	A	187	G	N9-C4-C5	-6.04	102.98	105.40
1	A	693	C	OP2-P-O3'	6.04	118.48	105.20
1	A	942	G	C6-C5-N7	-6.04	126.78	130.40
1	A	1015	G	C4-C5-N7	6.04	113.21	110.80
2	B	81	G	C5-C6-O6	-6.04	124.98	128.60
1	A	860	U	C2-N1-C1'	6.03	124.94	117.70
1	A	944	G	C4-N9-C1'	6.03	134.34	126.50
1	A	1377	G	C4-C5-C6	6.03	122.42	118.80
1	A	1897	G	C5-C6-N1	-6.03	108.48	111.50
1	A	2540	C	C6-N1-C2	6.03	122.71	120.30
1	A	573	G	C4-N9-C1'	6.03	134.34	126.50
1	A	917	A	C5-C6-N1	-6.03	114.69	117.70
1	A	1327	C	N3-C4-C5	-6.03	119.49	121.90
1	A	1383	C	N3-C4-N4	6.03	122.22	118.00
1	A	2431	U	N1-C2-O2	-6.03	118.58	122.80
1	A	1313	U	C6-N1-C2	-6.03	117.38	121.00
1	A	1329	U	N1-C2-N3	6.03	118.52	114.90
1	A	1616	A	OP1-P-O3'	6.03	118.46	105.20
1	A	1642	G	N1-C6-O6	6.03	123.52	119.90
1	A	2067	G	C2-N3-C4	-6.03	108.89	111.90
2	B	4	C	C6-N1-C2	6.03	122.71	120.30
1	A	2849	U	O4'-C1'-N1	6.03	113.02	108.20
1	A	682	G	C2-N3-C4	-6.02	108.89	111.90
1	A	350	U	N3-C4-C5	-6.02	110.99	114.60
1	A	577	G	N1-C6-O6	6.02	123.51	119.90
1	A	597	U	N3-C4-C5	-6.02	110.99	114.60
1	A	1301	A	N1-C2-N3	6.02	132.31	129.30
1	A	1336	A	C2-N3-C4	6.02	113.61	110.60
1	A	1351	C	N3-C4-C5	-6.02	119.49	121.90
1	A	2258	C	C2-N1-C1'	6.02	125.42	118.80
1	A	1594	G	C6-C5-N7	-6.02	126.79	130.40
1	A	2261	C	N3-C4-C5	6.02	124.31	121.90
1	A	486	C	C4-C5-C6	-6.02	114.39	117.40
1	A	503	A	N9-C4-C5	6.02	108.21	105.80
1	A	1992	G	C5-C6-N1	6.02	114.51	111.50
1	A	2271	G	N3-C4-C5	-6.02	125.59	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	415	A	N7-C8-N9	-6.01	110.79	113.80
1	A	461	C	N3-C2-O2	6.01	126.11	121.90
2	B	50	G	N3-C4-C5	6.01	131.61	128.60
1	A	508	G	N9-C1'-C2'	6.01	121.81	114.00
1	A	753	C	C5-C4-N4	-6.01	115.99	120.20
1	A	1302	A	N1-C6-N6	-6.01	114.99	118.60
1	A	2062	A	N9-C4-C5	-6.01	103.39	105.80
1	A	2080	G	N7-C8-N9	6.01	116.11	113.10
1	A	265	A	N9-C4-C5	6.01	108.20	105.80
1	A	528	A	C2-N3-C4	-6.01	107.60	110.60
13	R	9	LYS	N-CA-C	-6.01	94.78	111.00
1	A	305	U	C6-N1-C2	-6.01	117.40	121.00
1	A	1786	A	C4-N9-C1'	6.01	137.11	126.30
1	A	2392	A	N1-C6-N6	6.01	122.20	118.60
2	B	95	U	C5-C4-O4	6.01	129.50	125.90
1	A	1933	G	N3-C4-N9	6.00	129.60	126.00
3	D	240	ALA	C-N-CD	6.00	141.01	128.40
1	A	391	G	C6-C5-N7	-6.00	126.80	130.40
1	A	1791	A	C6-N1-C2	-6.00	115.00	118.60
1	A	1930	G	N7-C8-N9	-6.00	110.10	113.10
2	B	29	A	N7-C8-N9	6.00	116.80	113.80
1	A	2492	U	C5-C6-N1	6.00	125.70	122.70
1	A	580	C	N1-C2-N3	6.00	123.40	119.20
1	A	1234	U	N3-C4-C5	-6.00	111.00	114.60
1	A	1928	A	N1-C6-N6	6.00	122.20	118.60
1	A	1235	G	C4-C5-N7	-5.99	108.40	110.80
1	A	2251	G	N3-C4-C5	-5.99	125.60	128.60
1	A	1594	G	C2-N3-C4	-5.99	108.90	111.90
1	A	2080	G	C5-N7-C8	-5.99	101.30	104.30
1	A	2281	C	N3-C4-C5	5.99	124.30	121.90
1	A	2752	C	N1-C2-O2	5.99	122.50	118.90
1	A	676	A	C4-C5-N7	5.99	113.69	110.70
1	A	2765	A	O5'-P-OP1	-5.99	100.31	105.70
1	A	2777	G	N1-C2-N3	5.99	127.49	123.90
1	A	391	G	N3-C4-N9	5.99	129.59	126.00
1	A	541	C	C2-N1-C1'	5.99	125.38	118.80
1	A	270(S)	G	OP1-P-O3'	5.98	118.36	105.20
1	A	1814	G	C2-N3-C4	-5.98	108.91	111.90
1	A	234	C	OP1-P-OP2	-5.98	110.63	119.60
1	A	1791	A	N3-C4-C5	-5.98	122.61	126.80
1	A	662	G	N7-C8-N9	5.98	116.09	113.10
1	A	1626	G	C6-C5-N7	-5.98	126.81	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2690	C	N3-C2-O2	5.98	126.08	121.90
1	A	444	C	C6-N1-C2	-5.98	117.91	120.30
1	A	2422	A	N9-C4-C5	-5.98	103.41	105.80
1	A	2481	G	OP2-P-O3'	5.98	118.35	105.20
1	A	2215	G	C4-C5-N7	5.98	113.19	110.80
1	A	444	C	OP2-P-O3'	5.97	118.34	105.20
1	A	860	U	C4-C5-C6	5.97	123.28	119.70
1	A	1633	G	C5-C6-N1	-5.97	108.51	111.50
1	A	2698	U	N1-C2-O2	-5.97	118.62	122.80
1	A	454	A	C2-N3-C4	-5.97	107.61	110.60
1	A	2256	G	N3-C4-C5	-5.97	125.61	128.60
1	A	2853	C	C5-C6-N1	-5.97	118.01	121.00
1	A	776	G	C8-N9-C4	-5.97	104.01	106.40
1	A	2830	G	C8-N9-C1'	-5.97	119.24	127.00
1	A	2012	G	N3-C4-N9	5.97	129.58	126.00
1	A	2715	C	C5-C4-N4	-5.97	116.02	120.20
1	A	914	C	C6-N1-C2	-5.97	117.91	120.30
1	A	988	A	C5-C6-N1	5.97	120.68	117.70
1	A	1135	C	C2-N3-C4	5.97	122.88	119.90
1	A	1916	A	C4-C5-C6	5.97	119.98	117.00
1	A	1957	C	C5-C6-N1	-5.97	118.02	121.00
1	A	2000	G	C4-N9-C1'	5.97	134.26	126.50
1	A	2688	U	N1-C2-N3	5.97	118.48	114.90
1	A	1955	U	P-O3'-C3'	5.96	126.86	119.70
2	B	100	G	N7-C8-N9	-5.96	110.12	113.10
1	A	876	C	N1-C2-O2	5.96	122.48	118.90
2	B	47	C	C6-N1-C2	5.96	122.69	120.30
1	A	945	A	C4-C5-N7	5.96	113.68	110.70
1	A	1021	A	C5-C6-N1	-5.96	114.72	117.70
1	A	1820	U	C4-C5-C6	5.96	123.28	119.70
1	A	645	C	C5-C6-N1	5.96	123.98	121.00
1	A	2547	U	C6-N1-C2	-5.96	117.42	121.00
1	A	73	A	O5'-P-OP1	-5.96	100.34	105.70
1	A	461	C	N3-C4-N4	5.96	122.17	118.00
1	A	2017	U	N1-C2-O2	-5.96	118.63	122.80
1	A	1994	C	C5-C6-N1	-5.96	118.02	121.00
1	A	2061	G	C4-C5-C6	5.96	122.37	118.80
1	A	264	C	C6-N1-C2	5.95	122.68	120.30
1	A	715	G	C5-C6-N1	5.95	114.48	111.50
1	A	1017	G	C5-N7-C8	-5.95	101.32	104.30
1	A	2002	G	C8-N9-C1'	5.95	134.74	127.00
1	A	2259	G	C5-N7-C8	-5.95	101.32	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2270	G	C5-C6-N1	-5.95	108.52	111.50
1	A	1595	G	C6-C5-N7	-5.95	126.83	130.40
1	A	1728	G	C2-N3-C4	5.95	114.88	111.90
1	A	1950	G	C2-N3-C4	5.95	114.88	111.90
1	A	2702	U	O4'-C1'-N1	5.95	112.96	108.20
1	A	29	U	C5-C6-N1	5.95	125.67	122.70
1	A	242	G	C8-N9-C4	5.95	108.78	106.40
1	A	760	G	C6-C5-N7	-5.95	126.83	130.40
1	A	940	G	C8-N9-C4	-5.95	104.02	106.40
1	A	592	G	C8-N9-C4	-5.95	104.02	106.40
1	A	792	G	N3-C4-C5	-5.95	125.63	128.60
1	A	140	A	N9-C4-C5	-5.95	103.42	105.80
1	A	729	G	C5-C6-N1	5.95	114.47	111.50
1	A	264	C	C4-C5-C6	-5.94	114.43	117.40
1	A	1988	C	C6-N1-C1'	5.94	127.93	120.80
2	B	81	G	N9-C4-C5	-5.94	103.02	105.40
1	A	2439	A	C8-N9-C4	-5.94	103.42	105.80
1	A	210	C	C2-N3-C4	-5.94	116.93	119.90
1	A	1115	G	C8-N9-C4	5.94	108.78	106.40
1	A	2519	U	C5-C6-N1	-5.94	119.73	122.70
1	A	554	U	N1-C2-N3	5.94	118.46	114.90
1	A	2444	G	C5-C6-O6	-5.94	125.04	128.60
1	A	226	G	C4-N9-C1'	-5.94	118.78	126.50
1	A	962	G	C8-N9-C4	-5.94	104.03	106.40
1	A	972	G	N3-C4-C5	-5.94	125.63	128.60
1	A	24	G	C5-C6-O6	-5.93	125.04	128.60
1	A	690	G	C5-C6-N1	-5.93	108.53	111.50
1	A	1236	G	C5-C6-N1	-5.93	108.53	111.50
1	A	1622	G	C6-C5-N7	-5.93	126.84	130.40
1	A	1774	C	O5'-P-OP2	-5.93	100.36	105.70
1	A	1791	A	N9-C4-C5	5.93	108.17	105.80
1	A	2237	G	C6-C5-N7	-5.93	126.84	130.40
1	A	264	C	C5-C4-N4	-5.93	116.05	120.20
1	A	183	C	C6-N1-C2	-5.93	117.93	120.30
1	A	663	G	N3-C4-N9	5.93	129.56	126.00
1	A	354	G	N1-C6-O6	5.93	123.46	119.90
1	A	1400	G	N1-C6-O6	-5.93	116.34	119.90
1	A	1256	G	C4-C5-C6	5.93	122.36	118.80
1	A	1329	U	N1-C2-O2	-5.93	118.65	122.80
1	A	1381	G	C8-N9-C1'	-5.93	119.30	127.00
1	A	1982	C	N3-C2-O2	5.93	126.05	121.90
1	A	2303	G	C5-C6-N1	-5.93	108.54	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	299	A	C8-N9-C4	-5.92	103.43	105.80
1	A	2549	G	C4-N9-C1'	5.92	134.20	126.50
1	A	2597	G	C2-N3-C4	-5.92	108.94	111.90
1	A	1382	G	N1-C6-O6	5.92	123.45	119.90
1	A	2376	A	C6-N1-C2	5.92	122.15	118.60
1	A	2710	C	C2-N3-C4	-5.92	116.94	119.90
1	A	1402	C	C2-N1-C1'	5.92	125.31	118.80
1	A	1997	G	N3-C4-N9	-5.92	122.45	126.00
1	A	1620	G	C5-C6-N1	-5.92	108.54	111.50
1	A	2338	G	O5'-P-OP1	-5.92	100.37	105.70
1	A	666	G	N3-C4-C5	5.92	131.56	128.60
1	A	602	G	C2-N3-C4	-5.92	108.94	111.90
1	A	465	G	N1-C2-N2	-5.92	110.88	116.20
1	A	560	C	N3-C2-O2	5.92	126.04	121.90
1	A	2694	G	N9-C4-C5	-5.91	103.03	105.40
1	A	199	A	C4-C5-C6	-5.91	114.04	117.00
1	A	1729	A	O4'-C1'-N9	5.91	112.93	108.20
1	A	2436	G	C5-C6-O6	5.91	132.15	128.60
1	A	1501	C	C6-N1-C2	-5.91	117.94	120.30
1	A	398	G	N3-C4-C5	-5.91	125.65	128.60
1	A	1683	C	C2-N3-C4	-5.91	116.95	119.90
1	A	1780	A	N1-C6-N6	-5.91	115.06	118.60
1	A	379	G	C4-N9-C1'	5.91	134.18	126.50
1	A	2447	G	N7-C8-N9	5.91	116.05	113.10
1	A	2864	G	N3-C4-N9	5.91	129.54	126.00
1	A	523	C	C2-N1-C1'	5.90	125.29	118.80
1	A	400	G	C5-C6-N1	-5.90	108.55	111.50
1	A	1250	G	N3-C4-C5	5.90	131.55	128.60
1	A	1773	A	C5-C6-N6	5.90	128.42	123.70
1	A	2623	G	C8-N9-C4	-5.90	104.04	106.40
1	A	683	C	N1-C2-O2	-5.90	115.36	118.90
1	A	2603	G	O5'-P-OP1	-5.90	100.39	105.70
7	H	125	VAL	C-N-CD	-5.90	107.62	120.60
1	A	27	G	C5-C6-N1	-5.90	108.55	111.50
1	A	2431	U	C5-C6-N1	5.90	125.65	122.70
1	A	116	C	C5-C6-N1	-5.89	118.05	121.00
1	A	234	C	C5-C6-N1	5.89	123.95	121.00
1	A	2534	A	N1-C6-N6	-5.89	115.06	118.60
1	A	1704	G	O5'-P-OP1	5.89	117.77	110.70
1	A	219	G	C6-C5-N7	-5.89	126.86	130.40
1	A	966	G	C5-C6-N1	-5.89	108.55	111.50
1	A	1368	G	N3-C4-N9	5.89	129.53	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1799	G	N1-C6-O6	-5.89	116.36	119.90
1	A	2089	U	C5-C6-N1	5.89	125.64	122.70
1	A	2371	G	C5-C6-N1	-5.89	108.55	111.50
1	A	473	G	C2-N3-C4	5.89	114.84	111.90
1	A	487	C	C2-N1-C1'	5.89	125.28	118.80
1	A	795	C	C2-N3-C4	-5.89	116.96	119.90
1	A	2729	G	N3-C4-N9	-5.89	122.47	126.00
1	A	302	C	C6-N1-C2	-5.88	117.95	120.30
1	A	2063	C	O4'-C1'-N1	-5.88	103.49	108.20
1	A	1982	C	C5-C4-N4	-5.88	116.08	120.20
1	A	2598	A	O5'-P-OP2	-5.88	100.41	105.70
1	A	191	A	N3-C4-C5	-5.88	122.68	126.80
1	A	2679	A	C2-N3-C4	-5.88	107.66	110.60
1	A	949	C	C2-N1-C1'	-5.88	112.33	118.80
1	A	2377	A	N7-C8-N9	-5.88	110.86	113.80
1	A	1437	C	C5-C6-N1	5.88	123.94	121.00
1	A	2505	G	N7-C8-N9	5.88	116.04	113.10
1	A	2731	G	C5-C6-O6	-5.88	125.08	128.60
1	A	622	G	C8-N9-C1'	-5.87	119.36	127.00
1	A	1426	G	C8-N9-C4	-5.87	104.05	106.40
1	A	272	G	N3-C4-C5	5.87	131.54	128.60
1	A	764	A	C2-N3-C4	-5.87	107.66	110.60
1	A	1021	A	C6-C5-N7	-5.87	128.19	132.30
1	A	1845	G	C2-N3-C4	-5.87	108.97	111.90
1	A	2320	A	N3-C4-C5	-5.87	122.69	126.80
1	A	476	G	C6-C5-N7	-5.87	126.88	130.40
1	A	2079	U	C5-C4-O4	-5.87	122.38	125.90
1	A	1904	G	N3-C4-C5	-5.87	125.67	128.60
1	A	2749	A	C8-N9-C4	5.87	108.15	105.80
1	A	121	G	C5-C6-O6	-5.86	125.08	128.60
1	A	687	C	N3-C4-N4	5.86	122.10	118.00
1	A	1159	U	C6-N1-C2	5.86	124.52	121.00
1	A	1728	G	N9-C4-C5	-5.86	103.06	105.40
1	A	2294	C	C2-N1-C1'	5.86	125.25	118.80
1	A	694	U	C5-C4-O4	5.86	129.42	125.90
1	A	2226	C	C6-N1-C2	5.86	122.64	120.30
1	A	2661	G	N3-C4-N9	5.86	129.52	126.00
1	A	2488	A	N1-C2-N3	5.86	132.23	129.30
1	A	2685	G	N3-C2-N2	-5.86	115.80	119.90
1	A	247	G	C2-N3-C4	5.86	114.83	111.90
1	A	804	A	N1-C6-N6	5.86	122.11	118.60
1	A	2439	A	O4'-C1'-N9	-5.86	103.52	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2844	G	C4-N9-C1'	5.86	134.11	126.50
1	A	1899	G	N3-C2-N2	-5.86	115.80	119.90
1	A	1012	U	C5-C6-N1	-5.85	119.77	122.70
1	A	1976	U	N1-C2-N3	5.85	118.41	114.90
1	A	793	A	C5-C6-N1	-5.85	114.77	117.70
1	A	1563	G	N1-C2-N3	5.85	127.41	123.90
1	A	1967	C	N3-C4-C5	5.85	124.24	121.90
1	A	1628	G	N3-C4-N9	5.85	129.51	126.00
1	A	2874	C	C6-N1-C2	5.85	122.64	120.30
1	A	272	G	C8-N9-C1'	5.85	134.60	127.00
1	A	1761	C	C6-N1-C2	5.85	122.64	120.30
2	B	8	U	C2-N3-C4	5.85	130.51	127.00
1	A	1852	C	N1-C2-O2	5.84	122.41	118.90
1	A	2028	U	C6-N1-C2	-5.84	117.49	121.00
1	A	622	G	C6-C5-N7	-5.84	126.89	130.40
1	A	822	U	C2-N1-C1'	-5.84	110.69	117.70
1	A	1425	G	C5-C6-N1	-5.84	108.58	111.50
1	A	1840	G	N3-C4-C5	5.84	131.52	128.60
4	E	58	ARG	N-CA-C	-5.84	95.23	111.00
1	A	210	C	N3-C4-C5	5.84	124.24	121.90
1	A	1978	A	C4-C5-C6	5.84	119.92	117.00
1	A	2782	G	C4-C5-C6	5.84	122.30	118.80
1	A	825	C	N3-C4-N4	5.84	122.09	118.00
1	A	964	C	C6-N1-C2	-5.83	117.97	120.30
1	A	1230	C	C6-N1-C2	5.83	122.63	120.30
1	A	900	A	C8-N9-C4	-5.83	103.47	105.80
1	A	1514	U	C6-N1-C2	-5.83	117.50	121.00
1	A	2862	G	N1-C6-O6	5.83	123.40	119.90
1	A	2021	C	N1-C2-O2	-5.83	115.40	118.90
1	A	2410	G	C8-N9-C4	-5.83	104.07	106.40
1	A	54	G	C4-C5-N7	5.83	113.13	110.80
1	A	1961	C	C6-N1-C2	5.83	122.63	120.30
1	A	2517	C	O5'-P-OP1	-5.83	100.46	105.70
1	A	2717	G	C6-C5-N7	-5.83	126.90	130.40
1	A	51	G	N1-C6-O6	-5.83	116.40	119.90
1	A	1378	A	C8-N9-C4	5.82	108.13	105.80
1	A	2447	G	O5'-P-OP1	-5.82	100.46	105.70
1	A	192	C	N3-C4-C5	5.82	124.23	121.90
1	A	797	C	N1-C2-O2	-5.82	115.41	118.90
1	A	1983	C	C2-N1-C1'	-5.82	112.39	118.80
1	A	2015	A	C8-N9-C4	-5.82	103.47	105.80
1	A	391	G	C5-C6-O6	-5.82	125.11	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	671	C	C5-C4-N4	5.82	124.28	120.20
1	A	624	C	N1-C2-O2	5.82	122.39	118.90
1	A	1962	C	C2-N1-C1'	5.82	125.20	118.80
11	P	26	GLY	N-CA-C	-5.82	98.55	113.10
1	A	990	A	C2-N3-C4	-5.82	107.69	110.60
1	A	2818	G	C5-C6-O6	-5.82	125.11	128.60
1	A	512	G	C6-C5-N7	5.82	133.89	130.40
1	A	1786	A	OP1-P-OP2	-5.82	110.88	119.60
1	A	1332	G	N7-C8-N9	5.81	116.01	113.10
1	A	2728	U	N1-C2-N3	-5.81	111.41	114.90
1	A	2811	G	C6-C5-N7	-5.81	126.91	130.40
1	A	2827	C	C5-C4-N4	-5.81	116.13	120.20
1	A	1762	A	C4-C5-N7	-5.81	107.79	110.70
1	A	2014	A	C6-C5-N7	-5.81	128.23	132.30
1	A	29	U	C2-N1-C1'	5.81	124.67	117.70
1	A	1442	G	N3-C4-N9	5.81	129.49	126.00
2	B	39	A	C8-N9-C4	-5.81	103.48	105.80
1	A	121	G	N3-C4-N9	5.81	129.48	126.00
1	A	298	G	C5-N7-C8	-5.81	101.40	104.30
1	A	863	A	N7-C8-N9	-5.81	110.90	113.80
1	A	1019	U	C5-C4-O4	5.81	129.38	125.90
1	A	1822	G	C6-C5-N7	-5.81	126.92	130.40
1	A	1903	G	C8-N9-C4	5.81	108.72	106.40
1	A	1974	C	C2-N1-C1'	5.81	125.19	118.80
1	A	74	A	C8-N9-C4	-5.81	103.48	105.80
1	A	979	G	N3-C4-N9	-5.81	122.52	126.00
1	A	132	G	C4-N9-C1'	5.80	134.05	126.50
1	A	1814	G	C4-C5-N7	-5.80	108.48	110.80
1	A	1939	U	N3-C2-O2	-5.80	118.14	122.20
1	A	2016	U	N1-C2-N3	5.80	118.38	114.90
1	A	2448	A	C5-C6-N6	-5.80	119.06	123.70
1	A	1161	C	O5'-P-OP1	-5.80	100.48	105.70
1	A	1236	G	C2-N3-C4	-5.80	109.00	111.90
1	A	2064	C	N1-C2-O2	-5.80	115.42	118.90
1	A	2574	G	N3-C4-C5	5.80	131.50	128.60
1	A	1367	A	C6-C5-N7	-5.80	128.24	132.30
1	A	1762	A	N1-C6-N6	-5.80	115.12	118.60
1	A	1595	G	C4-C5-N7	5.80	113.12	110.80
1	A	103	A	N1-C6-N6	5.80	122.08	118.60
1	A	1130	U	N1-C2-N3	5.80	118.38	114.90
1	A	1592	C	C6-N1-C2	5.80	122.62	120.30
1	A	839	U	N1-C2-N3	5.80	118.38	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	944	G	O4'-C1'-N9	5.80	112.84	108.20
1	A	955	C	C2-N1-C1'	-5.80	112.42	118.80
1	A	1184	G	N3-C4-N9	5.80	129.48	126.00
1	A	1237	A	N1-C6-N6	-5.80	115.12	118.60
1	A	1253	A	N1-C2-N3	-5.80	126.40	129.30
1	A	1319	G	C4-C5-N7	5.80	113.12	110.80
1	A	1767	C	C2-N3-C4	-5.79	117.00	119.90
1	A	672	C	O5'-P-OP2	-5.79	100.49	105.70
1	A	2383	G	N3-C4-C5	-5.79	125.70	128.60
1	A	319	C	N3-C2-O2	5.79	125.95	121.90
1	A	1613	G	O4'-C1'-N9	-5.79	103.57	108.20
1	A	842	G	C4-C5-N7	5.79	113.12	110.80
1	A	751	A	C8-N9-C4	-5.79	103.48	105.80
1	A	1830	C	N3-C2-O2	5.79	125.95	121.90
1	A	877	U	C5-C6-N1	5.79	125.59	122.70
1	A	2227	A	N3-C4-N9	-5.79	122.77	127.40
2	B	54	G	C6-C5-N7	-5.79	126.93	130.40
1	A	2020	A	C4-C5-C6	5.79	119.89	117.00
1	A	839	U	C5-C4-O4	5.78	129.37	125.90
1	A	2448	A	C8-N9-C4	5.78	108.11	105.80
1	A	968	G	N9-C4-C5	5.78	107.71	105.40
1	A	1142(A)	A	C4-C5-C6	5.78	119.89	117.00
1	A	221	A	C4-N9-C1'	5.78	136.71	126.30
1	A	414	C	N3-C4-N4	-5.78	113.95	118.00
1	A	1380	G	C8-N9-C4	-5.78	104.09	106.40
1	A	214	G	O4'-C1'-N9	5.78	112.82	108.20
1	A	270(Y)	G	N3-C4-C5	-5.78	125.71	128.60
1	A	433	C	C6-N1-C2	5.78	122.61	120.30
1	A	1733	G	C4-N9-C1'	5.78	134.01	126.50
1	A	2819	G	C8-N9-C4	5.78	108.71	106.40
1	A	621	A	C5-C6-N1	-5.77	114.81	117.70
1	A	1425	G	C4-N9-C1'	5.77	134.01	126.50
1	A	1769	G	C5-C6-N1	-5.77	108.61	111.50
1	A	80	G	C4-C5-C6	5.77	122.26	118.80
1	A	298	G	C4-N9-C1'	-5.77	119.00	126.50
1	A	1311	G	C8-N9-C4	5.77	108.71	106.40
1	A	1767	C	C6-N1-C2	5.77	122.61	120.30
1	A	2190	G	N1-C6-O6	5.77	123.36	119.90
1	A	2246	G	N3-C4-C5	-5.77	125.72	128.60
1	A	2259	G	C5-C6-O6	-5.77	125.14	128.60
1	A	2429	G	N1-C6-O6	5.77	123.36	119.90
1	A	2439	A	C5-N7-C8	-5.77	101.02	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2532	G	C8-N9-C4	-5.77	104.09	106.40
1	A	2557	G	C6-C5-N7	-5.77	126.94	130.40
2	B	95	U	C4-C5-C6	5.77	123.16	119.70
1	A	51	G	C5-C6-O6	5.77	132.06	128.60
1	A	568	U	O4'-C1'-N1	5.77	112.81	108.20
2	B	44	G	C2-N3-C4	5.77	114.78	111.90
1	A	2869	G	C6-C5-N7	-5.77	126.94	130.40
1	A	587	C	N1-C2-O2	5.76	122.36	118.90
1	A	1017	G	C8-N9-C4	-5.76	104.09	106.40
1	A	2000	G	C4-C5-N7	5.76	113.11	110.80
1	A	2537	U	C5-C4-O4	5.76	129.36	125.90
1	A	2726	U	O4'-C1'-N1	5.76	112.81	108.20
1	A	400	G	N3-C4-C5	5.76	131.48	128.60
1	A	1331	A	C8-N9-C4	5.76	108.11	105.80
1	A	2281	C	C5-C4-N4	-5.76	116.17	120.20
1	A	71	A	N1-C6-N6	5.76	122.06	118.60
1	A	221	A	OP2-P-O3'	5.76	117.87	105.20
1	A	444	C	N3-C4-C5	-5.76	119.60	121.90
1	A	1833	U	C6-N1-C2	-5.76	117.55	121.00
1	A	1800	C	C5-C6-N1	-5.76	118.12	121.00
1	A	1890	A	N3-C4-C5	5.76	130.83	126.80
1	A	352	G	C8-N9-C4	5.75	108.70	106.40
1	A	916	G	C4-C5-C6	5.75	122.25	118.80
1	A	1826	G	N1-C6-O6	5.75	123.35	119.90
1	A	1756	G	C4-C5-N7	-5.75	108.50	110.80
1	A	1926	U	N1-C2-N3	5.75	118.35	114.90
1	A	2710	C	C4-C5-C6	5.75	120.27	117.40
1	A	30	G	C8-N9-C4	-5.75	104.10	106.40
1	A	140	A	C2-N3-C4	-5.75	107.73	110.60
1	A	818	G	C5-C6-N1	-5.75	108.63	111.50
1	A	1480	G	C5-C6-N1	-5.75	108.63	111.50
1	A	1558	A	P-O3'-C3'	5.75	126.60	119.70
24	2	16	LEU	N-CA-C	-5.75	95.48	111.00
1	A	2251	G	C2-N3-C4	-5.75	109.03	111.90
1	A	2691	C	C2-N1-C1'	-5.75	112.48	118.80
1	A	270(R)	G	C4-C5-N7	-5.74	108.50	110.80
1	A	972	G	C4-C5-N7	-5.74	108.50	110.80
1	A	1658	C	N3-C2-O2	-5.74	117.88	121.90
1	A	2432	A	C5-N7-C8	-5.74	101.03	103.90
1	A	2468	G	O4'-C1'-N9	5.74	112.80	108.20
1	A	259	G	C4-C5-C6	5.74	122.25	118.80
1	A	508	G	O4'-C1'-N9	5.74	112.79	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1203	G	N9-C4-C5	5.74	107.70	105.40
1	A	1317	A	O5'-P-OP1	5.74	117.59	110.70
1	A	2634	G	N1-C6-O6	5.74	123.34	119.90
1	A	1825	A	C8-N9-C4	-5.74	103.50	105.80
2	B	13	A	C5-C6-N6	5.74	128.29	123.70
1	A	585	G	C8-N9-C1'	-5.74	119.54	127.00
1	A	2561	A	C8-N9-C4	5.74	108.09	105.80
1	A	58	G	C5-C6-N1	-5.74	108.63	111.50
1	A	2767	C	C6-N1-C2	-5.74	118.01	120.30
2	B	26	A	C8-N9-C4	-5.74	103.50	105.80
1	A	995	C	C6-N1-C2	-5.73	118.01	120.30
1	A	1763	G	C5-C6-O6	5.73	132.04	128.60
1	A	2318	G	C5'-C4'-O4'	5.73	115.98	109.10
1	A	414	C	C2-N3-C4	-5.73	117.03	119.90
1	A	1189	A	O5'-P-OP1	-5.73	100.54	105.70
1	A	1819	A	O5'-P-OP2	-5.73	100.54	105.70
1	A	666	G	C8-N9-C4	5.73	108.69	106.40
1	A	1787	A	C8-N9-C4	5.73	108.09	105.80
1	A	1994	C	C2-N3-C4	-5.73	117.04	119.90
1	A	769	G	N1-C6-O6	5.72	123.33	119.90
1	A	1577	C	O5'-P-OP1	-5.72	100.55	105.70
1	A	1815	A	N1-C6-N6	-5.72	115.17	118.60
1	A	2279	G	C5-C6-N1	5.72	114.36	111.50
1	A	2318	G	C5-N7-C8	-5.72	101.44	104.30
1	A	2399	G	N7-C8-N9	-5.72	110.24	113.10
1	A	1862	G	N3-C4-C5	5.72	131.46	128.60
1	A	2870	C	N3-C4-C5	-5.72	119.61	121.90
1	A	498	G	C2-N3-C4	5.72	114.76	111.90
1	A	579	G	N1-C6-O6	5.72	123.33	119.90
1	A	622	G	C4-N9-C1'	5.72	133.93	126.50
1	A	745	G	C8-N9-C4	-5.72	104.11	106.40
1	A	2869	G	C8-N9-C4	-5.72	104.11	106.40
2	B	82	G	C5-C6-O6	5.72	132.03	128.60
1	A	1814	G	N1-C2-N3	5.71	127.33	123.90
1	A	129	C	C5-C6-N1	-5.71	118.14	121.00
1	A	916	G	N3-C4-N9	5.71	129.43	126.00
1	A	1151	G	C6-C5-N7	-5.71	126.97	130.40
1	A	1907	G	N1-C6-O6	5.71	123.33	119.90
1	A	1224	G	N3-C4-N9	-5.71	122.57	126.00
1	A	1611	C	N3-C4-C5	5.71	124.19	121.90
1	A	1824	G	C6-C5-N7	-5.71	126.97	130.40
1	A	2240	C	O5'-P-OP2	5.71	117.55	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	768	G	C4-C5-N7	5.71	113.08	110.80
1	A	1818	U	C5-C4-O4	5.71	129.32	125.90
1	A	2052	G	C5-C6-N1	5.71	114.35	111.50
1	A	1304	C	C5-C6-N1	-5.71	118.15	121.00
1	A	1568	G	C8-N9-C1'	5.71	134.42	127.00
1	A	2395	C	C6-N1-C2	-5.71	118.02	120.30
1	A	458	G	C5-N7-C8	5.71	107.15	104.30
1	A	2000	G	N1-C6-O6	5.71	123.32	119.90
1	A	2294	C	C5-C6-N1	5.70	123.85	121.00
1	A	2616	C	N3-C4-C5	5.70	124.18	121.90
1	A	2538	C	C6-N1-C2	5.70	122.58	120.30
1	A	84	A	C8-N9-C4	-5.70	103.52	105.80
1	A	921	G	C6-C5-N7	-5.70	126.98	130.40
1	A	1969	A	N1-C6-N6	-5.70	115.18	118.60
1	A	602	G	N3-C4-C5	5.70	131.45	128.60
1	A	214	G	N3-C4-C5	-5.70	125.75	128.60
1	A	391	G	C8-N9-C1'	-5.70	119.60	127.00
1	A	861	A	O5'-P-OP2	5.70	117.53	110.70
1	A	1307	A	C5-C6-N1	5.70	120.55	117.70
1	A	1443	G	C5-C6-N1	-5.70	108.65	111.50
1	A	1614	A	C5-C6-N6	-5.70	119.14	123.70
1	A	2710	C	N3-C4-N4	-5.70	114.01	118.00
1	A	1516	U	N3-C2-O2	-5.69	118.21	122.20
1	A	2293	C	P-O3'-C3'	-5.69	112.87	119.70
1	A	28	A	N7-C8-N9	5.69	116.65	113.80
1	A	380	U	N3-C4-C5	-5.69	111.18	114.60
1	A	704	G	N3-C4-C5	-5.69	125.75	128.60
1	A	1489	U	O5'-P-OP1	-5.69	100.58	105.70
1	A	2490	G	N7-C8-N9	5.69	115.95	113.10
1	A	2719	G	N1-C6-O6	5.69	123.31	119.90
1	A	804	A	C5-N7-C8	-5.69	101.05	103.90
1	A	1131	G	O5'-P-OP2	-5.69	100.58	105.70
1	A	1344	G	N3-C4-N9	-5.69	122.58	126.00
1	A	1421	G	N1-C6-O6	5.69	123.31	119.90
1	A	1680	U	N3-C4-C5	-5.69	111.19	114.60
1	A	1705	G	N3-C4-N9	5.69	129.41	126.00
1	A	2623	G	C4-N9-C1'	5.69	133.90	126.50
1	A	2647	U	C5-C4-O4	5.69	129.31	125.90
1	A	228	A	C4-N9-C1'	5.69	136.54	126.30
1	A	132	G	C8-N9-C1'	-5.69	119.61	127.00
1	A	379	G	C5-C6-O6	-5.69	125.19	128.60
1	A	523	C	C5-C6-N1	5.69	123.84	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	952	G	C4-N9-C1'	5.69	133.90	126.50
1	A	649	G	C5-C6-N1	-5.68	108.66	111.50
1	A	906	G	N9-C4-C5	5.68	107.67	105.40
1	A	1378	A	C2-N3-C4	-5.68	107.76	110.60
1	A	1385	G	C6-C5-N7	5.68	133.81	130.40
1	A	184	C	C6-N1-C2	5.68	122.57	120.30
1	A	1330	C	N3-C4-C5	5.68	124.17	121.90
1	A	2003	G	C2-N3-C4	-5.68	109.06	111.90
1	A	2080	G	C4-C5-C6	5.68	122.21	118.80
1	A	379	G	N3-C2-N2	5.68	123.88	119.90
1	A	2509	G	C4-C5-N7	5.68	113.07	110.80
1	A	533	G	N9-C4-C5	5.68	107.67	105.40
1	A	620	G	N3-C4-N9	-5.68	122.59	126.00
1	A	1903	G	C2-N3-C4	-5.68	109.06	111.90
1	A	2060	A	C2-N3-C4	-5.68	107.76	110.60
1	A	756	C	C6-N1-C2	5.68	122.57	120.30
1	A	452	G	C6-N1-C2	-5.68	121.69	125.10
1	A	503	A	P-O3'-C3'	5.68	126.51	119.70
1	A	1447	G	N1-C6-O6	5.68	123.31	119.90
1	A	2677	G	C8-N9-C1'	-5.68	119.62	127.00
1	A	431	U	N3-C4-O4	5.67	123.37	119.40
1	A	486	C	C5-C6-N1	5.67	123.84	121.00
1	A	1907	G	N3-C4-N9	-5.67	122.60	126.00
1	A	1890	A	N1-C6-N6	5.67	122.00	118.60
1	A	2609	U	C5-C6-N1	-5.67	119.86	122.70
1	A	523	C	N3-C2-O2	-5.67	117.93	121.90
1	A	549	G	C4-C5-N7	5.67	113.07	110.80
1	A	319	C	N1-C2-O2	-5.67	115.50	118.90
1	A	1311	G	N3-C4-N9	5.67	129.40	126.00
1	A	1364	G	N1-C2-N3	5.67	127.30	123.90
1	A	1971	A	C8-N9-C4	5.67	108.07	105.80
1	A	460	A	C8-N9-C4	5.67	108.07	105.80
1	A	1424	G	N1-C2-N3	5.67	127.30	123.90
1	A	1379	A	P-O3'-C3'	5.66	126.50	119.70
1	A	1380	G	N1-C6-O6	5.66	123.30	119.90
1	A	2422	A	N3-C4-C5	5.66	130.76	126.80
1	A	203	C	C5-C6-N1	-5.66	118.17	121.00
1	A	683	C	C4-C5-C6	5.66	120.23	117.40
1	A	686	G	C2-N3-C4	-5.66	109.07	111.90
1	A	196	A	C6-C5-N7	-5.66	128.34	132.30
1	A	243	U	O5'-P-OP1	-5.66	100.61	105.70
1	A	436	C	C4-C5-C6	5.66	120.23	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1602	U	C4-C5-C6	5.66	123.10	119.70
1	A	2839	G	C4-N9-C1'	5.66	133.86	126.50
1	A	2440	C	O5'-P-OP1	-5.66	100.61	105.70
1	A	990	A	C4-C5-C6	5.66	119.83	117.00
1	A	2619	C	N1-C2-O2	-5.66	115.51	118.90
1	A	811	U	O5'-P-OP1	-5.66	100.61	105.70
1	A	1280	G	C5-C6-N1	5.65	114.33	111.50
2	B	89	G	N7-C8-N9	5.65	115.93	113.10
1	A	1517	G	N3-C4-N9	5.65	129.39	126.00
1	A	2839	G	C8-N9-C1'	-5.65	119.65	127.00
1	A	112	U	C5-C4-O4	-5.65	122.51	125.90
1	A	713	G	C4-C5-C6	5.65	122.19	118.80
1	A	819	A	OP2-P-O3'	5.65	117.63	105.20
1	A	1378	A	N3-C4-N9	-5.65	122.88	127.40
1	A	2230	G	C5-C6-O6	-5.65	125.21	128.60
1	A	1206	G	N1-C2-N3	5.65	127.29	123.90
1	A	1620	G	C2-N3-C4	-5.65	109.08	111.90
1	A	1698	A	OP1-P-O3'	5.65	117.63	105.20
1	A	955	C	N3-C2-O2	5.65	125.85	121.90
1	A	2371	G	C8-N9-C4	-5.65	104.14	106.40
1	A	141(A)	C	C6-N1-C2	5.64	122.56	120.30
1	A	1392	A	N9-C4-C5	5.64	108.06	105.80
1	A	1835	G	N3-C4-N9	5.64	129.39	126.00
1	A	2049	G	C6-C5-N7	-5.64	127.01	130.40
1	A	1908	C	N3-C2-O2	-5.64	117.95	121.90
1	A	1938	A	C8-N9-C4	5.64	108.06	105.80
1	A	2513	G	C8-N9-C4	-5.64	104.14	106.40
1	A	673	C	N3-C2-O2	-5.64	117.95	121.90
1	A	798	G	C2-N3-C4	-5.64	109.08	111.90
1	A	2053	G	N1-C6-O6	5.64	123.28	119.90
1	A	2607	G	N3-C4-C5	-5.64	125.78	128.60
1	A	270(Y)	G	N9-C4-C5	5.64	107.66	105.40
1	A	2249	U	C4-C5-C6	5.64	123.08	119.70
1	A	2710	C	N1-C2-N3	5.64	123.15	119.20
1	A	382	G	C5-N7-C8	-5.64	101.48	104.30
1	A	2520	C	N1-C2-O2	-5.64	115.52	118.90
1	A	839	U	N3-C2-O2	-5.63	118.26	122.20
1	A	2422	A	N1-C6-N6	5.63	121.98	118.60
1	A	195	A	N7-C8-N9	5.63	116.62	113.80
1	A	867	C	N3-C4-C5	-5.63	119.65	121.90
1	A	1012	U	C2-N1-C1'	-5.63	110.94	117.70
1	A	1189	A	O5'-P-OP2	5.63	117.46	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	326	G	C5-C6-N1	-5.63	108.69	111.50
1	A	393	C	N3-C2-O2	5.63	125.84	121.90
1	A	1423	G	N7-C8-N9	-5.63	110.28	113.10
1	A	1844	C	OP1-P-O3'	5.63	117.58	105.20
1	A	2002	G	C4-C5-N7	5.63	113.05	110.80
1	A	2555	U	N1-C2-O2	-5.63	118.86	122.80
1	A	1557	C	C5-C6-N1	-5.63	118.19	121.00
1	A	2590	A	N9-C4-C5	-5.63	103.55	105.80
1	A	218	A	C6-C5-N7	5.62	136.24	132.30
1	A	1180	C	C2-N1-C1'	5.62	124.99	118.80
1	A	539	G	N3-C4-N9	5.62	129.37	126.00
1	A	1666	G	C8-N9-C4	5.62	108.65	106.40
1	A	2053	G	C4-C5-N7	5.62	113.05	110.80
1	A	776	G	N1-C6-O6	-5.62	116.53	119.90
1	A	1788	C	C2-N1-C1'	-5.62	112.62	118.80
1	A	1992	G	O4'-C1'-N9	-5.62	103.70	108.20
1	A	2429	G	C6-C5-N7	-5.62	127.03	130.40
1	A	2620	C	O5'-P-OP2	5.62	117.44	110.70
1	A	2707	G	C6-C5-N7	5.62	133.77	130.40
1	A	179	G	N1-C6-O6	5.62	123.27	119.90
1	A	193	U	N1-C2-N3	5.62	118.27	114.90
1	A	1728	G	C5-C6-O6	-5.62	125.23	128.60
1	A	979	G	N9-C4-C5	5.62	107.65	105.40
1	A	1193	G	N3-C4-C5	5.62	131.41	128.60
1	A	1240	U	N3-C4-C5	-5.62	111.23	114.60
1	A	1442	G	N3-C4-C5	-5.62	125.79	128.60
1	A	111	A	N1-C6-N6	-5.61	115.23	118.60
1	A	1979	C	C5-C6-N1	5.61	123.81	121.00
1	A	2523	G	C5-N7-C8	-5.61	101.49	104.30
1	A	2814	C	N1-C2-N3	5.61	123.13	119.20
1	A	980	A	N9-C4-C5	-5.61	103.56	105.80
1	A	2548	G	C4-C5-C6	5.61	122.17	118.80
1	A	2707	G	C4-N9-C1'	-5.61	119.21	126.50
2	B	24	G	P-O3'-C3'	5.61	126.43	119.70
1	A	690	G	N1-C6-O6	5.61	123.27	119.90
1	A	592	G	C2-N3-C4	5.61	114.70	111.90
1	A	2228	G	N3-C4-C5	-5.61	125.80	128.60
1	A	2520	C	C2-N3-C4	-5.61	117.10	119.90
1	A	2788	C	N3-C2-O2	-5.61	117.97	121.90
1	A	533	G	C8-N9-C4	-5.61	104.16	106.40
1	A	1621	U	N1-C2-O2	-5.61	118.88	122.80
1	A	2569	G	N3-C4-N9	5.61	129.36	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2672	G	C5-C6-O6	-5.61	125.24	128.60
1	A	415	A	N9-C4-C5	-5.60	103.56	105.80
1	A	693	C	C2-N3-C4	-5.60	117.10	119.90
1	A	1416	G	P-O3'-C3'	5.60	126.42	119.70
1	A	2881	C	C6-N1-C2	-5.60	118.06	120.30
1	A	74	A	O4'-C1'-N9	-5.60	103.72	108.20
1	A	441	U	N3-C2-O2	5.60	126.12	122.20
1	A	1268	A	O5'-P-OP2	-5.60	100.66	105.70
1	A	1273	U	C5-C6-N1	-5.60	119.90	122.70
1	A	1517	G	N3-C4-C5	-5.60	125.80	128.60
1	A	2227	A	C5-C6-N6	5.60	128.18	123.70
1	A	1447	G	C8-N9-C4	-5.60	104.16	106.40
1	A	329	G	O5'-P-OP1	-5.60	100.66	105.70
1	A	410	G	O5'-P-OP2	5.60	117.42	110.70
1	A	2822	G	C5-C6-N1	-5.60	108.70	111.50
1	A	425	G	N1-C6-O6	5.59	123.26	119.90
1	A	928	G	N1-C2-N2	5.59	121.23	116.20
1	A	1421	G	C6-C5-N7	-5.59	127.04	130.40
1	A	1368	G	C6-C5-N7	-5.59	127.04	130.40
1	A	1182	A	C6-C5-N7	-5.59	128.39	132.30
1	A	270(Y)	G	C4-C5-N7	-5.59	108.56	110.80
1	A	995	C	C6-N1-C1'	-5.59	114.09	120.80
1	A	1132	A	N1-C2-N3	-5.59	126.51	129.30
1	A	2255	G	O5'-P-OP1	5.59	117.41	110.70
1	A	71	A	C5-C6-N1	-5.59	114.91	117.70
1	A	1559	G	O4'-C1'-N9	5.59	112.67	108.20
1	A	667	U	N3-C4-O4	5.59	123.31	119.40
1	A	680	G	C6-C5-N7	-5.59	127.05	130.40
1	A	792	G	N3-C2-N2	5.59	123.81	119.90
1	A	2269	A	C2-N3-C4	-5.59	107.81	110.60
1	A	1768	U	C6-N1-C1'	5.58	129.02	121.20
1	A	2690	C	N3-C4-C5	-5.58	119.67	121.90
1	A	593	G	C5-C6-N1	-5.58	108.71	111.50
1	A	1252	G	N3-C4-N9	5.58	129.35	126.00
1	A	841	A	N3-C4-C5	5.58	130.71	126.80
1	A	1900	A	C6-N1-C2	-5.58	115.25	118.60
1	A	2518	A	C5-C6-N6	-5.58	119.23	123.70
1	A	2731	G	C4-C5-N7	5.58	113.03	110.80
1	A	2869	G	C4-N9-C1'	5.58	133.76	126.50
2	B	98	G	N7-C8-N9	-5.58	110.31	113.10
1	A	2454	G	OP1-P-O3'	-5.58	92.92	105.20
1	A	945	A	C4-C5-C6	5.58	119.79	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2634	G	C5-C6-O6	-5.58	125.25	128.60
1	A	192	C	N1-C2-O2	5.58	122.25	118.90
1	A	452	G	N3-C4-N9	5.58	129.35	126.00
1	A	1528	A	C5-N7-C8	-5.58	101.11	103.90
1	A	1542	G	N3-C4-N9	5.58	129.35	126.00
1	A	2702	U	N3-C2-O2	-5.58	118.30	122.20
1	A	1602	U	C5-C6-N1	5.58	125.49	122.70
1	A	2108	C	C6-N1-C2	-5.58	118.07	120.30
1	A	2432	A	C4-C5-C6	5.57	119.79	117.00
1	A	2439	A	P-O3'-C3'	5.57	126.39	119.70
1	A	813	U	C5-C6-N1	-5.57	119.91	122.70
1	A	1142(A)	A	C6-C5-N7	-5.57	128.40	132.30
1	A	2247	A	C6-C5-N7	-5.57	128.40	132.30
1	A	1560	G	N9-C4-C5	-5.57	103.17	105.40
1	A	1695	G	C8-N9-C4	-5.57	104.17	106.40
1	A	1825	A	N1-C6-N6	-5.57	115.26	118.60
1	A	1968	G	C8-N9-C4	-5.57	104.17	106.40
1	A	2111	C	C6-N1-C2	-5.57	118.07	120.30
1	A	2364	C	C2-N1-C1'	-5.57	112.67	118.80
1	A	2830	G	N3-C4-N9	5.57	129.34	126.00
1	A	1695	G	N7-C8-N9	5.57	115.88	113.10
1	A	1849	G	C8-N9-C4	-5.57	104.17	106.40
1	A	271(C)	U	N1-C2-O2	5.57	126.70	122.80
1	A	625	G	N3-C4-C5	5.57	131.38	128.60
1	A	928	G	C4-C5-N7	5.57	113.03	110.80
1	A	2874	C	O5'-P-OP2	-5.57	100.69	105.70
1	A	1385	G	C8-N9-C1'	5.56	134.23	127.00
1	A	2557	G	C8-N9-C1'	-5.56	119.77	127.00
1	A	1353	A	N3-C4-C5	-5.56	122.91	126.80
1	A	1499	C	C2-N1-C1'	-5.56	112.68	118.80
1	A	784	A	C5-C6-N1	5.56	120.48	117.70
1	A	333	G	C6-C5-N7	-5.56	127.06	130.40
1	A	2463	C	C4-C5-C6	5.56	120.18	117.40
1	A	2584	U	N3-C2-O2	-5.56	118.31	122.20
1	A	779	U	C5-C4-O4	-5.56	122.57	125.90
1	A	2751	G	C6-C5-N7	-5.56	127.07	130.40
1	A	948	G	C5-C6-N1	-5.55	108.72	111.50
1	A	1122	G	N7-C8-N9	5.55	115.88	113.10
1	A	1455	G	C5-C6-N1	5.55	114.28	111.50
1	A	1595	G	C5-N7-C8	-5.55	101.52	104.30
1	A	2224	G	C5-C6-N1	-5.55	108.72	111.50
1	A	2278	A	C5-C6-N1	5.55	120.48	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	4	39	CYS	N-CA-C	-5.55	96.00	111.00
1	A	1160	G	N1-C6-O6	5.55	123.23	119.90
1	A	1756	G	C4-C5-C6	5.55	122.13	118.80
1	A	1826	G	C6-C5-N7	-5.55	127.07	130.40
1	A	2820	A	C5-C6-N1	-5.55	114.92	117.70
1	A	677	A	C5-C6-N1	5.55	120.48	117.70
1	A	2035	G	N3-C4-N9	-5.55	122.67	126.00
1	A	2463	C	C2-N1-C1'	-5.55	112.69	118.80
1	A	429	A	C4-C5-C6	5.55	119.78	117.00
1	A	457	A	C4-C5-C6	5.55	119.78	117.00
1	A	1358	G	N3-C4-N9	5.55	129.33	126.00
1	A	1446	C	C5-C6-N1	5.55	123.77	121.00
1	A	1805	U	N1-C2-O2	-5.55	118.92	122.80
1	A	2346	A	C8-N9-C4	-5.55	103.58	105.80
1	A	1285	G	C5-C6-N1	-5.55	108.73	111.50
1	A	71	A	C2-N3-C4	-5.55	107.83	110.60
1	A	494	G	C5-C6-O6	-5.55	125.27	128.60
1	A	1614	A	O5'-P-OP2	-5.55	100.71	105.70
1	A	2493	U	O5'-P-OP1	-5.55	100.71	105.70
1	A	110	G	C5-C6-N1	5.54	114.27	111.50
1	A	1022	G	C4-N9-C1'	5.54	133.71	126.50
1	A	1840	G	N1-C2-N3	5.54	127.23	123.90
1	A	1896	G	N3-C4-C5	-5.54	125.83	128.60
1	A	2037	G	N3-C4-N9	5.54	129.33	126.00
1	A	1786	A	N1-C2-N3	5.54	132.07	129.30
1	A	739	G	O5'-P-OP2	-5.54	100.71	105.70
1	A	1786	A	N1-C6-N6	5.54	121.92	118.60
1	A	288	C	N3-C4-C5	5.54	124.11	121.90
1	A	846	C	P-O3'-C3'	5.54	126.34	119.70
1	A	945	A	C5-C6-N6	-5.54	119.27	123.70
1	A	446	G	N1-C6-O6	5.53	123.22	119.90
1	A	827	U	O5'-P-OP1	5.53	117.34	110.70
1	A	916	G	C6-C5-N7	-5.53	127.08	130.40
1	A	2048	G	C8-N9-C4	-5.53	104.19	106.40
1	A	866	A	C5-C6-N1	-5.53	114.93	117.70
1	A	1342	A	N9-C4-C5	5.53	108.01	105.80
1	A	1925	C	C6-N1-C1'	5.53	127.44	120.80
1	A	1962	C	C6-N1-C1'	-5.53	114.16	120.80
9	N	114	ARG	N-CA-C	-5.53	96.07	111.00
1	A	2847	U	C5-C6-N1	5.53	125.47	122.70
1	A	58	G	C8-N9-C1'	-5.53	119.81	127.00
1	A	828	U	N3-C2-O2	-5.53	118.33	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1216	G	C4-C5-N7	5.53	113.01	110.80
1	A	1620	G	N1-C6-O6	5.53	123.22	119.90
1	A	2299	G	C5-N7-C8	-5.53	101.54	104.30
1	A	2572	A	OP1-P-O3'	5.53	117.36	105.20
2	B	95	U	C5-C6-N1	-5.53	119.94	122.70
1	A	74	A	C2-N3-C4	-5.53	107.84	110.60
1	A	687	C	N3-C4-C5	-5.53	119.69	121.90
1	A	836	G	C5-C6-N1	5.53	114.26	111.50
1	A	1306	C	C4-C5-C6	-5.53	114.64	117.40
1	A	2294	C	N1-C2-O2	5.53	122.22	118.90
1	A	2532	G	N7-C8-N9	5.53	115.86	113.10
1	A	1563	G	C4-C5-N7	5.52	113.01	110.80
1	A	88	G	C4-C5-C6	5.52	122.11	118.80
1	A	686	G	C5-C6-N1	-5.52	108.74	111.50
1	A	792	G	N1-C6-O6	-5.52	116.59	119.90
1	A	2032	G	C8-N9-C1'	5.52	134.18	127.00
1	A	1377	G	C4-N9-C1'	5.52	133.67	126.50
1	A	1983	C	N1-C2-O2	-5.52	115.59	118.90
1	A	2020	A	C4-C5-N7	-5.52	107.94	110.70
1	A	2073	C	C6-N1-C1'	5.52	127.42	120.80
1	A	2256	G	C5-C6-N1	5.52	114.26	111.50
1	A	1409	C	C5-C6-N1	-5.52	118.24	121.00
1	A	2358	G	N3-C4-N9	-5.52	122.69	126.00
1	A	1264	G	N3-C4-C5	-5.51	125.84	128.60
1	A	1336	A	O5'-P-OP2	-5.51	100.74	105.70
1	A	78	A	N1-C6-N6	5.51	121.91	118.60
1	A	599	G	N1-C6-O6	5.51	123.21	119.90
1	A	828	U	C5-C4-O4	5.51	129.21	125.90
1	A	1433	U	C5-C4-O4	-5.51	122.59	125.90
1	A	222	A	N3-C4-C5	-5.51	122.94	126.80
1	A	531	C	O5'-P-OP1	-5.51	100.74	105.70
1	A	1750	G	N3-C4-C5	-5.51	125.84	128.60
1	A	1820	U	N1-C2-N3	5.51	118.21	114.90
1	A	1390	U	C5-C4-O4	-5.51	122.60	125.90
1	A	2061	G	OP2-P-O3'	5.51	117.31	105.20
1	A	621	A	N7-C8-N9	5.50	116.55	113.80
1	A	914	C	N3-C4-C5	-5.50	119.70	121.90
1	A	983	A	C4-C5-C6	5.50	119.75	117.00
1	A	1933	G	C6-C5-N7	-5.50	127.10	130.40
1	A	862	G	C5-C6-O6	5.50	131.90	128.60
1	A	1022	G	N1-C2-N3	5.50	127.20	123.90
1	A	2088	G	N1-C6-O6	5.50	123.20	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	187	G	N3-C4-N9	5.50	129.30	126.00
1	A	1243	G	C5-C6-N1	-5.50	108.75	111.50
1	A	1558	A	C2-N3-C4	-5.50	107.85	110.60
1	A	2218	G	N1-C6-O6	5.50	123.20	119.90
1	A	2250	G	N9-C4-C5	5.50	107.60	105.40
1	A	2393	A	N9-C4-C5	5.50	108.00	105.80
1	A	2436	G	N1-C6-O6	-5.50	116.60	119.90
1	A	464	U	N1-C2-N3	5.50	118.20	114.90
1	A	529	A	N1-C6-N6	5.50	121.90	118.60
1	A	636	G	C6-C5-N7	-5.50	127.10	130.40
1	A	715	G	N3-C4-N9	5.50	129.30	126.00
1	A	960	A	C8-N9-C4	5.50	108.00	105.80
1	A	1329	U	N3-C4-C5	-5.50	111.30	114.60
1	A	2503	A	C8-N9-C4	-5.50	103.60	105.80
1	A	97	C	N1-C2-O2	5.50	122.20	118.90
1	A	1325	G	O4'-C1'-N9	5.50	112.60	108.20
1	A	1816	G	N3-C4-C5	5.50	131.35	128.60
1	A	2527	C	C6-N1-C2	-5.50	118.10	120.30
1	A	527	C	C6-N1-C1'	-5.50	114.21	120.80
1	A	570	G	C8-N9-C4	-5.49	104.20	106.40
1	A	1016	G	C8-N9-C4	-5.49	104.20	106.40
1	A	1383	C	C5-C4-N4	-5.49	116.36	120.20
1	A	1938	A	N3-C4-C5	5.49	130.65	126.80
1	A	2036	C	O5'-P-OP2	-5.49	100.76	105.70
1	A	1024	G	OP1-P-OP2	5.49	127.84	119.60
1	A	1409	C	C2-N1-C1'	-5.49	112.76	118.80
1	A	1938	A	C2-N3-C4	-5.49	107.85	110.60
1	A	191	A	C6-N1-C2	-5.49	115.31	118.60
1	A	1897	G	N1-C6-O6	5.49	123.19	119.90
1	A	2349	G	C8-N9-C4	-5.49	104.20	106.40
1	A	88	G	N1-C6-O6	5.49	123.19	119.90
1	A	760	G	N1-C6-O6	5.49	123.19	119.90
1	A	1206	G	C4-C5-C6	5.49	122.09	118.80
1	A	1477	A	N7-C8-N9	5.49	116.54	113.80
1	A	2014	A	C6-N1-C2	-5.49	115.31	118.60
1	A	837	C	C6-N1-C2	-5.48	118.11	120.30
1	A	1328	G	C2-N3-C4	5.48	114.64	111.90
1	A	1484	G	N1-C6-O6	5.48	123.19	119.90
1	A	2832	U	P-O3'-C3'	5.48	126.28	119.70
1	A	71	A	N3-C4-C5	5.48	130.64	126.80
1	A	506	G	C5-C6-N1	5.48	114.24	111.50
1	A	1681	G	C5-C6-N1	-5.48	108.76	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	388	G	C5-C6-N1	-5.48	108.76	111.50
1	A	242	G	O4'-C1'-N9	-5.48	103.82	108.20
1	A	431	U	N1-C2-O2	-5.48	118.97	122.80
1	A	2256	G	N1-C6-O6	-5.48	116.61	119.90
1	A	841	A	C5-C6-N1	-5.47	114.96	117.70
1	A	1226	G	C4-C5-C6	5.47	122.08	118.80
1	A	2099	U	C6-N1-C2	-5.47	117.72	121.00
1	A	2396	G	C2-N3-C4	-5.47	109.16	111.90
1	A	2453	A	C4-C5-C6	-5.47	114.26	117.00
2	B	98	G	N3-C4-C5	5.47	131.34	128.60
1	A	474	G	C6-C5-N7	-5.47	127.12	130.40
1	A	1947	C	N3-C2-O2	-5.47	118.07	121.90
1	A	2829	C	N3-C4-C5	5.47	124.09	121.90
1	A	2639	A	C2-N3-C4	-5.47	107.86	110.60
1	A	754	C	C6-N1-C2	5.47	122.49	120.30
1	A	1382	G	C5-C6-N1	-5.47	108.77	111.50
1	A	1421	G	C4-N9-C1'	5.47	133.61	126.50
1	A	1495	A	N1-C6-N6	-5.47	115.32	118.60
1	A	2542	A	N3-C4-C5	5.47	130.63	126.80
1	A	2641	G	OP2-P-O3'	5.47	117.23	105.20
1	A	1257	C	N1-C2-N3	5.47	123.03	119.20
7	H	127	GLU	N-CA-C	-5.47	96.24	111.00
1	A	195	A	C4-C5-N7	5.47	113.43	110.70
1	A	429	A	C2-N3-C4	-5.47	107.87	110.60
1	A	2723	C	C6-N1-C2	-5.47	118.11	120.30
1	A	497	A	N1-C6-N6	5.46	121.88	118.60
1	A	529	A	C8-N9-C4	-5.46	103.61	105.80
1	A	967	C	C2-N1-C1'	-5.46	112.79	118.80
1	A	1271	G	N1-C6-O6	5.46	123.18	119.90
1	A	1628	G	C4-N9-C1'	5.46	133.60	126.50
1	A	636	G	C5-N7-C8	-5.46	101.57	104.30
1	A	763	G	N1-C6-O6	5.46	123.18	119.90
1	A	868	U	C5-C6-N1	5.46	125.43	122.70
1	A	1190	G	N3-C4-N9	-5.46	122.72	126.00
1	A	748	G	C2-N3-C4	-5.46	109.17	111.90
1	A	1620	G	C4-C5-C6	5.46	122.08	118.80
1	A	772	C	N3-C4-N4	5.46	121.82	118.00
1	A	1253	A	C5-N7-C8	-5.46	101.17	103.90
1	A	1329	U	C6-N1-C2	-5.46	117.72	121.00
1	A	1653	G	C8-N9-C1'	-5.46	119.90	127.00
1	A	2821	A	C5-C6-N6	-5.46	119.33	123.70
1	A	2215	G	N1-C6-O6	5.46	123.17	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2689	U	C5-C6-N1	-5.46	119.97	122.70
1	A	301	G	C4-N9-C1'	5.46	133.59	126.50
1	A	2093	G	N1-C6-O6	5.46	123.17	119.90
1	A	333	G	C8-N9-C4	-5.45	104.22	106.40
1	A	2549	G	C8-N9-C1'	-5.45	119.91	127.00
1	A	132	G	C6-C5-N7	-5.45	127.13	130.40
1	A	354	G	C5-C6-O6	-5.45	125.33	128.60
1	A	974	G	O5'-P-OP1	-5.45	100.79	105.70
1	A	1304	C	N1-C2-O2	-5.45	115.63	118.90
1	A	1307	A	N1-C6-N6	-5.45	115.33	118.60
1	A	1647	G	C5-N7-C8	-5.45	101.57	104.30
1	A	1790	C	O5'-P-OP1	-5.45	100.79	105.70
1	A	1869	G	C8-N9-C1'	-5.45	119.91	127.00
1	A	1332	G	N1-C2-N2	-5.45	111.29	116.20
1	A	2235	G	N1-C2-N3	5.45	127.17	123.90
1	A	2590	A	C4-C5-N7	5.45	113.42	110.70
1	A	2822	G	N3-C4-N9	-5.45	122.73	126.00
1	A	2868	A	O5'-P-OP1	-5.45	100.80	105.70
3	D	251	GLY	N-CA-C	5.45	126.72	113.10
1	A	1162	G	N3-C4-N9	5.45	129.27	126.00
1	A	1626	G	N7-C8-N9	5.45	115.82	113.10
1	A	1985	G	O5'-P-OP1	-5.45	100.80	105.70
2	B	89	G	N1-C6-O6	5.45	123.17	119.90
1	A	254	G	C8-N9-C4	-5.45	104.22	106.40
1	A	961	C	C5-C4-N4	-5.45	116.39	120.20
1	A	1969	A	C4-C5-N7	-5.45	107.98	110.70
1	A	339	U	C6-N1-C2	5.45	124.27	121.00
1	A	801	G	O5'-P-OP2	5.45	117.23	110.70
1	A	830	G	N3-C4-C5	-5.45	125.88	128.60
1	A	1390	U	N3-C4-C5	5.45	117.87	114.60
1	A	1403	C	N1-C2-O2	5.45	122.17	118.90
1	A	2665	A	C5-C6-N1	-5.45	114.98	117.70
1	A	2447	G	C8-N9-C4	-5.44	104.22	106.40
1	A	2593	U	C4-C5-C6	5.44	122.97	119.70
1	A	463	G	N1-C6-O6	-5.44	116.63	119.90
1	A	396	G	N9-C4-C5	-5.44	103.22	105.40
1	A	2271	G	C8-N9-C1'	-5.44	119.93	127.00
1	A	986	C	N3-C4-N4	5.44	121.81	118.00
1	A	1048	A	C4-N9-C1'	5.44	136.09	126.30
1	A	1358	G	C4-C5-C6	5.44	122.06	118.80
1	A	1633	G	N1-C6-O6	5.44	123.16	119.90
1	A	1690	A	N1-C6-N6	-5.44	115.34	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1773	A	OP1-P-O3'	5.44	117.16	105.20
1	A	1894	C	C5-C6-N1	5.44	123.72	121.00
1	A	859	G	C4-N9-C1'	-5.43	119.44	126.50
1	A	2000	G	C5-C6-O6	-5.43	125.34	128.60
1	A	2032	G	N3-C2-N2	-5.43	116.10	119.90
1	A	2688	U	N3-C4-O4	-5.43	115.60	119.40
1	A	228	A	N3-C4-C5	-5.43	123.00	126.80
1	A	1267	U	OP2-P-O3'	5.43	117.15	105.20
1	A	1287	A	C6-C5-N7	-5.43	128.50	132.30
1	A	1835	G	C8-N9-C1'	-5.43	119.94	127.00
1	A	1984	G	C4-C5-C6	5.43	122.06	118.80
1	A	380	U	N1-C2-O2	-5.43	119.00	122.80
1	A	1496	A	C6-C5-N7	-5.43	128.50	132.30
1	A	1568	G	N9-C4-C5	5.43	107.57	105.40
1	A	2032	G	N7-C8-N9	5.43	115.81	113.10
1	A	2219	G	C6-C5-N7	-5.43	127.14	130.40
1	A	458	G	N9-C4-C5	5.43	107.57	105.40
1	A	1267	U	P-O3'-C3'	5.43	126.21	119.70
1	A	615	G	O4'-C1'-N9	5.43	112.54	108.20
1	A	270(B)	A	C8-N9-C4	5.42	107.97	105.80
1	A	333	G	N7-C8-N9	5.42	115.81	113.10
1	A	1243	G	C2-N3-C4	-5.42	109.19	111.90
1	A	2515	C	C2-N1-C1'	-5.42	112.83	118.80
1	A	2594	C	N3-C4-C5	5.42	124.07	121.90
1	A	2603	G	O5'-P-OP2	5.42	117.21	110.70
1	A	1319	G	N1-C6-O6	5.42	123.15	119.90
1	A	1800	C	C2-N3-C4	-5.42	117.19	119.90
1	A	2380	C	N3-C4-N4	-5.42	114.20	118.00
1	A	366	C	C4-C5-C6	5.42	120.11	117.40
1	A	842	G	C5-N7-C8	-5.42	101.59	104.30
1	A	1163	G	O4'-C1'-N9	5.42	112.54	108.20
1	A	1402	C	C6-N1-C2	-5.42	118.13	120.30
1	A	1535	U	N1-C2-O2	5.42	126.59	122.80
1	A	2572	A	C4-C5-C6	5.42	119.71	117.00
1	A	582	G	C6-C5-N7	-5.42	127.15	130.40
1	A	1602	U	N3-C4-O4	5.42	123.19	119.40
1	A	429	A	C5-C6-N1	-5.42	114.99	117.70
1	A	1048	A	N7-C8-N9	5.42	116.51	113.80
11	P	25	SER	N-CA-C	-5.42	96.38	111.00
1	A	2637	U	O5'-P-OP2	5.41	117.20	110.70
1	A	2719	G	C6-C5-N7	-5.41	127.15	130.40
1	A	2326	C	C2-N1-C1'	5.41	124.75	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	55	G	C8-N9-C1'	-5.41	119.97	127.00
1	A	188	G	N3-C4-N9	5.41	129.25	126.00
1	A	832	G	C4-C5-C6	5.41	122.05	118.80
1	A	1816	G	C5-C6-N1	-5.41	108.80	111.50
1	A	872	A	C4-C5-C6	5.41	119.70	117.00
1	A	1309	G	C6-C5-N7	-5.41	127.16	130.40
1	A	2470	G	C6-C5-N7	5.41	133.64	130.40
1	A	2737	G	N3-C4-C5	5.41	131.30	128.60
1	A	875	G	O5'-P-OP2	-5.40	100.84	105.70
1	A	1016	G	C5-C6-O6	-5.40	125.36	128.60
1	A	2685	G	N1-C2-N3	5.40	127.14	123.90
1	A	573	G	C6-C5-N7	-5.40	127.16	130.40
1	A	898	C	C6-N1-C2	-5.40	118.14	120.30
1	A	903	C	N3-C4-C5	5.40	124.06	121.90
1	A	1206	G	C4-N9-C1'	5.40	133.52	126.50
1	A	1344	G	N3-C4-C5	5.40	131.30	128.60
1	A	1902	C	C5-C6-N1	-5.40	118.30	121.00
1	A	2029	G	C5-C6-O6	5.40	131.84	128.60
1	A	2256	G	C2-N3-C4	5.40	114.60	111.90
1	A	734	A	C2-N3-C4	-5.40	107.90	110.60
1	A	2413	G	N3-C4-N9	-5.40	122.76	126.00
1	A	142	G	C8-N9-C4	5.40	108.56	106.40
1	A	2026	C	N3-C4-C5	5.40	124.06	121.90
1	A	2235	G	N1-C6-O6	5.40	123.14	119.90
1	A	2587	A	OP2-P-O3'	5.40	117.08	105.20
1	A	204	A	C5-C6-N1	5.40	120.40	117.70
1	A	270(Z)	U	O5'-P-OP1	-5.40	100.84	105.70
1	A	900	A	N7-C8-N9	5.40	116.50	113.80
1	A	2417	C	N3-C4-C5	-5.40	119.74	121.90
1	A	1270	C	N3-C2-O2	5.40	125.68	121.90
1	A	944	G	C4-C5-C6	5.39	122.04	118.80
1	A	1391	U	C6-N1-C2	-5.39	117.76	121.00
1	A	1906	G	N1-C2-N3	5.39	127.14	123.90
1	A	239	U	C6-N1-C2	-5.39	117.76	121.00
1	A	1015	G	C5-C6-O6	-5.39	125.36	128.60
1	A	1695	G	C4-C5-C6	5.39	122.03	118.80
1	A	1812	A	N1-C6-N6	-5.39	115.36	118.60
1	A	2015	A	C2-N3-C4	5.39	113.30	110.60
1	A	2586	C	C5-C4-N4	-5.39	116.42	120.20
1	A	259	G	N1-C2-N3	5.39	127.13	123.90
1	A	509	C	C2-N3-C4	-5.39	117.20	119.90
1	A	1395	A	C2-N3-C4	-5.39	107.90	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2651	C	C6-N1-C2	5.39	122.46	120.30
1	A	445	C	C6-N1-C2	-5.39	118.14	120.30
1	A	627	A	N3-C4-N9	-5.39	123.09	127.40
1	A	815	C	C2-N3-C4	-5.39	117.20	119.90
1	A	1214	A	N9-C4-C5	5.39	107.96	105.80
1	A	1966	A	N3-C4-N9	-5.39	123.09	127.40
1	A	2756	U	OP1-P-O3'	5.39	117.05	105.20
1	A	470	A	O5'-P-OP1	-5.39	100.85	105.70
1	A	473	G	C6-N1-C2	-5.39	121.87	125.10
1	A	599	G	N9-C4-C5	-5.39	103.25	105.40
1	A	1342	A	C6-N1-C2	-5.39	115.37	118.60
1	A	192	C	C6-N1-C1'	-5.38	114.34	120.80
1	A	866	A	C4-C5-C6	5.38	119.69	117.00
1	A	1361	G	N3-C4-C5	5.38	131.29	128.60
1	A	2726	U	C4-C5-C6	5.38	122.93	119.70
1	A	330	A	C4-C5-C6	5.38	119.69	117.00
1	A	433	C	C2-N3-C4	-5.38	117.21	119.90
1	A	1104	C	C4-C5-C6	5.38	120.09	117.40
1	A	804	A	C4-C5-N7	5.38	113.39	110.70
1	A	1869	G	C6-N1-C2	-5.38	121.87	125.10
1	A	2502	G	C4-C5-C6	5.38	122.03	118.80
1	A	1021	A	C4-C5-N7	5.38	113.39	110.70
1	A	1455	G	C2-N3-C4	5.38	114.59	111.90
1	A	1968	G	C5-C6-N1	-5.38	108.81	111.50
1	A	2238	G	O5'-P-OP1	-5.38	100.86	105.70
1	A	2434	A	C4-C5-N7	5.38	113.39	110.70
1	A	2539	C	C6-N1-C2	5.38	122.45	120.30
1	A	2569	G	N3-C4-C5	-5.38	125.91	128.60
3	D	111	LEU	CA-CB-CG	5.38	127.67	115.30
1	A	473	G	N7-C8-N9	-5.38	110.41	113.10
1	A	406	G	N1-C6-O6	5.37	123.12	119.90
1	A	793	A	C4-C5-C6	5.37	119.69	117.00
1	A	1247	A	C2-N3-C4	-5.37	107.91	110.60
1	A	1396	U	N3-C2-O2	-5.37	118.44	122.20
1	A	2088	G	C4-C5-C6	5.37	122.02	118.80
1	A	2782	G	C8-N9-C1'	-5.37	120.02	127.00
1	A	379	G	C8-N9-C4	5.37	108.55	106.40
1	A	761	A	C2-N3-C4	-5.37	107.91	110.60
1	A	961	C	O4'-C1'-N1	5.37	112.50	108.20
1	A	2782	G	N7-C8-N9	5.37	115.78	113.10
1	A	187	G	O4'-C1'-N9	-5.37	103.90	108.20
1	A	1931	U	C6-N1-C1'	5.37	128.72	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2093	G	C2-N3-C4	-5.37	109.22	111.90
1	A	2337	G	C4-C5-N7	5.37	112.95	110.80
1	A	2447	G	P-O3'-C3'	5.37	126.14	119.70
7	H	100	GLY	N-CA-C	-5.37	99.68	113.10
1	A	859	G	P-O3'-C3'	5.37	126.14	119.70
1	A	1477	A	C6-C5-N7	-5.37	128.54	132.30
1	A	668	G	C6-C5-N7	-5.37	127.18	130.40
1	A	1247	A	N1-C2-N3	5.37	131.98	129.30
1	A	2718	G	C8-N9-C4	-5.37	104.25	106.40
2	B	89	G	C6-C5-N7	-5.37	127.18	130.40
1	A	342	G	C5-C6-N1	-5.36	108.82	111.50
1	A	486	C	O5'-P-OP2	5.36	117.14	110.70
1	A	729	G	C4-C5-N7	5.36	112.95	110.80
1	A	1342	A	N7-C8-N9	5.36	116.48	113.80
1	A	1433	U	C5-C6-N1	5.36	125.38	122.70
1	A	1477	A	C5-N7-C8	-5.36	101.22	103.90
1	A	1519	G	C4-N9-C1'	5.36	133.47	126.50
1	A	2299	G	N7-C8-N9	5.36	115.78	113.10
1	A	11	G	C8-N9-C4	5.36	108.54	106.40
1	A	701	G	C8-N9-C1'	-5.36	120.03	127.00
1	A	1160	G	C5-C6-O6	-5.36	125.38	128.60
1	A	1368	G	C8-N9-C4	-5.36	104.26	106.40
1	A	1591	G	C4-N9-C1'	5.36	133.47	126.50
1	A	2267	A	C6-N1-C2	-5.36	115.38	118.60
1	A	2849	U	C6-N1-C1'	5.36	128.71	121.20
1	A	195	A	C6-C5-N7	-5.36	128.55	132.30
1	A	309	G	C4-N9-C1'	5.36	133.47	126.50
1	A	2014	A	N1-C6-N6	5.36	121.81	118.60
1	A	2337	G	C6-C5-N7	-5.36	127.19	130.40
1	A	2673	G	C8-N9-C4	-5.36	104.26	106.40
1	A	309	G	C4-C5-C6	5.36	122.01	118.80
1	A	1417	C	N1-C2-O2	-5.36	115.69	118.90
1	A	1595	G	C2-N3-C4	-5.36	109.22	111.90
1	A	1606	G	OP1-P-O3'	5.36	116.99	105.20
1	A	1669	A	N7-C8-N9	5.36	116.48	113.80
1	A	1830	C	C5-C6-N1	5.36	123.68	121.00
1	A	2749	A	OP1-P-O3'	5.36	116.99	105.20
1	A	54	G	C5-N7-C8	-5.36	101.62	104.30
1	A	240	G	C4-N9-C1'	5.36	133.46	126.50
1	A	529	A	C6-C5-N7	-5.36	128.55	132.30
1	A	576	U	N3-C4-O4	5.36	123.15	119.40
1	A	1197	G	N1-C6-O6	-5.36	116.69	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1901	A	N1-C6-N6	-5.36	115.39	118.60
1	A	2271	G	C2-N3-C4	5.36	114.58	111.90
1	A	2780	G	C8-N9-C4	-5.36	104.26	106.40
1	A	618(A)	C	C2-N3-C4	5.35	122.58	119.90
1	A	1668	A	N9-C4-C5	5.35	107.94	105.80
1	A	2218	G	C4-C5-C6	5.35	122.01	118.80
1	A	581	C	C2-N3-C4	-5.35	117.22	119.90
1	A	663	G	C4-C5-C6	5.35	122.01	118.80
1	A	852	G	C5-C6-N1	5.35	114.18	111.50
1	A	1811	G	N1-C2-N3	5.35	127.11	123.90
1	A	2015	A	N3-C4-C5	-5.35	123.05	126.80
1	A	222	A	C2-N3-C4	5.35	113.28	110.60
1	A	1271	G	C8-N9-C1'	-5.35	120.05	127.00
1	A	1676	A	O5'-P-OP1	-5.35	100.89	105.70
1	A	2555	U	N1-C2-N3	5.35	118.11	114.90
1	A	2871	C	N3-C4-N4	5.35	121.75	118.00
1	A	772	C	C5-C6-N1	5.35	123.67	121.00
1	A	2020	A	N3-C4-C5	-5.35	123.06	126.80
1	A	2309	A	C2-N3-C4	-5.35	107.93	110.60
2	B	60	C	C5-C6-N1	5.35	123.67	121.00
1	A	593	G	N1-C2-N3	5.34	127.11	123.90
1	A	782	A	N3-C4-C5	-5.34	123.06	126.80
1	A	1203	G	C4-N9-C1'	5.34	133.45	126.50
1	A	1236	G	N1-C2-N3	5.34	127.11	123.90
1	A	1573	G	N7-C8-N9	-5.34	110.43	113.10
1	A	1577	C	N3-C4-N4	5.34	121.74	118.00
1	A	2821	A	OP1-P-OP2	5.34	127.62	119.60
1	A	1206	G	C2-N3-C4	-5.34	109.23	111.90
1	A	2438	U	OP2-P-O3'	5.34	116.95	105.20
1	A	1005	C	N1-C2-O2	5.34	122.11	118.90
1	A	1184	G	C6-C5-N7	-5.34	127.19	130.40
1	A	1204	A	O4'-C1'-N9	5.34	112.47	108.20
1	A	2004	G	N1-C6-O6	5.34	123.10	119.90
1	A	2468	G	C4-N9-C1'	5.34	133.44	126.50
2	B	82	G	N1-C2-N3	5.34	127.11	123.90
1	A	70	G	N3-C4-N9	5.34	129.20	126.00
1	A	1400	G	N3-C4-C5	-5.34	125.93	128.60
1	A	1883	G	N1-C6-O6	-5.34	116.70	119.90
1	A	1658	C	OP2-P-O3'	5.34	116.94	105.20
2	B	13	A	N9-C4-C5	5.34	107.94	105.80
1	A	773	U	O5'-P-OP2	-5.34	100.90	105.70
1	A	1264	G	C5-C6-O6	5.34	131.80	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2337	G	N7-C8-N9	5.34	115.77	113.10
1	A	2360	A	N7-C8-N9	-5.34	111.13	113.80
1	A	494	G	N1-C6-O6	5.33	123.10	119.90
1	A	539	G	C4-N9-C1'	5.33	133.43	126.50
1	A	858	U	N3-C2-O2	-5.33	118.47	122.20
1	A	968	G	N3-C4-N9	-5.33	122.80	126.00
1	A	1433	U	N3-C4-O4	5.33	123.13	119.40
1	A	1548	C	N1-C2-O2	5.33	122.10	118.90
1	A	2070	G	C2-N3-C4	-5.33	109.23	111.90
1	A	2331	G	C2-N3-C4	-5.33	109.23	111.90
1	A	671	C	O5'-P-OP1	-5.33	100.90	105.70
1	A	1815	A	C5-N7-C8	5.33	106.57	103.90
1	A	1934	C	C2-N1-C1'	5.33	124.67	118.80
1	A	2000	G	N1-C2-N3	5.33	127.10	123.90
1	A	2278	A	O4'-C1'-N9	5.33	112.47	108.20
1	A	1839	G	N3-C4-N9	5.33	129.20	126.00
1	A	54	G	C2-N3-C4	-5.33	109.24	111.90
1	A	284	U	N3-C4-O4	5.33	123.13	119.40
1	A	942	G	N1-C6-O6	5.33	123.10	119.90
1	A	2049	G	N1-C6-O6	5.33	123.10	119.90
1	A	2444	G	C5-C6-N1	5.33	114.16	111.50
1	A	2451	A	C5-N7-C8	-5.33	101.24	103.90
1	A	101	G	C4-N9-C1'	-5.33	119.58	126.50
1	A	108	U	N1-C2-O2	5.33	126.53	122.80
1	A	1185	C	C6-N1-C2	-5.33	118.17	120.30
1	A	1594	G	N1-C6-O6	5.33	123.09	119.90
1	A	2709	G	C5-C6-N1	-5.33	108.84	111.50
1	A	2774	C	O5'-P-OP2	-5.33	100.91	105.70
1	A	783	A	C4-N9-C1'	5.32	135.88	126.30
1	A	1552	G	N1-C6-O6	5.32	123.09	119.90
1	A	1665	A	C5-C6-N6	-5.32	119.44	123.70
1	A	442	G	N1-C2-N3	5.32	127.09	123.90
1	A	1568	G	N3-C4-N9	-5.32	122.81	126.00
1	A	701	G	C8-N9-C4	-5.32	104.27	106.40
1	A	946	G	C2-N3-C4	-5.32	109.24	111.90
1	A	2347	C	C6-N1-C2	-5.32	118.17	120.30
1	A	2401	U	C6-N1-C2	-5.32	117.81	121.00
1	A	2504	U	N3-C4-O4	5.32	123.12	119.40
1	A	2672	G	C6-C5-N7	-5.32	127.21	130.40
1	A	961	C	N3-C2-O2	-5.32	118.18	121.90
1	A	1291	C	N3-C4-C5	5.32	124.03	121.90
1	A	1789	A	O5'-P-OP2	-5.32	100.92	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1916	A	N1-C6-N6	5.32	121.79	118.60
1	A	650	C	O5'-P-OP1	5.31	117.07	110.70
1	A	2468	G	N7-C8-N9	5.31	115.76	113.10
1	A	1535	U	C2-N1-C1'	5.31	124.07	117.70
1	A	1323	U	N3-C4-O4	5.31	123.12	119.40
1	A	1351	C	N1-C2-N3	5.31	122.92	119.20
1	A	1778	U	N1-C2-N3	-5.31	111.71	114.90
1	A	1837	C	N3-C4-C5	-5.31	119.78	121.90
1	A	2362	G	C2-N3-C4	-5.31	109.25	111.90
1	A	2004	G	C2-N3-C4	-5.31	109.25	111.90
1	A	450	G	N7-C8-N9	5.30	115.75	113.10
1	A	539	G	C4-C5-C6	5.30	121.98	118.80
1	A	733	G	O5'-P-OP2	-5.30	100.93	105.70
1	A	2582	G	N1-C2-N3	5.30	127.08	123.90
2	B	81	G	C4-N9-C1'	5.30	133.40	126.50
1	A	458	G	C5-C6-N1	-5.30	108.85	111.50
1	A	1595	G	N7-C8-N9	5.30	115.75	113.10
1	A	26	G	C4-C5-C6	5.30	121.98	118.80
1	A	836	G	O5'-P-OP2	5.30	117.06	110.70
1	A	1296	G	N3-C4-N9	-5.30	122.82	126.00
1	A	1319	G	C5-C6-O6	-5.30	125.42	128.60
1	A	1414	G	C4-C5-N7	5.30	112.92	110.80
1	A	1834	U	O5'-P-OP1	-5.30	100.93	105.70
1	A	2607	G	C5-C6-N1	-5.30	108.85	111.50
1	A	110	G	C8-N9-C4	5.30	108.52	106.40
1	A	247	G	OP2-P-O3'	5.30	116.86	105.20
1	A	956	G	N3-C2-N2	5.30	123.61	119.90
1	A	1468	C	N3-C2-O2	-5.30	118.19	121.90
1	A	2320	A	N9-C4-C5	5.30	107.92	105.80
1	A	2591	C	OP1-P-OP2	-5.30	111.65	119.60
1	A	1675	C	N1-C2-O2	-5.30	115.72	118.90
1	A	1514	U	C5-C6-N1	5.30	125.35	122.70
1	A	2031	A	O5'-P-OP1	-5.29	100.93	105.70
1	A	2264	C	O5'-P-OP2	5.29	117.05	110.70
1	A	2275	C	OP1-P-O3'	5.29	116.85	105.20
1	A	37	C	C5-C6-N1	-5.29	118.35	121.00
1	A	132	G	N1-C6-O6	5.29	123.08	119.90
1	A	1403	C	C4-C5-C6	5.29	120.05	117.40
1	A	1190	G	C2-N3-C4	-5.29	109.25	111.90
1	A	2239	G	C8-N9-C1'	-5.29	120.12	127.00
1	A	20	C	C6-N1-C2	5.29	122.42	120.30
1	A	664	C	C4-C5-C6	5.29	120.04	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	979	G	C5-C6-N1	-5.29	108.86	111.50
30	8	36	LYS	N-CA-C	-5.29	96.72	111.00
1	A	1705	G	N1-C6-O6	5.29	123.07	119.90
1	A	2750	A	C8-N9-C4	-5.29	103.69	105.80
1	A	84	A	C5-N7-C8	-5.29	101.26	103.90
1	A	753	C	C6-N1-C1'	-5.29	114.46	120.80
1	A	1184	G	N3-C4-C5	-5.29	125.96	128.60
1	A	1478	G	C4-N9-C1'	-5.29	119.63	126.50
1	A	1521	G	N1-C2-N3	5.29	127.07	123.90
1	A	1956	U	N1-C2-N3	5.29	118.07	114.90
1	A	202	U	N3-C4-C5	-5.28	111.43	114.60
1	A	1592	C	N3-C4-C5	5.28	124.01	121.90
1	A	1698	A	N7-C8-N9	5.28	116.44	113.80
1	A	383	U	N3-C2-O2	-5.28	118.50	122.20
1	A	452	G	N1-C2-N2	-5.28	111.45	116.20
1	A	2422	A	N7-C8-N9	-5.28	111.16	113.80
1	A	2713	A	C8-N9-C4	-5.28	103.69	105.80
1	A	1403	C	OP1-P-O3'	5.28	116.82	105.20
1	A	1773	A	C4-C5-N7	-5.28	108.06	110.70
1	A	2721	A	N1-C6-N6	5.28	121.77	118.60
1	A	203	C	C2-N3-C4	-5.28	117.26	119.90
1	A	2665	A	C2-N3-C4	-5.28	107.96	110.60
1	A	121	G	C5-C6-N1	5.28	114.14	111.50
1	A	1441	G	N1-C6-O6	5.28	123.07	119.90
1	A	1904	G	C2-N3-C4	5.28	114.54	111.90
1	A	2052	G	OP2-P-O3'	5.28	116.81	105.20
1	A	187	G	C8-N9-C4	5.28	108.51	106.40
1	A	1306	C	C5-C4-N4	-5.28	116.51	120.20
1	A	1984	G	C8-N9-C4	5.28	108.51	106.40
1	A	832	G	C5-C6-N1	-5.27	108.86	111.50
1	A	1258	C	C5-C6-N1	-5.27	118.36	121.00
1	A	482	A	C5-C6-N6	-5.27	119.48	123.70
1	A	1454	U	C6-N1-C2	5.27	124.16	121.00
1	A	1904	G	C5-C6-O6	-5.27	125.44	128.60
1	A	2262	U	N3-C2-O2	-5.27	118.51	122.20
1	A	1258	C	N3-C2-O2	5.27	125.59	121.90
1	A	1560	G	C4-C5-N7	5.27	112.91	110.80
1	A	2004	G	C4-C5-N7	5.27	112.91	110.80
1	A	2020	A	N1-C6-N6	-5.27	115.44	118.60
1	A	2509	G	C6-C5-N7	-5.27	127.24	130.40
2	B	82	G	N9-C4-C5	5.27	107.51	105.40
1	A	521	G	C5-C6-N1	-5.27	108.87	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1151	G	C4-N9-C1'	5.27	133.35	126.50
1	A	1361	G	C8-N9-C4	5.27	108.51	106.40
1	A	2028	U	OP1-P-OP2	-5.27	111.70	119.60
1	A	2277	G	C4-N9-C1'	5.27	133.35	126.50
1	A	2432	A	C5-C6-N6	-5.27	119.49	123.70
1	A	568	U	C6-N1-C1'	5.26	128.57	121.20
1	A	928	G	C5-C6-O6	-5.26	125.44	128.60
1	A	1021	A	N1-C6-N6	5.26	121.76	118.60
1	A	1273	U	N3-C2-O2	-5.26	118.52	122.20
2	B	81	G	N3-C4-N9	5.26	129.16	126.00
1	A	1367	A	C4-C5-C6	5.26	119.63	117.00
1	A	94	G	N3-C4-C5	-5.26	125.97	128.60
1	A	267	C	C6-N1-C2	5.26	122.41	120.30
1	A	672	C	C4-C5-C6	5.26	120.03	117.40
1	A	677	A	C5-N7-C8	-5.26	101.27	103.90
1	A	754	C	N3-C4-N4	-5.26	114.32	118.00
1	A	793	A	O4'-C1'-N9	-5.26	103.99	108.20
1	A	2326	C	C5-C6-N1	5.26	123.63	121.00
1	A	2518	A	C4-C5-N7	5.26	113.33	110.70
1	A	2599	G	C5-C6-N1	5.26	114.13	111.50
1	A	2765	A	OP1-P-OP2	5.26	127.49	119.60
2	B	54	G	C4-C5-C6	5.26	121.96	118.80
1	A	562	U	OP2-P-O3'	5.26	116.77	105.20
1	A	1142(A)	A	N7-C8-N9	5.26	116.43	113.80
1	A	1974	C	N1-C2-O2	5.26	122.06	118.90
1	A	209	C	C5-C4-N4	-5.26	116.52	120.20
1	A	324	A	C8-N9-C4	-5.26	103.70	105.80
1	A	2481	G	N3-C4-C5	-5.26	125.97	128.60
1	A	2490	G	N3-C4-C5	5.26	131.23	128.60
1	A	2721	A	C2-N3-C4	-5.26	107.97	110.60
2	B	39	A	N7-C8-N9	5.26	116.43	113.80
1	A	117	G	C6-C5-N7	-5.25	127.25	130.40
1	A	1889	A	N7-C8-N9	-5.25	111.17	113.80
1	A	1935	G	C4-N9-C1'	-5.25	119.67	126.50
1	A	327	G	N9-C4-C5	-5.25	103.30	105.40
1	A	2004	G	N1-C2-N3	5.25	127.05	123.90
1	A	2782	G	N3-C4-N9	5.25	129.15	126.00
1	A	2532	G	N3-C4-C5	-5.25	125.97	128.60
1	A	176	G	O5'-P-OP1	-5.25	100.98	105.70
1	A	870	A	N7-C8-N9	-5.25	111.18	113.80
1	A	1799	G	C5-C6-O6	5.25	131.75	128.60
1	A	2230	G	C4-C5-N7	5.25	112.90	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2247	A	C4-C5-C6	5.25	119.62	117.00
1	A	2291	U	C6-N1-C2	-5.25	117.85	121.00
2	B	95	U	C2-N1-C1'	-5.25	111.40	117.70
1	A	270(G)	C	N3-C4-C5	-5.25	119.80	121.90
1	A	329	G	N1-C6-O6	5.25	123.05	119.90
1	A	529	A	C5-N7-C8	-5.25	101.28	103.90
1	A	614	U	C6-N1-C2	-5.25	117.85	121.00
1	A	965	C	N1-C2-O2	-5.25	115.75	118.90
1	A	977	G	C5-C6-N1	5.25	114.12	111.50
1	A	1705	G	C5-C6-N1	-5.25	108.88	111.50
1	A	1818	U	N1-C2-O2	-5.25	119.13	122.80
1	A	1994	C	C4-C5-C6	5.25	120.02	117.40
1	A	2093	G	C4-C5-N7	5.25	112.90	110.80
1	A	2346	A	C4-C5-C6	5.25	119.62	117.00
1	A	2435	A	N1-C2-N3	5.25	131.92	129.30
1	A	2714	G	C4-C5-N7	5.25	112.90	110.80
1	A	693	C	N1-C2-N3	5.25	122.87	119.20
1	A	1238	G	N1-C6-O6	5.25	123.05	119.90
1	A	1435	G	C5-C6-N1	5.25	114.12	111.50
1	A	1900	A	C5-C6-N1	5.25	120.32	117.70
1	A	1933	G	C4-N9-C1'	5.25	133.32	126.50
1	A	2067	G	N3-C4-N9	-5.25	122.85	126.00
1	A	2573	C	N3-C4-C5	5.25	124.00	121.90
1	A	1210	A	C5-N7-C8	-5.24	101.28	103.90
1	A	2458	G	C8-N9-C4	-5.24	104.30	106.40
1	A	2710	C	C5-C4-N4	5.24	123.87	120.20
1	A	396	G	C8-N9-C1'	-5.24	120.19	127.00
1	A	834	C	C6-N1-C2	5.24	122.40	120.30
1	A	1416	G	N7-C8-N9	-5.24	110.48	113.10
1	A	1478	G	C4-C5-N7	-5.24	108.70	110.80
1	A	2246	G	C8-N9-C4	-5.24	104.30	106.40
1	A	2394	C	C5-C4-N4	-5.24	116.53	120.20
1	A	214	G	N1-C6-O6	-5.24	116.75	119.90
1	A	218	A	C4-C5-C6	-5.24	114.38	117.00
1	A	1900	A	C2-N3-C4	5.24	113.22	110.60
1	A	2407	G	C4-C5-C6	5.24	121.94	118.80
1	A	73	A	N9-C4-C5	5.24	107.89	105.80
1	A	1381	G	C8-N9-C4	-5.24	104.31	106.40
1	A	1568	G	C4-N9-C1'	-5.24	119.69	126.50
1	A	1606	G	C5-N7-C8	5.23	106.92	104.30
1	A	448	U	N3-C2-O2	-5.23	118.54	122.20
1	A	774	A	C6-C5-N7	-5.23	128.64	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	783	A	N1-C2-N3	5.23	131.92	129.30
1	A	793	A	C6-C5-N7	-5.23	128.64	132.30
1	A	1202	C	OP2-P-O3'	5.23	116.71	105.20
1	A	1959	G	C5-C6-N1	5.23	114.12	111.50
1	A	2525	G	C8-N9-C4	5.23	108.49	106.40
1	A	2583	G	C6-C5-N7	-5.23	127.26	130.40
1	A	295	G	C5-C6-N1	-5.23	108.89	111.50
1	A	1818	U	C6-N1-C1'	5.23	128.52	121.20
1	A	893	C	N1-C2-O2	5.23	122.04	118.90
1	A	1160	G	C4-C5-N7	5.23	112.89	110.80
1	A	570	G	C5-N7-C8	5.23	106.91	104.30
1	A	1888	G	N3-C4-C5	-5.23	125.99	128.60
1	A	264	C	N1-C2-N3	-5.23	115.54	119.20
1	A	1316	U	O5'-P-OP2	-5.23	101.00	105.70
1	A	2244	U	OP1-P-OP2	-5.23	111.76	119.60
12	Q	5	ARG	N-CA-C	-5.23	96.89	111.00
1	A	869	G	C5-C6-N1	-5.22	108.89	111.50
1	A	2249	U	N3-C4-O4	5.22	123.06	119.40
1	A	2367	G	N1-C6-O6	5.22	123.03	119.90
1	A	2766	G	C5-C6-O6	-5.22	125.47	128.60
1	A	961	C	C6-N1-C1'	-5.22	114.53	120.80
1	A	1315	C	C2-N3-C4	-5.22	117.29	119.90
1	A	1528	A	C4-C5-C6	5.22	119.61	117.00
1	A	2383	G	N3-C4-N9	5.22	129.13	126.00
1	A	2717	G	C5-C6-O6	-5.22	125.47	128.60
1	A	2751	G	N7-C8-N9	5.22	115.71	113.10
1	A	86	C	OP2-P-O3'	5.22	116.69	105.20
1	A	844	C	C6-N1-C2	5.22	122.39	120.30
1	A	953	A	O5'-P-OP1	-5.22	101.00	105.70
1	A	667	U	N3-C2-O2	5.22	125.85	122.20
1	A	777	A	N1-C2-N3	5.22	131.91	129.30
1	A	1301	A	C4-C5-C6	5.22	119.61	117.00
2	B	82	G	C2-N3-C4	-5.22	109.29	111.90
1	A	768	G	C2-N3-C4	-5.22	109.29	111.90
1	A	2690	C	C2-N1-C1'	-5.22	113.06	118.80
1	A	86	C	N3-C4-C5	5.22	123.99	121.90
1	A	693	C	C5-C6-N1	-5.22	118.39	121.00
1	A	715	G	C4-C5-N7	5.22	112.89	110.80
1	A	731	C	C6-N1-C2	5.22	122.39	120.30
1	A	794	G	N1-C6-O6	5.22	123.03	119.90
1	A	1125	G	OP1-P-OP2	-5.22	111.78	119.60
1	A	1136	G	O5'-P-OP2	-5.22	101.00	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	511	U	O5'-P-OP1	-5.21	101.01	105.70
1	A	188	G	N1-C2-N2	-5.21	111.51	116.20
1	A	191	A	C8-N9-C4	-5.21	103.72	105.80
1	A	531	C	C4-C5-C6	5.21	120.01	117.40
1	A	806	C	C6-N1-C2	-5.21	118.22	120.30
1	A	1560	G	O5'-P-OP2	-5.21	101.01	105.70
1	A	1572	A	C8-N9-C4	5.21	107.89	105.80
1	A	2588	G	C5-C6-N1	5.21	114.11	111.50
1	A	2662	A	C8-N9-C4	-5.21	103.72	105.80
2	B	31	C	C6-N1-C2	-5.21	118.22	120.30
1	A	219	G	C8-N9-C4	-5.21	104.31	106.40
1	A	250	G	O5'-P-OP1	-5.21	101.01	105.70
1	A	1487	G	C4-C5-N7	5.21	112.89	110.80
1	A	2067	G	N3-C2-N2	-5.21	116.25	119.90
1	A	2069	G	OP2-P-O3'	5.21	116.67	105.20
1	A	521	G	N1-C6-O6	5.21	123.03	119.90
1	A	570	G	C2-N3-C4	-5.21	109.30	111.90
1	A	1260	G	N3-C4-C5	-5.21	126.00	128.60
1	A	486	C	O5'-P-OP1	-5.21	101.01	105.70
1	A	576	U	C5-C4-O4	-5.21	122.78	125.90
1	A	2856	C	C6-N1-C2	-5.21	118.22	120.30
1	A	175	G	C5-C6-N1	-5.21	108.90	111.50
1	A	681	G	N1-C6-O6	5.21	123.02	119.90
1	A	1816	G	N1-C6-O6	5.21	123.02	119.90
1	A	2360	A	N1-C2-N3	5.21	131.90	129.30
1	A	1312	U	OP1-P-O3'	5.21	116.65	105.20
1	A	391	G	C4-C5-N7	5.20	112.88	110.80
1	A	474	G	C5-C6-N1	-5.20	108.90	111.50
1	A	381	G	C8-N9-C4	5.20	108.48	106.40
1	A	759	G	C4-C5-N7	5.20	112.88	110.80
1	A	859	G	OP2-P-O3'	5.20	116.64	105.20
1	A	2736	G	C5-C6-N1	-5.20	108.90	111.50
1	A	333	G	C5-N7-C8	-5.20	101.70	104.30
1	A	1666	G	C5-C6-O6	-5.20	125.48	128.60
1	A	852	G	N3-C4-C5	-5.20	126.00	128.60
1	A	1457	A	C4-C5-C6	5.20	119.60	117.00
1	A	508	G	P-O3'-C3'	5.20	125.94	119.70
1	A	705	A	C2-N3-C4	-5.20	108.00	110.60
1	A	906	G	C8-N9-C4	-5.20	104.32	106.40
1	A	916	G	N7-C8-N9	5.20	115.70	113.10
1	A	952	G	N3-C4-N9	5.20	129.12	126.00
1	A	1251	C	O5'-P-OP2	-5.20	101.02	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1989	G	C2-N3-C4	-5.20	109.30	111.90
14	S	110	LEU	CA-CB-CG	5.20	127.25	115.30
1	A	1890	A	C5-N7-C8	-5.19	101.30	103.90
1	A	1500	G	N3-C4-C5	-5.19	126.00	128.60
1	A	2296	U	C6-N1-C2	-5.19	117.89	121.00
1	A	2454	G	OP2-P-O3'	5.19	116.62	105.20
1	A	2553	G	OP1-P-O3'	5.19	116.62	105.20
1	A	179	G	C6-C5-N7	-5.19	127.29	130.40
1	A	494	G	C5-N7-C8	-5.19	101.70	104.30
1	A	2029	G	C4-C5-N7	-5.19	108.72	110.80
1	A	2256	G	N3-C2-N2	5.19	123.53	119.90
1	A	2501	C	OP2-P-O3'	5.19	116.62	105.20
1	A	16	G	N1-C6-O6	5.19	123.01	119.90
1	A	117	G	C4-N9-C1'	5.19	133.25	126.50
1	A	2495	G	N1-C6-O6	5.19	123.01	119.90
1	A	2506	U	N3-C4-O4	-5.19	115.77	119.40
1	A	1183	G	C4-C5-N7	5.19	112.88	110.80
1	A	1368	G	C4-N9-C1'	5.19	133.24	126.50
1	A	1762	A	C5-C6-N6	5.19	127.85	123.70
1	A	1770	G	N1-C6-O6	5.19	123.01	119.90
1	A	2307	G	C8-N9-C4	-5.19	104.33	106.40
1	A	2312	U	N3-C4-O4	5.19	123.03	119.40
1	A	2428	G	N1-C6-O6	5.19	123.01	119.90
1	A	827	U	N3-C4-O4	-5.18	115.77	119.40
1	A	1222	C	C6-N1-C2	5.18	122.37	120.30
1	A	1408	C	C6-N1-C2	-5.18	118.23	120.30
1	A	1642	G	C4-C5-C6	5.18	121.91	118.80
1	A	2318	G	C6-C5-N7	-5.18	127.29	130.40
1	A	2572	A	C8-N9-C4	-5.18	103.73	105.80
1	A	2681	C	C5-C6-N1	5.18	123.59	121.00
1	A	2691	C	N3-C2-O2	5.18	125.53	121.90
1	A	376	C	C5-C6-N1	-5.18	118.41	121.00
1	A	761	A	C8-N9-C4	-5.18	103.73	105.80
1	A	792	G	OP1-P-OP2	5.18	127.38	119.60
1	A	1156	A	N1-C6-N6	5.18	121.71	118.60
1	A	1444	G	N3-C4-C5	-5.18	126.01	128.60
1	A	2015	A	O5'-P-OP2	5.18	116.92	110.70
1	A	2385	C	N3-C4-C5	5.18	123.97	121.90
1	A	2677	G	C4-C5-C6	5.18	121.91	118.80
1	A	856	C	N3-C4-N4	5.18	121.63	118.00
1	A	1264	G	C5-N7-C8	5.18	106.89	104.30
1	A	2053	G	C5-N7-C8	-5.18	101.71	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2573	C	C2-N1-C1'	5.18	124.50	118.80
1	A	534	U	N1-C2-N3	5.18	118.01	114.90
1	A	1984	G	C6-C5-N7	-5.18	127.29	130.40
1	A	2329	G	N7-C8-N9	-5.18	110.51	113.10
1	A	1029	A	OP1-P-OP2	-5.18	111.83	119.60
1	A	2466	C	C2-N3-C4	-5.18	117.31	119.90
1	A	228	A	C6-C5-N7	-5.17	128.68	132.30
1	A	382	G	C4-C5-N7	5.17	112.87	110.80
1	A	1401	G	C4-C5-C6	5.17	121.90	118.80
1	A	2213	U	O4'-C1'-N1	5.17	112.34	108.20
1	A	2225	A	C5-C6-N1	5.17	120.29	117.70
1	A	2430	A	N1-C6-N6	5.17	121.70	118.60
1	A	354	G	C4-C5-N7	5.17	112.87	110.80
1	A	874	G	N9-C1'-C2'	-5.17	106.31	112.00
1	A	974	G	C5-N7-C8	-5.17	101.71	104.30
1	A	1250	G	C4-N9-C1'	-5.17	119.78	126.50
1	A	1484	G	C5-C6-N1	-5.17	108.92	111.50
1	A	1500	G	N3-C4-N9	5.17	129.10	126.00
1	A	2655	G	OP2-P-O3'	5.17	116.58	105.20
2	B	108	C	C5-C6-N1	-5.17	118.41	121.00
1	A	715	G	N3-C2-N2	5.17	123.52	119.90
1	A	836	G	N3-C4-N9	5.17	129.10	126.00
1	A	2351	G	N3-C4-C5	-5.17	126.02	128.60
1	A	1325	G	C4-C5-N7	-5.17	108.73	110.80
1	A	1473	G	C5-C6-N1	-5.17	108.92	111.50
1	A	1891	G	C4-C5-N7	5.17	112.87	110.80
1	A	2006	C	C6-N1-C2	5.17	122.37	120.30
1	A	2685	G	C4-C5-N7	-5.17	108.73	110.80
1	A	240	G	C6-C5-N7	-5.17	127.30	130.40
1	A	2005	A	N9-C4-C5	5.17	107.87	105.80
1	A	406	G	C6-C5-N7	-5.16	127.30	130.40
1	A	1027	A	N1-C6-N6	5.16	121.70	118.60
1	A	1549	C	P-O3'-C3'	-5.16	113.50	119.70
1	A	788	A	N1-C2-N3	-5.16	126.72	129.30
1	A	1135	C	N1-C2-N3	-5.16	115.59	119.20
1	A	2470	G	N3-C4-N9	-5.16	122.90	126.00
1	A	2616	C	N1-C2-O2	-5.16	115.80	118.90
1	A	63	U	C4-C5-C6	5.16	122.80	119.70
1	A	244	A	N1-C2-N3	-5.16	126.72	129.30
1	A	704	G	N1-C2-N3	5.16	127.00	123.90
1	A	941	A	C8-N9-C4	-5.16	103.74	105.80
1	A	1698	A	P-O3'-C3'	5.16	125.89	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2080	G	N1-C2-N3	5.16	127.00	123.90
1	A	2542	A	P-O3'-C3'	-5.16	113.51	119.70
1	A	752	A	O5'-P-OP1	-5.16	101.06	105.70
1	A	1899	G	C5-N7-C8	-5.16	101.72	104.30
2	B	112	G	N1-C6-O6	5.16	123.00	119.90
1	A	960	A	N3-C4-C5	5.16	130.41	126.80
1	A	1010	A	OP2-P-O3'	5.16	116.54	105.20
1	A	1377	G	C8-N9-C1'	-5.16	120.30	127.00
1	A	1551	C	N1-C2-O2	-5.16	115.81	118.90
1	A	2450	A	C6-N1-C2	-5.16	115.51	118.60
1	A	2470	G	C4-N9-C1'	-5.16	119.80	126.50
1	A	382	G	C8-N9-C1'	5.15	133.70	127.00
1	A	793	A	N1-C6-N6	5.15	121.69	118.60
1	A	1383	C	C5-C6-N1	5.15	123.58	121.00
1	A	2859	G	C5-C6-O6	5.15	131.69	128.60
1	A	410	G	O5'-P-OP1	-5.15	101.06	105.70
1	A	1597	A	N7-C8-N9	-5.15	111.22	113.80
1	A	2497	A	N1-C6-N6	5.15	121.69	118.60
1	A	2622	C	N3-C4-N4	-5.15	114.39	118.00
1	A	2646	C	C5-C6-N1	5.15	123.58	121.00
1	A	228	A	N7-C8-N9	5.15	116.38	113.80
1	A	270(Z)	U	C2-N1-C1'	-5.15	111.52	117.70
1	A	728	G	N3-C4-C5	-5.15	126.03	128.60
1	A	1132	A	C2-N3-C4	5.15	113.17	110.60
1	A	1182	A	N1-C6-N6	5.15	121.69	118.60
1	A	1286	A	C5-C6-N1	5.15	120.28	117.70
1	A	2271	G	C4-N9-C1'	5.15	133.20	126.50
1	A	2316	C	C6-N1-C2	-5.15	118.24	120.30
1	A	792	G	N3-C4-N9	5.15	129.09	126.00
1	A	2446	G	C8-N9-C4	-5.15	104.34	106.40
1	A	2545	G	O5'-P-OP2	-5.15	101.07	105.70
1	A	240	G	C8-N9-C1'	-5.15	120.31	127.00
1	A	355	G	C5-C6-N1	-5.15	108.93	111.50
1	A	1141	U	C6-N1-C2	-5.15	117.91	121.00
1	A	1325	G	N9-C4-C5	5.15	107.46	105.40
1	A	1817	G	C8-N9-C4	-5.15	104.34	106.40
1	A	1878	G	N1-C6-O6	5.15	122.99	119.90
1	A	1971	A	N1-C6-N6	5.15	121.69	118.60
1	A	2060	A	C4-C5-C6	5.15	119.57	117.00
1	A	1968	G	C6-C5-N7	-5.15	127.31	130.40
1	A	953	A	C2-N3-C4	-5.14	108.03	110.60
1	A	1020	A	N1-C6-N6	5.14	121.69	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1048	A	C8-N9-C4	-5.14	103.74	105.80
1	A	1196	C	N3-C4-N4	5.14	121.60	118.00
1	A	2376	A	C8-N9-C4	5.14	107.86	105.80
1	A	2694	G	C4-C5-N7	5.14	112.86	110.80
1	A	1297	C	N1-C2-O2	-5.14	115.81	118.90
1	A	1542	G	C4-N9-C1'	5.14	133.19	126.50
1	A	2734	A	C8-N9-C4	-5.14	103.74	105.80
1	A	1052	C	C6-N1-C2	-5.14	118.24	120.30
1	A	1271	G	C4-N9-C1'	5.14	133.18	126.50
1	A	1622	G	N1-C6-O6	5.14	122.98	119.90
1	A	2430	A	N1-C2-N3	5.14	131.87	129.30
1	A	1026	U	OP1-P-O3'	5.14	116.50	105.20
1	A	1142(A)	A	C5-C6-N1	-5.14	115.13	117.70
2	B	102	G	OP2-P-O3'	5.14	116.50	105.20
1	A	80	G	C5-C6-N1	-5.13	108.93	111.50
1	A	1698	A	N1-C2-N3	5.13	131.87	129.30
1	A	1674	G	N3-C4-C5	-5.13	126.03	128.60
1	A	1699	G	C6-C5-N7	5.13	133.48	130.40
1	A	1985	G	N3-C4-C5	-5.13	126.03	128.60
1	A	2056	G	OP2-P-O3'	5.13	116.49	105.20
1	A	94	G	C8-N9-C4	-5.13	104.35	106.40
1	A	1978	A	C5-C6-N1	-5.13	115.13	117.70
1	A	2822	G	C2-N3-C4	-5.13	109.33	111.90
1	A	191	A	C4-C5-C6	5.13	119.56	117.00
1	A	295	G	C4-C5-N7	5.13	112.85	110.80
1	A	494	G	C4-N9-C1'	5.13	133.17	126.50
1	A	733	G	N7-C8-N9	5.13	115.66	113.10
1	A	1164	G	C8-N9-C4	5.13	108.45	106.40
1	A	1788	C	N3-C2-O2	5.13	125.49	121.90
1	A	1907	G	N3-C4-C5	5.13	131.16	128.60
1	A	2011	U	OP1-P-OP2	5.13	127.29	119.60
1	A	2434	A	N1-C2-N3	-5.13	126.74	129.30
1	A	208	C	C2-N3-C4	-5.13	117.34	119.90
1	A	352	G	N3-C4-C5	5.13	131.16	128.60
1	A	465	G	C8-N9-C1'	-5.13	120.34	127.00
1	A	718	A	C4-C5-C6	5.13	119.56	117.00
1	A	1908	C	N1-C2-N3	5.13	122.79	119.20
1	A	1141	U	C5-C4-O4	5.12	128.97	125.90
1	A	196	A	N9-C4-C5	-5.12	103.75	105.80
1	A	443	A	C4-C5-C6	5.12	119.56	117.00
1	A	1271	G	C2-N3-C4	-5.12	109.34	111.90
1	A	1768	U	N3-C4-C5	-5.12	111.53	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	832	G	N7-C8-N9	5.12	115.66	113.10
1	A	1734	C	C5-C4-N4	5.12	123.78	120.20
1	A	1810	A	C8-N9-C4	-5.12	103.75	105.80
1	A	2698	U	C5-C4-O4	5.12	128.97	125.90
1	A	325	G	N3-C4-N9	5.12	129.07	126.00
1	A	1470	G	N1-C6-O6	5.12	122.97	119.90
1	A	1758	G	C5-C6-O6	5.12	131.67	128.60
1	A	1778	U	C6-N1-C2	5.12	124.07	121.00
1	A	2766	G	C8-N9-C1'	-5.12	120.35	127.00
1	A	2788	C	N1-C2-O2	5.12	121.97	118.90
1	A	1758	G	C4-C5-N7	-5.12	108.75	110.80
1	A	109	G	P-O3'-C3'	-5.12	113.56	119.70
1	A	2319	G	N3-C4-N9	5.12	129.07	126.00
1	A	2719	G	C8-N9-C1'	-5.12	120.35	127.00
1	A	860	U	N3-C2-O2	-5.11	118.62	122.20
1	A	1471	A	C8-N9-C4	-5.11	103.75	105.80
1	A	1495	A	OP1-P-O3'	5.11	116.45	105.20
1	A	1562	A	C8-N9-C4	-5.11	103.75	105.80
1	A	2033	A	O5'-P-OP2	-5.11	101.10	105.70
1	A	701	G	C5-C6-O6	-5.11	125.53	128.60
1	A	850	C	N3-C4-C5	5.11	123.94	121.90
1	A	2246	G	OP1-P-O3'	5.11	116.45	105.20
1	A	294	A	C8-N9-C4	5.11	107.84	105.80
1	A	2269	A	C5-C6-N1	-5.11	115.14	117.70
1	A	2537	U	C4-C5-C6	5.11	122.77	119.70
1	A	2549	G	C6-C5-N7	-5.11	127.33	130.40
1	A	2665	A	C4-C5-C6	5.11	119.56	117.00
1	A	2758	A	O5'-P-OP1	-5.11	101.10	105.70
1	A	272	G	C4-N9-C1'	-5.11	119.86	126.50
1	A	333	G	C4-N9-C1'	5.11	133.14	126.50
1	A	835	A	N9-C4-C5	5.11	107.84	105.80
1	A	2829	C	C5-C6-N1	-5.11	118.45	121.00
1	A	452	G	C4-N9-C1'	5.11	133.14	126.50
1	A	693	C	N1-C2-O2	-5.11	115.84	118.90
1	A	827	U	O4'-C1'-N1	5.11	112.28	108.20
1	A	1270	C	N1-C2-O2	-5.11	115.84	118.90
1	A	2012	G	C6-C5-N7	-5.11	127.34	130.40
1	A	450	G	N1-C2-N3	5.10	126.96	123.90
1	A	2608	G	C5-N7-C8	-5.10	101.75	104.30
1	A	245	G	C2-N3-C4	-5.10	109.35	111.90
1	A	2302	G	N3-C4-C5	-5.10	126.05	128.60
1	A	2571	C	N3-C2-O2	-5.10	118.33	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	628	G	C4-C5-N7	-5.10	108.76	110.80
2	B	109	G	C8-N9-C4	-5.10	104.36	106.40
2	B	111	U	O4'-C1'-N1	5.10	112.28	108.20
1	A	122	G	O4'-C1'-N9	-5.10	104.12	108.20
1	A	1260	G	N3-C4-N9	5.10	129.06	126.00
1	A	1647	G	C4-C5-C6	5.10	121.86	118.80
1	A	1661	G	N1-C2-N3	5.10	126.96	123.90
1	A	1800	C	O5'-P-OP2	5.10	116.82	110.70
1	A	2416	C	C5-C6-N1	5.10	123.55	121.00
1	A	117	G	N1-C2-N2	-5.10	111.61	116.20
1	A	145	G	N1-C2-N3	5.10	126.96	123.90
1	A	1215	G	OP1-P-O3'	5.10	116.42	105.20
1	A	2495	G	N7-C8-N9	-5.10	110.55	113.10
2	B	53	A	N1-C6-N6	5.10	121.66	118.60
2	B	101	A	N1-C6-N6	-5.10	115.54	118.60
1	A	1333	C	N3-C4-C5	5.10	123.94	121.90
1	A	2445	G	N3-C2-N2	-5.10	116.33	119.90
1	A	52	A	OP2-P-O3'	5.09	116.41	105.20
1	A	414	C	N3-C4-C5	5.09	123.94	121.90
1	A	512	G	C8-N9-C4	-5.09	104.36	106.40
1	A	768	G	C5-C6-O6	-5.09	125.54	128.60
1	A	1813	G	C6-C5-N7	-5.09	127.34	130.40
1	A	2066	C	N3-C2-O2	-5.09	118.33	121.90
1	A	2295	C	C2-N1-C1'	5.09	124.40	118.80
1	A	2389	G	C5-N7-C8	-5.09	101.75	104.30
1	A	379	G	C4-C5-N7	5.09	112.84	110.80
1	A	1369	G	C6-C5-N7	-5.09	127.34	130.40
1	A	1424	G	N3-C4-N9	5.09	129.06	126.00
1	A	1533	C	C5-C6-N1	5.09	123.55	121.00
1	A	2037	G	N1-C6-O6	5.09	122.96	119.90
1	A	2278	A	C6-N1-C2	-5.09	115.54	118.60
1	A	898	C	N3-C2-O2	-5.09	118.34	121.90
1	A	906	G	C4-C5-N7	-5.09	108.76	110.80
1	A	1048	A	C4-C5-C6	5.09	119.55	117.00
1	A	1929	G	N9-C4-C5	-5.09	103.36	105.40
1	A	2287	A	N9-C4-C5	-5.09	103.76	105.80
1	A	2461	C	C4-C5-C6	5.09	119.94	117.40
1	A	2697	G	C4-N9-C1'	5.09	133.12	126.50
15	T	123	GLN	N-CA-C	-5.09	97.25	111.00
1	A	22	C	O5'-P-OP1	-5.09	101.12	105.70
1	A	246	C	N3-C2-O2	5.09	125.46	121.90
1	A	624	C	C6-N1-C1'	-5.09	114.69	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	783	A	N9-C1'-C2'	-5.09	106.40	112.00
1	A	1206	G	C4-C5-N7	5.09	112.84	110.80
1	A	489	G	O5'-P-OP2	-5.09	101.12	105.70
1	A	573	G	C8-N9-C1'	-5.09	120.39	127.00
1	A	1614	A	C8-N9-C4	-5.09	103.77	105.80
1	A	1983	C	C6-N1-C2	5.09	122.33	120.30
1	A	2229	C	N3-C4-C5	-5.09	119.86	121.90
1	A	219	G	OP2-P-O3'	5.09	116.39	105.20
1	A	270(Z)	U	O4'-C1'-N1	5.09	112.27	108.20
1	A	592	G	C4-C5-C6	5.09	121.85	118.80
1	A	794	G	N1-C2-N3	5.09	126.95	123.90
1	A	1561	G	C8-N9-C4	-5.09	104.36	106.40
2	B	31	C	C2-N1-C1'	5.09	124.39	118.80
1	A	416	C	N3-C2-O2	-5.08	118.34	121.90
1	A	822	U	N3-C4-O4	-5.08	115.84	119.40
1	A	2814	C	N3-C2-O2	-5.08	118.34	121.90
1	A	458	G	N3-C4-N9	-5.08	122.95	126.00
15	T	59	THR	N-CA-C	-5.08	97.28	111.00
1	A	570	G	N3-C2-N2	-5.08	116.34	119.90
1	A	798	G	N1-C2-N3	5.08	126.95	123.90
1	A	1411	C	C5-C6-N1	5.08	123.54	121.00
1	A	2574	G	C8-N9-C4	5.08	108.43	106.40
1	A	2612	C	N1-C2-O2	5.08	121.95	118.90
1	A	2729	G	C4-N9-C1'	-5.08	119.90	126.50
1	A	1315	C	N3-C4-C5	5.08	123.93	121.90
1	A	1933	G	C4-C5-C6	5.08	121.85	118.80
1	A	2215	G	C5-C6-O6	-5.08	125.55	128.60
1	A	2307	G	N7-C8-N9	5.08	115.64	113.10
1	A	2474	C	N3-C4-C5	-5.08	119.87	121.90
1	A	2830	G	C6-C5-N7	-5.08	127.35	130.40
1	A	977	G	N1-C6-O6	-5.08	116.85	119.90
1	A	1616	A	C5-N7-C8	-5.08	101.36	103.90
1	A	2250	G	N7-C8-N9	5.08	115.64	113.10
1	A	317	G	N1-C6-O6	-5.08	116.86	119.90
1	A	814	C	N3-C2-O2	5.08	125.45	121.90
1	A	944	G	C2-N3-C4	-5.08	109.36	111.90
1	A	2445	G	N3-C4-N9	-5.08	122.95	126.00
1	A	2677	G	OP1-P-O3'	5.08	116.36	105.20
1	A	415	A	C5-C6-N6	-5.07	119.64	123.70
1	A	1330	C	N1-C2-O2	5.07	121.94	118.90
1	A	1622	G	C5-C6-O6	-5.07	125.56	128.60
1	A	1669	A	C4-C5-N7	5.07	113.24	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1964	G	C6-C5-N7	-5.07	127.36	130.40
1	A	2337	G	N1-C6-O6	5.07	122.94	119.90
1	A	2428	G	C6-C5-N7	-5.07	127.36	130.40
1	A	2534	A	C5-C6-N1	5.07	120.24	117.70
1	A	2586	C	N3-C4-N4	5.07	121.55	118.00
1	A	51	G	C6-N1-C2	-5.07	122.06	125.10
1	A	2766	G	C6-C5-N7	-5.07	127.36	130.40
1	A	341	G	N3-C4-N9	5.07	129.04	126.00
1	A	852	G	C2-N3-C4	5.07	114.44	111.90
1	A	1602	U	N3-C2-O2	-5.07	118.65	122.20
1	A	1831	G	N9-C4-C5	-5.07	103.37	105.40
1	A	2409	G	N3-C4-N9	5.07	129.04	126.00
1	A	528	A	C4-N9-C1'	-5.07	117.18	126.30
1	A	2216	G	C4-C5-C6	5.07	121.84	118.80
1	A	330	A	C6-C5-N7	-5.07	128.75	132.30
1	A	794	G	C8-N9-C1'	-5.07	120.41	127.00
1	A	842	G	N3-C4-C5	5.07	131.13	128.60
1	A	1439	A	C8-N9-C4	5.07	107.83	105.80
1	A	1499	C	C6-N1-C2	5.07	122.33	120.30
1	A	2228	G	C8-N9-C1'	-5.07	120.41	127.00
1	A	2366	A	N7-C8-N9	5.07	116.33	113.80
1	A	779	U	N1-C1'-C2'	-5.07	106.43	112.00
1	A	908	C	C6-N1-C2	5.07	122.33	120.30
1	A	1413	G	N1-C6-O6	5.07	122.94	119.90
1	A	1890	A	N9-C4-C5	-5.07	103.77	105.80
1	A	1905	C	N3-C2-O2	-5.07	118.35	121.90
1	A	2229	C	N3-C4-N4	5.07	121.55	118.00
1	A	2319	G	C8-N9-C1'	-5.07	120.42	127.00
1	A	2356	C	OP1-P-OP2	-5.07	112.00	119.60
1	A	193	U	C4-C5-C6	5.06	122.74	119.70
1	A	701	G	C4-C5-N7	5.06	112.83	110.80
1	A	1327	C	C6-N1-C1'	5.06	126.88	120.80
1	A	1414	G	C6-C5-N7	-5.06	127.36	130.40
1	A	240	G	N1-C6-O6	5.06	122.94	119.90
1	A	546	C	C6-N1-C2	-5.06	118.28	120.30
1	A	921	G	C5-C6-N1	-5.06	108.97	111.50
1	A	989	G	N1-C6-O6	5.06	122.94	119.90
1	A	389	G	N3-C2-N2	-5.06	116.36	119.90
22	0	25	ARG	NE-CZ-NH1	5.06	122.83	120.30
1	A	746	A	O5'-P-OP2	-5.06	101.15	105.70
1	A	1368	G	C6-N1-C2	-5.06	122.06	125.10
1	A	1594	G	N1-C2-N3	5.06	126.94	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2443	C	N1-C2-N3	5.06	122.74	119.20
1	A	860	U	C6-N1-C1'	-5.06	114.12	121.20
1	A	1921	G	C4-C5-N7	5.06	112.82	110.80
1	A	2655	G	N9-C4-C5	5.06	107.42	105.40
1	A	2691	C	N1-C2-O2	-5.06	115.87	118.90
1	A	195	A	C5-C6-N1	-5.06	115.17	117.70
1	A	712	G	O5'-P-OP1	-5.06	101.15	105.70
1	A	754	C	O5'-P-OP1	5.06	116.77	110.70
1	A	2712(A)	A	C5-N7-C8	-5.06	101.37	103.90
1	A	2757	A	C8-N9-C4	-5.06	103.78	105.80
1	A	2830	G	C8-N9-C4	-5.06	104.38	106.40
1	A	450	G	C2-N3-C4	-5.05	109.37	111.90
1	A	1672	C	C2-N1-C1'	5.05	124.36	118.80
1	A	1445	C	C6-N1-C2	-5.05	118.28	120.30
1	A	1464	C	N1-C2-O2	-5.05	115.87	118.90
1	A	1616	A	N7-C8-N9	5.05	116.33	113.80
1	A	616	A	C5-C6-N6	5.05	127.74	123.70
1	A	804	A	C2-N3-C4	-5.05	108.07	110.60
1	A	1212	G	C5-C6-N1	-5.05	108.97	111.50
1	A	2028	U	N3-C4-C5	-5.05	111.57	114.60
1	A	23	G	C5-C6-O6	-5.05	125.57	128.60
1	A	841	A	N1-C6-N6	5.05	121.63	118.60
1	A	1497	U	N3-C2-O2	-5.05	118.67	122.20
1	A	1231	G	N1-C6-O6	5.05	122.93	119.90
1	A	2732	G	N3-C4-C5	5.05	131.12	128.60
1	A	251	A	N1-C6-N6	-5.05	115.57	118.60
1	A	1978	A	N9-C4-C5	5.05	107.82	105.80
1	A	2252	G	C4-C5-N7	5.05	112.82	110.80
1	A	2481	G	N3-C4-N9	5.05	129.03	126.00
2	B	60	C	C6-N1-C2	-5.05	118.28	120.30
1	A	1186	G	C8-N9-C4	-5.04	104.38	106.40
1	A	1992	G	C2'-C3'-O3'	5.04	121.77	113.70
1	A	680	G	C4-C5-C6	5.04	121.83	118.80
1	A	1937	A	C8-N9-C4	5.04	107.82	105.80
1	A	2168	G	C8-N9-C4	-5.04	104.38	106.40
1	A	2254	C	C2-N1-C1'	-5.04	113.25	118.80
1	A	2277	G	C4-C5-C6	5.04	121.83	118.80
1	A	625	G	N9-C4-C5	5.04	107.42	105.40
1	A	845	G	C5-C6-O6	-5.04	125.58	128.60
1	A	2020	A	C5-N7-C8	5.04	106.42	103.90
1	A	2867	G	N1-C6-O6	5.04	122.92	119.90
1	A	1276	A	N9-C4-C5	-5.04	103.78	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	517	C	N3-C4-N4	5.04	121.53	118.00
1	A	1256	G	N7-C8-N9	5.04	115.62	113.10
1	A	1682	G	C4-C5-N7	5.04	112.81	110.80
1	A	2052	G	C8-N9-C1'	5.04	133.55	127.00
1	A	2287	A	O4'-C1'-N9	-5.04	104.17	108.20
1	A	2556	C	N3-C4-C5	5.04	123.92	121.90
1	A	2782	G	C5-C6-N1	-5.04	108.98	111.50
1	A	2409	G	C6-C5-N7	-5.04	127.38	130.40
1	A	2820	A	N9-C4-C5	-5.04	103.78	105.80
1	A	684	G	N3-C4-C5	-5.04	126.08	128.60
1	A	704	G	N3-C4-N9	5.04	129.02	126.00
1	A	1286	A	N7-C8-N9	-5.04	111.28	113.80
1	A	1974	C	N3-C2-O2	-5.04	118.38	121.90
1	A	2611	U	OP2-P-O3'	5.04	116.28	105.20
1	A	482	A	C4-C5-N7	5.03	113.22	110.70
1	A	745	G	OP2-P-O3'	5.03	116.27	105.20
1	A	1388	G	C8-N9-C4	5.03	108.41	106.40
1	A	1442	G	C4-N9-C1'	5.03	133.04	126.50
1	A	2550	G	C4-C5-N7	5.03	112.81	110.80
7	H	127	GLU	C-N-CD	-5.03	109.53	120.60
1	A	1332	G	C8-N9-C4	-5.03	104.39	106.40
1	A	1184	G	C4-N9-C1'	5.03	133.04	126.50
1	A	2417	C	C4-C5-C6	5.03	119.92	117.40
1	A	2606	C	C5-C4-N4	-5.03	116.68	120.20
1	A	2712(A)	A	C5-C6-N1	-5.03	115.19	117.70
1	A	176	G	C2-N3-C4	-5.03	109.39	111.90
1	A	802	A	C8-N9-C4	5.03	107.81	105.80
1	A	917	A	O4'-C1'-N9	5.03	112.22	108.20
1	A	1395	A	C5-C6-N6	5.03	127.72	123.70
1	A	1913	A	C2-N3-C4	-5.03	108.09	110.60
1	A	38	A	C4-C5-C6	5.03	119.51	117.00
1	A	1152	C	N1-C2-O2	-5.03	115.89	118.90
1	A	1243	G	N9-C4-C5	-5.03	103.39	105.40
1	A	1350	C	C6-N1-C2	5.03	122.31	120.30
1	A	1920	C	O4'-C1'-N1	-5.03	104.18	108.20
1	A	539	G	N1-C6-O6	5.02	122.91	119.90
1	A	2878	U	N3-C4-C5	-5.02	111.58	114.60
1	A	74	A	C8-N9-C1'	-5.02	118.66	127.70
1	A	1559	G	N3-C4-N9	-5.02	122.99	126.00
1	A	2072	G	C4-C5-N7	5.02	112.81	110.80
1	A	2321	G	C4-N9-C1'	5.02	133.03	126.50
1	A	2378	A	C2-N3-C4	-5.02	108.09	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2648	C	C5-C4-N4	-5.02	116.68	120.20
1	A	2732	G	C5-N7-C8	-5.02	101.79	104.30
1	A	517	C	C2-N1-C1'	5.02	124.32	118.80
1	A	2271	G	N9-C4-C5	-5.02	103.39	105.40
1	A	2621	A	C5-N7-C8	-5.02	101.39	103.90
1	A	856	C	C4-C5-C6	-5.02	114.89	117.40
1	A	1015	G	C5-N7-C8	-5.02	101.79	104.30
1	A	1274	A	N1-C6-N6	-5.02	115.59	118.60
1	A	1976	U	C4-C5-C6	5.02	122.71	119.70
1	A	2239	G	O4'-C1'-N9	-5.02	104.18	108.20
2	B	89	G	C8-N9-C4	-5.02	104.39	106.40
1	A	18	C	N3-C2-O2	-5.02	118.39	121.90
1	A	648	G	N1-C2-N3	5.02	126.91	123.90
1	A	1195	G	N1-C2-N2	-5.02	111.68	116.20
1	A	1528	A	N1-C6-N6	5.02	121.61	118.60
1	A	2358	G	N9-C4-C5	5.02	107.41	105.40
1	A	2555	U	C2-N1-C1'	-5.02	111.68	117.70
1	A	2779	U	C6-N1-C1'	-5.02	114.17	121.20
1	A	2237	G	C4-C5-C6	5.02	121.81	118.80
1	A	1665	A	C6-C5-N7	-5.01	128.79	132.30
1	A	1899	G	N1-C2-N3	5.01	126.91	123.90
1	A	1987	G	C6-C5-N7	-5.01	127.39	130.40
1	A	956	G	C8-N9-C1'	-5.01	120.48	127.00
1	A	140	A	C8-N9-C4	-5.01	103.80	105.80
1	A	1822	G	C8-N9-C1'	-5.01	120.49	127.00
1	A	2017	U	C5-C6-N1	-5.01	120.19	122.70
1	A	2278	A	OP2-P-O3'	5.01	116.22	105.20
1	A	2643	G	C2-N3-C4	-5.01	109.39	111.90
1	A	945	A	OP2-P-O3'	5.01	116.22	105.20
1	A	989	G	N3-C4-N9	5.01	129.00	126.00
1	A	2058	A	C6-N1-C2	-5.01	115.59	118.60
1	A	2321	G	C5-N7-C8	-5.01	101.80	104.30
1	A	2584	U	C6-N1-C2	-5.01	117.99	121.00
1	A	1393	A	C5-N7-C8	5.01	106.40	103.90
1	A	1626	G	N1-C6-O6	5.01	122.91	119.90
1	A	1857	G	C8-N9-C1'	-5.01	120.49	127.00
1	A	526	A	N7-C8-N9	5.01	116.30	113.80
1	A	776	G	N9-C4-C5	5.01	107.40	105.40
1	A	2431	U	N3-C2-O2	5.01	125.70	122.20
1	A	692	C	C6-N1-C2	5.00	122.30	120.30
1	A	820	A	N1-C6-N6	-5.00	115.60	118.60
1	A	648	G	C2-N3-C4	-5.00	109.40	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1131	G	N3-C4-C5	-5.00	126.10	128.60
1	A	1182	A	C4-C5-C6	5.00	119.50	117.00
1	A	2264	C	N1-C2-O2	5.00	121.90	118.90
1	A	815	C	C6-N1-C2	5.00	122.30	120.30
1	A	1698	A	C8-N9-C4	-5.00	103.80	105.80
1	A	1839	G	C8-N9-C1'	-5.00	120.50	127.00
1	A	2400	G	N3-C2-N2	-5.00	116.40	119.90
1	A	2407	G	O4'-C1'-N9	-5.00	104.20	108.20
2	B	42	C	N3-C4-C5	-5.00	119.90	121.90

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
21	Z	181	GLU	Peptide

5.2 Close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	62091	0	31293	1975	0
2	B	2573	0	1306	103	0
3	D	2115	0	2195	322	0
4	E	1568	0	1634	263	0
5	F	1585	0	1632	178	0
6	G	1474	0	1535	192	0
7	H	1307	0	1382	228	0
8	I	1136	0	1223	69	0
9	N	1104	0	1180	189	0
10	O	933	0	996	124	0
11	P	1145	0	1228	244	0
12	Q	1122	0	1178	165	0
13	R	968	0	1033	117	0
14	S	882	0	943	159	0
15	T	1141	0	1202	151	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	U	964	0	1022	142	0
17	V	779	0	852	131	0
18	W	900	0	964	108	0
19	X	725	0	778	74	0
20	Y	785	0	878	160	0
21	Z	1461	0	1493	86	0
22	0	648	0	672	50	0
23	1	763	0	848	142	0
24	2	581	0	629	78	0
25	3	469	0	518	46	0
26	4	581	0	574	133	0
27	5	459	0	480	76	0
28	6	424	0	450	97	0
29	7	430	0	480	40	0
30	8	517	0	582	105	0
31	9	307	0	336	24	0
32	a	74	0	51	0	0
33	5	1	0	0	0	0
33	7	1	0	0	0	0
33	A	269	0	0	1	0
33	B	3	0	0	0	0
33	E	1	0	0	0	0
33	P	1	0	0	0	0
33	Q	1	0	0	0	0
34	9	1	0	0	0	0
All	All	92289	0	61567	5449	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 (5449) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:CG	7:H:128:PRO:HD3	1.36	1.52
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.42	1.34
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.70	1.21
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.20
1:A:518:G:H4'	18:W:18:ARG:HH12	1.07	1.18
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.16
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.16
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.15
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.12

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.12
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.31	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.11
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.51	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.11
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.11
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.09
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.33	1.09
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.08
7:H:86:GLU:HG3	7:H:165:ALA:H	1.05	1.08
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.08
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.65	1.07
1:A:1454:U:H5'	13:R:63:ARG:HE	1.16	1.07
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.14	1.06
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.07	1.06
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.05
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.05
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.05
1:A:2701:C:H3'	1:A:2702:U:H5''	1.33	1.05
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.04
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.57	1.03
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.03
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.02
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.02
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.25	1.02
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.01
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	1.01
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.01
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	1.00
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.00

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.00
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.39	1.00
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	1.00
1:A:27:G:HO2'	1:A:28:A:H8	1.06	1.00
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	1.00
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	0.99
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	0.99
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	0.99
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
11:P:105:LEU:O	11:P:106:LEU:HB2	1.60	0.99
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	0.98
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.98
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.98
28:6:41:PRO:HG2	28:6:45:LYS:H	1.30	0.97
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.97
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.77	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.97
1:A:27:G:N2	1:A:512:G:O2'	1.97	0.97
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.97
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.97
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.96
1:A:2015:A:H1'	27:5:2:ALA:HA	1.45	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.96
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.44	0.96
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	0.95
4:E:20:ALA:O	4:E:21:VAL:HG22	1.65	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
27:5:56:LYS:H	27:5:56:LYS:HD2	1.31	0.95
11:P:62:LEU:N	11:P:62:LEU:HD22	1.82	0.95
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.95
4:E:78:LEU:HG	4:E:79:ARG:HE	1.30	0.95
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.48	0.95
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.97	0.94
17:V:99:ILE:HD13	17:V:99:ILE:H	1.32	0.94
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1138:G:H21	9:N:106:MET:HE3	1.32	0.94
1:A:1899:G:H22	1:A:1902:C:H41	1.11	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.14	0.94
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.94
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.45	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.93
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.31	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.93
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.92
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.34	0.92
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.85	0.92
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.92
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.92
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.92
1:A:1496:A:H8	1:A:1577:C:HO2'	0.92	0.92
23:1:81:LYS:CE	23:1:81:LYS:HA	2.00	0.91
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.91
14:S:67:ARG:HB2	14:S:67:ARG:NH1	1.85	0.91
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.91
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.91
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.91
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.91
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.90
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.90
1:A:2327:A:H2'	1:A:2328:A:C8	2.05	0.90
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.51	0.90
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.90
1:A:297:C:H5''	20:Y:85:VAL:HG21	1.52	0.90
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.51	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.90
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.90
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.90
1:A:607:U:H3	1:A:621:A:H2	1.20	0.90
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.90
7:H:26:VAL:HG13	7:H:27:LYS:H	1.35	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.54	0.90
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:857:C:H4'	22:O:23:VAL:HG21	1.52	0.89
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.89
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.89
1:A:67:U:H3	1:A:74:A:H2	1.21	0.89
4:E:63:LEU:HD12	4:E:64:LYS:N	1.87	0.89
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.36	0.89
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
1:A:518:G:H4'	18:W:18:ARG:NH1	1.87	0.89
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.89
1:A:620:G:H4'	1:A:621:A:H5''	1.51	0.88
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.88
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.88
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.88
21:Z:145:GLU:HG3	21:Z:146:ILE:HG12	1.54	0.88
1:A:2600:A:C2'	1:A:2601:C:H5'	2.03	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	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
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.87
1:A:2600:A:H2'	1:A:2601:C:H5'	1.56	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.87
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
1:A:483:A:H4'	20:Y:49:VAL:HA	1.57	0.87
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.87
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.87
1:A:2068:U:H3	1:A:2430:A:H2	1.22	0.86
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.38	0.86
2:B:8:U:H3	2:B:112:G:H1	1.19	0.86
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.86
1:A:1403:C:H5''	1:A:1471:A:H1'	1.57	0.86
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.86
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.86
1:A:637:A:H2'	11:P:117:GLU:OE2	1.76	0.86
21:Z:151:HIS:HB3	21:Z:170:THR:HA	1.55	0.86
1:A:1795:C:O2	3:D:255:LYS:HE2	1.75	0.86
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.86
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.09	0.85
1:A:2245:U:H5'	1:A:2246:G:H5'	1.56	0.85
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.85
1:A:443:A:N7	5:F:45:ARG:HD2	1.91	0.85
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.85
1:A:1055:G:H1	1:A:1104:C:H42	1.25	0.85
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.92	0.85
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.85
2:B:82:G:H2'	2:B:83:G:H8	1.41	0.85
7:H:89:ILE:HD11	7:H:129:THR:HB	1.58	0.85
1:A:2303:G:H1	1:A:2313:C:H42	1.25	0.85
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.85
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.85
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
1:A:265:A:N6	1:A:427:U:O2'	2.10	0.84
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.84
4:E:95:ILE:HD12	4:E:95:ILE:H	1.42	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.07	0.84
1:A:2634:G:O6	1:A:2784:C:N4	2.09	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
1:A:1354:A:OP1	3:D:38:LYS:HE2	1.76	0.84
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.84
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.84
1:A:631:A:OP2	30:8:46:ARG:NH2	2.10	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.84
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.84
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1019:U:H3	1:A:1142(A):A:H62	1.23	0.84
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.84
1:A:2846:G:H2'	1:A:2847:U:H6	1.40	0.83
2:B:31:C:O2	2:B:53:A:N6	2.12	0.83
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.61	0.83
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.93	0.83
1:A:592:G:H1	1:A:665:C:H42	1.24	0.83
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.61	0.83
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.83
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.83
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.58	0.83
1:A:242:G:H5''	30:8:3:LYS:HE3	1.60	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.83
1:A:1264:G:H3'	1:A:1265:A:H5''	1.58	0.83
12:Q:83:MET:H	22:0:7:LEU:HD22	1.44	0.83
2:B:38:C:H42	2:B:44:G:H1	1.25	0.83
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
1:A:1863:G:H2'	1:A:1864:U:C6	2.14	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
21:Z:182:LYS:HG3	21:Z:183:LEU:HD23	1.60	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.82
1:A:2592:G:O6	1:A:2601:C:N4	2.12	0.82
1:A:674:G:H1'	5:F:74:ARG:HD3	1.60	0.82
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.82
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.82
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.82
7:H:105:LEU:H	7:H:105:LEU:HD13	1.42	0.82
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.82
1:A:571:A:H5'	1:A:2030:A:H62	1.45	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.45	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
21:Z:103:ARG:HB2	21:Z:138:GLU:HG2	1.60	0.82
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.82
1:A:819:A:OP2	1:A:1187:G:N2	2.11	0.82
1:A:2233:U:H2'	1:A:2234:G:C8	2.15	0.82
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.82
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.82
2:B:7:G:H1	2:B:113:C:H42	1.26	0.82
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.82
26:4:36:CYS:O	26:4:39:CYS:HB2	1.80	0.82
1:A:1103:A:H5'	1:A:1104:C:H5	1.44	0.82
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.82
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.82
2:B:70:C:H2'	2:B:71:C:H6	1.44	0.81
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.81
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
1:A:1363:C:O2	1:A:1368:G:N2	2.11	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.81
1:A:1341:U:OP2	1:A:1394:U:O2'	1.98	0.81
1:A:1359:A:N6	1:A:1372:U:O4	2.13	0.81
1:A:1667:G:N2	1:A:1993:U:O4	2.13	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.39	0.81
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.81
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.81
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.81
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.81
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:1077:A:H5'	1:A:1078:U:H5''	1.62	0.80
1:A:86:C:HO2'	1:A:104:U:HO2'	1.15	0.80
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.80
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.80
1:A:1105:U:H2'	1:A:1106:G:H8	1.46	0.80
1:A:140:A:H8	1:A:1408:C:HO2'	1.29	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
1:A:2111:C:N3	1:A:2118:U:O2'	2.14	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80
1:A:83:G:O2'	1:A:84:A:H8	1.65	0.80
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.80
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.80
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.80
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.80
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.10	0.80
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.80
1:A:1049:C:H2'	1:A:1050:A:H5''	1.64	0.80
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.80
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.62	0.80
1:A:2637:U:H5''	4:E:82:ARG:HH21	1.46	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
1:A:2696:U:O4	1:A:2711:A:N6	2.11	0.80
1:A:2712:U:HO2'	1:A:2712(A):A:H8	0.84	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.12	0.80
1:A:1530:G:O6	1:A:1542:G:N2	2.15	0.80
1:A:2327:A:H2'	1:A:2328:A:H8	1.44	0.80
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.80
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
1:A:1689:A:H62	1:A:1698:A:H2	1.31	0.79
2:B:30:C:O2	2:B:54:G:N2	2.13	0.79
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.79
3:D:34:VAL:O	3:D:34:VAL:HG13	1.81	0.79
1:A:83:G:O2'	1:A:84:A:O5'	2.01	0.79
2:B:40:U:H3	2:B:43:C:H5''	1.45	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.95	0.79
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.79
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.79
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.65	0.79
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.79
1:A:83:G:HO2'	1:A:84:A:H8	0.84	0.79
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.01	0.79
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.79
1:A:583:G:H5''	16:U:10:ARG:HH12	1.48	0.79
1:A:583:G:OP2	16:U:10:ARG:NH1	2.15	0.79
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.79
1:A:2636:U:OP1	4:E:79:ARG:HA	1.82	0.79
1:A:1210:A:H8	1:A:1210:A:H5'	1.48	0.79
1:A:2368:C:H2'	1:A:2369:A:H8	1.46	0.79
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.79
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.78
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.78
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.78
1:A:1019:U:HO2'	1:A:1021:A:H2	1.31	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.98	0.78
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.63	0.78
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.98	0.78
1:A:102:G:OP2	24:2:7:ARG:NH2	2.16	0.78
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.78
12:Q:59:ARG:H	12:Q:59:ARG:HD3	1.48	0.78
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.64	0.78
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.78
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.78
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.78
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.49	0.78
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.78
1:A:1013:C:H42	1:A:1149:G:H1	1.32	0.78
1:A:102:G:HO2'	1:A:103:A:P	2.06	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.67	0.78
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.77
1:A:1026:U:H4'	1:A:1027:A:OP1	1.85	0.77
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
1:A:138:G:N2	19:X:44:GLU:OE2	2.15	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
1:A:2347:C:H5	1:A:2382:G:H1'	1.49	0.77
1:A:2788:C:O2'	1:A:2809:A:N3	2.18	0.77
3:D:25:THR:HG22	3:D:82:ILE:H	1.46	0.77
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.77
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.95	0.77
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.13	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.77
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.77
1:A:1045:A:N3	1:A:1047:G:N2	2.33	0.77
1:A:189:G:H2'	1:A:205:G:H22	1.50	0.77
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.77
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77
1:A:1728:G:N1	1:A:1730:U:OP2	2.17	0.77
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
1:A:2086:U:H2'	1:A:2087:G:C8	2.20	0.77
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.77
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.77
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
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.77
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.15	0.77
1:A:363(B):G:H2'	1:A:363(C):G:C8	2.19	0.77
3:D:25:THR:O	3:D:27:THR:N	2.17	0.77
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.76
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.76
1:A:2364:C:OP1	22:0:55:ARG:NH1	2.18	0.76
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.76
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.76
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.76
12:Q:59:ARG:H	12:Q:59:ARG:CD	1.99	0.76
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.76
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.48	0.76
1:A:465:G:H21	1:A:684:G:H1'	1.50	0.76
7:H:153:LYS:HA	7:H:153:LYS:NZ	2.00	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.76
12:Q:66:ILE:HG13	12:Q:67:ARG:N	2.00	0.76
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.76
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.76
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.76
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.76
1:A:363(B):G:H2'	1:A:363(C):G:H8	1.51	0.76
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.76
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.76
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.00	0.76
5:F:29:ASN:H	5:F:112:MET:CE	1.98	0.76
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.76
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.76
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.76
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.76
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.76
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.76
1:A:1416:G:O2'	1:A:1417:C:O5'	2.04	0.76
1:A:566:U:OP1	11:P:29:LYS:HE2	1.87	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
4:E:63:LEU:CD1	4:E:65:GLY:H	1.99	0.76
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.76
6:G:101:ILE:HG13	6:G:102:PHE:H	1.49	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.75
28:6:34:LEU:H	28:6:34:LEU:HD13	1.50	0.75
1:A:1820:U:C2	3:D:202:LYS:HB3	2.21	0.75
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.75
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.98	0.75
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.66	0.75
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.69	0.75
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.51	0.75
1:A:2056:G:N2	27:5:4:HIS:O	2.19	0.75
1:A:155:C:N4	1:A:171:G:O6	2.18	0.75
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
1:A:2310:A:H62	6:G:77:ILE:HG21	1.51	0.75
1:A:2399:G:O6	1:A:2417:C:N4	2.13	0.75
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.75
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.75
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.75
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.75
1:A:484:C:H2'	1:A:485:C:H6	1.51	0.75
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.67	0.75
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.02	0.75
1:A:918:A:N3	2:B:80:U:O2'	2.19	0.75
11:P:75:ILE:N	11:P:75:ILE:HD13	2.00	0.75
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.75
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.75
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.75
1:A:1812:A:H2'	1:A:1813:G:H8	1.51	0.75
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.01	0.75
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.75
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.75
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.75
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.75
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.75
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.30	0.75
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.75
1:A:265:A:O2'	1:A:266:G:H4'	1.87	0.75
1:A:559:G:H22	16:U:49:HIS:CE1	2.04	0.75
1:A:1532:C:N4	1:A:1539:G:O6	2.18	0.74
1:A:2439:A:C8	1:A:2439:A:H5'	2.22	0.74
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.74
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.86	0.74
1:A:577:G:O2'	1:A:1254:A:OP1	2.05	0.74
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.74
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.74
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.74
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.02	0.74
1:A:1103:A:H5'	1:A:1104:C:C5	2.21	0.74
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.74
1:A:2846:G:H2'	1:A:2847:U:C6	2.22	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.74
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.74
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.51	0.74
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.74
1:A:1509:C:H3'	1:A:1510:A:H5''	1.70	0.74
1:A:271(B):G:H8	1:A:271(B):G:H5''	1.52	0.74
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.74
1:A:2443:C:H2'	1:A:2444:G:C8	2.23	0.74
1:A:2723:C:OP1	13:R:3:HIS:ND1	2.20	0.74
1:A:1903:G:OP2	3:D:241:PRO:HB2	1.87	0.74
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.74
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.74
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.74
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.23	0.74
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.70	0.74
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.49	0.74
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.53	0.74
26:4:41:PRO:O	26:4:42:PHE:HB3	1.87	0.74
1:A:851:U:H1'	25:3:46:ASN:HD21	1.53	0.74
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.74
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.74
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.74
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.74
1:A:993:G:OP1	16:U:50:ARG:NH2	2.20	0.73
1:A:751:A:OP1	33:A:3027:MG:MG	1.31	0.73
2:B:15:A:H5'	2:B:16:G:C8	2.22	0.73
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.73
1:A:2655:G:O2'	1:A:2656:U:OP2	2.05	0.73
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.73
1:A:1454:U:H5'	13:R:63:ARG:NE	1.99	0.73
21:Z:10:ARG:NH2	21:Z:26:GLY:O	2.20	0.73
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.69	0.73
1:A:2071:A:H2'	1:A:2072:G:H8	1.53	0.73
1:A:2777:G:OP2	1:A:2781:A:O2'	2.06	0.73
12:Q:79:LEU:CD1	12:Q:79:LEU:O	2.35	0.73
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.88	0.73
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.73
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.73
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.73
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.68	0.73
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.73
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.53	0.73
1:A:704:G:H2'	1:A:726:G:N2	2.04	0.73
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.70	0.73
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.73
1:A:71:A:H4'	1:A:72:U:H5''	1.70	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.88	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.73
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.72
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.52	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.89	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
1:A:1068:G:O2'	1:A:1096:A:N3	2.22	0.72
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.69	0.72
1:A:2848:G:O2'	1:A:2867:G:N2	2.23	0.72
2:B:40:U:H1'	2:B:45:A:H61	1.54	0.72
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.72
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.72
1:A:1019:U:H3	1:A:1142(A):A:N6	1.86	0.72
1:A:890:A:HO2'	1:A:892:G:H8	1.34	0.72
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.71	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.17	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.72
1:A:1485:G:O6	1:A:1504:C:N4	2.17	0.72
1:A:2026:C:O2	1:A:2037:G:N2	2.12	0.72
1:A:330:A:HO2'	1:A:331:A:H8	1.35	0.72
2:B:42:C:O4'	6:G:69:ALA:HB2	1.88	0.72
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.72
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.72
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
1:A:2394:C:OP1	11:P:63:PRO:HD2	1.89	0.72
1:A:2443:C:H2'	1:A:2444:G:H8	1.53	0.72
1:A:299:A:H5'	1:A:300:A:OP2	1.88	0.72
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.72
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.89	0.72
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.72
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.72
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.72
1:A:102:G:O2'	1:A:103:A:OP2	2.06	0.72
1:A:2516:G:N2	1:A:2568:C:O2	2.17	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.72
30:8:60:LEU:C	30:8:63:PRO:HD2	2.10	0.72
1:A:1788:C:H2'	1:A:1789:A:H8	1.54	0.72
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.69	0.72
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.70	0.72
1:A:2306:C:H2'	1:A:2307:G:H21	1.55	0.72
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.72
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.72
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.54	0.71
1:A:878:A:N6	1:A:899:A:O2'	2.22	0.71
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
18:W:70:TYR:H	18:W:70:TYR:HD2	1.36	0.71
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.71
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.71
1:A:363:G:H2'	1:A:363(A):A:H8	1.54	0.71
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.72	0.71
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.89	0.71
1:A:518:G:C4'	18:W:18:ARG:HH12	1.96	0.71
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.71
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
1:A:593:G:O3'	30:8:61:LEU:HD22	1.91	0.71
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.71
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.71
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.71
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.71
28:6:28:ARG:HB3	28:6:30:THR:H	1.55	0.71
1:A:1535:U:H5''	1:A:1537:C:C4	2.26	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.23	0.71
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.06	0.71
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.71
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
1:A:270(T):G:H5''	23:1:97:LEU:HD22	1.71	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.90	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
13:R:1:MET:HG3	13:R:3:HIS:CE1	2.26	0.71
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.71	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
3:D:263:ARG:NH1	3:D:263:ARG:HB2	2.06	0.71
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.71
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.71
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.71
1:A:1021:A:H3'	1:A:1021:A:C8	2.26	0.71
1:A:188:G:N2	1:A:208:C:N3	2.35	0.71
1:A:704:G:H2'	1:A:726:G:H22	1.56	0.71
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	1.71	0.71
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.71
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.70
1:A:1291:C:H2'	1:A:1292:U:C6	2.25	0.70
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.70
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.70
1:A:2114:A:N6	1:A:2119:A:N7	2.39	0.70
1:A:18:C:N4	1:A:522:G:O6	2.16	0.70
7:H:89:ILE:CD1	7:H:129:THR:HB	2.20	0.70
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.70
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.70
1:A:1372:U:H2'	1:A:1373:A:H5'	1.73	0.70
1:A:2422:A:N7	1:A:2424:C:N4	2.38	0.70
1:A:592:G:H1	1:A:665:C:N4	1.90	0.70
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.70
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.70
5:F:66:PRO:O	5:F:67:GLN:HB3	1.90	0.70
1:A:1006:C:H5'	9:N:28:THR:HG23	1.72	0.70
1:A:24:G:O2'	18:W:78:GLU:O	2.09	0.70
1:A:2361:A:O5'	30:8:27:THR:OG1	2.08	0.70
1:A:498:G:N3	20:Y:47:LYS:NZ	2.39	0.70
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.70
17:V:22:VAL:HG12	17:V:23:GLU:N	2.05	0.70
1:A:2123:G:H1	1:A:2175:C:H42	1.39	0.70
1:A:330:A:O2'	1:A:331:A:H8	1.73	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:863:A:H2'	1:A:864:G:H8	1.54	0.70
2:B:8:U:O2	2:B:112:G:N2	2.24	0.70
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.70
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.70
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.39	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.70
1:A:2422:A:OP2	28:6:6:ARG:NH1	2.25	0.70
1:A:1094:U:O2'	1:A:1096:A:OP1	2.10	0.70
1:A:2712:U:O2'	1:A:2712(A):A:O5'	2.10	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.70
1:A:530:G:O2'	1:A:532:A:N7	2.24	0.70
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.70
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.73	0.70
1:A:1153:C:OP1	16:U:76:TYR:OH	2.09	0.70
1:A:301:G:H1	1:A:316:C:H42	1.40	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.92	0.70
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.70
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.70
18:W:1:MET:HA	18:W:1:MET:HE3	1.72	0.70
1:A:2701:C:H3'	1:A:2702:U:C5'	2.17	0.70
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.56	0.70
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.70
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69
1:A:1496:A:H8	1:A:1577:C:O2'	1.72	0.69
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.69
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.69
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
1:A:2037:G:H2'	1:A:2038:G:C8	2.27	0.69
2:B:38:C:O2	2:B:48:A:H1'	1.92	0.69
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.69
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.69
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.69
1:A:1429:G:H2'	1:A:1430:C:H6	1.57	0.69
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.69
10:O:8:LEU:HD22	10:O:8:LEU:N	2.07	0.69
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.95	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
1:A:304:G:H2'	1:A:305:U:H6	1.56	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.69
8:I:130:TYR:HB3	8:I:136:VAL:HG13	1.73	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.69
1:A:1270:C:H5''	1:A:1271:G:H5'	1.74	0.69
1:A:2498:C:O2'	1:A:2499:C:H5'	1.92	0.69
1:A:2757:A:OP1	31:9:19:ARG:HA	1.93	0.69
2:B:70:C:H2'	2:B:71:C:C6	2.27	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.69
1:A:2469:A:H2	1:A:2481:G:H21	1.40	0.69
1:A:822:U:H2'	1:A:823:G:H8	1.58	0.69
2:B:82:G:H2'	2:B:83:G:C8	2.27	0.69
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.69
1:A:1021:A:H8	1:A:1021:A:H3'	1.57	0.69
1:A:1899:G:O2'	1:A:1900:A:OP2	2.08	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.06	0.69
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.05	0.69
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.69
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.69
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.69
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.69
7:H:89:ILE:HG12	7:H:89:ILE:O	1.93	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.69
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.69
1:A:571:A:O2'	17:V:78:LYS:NZ	2.26	0.69
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.69
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.69
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.69
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.68
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.68
1:A:1022:G:O2'	1:A:1023:U:OP2	2.09	0.68
1:A:2025:C:H2'	1:A:2026:C:H6	1.59	0.68
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.68
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.74	0.68
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.68
1:A:1291:C:H2'	1:A:1292:U:H6	1.58	0.68
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.59	0.68
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.68
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.68
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.08	0.68
1:A:1863:G:H2'	1:A:1864:U:H6	1.59	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.09	0.68
1:A:1778:U:H2'	1:A:1784:A:N6	2.09	0.68
4:E:16:ARG:HG3	4:E:16:ARG:O	1.93	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
1:A:2303:G:N2	1:A:2313:C:N3	2.38	0.68
1:A:994:C:O2'	1:A:996:A:OP1	2.12	0.68
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.76	0.68
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.68
1:A:994:C:H3'	16:U:54:LYS:HE3	1.76	0.68
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.68
1:A:1418:G:OP1	1:A:1588:C:O2'	2.12	0.68
1:A:2211:G:O2'	1:A:2212:A:OP2	2.11	0.68
1:A:666:G:H4'	11:P:49:ARG:NH1	2.09	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
1:A:136:G:H1	1:A:143:C:H42	1.40	0.68
1:A:1606:G:H5''	1:A:1607:C:OP1	1.94	0.68
1:A:188:G:H1	1:A:208:C:H42	1.42	0.68
1:A:2893:G:H5''	1:A:2894:G:H5'	1.76	0.68
3:D:241:PRO:O	3:D:243:GLY:N	2.27	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.68
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.67
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.77	0.67
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.67
1:A:1667:G:O2'	1:A:1991:U:O4	2.11	0.67
1:A:771:G:OP1	29:7:10:ARG:NH1	2.26	0.67
1:A:1803:A:H4'	3:D:259:THR:CG2	2.23	0.67
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.57	0.67
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.67
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.67
10:O:14:THR:O	10:O:51:ALA:HB3	1.94	0.67
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.67
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.67
1:A:2393:A:H4'	11:P:61:ARG:O	1.94	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.58	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
1:A:484:C:H2'	1:A:485:C:C6	2.28	0.67
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.67
1:A:1287:A:N7	13:R:107:ASP:HB2	2.09	0.67
1:A:2593:U:H2'	1:A:2594:C:H6	1.58	0.67
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.67
11:P:26:GLY:O	11:P:28:GLY:N	2.26	0.67
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.67
1:A:270(J):G:N2	1:A:270(Q):C:O2	2.28	0.67
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.67
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.15	0.67
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.24	0.67
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.23	0.67
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.67
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.67
1:A:530:G:N1	1:A:2022:U:OP1	2.27	0.67
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.67
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.67
8:I:27:ARG:HD3	23:1:71:TYR:HE1	1.60	0.67
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.67
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.67
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.76	0.67
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.67
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.67
1:A:2781:A:H5''	1:A:2782:G:H5'	1.76	0.67
5:F:184:TYR:O	5:F:188:ARG:HG3	1.94	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.60	0.67
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.67
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.67
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.67
1:A:2450:A:C2	1:A:2451:A:C4	2.83	0.67
1:A:639:U:H2'	1:A:640:C:C6	2.29	0.67
1:A:993:G:H2'	1:A:994:C:H6	1.60	0.67
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.67
7:H:88:LEU:H	7:H:88:LEU:HD22	1.59	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
1:A:688:U:H2'	1:A:689:A:H8	1.59	0.67
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.25	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.67
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.58	0.67
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.67
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.66
1:A:2712:U:O2'	1:A:2712(A):A:H8	1.68	0.66
1:A:2680:C:H5'	4:E:189:PRO:HA	1.76	0.66
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.66
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.66
21:Z:19:ARG:NH1	21:Z:84:GLU:O	2.27	0.66
12:Q:83:MET:HB2	22:0:7:LEU:HD22	1.77	0.66
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.66
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.66
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.66
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.59	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.66
1:A:1403:C:H5"	1:A:1471:A:C1'	2.25	0.66
1:A:270(A):A:N3	1:A:365:C:O2'	2.27	0.66
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
1:A:2470:G:H5'	12:Q:56:ARG:NH2	2.10	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
1:A:2654:A:H62	1:A:2667:C:N4	1.94	0.66
1:A:587:C:OP2	11:P:21:ARG:NH2	2.27	0.66
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.09	0.66
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.66
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.61	0.66
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.66
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.66
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.66
1:A:1533:C:H2'	1:A:1534:G:N7	2.11	0.66
1:A:578:A:OP1	1:A:1255:U:O2'	2.13	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
4:E:28:ALA:O	4:E:93:VAL:HG23	1.96	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.66
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.95	0.66
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.66
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.66
1:A:125:G:H5''	29:7:19:ARG:HD3	1.77	0.66
1:A:2477:C:H2'	31:9:1:MET:HG3	1.78	0.66
1:A:744:G:N2	1:A:753:C:O2	2.21	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.66
1:A:2392:A:H8	11:P:60:MET:HG3	1.61	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.25	0.66
1:A:2632:A:HO2'	1:A:2811:G:HO2'	1.37	0.66
3:D:135:PHE:N	3:D:135:PHE:CD2	2.61	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
8:I:29:TYR:O	8:I:33:ARG:HB2	1.95	0.66
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.66
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.77	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
21:Z:52:SER:OG	21:Z:52:SER:O	2.05	0.66
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.66
1:A:1210:A:C8	1:A:1210:A:H5'	2.31	0.66
1:A:2389:G:H5''	1:A:2390:U:H5'	1.78	0.66
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.66
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.66
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.66
1:A:1221:C:OP1	17:V:68:LYS:HE2	1.96	0.66
1:A:2712:U:H1'	1:A:2712(A):A:N7	2.11	0.66
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.66
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.66
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
1:A:1761:C:H42	1:A:1762:A:H62	1.44	0.65
1:A:2839:G:H1	1:A:2878:U:H3	1.41	0.65
2:B:12:C:O2'	22:0:74:ARG:HG3	1.95	0.65
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.30	0.65
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.26	0.65
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.65
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.65
1:A:1805:U:O2	3:D:50:THR:HB	1.96	0.65
1:A:2376:A:N1	14:S:87:PHE:CD2	2.64	0.65
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:86:ILE:HD12	10:O:86:ILE:H	1.61	0.65
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.65
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.65
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.26	0.65
1:A:1790:C:H5''	1:A:1791:A:OP1	1.96	0.65
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.65
4:E:10:GLY:H	4:E:25:VAL:HG23	1.59	0.65
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.65
1:A:1190:G:OP1	11:P:30:THR:OG1	2.13	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
21:Z:74:VAL:HG22	21:Z:86:VAL:HG13	1.78	0.65
1:A:1407:C:H42	1:A:1595:G:H1	1.43	0.65
1:A:1899:G:H22	1:A:1902:C:N4	1.92	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.09	0.65
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.65
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.62	0.65
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.26	0.65
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65
1:A:1055:G:O2'	1:A:1085:A:N1	2.27	0.65
1:A:1429:G:H2'	1:A:1430:C:C6	2.31	0.65
1:A:2093:G:H2'	1:A:2094:G:H8	1.60	0.65
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
1:A:2071:A:H2	1:A:2441:C:N3	1.94	0.65
1:A:451:C:H4'	5:F:52:LYS:NZ	2.12	0.65
1:A:2468:G:H5''	12:Q:120:ILE:HD12	1.79	0.65
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.65
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.65
1:A:2466:C:OP1	31:9:4:ARG:HB2	1.97	0.65
1:A:2073:C:H2'	1:A:2074:U:H6	1.61	0.65
1:A:702:G:N2	1:A:730:C:N3	2.44	0.65
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.65
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
22:0:68:GLU:OE1	22:0:82:ARG:NH1	2.30	0.65
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.65
2:B:42:C:O2	6:G:93:THR:N	2.28	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.65
1:A:2807:G:N1	1:A:2893:G:O6	2.30	0.65
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.65
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.65
1:A:278:A:O2'	1:A:279:C:O4'	2.08	0.64
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.61	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.64
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.64
21:Z:10:ARG:HH21	21:Z:26:GLY:H	1.45	0.64
24:2:40:SER:C	24:2:42:GLY:H	2.01	0.64
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.64
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
1:A:526:A:N3	1:A:2044:C:H1'	2.11	0.64
1:A:2713:A:OP1	13:R:14:SER:OG	2.12	0.64
15:T:22:PHE:CD2	15:T:22:PHE:N	2.64	0.64
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.64
1:A:2314:C:H2'	1:A:2315:G:C8	2.32	0.64
1:A:530:G:C2	1:A:2022:U:OP1	2.50	0.64
2:B:38:C:N4	2:B:44:G:H1	1.95	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
7:H:105:LEU:H	7:H:105:LEU:CD1	2.09	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.61	0.64
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.64
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.64
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.64
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.64
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.64
1:A:1166:C:H42	1:A:1183:G:H1	1.45	0.64
1:A:1386:C:H2'	1:A:1387:C:C6	2.33	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
1:A:1396:U:H2'	1:A:1396:U:O2	1.97	0.64
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.64
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.64
1:A:588:U:H1'	5:F:90:PHE:CD1	2.33	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.27	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.97	0.64
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
26:4:37:SER:C	26:4:39:CYS:H	1.99	0.64
1:A:2747:G:N2	1:A:2748:A:N7	2.45	0.64
1:A:707:G:H1	1:A:724:U:H3	1.45	0.64
1:A:984:A:H5''	1:A:985:C:H5	1.62	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.64
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.64
1:A:1161:C:O2'	17:V:8:GLY:HA2	1.97	0.64
1:A:1776:G:C2	1:A:1777:U:C6	2.85	0.64
1:A:795:C:H2'	1:A:796:C:C6	2.32	0.64
1:A:846:C:O2'	1:A:847:U:OP2	2.15	0.64
5:F:175:THR:O	5:F:176:LEU:HB2	1.95	0.64
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.64
1:A:1676:A:H8	1:A:1676:A:O5'	1.80	0.64
1:A:2023:G:H5'	1:A:2617:C:H4'	1.80	0.64
1:A:795:C:H2'	1:A:796:C:H6	1.63	0.64
2:B:14:U:OP2	2:B:70:C:O2'	2.15	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.64
1:A:2392:A:C8	11:P:60:MET:HG3	2.33	0.64
1:A:2677:G:N2	1:A:2730:C:O2	2.25	0.64
2:B:50:G:OP1	14:S:63:THR:HG23	1.98	0.64
3:D:135:PHE:HD2	3:D:135:PHE:N	1.96	0.64
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.64
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.61	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
1:A:242:G:C8	30:8:5:LYS:HG2	2.32	0.64
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.64
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.98	0.64
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.64
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.64
21:Z:53:ILE:HG22	21:Z:71:VAL:HG13	1.79	0.64
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.63
1:A:1792:G:N2	1:A:1827:C:O2	2.23	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.63
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.63
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.98	0.63
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.63
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.63
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.63
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.63
23:1:91:LYS:HG3	23:1:92:LYS:H	1.62	0.63
1:A:654(A):G:H22	1:A:654(U):A:H1'	1.62	0.63
13:R:117:VAL:O	13:R:118:GLU:HB3	1.99	0.63
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.13	0.63
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.80	0.63
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.63
12:Q:60:ARG:HH12	21:Z:112:ARG:HG2	1.61	0.63
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.63
21:Z:102:LEU:HG	21:Z:123:ASP:HA	1.79	0.63
24:2:40:SER:C	24:2:42:GLY:N	2.51	0.63
1:A:2126:A:H4'	1:A:2127:G:O5'	1.97	0.63
1:A:2306:C:C2	1:A:2307:G:N2	2.67	0.63
1:A:26:G:H1'	1:A:515:A:H61	1.63	0.63
1:A:842:G:N2	1:A:936:C:O2	2.29	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.63
1:A:2285:C:H5	28:6:27:LYS:HZ1	1.44	0.63
1:A:2388:A:N7	1:A:2389:G:C6	2.66	0.63
1:A:10:G:N2	1:A:2802:G:OP1	2.31	0.63
1:A:372:G:H5''	23:1:66:HIS:CD2	2.33	0.63
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.63
8:I:79:ILE:HB	8:I:142:VAL:HA	1.81	0.63
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.62	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
1:A:1286:A:N6	1:A:1329:U:O2'	2.30	0.63
1:A:1434:A:H61	1:A:1558:A:N6	1.97	0.63
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.14	0.63
1:A:2840:C:H2'	1:A:2841:C:C6	2.33	0.63
1:A:380:U:H2'	1:A:381:G:H8	1.64	0.63
1:A:928:G:N3	1:A:928:G:H2'	2.14	0.63
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.63
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:86:ILE:N	10:O:86:ILE:HD12	2.13	0.63
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
21:Z:13:GLU:HB3	21:Z:18:LEU:HD11	1.79	0.63
1:A:2642:G:H4'	9:N:78:TYR:CD2	2.34	0.63
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.13	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.80	0.63
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.63
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.81	0.63
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.81	0.63
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.63
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.63
1:A:2015:A:N3	27:5:2:ALA:N	2.46	0.63
1:A:2419:U:H5'	28:6:23:THR:HG22	1.81	0.63
1:A:2711:A:H5''	1:A:2712:U:H5'	1.80	0.63
8:I:75:LEU:HB3	8:I:105:HIS:NE2	2.14	0.63
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.29	0.63
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.98	0.62
1:A:1022:G:H22	1:A:1142(A):A:H2	1.46	0.62
1:A:1479:G:N7	1:A:1510:A:N6	2.43	0.62
1:A:2593:U:H2'	1:A:2594:C:C6	2.34	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.62
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.81	0.62
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.62
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.32	0.62
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.62	0.62
1:A:2011:U:H2'	1:A:2012:G:H5'	1.82	0.62
1:A:2698:U:H2'	1:A:2699:C:C6	2.33	0.62
1:A:724:U:H2'	1:A:725:G:O4'	1.98	0.62
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
9:N:61:ARG:HA	9:N:61:ARG:HE	1.63	0.62
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
1:A:2303:G:H1	1:A:2313:C:N4	1.95	0.62
1:A:2600:A:N7	3:D:237:GLU:OE2	2.32	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:630:G:N2	1:A:633:A:OP2	2.23	0.62
1:A:957:A:N6	1:A:959:A:C2	2.67	0.62
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	1.99	0.62
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.62
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.62
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.62
1:A:483:A:H4'	20:Y:49:VAL:HG13	1.81	0.62
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.64	0.62
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.82	0.62
1:A:1270:C:O2'	1:A:1325:G:H2'	1.99	0.62
1:A:681:G:H2'	1:A:682:G:O4'	2.00	0.62
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.81	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
6:G:112:PRO:HB3	26:4:37:SER:CB	2.25	0.62
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.62
11:P:1:MET:CE	11:P:5:ASP:HB3	2.25	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.29	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.62
23:1:91:LYS:HE3	23:1:91:LYS:HA	1.81	0.62
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.62
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.81	0.62
1:A:2072:G:C2	1:A:2073:C:C2	2.88	0.62
1:A:745:G:H5''	1:A:746:A:OP2	1.99	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.62
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.29	0.62
1:A:2332:U:O2'	1:A:2333:A:H5'	1.99	0.62
3:D:182:LEU:H	3:D:272:ALA:HB3	1.62	0.62
6:G:170:ARG:O	6:G:174:GLU:HB2	2.00	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
12:Q:63:LYS:HD2	21:Z:175:VAL:HG21	1.81	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
1:A:1204:A:O2'	1:A:1205:U:O5'	2.18	0.62
1:A:1696:G:C2	1:A:1697:G:H1'	2.35	0.62
2:B:71:C:C2	2:B:72:G:C8	2.88	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.62
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.62
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.62
1:A:2467:C:H4'	12:Q:123:HIS:CD2	2.34	0.62
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
1:A:210:C:OP2	29:7:29:LYS:NZ	2.33	0.62
1:A:225:A:O2'	1:A:257:A:H4'	2.00	0.62
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.62
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.62
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.62
21:Z:117:LEU:HA	21:Z:174:VAL:HG22	1.81	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.62
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.63	0.62
1:A:777:A:C2	1:A:778:G:C4	2.87	0.62
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.15	0.62
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.61
1:A:1384:A:O2'	1:A:1404:C:O2	2.18	0.61
1:A:2119:A:N6	1:A:2170:A:H62	1.97	0.61
1:A:602:G:O2'	1:A:655:A:N6	2.33	0.61
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.35	0.61
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.61
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.61
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.61
22:0:23:VAL:HB	22:0:26:TYR:HE2	1.65	0.61
22:0:53:MET:HB2	22:0:59:LEU:HD23	1.82	0.61
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.61
1:A:822:U:H2'	1:A:823:G:C8	2.35	0.61
12:Q:81:VAL:HG23	22:0:7:LEU:HD21	1.82	0.61
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
1:A:1459:G:H2'	1:A:1460:A:H5'	1.83	0.61
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.61
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.61
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.61
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.61
1:A:751:A:H5'	18:W:90:ARG:HA	1.81	0.61
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.61
6:G:6:ALA:HB2	26:4:23:GLU:OE2	2.00	0.61
1:A:1228:G:OP2	16:U:16:LYS:NZ	2.17	0.61
1:A:1991:U:H2'	1:A:1992:G:H5''	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2025:C:H2'	1:A:2026:C:C6	2.35	0.61
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.61
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.61
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.61
11:P:50:ARG:CB	11:P:50:ARG:NH2	2.58	0.61
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.61
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.61
1:A:1162:G:H1'	17:V:23:GLU:OE2	2.00	0.61
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.61
21:Z:169:GLU:HG2	21:Z:170:THR:N	2.15	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
1:A:2368:C:H2'	1:A:2369:A:C8	2.33	0.61
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.29	0.61
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.61
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.61
14:S:43:GLU:HG2	22:O:49:LYS:HE2	1.82	0.61
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
1:A:747:U:C2	27:5:2:ALA:HB3	2.34	0.61
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.61
1:A:1586:A:H3'	1:A:1587:A:H8	1.64	0.61
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.82	0.61
1:A:2532:G:O2'	1:A:2657:A:N1	2.30	0.61
1:A:287:C:H42	1:A:354:G:H1	1.49	0.61
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.61
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.61
4:E:35:GLN:CG	4:E:37:ARG:HE	2.10	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.83	0.61
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.61
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.64	0.61
1:A:674:G:C1'	5:F:74:ARG:HD3	2.29	0.61
1:A:688:U:H2'	1:A:689:A:C8	2.36	0.61
2:B:38:C:N3	2:B:44:G:N2	2.44	0.61
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.61
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.61
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.61
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.61
21:Z:182:LYS:HB2	21:Z:183:LEU:HA	1.81	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.83	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
1:A:1639:U:H2'	1:A:1640:C:H5''	1.82	0.61
1:A:1728:G:H8	1:A:1732:A:H62	1.48	0.61
1:A:2439:A:H5'	1:A:2439:A:H8	1.65	0.61
1:A:2887:U:H2'	1:A:2888:C:H6	1.66	0.61
1:A:860:U:H5	1:A:917:A:C2	2.19	0.61
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.61
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
1:A:242:G:C5'	30:8:3:LYS:HE3	2.29	0.61
1:A:1327:C:N4	1:A:1328:G:C6	2.69	0.61
1:A:863:A:H2'	1:A:864:G:C8	2.35	0.61
1:A:882:G:N2	1:A:895:U:O2	2.33	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.61
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.61
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.61
11:P:96:THR:HG22	11:P:126:VAL:HB	1.82	0.61
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.30	0.61
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.61
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
22:O:11:ARG:O	22:O:14:ARG:NH2	2.34	0.61
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.61
1:A:1113:U:OP1	7:H:2:SER:N	2.34	0.61
1:A:2816:C:O2'	1:A:2817:G:H5'	1.99	0.61
1:A:795:C:O2'	1:A:796:C:H5'	2.00	0.61
1:A:934:G:H2'	1:A:935:C:C6	2.35	0.61
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.61
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.31	0.61
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.61
17:V:41:GLY:H	17:V:46:VAL:HG13	1.66	0.61
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.61
19:X:66:LEU:O	19:X:66:LEU:HD23	2.01	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1359:A:H61	1:A:1372:U:H3	1.48	0.60
1:A:877:U:H3	1:A:899:A:H2	1.49	0.60
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.60
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.01	0.60
8:I:93:THR:O	8:I:97:ILE:HG12	2.01	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.01	0.60
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.60
1:A:1980:G:O2'	1:A:1982:C:OP2	2.18	0.60
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.60
8:I:48:GLU:HA	8:I:51:ILE:HD12	1.82	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.60
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.60
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.60
1:A:2131:G:H4'	1:A:2132:U:H4'	1.82	0.60
1:A:2284:C:C5	28:6:27:LYS:HE2	2.36	0.60
1:A:570:G:H2'	1:A:2030:A:C5	2.36	0.60
1:A:582:G:H1	1:A:1258:C:H42	1.46	0.60
1:A:676:A:H2	1:A:802:A:H61	1.48	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.15	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.60
27:5:52:TYR:O	27:5:53:ALA:HB3	2.02	0.60
1:A:1443:G:N2	1:A:1548:C:N3	2.47	0.60
1:A:469:G:O6	29:7:37:LYS:HE2	2.00	0.60
1:A:580:C:H2'	1:A:581:C:H6	1.66	0.60
1:A:466:A:N3	1:A:683:C:H1'	2.15	0.60
2:B:18:G:H1	2:B:65:C:H42	1.49	0.60
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.37	0.60
8:I:113:ARG:HB3	8:I:131:LYS:HD3	1.84	0.60
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.60
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.60
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.60
12:Q:60:ARG:HH11	21:Z:113:ALA:HB3	1.65	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:28:MET:N	21:Z:35:ARG:O	2.32	0.60
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.60
28:6:13:CYS:O	28:6:21:TYR:HA	2.02	0.60
1:A:1005:C:H5''	1:A:1006:C:OP2	2.01	0.60
1:A:1266:G:O5'	18:W:15:ARG:NH2	2.35	0.60
1:A:1825:A:H2'	1:A:1826:G:H8	1.67	0.60
1:A:2022:U:O2'	1:A:2617:C:H5'	2.02	0.60
1:A:2512:C:H2'	1:A:2513:G:O4'	2.01	0.60
1:A:2723:C:H5''	13:R:1:MET:HG2	1.83	0.60
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.60
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.60
3:D:25:THR:HG21	3:D:81:ALA:HA	1.84	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.83	0.60
23:1:80:LEU:O	23:1:81:LYS:HD2	2.00	0.60
1:A:1292:U:H2'	1:A:1293:C:C6	2.36	0.60
1:A:2347:C:C5	1:A:2382:G:H1'	2.35	0.60
1:A:492:A:C2'	1:A:493:G:H5'	2.31	0.60
1:A:688:U:H5'	1:A:1780:A:C2	2.36	0.60
2:B:24:G:H1'	2:B:26:A:H62	1.66	0.60
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.60
21:Z:23:LYS:O	21:Z:25:PRO:HD3	2.02	0.60
21:Z:1:MET:HG2	21:Z:2:GLU:H	1.65	0.60
1:A:1061:U:H3'	1:A:1062:G:H5''	1.82	0.60
1:A:26:G:N1	1:A:27:G:N2	2.50	0.60
1:A:428:A:N6	1:A:429:A:N1	2.49	0.60
1:A:492:A:H2'	1:A:493:G:H5'	1.82	0.60
1:A:675:A:C8	1:A:804:A:C6	2.90	0.60
1:A:818:G:H3'	1:A:1187:G:H22	1.65	0.60
1:A:993:G:H2'	1:A:994:C:C6	2.36	0.60
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.60
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.60
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.60
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.60
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
1:A:483:A:C4'	20:Y:49:VAL:HA	2.29	0.60
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1846:G:H5'	1:A:1847:A:OP2	2.02	0.60
1:A:2324:C:H5''	1:A:2325:G:H5'	1.84	0.60
1:A:264:C:C2'	1:A:265:A:H5''	2.31	0.60
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.01	0.60
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.67	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.60
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.60
21:Z:58:VAL:O	21:Z:60:GLU:N	2.35	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
1:A:2840:C:H2'	1:A:2841:C:H6	1.65	0.60
1:A:593:G:O2'	30:8:61:LEU:HD13	2.02	0.60
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.60
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.60
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.60
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.34	0.60
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.70	0.60
1:A:1062:G:H2'	1:A:1063:G:C8	2.37	0.60
1:A:2071:A:H2'	1:A:2072:G:C8	2.37	0.60
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.60
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.60
1:A:1055:G:H1	1:A:1104:C:N4	1.97	0.59
1:A:1204:A:H2	1:A:1241:A:N1	1.99	0.59
1:A:1379:A:H4'	1:A:1380:G:OP2	2.02	0.59
1:A:1652:A:H2'	1:A:1653:G:H5'	1.84	0.59
1:A:2355:C:O2	22:0:39:ARG:NH2	2.35	0.59
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.59
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.67	0.59
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.59
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.02	0.59
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.59
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.59
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.59
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.59
1:A:137(A):G:H1'	19:X:41:ASN:ND2	2.17	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.59
1:A:1344:G:H4'	1:A:1384:A:N7	2.17	0.59
2:B:33:G:N2	2:B:35:U:O4	2.34	0.59
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.83	0.59
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.59
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.59
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.59
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.59
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.59
1:A:1109:C:O2'	1:A:1110:G:OP1	2.16	0.59
1:A:1424:G:N2	1:A:1574:C:O2	2.27	0.59
1:A:2134:A:OP2	1:A:2157:G:N2	2.35	0.59
1:A:740:U:H2'	1:A:741:G:C8	2.38	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.59
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.59
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.59
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.59
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.85	0.59
21:Z:152:ALA:O	21:Z:154:ASP:N	2.34	0.59
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.59
1:A:685:A:C2	1:A:689:A:C6	2.90	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
1:A:1257:C:H5''	5:F:75:HIS:CE1	2.37	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.18	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
1:A:1006:C:H1'	9:N:106:MET:HE3	1.84	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.59
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.59
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.59
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.03	0.59
1:A:1359:A:H2'	1:A:1360:A:H5'	1.84	0.59
1:A:1935:G:N2	1:A:1964:G:O4'	2.36	0.59
1:A:2494:G:H2'	1:A:2495:G:H8	1.67	0.59
1:A:2516:G:N1	1:A:2568:C:N3	2.38	0.59
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.59
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.59
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.59
21:Z:26:GLY:HA2	21:Z:85:HIS:CD2	2.37	0.59
7:H:86:GLU:O	7:H:131:VAL:O	2.20	0.59
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.59
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.59
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.59
1:A:859:G:H5'	1:A:2268:A:O2'	2.02	0.59
1:A:664:C:OP1	11:P:18:ARG:NH2	2.34	0.59
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.02	0.59
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.59
13:R:72:ASP:O	13:R:76:VAL:HB	2.03	0.59
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.59
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.59
21:Z:182:LYS:CB	21:Z:183:LEU:HA	2.32	0.59
1:A:1405:U:H2'	1:A:1406:U:C6	2.37	0.59
1:A:227:A:OP1	11:P:76:LYS:HE3	2.03	0.59
1:A:2314:C:H2'	1:A:2315:G:H8	1.66	0.59
2:B:95:U:H2'	2:B:96:G:C8	2.38	0.59
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.59
4:E:4:ILE:C	4:E:5:LEU:HD23	2.23	0.59
7:H:126:PRO:CD	7:H:127:GLU:N	2.64	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.59
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.59
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.59
1:A:140:A:H8	1:A:1408:C:O2'	1.86	0.59
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.03	0.59
1:A:2537:U:H2'	1:A:2538:C:C6	2.38	0.59
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.59
8:I:93:THR:OG1	8:I:94:ALA:N	2.31	0.59
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.67	0.59
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.59
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.59
26:4:3:GLU:HG3	26:4:4:GLY:N	2.18	0.59
1:A:1688:U:O2	1:A:1700:A:H5''	2.02	0.59
1:A:716:A:C2	1:A:717:G:H1'	2.38	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
1:A:389:G:H1	11:P:70:GLN:HB3	1.66	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.59
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.58
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.58
1:A:2344:U:C4	28:6:37:ARG:NH1	2.71	0.58
1:A:1062:G:H8	1:A:1062:G:O5'	1.85	0.58
1:A:2030:A:H5''	1:A:2031:A:OP1	2.03	0.58
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.58
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.58
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.58
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.58
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.58
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.58
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
1:A:336:C:HO2'	20:Y:35:TYR:HH	1.50	0.58
1:A:2757:A:P	31:9:20:HIS:H	2.26	0.58
1:A:1278:A:OP1	13:R:36:THR:HG22	2.04	0.58
1:A:1532:C:H2'	1:A:1533:C:O4'	2.03	0.58
1:A:2014:A:H2'	1:A:2015:A:C8	2.38	0.58
1:A:2376:A:N1	14:S:87:PHE:HD2	2.01	0.58
1:A:2677:G:H2'	1:A:2678:C:H6	1.68	0.58
1:A:2832:U:H4'	1:A:2833:G:H5''	1.84	0.58
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.58
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.02	0.58
1:A:1178:C:H2'	1:A:1179:C:C6	2.37	0.58
1:A:1435:G:H21	1:A:1478:G:H5'	1.68	0.58
1:A:1793:C:H42	1:A:1826:G:H1	1.49	0.58
1:A:2326:C:H2'	1:A:2326:C:O2	2.02	0.58
1:A:888:C:H3'	1:A:889:C:H4'	1.85	0.58
1:A:2637:U:H5''	4:E:82:ARG:NH2	2.15	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.33	0.58
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.58
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.58
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.58
1:A:1424:G:H2'	1:A:1425:G:O4'	2.02	0.58
1:A:1532:C:N3	1:A:1539:G:N1	2.51	0.58
1:A:1795:C:O2'	1:A:1901:A:OP1	2.20	0.58
1:A:1885:A:H5'	1:A:1886:C:OP2	2.04	0.58
1:A:2415:G:H4'	11:P:67:MET:N	2.19	0.58
1:A:2050:C:H42	1:A:2618:G:H1	1.52	0.58
1:A:654(A):G:N2	1:A:654(U):A:H1'	2.17	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.38	0.58
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.58
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
1:A:1400:G:H2'	1:A:1401:G:C8	2.38	0.58
1:A:2287:A:N6	1:A:2344:U:H3	2.00	0.58
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.58
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.58
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.58
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.03	0.58
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.84	0.58
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.58
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.58
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.58
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.58
12:Q:60:ARG:HA	21:Z:178:GLU:O	2.03	0.58
1:A:1696:G:C6	1:A:1697:G:C4	2.91	0.58
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.58
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.58
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:1055:G:N2	1:A:1104:C:N3	2.48	0.58
1:A:1636:C:H2'	1:A:1637:A:H8	1.69	0.58
1:A:2273:A:O2'	1:A:2274:A:H5'	2.03	0.58
1:A:738:G:C6	1:A:739:G:C2	2.91	0.58
5:F:138:GLU:O	5:F:141:ALA:HB3	2.03	0.58
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.58
8:I:31:LEU:HD21	8:I:38:LEU:HG	1.86	0.58
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.58
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.58
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.34	0.58
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.58
1:A:1222:C:H2'	1:A:1223:C:H6	1.69	0.58
1:A:1342:A:O2'	1:A:1344:G:OP2	2.21	0.58
1:A:1872:A:H5'	1:A:1878:G:OP2	2.03	0.58
1:A:2691:C:H5'	1:A:2872:G:H5''	1.85	0.58
1:A:323:G:HO2'	1:A:1205:U:H3	1.52	0.58
1:A:863:A:HO2'	2:B:100:G:HO2'	1.50	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
14:S:42:ASP:C	14:S:44:LYS:H	2.07	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:1357:U:H2'	1:A:1358:G:C8	2.38	0.58
1:A:2495:G:H2'	1:A:2496:C:C6	2.39	0.58
1:A:74:A:H4'	1:A:75:G:O5'	2.04	0.58
7:H:4:ILE:H	7:H:4:ILE:HD13	1.68	0.58
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.58
1:A:1614:A:H62	18:W:93:ALA:HB2	1.68	0.58
1:A:64:A:C4	19:X:66:LEU:HD13	2.38	0.58
21:Z:24:LEU:HB2	21:Z:41:LEU:HG	1.85	0.58
1:A:219:G:N3	1:A:234:C:O2'	2.32	0.58
1:A:534:U:H5'	16:U:42:ALA:HB1	1.86	0.58
1:A:573:G:O2'	1:A:574:C:H3'	2.04	0.58
1:A:715:G:H2'	1:A:716:A:C8	2.39	0.58
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.58
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.58
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.58
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
1:A:330:A:H2	1:A:1210:A:H2'	1.67	0.57
1:A:675:A:OP1	5:F:63:LYS:NZ	2.36	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.57
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.57
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.32	0.57
8:I:71:ILE:O	8:I:71:ILE:HG12	2.04	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.57
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.57
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.69	0.57
1:A:1316:U:C2'	1:A:1317:A:H5'	2.34	0.57
1:A:1639:U:C2'	1:A:1640:C:H5''	2.34	0.57
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.57
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.57
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
8:I:68:LEU:HA	8:I:71:ILE:HG22	1.85	0.57
1:A:2881:C:H5'	13:R:117:VAL:HG21	1.85	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.03	0.57
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.57
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.57
1:A:1344:G:H4'	1:A:1384:A:C5	2.39	0.57
1:A:286:C:O2'	1:A:287:C:H5'	2.04	0.57
1:A:2887:U:H2'	1:A:2888:C:C6	2.39	0.57
1:A:600:G:H2'	1:A:601:C:C6	2.39	0.57
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.57
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.24	0.57
2:B:43:C:O2	6:G:95:ARG:NH2	2.37	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.57
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.57
21:Z:57:ILE:O	21:Z:69:THR:N	2.24	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.57
1:A:1441:G:H2'	1:A:1442:G:H8	1.69	0.57
1:A:2405:G:O2'	1:A:2406:U:OP2	2.22	0.57
1:A:638:G:H2'	1:A:639:U:O4'	2.04	0.57
1:A:862:G:H2'	1:A:863:A:O4'	2.04	0.57
2:B:86:G:H2'	2:B:87:G:C8	2.40	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
8:I:83:ALA:O	8:I:85:GLU:N	2.38	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:14:VAL:HG12	9:N:15:LEU:N	2.19	0.57
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.57
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.70	0.57
1:A:177:G:H5''	1:A:177:G:N3	2.20	0.57
1:A:370:G:H5''	1:A:423:A:N6	2.20	0.57
1:A:612:G:C2	1:A:613:U:O2	2.56	0.57
1:A:669:G:H2'	1:A:669:G:N3	2.19	0.57
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.57
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:1885:A:H3'	1:A:1886:C:C6	2.39	0.57
1:A:239:U:H2'	1:A:240:G:O4'	2.04	0.57
1:A:2438:U:O3'	1:A:2439:A:H3'	2.05	0.57
1:A:2481:G:O2'	1:A:2482:G:OP2	2.21	0.57
1:A:465:G:N2	1:A:684:G:H1'	2.19	0.57
3:D:34:VAL:O	3:D:34:VAL:CG1	2.51	0.57
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.87	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.40	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.39	0.57
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.04	0.57
26:4:42:PHE:CG	26:4:43:TYR:N	2.72	0.57
1:A:2073:C:O2'	1:A:2074:U:H5'	2.05	0.57
1:A:2292:C:H42	1:A:2340:G:H1	1.52	0.57
1:A:259:G:H21	1:A:621:A:H8	1.52	0.57
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.57
8:I:9:LEU:HD21	8:I:12:LEU:HB2	1.86	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.57
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.18	0.57
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.57
1:A:121:G:H2'	1:A:122:G:H8	1.69	0.57
1:A:1728:G:H3'	1:A:1729:A:H5''	1.85	0.57
1:A:304:G:H2'	1:A:305:U:C6	2.39	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.04	0.57
11:P:64:LYS:C	11:P:66:GLY:N	2.57	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.57
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.57
1:A:2848:G:N2	1:A:2867:G:C4	2.73	0.57
1:A:482:A:O2'	20:Y:47:LYS:NZ	2.29	0.57
1:A:702:G:H1	1:A:730:C:H42	1.52	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.85	0.57
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.57
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.57
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.57
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.57
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.57
22:0:10:THR:HG23	22:0:12:ASN:H	1.69	0.57
1:A:1955:U:O2'	1:A:1956:U:H5'	2.04	0.57
1:A:2418:A:H2'	1:A:2419:U:C6	2.40	0.57
1:A:297:C:H5''	20:Y:85:VAL:CG2	2.32	0.57
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.39	0.57
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.57
21:Z:179:ASP:OD1	21:Z:180:VAL:HG22	2.05	0.57
28:6:14:THR:O	28:6:49:HIS:HA	2.05	0.56
1:A:1093:G:H4'	7:H:170:ARG:NH2	2.19	0.56
1:A:2115:G:N2	1:A:2165:G:N7	2.52	0.56
1:A:900:A:H5'	1:A:901:A:OP2	2.04	0.56
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.56
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.56
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.56
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.34	0.56
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.18	0.56
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.56
16:U:68:ALA:O	16:U:71:GLN:HB2	2.04	0.56
22:0:23:VAL:HA	22:0:38:VAL:HG22	1.85	0.56
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.56
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.56
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.56
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.86	0.56
1:A:1453:A:O2'	1:A:1454:U:H2'	2.05	0.56
1:A:1558:A:H1'	1:A:1559:G:H5''	1.86	0.56
1:A:1778:U:C5	1:A:1784:A:C4	2.93	0.56
1:A:195:A:H4'	1:A:251:A:O2'	2.04	0.56
1:A:2250:G:C8	1:A:2496:C:H5''	2.40	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:34:U:P	6:G:2:PRO:HG2	2.44	0.56
8:I:78:THR:HG22	8:I:141:LYS:HD2	1.87	0.56
8:I:56:LYS:HE3	8:I:57:ARG:HG2	1.86	0.56
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.56
14:S:103:GLU:O	14:S:106:ARG:CG	2.52	0.56
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.05	0.56
21:Z:31:ARG:NH2	21:Z:93:ASP:OD1	2.38	0.56
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.05	0.56
1:A:1024:G:OP2	1:A:1025:G:H3'	2.05	0.56
1:A:1930:G:H2'	1:A:1968:G:C6	2.40	0.56
1:A:2115:G:N2	1:A:2165:G:O6	2.38	0.56
1:A:2507:C:H2'	1:A:2508:G:H8	1.70	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
23:1:89:GLU:O	23:1:93:GLU:HB2	2.04	0.56
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.56
1:A:851:U:O2'	25:3:45:GLY:HA3	2.05	0.56
1:A:1221:C:H2'	1:A:1222:C:C6	2.41	0.56
1:A:1252:G:N3	16:U:33:ARG:HD2	2.20	0.56
1:A:2506:U:O2	1:A:2506:U:H2'	2.03	0.56
1:A:2845:G:C2'	1:A:2846:G:H5'	2.35	0.56
1:A:503:A:H4'	1:A:504:U:C5'	2.35	0.56
1:A:612:G:N2	1:A:617:G:C5	2.74	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.09	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.56
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.20	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.07	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
1:A:103:A:O5'	1:A:103:A:H8	1.89	0.56
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.41	0.56
1:A:2795:G:H3'	1:A:2797:U:C5'	2.36	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
1:A:1803:A:H4'	3:D:259:THR:HG21	1.85	0.56
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.56
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.56
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.56
1:A:1433:U:H5''	1:A:1433:U:H6	1.70	0.56
1:A:2774:C:H2'	1:A:2775:A:O4'	2.06	0.56
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.87	0.56
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.56
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.11	0.56
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.56
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.86	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
1:A:1288:U:O2'	1:A:1647:G:N2	2.39	0.56
1:A:2028:U:H2'	1:A:2029:G:O4'	2.06	0.56
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.56
1:A:2404:C:H1'	11:P:67:MET:CE	2.36	0.56
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.39	0.56
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:1303:G:H1'	1:A:1641:A:N1	2.20	0.56
1:A:189:G:H2'	1:A:205:G:N2	2.17	0.56
1:A:2782:G:H8	1:A:2782:G:O5'	1.89	0.56
1:A:503:A:H4'	1:A:504:U:H5'	1.87	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.54	0.56
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.87	0.56
8:I:144:VAL:O	8:I:145:VAL:HG22	2.06	0.56
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.56
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
1:A:2395:C:O2'	23:1:30:VAL:HG12	2.05	0.56
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.56
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.56
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.56
1:A:1059:G:H3'	1:A:1060:U:H5''	1.86	0.56
1:A:277:C:H3'	1:A:278:A:C5'	2.36	0.56
1:A:443:A:C5	5:F:45:ARG:HD2	2.39	0.56
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.56
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
1:A:1579:A:H2'	1:A:1580:A:C8	2.41	0.56
1:A:2031:A:C5	1:A:2498:C:H1'	2.41	0.56
1:A:2810:A:O3'	4:E:61:ARG:HG3	2.06	0.56
1:A:596:G:C2	1:A:662:G:C2	2.94	0.56
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.56
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.56
21:Z:45:ASP:OD1	21:Z:49:ARG:NE	2.31	0.56
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
1:A:1101:U:H2'	1:A:1102:C:C6	2.41	0.56
1:A:1543:A:C2	1:A:1545:A:C4	2.94	0.56
1:A:2422:A:C8	1:A:2424:C:C5	2.94	0.56
1:A:2543:G:H2'	1:A:2544:G:C8	2.41	0.56
1:A:433:C:H2'	1:A:434:U:C6	2.40	0.56
2:B:55:U:O3'	6:G:27:ASN:ND2	2.38	0.56
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.56
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.56
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.55
1:A:1028:A:N6	1:A:1125:G:H2'	2.21	0.55
1:A:152:G:H2'	1:A:153:C:C6	2.41	0.55
1:A:244:A:H2'	1:A:245:G:O4'	2.06	0.55
1:A:2789:C:H1'	1:A:2892:A:H2	1.71	0.55
1:A:287:C:N4	1:A:354:G:H1	2.04	0.55
1:A:528:A:C2	1:A:2043:C:H4'	2.41	0.55
1:A:685:A:N3	1:A:689:A:N6	2.54	0.55
1:A:464:U:C2	1:A:788:A:C6	2.94	0.55
4:E:117:MET:O	4:E:117:MET:HG3	2.06	0.55
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.34	0.55
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.21	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.71	0.55
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.55
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.55
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.55
1:A:819:A:C4	1:A:1189:A:C2	2.94	0.55
1:A:1271:G:N2	1:A:1617:C:O4'	2.39	0.55
1:A:205:G:O2'	1:A:206:U:OP2	2.22	0.55
1:A:224:G:O6	1:A:419:C:O2'	2.24	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2419:U:OP1	28:6:23:THR:HG21	2.06	0.55
1:A:1798:U:H5''	3:D:259:THR:HG22	1.87	0.55
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.55
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.55
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.55
11:P:19:VAL:CG2	11:P:20:GLY:H	1.99	0.55
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.55
15:T:107:ASP:O	15:T:111:ARG:NH1	2.39	0.55
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.27	0.55
18:W:20:VAL:C	18:W:22:ASP:N	2.60	0.55
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.55
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.55
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.37	0.55
1:A:1022:G:H4'	1:A:1023:U:H5'	1.87	0.55
1:A:270(J):G:H2'	1:A:270(K):C:O4'	2.07	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.55
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.55
1:A:2364:C:H4'	22:0:56:ASP:OD2	2.06	0.55
1:A:1430:C:H2'	1:A:1431:U:C6	2.41	0.55
1:A:1930:G:H2'	1:A:1968:G:O6	2.06	0.55
1:A:2517:C:C5	1:A:2542:A:C5	2.95	0.55
1:A:2758:A:C5	1:A:2759:G:C8	2.94	0.55
1:A:2776:A:H3'	1:A:2776:A:OP1	2.06	0.55
1:A:2836:U:C4	1:A:2883:A:N6	2.75	0.55
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.55
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.55
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.88	0.55
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.55
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
14:S:59:LYS:CG	14:S:60:GLY:H	2.11	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.55
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.71	0.55
1:A:1093:G:H1'	1:A:1099:G:O6	2.06	0.55
1:A:1537:C:H2'	1:A:1538:G:C8	2.42	0.55
1:A:1885:A:H3'	1:A:1886:C:H6	1.71	0.55
1:A:2870:C:H5''	13:R:65:LEU:HD21	1.87	0.55
1:A:849:A:N6	1:A:929:G:H1'	2.21	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.88	0.55
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.55
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.55
1:A:1299:G:H5''	1:A:1300:U:OP1	2.06	0.55
1:A:1317:A:H2'	1:A:1318:C:C6	2.42	0.55
1:A:155:C:H5'	1:A:161:U:OP2	2.07	0.55
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.55
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.55
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.55
21:Z:48:PHE:CE2	21:Z:52:SER:HA	2.42	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.55
1:A:1000:A:H2'	1:A:1001:A:C8	2.42	0.55
1:A:2285:C:H5	28:6:27:LYS:NZ	2.04	0.55
1:A:2653:U:H3'	1:A:2654:A:H8	1.72	0.55
1:A:287:C:O2'	1:A:288:C:O5'	2.24	0.55
1:A:23:G:N2	1:A:517:C:O2	2.40	0.55
1:A:780:G:H21	1:A:783:A:H62	1.53	0.55
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.55
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.55
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	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
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.07	0.55
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.55
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.71	0.55
1:A:2015:A:C1'	27:5:2:ALA:HA	2.30	0.55
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.55
1:A:2291:U:H2'	1:A:2292:C:C6	2.42	0.55
1:A:888:C:H3'	1:A:889:C:C4'	2.36	0.55
1:A:902:C:H2'	1:A:903:C:H6	1.72	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.27	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
8:I:21:VAL:HG22	8:I:22:LYS:H	1.71	0.55
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.55
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.55
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.55
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.55
1:A:1001:A:H2'	1:A:1002:G:O4'	2.07	0.55
1:A:1317:A:H2'	1:A:1318:C:H6	1.72	0.55
1:A:859:G:H21	1:A:860:U:H3	1.55	0.55
2:B:112:G:O5'	2:B:112:G:H8	1.90	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
7:H:26:VAL:CG1	7:H:27:LYS:N	2.63	0.55
1:A:1138:G:N2	9:N:106:MET:HE3	2.13	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	0.55
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.55
1:A:389:G:N1	11:P:70:GLN:HB3	2.22	0.55
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.55
13:R:2:ARG:HG2	13:R:5:LYS:HZ2	1.72	0.55
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.55
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.07	0.55
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.55
1:A:25:U:H5''	18:W:80:PRO:HD3	1.89	0.55
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.55
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.55
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
30:8:30:ARG:O	30:8:31:HIS:CB	2.55	0.55
1:A:86:C:O2'	1:A:104:U:O2'	1.96	0.55
1:A:1636:C:H2'	1:A:1637:A:C8	2.42	0.55
1:A:573:G:N1	1:A:2031:A:OP2	2.32	0.55
1:A:2600:A:O2'	1:A:2601:C:H5'	2.06	0.55
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.55
3:D:94:LEU:HD22	3:D:95:LEU:H	1.70	0.55
4:E:54:GLN:NE2	4:E:54:GLN:N	2.56	0.55
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.55
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.55
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.55
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.55
1:A:738:G:C2	1:A:759:G:C5	2.95	0.54
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.54
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.54
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.54
16:U:27:LEU:O	16:U:29:SER:N	2.40	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)
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.89	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.54
1:A:49:A:C2	1:A:118:A:C6	2.94	0.54
1:A:1657:C:H2'	1:A:1658:C:C6	2.42	0.54
1:A:2163:C:H2'	1:A:2164:C:H6	1.71	0.54
1:A:2212:A:N3	1:A:2215:G:N1	2.55	0.54
1:A:2329:G:H2'	1:A:2330:G:C8	2.42	0.54
1:A:271(B):G:C8	1:A:271(B):G:H5''	2.39	0.54
1:A:2861:G:H2'	1:A:2862:G:H8	1.72	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.54
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.54
20:Y:2:ARG:HG2	20:Y:2:ARG:NH1	2.22	0.54
1:A:484:C:OP1	20:Y:51:VAL:HG11	2.07	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
1:A:1761:C:N4	1:A:1762:A:H62	2.05	0.54
1:A:2596:U:H2'	1:A:2597:G:O4'	2.07	0.54
1:A:336:C:O2'	20:Y:35:TYR:OH	2.23	0.54
1:A:543:C:H2'	1:A:544:C:C6	2.42	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.72	0.54
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.54
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.89	0.54
7:H:8:PRO:O	7:H:9:ILE:HG23	2.08	0.54
10:O:1:MET:HE3	10:O:67:LYS:HE2	1.88	0.54
15:T:6:LEU:O	15:T:7:ILE:C	2.45	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.25	0.54
21:Z:158:PRO:O	21:Z:160:GLY:N	2.40	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
1:A:1788:C:H2'	1:A:1789:A:C8	2.39	0.54
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.54
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.54
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.54
19:X:65:ARG:HD3	19:X:65:ARG:H	1.70	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2336:A:H61	22:0:43:THR:HG21	1.72	0.54
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.54
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.07	0.54
1:A:2230:G:C6	1:A:2231:C:C4	2.95	0.54
1:A:2712:U:H1'	1:A:2712(A):A:C8	2.42	0.54
1:A:699:A:H2'	1:A:700:G:O4'	2.08	0.54
1:A:777:A:H2	1:A:778:G:C4	2.26	0.54
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.54
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.54
8:I:14:ASP:O	8:I:16:GLY:N	2.39	0.54
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.54
1:A:2275:C:O2	12:Q:83:MET:HG3	2.08	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.41	0.54
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.73	0.54
1:A:755:C:H2'	1:A:756:C:H6	1.72	0.54
1:A:860:U:C5	1:A:917:A:C2	2.95	0.54
2:B:9:G:N2	2:B:111:U:O2	2.36	0.54
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.54
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.54
4:E:14:ILE:HG23	4:E:15:PHE:N	2.23	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
1:A:812:C:H5'	11:P:22:GLY:HA3	1.89	0.54
1:A:389:G:H22	11:P:72:PRO:CG	2.20	0.54
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.54
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.54
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
1:A:1803:A:H2	1:A:1822:G:N3	2.06	0.54
1:A:1825:A:H2'	1:A:1826:G:C8	2.42	0.54
1:A:1931:U:H6	1:A:1932:A:C8	2.25	0.54
1:A:2230:G:C5	1:A:2231:C:C5	2.95	0.54
1:A:2287:A:N6	1:A:2344:U:N3	2.55	0.54
1:A:39:C:H2'	1:A:40:C:C6	2.43	0.54
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.68	0.54
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.54
5:F:127:GLU:O	5:F:129:PHE:N	2.39	0.54
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:153:LYS:HA	7:H:153:LYS:CE	2.38	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54
22:O:22:GLY:N	22:O:39:ARG:O	2.29	0.54
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.37	0.54
1:A:977:G:H4'	1:A:1155:A:H5'	1.89	0.54
1:A:1443:G:N2	1:A:1549:C:N3	2.56	0.54
1:A:529:A:H2	1:A:2041:U:H3	1.51	0.54
1:A:2084:C:H2'	1:A:2085:C:H6	1.73	0.54
1:A:482:A:H4'	20:Y:47:LYS:CD	2.26	0.54
1:A:739:G:H22	1:A:758:C:H42	1.56	0.54
1:A:852:G:H2'	1:A:853:G:C8	2.43	0.54
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.23	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.54
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.54
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.54
14:S:13:ARG:HD2	14:S:13:ARG:O	2.07	0.54
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.54
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.54
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.54
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.54
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.55	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.37	0.54
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.54
25:3:56:VAL:CG1	25:3:57:GLU:H	2.20	0.54
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.54
1:A:1412:A:H2'	1:A:1413:G:C8	2.43	0.54
1:A:2061:G:OP2	1:A:2502:G:OP2	2.25	0.54
1:A:445:C:O2'	1:A:446:G:H5'	2.07	0.54
1:A:646:A:H2'	1:A:647:G:O4'	2.08	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.90	0.54
3:D:34:VAL:C	3:D:35:LYS:HG3	2.28	0.54
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.54
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.54
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.54
15:T:55:ASN:O	15:T:57:PHE:O	2.26	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:2370:G:H21	28:6:45:LYS:NZ	2.06	0.54
1:A:1266:G:C5	18:W:15:ARG:NH1	2.75	0.54
1:A:2289:G:N2	1:A:2344:U:C2	2.76	0.54
2:B:100:G:H2'	2:B:101:A:C8	2.43	0.54
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.54
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.54
5:F:147:GLY:O	5:F:148:LEU:HD23	2.08	0.54
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.54
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.54
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.54
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
21:Z:152:ALA:HB2	21:Z:168:GLU:HA	1.90	0.54
26:4:63:TYR:C	26:4:65:ASP:N	2.62	0.53
1:A:2756:U:OP2	31:9:19:ARG:NE	2.41	0.53
1:A:1050:A:O2'	1:A:2752:C:H1'	2.08	0.53
1:A:2738:A:H2	1:A:2766:G:H22	1.56	0.53
1:A:372:G:O2'	1:A:373:U:P	2.65	0.53
1:A:580:C:H2'	1:A:581:C:C6	2.43	0.53
1:A:784:A:O2'	1:A:785:G:H5"	2.07	0.53
1:A:860:U:OP2	1:A:916:G:N1	2.38	0.53
1:A:890:A:O2'	1:A:892:G:H8	1.92	0.53
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.12	0.53
4:E:186:GLY:O	4:E:188:VAL:N	2.41	0.53
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.53
1:A:2653:U:O2'	7:H:110:SER:HB2	2.07	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.53
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:1509:C:H2'	1:A:1511:A:C8	2.43	0.53
1:A:1670:C:C4	1:A:1671:U:C2	2.96	0.53
1:A:2134:A:O2'	1:A:2159:G:N2	2.36	0.53
1:A:2698:U:H2'	1:A:2699:C:H6	1.73	0.53
1:A:2863:C:H2'	1:A:2864:G:H8	1.73	0.53
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.53
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.20	0.53
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.91	0.53
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.53
21:Z:10:ARG:HD2	21:Z:36:LYS:HB3	1.90	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.53
1:A:1221:C:H2'	1:A:1222:C:H6	1.72	0.53
1:A:1338:G:N7	19:X:62:LYS:NZ	2.41	0.53
1:A:1386:C:H2'	1:A:1387:C:H6	1.73	0.53
1:A:1691:C:H2'	1:A:1692:U:O4'	2.09	0.53
1:A:1788:C:O2'	1:A:1789:A:H5'	2.08	0.53
1:A:1957:C:H2'	1:A:1958:C:H6	1.74	0.53
1:A:2168:G:H8	1:A:2168:G:OP2	1.91	0.53
1:A:2252:G:H2'	1:A:2253:G:O4'	2.07	0.53
1:A:2356:C:OP1	22:0:24:LYS:NZ	2.39	0.53
1:A:2543:G:N2	1:A:2765:A:C8	2.76	0.53
1:A:273(A):G:C2	1:A:364:C:N3	2.76	0.53
3:D:35:LYS:CG	3:D:64:ILE:H	2.15	0.53
1:A:617:G:OP1	5:F:40:GLN:NE2	2.41	0.53
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.53
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.53
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:1793:C:O2	1:A:1900:A:H2	1.91	0.53
1:A:247:G:O6	30:8:12:LYS:NZ	2.28	0.53
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.53
8:I:29:TYR:HA	8:I:33:ARG:HD3	1.89	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
1:A:1405:U:H2'	1:A:1406:U:H6	1.74	0.53
1:A:1444(A):A:O2'	1:A:1460:A:N3	2.42	0.53
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.74	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2735:G:H2'	1:A:2736:G:C8	2.44	0.53
1:A:317:G:C2	1:A:318:C:C2	2.97	0.53
1:A:793:A:O2'	1:A:794:G:OP2	2.26	0.53
1:A:901:A:H5'	1:A:902:C:OP2	2.07	0.53
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.53
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.53
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.53
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.53
26:4:49:PHE:N	26:4:49:PHE:CD1	2.76	0.53
26:4:56:VAL:HA	26:4:60:GLN:CB	2.29	0.53
1:A:106:C:H2'	1:A:107:C:H6	1.73	0.53
1:A:1359:A:N6	1:A:1372:U:C4	2.76	0.53
1:A:2074:U:H2'	1:A:2075:U:C6	2.43	0.53
1:A:2424:C:O2	1:A:2429:G:O2'	2.20	0.53
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.35	0.53
1:A:270(W):G:H2'	1:A:270(X):G:O4'	2.09	0.53
1:A:2729:G:O2'	4:E:187:ALA:HB2	2.09	0.53
1:A:303:U:H2'	1:A:304:G:C8	2.43	0.53
1:A:704:G:HO2'	1:A:705:A:P	2.32	0.53
1:A:768:G:C4	1:A:769:G:C8	2.97	0.53
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.53
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.53
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.53
8:I:99:GLU:O	8:I:102:SER:HB2	2.08	0.53
10:O:2:ILE:HD12	10:O:2:ILE:N	2.23	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.53
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.53
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.53
1:A:2262:U:H4'	1:A:2328:A:C2	2.44	0.53
1:A:2751:G:H8	1:A:2751:G:O5'	1.92	0.53
1:A:2816:C:O2	1:A:2883:A:O2'	2.26	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.53
24:2:50:ILE:CD1	24:2:51:ARG:N	2.61	0.53
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.53
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
1:A:1425:G:H2'	1:A:1426:G:C8	2.42	0.53
1:A:2069:G:N2	1:A:2442:C:O2	2.42	0.53
1:A:270(R):G:H1'	23:1:78:LYS:NZ	2.23	0.53
1:A:2820:A:C2	13:R:4:LEU:HD21	2.44	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:459:U:OP2	1:A:469:G:N1	2.34	0.53
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.53
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.91	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.09	0.53
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.53
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:1105:U:H2'	1:A:1106:G:C8	2.36	0.53
1:A:1206:G:C6	1:A:1207:C:C4	2.97	0.53
1:A:2636:U:O2	1:A:2783:G:N1	2.42	0.53
1:A:572:A:H5''	1:A:573:G:OP2	2.09	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.53
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.53
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.53
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.53
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.53
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.53
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.53
1:A:974:G:OP1	17:V:76:LYS:HE2	2.09	0.53
21:Z:70:LEU:HB2	21:Z:91:LEU:HD21	1.90	0.53
22:0:68:GLU:HG2	22:0:80:HIS:HB2	1.91	0.53
1:A:1101:U:H2'	1:A:1102:C:H6	1.73	0.53
1:A:1434:A:H61	1:A:1558:A:H62	1.56	0.53
1:A:2330:G:H2'	1:A:2331:G:O4'	2.08	0.53
1:A:2614:A:H4'	1:A:2615:U:OP1	2.09	0.53
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.53
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.53
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.53
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.53
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	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
21:Z:128:VAL:HB	21:Z:161:VAL:HG13	1.91	0.53
1:A:2355:C:H4'	22:0:36:ILE:HD11	1.90	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.91	0.52
28:6:7:ILE:CG1	28:6:8:LYS:H	2.07	0.52
1:A:1799:G:O2'	1:A:1800:C:OP2	2.25	0.52
1:A:1847:A:H5'	1:A:1848:A:OP2	2.09	0.52
1:A:2838:G:H2'	1:A:2839:G:H8	1.73	0.52
1:A:530:G:O2'	1:A:2021:C:O2'	2.25	0.52
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.74	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.52
9:N:109:LYS:HD2	9:N:109:LYS:H	1.73	0.52
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
13:R:70:LEU:O	13:R:72:ASP:N	2.43	0.52
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.52
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.52
18:W:1:MET:HE2	18:W:2:GLU:H	1.74	0.52
28:6:14:THR:OG1	28:6:19:ARG:NE	2.41	0.52
1:A:1441:G:H2'	1:A:1442:G:C8	2.45	0.52
1:A:224:G:C2	1:A:225:A:C4	2.98	0.52
1:A:2404:C:H1'	11:P:67:MET:HE1	1.91	0.52
1:A:2424:C:H6	1:A:2424:C:H5'	1.74	0.52
1:A:252:G:N2	1:A:253:C:H1'	2.24	0.52
1:A:2538:C:O2'	1:A:2539:C:H5'	2.09	0.52
1:A:2721:A:H1'	1:A:2873:A:O2'	2.09	0.52
1:A:373:U:H1'	1:A:423:A:C2	2.44	0.52
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.52
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.52
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.09	0.52
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.09	0.52
22:0:25:ARG:HH11	22:0:25:ARG:HG2	1.73	0.52
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.52
1:A:1190:G:H5'	11:P:32:THR:HA	1.91	0.52
1:A:1654:A:OP2	13:R:2:ARG:HD2	2.09	0.52
1:A:2033:A:O2'	1:A:2035:G:OP2	2.26	0.52
1:A:2267:A:H5''	1:A:2268:A:H5'	1.90	0.52
1:A:2420:C:H6	1:A:2420:C:O5'	1.93	0.52
1:A:271(B):G:O2'	1:A:271(C):U:OP2	2.24	0.52
1:A:2748:A:H2'	1:A:2749:A:C8	2.44	0.52
1:A:295:G:H1	1:A:343:C:H42	1.57	0.52
1:A:846:C:H42	1:A:931:G:H1	1.56	0.52
2:B:89:G:C6	2:B:89(A):A:C6	2.98	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.52
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.52
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.52
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.52
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.52
1:A:1029:A:H5''	12:Q:128:LYS:HE2	1.92	0.52
1:A:859:G:H5'	1:A:2268:A:HO2'	1.75	0.52
1:A:26:G:C6	1:A:27:G:C2	2.97	0.52
1:A:2808:U:H5'	1:A:2891:G:O6	2.09	0.52
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.52
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.52
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.91	0.52
4:E:7:VAL:CG2	4:E:8:LYS:H	2.10	0.52
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.72	0.52
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
21:Z:149:SER:HB2	21:Z:172:ALA:O	2.10	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.52
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	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:1063:G:H22	1:A:1076:C:H1'	1.74	0.52
1:A:24:G:H2'	1:A:25:U:O4'	2.09	0.52
1:A:272:G:H2'	1:A:273:G:H8	1.74	0.52
1:A:2790:A:C2	1:A:2791:C:H2'	2.45	0.52
1:A:503:A:C5	1:A:506:G:C5	2.98	0.52
1:A:869:G:O2'	1:A:870:A:H5'	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.52
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.52
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.52
26:4:15:ILE:HD13	26:4:15:ILE:H	1.73	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:1071:G:O2'	1:A:1089:G:OP2	2.20	0.52
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.09	0.52
1:A:1156:A:C8	16:U:51:LYS:HD2	2.45	0.52
1:A:121:G:H2'	1:A:122:G:C8	2.44	0.52
1:A:1590:U:H2'	1:A:1591:G:C8	2.44	0.52
1:A:2689:U:P	1:A:2719:G:H22	2.33	0.52
2:B:16:G:C6	2:B:69:G:C2	2.97	0.52
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.52
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.10	0.52
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.52
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.52
1:A:2378:A:H4'	14:S:23:ARG:NE	2.25	0.52
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
1:A:1021:A:C3'	1:A:1021:A:C8	2.91	0.52
1:A:2522:U:O2'	1:A:2647:U:OP1	2.19	0.52
1:A:2747:G:O6	1:A:2755:C:H5''	2.10	0.52
1:A:317:G:N2	1:A:318:C:O2	2.43	0.52
1:A:347:A:H2'	1:A:348:G:C8	2.45	0.52
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
8:I:8:PRO:HG3	8:I:14:ASP:HB2	1.91	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.52
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.52
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.52
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.52
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
1:A:2478:A:OP1	31:9:31:LYS:HD3	2.09	0.52
1:A:2102:U:H3	1:A:2187:G:H1	1.56	0.52
1:A:79:G:O2'	1:A:346:A:N3	2.30	0.52
1:A:275:G:OP2	1:A:363:G:N1	2.42	0.52
1:A:704:G:O2'	1:A:705:A:P	2.68	0.52
1:A:863:A:O2'	2:B:100:G:O2'	2.25	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.52
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
1:A:1203:G:N2	1:A:1243:G:O6	2.42	0.52
1:A:1657:C:O2'	1:A:1658:C:H5'	2.10	0.52
1:A:1756:G:H4'	1:A:1758:G:O4'	2.10	0.52
1:A:2700:C:C2'	1:A:2701:C:H5'	2.39	0.52
1:A:962:G:H2'	1:A:963:U:H6	1.75	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52
8:I:9:LEU:O	8:I:10:GLU:HG3	2.10	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:59:ARG:O	16:U:63:VAL:HG23	2.10	0.52
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.52
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.52
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.92	0.52
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.52
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.52
1:A:1035:U:H2'	1:A:1036:G:C8	2.45	0.52
1:A:1337:G:H2'	1:A:1338:G:O4'	2.10	0.52
1:A:2210:G:N3	1:A:2210:G:H2'	2.25	0.52
1:A:2500:U:O2'	1:A:2504:U:OP1	2.24	0.52
1:A:2712:U:O2'	1:A:2712(A):A:P	2.68	0.52
1:A:864:G:O2'	1:A:866:A:N6	2.43	0.52
1:A:922:U:H2'	1:A:923:C:C6	2.45	0.52
2:B:7:G:H1	2:B:113:C:N4	2.00	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.52
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.52
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.51
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
1:A:1069:A:H4'	1:A:1070:A:H5''	1.93	0.51
1:A:1252:G:C2	1:A:1253:A:C2	2.98	0.51
1:A:2735:G:H2'	1:A:2736:G:H8	1.75	0.51
1:A:839:U:H2'	1:A:840:C:C6	2.44	0.51
2:B:50:G:OP1	14:S:62:LYS:HB2	2.10	0.51
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.51
8:I:21:VAL:HG21	8:I:25:TYR:HD1	1.76	0.51
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.51
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.51
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51
1:A:1641:A:H3'	1:A:1642:G:H8	1.75	0.51
1:A:1741:C:H5'	1:A:1742:C:OP2	2.09	0.51
1:A:2578:G:OP2	1:A:2578:G:H4'	2.10	0.51
1:A:534:U:O2	16:U:49:HIS:HE1	1.93	0.51
1:A:685:A:N3	1:A:689:A:C6	2.79	0.51
2:B:105:G:C2	2:B:106:G:C8	2.97	0.51
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.51
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.38	0.51
9:N:94:HIS:O	9:N:95:PRO:O	2.28	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51
1:A:2415:G:O3'	11:P:66:GLY:HA3	2.10	0.51
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.66	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.51
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.51
1:A:1343:G:H1	1:A:1404:C:H42	1.58	0.51
1:A:1422:G:C5	1:A:1423:G:N7	2.78	0.51
1:A:1652:A:C2'	1:A:1653:G:H5'	2.41	0.51
1:A:2459:A:C6	1:A:2460:U:C2	2.99	0.51
1:A:1638:C:H4'	1:A:2710:C:O2	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2845:G:O2'	1:A:2846:G:H5'	2.10	0.51
1:A:392:C:H5''	1:A:409:C:H5''	1.91	0.51
1:A:27:G:H1'	1:A:513:A:N6	2.25	0.51
1:A:656:G:H2'	1:A:657:U:O4'	2.11	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.26	0.51
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.51
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.51
1:A:2318:G:H22	14:S:2:ALA:N	2.09	0.51
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.93	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.31	0.51
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.75	0.51
21:Z:19:ARG:HD3	21:Z:25:PRO:HD2	1.91	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.51
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.91	0.51
1:A:1492:G:H3'	1:A:1493:C:H5'	1.92	0.51
1:A:49:A:N6	1:A:177:G:C4	2.78	0.51
1:A:195:A:H5''	11:P:46:LYS:NZ	2.25	0.51
1:A:2205:C:O5'	1:A:2205:C:H6	1.92	0.51
1:A:2408:U:H2'	1:A:2409:G:C8	2.45	0.51
1:A:934:G:H2'	1:A:935:C:H6	1.74	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
4:E:95:ILE:CD1	4:E:95:ILE:H	2.19	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.51
10:O:23:ARG:O	10:O:39:ILE:HB	2.09	0.51
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.51
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.92	0.51
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.51
1:A:1338:G:O2'	1:A:1393:A:N1	2.37	0.51
1:A:1449:A:H5'	1:A:1449(A):G:OP2	2.10	0.51
1:A:1506:C:H3'	1:A:1507:A:H5''	1.91	0.51
1:A:17:G:H2'	1:A:18:C:H6	1.75	0.51
1:A:1993:U:H4'	4:E:128:SER:OG	2.10	0.51
1:A:2729:G:H2'	1:A:2730:C:C6	2.46	0.51
1:A:628:G:H2'	1:A:629:G:H8	1.75	0.51
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.09	0.51
1:A:807:U:OP2	11:P:41:ARG:NH1	2.43	0.51
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.51
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.10	0.51
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.51
1:A:1962:C:O2'	1:A:1964:G:OP2	2.28	0.51
1:A:2336:A:H8	1:A:2336:A:O5'	1.92	0.51
1:A:2745:C:H1'	7:H:143:GLN:HG2	1.91	0.51
1:A:216:A:C8	1:A:432:A:C6	2.99	0.51
1:A:836:G:H5''	1:A:837:C:OP2	2.10	0.51
2:B:5:C:H2'	2:B:6:C:H6	1.74	0.51
2:B:63:G:C2	2:B:64:C:C2	2.99	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
15:T:14:TYR:N	15:T:14:TYR:CD1	2.78	0.51
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.51
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.51
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
1:A:1291:C:C2	1:A:1292:U:C5	2.99	0.51
1:A:1529:A:C8	1:A:1530:G:C8	2.99	0.51
1:A:1888:G:H5''	1:A:1888:G:N3	2.25	0.51
1:A:1918:A:O2'	1:A:1920:C:N4	2.43	0.51
1:A:270(B):A:O2'	1:A:364:C:H2'	2.10	0.51
1:A:394:A:H5'	1:A:395:U:OP2	2.11	0.51
1:A:470:A:H2'	1:A:471:A:O4'	2.10	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.48	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.11	0.51
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.40	0.51
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.51
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.57	0.51
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.51
1:A:1155:A:O2'	1:A:1156:A:H2'	2.10	0.51
1:A:1239:G:H2'	1:A:1240:U:O4'	2.11	0.51
1:A:1251:C:OP1	16:U:10:ARG:HG3	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1842:G:N2	1:A:1901:A:C4	2.79	0.51
2:B:13:A:C2	2:B:70:C:O4'	2.64	0.51
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.51
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.92	0.51
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.51
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.51
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.51
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.51
12:Q:58:PHE:O	12:Q:58:PHE:HD1	1.94	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.24	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
1:A:1899:G:N2	1:A:1902:C:H5	2.08	0.51
1:A:2401:U:H2'	1:A:2402:C:H5''	1.93	0.51
1:A:2416:C:C2	1:A:2417:C:C5	2.99	0.51
1:A:2723:C:O3'	13:R:1:MET:HE2	2.10	0.51
1:A:628:G:H2'	1:A:629:G:C8	2.45	0.51
1:A:655:A:H8	1:A:656:G:O4'	1.94	0.51
1:A:60:G:C2	1:A:74:A:C5	2.98	0.51
1:A:898:C:H2'	1:A:899:A:H5'	1.92	0.51
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.51
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.51
8:I:77:LEU:HD11	8:I:140:LEU:HD12	1.92	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.51
11:P:13:ASN:O	11:P:14:LYS:C	2.49	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
21:Z:146:ILE:HG22	21:Z:176:PRO:HD3	1.92	0.51
29:7:36:GLN:HG2	29:7:36:GLN:O	2.09	0.51
1:A:1048:A:H5'	1:A:1049:C:OP2	2.11	0.51
1:A:1798:U:C2	1:A:1822:G:N2	2.79	0.51
1:A:2466:C:H5'	31:9:5:ALA:HB3	1.92	0.51
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.51
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.51
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.25	0.51
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.51
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:86:ALA:O	14:S:87:PHE:HB3	2.09	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.29	0.51
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
1:A:270(R):G:H1'	23:1:78:LYS:HZ1	1.75	0.50
24:2:36:ARG:O	24:2:40:SER:HB2	2.10	0.50
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.50
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.50
1:A:1258:C:O4'	5:F:84:VAL:HG11	2.11	0.50
1:A:1357:U:H2'	1:A:1358:G:H8	1.75	0.50
1:A:1401:G:H8	1:A:1401:G:O5'	1.94	0.50
1:A:1864:U:H3	1:A:1878:G:H1	1.59	0.50
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.50
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.50
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.50
2:B:43:C:H1'	6:G:93:THR:O	2.11	0.50
7:H:126:PRO:HD2	7:H:127:GLU:N	2.26	0.50
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.09	0.50
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.50
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.50
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.92	0.50
1:A:1370:C:O2'	1:A:1811:G:O2'	2.29	0.50
1:A:1593:G:H2'	1:A:1594:G:C8	2.46	0.50
1:A:2244:U:H2'	1:A:2245:U:O4'	2.10	0.50
1:A:2308:G:N3	1:A:2308:G:H2'	2.26	0.50
1:A:264:C:O2'	1:A:265:A:H5''	2.11	0.50
1:A:592:G:N2	1:A:593:G:H1'	2.27	0.50
1:A:823:G:H2'	1:A:824:A:C8	2.46	0.50
2:B:52:A:H62	14:S:33:LYS:HG3	1.75	0.50
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
8:I:87:LYS:HA	8:I:122:GLU:HG2	1.93	0.50
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.50
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1204:A:H1'	1:A:1206:G:N9	2.27	0.50
1:A:1687:G:H1'	1:A:1702:G:N2	2.26	0.50
1:A:185:U:H4'	1:A:218:A:H4'	1.93	0.50
1:A:1871:A:H2'	1:A:1872:A:C8	2.46	0.50
1:A:2532:G:H1'	1:A:2663:G:N2	2.27	0.50
1:A:270(J):G:N2	1:A:270(Q):C:C2	2.79	0.50
1:A:2869:G:H2'	1:A:2870:C:H6	1.76	0.50
1:A:298:G:P	20:Y:85:VAL:HG22	2.51	0.50
1:A:483:A:H4'	20:Y:49:VAL:CA	2.36	0.50
1:A:841:A:C2	1:A:938:G:C2	2.99	0.50
2:B:24:G:O6	2:B:56:G:O2'	2.26	0.50
1:A:558:G:P	9:N:111:PRO:HD2	2.51	0.50
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.50
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.50
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.50
23:1:87:PRO:O	23:1:91:LYS:HB2	2.10	0.50
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.50
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.92	0.50
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.50
1:A:1022:G:N2	1:A:1142(A):A:H2	2.08	0.50
1:A:1026:U:H1'	1:A:1027:A:H5''	1.92	0.50
1:A:1171:G:O6	1:A:1174:A:N6	2.43	0.50
1:A:1331:A:C6	1:A:1333:C:C2	2.99	0.50
1:A:1530:G:C2	1:A:1531:C:C2	2.99	0.50
1:A:2013:A:C2'	1:A:2014:A:H5'	2.41	0.50
1:A:2286:A:H2'	28:6:31:PRO:HG2	1.94	0.50
1:A:637:A:H4'	1:A:638:G:O5'	2.12	0.50
2:B:15:A:H1'	2:B:109:G:N9	2.27	0.50
3:D:10:THR:CG2	3:D:13:ARG:HB3	2.35	0.50
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.50
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.50
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.50
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.50
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.50
1:A:1503:U:H2'	1:A:1504:C:H6	1.77	0.50
1:A:2322:A:H2'	1:A:2323:G:O4'	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2472:G:N2	1:A:2477:C:H5'	2.27	0.50
1:A:2849:U:O2	1:A:2867:G:H1'	2.12	0.50
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.50
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.50
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.50
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.50
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.50
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.50
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.50
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
1:A:1511:A:O2'	1:A:1512:G:H5'	2.12	0.50
1:A:2577:A:H5''	1:A:2578:G:H5'	1.93	0.50
1:A:2620:C:H2'	1:A:2621:A:O4'	2.12	0.50
1:A:303:U:H2'	1:A:304:G:H8	1.77	0.50
1:A:546:C:OP1	1:A:547:A:N6	2.45	0.50
1:A:747:U:C4	27:5:2:ALA:N	2.80	0.50
1:A:796:C:H2'	1:A:797:C:C6	2.47	0.50
1:A:962:G:H2'	1:A:963:U:O4'	2.12	0.50
1:A:729:G:C5	3:D:208:LYS:HB2	2.47	0.50
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.50
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.50
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.50
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.50
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.50
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
28:6:9:LEU:HB3	28:6:26:ASN:O	2.12	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.50
1:A:1028:A:H61	1:A:1125:G:H2'	1.77	0.50
1:A:1140:C:OP1	9:N:24:GLY:N	2.43	0.50
1:A:1586:A:H3'	1:A:1587:A:C8	2.46	0.50
1:A:1773:A:H2'	1:A:1774:C:O4'	2.12	0.50
1:A:2514:U:H2'	1:A:2515:C:O4'	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:981:A:OP2	1:A:982:C:N4	2.38	0.50
2:B:105:G:OP1	21:Z:31:ARG:HB2	2.12	0.50
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.50
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.50
10:O:35:VAL:O	10:O:35:VAL:HG23	2.11	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.32	0.50
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.50
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.50
17:V:51:VAL:CG1	17:V:52:VAL:N	2.75	0.50
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.50
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.50
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.50
1:A:1053:C:H42	1:A:1106:G:H1	1.60	0.50
1:A:1169:G:H1	1:A:1180:C:H42	1.58	0.50
1:A:162:U:H6	1:A:162:U:OP1	1.95	0.50
1:A:2093:G:H2'	1:A:2094:G:C8	2.44	0.50
1:A:2468:G:O2'	1:A:2481:G:N2	2.45	0.50
1:A:2646:C:OP2	1:A:2732:G:O2'	2.25	0.50
1:A:952:G:C6	1:A:953:A:N7	2.80	0.50
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.50
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.50
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.50
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.50
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.50
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
8:I:97:ILE:HD12	8:I:140:LEU:HD11	1.93	0.50
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.50
11:P:112:LEU:HD22	11:P:113:LYS:N	2.26	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
1:A:534:U:O2'	16:U:45:TYR:HB3	2.12	0.50
1:A:1266:G:N7	18:W:15:ARG:NH1	2.58	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
21:Z:5:LEU:O	21:Z:6:LYS:HB2	2.12	0.50
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.50
1:A:1792:G:O2'	1:A:1830:C:OP1	2.29	0.50
1:A:2277:G:C5'	12:Q:85:LYS:HG3	2.42	0.50
1:A:2756:U:H3	1:A:2758:A:H62	1.60	0.50
1:A:2758:A:C2	1:A:2759:G:H1'	2.47	0.50
1:A:282:A:N3	1:A:282:A:H2'	2.27	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:39:C:H2'	1:A:40:C:H6	1.76	0.50
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.50
1:A:1813:G:H1'	3:D:50:THR:OG1	2.12	0.50
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.50
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.49
1:A:1212:G:O2'	1:A:1236:G:N2	2.32	0.49
1:A:1344:G:H5'	1:A:1384:A:C6	2.47	0.49
1:A:2272:U:H5''	1:A:2273:A:OP1	2.12	0.49
1:A:2352:A:N6	1:A:2365:G:O2'	2.45	0.49
1:A:2773:C:H2'	1:A:2774:C:H6	1.76	0.49
1:A:423:A:H5''	1:A:424:G:C5'	2.42	0.49
1:A:481:G:H1'	1:A:507:A:N1	2.28	0.49
1:A:918:A:C5	1:A:919:G:H1'	2.47	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
8:I:37:VAL:HG12	8:I:38:LEU:HD12	1.92	0.49
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.49
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.49
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.49
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.42	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
1:A:2292:C:P	14:S:17:ARG:HH22	2.35	0.49
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.49
1:A:1496:A:H5'	1:A:1497:U:OP1	2.12	0.49
1:A:2654:A:N6	1:A:2667:C:N4	2.58	0.49
1:A:2675:A:H8	1:A:2675:A:OP2	1.94	0.49
1:A:2756:U:H5''	31:9:19:ARG:CB	2.42	0.49
1:A:2842:G:O2'	1:A:2843:G:H5'	2.13	0.49
1:A:489:G:N7	18:W:49:LYS:NZ	2.60	0.49
1:A:747:U:N3	27:5:2:ALA:N	2.59	0.49
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.49
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.49
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:42:C:O2'	6:G:67:LYS:O	2.27	0.49
8:I:88:ILE:HG12	8:I:122:GLU:H	1.77	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.11	0.49
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.49
14:S:60:GLY:O	14:S:61:ASN:CB	2.55	0.49
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.49
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.49
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.49
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.49
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.49
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.43	0.49
1:A:1048:A:P	1:A:1110:G:H22	2.34	0.49
1:A:1293:C:H2'	1:A:1294:U:H6	1.77	0.49
1:A:1864:U:C3'	1:A:1869:G:H5''	2.42	0.49
1:A:1917:U:H2'	1:A:1918:A:O4'	2.11	0.49
1:A:2286:A:C2'	28:6:31:PRO:HG2	2.42	0.49
1:A:840:C:OP2	1:A:932:G:N2	2.44	0.49
1:A:856:C:H1'	22:0:27:GLU:HB3	1.93	0.49
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.49
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.49
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.49
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.47	0.49
1:A:2419:U:O4	30:8:30:ARG:CZ	2.61	0.49
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.93	0.49
1:A:2104:G:N2	1:A:2186:G:C4	2.81	0.49
1:A:732:C:H2'	1:A:733:G:O4'	2.12	0.49
1:A:80:G:H1'	1:A:346:A:C6	2.47	0.49
1:A:851:U:H1'	25:3:46:ASN:ND2	2.23	0.49
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.49
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.49
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
1:A:993:G:OP1	16:U:50:ARG:NH1	2.45	0.49
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.24	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
1:A:1769:G:C2	1:A:1984:G:C4	3.01	0.49
1:A:2070:G:N1	1:A:2071:A:C2	2.80	0.49
1:A:2387:U:O2'	22:0:19:LYS:NZ	2.41	0.49
1:A:1782:C:C4	1:A:2587:A:N1	2.81	0.49
1:A:607:U:N3	1:A:621:A:H2	2.00	0.49
1:A:970:C:O2'	1:A:984:A:O2'	2.29	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.49
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.51	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
7:H:153:LYS:HA	7:H:153:LYS:HZ3	1.75	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.29	0.49
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
16:U:81:HIS:CE1	16:U:117:GLN:HG3	2.48	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
21:Z:5:LEU:HB3	21:Z:59:LEU:HA	1.95	0.49
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.49
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.49
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.49
1:A:1047:G:N2	1:A:1110:G:H2'	2.28	0.49
1:A:1048:A:OP2	1:A:1110:G:N2	2.45	0.49
1:A:1264:G:H5'	27:5:11:THR:HG21	1.95	0.49
1:A:1265:A:C8	1:A:1267:U:C2	3.01	0.49
1:A:1341:U:OP1	1:A:1397:U:N3	2.38	0.49
1:A:1414:G:N2	1:A:1589:C:C2	2.81	0.49
1:A:1829:A:H2'	1:A:1830:C:O4'	2.13	0.49
1:A:2647:U:H2'	1:A:2648:C:C6	2.46	0.49
1:A:2737:G:H2'	1:A:2738:A:C8	2.48	0.49
1:A:2792:G:C6	1:A:2805:G:C2	3.01	0.49
1:A:528:A:N1	1:A:2042:A:H2'	2.27	0.49
2:B:7:G:C2	2:B:114:G:C2	3.01	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
1:A:566:U:H5''	11:P:29:LYS:NZ	2.27	0.49
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.49
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.49
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.28	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.75	0.49
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.49
21:Z:52:SER:O	21:Z:54:HIS:N	2.46	0.49
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.61	0.49
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.49
1:A:1600:C:OP1	19:X:58:HIS:NE2	2.35	0.49
1:A:2807:G:H3'	1:A:2808:U:H5''	1.95	0.49
1:A:52:A:H8	1:A:52:A:O5'	1.96	0.49
1:A:525:U:H5''	1:A:556:G:H5'	1.95	0.49
1:A:607:U:OP1	5:F:102:PRO:HA	2.11	0.49
1:A:844:C:C5	1:A:845:G:C5	3.01	0.49
2:B:39:A:C4	2:B:44:G:N2	2.81	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
3:D:2:ALA:CB	3:D:20:ASP:CB	2.90	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.27	0.49
8:I:75:LEU:HB3	8:I:105:HIS:CD2	2.47	0.49
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.49
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.49
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.49
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:1157:G:C6	1:A:1158:C:C4	3.01	0.49
1:A:1443:G:N2	1:A:1549:C:C2	2.81	0.49
1:A:1676:A:H2'	1:A:1677:A:O4'	2.12	0.49
1:A:1882:C:H5'	1:A:1883:G:OP2	2.12	0.49
1:A:2292:C:N4	1:A:2340:G:H1	2.11	0.49
1:A:2625:G:H2'	1:A:2626:C:O4'	2.12	0.49
1:A:2849:U:H4'	1:A:2868:A:C2	2.47	0.49
1:A:301:G:H1	1:A:316:C:N4	2.06	0.49
1:A:993:G:C4	1:A:994:C:C5	3.01	0.49
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.49
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.49
13:R:1:MET:O	13:R:2:ARG:CB	2.60	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:53:GLU:O	26:4:57:GLU:HG3	2.13	0.49
1:A:1145:C:H2'	1:A:1146:C:C6	2.48	0.49
1:A:1264:G:C3'	1:A:1265:A:H5''	2.39	0.49
1:A:1296:G:OP1	1:A:2709:G:O2'	2.22	0.49
1:A:1916:A:H2'	1:A:1917:U:O4'	2.12	0.49
1:A:190:A:C6	1:A:191:A:C6	3.01	0.49
1:A:2001:A:C2	1:A:2002:G:C4	3.00	0.49
1:A:2127:G:H2'	1:A:2128:C:O4'	2.13	0.49
1:A:222:A:O2'	1:A:223:A:O5'	2.30	0.49
1:A:2287:A:H5''	1:A:2287:A:H8	1.78	0.49
1:A:2832:U:H1'	1:A:2834:G:C4	2.47	0.49
1:A:777:A:C2	1:A:778:G:C5	3.01	0.49
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.49
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.43	0.49
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.49
8:I:63:ALA:HA	8:I:66:GLU:HG2	1.95	0.49
9:N:56:ASN:ND2	9:N:125:GLY:C	2.65	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:1045:A:H4'	1:A:1046:A:C5'	2.43	0.49
1:A:106:C:H2'	1:A:107:C:C6	2.47	0.49
1:A:1650:G:N2	1:A:2007:C:O2	2.44	0.49
1:A:2782:G:C8	1:A:2782:G:O5'	2.65	0.49
2:B:3:C:H2'	2:B:4:C:C6	2.48	0.49
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.49
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.49
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.49
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.49
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.49
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.49
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.49
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.42	0.49
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.48
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.13	0.48
1:A:1784:A:H4'	1:A:1785:A:O5'	2.13	0.48
1:A:2677:G:C4	1:A:2731:G:N2	2.81	0.48
1:A:2744:G:O2'	1:A:2745:C:H5'	2.13	0.48
1:A:2824:C:C5	1:A:2825:C:C4	3.01	0.48
1:A:38:A:O5'	1:A:38:A:H8	1.95	0.48
1:A:643:A:N1	1:A:2369:A:O2'	2.29	0.48
1:A:664:C:H4'	1:A:941:A:OP1	2.13	0.48
2:B:54:G:O2'	2:B:55:U:H5'	2.13	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.26	0.48
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.48
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
16:U:91:ASP:O	16:U:95:LEU:N	2.43	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.48
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.48
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.48
1:A:1048:A:C5	1:A:1111:A:H2	2.31	0.48
1:A:1056:G:H5'	1:A:1085:A:H2	1.78	0.48
1:A:1230:C:H2'	1:A:1231:G:C8	2.48	0.48
1:A:211:A:H2'	1:A:212:G:O4'	2.13	0.48
1:A:2298:A:H5''	1:A:2299:G:OP2	2.12	0.48
1:A:2532:G:H4'	1:A:2657:A:H2	1.78	0.48
1:A:319:C:H2'	1:A:320:A:O4'	2.13	0.48
1:A:374:A:H3'	1:A:375:C:H6	1.78	0.48
1:A:456:C:C5	19:X:69:TYR:CZ	3.02	0.48
1:A:53:A:C8	1:A:54:G:C8	3.01	0.48
2:B:44:G:OP1	26:4:1:MET:N	2.35	0.48
4:E:47:VAL:O	4:E:48:GLN:C	2.52	0.48
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.13	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
12:Q:63:LYS:HB2	21:Z:116:VAL:HG21	1.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
1:A:1322:A:H2'	1:A:1323:U:H6	1.79	0.48
1:A:1972:A:H2'	1:A:1973:G:H8	1.78	0.48
1:A:2063:C:H5'	1:A:2063:C:H6	1.77	0.48
1:A:2263:C:H2'	1:A:2264:C:H6	1.77	0.48
1:A:2854:G:H2'	1:A:2855:C:C6	2.49	0.48
1:A:2864:G:C2	1:A:2865:U:C2	3.01	0.48
1:A:301:G:H1'	1:A:302:C:C6	2.47	0.48
1:A:696:G:C2	1:A:697:C:C5	3.02	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.16	0.48
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.48
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
7:H:13:LYS:HE2	7:H:13:LYS:CA	2.40	0.48
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.48
8:I:133:HIS:HB2	8:I:134:PRO:CD	2.44	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.95	0.48
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.48
1:A:1301:A:O2'	1:A:1302:A:H3'	2.13	0.48
1:A:2182:G:H2'	1:A:2183:C:C6	2.48	0.48
1:A:2415:G:H4'	11:P:66:GLY:C	2.33	0.48
1:A:2504:U:O5'	1:A:2504:U:H6	1.96	0.48
1:A:242:G:N2	1:A:255:A:OP2	2.37	0.48
1:A:333:G:H5''	1:A:334:C:OP2	2.13	0.48
1:A:612:G:C2	1:A:617:G:C6	3.01	0.48
1:A:910:A:C5	12:Q:13:GLN:HG3	2.49	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.48
8:I:79:ILE:HG22	8:I:81:VAL:HG22	1.94	0.48
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.48
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.48
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.48
22:0:14:ARG:HB2	22:0:14:ARG:HE	1.45	0.48
27:5:52:TYR:O	27:5:53:ALA:CB	2.61	0.48
1:A:1024:G:C6	1:A:1025:G:C6	3.01	0.48
1:A:1419:A:N7	1:A:1421:G:C6	2.81	0.48
1:A:1658:C:H2'	1:A:1659:U:H6	1.79	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1682:G:C6	1:A:1683:C:C4	3.02	0.48
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.48	0.48
1:A:2733:A:C2	1:A:2734:A:H1'	2.49	0.48
1:A:301:G:C4	1:A:302:C:C5	3.01	0.48
1:A:653:A:O2'	1:A:654:A:OP1	2.25	0.48
1:A:836:G:C6	1:A:837:C:C4	3.01	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.48
7:H:82:GLY:O	7:H:83:TYR:O	2.31	0.48
8:I:99:GLU:HG2	8:I:103:ARG:HH21	1.79	0.48
8:I:57:ARG:HA	8:I:60:GLU:HB3	1.96	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.43	0.48
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.48
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.48
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.48
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.48
1:A:1055:G:O2'	1:A:1085:A:C6	2.62	0.48
1:A:1607:C:N4	1:A:1621:U:H2'	2.28	0.48
1:A:198:C:O2'	1:A:199:A:H5'	2.13	0.48
1:A:210:C:H2'	1:A:211:A:C8	2.49	0.48
1:A:2259:G:C2	1:A:2282:G:N1	2.81	0.48
1:A:921:G:H4'	1:A:2269:A:C5	2.49	0.48
1:A:2432:A:H5''	1:A:2433:A:OP2	2.14	0.48
1:A:2477:C:H2'	31:9:1:MET:CG	2.42	0.48
1:A:2494:G:O2'	1:A:2495:G:H5'	2.14	0.48
1:A:2505:G:O2'	1:A:2506:U:H5'	2.14	0.48
1:A:2756:U:H4'	1:A:2757:A:OP1	2.12	0.48
1:A:27:G:N2	1:A:512:G:HO2'	2.08	0.48
1:A:288:C:H2'	1:A:289:A:H8	1.79	0.48
1:A:301:G:C6	1:A:317:G:C6	3.02	0.48
1:A:960:A:C8	1:A:962:G:C8	3.01	0.48
2:B:9:G:C6	2:B:10:C:C4	3.01	0.48
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.27	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
12:Q:79:LEU:HD12	22:0:5:LYS:HD3	1.95	0.48
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.79	0.48
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.48
29:7:12:ARG:HH11	29:7:12:ARG:HG3	1.78	0.48
1:A:1004:C:H6	1:A:1004:C:O5'	1.97	0.48
1:A:1204:A:C2	1:A:1241:A:N1	2.79	0.48
1:A:1728:G:H3'	1:A:1729:A:C5'	2.43	0.48
1:A:1815:A:OP2	3:D:54:ARG:NH2	2.47	0.48
1:A:1826:G:O2'	3:D:242:ARG:NH2	2.46	0.48
1:A:2100:G:C4	1:A:2190:G:C2	3.02	0.48
1:A:2208:U:O2'	1:A:2209:C:H5'	2.12	0.48
1:A:2266:A:H4'	1:A:2267:A:N3	2.28	0.48
1:A:2790:A:H2'	1:A:2791:C:H5''	1.95	0.48
1:A:823:G:H2'	1:A:824:A:H8	1.79	0.48
1:A:839:U:H2'	1:A:840:C:H6	1.79	0.48
2:B:30:C:H2'	2:B:31:C:O4'	2.14	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.48
1:A:2758:A:C4	7:H:67:LEU:HD21	2.48	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
23:1:8:SER:OG	23:1:10:LYS:HG3	2.13	0.48
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.48
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.48
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.48
1:A:1301:A:C2	1:A:1303:G:C6	3.02	0.48
1:A:2040:C:H2'	1:A:2041:U:O4'	2.14	0.48
1:A:2063:C:C4	1:A:2064:C:C4	3.01	0.48
1:A:2363:C:O2'	22:0:39:ARG:NH1	2.42	0.48
1:A:2583:G:C6	1:A:2584:U:C5	3.01	0.48
1:A:2795:G:H3'	1:A:2797:U:H5'	1.96	0.48
1:A:281:G:O2'	1:A:282:A:O4'	2.25	0.48
1:A:2838:G:C4	1:A:2839:G:C8	3.02	0.48
1:A:761:A:H8	1:A:761:A:O5'	1.97	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:888:C:C3'	1:A:889:C:H4'	2.44	0.48
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.48
4:E:55:ASN:O	4:E:57:LYS:N	2.44	0.48
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.95	0.48
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.27	0.48
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.48
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.48
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.48
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.48
1:A:1899:G:H21	1:A:1902:C:H5	1.61	0.48
1:A:2088:G:C6	1:A:2089:U:C4	3.01	0.48
1:A:2420:C:OP1	30:8:34:TRP:HB2	2.14	0.48
2:B:94:C:H2'	2:B:95:U:H6	1.79	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.68	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.48
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.48
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.48
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
21:Z:134:PRO:HB3	21:Z:137:ILE:HD11	1.96	0.48
26:4:60:GLN:O	26:4:63:TYR:HB3	2.13	0.48
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.48
1:A:1416:G:N2	1:A:1417:C:N3	2.62	0.48
1:A:2009:G:H2'	1:A:2010:G:H5'	1.96	0.48
1:A:2418:A:OP2	30:8:29:LYS:HE2	2.13	0.48
1:A:2396:G:C2	1:A:2421:G:C2	3.01	0.48
1:A:2494:G:C4	1:A:2495:G:C8	3.02	0.48
1:A:2756:U:N3	1:A:2759:G:O6	2.47	0.48
1:A:478:A:C6	1:A:480:A:C6	3.01	0.48
1:A:572:A:C8	1:A:573:G:C8	3.02	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.95	0.48
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.48
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.48
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.49	0.48
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.48
7:H:127:GLU:HB3	7:H:128:PRO:HD2	1.92	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
12:Q:60:ARG:HB2	12:Q:60:ARG:NH2	2.28	0.48
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.48
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.27	0.48
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.48
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.48
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.48
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.48
23:1:25:LYS:C	23:1:27:GLU:H	2.17	0.47
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
1:A:1169:G:N2	1:A:1181:C:C2	2.82	0.47
1:A:1389:G:C2	1:A:1399:C:O2	2.67	0.47
1:A:1815:A:C5	1:A:1817:G:C6	3.02	0.47
1:A:2280:G:H2'	1:A:2281:C:H5'	1.95	0.47
1:A:2408:U:O2'	1:A:2409:G:H5'	2.14	0.47
1:A:2421:G:H5''	1:A:2422:A:OP2	2.14	0.47
1:A:2431:U:H2'	1:A:2433:A:OP2	2.13	0.47
1:A:2647:U:H2'	1:A:2648:C:H6	1.78	0.47
1:A:2700:C:O2'	1:A:2701:C:H5'	2.14	0.47
1:A:30:G:O2'	1:A:31:C:H5'	2.14	0.47
1:A:836:G:C5	1:A:837:C:C4	3.02	0.47
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.96	0.47
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.47
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.78	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.13	0.47
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.43	0.47
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.51	0.47
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.27	0.47
21:Z:48:PHE:CZ	21:Z:52:SER:HA	2.48	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.47
1:A:152:G:H2'	1:A:153:C:H6	1.77	0.47
1:A:1771:C:HO2'	1:A:1786:A:H8	1.60	0.47
1:A:2133:G:H2'	1:A:2157:G:N2	2.28	0.47
1:A:2151:G:H2'	1:A:2152:G:C8	2.48	0.47
1:A:2263:C:H2'	1:A:2264:C:C6	2.50	0.47
1:A:2388:A:C8	1:A:2389:G:C5	3.02	0.47
1:A:2529:G:H5''	1:A:2530:A:H5''	1.95	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2648:C:H1'	1:A:2673:G:N2	2.29	0.47
1:A:809:G:H2'	1:A:810:U:C6	2.48	0.47
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.47
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.47
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.47
6:G:12:TYR:O	6:G:16:ARG:HB3	2.14	0.47
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.47
9:N:18:ALA:O	9:N:19:GLU:C	2.53	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.62	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
15:T:132:LYS:O	15:T:136:GLN:HG3	2.13	0.47
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.47
1:A:142:G:O3'	19:X:35:THR:HG21	2.15	0.47
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.47
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.47
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.47
31:9:27:CYS:SG	31:9:28:GLU:N	2.87	0.47
1:A:1045:A:H1'	1:A:1047:G:C2	2.49	0.47
1:A:1109:C:HO2'	1:A:1110:G:P	2.36	0.47
1:A:1407:C:N4	1:A:1595:G:H1	2.10	0.47
1:A:1657:C:H4'	4:E:133:LYS:HB3	1.96	0.47
1:A:1835:G:C4	1:A:1931:U:N3	2.82	0.47
1:A:1831:G:N2	1:A:1974:C:O2	2.46	0.47
1:A:2059:A:H5'	1:A:2060:A:OP2	2.15	0.47
1:A:2298:A:H62	1:A:2318:G:H8	1.61	0.47
1:A:2522:U:H3	1:A:2543:G:H1	1.63	0.47
1:A:431:U:H6	1:A:431:U:O5'	1.97	0.47
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.47
3:D:33:LEU:HB3	3:D:34:VAL:H	1.49	0.47
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
8:I:88:ILE:HG12	8:I:122:GLU:N	2.29	0.47
8:I:129:THR:HG22	8:I:137:PRO:HB3	1.96	0.47
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
1:A:2294:C:H5	14:S:13:ARG:NH1	2.12	0.47
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.83	0.47
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
1:A:1144:G:C6	1:A:1145:C:C4	3.02	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1804:C:H42	1:A:1813:G:H1	1.62	0.47
1:A:186:G:C2	1:A:211:A:C2	3.02	0.47
1:A:2328:A:H2'	1:A:2329:G:C8	2.50	0.47
1:A:2400:G:C5	1:A:2401:U:C5	3.02	0.47
1:A:2408:U:H2'	1:A:2409:G:H8	1.78	0.47
1:A:2616:C:C2'	1:A:2616:C:O2	2.60	0.47
1:A:399:G:H2'	1:A:400:G:O4'	2.15	0.47
1:A:456:C:C4	19:X:69:TYR:CE1	3.02	0.47
1:A:604:G:H5''	1:A:604:G:H8	1.79	0.47
1:A:814:C:O2'	1:A:815:C:H5'	2.14	0.47
1:A:954:G:OP1	12:Q:15:GLY:N	2.39	0.47
2:B:114:G:H8	2:B:114:G:O5'	1.97	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
1:A:1693:U:H1'	3:D:14:ARG:NH2	2.29	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.47
6:G:83:ARG:HB2	6:G:86:MET:HE3	1.97	0.47
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.77	0.47
9:N:9:VAL:HG21	9:N:48:MET:CB	2.44	0.47
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.47
12:Q:59:ARG:CD	12:Q:59:ARG:N	2.73	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.27	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.44	0.47
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.47
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.47
21:Z:72:ARG:HH22	21:Z:97:GLU:HB2	1.78	0.47
1:A:1364:G:N7	23:1:2:SER:N	2.62	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.47
1:A:1764:G:C6	1:A:1989:G:C2	3.02	0.47
1:A:2163:C:H2'	1:A:2164:C:C6	2.50	0.47
1:A:325:G:N2	1:A:326:G:C4	2.82	0.47
1:A:443:A:H1'	1:A:1201:C:O4'	2.14	0.47
1:A:984:A:H5''	1:A:985:C:C5	2.47	0.47
2:B:44:G:H1'	2:B:47:C:N4	2.29	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.68	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.14	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.28	0.47
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.47
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.14	0.47
1:A:1034:G:C6	1:A:1035:U:C4	3.02	0.47
1:A:2092:U:H4'	1:A:2093:G:O5'	2.15	0.47
1:A:2243:U:O2'	1:A:2244:U:H5'	2.15	0.47
1:A:2601:C:H2'	1:A:2602:A:OP2	2.14	0.47
1:A:2675:A:OP1	10:O:31:LYS:HB2	2.14	0.47
1:A:2770:G:H5''	1:A:2771:C:OP2	2.15	0.47
1:A:2871:C:H5''	1:A:2872:G:OP1	2.14	0.47
1:A:463:G:C6	1:A:467:G:C6	3.03	0.47
1:A:679:C:H2'	1:A:680:G:C8	2.49	0.47
2:B:82:G:C4	2:B:83:G:C8	3.03	0.47
3:D:72:LYS:O	3:D:73:VAL:C	2.51	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.47
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.47
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.48	0.47
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
1:A:1228:G:OP1	16:U:13:LYS:HG2	2.15	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
19:X:35:THR:O	19:X:37:THR:N	2.47	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
26:4:50:VAL:CG1	26:4:50:VAL:O	2.63	0.47
30:8:43:GLN:C	30:8:44:LYS:HD2	2.35	0.47
1:A:1270:C:H5''	1:A:1271:G:C5'	2.45	0.47
1:A:1292:U:H2'	1:A:1293:C:H6	1.77	0.47
1:A:1460:A:H4'	1:A:1461:G:OP2	2.14	0.47
1:A:2352:A:H2'	1:A:2353:G:O4'	2.14	0.47
1:A:271(B):G:HO2'	1:A:271(C):U:P	2.37	0.47
1:A:755:C:H2'	1:A:756:C:C6	2.49	0.47
1:A:823:G:C6	1:A:835:A:N1	2.83	0.47
2:B:78:A:C2	2:B:99:A:C4	3.03	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.77	0.47
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.47
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:11:ASN:O	8:I:12:LEU:HB2	2.15	0.47
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.47
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.47
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.47
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.14	0.47
2:B:11:C:OP1	22:O:72:ARG:HD2	2.15	0.47
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.47
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.14	0.47
1:A:1048:A:C5	1:A:1111:A:C2	3.03	0.47
1:A:1417:C:H2'	1:A:1418:G:O4'	2.15	0.47
1:A:1483:G:N2	1:A:1507:A:H1'	2.30	0.47
1:A:1817:G:OP1	3:D:88:ARG:NH2	2.46	0.47
1:A:1900:A:N1	1:A:1970:A:C6	2.83	0.47
1:A:2210:G:H5'	1:A:2211:G:C4	2.49	0.47
1:A:2533:A:H2'	1:A:2534:A:O4'	2.14	0.47
1:A:284:U:H2'	1:A:285:C:C6	2.49	0.47
1:A:576:U:OP1	1:A:2503:A:OP1	2.32	0.47
1:A:612:G:N3	1:A:613:U:O2	2.47	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.47
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.47
9:N:63:THR:HG22	9:N:66:LYS:HZ1	1.79	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.47
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.47
16:U:104:GLN:CD	16:U:104:GLN:H	2.16	0.47
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.47
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.47
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.47
1:A:1534:G:H2'	1:A:1534:G:N3	2.30	0.47
1:A:1899:G:N2	1:A:1902:C:C5	2.83	0.47
1:A:2056:G:N2	1:A:2057:A:C4	2.83	0.47
1:A:2335:A:C8	1:A:2337:G:C5	3.03	0.47
1:A:2756:U:H5''	31:9:19:ARG:HB3	1.97	0.47
1:A:557:U:H2'	1:A:558:G:H8	1.80	0.47
1:A:680:G:H1	1:A:797:C:H42	1.61	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.15	0.47
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.47
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.47
2:B:45:A:O4'	6:G:95:ARG:NH1	2.48	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.15	0.47
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.47
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.53	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
18:W:4:LYS:HA	18:W:106:ILE:HA	1.97	0.47
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.30	0.47
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.47
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.15	0.47
1:A:2055:C:H4'	1:A:2056:G:H5''	1.97	0.47
1:A:2469:A:H2	1:A:2481:G:N2	2.10	0.47
1:A:902:C:O2'	1:A:903:C:H5'	2.15	0.47
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.47
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.97	0.47
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.47
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.79	0.47
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.47
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.48	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
30:8:9:GLY:O	30:8:13:ARG:HG2	2.15	0.47
1:A:1449:A:C2	1:A:1530:G:H1'	2.50	0.47
1:A:1525:G:H2'	1:A:1526:G:C8	2.50	0.47
1:A:1803:A:O2'	3:D:259:THR:HG21	2.15	0.47
1:A:1914:C:H2'	1:A:1915:U:O4'	2.15	0.47
1:A:1769:G:C6	1:A:1984:G:C6	3.03	0.47
1:A:2437:U:O2'	1:A:2438:U:H5'	2.15	0.47
1:A:2439:A:O2'	1:A:2440:C:OP2	2.29	0.47
1:A:2525:G:C2	1:A:2539:C:C2	3.03	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2576:G:OP1	1:A:2577:A:OP1	2.32	0.47
1:A:2688:U:C5	1:A:2720:U:OP2	2.67	0.47
1:A:270(I):G:N3	1:A:270(R):G:N2	2.63	0.47
1:A:2857:G:N1	1:A:2861:G:C6	2.83	0.47
1:A:313:C:H6	1:A:313:C:O5'	1.98	0.47
1:A:980:A:C6	1:A:981:A:N1	2.83	0.47
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.47
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.47
6:G:52:ILE:HG22	6:G:52:ILE:O	2.15	0.47
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.15	0.47
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.47
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.47
8:I:120:ILE:HD11	8:I:126:TYR:CZ	2.50	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.14	0.47
11:P:12:ALA:C	11:P:14:LYS:H	2.16	0.47
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.15	0.47
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.47
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.14	0.47
1:A:851:U:H5'	25:3:49:LYS:HD2	1.97	0.46
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:1021:A:H62	1:A:1141:U:H3	1.63	0.46
1:A:1471:A:C8	1:A:1521:G:N2	2.83	0.46
1:A:2084:C:O2'	1:A:2085:C:H5'	2.15	0.46
1:A:2293:C:H42	1:A:2339:G:H1	1.63	0.46
1:A:2824:C:C4	1:A:2825:C:C4	3.03	0.46
1:A:2869:G:H2'	1:A:2870:C:O4'	2.15	0.46
1:A:754:C:H2'	1:A:755:C:C6	2.51	0.46
1:A:928:G:H5''	1:A:929:G:OP2	2.14	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.98	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.16	0.46
9:N:35:ARG:HG3	9:N:35:ARG:O	2.16	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.31	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.46
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.46
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.46
23:1:76:ARG:H	23:1:76:ARG:CD	2.28	0.46
1:A:1004:C:H5''	1:A:1005:C:OP1	2.15	0.46
1:A:1104:C:H2'	1:A:1105:U:C6	2.49	0.46
1:A:1203:G:N1	1:A:1241:A:OP2	2.44	0.46
1:A:1319:G:O6	1:A:1333:C:N4	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:24:G:C5	1:A:25:U:C5	3.03	0.46
1:A:273:G:C2	1:A:273(A):G:C8	3.03	0.46
1:A:531:C:H4'	1:A:532:A:H5''	1.97	0.46
1:A:83:G:O2'	1:A:84:A:P	2.74	0.46
2:B:77:U:P	21:Z:19:ARG:HH22	2.38	0.46
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.79	0.46
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.71	0.46
7:H:89:ILE:H	7:H:89:ILE:HD13	1.80	0.46
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.48	0.46
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
14:S:5:THR:HG1	14:S:7:TYR:HB3	1.79	0.46
16:U:73:GLY:O	16:U:74:LEU:CB	2.63	0.46
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.97	0.46
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.46
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.46
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.31	0.46
1:A:1568:G:OP1	3:D:61:LEU:N	2.48	0.46
1:A:1605:C:C5	1:A:1606:G:C5	3.03	0.46
1:A:270(S):G:O5'	1:A:270(S):G:H8	1.96	0.46
1:A:282:A:C8	1:A:359:A:C6	3.04	0.46
1:A:377:C:H2'	1:A:378:C:C6	2.50	0.46
1:A:971:C:N4	1:A:972:G:C2	2.84	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.46
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.46
8:I:53:ALA:O	8:I:56:LYS:HG3	2.14	0.46
1:A:1006:C:H1'	9:N:106:MET:CE	2.44	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.63	0.46
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.46
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.96	0.46
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.46
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.46
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.44	0.46
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.46
1:A:1166:C:N4	1:A:1183:G:H1	2.11	0.46
1:A:1203:G:H3'	1:A:1204:A:H5''	1.96	0.46
1:A:1204:A:H1'	1:A:1206:G:C8	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1374:G:C6	1:A:1375:C:N3	2.83	0.46
1:A:1608:A:C8	1:A:1611:C:N4	2.83	0.46
1:A:2822:G:H2'	1:A:2823:A:H5''	1.97	0.46
1:A:846:C:C4	1:A:930:U:C4	3.04	0.46
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.46
1:A:2572:A:C4	4:E:144:ARG:NH2	2.83	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.46
11:P:144:GLU:OE1	11:P:144:GLU:N	2.48	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
1:A:65:C:H5'	19:X:71:GLY:HA3	1.96	0.46
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.46
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.46
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
1:A:1180:C:H5'	1:A:1181:C:OP2	2.15	0.46
1:A:1862:G:C2	1:A:1863:G:N7	2.84	0.46
1:A:2073:C:H2'	1:A:2074:U:C6	2.47	0.46
1:A:2301:C:C4	1:A:2302:G:N7	2.84	0.46
1:A:2031:A:N7	1:A:2498:C:H1'	2.30	0.46
1:A:2556:C:H2'	1:A:2557:G:O4'	2.14	0.46
1:A:2532:G:H4'	1:A:2657:A:C2	2.50	0.46
1:A:682:G:C6	1:A:683:C:C4	3.03	0.46
2:B:111:U:H2'	2:B:112:G:C8	2.51	0.46
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.46
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.31	0.46
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.46
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.46
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.46
6:G:36:LYS:O	6:G:37:VAL:HG23	2.15	0.46
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.46
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.46
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.46
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.15	0.46
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
16:U:98:LEU:C	16:U:98:LEU:HD23	2.36	0.46
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.46
18:W:48:ALA:O	18:W:49:LYS:C	2.53	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.29	0.46
1:A:1587:A:H2'	1:A:1588:C:C6	2.51	0.46
1:A:1843:C:N4	1:A:1844:C:N4	2.64	0.46
1:A:195:A:H5''	11:P:46:LYS:HZ3	1.81	0.46
1:A:2024:G:C6	1:A:2025:C:C4	3.04	0.46
1:A:2063:C:C4	1:A:2064:C:C5	3.04	0.46
1:A:2097:C:H2'	1:A:2098:U:O4'	2.16	0.46
1:A:2336:A:H61	22:0:43:THR:CG2	2.28	0.46
1:A:2389:G:H5''	1:A:2390:U:C5'	2.45	0.46
1:A:2592:G:C6	1:A:2593:U:N3	2.84	0.46
1:A:2661:G:H2'	1:A:2662:A:C8	2.51	0.46
1:A:2674:G:H2'	1:A:2675:A:C8	2.51	0.46
1:A:2877:G:H2'	1:A:2878:U:O4'	2.16	0.46
1:A:348:G:C2	1:A:349:G:C8	3.03	0.46
2:B:95:U:H2'	2:B:96:G:H8	1.79	0.46
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.46
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.46
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
10:O:8:LEU:N	10:O:8:LEU:CD2	2.76	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.80	0.46
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
19:X:65:ARG:N	19:X:65:ARG:CD	2.79	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.16	0.46
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.46
1:A:1174:A:H2'	1:A:1174:A:N3	2.31	0.46
1:A:1621:U:HO2'	1:A:1622:G:H8	1.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2171:A:O2'	1:A:2172:U:O5'	2.34	0.46
1:A:2209:C:O2	1:A:2216:G:C2	2.68	0.46
1:A:2277:G:H5''	12:Q:85:LYS:CB	2.46	0.46
1:A:2660:A:H2'	1:A:2661:G:O4'	2.15	0.46
1:A:2682:U:O4	1:A:2728:U:H1'	2.16	0.46
1:A:389:G:N1	11:P:71:VAL:HG12	2.30	0.46
1:A:524:U:H2'	1:A:525:U:C6	2.51	0.46
1:A:78:A:H2'	1:A:79:G:C8	2.50	0.46
1:A:841:A:H2'	1:A:842:G:C8	2.51	0.46
1:A:937:U:H2'	1:A:938:G:O4'	2.15	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.41	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:116:ASP:O	6:G:117:PHE:CB	2.51	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.46
17:V:36:PRO:HA	17:V:56:SER:HG	1.81	0.46
21:Z:73:GLN:HB3	21:Z:87:ASP:OD1	2.16	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.46
1:A:1473:G:O5'	1:A:1473:G:H8	1.98	0.46
1:A:2151:G:H2'	1:A:2152:G:H8	1.81	0.46
1:A:2236:C:H2'	1:A:2237:G:O4'	2.15	0.46
1:A:2439:A:H8	1:A:2439:A:C5'	2.26	0.46
1:A:2469:A:H4'	1:A:2469:A:OP1	2.14	0.46
1:A:2547:U:H2'	1:A:2548:G:C8	2.50	0.46
1:A:2592:G:C6	1:A:2593:U:C2	3.04	0.46
1:A:273:G:N3	1:A:273(A):G:C8	2.84	0.46
1:A:2831:G:O2'	1:A:2883:A:H2'	2.16	0.46
1:A:696:G:N2	1:A:697:C:C2	2.84	0.46
1:A:952:G:P	12:Q:16:ARG:HH12	2.39	0.46
2:B:74:U:H2'	2:B:75:G:O4'	2.16	0.46
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.46
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.16	0.46
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.46
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.51	0.46
13:R:3:HIS:C	13:R:5:LYS:H	2.17	0.46
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.46
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.44	0.46
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.46
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.46
1:A:1222:C:H2'	1:A:1223:C:C6	2.48	0.46
1:A:1548:C:H2'	1:A:1549:C:C6	2.51	0.46
1:A:1727:U:H2'	1:A:1728:G:O4'	2.16	0.46
1:A:1777:U:O2	1:A:1777:U:H2'	2.16	0.46
1:A:1832:C:N4	1:A:1833:U:C4	2.84	0.46
1:A:2127:G:O6	1:A:2161:C:N4	2.49	0.46
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.15	0.46
1:A:2612:C:C5	1:A:2613:U:H5	2.34	0.46
1:A:2724:C:OP1	4:E:118:LYS:NZ	2.49	0.46
1:A:357:A:H2'	1:A:358:U:H6	1.81	0.46
1:A:618(A):C:H2'	1:A:618(A):C:O2	2.16	0.46
1:A:596:G:C4	1:A:662:G:N2	2.84	0.46
1:A:742:G:H2'	1:A:743:G:H8	1.80	0.46
2:B:7:G:N3	2:B:114:G:N2	2.64	0.46
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.46
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.46
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.46
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.46
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.46
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.46
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.46
15:T:54:ARG:HG2	15:T:54:ARG:NH1	2.23	0.46
21:Z:165:VAL:O	21:Z:166:SER:OG	2.31	0.46
22:0:21:LEU:HD11	22:0:41:ARG:CZ	2.46	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.46
1:A:467:G:OP1	29:7:33:ARG:NH1	2.49	0.46
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.81	0.46
1:A:1022:G:HO2'	1:A:1023:U:P	2.38	0.46
1:A:1624:G:H2'	1:A:1625:C:H6	1.81	0.46
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.49	0.46
1:A:2692:C:OP1	1:A:2871:C:H5'	2.16	0.46
1:A:2752:C:H5'	1:A:2753:A:OP2	2.16	0.46
1:A:299:A:H5''	1:A:299:A:H8	1.81	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:381:G:C5	1:A:394:A:C2	3.04	0.46
1:A:747:U:N1	27:5:2:ALA:HB3	2.30	0.46
1:A:910:A:N6	1:A:911:A:N6	2.64	0.46
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.46
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.15	0.46
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.98	0.46
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.46
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.46
6:G:76:SER:CB	6:G:83:ARG:HA	2.46	0.46
8:I:67:ARG:NH2	8:I:68:LEU:HB2	2.31	0.46
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.46
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.46
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.46
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.46
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.46
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.46
21:Z:114:GLY:HA3	21:Z:177:PRO:HG3	1.97	0.46
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
31:9:1:MET:SD	31:9:31:LYS:O	2.74	0.45
1:A:565:C:H4'	1:A:1253:A:C6	2.51	0.45
1:A:1654:A:C2	4:E:113:PHE:CD1	3.04	0.45
1:A:1669:A:H5''	1:A:1670:C:OP2	2.16	0.45
1:A:17:G:H2'	1:A:18:C:C6	2.51	0.45
1:A:2306:C:H3'	1:A:2307:G:H5''	1.97	0.45
1:A:2346:A:C2	1:A:2383:G:C2	3.04	0.45
1:A:2375:G:O5'	1:A:2375:G:H8	1.99	0.45
1:A:2412:A:N6	1:A:2413:G:N3	2.64	0.45
1:A:242:G:N2	1:A:254:G:H2'	2.31	0.45
1:A:270(G):C:H2'	1:A:270(H):C:C6	2.51	0.45
1:A:547:A:OP2	1:A:547:A:H8	1.99	0.45
2:B:55:U:H2'	2:B:56:G:C8	2.51	0.45
3:D:206:LEU:HA	3:D:206:LEU:HD23	1.49	0.45
3:D:241:PRO:O	3:D:242:ARG:C	2.53	0.45
4:E:51:PHE:HD1	4:E:52:LEU:H	1.59	0.45
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.45
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.45
1:A:2820:A:N3	13:R:4:LEU:HD21	2.31	0.45
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.45
21:Z:5:LEU:HB3	21:Z:59:LEU:HD23	1.98	0.45
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.45
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.45
1:A:1021:A:O2'	1:A:1123:C:H5''	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1036:G:H1	1:A:1119:C:H42	1.64	0.45
1:A:1245:G:N2	1:A:1246:A:H1'	2.30	0.45
1:A:1374:G:H2'	1:A:1375:C:O4'	2.17	0.45
1:A:1488:G:C6	1:A:1489:U:C4	3.04	0.45
1:A:1838:C:C2	1:A:1898:U:C4	3.03	0.45
1:A:1936:A:H3'	1:A:1937:A:H5'	1.98	0.45
1:A:1785:A:OP2	1:A:1982:C:H5'	2.17	0.45
1:A:2405:G:H8	1:A:2405:G:O5'	2.00	0.45
1:A:2766:G:C2	1:A:2767:C:C6	3.03	0.45
1:A:811:U:O2'	1:A:812:C:H5''	2.16	0.45
1:A:855:G:C6	1:A:856:C:N4	2.85	0.45
1:A:97:C:H2'	1:A:97:C:O2	2.17	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.35	0.45
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.85	0.45
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.45
1:A:1140:C:P	9:N:24:GLY:HA3	2.56	0.45
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.47	0.45
1:A:389:G:H22	11:P:72:PRO:CD	2.29	0.45
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.45
15:T:107:ASP:HB2	15:T:108:ARG:H	1.48	0.45
1:A:1252:G:O4'	16:U:33:ARG:HD3	2.16	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.45
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.45
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.45
1:A:855:G:O2'	22:O:27:GLU:OE2	2.20	0.45
1:A:76:C:O2'	24:2:62:THR:HG21	2.17	0.45
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
28:6:45:LYS:HA	28:6:45:LYS:HD3	1.79	0.45
1:A:1412:A:C6	1:A:1413:G:C6	3.05	0.45
1:A:1930:G:HO2'	1:A:1931:U:P	2.39	0.45
1:A:2013:A:H2'	1:A:2014:A:H5'	1.98	0.45
1:A:298:G:N2	1:A:341:G:O6	2.50	0.45
1:A:583:G:H5''	16:U:10:ARG:NH1	2.26	0.45
1:A:972:G:OP2	1:A:974:G:H5''	2.16	0.45
1:A:996:A:H2'	1:A:997:G:H8	1.80	0.45
2:B:50:G:P	14:S:62:LYS:HB2	2.57	0.45
2:B:7:G:H2'	2:B:8:U:O4'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.45
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.98	0.45
9:N:120:LEU:HD13	9:N:120:LEU:C	2.37	0.45
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.45
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.81	0.45
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.45
13:R:85:PRO:C	13:R:87:TYR:H	2.19	0.45
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.37	0.45
21:Z:163:LEU:H	21:Z:163:LEU:HG	1.61	0.45
22:O:42:GLY:C	22:O:57:PHE:HD1	2.19	0.45
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.45
1:A:851:U:C1'	25:3:46:ASN:HD21	2.26	0.45
1:A:1058:G:C2	1:A:1059:G:N7	2.85	0.45
1:A:1589:C:H2'	1:A:1590:U:H6	1.82	0.45
1:A:2072:G:N2	1:A:2073:C:C2	2.84	0.45
1:A:2146:C:H4'	1:A:2147:G:C8	2.52	0.45
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.52	0.45
1:A:2277:G:H5''	12:Q:85:LYS:HG3	1.98	0.45
1:A:2532:G:H8	1:A:2532:G:O5'	2.00	0.45
1:A:2592:G:N1	1:A:2601:C:N3	2.52	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.45
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.45
5:F:7:TYR:CD1	5:F:7:TYR:N	2.85	0.45
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.97	0.45
8:I:69:LYS:HG3	8:I:136:VAL:HB	1.99	0.45
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.45
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.45
10:O:97:ARG:H	10:O:117:LEU:CD2	2.24	0.45
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.45
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.99	0.45
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.80	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.45
1:A:1412:A:H2'	1:A:1413:G:O4'	2.17	0.45
1:A:1541:U:H2'	1:A:1542:G:O4'	2.17	0.45
1:A:1641:A:H3'	1:A:1642:G:C8	2.52	0.45
1:A:187:G:C6	1:A:188:G:C5	3.05	0.45
1:A:1965:C:H3'	1:A:1966:A:H2'	1.98	0.45
1:A:1834:U:H1'	1:A:1969:A:C2	2.52	0.45
1:A:2020:A:C2	1:A:2022:U:O4'	2.70	0.45
1:A:205:G:HO2'	1:A:206:U:P	2.38	0.45
1:A:2228:G:H5''	1:A:2229:C:OP2	2.16	0.45
1:A:2310:A:H62	6:G:77:ILE:CG2	2.27	0.45
1:A:2335:A:N7	1:A:2337:G:C5	2.84	0.45
1:A:2412:A:N6	1:A:2413:G:C2	2.84	0.45
1:A:2447:G:O6	1:A:2504:U:O4	2.35	0.45
1:A:2470:G:C5'	12:Q:56:ARG:HH22	2.29	0.45
1:A:2615:U:C2	27:5:7:PRO:HA	2.52	0.45
1:A:1050:A:C8	1:A:2751:G:C4	3.04	0.45
1:A:701:G:H5''	1:A:701:G:H8	1.81	0.45
2:B:88:C:H2'	2:B:89:G:C8	2.51	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.45
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.45
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.45
1:A:1092:C:O2'	7:H:170:ARG:NE	2.49	0.45
1:A:1318:C:H5''	1:A:1319:G:OP2	2.17	0.45
1:A:1423:G:H2'	1:A:1424:G:H8	1.82	0.45
1:A:1580:A:H8	1:A:1580:A:OP2	2.00	0.45
1:A:213:A:H2'	1:A:214:G:O4'	2.16	0.45
1:A:222:A:HO2'	1:A:223:A:P	2.39	0.45
1:A:2397:G:H5''	23:1:28:GLY:HA2	1.99	0.45
1:A:2436:G:C5	1:A:2437:U:C5	3.04	0.45
1:A:2574:G:H2'	1:A:2575:C:C6	2.52	0.45
1:A:2652:C:H2'	1:A:2653:U:O4'	2.16	0.45
1:A:1637:A:H4'	1:A:2711:A:O2'	2.17	0.45
1:A:2881:C:O3'	13:R:96:ARG:HG3	2.17	0.45
1:A:807:U:H2'	1:A:808:G:H8	1.82	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:72:G:H5''	2:B:73:A:OP1	2.16	0.45
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.45
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.45
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.45
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.45
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45
9:N:7:LYS:HD3	9:N:9:VAL:H	1.80	0.45
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
21:Z:95:PRO:HG2	21:Z:127:LYS:HD3	1.99	0.45
21:Z:3:TYR:O	21:Z:58:VAL:HG23	2.16	0.45
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.45
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.45
1:A:1049:C:C2'	1:A:1050:A:H5''	2.40	0.45
1:A:1446:C:C2	1:A:1447:G:C8	3.05	0.45
1:A:1821:A:N6	1:A:1822:G:O6	2.50	0.45
1:A:1845:G:OP1	3:D:258:LYS:NZ	2.43	0.45
1:A:2038:G:H2'	1:A:2039:C:O4'	2.17	0.45
1:A:2131:G:C4'	1:A:2132:U:H4'	2.46	0.45
1:A:2493:U:H2'	1:A:2494:G:O4'	2.16	0.45
1:A:2639:A:H1'	1:A:2778:A:C2	2.52	0.45
1:A:2737:G:H2'	1:A:2738:A:H8	1.80	0.45
1:A:383:U:H5''	1:A:384:U:OP2	2.16	0.45
1:A:489:G:C5	1:A:1284:A:C2	3.04	0.45
1:A:564:C:H2'	1:A:565:C:O4'	2.17	0.45
1:A:581:C:H2'	1:A:582:G:H8	1.81	0.45
1:A:747:U:H6	1:A:747:U:O5'	1.99	0.45
2:B:12:C:H2'	22:0:73:GLY:HA3	1.99	0.45
2:B:34:U:O2'	2:B:44:G:O6	2.34	0.45
2:B:24:G:C2	2:B:56:G:C2	3.04	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.45
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.45
8:I:56:LYS:NZ	8:I:57:ARG:HA	2.31	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.45
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.45
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.45
21:Z:29:TYR:HE2	21:Z:87:ASP:HB3	1.81	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.98	0.45
1:A:126:A:OP2	29:7:18:PHE:N	2.50	0.45
29:7:2:LYS:HG2	29:7:3:ARG:N	2.31	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.98	0.45
1:A:1273:U:H4'	1:A:1275:A:OP1	2.17	0.45
1:A:2011:U:C2'	1:A:2012:G:H5'	2.46	0.45
1:A:2064:C:H2'	1:A:2065:C:C6	2.51	0.45
1:A:205:G:O2'	1:A:206:U:P	2.75	0.45
1:A:2118:U:H3	1:A:2147:G:HO2'	1.65	0.45
1:A:2196:C:H2'	1:A:2197:U:H6	1.82	0.45
1:A:221:A:N3	1:A:233:A:H1'	2.30	0.45
1:A:228:A:C5	1:A:230:U:O2	2.70	0.45
1:A:2457:U:C4	1:A:2458:G:C6	3.04	0.45
1:A:565:C:H2'	1:A:566:U:O4'	2.16	0.45
1:A:586:A:H5'	5:F:89:VAL:HG21	1.98	0.45
1:A:7:G:H2'	1:A:8:A:H8	1.82	0.45
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.82	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
6:G:121:ASN:C	6:G:123:ASN:H	2.19	0.45
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.99	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.45
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.45
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.45
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.45
1:A:270(T):G:OP1	23:1:97:LEU:HD13	2.16	0.45
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.45
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.45
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.45
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.45
1:A:1169:G:N2	1:A:1181:C:O2	2.49	0.45
1:A:1416:G:HO2'	1:A:1417:C:H6	1.60	0.45
1:A:1422:G:N2	1:A:1577:C:H1'	2.32	0.45
1:A:2470:G:H5'	12:Q:56:ARG:HH22	1.81	0.45
1:A:2649:U:H2'	1:A:2650:U:C6	2.51	0.45
1:A:479:A:N3	1:A:481:G:H5''	2.32	0.45
1:A:528:A:C8	1:A:528:A:H3'	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:721:C:H3'	1:A:722:A:H8	1.81	0.45
1:A:780:G:H21	1:A:783:A:N6	2.15	0.45
1:A:828:U:H2'	1:A:829:A:C8	2.52	0.45
3:D:226:MET:HG2	3:D:226:MET:H	1.53	0.45
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
8:I:56:LYS:CE	8:I:57:ARG:HG2	2.46	0.45
1:A:558:G:OP2	9:N:111:PRO:HD2	2.17	0.45
10:O:53:LYS:CD	10:O:53:LYS:N	2.69	0.45
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.45
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
12:Q:58:PHE:O	12:Q:58:PHE:CD1	2.70	0.45
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.45
1:A:298:G:OP1	20:Y:85:VAL:HG22	2.17	0.45
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.45
1:A:1827:C:H2'	1:A:1828:G:O4'	2.17	0.45
1:A:181:A:H2'	1:A:182:A:C8	2.52	0.45
1:A:1846:G:N2	1:A:1895:C:C2	2.84	0.45
1:A:2463:C:O2	1:A:2488:A:C2	2.70	0.45
1:A:2472:G:H2'	1:A:2475:C:H42	1.82	0.45
1:A:2050:C:N4	1:A:2618:G:H1	2.13	0.45
1:A:2677:G:H2'	1:A:2678:C:C6	2.49	0.45
1:A:2751:G:C8	1:A:2751:G:O5'	2.70	0.45
1:A:295:G:H1	1:A:343:C:N4	2.15	0.45
1:A:455:C:HO2'	1:A:472:A:H2	1.62	0.45
1:A:66:C:H2'	1:A:67:U:H6	1.82	0.45
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.45
10:O:97:ARG:HA	10:O:117:LEU:HD22	1.99	0.45
10:O:19:ILE:H	10:O:19:ILE:HD13	1.83	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.45
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
21:Z:144:LEU:HD11	21:Z:149:SER:HA	1.99	0.45
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.44
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.44
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.44
1:A:2419:U:O4	30:8:30:ARG:NE	2.50	0.44
1:A:729:G:H2'	1:A:1775:U:O2	2.17	0.44
1:A:1778:U:H2'	1:A:1784:A:H62	1.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2331:G:N2	1:A:2385:C:C4	2.85	0.44
1:A:2557:G:C6	1:A:2558:C:C4	3.05	0.44
1:A:503:A:C8	1:A:506:G:N7	2.85	0.44
1:A:978:G:C2	1:A:986:C:C2	3.05	0.44
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.52	0.44
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.44
5:F:144:LYS:C	5:F:146:ALA:H	2.21	0.44
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.44
8:I:79:ILE:N	8:I:141:LYS:O	2.49	0.44
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.44
9:N:5:VAL:O	9:N:5:VAL:HG13	2.17	0.44
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.44
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.44
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.44
21:Z:112:ARG:O	21:Z:114:GLY:N	2.50	0.44
21:Z:123:ASP:O	21:Z:124:ILE:HG13	2.17	0.44
27:5:40:LYS:HZ1	27:5:48:GLU:CB	2.19	0.44
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.77	0.44
1:A:120:U:C2	1:A:149:A:C6	3.06	0.44
1:A:1840:G:H1	1:A:1902:C:H42	1.63	0.44
1:A:2228:G:OP1	3:D:261:LYS:HE2	2.17	0.44
1:A:2286:A:H4'	1:A:2287:A:O4'	2.16	0.44
1:A:2458:G:C4	1:A:2490:G:C6	3.04	0.44
1:A:2557:G:C6	1:A:2558:C:N4	2.85	0.44
1:A:2642:G:H4'	9:N:78:TYR:CE2	2.52	0.44
1:A:2711:A:OP1	1:A:2712(A):A:P	2.74	0.44
1:A:529:A:H8	1:A:530:G:C6	2.36	0.44
1:A:658:C:H2'	1:A:659:C:C6	2.52	0.44
1:A:592:G:N2	1:A:665:C:N3	2.57	0.44
1:A:722:A:H2'	1:A:723:G:C8	2.53	0.44
1:A:784:A:N7	3:D:229:VAL:HG21	2.31	0.44
1:A:902:C:H2'	1:A:903:C:C6	2.53	0.44
2:B:32:C:C2	2:B:33:G:C8	3.05	0.44
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.44
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.85	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1654:A:OP1	13:R:1:MET:O	2.34	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.44
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.44
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.15	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
26:4:33:VAL:CG1	26:4:34:GLU:N	2.80	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
1:A:1352:U:O2'	1:A:1353:A:H5'	2.18	0.44
1:A:1620:G:O2'	1:A:1621:U:H5'	2.17	0.44
1:A:729:G:H2'	1:A:1775:U:H1'	2.00	0.44
1:A:1820:U:H4'	1:A:1821:A:OP2	2.17	0.44
1:A:1942:C:C4	1:A:1943:U:C4	3.05	0.44
1:A:2283:C:OP2	28:6:5:VAL:HG13	2.18	0.44
1:A:2312:U:C5	1:A:2313:C:H5	2.35	0.44
1:A:2445:G:C2'	1:A:2446:G:H5'	2.48	0.44
1:A:601:C:O2'	1:A:605:C:OP1	2.32	0.44
1:A:728:G:H4'	3:D:13:ARG:HD2	1.99	0.44
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.46	0.44
6:G:63:ILE:HG12	6:G:64:THR:N	2.33	0.44
8:I:5:LEU:HD11	8:I:19:VAL:HG12	2.00	0.44
12:Q:60:ARG:HB2	12:Q:60:ARG:HH21	1.82	0.44
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.44
18:W:28:SER:O	18:W:30:GLU:N	2.51	0.44
1:A:85:G:OP1	20:Y:8:LYS:HA	2.17	0.44
21:Z:179:ASP:CG	21:Z:180:VAL:HG22	2.37	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:1263:U:O2'	27:5:11:THR:HG23	2.17	0.44
1:A:1423:G:C2	1:A:1424:G:C8	3.06	0.44
1:A:1729:A:N6	1:A:1731:G:C2	2.86	0.44
1:A:2145:C:H2'	1:A:2147:G:N2	2.33	0.44
1:A:2196:C:H2'	1:A:2197:U:C6	2.52	0.44
1:A:2280:G:C2'	1:A:2281:C:H5'	2.48	0.44
1:A:655:A:C8	1:A:656:G:O4'	2.70	0.44
2:B:13:A:C6	2:B:70:C:H5'	2.52	0.44
2:B:79:C:H42	2:B:97:G:H1	1.64	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.44
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.44
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.44
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.44
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.44
1:A:1266:G:C8	18:W:15:ARG:NH1	2.86	0.44
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.44
24:2:41:ILE:O	24:2:41:ILE:HD12	2.16	0.44
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
1:A:1027:A:N6	1:A:1126:A:C4	2.86	0.44
1:A:1426:G:O2'	1:A:1572:A:N6	2.47	0.44
1:A:1709:U:H2'	1:A:1710:C:C6	2.52	0.44
1:A:2087:G:C2'	1:A:2088:G:H5'	2.48	0.44
1:A:20:C:C2	1:A:521:G:N2	2.86	0.44
1:A:2720:U:O4	1:A:2872:G:C6	2.70	0.44
1:A:2808:U:H3	1:A:2892:A:H62	1.64	0.44
1:A:407:G:H2'	1:A:408:G:H8	1.83	0.44
1:A:1693:U:H1'	3:D:14:ARG:HH22	1.82	0.44
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.44
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.44
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.44
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.44
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.44
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44
16:U:53:ARG:C	16:U:55:ARG:H	2.20	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
1:A:2262:U:OP2	22:0:19:LYS:HE3	2.17	0.44
26:4:23:GLU:O	26:4:24:THR:OG1	2.34	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
1:A:1690:A:H2'	1:A:1691:C:O4'	2.17	0.44
1:A:1870:C:H2'	1:A:1871:A:O4'	2.17	0.44
1:A:2219:G:H5''	3:D:269:PHE:CZ	2.53	0.44
1:A:2283:C:C2	1:A:2389:G:C2	3.06	0.44
1:A:2563:U:H4'	10:O:28:SER:HA	1.99	0.44
1:A:270(T):G:H5''	23:1:97:LEU:CD2	2.42	0.44
1:A:2748:A:H2'	1:A:2749:A:H8	1.82	0.44
1:A:463:G:N1	1:A:467:G:C6	2.85	0.44
1:A:467:G:H8	1:A:467:G:O5'	1.99	0.44
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.44
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.44
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.44
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.44
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.44
1:A:1053:C:N4	1:A:1054:A:N7	2.66	0.44
1:A:1288:U:C2	1:A:1327:C:O2	2.70	0.44
1:A:1494:A:O2'	1:A:1495:A:H5'	2.17	0.44
1:A:2033:A:N6	1:A:2036:C:C2	2.86	0.44
1:A:2210:G:H5'	1:A:2211:G:C5	2.53	0.44
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.18	0.44
1:A:2399:G:H2'	1:A:2400:G:O4'	2.17	0.44
1:A:2636:U:H2'	1:A:2637:U:C6	2.53	0.44
1:A:2655:G:HO2'	1:A:2656:U:P	2.38	0.44
1:A:2734:A:N6	1:A:2770:G:O2'	2.49	0.44
1:A:377:C:H2'	1:A:378:C:H6	1.83	0.44
1:A:381:G:H1	1:A:393:C:H42	1.66	0.44
1:A:971:C:N4	1:A:972:G:C4	2.86	0.44
1:A:84:A:H2	1:A:98:G:N3	2.15	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.82	0.44
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.44
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.44
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.44
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
8:I:76:THR:OG1	8:I:139:GLN:OE1	2.33	0.44
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.44
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.44
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.44
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.44
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.44
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.44
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.00	0.44
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
1:A:1319:G:N3	1:A:1319:G:H2'	2.32	0.44
1:A:1793:C:N4	1:A:1826:G:H1	2.15	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1853:A:N3	1:A:2233:U:O2'	2.50	0.44
1:A:2063:C:N4	1:A:2064:C:C4	2.86	0.44
1:A:415:A:N1	1:A:2409:G:C6	2.86	0.44
1:A:2621:A:N6	1:A:2622:C:N4	2.66	0.44
1:A:273(D):C:H2'	1:A:273(E):U:C6	2.53	0.44
1:A:2794:C:N4	1:A:2795:G:O6	2.50	0.44
1:A:323:G:O2'	1:A:1205:U:N3	2.48	0.44
1:A:347:A:H2'	1:A:348:G:H8	1.83	0.44
1:A:442:G:O4'	5:F:46:ARG:HD3	2.18	0.44
1:A:679:C:H2'	1:A:680:G:H8	1.83	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.44
8:I:56:LYS:HZ1	8:I:57:ARG:HG2	1.83	0.44
9:N:109:LYS:H	9:N:109:LYS:CD	2.26	0.44
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.44
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.21	0.44
15:T:49:VAL:O	15:T:49:VAL:CG1	2.64	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.44
21:Z:24:LEU:N	21:Z:39:VAL:O	2.49	0.44
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.44
1:A:83:G:N2	1:A:103:A:OP2	2.47	0.44
1:A:1067:A:H8	1:A:1067:A:OP1	2.01	0.44
1:A:1517:G:H2'	1:A:1518:C:C6	2.53	0.44
1:A:1683:C:H2'	1:A:1684:C:C6	2.53	0.44
1:A:1776:G:H2'	1:A:1777:U:H5'	2.00	0.44
1:A:2416:C:N3	1:A:2417:C:C5	2.86	0.44
1:A:2422:A:C8	1:A:2424:C:H5	2.35	0.44
1:A:2552:U:C2	1:A:2554:U:H5''	2.53	0.44
1:A:701:G:C8	1:A:701:G:H5''	2.53	0.44
1:A:725:G:C6	1:A:726:G:N1	2.86	0.44
1:A:943:U:P	11:P:36:LYS:HD3	2.58	0.44
2:B:9:G:H1	2:B:111:U:H3	1.65	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
7:H:153:LYS:HG3	7:H:162:ILE:H	1.79	0.44
8:I:47:LEU:O	8:I:51:ILE:N	2.47	0.44
8:I:56:LYS:HZ2	8:I:57:ARG:HA	1.83	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.44
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.44
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.44
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.44
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.44
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.17	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.43
1:A:1065:U:H5''	1:A:1066:U:H6	1.82	0.43
1:A:1308:A:H2'	1:A:1309:G:O4'	2.18	0.43
1:A:1360:A:C6	1:A:1372:U:C4	3.06	0.43
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.53	0.43
1:A:242:G:H5''	30:8:3:LYS:CE	2.39	0.43
1:A:1783:A:H5'	1:A:2608:G:H4'	2.00	0.43
1:A:2762:G:H2'	1:A:2763:G:H5'	2.00	0.43
1:A:290:G:H2'	1:A:291:C:H6	1.83	0.43
1:A:389:G:H1	11:P:71:VAL:HG12	1.83	0.43
1:A:422:A:C6	1:A:423:A:C5	3.06	0.43
1:A:663:G:C5	1:A:664:C:C5	3.06	0.43
1:A:869:G:H2'	1:A:870:A:C8	2.53	0.43
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.43
1:A:1567:A:H5'	3:D:58:HIS:ND1	2.32	0.43
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.43
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.43
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.43
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.43
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	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	2.36	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1310:G:OP2	29:7:9:ARG:NH1	2.51	0.43
1:A:1326:U:O2'	1:A:1327:C:H5'	2.18	0.43
1:A:181:A:C2	1:A:182:A:C4	3.06	0.43
1:A:2060:A:N7	1:A:2502:G:C2	2.86	0.43
1:A:2114:A:H3'	1:A:2114:A:N3	2.33	0.43
1:A:2511:U:H2'	1:A:2512:C:O4'	2.18	0.43
1:A:307:G:H8	1:A:307:G:O5'	2.01	0.43
1:A:635:C:O2'	1:A:639:U:OP1	2.35	0.43
1:A:722:A:C2	1:A:723:G:C4	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:40:U:C2	2:B:43:C:OP2	2.71	0.43
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.43
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.43
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.43
11:P:96:THR:HG22	11:P:126:VAL:CB	2.46	0.43
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.43
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.43
23:1:82:LEU:HD12	23:1:82:LEU:O	2.10	0.43
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	0.43
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.43
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
1:A:1145:C:H2'	1:A:1146:C:H6	1.84	0.43
1:A:1176:G:OP1	1:A:1176:G:H4'	2.19	0.43
1:A:1341:U:H2'	1:A:1397:U:O2	2.18	0.43
1:A:1504:C:H5'	1:A:1505:C:OP2	2.18	0.43
1:A:1906:G:N2	1:A:1925:C:O2	2.51	0.43
1:A:2018:G:C6	1:A:2019:A:C5	3.07	0.43
1:A:2416:C:H2'	1:A:2417:C:H6	1.83	0.43
1:A:2502:G:H5''	1:A:2503:A:H5''	2.00	0.43
1:A:2869:G:H2'	1:A:2870:C:C6	2.53	0.43
1:A:384:U:H2'	1:A:385:C:H6	1.83	0.43
1:A:629:G:H5'	1:A:650:C:O2'	2.19	0.43
1:A:695:G:C2	1:A:696:G:C8	3.07	0.43
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.43
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.01	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.43
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
8:I:5:LEU:HD12	8:I:5:LEU:N	2.33	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.87	0.43
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.43
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.43
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:0:74:ARG:HD3	22:0:74:ARG:O	2.18	0.43
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.43
1:A:1230:C:H2'	1:A:1231:G:H8	1.83	0.43
1:A:1445:C:C2	1:A:1446:C:C5	3.07	0.43
1:A:1454:U:O2	13:R:64:ARG:NH1	2.41	0.43
1:A:2400:G:N3	1:A:2400:G:H2'	2.33	0.43
1:A:2259:G:H1'	1:A:2427:C:C2	2.53	0.43
1:A:252:G:H21	1:A:253:C:H1'	1.82	0.43
1:A:24:G:C4	1:A:25:U:C6	3.06	0.43
1:A:2637:U:C4	1:A:2638:G:C6	3.07	0.43
1:A:2667:C:H2'	1:A:2668:G:O4'	2.19	0.43
1:A:552:G:H2'	1:A:553:U:O4'	2.18	0.43
1:A:683:C:H42	1:A:794:G:H1	1.64	0.43
2:B:77:U:H4'	21:Z:84:GLU:OE1	2.17	0.43
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.49	0.43
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.00	0.43
6:G:31:VAL:HG13	6:G:31:VAL:O	2.18	0.43
6:G:44:GLY:HA2	6:G:88:ILE:HD11	2.00	0.43
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.56	0.43
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.18	0.43
10:O:63:VAL:HG23	10:O:63:VAL:O	2.17	0.43
11:P:36:LYS:HG3	11:P:36:LYS:HZ3	1.42	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.54	0.43
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.43
17:V:1:MET:HE1	17:V:43:GLU:HG2	2.00	0.43
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.43
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.43
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.43
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.43
23:1:94:LEU:O	23:1:95:LEU:HB2	2.17	0.43
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.18	0.43
1:A:1423:G:N3	1:A:1424:G:C8	2.86	0.43
1:A:1710:C:N3	1:A:1749:A:C2	2.86	0.43
1:A:188:G:H1	1:A:208:C:N4	2.11	0.43
1:A:1964:G:N2	1:A:1967:C:C2	2.87	0.43
1:A:2094:G:C2	1:A:2095:C:C2	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2119:A:N1	1:A:2170:A:N7	2.67	0.43
1:A:304:G:C2	1:A:314:A:C2	3.07	0.43
1:A:380:U:H2'	1:A:381:G:C8	2.47	0.43
1:A:448:U:H1'	5:F:84:VAL:CG2	2.49	0.43
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.43
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.48	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.43
1:A:1375:C:H2'	1:A:1376:C:H6	1.83	0.43
1:A:1524:G:C6	1:A:1525:G:N7	2.86	0.43
1:A:2090:G:H2'	1:A:2091:U:O4'	2.19	0.43
1:A:231:C:C5	1:A:232:G:C5	3.07	0.43
1:A:2375:G:H3'	1:A:2375:G:C8	2.54	0.43
1:A:2388:A:N7	1:A:2389:G:C5	2.87	0.43
1:A:2414:G:H21	11:P:67:MET:CE	2.32	0.43
1:A:2805:G:N2	1:A:2807:G:C2	2.87	0.43
1:A:2816:C:O3'	13:R:99:LYS:NZ	2.51	0.43
1:A:704:G:O2'	1:A:705:A:O5'	2.33	0.43
1:A:856:C:H1'	22:O:27:GLU:CB	2.47	0.43
1:A:950:G:C6	1:A:951:C:C4	3.06	0.43
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.43
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.83	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.43
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
1:A:2470:G:C5'	12:Q:56:ARG:NH2	2.81	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.18	0.43
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.43
1:A:1027:A:C6	1:A:1126:A:C5	3.07	0.43
1:A:124:G:N2	1:A:126:A:O2'	2.51	0.43
1:A:1288:U:H4'	1:A:1289:C:OP2	2.19	0.43
1:A:1346:G:C5	1:A:1347:G:N7	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1365:A:N6	1:A:1366:A:C6	2.87	0.43
1:A:1409:C:H2'	1:A:1410:G:O4'	2.19	0.43
1:A:140:A:H1'	1:A:1408:C:O2'	2.19	0.43
1:A:2001:A:C2	1:A:2002:G:C5	3.06	0.43
1:A:2069:G:N2	1:A:2070:G:C4	2.87	0.43
1:A:2456:C:C4	1:A:2457:U:C5	3.06	0.43
1:A:2662:A:H2'	1:A:2663:G:O4'	2.18	0.43
1:A:273(E):U:H2'	1:A:273(F):C:H6	1.83	0.43
1:A:275:G:N2	1:A:276:A:H62	2.17	0.43
1:A:476:G:N2	1:A:479:A:C8	2.86	0.43
1:A:729:G:C4	1:A:1775:U:C2	3.07	0.43
1:A:735:A:H5''	1:A:736:C:OP2	2.18	0.43
3:D:11:PRO:O	3:D:12:SER:OG	2.29	0.43
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.43
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.43
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.43
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.43
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.43
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.43
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
12:Q:83:MET:H	22:O:7:LEU:CD2	2.25	0.43
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.43
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.43
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.43
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.84	0.43
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.43
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.43
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.83	0.43
22:O:57:PHE:HD2	22:O:57:PHE:N	2.17	0.43
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.43
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.43
29:7:32:LYS:O	29:7:33:ARG:C	2.55	0.43
1:A:1019:U:O2'	1:A:1021:A:H2	1.95	0.43
1:A:1199:U:H2'	1:A:1200:C:C6	2.54	0.43
1:A:120:U:O4'	1:A:120:U:O2	2.37	0.43
1:A:137(A):G:H1'	19:X:41:ASN:HD22	1.84	0.43
1:A:1485:G:C2'	1:A:1486:A:H5'	2.48	0.43
1:A:1894:C:H2'	1:A:1895:C:H6	1.84	0.43
1:A:2277:G:H5''	12:Q:85:LYS:HB2	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2492:U:O2'	1:A:2493:U:H5'	2.19	0.43
1:A:2584:U:H2'	1:A:2585:U:C6	2.54	0.43
1:A:2621:A:C6	1:A:2622:C:C4	3.07	0.43
1:A:2632:A:H2'	1:A:2632:A:N3	2.34	0.43
1:A:2675:A:N6	1:A:2676:C:C4	2.87	0.43
1:A:481:G:C4	1:A:507:A:C2	3.07	0.43
1:A:593:G:C6	1:A:594:U:C4	3.06	0.43
1:A:971:C:C4	1:A:972:G:C4	3.06	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.98	0.43
1:A:1816:G:C8	3:D:62:TYR:CE1	3.07	0.43
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.18	0.43
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.43
8:I:40:THR:O	8:I:44:LEU:HB2	2.18	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
15:T:19:LEU:HA	15:T:20:PRO:HD3	1.88	0.43
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.43
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.43
24:2:27:GLU:H	24:2:27:GLU:CD	2.17	0.43
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.43
1:A:118:A:N3	1:A:178:G:H1'	2.34	0.43
1:A:1327:C:C4	1:A:1328:G:C6	3.07	0.43
1:A:1628:G:O2'	1:A:1629:U:H5'	2.19	0.43
1:A:579:G:C8	1:A:2017:U:C4	3.07	0.43
1:A:2517:C:C4	1:A:2542:A:C6	3.07	0.43
1:A:2792:G:C5	1:A:2805:G:N2	2.86	0.43
1:A:2827:C:H6	1:A:2827:C:O5'	2.01	0.43
1:A:607:U:N3	1:A:621:A:C2	2.81	0.43
1:A:951:C:H42	1:A:966:G:H1	1.67	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.19	0.43
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.43
8:I:96:ASP:N	8:I:96:ASP:OD2	2.49	0.43
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.43
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.43
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.79	0.43
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.43
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
1:A:99:U:H4'	1:A:101:G:H5''	2.00	0.43
1:A:1459:G:C2'	1:A:1460:A:H5'	2.48	0.43
1:A:180:G:H5''	1:A:181:A:P	2.59	0.43
1:A:2014:A:O2'	27:5:2:ALA:HB2	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:910:A:H2'	1:A:2264:C:O2'	2.19	0.43
1:A:2443:C:O2'	1:A:2444:G:H5'	2.18	0.43
1:A:389:G:C6	11:P:70:GLN:HB3	2.54	0.43
1:A:426:C:O2'	1:A:427:U:H5'	2.18	0.43
1:A:653:A:HO2'	1:A:654:A:P	2.40	0.43
2:B:15:A:H1'	2:B:109:G:C8	2.53	0.43
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.43
5:F:45:ARG:HH11	5:F:45:ARG:HG2	1.82	0.43
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.66	0.43
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.43
14:S:105:ALA:C	14:S:110:LEU:HD21	2.39	0.43
1:A:993:G:OP1	16:U:50:ARG:CZ	2.66	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.42
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.42
28:6:50:ARG:HH11	28:6:50:ARG:HG2	1.84	0.42
1:A:103:A:H5''	1:A:104:U:OP2	2.18	0.42
1:A:1053:C:N3	1:A:1106:G:N2	2.59	0.42
1:A:1244:G:C2	1:A:1245:G:C8	3.07	0.42
1:A:1798:U:C4	1:A:1819:A:C2	3.07	0.42
1:A:1852:C:H5''	1:A:1853:A:OP1	2.18	0.42
1:A:2027:G:H5''	1:A:2027:G:H8	1.84	0.42
1:A:1954:G:N3	1:A:2551:C:H5''	2.34	0.42
1:A:322:A:H3'	1:A:323:G:H5'	1.99	0.42
1:A:669:G:N1	1:A:801:G:O6	2.52	0.42
1:A:942:G:O2'	1:A:1189:A:H2'	2.18	0.42
2:B:61:G:N1	2:B:62:C:C4	2.87	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
3:D:181:GLU:HA	3:D:272:ALA:CB	2.39	0.42
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.42
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.42
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
8:I:9:LEU:HD11	8:I:12:LEU:HD23	2.01	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.42
12:Q:25:ASP:H	12:Q:102:VAL:HG23	1.84	0.42
13:R:81:ASP:OD2	13:R:81:ASP:N	2.51	0.42
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.42
21:Z:72:ARG:NH2	21:Z:97:GLU:HB2	2.34	0.42
22:O:66:VAL:O	22:O:81:VAL:HA	2.19	0.42
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.42
23:1:56:GLN:HB2	23:1:57:GLU:H	1.47	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.19	0.42
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.42
1:A:270(T):G:OP1	23:1:97:LEU:HD22	2.19	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:1026:U:O2	1:A:1027:A:H3'	2.18	0.42
1:A:1071:G:O5'	1:A:1071:G:H8	2.02	0.42
1:A:1350:C:N3	1:A:1382:G:N2	2.66	0.42
1:A:1510:A:N3	1:A:1510:A:H2'	2.34	0.42
1:A:1530:G:C6	1:A:1531:C:C4	3.07	0.42
1:A:1592:C:H2'	1:A:1593:G:H8	1.84	0.42
1:A:1761:C:H42	1:A:1762:A:N6	2.13	0.42
1:A:1786:A:H4'	1:A:1787:A:OP2	2.18	0.42
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.39	0.42
1:A:2086:U:H2'	1:A:2087:G:H8	1.75	0.42
1:A:426:C:C2'	1:A:427:U:H5'	2.48	0.42
1:A:451:C:H4'	5:F:52:LYS:HZ1	1.80	0.42
1:A:696:G:O2'	1:A:697:C:H5'	2.18	0.42
1:A:685:A:C8	1:A:774:A:C6	3.07	0.42
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.42
1:A:2600:A:H62	3:D:237:GLU:HG2	1.83	0.42
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.42
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.42
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.42
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.18	0.42
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.42
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.42
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.42
1:A:559:G:N2	16:U:49:HIS:CE1	2.81	0.42
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.42
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.42
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.42
26:4:23:GLU:C	26:4:24:THR:HG1	2.22	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
30:8:28:GLY:O	30:8:29:LYS:O	2.36	0.42
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1429:G:N3	1:A:1430:C:C6	2.87	0.42
1:A:154:G:H2'	1:A:155:C:O4'	2.18	0.42
1:A:1901:A:N3	1:A:1901:A:H2'	2.33	0.42
1:A:1964:G:H4'	1:A:1965:C:OP2	2.20	0.42
1:A:2312:U:H3'	1:A:2312:U:H6	1.84	0.42
1:A:2357:U:OP1	22:O:20:ARG:NE	2.52	0.42
1:A:2489:G:O6	1:A:2490:G:O6	2.37	0.42
1:A:2061:G:H5''	1:A:2503:A:C2	2.54	0.42
1:A:2758:A:C6	1:A:2759:G:C8	3.07	0.42
1:A:2863:C:O2'	1:A:2864:G:H5'	2.19	0.42
1:A:568:U:O2'	1:A:570:G:N7	2.41	0.42
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.42
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.49	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
8:I:32:PRO:C	8:I:34:GLY:H	2.23	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.58	0.42
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.42
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
21:Z:128:VAL:HG22	21:Z:129:SER:H	1.85	0.42
21:Z:96:VAL:O	21:Z:127:LYS:HA	2.18	0.42
1:A:1364:G:C8	23:1:2:SER:N	2.87	0.42
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.42
1:A:2372:G:H4'	28:6:46:HIS:CD2	2.54	0.42
29:7:12:ARG:HH21	29:7:44:PRO:HB3	1.85	0.42
1:A:2529:G:O6	31:9:31:LYS:NZ	2.53	0.42
1:A:1138:G:H21	9:N:106:MET:CE	2.16	0.42
1:A:1422:G:C6	1:A:1423:G:C5	3.07	0.42
1:A:1931:U:C6	1:A:1932:A:C8	3.07	0.42
1:A:2090:G:C2	1:A:2230:G:C5	3.07	0.42
1:A:2282:G:H4'	1:A:2389:G:O2'	2.19	0.42
1:A:2283:C:C5	1:A:2389:G:H2'	2.55	0.42
1:A:237:C:O2'	1:A:238:C:H5'	2.18	0.42
1:A:2492:U:C2	1:A:2493:U:C5	3.07	0.42
1:A:2498:C:OP2	1:A:2499:C:OP2	2.37	0.42
1:A:2689:U:OP1	1:A:2719:G:N1	2.42	0.42
1:A:428:A:N6	1:A:429:A:C6	2.88	0.42
1:A:644:A:C6	1:A:646:A:C6	3.07	0.42
1:A:77:C:C4	1:A:78:A:N7	2.88	0.42
1:A:980:A:N6	1:A:981:A:N1	2.67	0.42
2:B:16:G:H2'	2:B:17:C:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.24	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.42
1:A:2785:C:O2'	4:E:64:LYS:HD3	2.20	0.42
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.42
1:A:2306:C:N4	6:G:42:GLY:O	2.51	0.42
1:A:8:A:H5''	9:N:51:PHE:CZ	2.54	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.55	0.42
1:A:1085:A:H4'	1:A:1086:A:OP1	2.19	0.42
1:A:1851:U:H5''	1:A:1852:C:OP2	2.19	0.42
1:A:1860:G:O5'	1:A:1860:G:H8	2.02	0.42
1:A:191:A:H2'	1:A:192:C:O4'	2.19	0.42
1:A:2123:G:H2'	1:A:2124:G:H8	1.84	0.42
1:A:243:U:H6	1:A:243:U:O5'	2.03	0.42
1:A:2656:U:H3	1:A:2665:A:H2	1.67	0.42
1:A:774:A:H2	1:A:787:U:HO2'	1.64	0.42
1:A:78:A:H2'	1:A:79:G:H8	1.83	0.42
1:A:7:G:H1	1:A:2896:C:H42	1.67	0.42
1:A:863:A:O2'	1:A:864:G:H5'	2.19	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:176:ILE:HD12	4:E:176:ILE:N	2.35	0.42
5:F:11:VAL:HG12	5:F:12:LEU:H	1.84	0.42
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.42
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.42
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.50	0.42
8:I:110:ASP:HB3	8:I:112:LYS:N	2.34	0.42
9:N:15:LEU:HD13	9:N:15:LEU:C	2.40	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.42
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.42
20:Y:51:VAL:CG1	20:Y:52:SER:N	2.74	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.42
21:Z:150:LEU:HD22	21:Z:171:ILE:HB	2.01	0.42
22:0:74:ARG:HD3	22:0:74:ARG:C	2.40	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:99:U:C6	1:A:102:G:C2	3.08	0.42
1:A:1788:C:H5''	3:D:222:ARG:NH2	2.35	0.42
1:A:2467:C:OP1	31:9:6:SER:OG	2.26	0.42
1:A:2675:A:C5	1:A:2676:C:C5	3.07	0.42
1:A:278:A:H4'	1:A:279:C:OP1	2.20	0.42
1:A:396:G:H1'	23:1:42:GLN:HB3	2.02	0.42
1:A:66:C:H2'	1:A:67:U:C6	2.54	0.42
1:A:89:G:N1	1:A:90:U:O4	2.52	0.42
3:D:25:THR:HG23	3:D:27:THR:HB	2.02	0.42
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.42
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.42
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.31	0.42
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.42
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.42
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.42
2:B:30:C:OP2	14:S:32:LEU:HD11	2.20	0.42
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.42
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.42
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
25:3:7:LYS:HG2	25:3:7:LYS:O	2.19	0.42
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.42
1:A:2286:A:H8	28:6:37:ARG:HH11	1.68	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.42
1:A:1029:A:N6	1:A:1125:G:O2'	2.47	0.42
1:A:49:A:N7	1:A:120:U:C5	2.87	0.42
1:A:1431:U:H2'	1:A:1432:C:O4'	2.19	0.42
1:A:1973:G:H2'	1:A:1974:C:C6	2.54	0.42
1:A:2009:G:C2'	1:A:2010:G:H5'	2.49	0.42
1:A:2063:C:H2'	1:A:2064:C:H5'	2.00	0.42
1:A:2317:C:H2'	1:A:2318:G:O4'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2420:C:N4	30:8:30:ARG:HD2	2.34	0.42
1:A:2646:C:H6	1:A:2646:C:O5'	2.02	0.42
1:A:429:A:C6	1:A:430:G:N1	2.88	0.42
1:A:507:A:H5''	1:A:508:G:H5'	2.01	0.42
1:A:846:C:N4	1:A:931:G:H1	2.17	0.42
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.42
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.42
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.19	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.00	0.42
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.46	0.42
5:F:109:GLY:O	5:F:110:LEU:C	2.58	0.42
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.40	0.42
2:B:34:U:OP1	6:G:2:PRO:HG2	2.19	0.42
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
7:H:77:LYS:HZ2	7:H:77:LYS:HB3	1.78	0.42
7:H:89:ILE:H	7:H:89:ILE:CD1	2.32	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.02	0.42
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.42
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.84	0.42
12:Q:20:ALA:HB2	12:Q:99:PRO:HD2	1.99	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.01	0.42
14:S:26:LEU:HB3	14:S:87:PHE:HA	2.02	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
17:V:47:VAL:HG13	17:V:48:GLY:N	2.27	0.42
22:0:57:PHE:CD2	22:0:57:PHE:N	2.88	0.42
22:0:38:VAL:O	22:0:58:THR:HG23	2.19	0.42
12:Q:81:VAL:CG2	22:0:7:LEU:HD11	2.50	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
28:6:36:LEU:HD13	28:6:50:ARG:HH12	1.81	0.42
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.42
31:9:17:ILE:CG2	31:9:18:ARG:N	2.82	0.42
1:A:1204:A:H1'	1:A:1206:G:C4	2.54	0.42
1:A:1316:U:O2'	1:A:1317:A:H5'	2.20	0.42
1:A:1471:A:C2	1:A:1472:A:C4	3.08	0.42
1:A:1526:G:O2'	1:A:1527:G:H5'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1770:G:C5	1:A:1771:C:C5	3.08	0.42
1:A:1991:U:C2'	1:A:1992:G:H5''	2.49	0.42
1:A:2060:A:C5	1:A:2502:G:C2	3.08	0.42
1:A:2419:U:O2'	1:A:2420:C:H5'	2.20	0.42
1:A:250:G:H2'	1:A:251:A:O4'	2.19	0.42
1:A:2699:C:H2'	1:A:2700:C:O4'	2.20	0.42
1:A:270:A:C2	1:A:366:C:H4'	2.55	0.42
1:A:401:A:H2'	1:A:402:A:C8	2.55	0.42
1:A:416:C:H2'	1:A:417:C:C6	2.55	0.42
1:A:516:C:OP1	27:5:13:LYS:NZ	2.52	0.42
1:A:547:A:C8	1:A:547:A:OP2	2.72	0.42
1:A:571:A:O2'	1:A:573:G:O5'	2.37	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
4:E:9:VAL:HB	4:E:10:GLY:H	1.70	0.42
4:E:18:ASP:O	4:E:19:ARG:C	2.55	0.42
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
7:H:84:SER:O	7:H:85:LYS:CB	2.64	0.42
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.42
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
16:U:27:LEU:C	16:U:29:SER:N	2.73	0.42
17:V:25:LEU:H	17:V:92:THR:CG2	2.29	0.42
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.42
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.42
22:0:14:ARG:O	22:0:15:ASP:HB2	2.20	0.42
22:0:42:GLY:O	22:0:57:PHE:HD1	2.02	0.42
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.42
1:A:625:G:OP1	30:8:64:TYR:HD1	2.03	0.42
1:A:104:U:H5''	1:A:105:C:OP2	2.20	0.42
1:A:1061:U:H4'	1:A:1070:A:H1'	2.02	0.42
1:A:1279:G:H4'	13:R:31:HIS:CD2	2.44	0.42
1:A:1429:G:C4	1:A:1430:C:C5	3.08	0.42
1:A:1509:C:N4	1:A:1511:A:H62	2.17	0.42
1:A:1608:A:H1'	1:A:1610:A:OP2	2.19	0.42
1:A:1270:C:N4	1:A:1648:C:N4	2.67	0.42
1:A:190:A:C4	1:A:207:A:C2	3.08	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2123:G:H1	1:A:2175:C:N4	2.13	0.42
1:A:2413:G:H2'	1:A:2414:G:O4'	2.19	0.42
1:A:2716:U:C2'	1:A:2717:G:H5'	2.50	0.42
1:A:2756:U:H6	1:A:2756:U:O5'	2.02	0.42
1:A:2629:A:N6	1:A:2895:U:C2	2.88	0.42
1:A:60:G:N2	1:A:74:A:C4	2.88	0.42
2:B:60:C:C2	2:B:61:G:C8	3.07	0.42
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.42
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.42
5:F:132:VAL:HG23	5:F:133:ASN:H	1.83	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.20	0.42
8:I:47:LEU:O	8:I:51:ILE:HG13	2.19	0.42
8:I:48:GLU:O	8:I:51:ILE:HB	2.20	0.42
1:A:871:U:OP1	12:Q:5:ARG:HG2	2.20	0.42
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.42
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.42
15:T:105:LEU:O	15:T:105:LEU:HG	2.19	0.42
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.42
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.01	0.42
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.42
21:Z:10:ARG:HH11	21:Z:36:LYS:HD3	1.85	0.42
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.42
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.42
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.42
1:A:1061:U:H3'	1:A:1062:G:C5'	2.50	0.42
1:A:1252:G:O2'	1:A:1253:A:H5''	2.20	0.42
1:A:1607:C:N4	1:A:1622:G:OP2	2.36	0.42
1:A:2095:C:H2'	1:A:2096:U:O4'	2.19	0.42
1:A:2294:C:H2'	1:A:2295:C:H6	1.84	0.42
1:A:660:G:O3'	5:F:38:ARG:NH2	2.52	0.42
2:B:44:G:C2	2:B:48:A:C2	3.07	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
8:I:128:LEU:HD13	8:I:128:LEU:HA	1.68	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.68	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.42
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
21:Z:150:LEU:H	21:Z:150:LEU:CD1	2.33	0.42
26:4:49:PHE:N	26:4:49:PHE:HD1	2.17	0.41
1:A:1282:U:H2'	1:A:1283:G:O4'	2.20	0.41
1:A:1316:U:H1'	1:A:1392:A:H2	1.85	0.41
1:A:1322:A:C5	1:A:1323:U:C5	3.08	0.41
1:A:1350:C:N3	1:A:1382:G:C2	2.88	0.41
1:A:1408:C:C2	1:A:1595:G:N2	2.88	0.41
1:A:1682:G:C5	1:A:1683:C:C4	3.07	0.41
1:A:1778:U:O2'	1:A:1779:U:H5'	2.20	0.41
1:A:1816:G:N7	3:D:62:TYR:CE1	2.88	0.41
1:A:1826:G:H4'	3:D:242:ARG:NH2	2.31	0.41
1:A:1925:C:C2'	1:A:1926:U:H5'	2.49	0.41
1:A:1999:C:H5''	1:A:2723:C:O2'	2.20	0.41
1:A:2037:G:H2'	1:A:2038:G:H8	1.79	0.41
1:A:2080:G:N2	1:A:2241:A:C4	2.87	0.41
1:A:2309:A:C8	1:A:2309:A:H3'	2.55	0.41
1:A:2837:G:C5	1:A:2838:G:N7	2.88	0.41
2:B:87:G:C2	2:B:90:C:N3	2.88	0.41
3:D:109:ASP:HB2	3:D:197:GLY:HA2	2.02	0.41
3:D:110:GLY:O	3:D:111:LEU:C	2.58	0.41
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
10:O:31:LYS:O	10:O:32:TYR:HD2	2.03	0.41
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.41
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.41
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.41
16:U:57:PHE:C	16:U:59:ARG:N	2.74	0.41
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.41
17:V:72:VAL:HG13	17:V:72:VAL:O	2.19	0.41
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.41
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.41
21:Z:100:VAL:HA	21:Z:101:PRO:HD3	1.86	0.41
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.02	0.41
1:A:458:G:O2'	29:7:39:ARG:HD3	2.20	0.41
1:A:1053:C:C4	1:A:1054:A:C8	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1169:G:H1	1:A:1180:C:N4	2.18	0.41
1:A:1717:G:H2'	1:A:1718:G:O4'	2.20	0.41
1:A:1936:A:C8	1:A:1940:U:O2	2.73	0.41
1:A:1769:G:C2	1:A:1984:G:C5	3.08	0.41
1:A:570:G:H2'	1:A:2030:A:C6	2.55	0.41
1:A:2263:C:O2	1:A:2277:G:N2	2.35	0.41
1:A:2766:G:C2	1:A:2767:C:C5	3.08	0.41
1:A:2816:C:H2'	1:A:2817:G:H8	1.85	0.41
1:A:2887:U:C2	1:A:2888:C:C5	3.08	0.41
1:A:588:U:H1'	5:F:90:PHE:CG	2.55	0.41
1:A:630:G:H4'	1:A:640:C:H4'	2.02	0.41
1:A:680:G:C4	1:A:798:G:N2	2.88	0.41
1:A:684:G:C4	1:A:794:G:N2	2.88	0.41
1:A:928:G:O6	1:A:929:G:C2	2.73	0.41
2:B:110:G:C5	2:B:111:U:C6	3.08	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.41
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.41
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.41
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.41
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.41
12:Q:118:LEU:HD13	12:Q:131:ILE:HG23	2.02	0.41
13:R:85:PRO:C	13:R:87:TYR:N	2.73	0.41
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.41
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.41
27:5:39:MET:C	27:5:40:LYS:HG3	2.39	0.41
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.41
1:A:1332:G:H2'	1:A:1332:G:H8	1.46	0.41
1:A:1589:C:H2'	1:A:1590:U:C6	2.55	0.41
1:A:1747:G:O2'	1:A:1748:G:H5'	2.20	0.41
1:A:1767:C:H2'	1:A:1768:U:O4'	2.20	0.41
1:A:1799:G:H5'	1:A:1819:A:H61	1.85	0.41
1:A:1857:G:N2	1:A:1886:C:N4	2.68	0.41
1:A:1651:G:C2	1:A:2007:C:N3	2.89	0.41
1:A:237:C:H2'	1:A:238:C:H6	1.84	0.41
1:A:2404:C:H1'	11:P:67:MET:HE2	2.03	0.41
1:A:2630:G:C2	1:A:2631:G:C4	3.07	0.41
1:A:2693:A:H2'	1:A:2694:G:H8	1.85	0.41
1:A:479:A:C2	1:A:481:G:H5''	2.56	0.41
1:A:503:A:C6	1:A:506:G:C6	3.08	0.41
1:A:624:C:C6	1:A:624:C:H5''	2.55	0.41
1:A:878:A:N6	1:A:899:A:HO2'	2.18	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.41
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.41
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.41
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
8:I:88:ILE:H	8:I:122:GLU:H	1.69	0.41
8:I:3:VAL:HG12	8:I:38:LEU:HA	2.02	0.41
9:N:1:MET:O	9:N:1:MET:HG3	2.19	0.41
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.41
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.41
15:T:134:GLU:O	15:T:135:ALA:CB	2.69	0.41
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.41
15:T:62:THR:HG22	15:T:75:ILE:CG1	2.35	0.41
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.02	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.02	0.41
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
18:W:73:ALA:HB3	18:W:106:ILE:CG1	2.46	0.41
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.41
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.41
21:Z:10:ARG:NH2	21:Z:26:GLY:H	2.16	0.41
12:Q:80:GLU:OE1	22:O:7:LEU:HG	2.20	0.41
25:3:37:LEU:N	25:3:37:LEU:HD23	2.35	0.41
25:3:39:ASP:O	25:3:40:THR:C	2.59	0.41
1:A:1216:G:OP2	16:U:12:ARG:NH2	2.43	0.41
1:A:1448:G:H1'	1:A:1528:A:N6	2.35	0.41
1:A:1449:A:N3	1:A:1530:G:H1'	2.35	0.41
1:A:1869:G:N2	1:A:1878:G:C5	2.88	0.41
1:A:1922:G:C2'	1:A:1923:U:H5'	2.50	0.41
1:A:1984:G:C2	1:A:1985:G:C8	3.08	0.41
1:A:1764:G:C5	1:A:1989:G:N2	2.89	0.41
1:A:2081:C:C5	1:A:2237:G:N2	2.88	0.41
1:A:2355:C:H5''	1:A:2356:C:OP2	2.20	0.41
1:A:2572:A:N3	4:E:144:ARG:NH2	2.68	0.41
1:A:2581:G:N3	1:A:2581:G:H2'	2.36	0.41
1:A:2616:C:O2	1:A:2616:C:H2'	2.19	0.41
1:A:422:A:C6	1:A:423:A:C6	3.08	0.41
2:B:106:G:C2	2:B:107:U:C5	3.09	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.84	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.41
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.82	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:112:LYS:H	8:I:112:LYS:HG2	1.39	0.41
9:N:109:LYS:N	9:N:109:LYS:CD	2.83	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.41
11:P:39:LYS:HA	11:P:45:LEU:HD11	1.83	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
12:Q:132:VAL:HG11	21:Z:81:ARG:NH1	2.35	0.41
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.41
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.41
1:A:1200:C:H1'	16:U:2:PRO:HG2	2.02	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
18:W:25:ARG:CB	18:W:25:ARG:NH1	2.79	0.41
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.41
20:Y:95:LYS:CD	20:Y:95:LYS:H	2.32	0.41
12:Q:83:MET:SD	22:O:7:LEU:HD13	2.60	0.41
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.41
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.50	0.41
1:A:1026:U:H1'	1:A:1027:A:C5'	2.51	0.41
1:A:1081:U:H3'	1:A:1082:U:C5'	2.50	0.41
1:A:1105:U:OP2	1:A:1105:U:H6	2.03	0.41
1:A:1398:C:H6	1:A:1398:C:O5'	2.03	0.41
1:A:1432:C:H2'	1:A:1433:U:O4'	2.20	0.41
1:A:1508:A:O2'	1:A:1509:C:O4'	2.35	0.41
1:A:1674:G:H1'	1:A:1676:A:N6	2.36	0.41
1:A:2584:U:C6	1:A:2585:U:C4	3.09	0.41
1:A:2662:A:H8	1:A:2662:A:O5'	2.03	0.41
1:A:270(T):G:H2'	1:A:270(U):C:C6	2.54	0.41
1:A:2749:A:H1'	7:H:63:SER:OG	2.21	0.41
1:A:456:C:C5	19:X:69:TYR:CE1	3.09	0.41
1:A:811:U:O2	1:A:1250:G:H5''	2.21	0.41
1:A:947:G:N2	1:A:971:C:C2	2.89	0.41
2:B:116:G:H4'	14:S:54:LEU:HD13	2.01	0.41
2:B:89(A):A:O5'	2:B:89(A):A:H8	2.04	0.41
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.41
1:A:729:G:N7	3:D:208:LYS:HB2	2.36	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.41
5:F:129:PHE:O	5:F:142:TRP:HD1	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.41
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.47	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.49	0.41
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.41
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
19:X:7:VAL:O	19:X:30:VAL:CG1	2.67	0.41
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.20	0.41
21:Z:5:LEU:HD12	21:Z:7:ALA:HB2	2.01	0.41
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.41
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.41
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.41
30:8:25:MET:HB3	30:8:26:LYS:H	1.69	0.41
1:A:1047:G:HO2'	1:A:1048:A:H8	1.64	0.41
1:A:1056:G:H5'	1:A:1085:A:C2	2.56	0.41
1:A:1171:G:C6	1:A:1174:A:N6	2.89	0.41
1:A:770:G:N3	1:A:1354:A:H2	2.18	0.41
1:A:1534:G:O2'	1:A:1535:U:H4'	2.21	0.41
1:A:1547:C:H2'	1:A:1548:C:C6	2.55	0.41
1:A:1627:G:H2'	1:A:1628:G:H8	1.86	0.41
1:A:1761:C:C4	1:A:1762:A:N7	2.89	0.41
1:A:1945:G:O2'	1:A:1946:U:H5'	2.21	0.41
1:A:2263:C:H42	1:A:2278:A:N6	2.18	0.41
1:A:2458:G:C5	1:A:2490:G:C6	3.08	0.41
1:A:2488:A:N6	1:A:2489:G:C6	2.88	0.41
1:A:2677:G:O2'	1:A:2678:C:H5'	2.21	0.41
1:A:2712:U:OP1	1:A:2714:G:H4'	2.20	0.41
1:A:284:U:H2'	1:A:285:C:O4'	2.20	0.41
1:A:301:G:C6	1:A:317:G:C5	3.09	0.41
1:A:465:G:C2	1:A:466:A:C2	3.09	0.41
1:A:873:G:H1	1:A:904:C:H42	1.68	0.41
1:A:915:C:O2'	2:B:100:G:H5''	2.20	0.41
3:D:145:VAL:O	3:D:154:LYS:N	2.48	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
8:I:114:LEU:HD13	8:I:130:TYR:CD1	2.56	0.41
11:P:12:ALA:C	11:P:14:LYS:N	2.73	0.41
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.41
17:V:38:LEU:O	17:V:51:VAL:HA	2.20	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
1:A:747:U:O2'	18:W:88:ARG:HG3	2.21	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
21:Z:150:LEU:H	21:Z:150:LEU:HD13	1.86	0.41
21:Z:39:VAL:HG21	21:Z:44:PHE:HB2	2.02	0.41
24:2:61:LEU:HA	24:2:61:LEU:HD23	1.85	0.41
1:A:592:G:H21	30:8:4:MET:HE1	1.85	0.41
1:A:1374:G:C6	1:A:1375:C:C4	3.09	0.41
1:A:1776:G:N3	1:A:1777:U:C6	2.88	0.41
1:A:1798:U:C2	1:A:1822:G:C2	3.09	0.41
1:A:2056:G:C8	1:A:2577:A:C6	3.09	0.41
1:A:2232:U:P	23:1:40:ARG:HH12	2.44	0.41
1:A:2366:A:N6	1:A:2367:G:C2	2.89	0.41
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.56	0.41
1:A:540:G:N3	1:A:540:G:H2'	2.35	0.41
1:A:705:A:C2	1:A:727:A:H1'	2.55	0.41
1:A:701:G:N2	1:A:732:C:C4	2.89	0.41
1:A:823:G:C6	1:A:835:A:C2	3.09	0.41
1:A:989:G:OP1	1:A:1157:G:H4'	2.20	0.41
2:B:101:A:OP2	2:B:101:A:H8	2.04	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
4:E:24:THR:HB	4:E:184:VAL:HG23	2.02	0.41
4:E:63:LEU:CD1	4:E:64:LYS:N	2.71	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
10:O:1:MET:HE2	10:O:67:LYS:HG2	2.03	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.41
16:U:92:ARG:O	16:U:92:ARG:CG	2.54	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.20	0.41
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.86	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1445:C:H2'	1:A:1446:C:H6	1.86	0.41
1:A:1519:G:C5	1:A:1520:U:C5	3.08	0.41
1:A:1797:C:C2'	1:A:1798:U:H5'	2.51	0.41
1:A:2212:A:H1'	1:A:2215:G:C5	2.56	0.41
1:A:222:A:H8	1:A:222:A:H2'	1.76	0.41
1:A:2417:C:O2'	1:A:2418:A:H5'	2.20	0.41
1:A:2487:G:H2'	1:A:2488:A:O4'	2.21	0.41
1:A:2610:C:H4'	1:A:2611:U:OP2	2.21	0.41
1:A:2680:C:O2'	1:A:2681:C:H5'	2.21	0.41
1:A:2702:U:H2'	1:A:2702:U:O2	2.20	0.41
1:A:460:A:C2	1:A:470:A:C4	3.09	0.41
1:A:554:U:H2'	1:A:556:G:H8	1.85	0.41
2:B:55:U:N3	2:B:56:G:N7	2.69	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
3:D:215:LEU:H	3:D:215:LEU:HG	1.59	0.41
4:E:11:MET:HE3	4:E:186:GLY:HA2	2.03	0.41
4:E:36:ARG:O	4:E:37:ARG:C	2.59	0.41
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41
12:Q:90:VAL:C	12:Q:92:GLY:N	2.71	0.41
18:W:68:ARG:O	18:W:110:LYS:N	2.46	0.41
21:Z:1:MET:HG2	21:Z:2:GLU:N	2.35	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.41
26:4:26:SER:C	26:4:27:THR:O	2.58	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.21	0.41
1:A:2756:U:OP2	31:9:19:ARG:CZ	2.68	0.41
1:A:1042:G:C2	1:A:1043:C:C2	3.08	0.41
1:A:1187:G:H5''	17:V:81:TYR:HE2	1.76	0.41
1:A:1858:G:O2'	1:A:1884:A:N6	2.53	0.41
1:A:219:G:H2'	1:A:220:G:O4'	2.20	0.41
1:A:2406:U:O4'	11:P:75:ILE:HG22	2.21	0.41
1:A:2537:U:H2'	1:A:2538:C:H6	1.83	0.41
1:A:2641:G:H2'	1:A:2642:G:O4'	2.20	0.41
1:A:2688:U:H1'	1:A:2721:A:H61	1.85	0.41
1:A:2720:U:H2'	1:A:2721:A:C8	2.56	0.41
1:A:596:G:H2'	1:A:597:U:O4'	2.20	0.41
1:A:871:U:H5'	1:A:872:A:P	2.60	0.41
1:A:918:A:H1'	2:B:80:U:O2'	2.21	0.41
1:A:2208:U:H1'	3:D:151:LYS:HE2	2.03	0.41
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.41
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.41
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
7:H:146:ALA:HB2	7:H:164:TYR:OH	2.21	0.41
11:P:101:VAL:O	11:P:103:ALA:N	2.53	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.69	0.41
19:X:54:VAL:C	19:X:55:ASN:HD22	2.24	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.41
26:4:60:GLN:HB3	26:4:61:ARG:H	1.56	0.41
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.41
1:A:1376:C:O2'	1:A:1377:G:H5'	2.20	0.41
1:A:1494:A:C6	1:A:1495:A:C5	3.08	0.41
1:A:1537:C:H2'	1:A:1538:G:O4'	2.21	0.41
1:A:1564:C:O2'	1:A:1565:C:H5'	2.21	0.41
1:A:1576:U:H2'	1:A:1577:C:H6	1.86	0.41
1:A:1637:A:C6	1:A:1638:C:C4	3.09	0.41
1:A:1859:A:N6	1:A:1883:G:O2'	2.54	0.41
1:A:18:C:N3	1:A:522:G:N1	2.63	0.41
1:A:2197:U:O2'	1:A:2198:A:H2'	2.21	0.41
1:A:2290:G:C6	1:A:2291:U:C4	3.09	0.41
1:A:2550:G:C5	1:A:2551:C:C5	3.08	0.41
1:A:2056:G:C5	1:A:2577:A:C4	3.08	0.41
1:A:2693:A:H2'	1:A:2694:G:C8	2.55	0.41
1:A:270(T):G:H2'	1:A:270(U):C:H6	1.86	0.41
1:A:373:U:H1'	1:A:423:A:N3	2.36	0.41
1:A:38:A:H1'	5:F:48:THR:OG1	2.21	0.41
1:A:48:G:H22	1:A:177:G:H5'	1.86	0.41
1:A:534:U:O2	16:U:49:HIS:CE1	2.73	0.41
1:A:826:U:H2'	1:A:828:U:O4'	2.21	0.41
1:A:867:C:C4	1:A:868:U:C4	3.09	0.41
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.41
6:G:18:GLU:HA	6:G:18:GLU:OE2	2.21	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.20	0.41
8:I:109:ILE:HB	8:I:130:TYR:OH	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.41
9:N:9:VAL:HB	9:N:10:GLU:H	1.70	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
1:A:456:C:N4	19:X:69:TYR:CE2	2.89	0.41
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.41
21:Z:103:ARG:HD3	21:Z:138:GLU:OE1	2.20	0.41
23:1:82:LEU:HD13	23:1:83:GLU:C	2.36	0.41
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.41
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.35	0.41
1:A:1033:U:H6	1:A:1033:U:H2'	1.67	0.41
1:A:1085:A:C2	1:A:1086:A:C8	3.09	0.41
1:A:1423:G:O2'	1:A:1424:G:H5'	2.21	0.41
1:A:153:C:O5'	1:A:153:C:H6	2.04	0.41
1:A:1654:A:H2'	1:A:1655:A:H8	1.86	0.41
1:A:1729:A:HO2'	1:A:1730:U:P	2.44	0.41
1:A:191:A:O5'	1:A:191:A:H8	2.04	0.41
1:A:910:A:H2	1:A:2264:C:O2	2.03	0.41
1:A:2391:G:OP2	30:8:32:LEU:HD13	2.21	0.41
1:A:2457:U:C2'	1:A:2458:G:H5'	2.51	0.41
1:A:2472:G:H22	1:A:2477:C:H5'	1.85	0.41
1:A:2864:G:N2	1:A:2865:U:O2	2.54	0.41
1:A:374:A:H3'	1:A:375:C:C6	2.56	0.41
1:A:48:G:C2	1:A:178:G:C5	3.09	0.41
1:A:690:G:H2'	1:A:691:C:O4'	2.21	0.41
1:A:730:C:OP2	1:A:731:C:OP2	2.38	0.41
1:A:784:A:C5	3:D:229:VAL:HG21	2.56	0.41
2:B:4:C:H42	2:B:116:G:H1	1.68	0.41
2:B:40:U:N3	2:B:43:C:H5''	2.23	0.41
2:B:55:U:C2	2:B:56:G:C8	3.09	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.41
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
5:F:59:TYR:HB3	5:F:60:SER:H	1.70	0.41
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
8:I:92:VAL:HG13	8:I:120:ILE:CG2	2.39	0.41
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:61:HIS:CE1	13:R:65:LEU:HD11	2.56	0.41
14:S:93:LYS:HE3	14:S:93:LYS:HB2	1.93	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
16:U:57:PHE:O	16:U:58:ARG:C	2.59	0.41
16:U:5:LYS:C	16:U:7:GLY:N	2.74	0.41
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.98	0.41
21:Z:24:LEU:HA	21:Z:25:PRO:HD3	1.88	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.73	0.40
24:2:47:ASN:HD22	24:2:47:ASN:N	1.99	0.40
1:A:2286:A:H8	28:6:37:ARG:NH1	2.19	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.37	0.40
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.40
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.96	0.40
1:A:1449:A:O2'	1:A:1530:G:N2	2.50	0.40
1:A:1506:C:H5'	1:A:1507:A:OP2	2.20	0.40
1:A:1590:U:H2'	1:A:1591:G:H8	1.85	0.40
1:A:1835:G:N3	1:A:1931:U:N3	2.67	0.40
1:A:2018:G:C6	1:A:2019:A:C6	3.09	0.40
1:A:2056:G:H1	27:5:4:HIS:HD2	1.68	0.40
1:A:2564:A:C5	1:A:2565:A:C6	3.08	0.40
1:A:918:A:C6	1:A:919:G:H1'	2.55	0.40
2:B:40:U:H3	2:B:43:C:C5'	2.23	0.40
3:D:13:ARG:HG2	3:D:13:ARG:O	2.20	0.40
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.40
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.52	0.40
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.40
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.40
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.40
10:O:106:LEU:HD23	10:O:106:LEU:HA	1.88	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.86	0.40
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.22	0.40
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.40
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.40
14:S:20:ARG:HE	14:S:21:THR:HA	1.86	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.36	0.40
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.60	0.40
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.40
15:T:20:PRO:HG2	15:T:86:ILE:O	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1219:G:OP2	16:U:19:LYS:HD2	2.21	0.40
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.40
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.40
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.40
20:Y:97:ARG:NH2	20:Y:98:VAL:CG2	2.85	0.40
20:Y:98:VAL:O	20:Y:99:CYS:HB3	2.21	0.40
22:O:37:LEU:O	22:O:38:VAL:HG23	2.20	0.40
24:2:18:PRO:C	24:2:20:GLU:H	2.24	0.40
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.40
1:A:1214:A:N6	1:A:1235:G:O2'	2.53	0.40
1:A:1246:A:N1	1:A:1247:A:C4	2.89	0.40
1:A:1374:G:C2'	1:A:1375:C:H5'	2.51	0.40
1:A:1449:A:C6	1:A:1449(A):G:C4	3.09	0.40
1:A:1578:U:C2'	1:A:1579:A:H5'	2.51	0.40
1:A:1628:G:C2	1:A:1629:U:C4	3.08	0.40
1:A:1660:C:O2	1:A:2000:G:N2	2.52	0.40
1:A:1769:G:N2	1:A:1984:G:C4	2.90	0.40
1:A:1926:U:O2	1:A:1928:A:C8	2.74	0.40
1:A:2320:A:C8	1:A:2333:A:N6	2.90	0.40
1:A:2360:A:H2'	1:A:2361:A:O4'	2.22	0.40
1:A:2486:G:N2	1:A:2487:G:H1'	2.36	0.40
1:A:2517:C:C6	1:A:2542:A:N7	2.88	0.40
1:A:2629:A:O2'	1:A:2630:G:H5''	2.21	0.40
1:A:2762:G:C6	1:A:2763:G:C4	3.09	0.40
1:A:2818:G:N2	1:A:2819:G:C4	2.89	0.40
1:A:388:G:OP2	23:1:32:LYS:HG2	2.21	0.40
1:A:540:G:H5'	1:A:541:C:OP2	2.21	0.40
1:A:707:G:C6	1:A:708:C:C4	3.10	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.40
8:I:124:GLY:H	8:I:142:VAL:HG23	1.86	0.40
15:T:29:ARG:NH1	15:T:29:ARG:HB2	2.36	0.40
15:T:50:ILE:CG2	15:T:62:THR:OG1	2.67	0.40
1:A:997:G:OP1	16:U:93:LYS:HD3	2.21	0.40
1:A:517:C:O2'	18:W:18:ARG:NH2	2.55	0.40
18:W:66:GLU:HG2	18:W:67:ASP:N	2.37	0.40
18:W:82:LEU:N	18:W:98:LYS:O	2.42	0.40
20:Y:42:VAL:HG21	20:Y:67:LEU:CD1	2.52	0.40
20:Y:97:ARG:O	20:Y:97:ARG:CG	2.69	0.40
23:1:91:LYS:HG3	23:1:92:LYS:N	2.32	0.40
23:1:96:LYS:O	23:1:96:LYS:HG2	2.21	0.40
24:2:37:PHE:O	24:2:40:SER:HB3	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
26:4:51:ASP:CG	26:4:51:ASP:O	2.60	0.40
26:4:52:THR:O	26:4:53:GLU:CB	2.69	0.40
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.40
30:8:39:LYS:O	30:8:39:LYS:HD2	2.22	0.40
1:A:1093:G:H4'	7:H:170:ARG:CZ	2.52	0.40
1:A:1291:C:H2'	1:A:1292:U:C5	2.57	0.40
1:A:1387:C:C2	1:A:1388:G:C8	3.10	0.40
1:A:1436:G:H1'	1:A:1477:A:O2'	2.21	0.40
1:A:1509:C:N3	1:A:1511:A:N6	2.69	0.40
1:A:1380:G:N2	1:A:1570:A:N1	2.65	0.40
1:A:1778:U:C5	1:A:1784:A:C5	3.09	0.40
1:A:1794:U:H2'	1:A:1795:C:H6	1.86	0.40
1:A:2308:G:N2	1:A:2311:A:C2	2.89	0.40
1:A:2316:C:H1'	6:G:128:ARG:HH22	1.86	0.40
1:A:2507:C:H2'	1:A:2508:G:C8	2.54	0.40
1:A:2655:G:O2'	1:A:2656:U:P	2.80	0.40
1:A:2824:C:C5	1:A:2825:C:C5	3.09	0.40
1:A:2845:G:H5''	15:T:55:ASN:HA	2.03	0.40
1:A:860:U:C5	1:A:861:A:N7	2.89	0.40
1:A:99:U:H4'	1:A:101:G:C5'	2.52	0.40
3:D:35:LYS:CE	3:D:64:ILE:C	2.89	0.40
4:E:93:VAL:H	4:E:95:ILE:CD1	2.23	0.40
5:F:119:ARG:HH11	5:F:119:ARG:CG	2.29	0.40
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
5:F:61:GLY:O	5:F:62:ARG:C	2.57	0.40
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.40
8:I:115:ALA:HB3	8:I:128:LEU:HD12	2.02	0.40
9:N:7:LYS:CG	9:N:8:GLN:N	2.81	0.40
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.40
11:P:126:VAL:HG12	11:P:147:LEU:CD2	2.23	0.40
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.40
1:A:1216:G:P	16:U:12:ARG:HH21	2.44	0.40
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.40
1:A:482:A:C4'	20:Y:47:LYS:HD2	2.28	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
21:Z:15:PRO:O	21:Z:19:ARG:HB2	2.21	0.40
21:Z:23:LYS:HB3	21:Z:38:TYR:HD1	1.87	0.40
23:1:94:LEU:HA	23:1:94:LEU:HD23	1.82	0.40
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.70	0.40
25:3:17:LYS:O	25:3:20:LYS:HB2	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.40
1:A:1613:G:C2	1:A:1617:C:C2	3.09	0.40
1:A:2043:C:C2	1:A:2777:G:N2	2.89	0.40
1:A:2624:G:C2'	1:A:2625:G:H5'	2.51	0.40
1:A:2705:A:H2'	1:A:2706:G:O4'	2.21	0.40
1:A:270(F):U:H2'	1:A:270(G):C:H6	1.86	0.40
1:A:330:A:O2'	1:A:331:A:C8	2.58	0.40
1:A:764:A:H5'	3:D:210:GLY:HA2	2.04	0.40
1:A:911:A:H5''	1:A:912:C:H5''	2.04	0.40
5:F:124:LEU:HD12	5:F:125:LEU:O	2.22	0.40
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.40
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.40
6:G:61:ALA:CB	6:G:67:LYS:HA	2.51	0.40
10:O:31:LYS:C	10:O:32:TYR:CD2	2.95	0.40
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.40
18:W:19:LEU:HA	18:W:19:LEU:HD12	1.79	0.40
18:W:74:ALA:C	18:W:75:TYR:HD1	2.24	0.40
20:Y:21:LYS:HE2	20:Y:21:LYS:HB2	1.96	0.40
21:Z:14:LYS:O	21:Z:18:LEU:HD12	2.21	0.40
12:Q:79:LEU:CD1	22:O:5:LYS:HD3	2.52	0.40
23:1:86:SER:O	23:1:89:GLU:N	2.54	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
1:A:1002:G:H2'	1:A:1003:G:O4'	2.21	0.40
1:A:1071:G:N2	1:A:1090:U:C5	2.89	0.40
1:A:1183:G:H4'	25:3:29:ARG:NH2	2.36	0.40
1:A:136:G:N2	1:A:143:C:N3	2.53	0.40
1:A:1446:C:C2'	1:A:1447:G:H5'	2.52	0.40
1:A:1448:G:H1'	1:A:1528:A:H62	1.86	0.40
1:A:1776:G:N2	1:A:1777:U:H1'	2.37	0.40
1:A:1957:C:O2'	1:A:1985:G:H1'	2.21	0.40
1:A:2518:A:H4'	1:A:2519:U:OP1	2.21	0.40
1:A:2639:A:H2'	1:A:2640:G:O4'	2.22	0.40
1:A:263:C:H2'	1:A:264:C:O4'	2.21	0.40
1:A:2823:A:C5	1:A:2824:C:C5	3.09	0.40
1:A:740:U:H2'	1:A:741:G:H8	1.85	0.40
1:A:996:A:H2'	1:A:997:G:C8	2.55	0.40
3:D:107:ALA:HA	3:D:108:PRO:HD2	2.01	0.40
3:D:230:ASP:OD2	3:D:230:ASP:N	2.54	0.40
4:E:154:LYS:C	4:E:154:LYS:HD3	2.42	0.40
4:E:92:THR:HB	4:E:93:VAL:H	1.57	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
6:G:137:GLU:OE2	6:G:139:LEU:HD11	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:11:TYR:O	6:G:16:ARG:HB2	2.22	0.40
7:H:170:ARG:HB3	7:H:171:LEU:H	1.47	0.40
1:A:1111:A:OP1	7:H:3:ARG:NH1	2.55	0.40
9:N:56:ASN:ND2	9:N:126:PRO:N	2.69	0.40
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.40
9:N:53:VAL:HG22	9:N:121:LYS:HB2	2.04	0.40
11:P:2:LYS:O	11:P:5:ASP:CB	2.70	0.40
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.40
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.40
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.86	0.40
13:R:31:HIS:C	13:R:33:ARG:H	2.25	0.40
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.40
14:S:59:LYS:CG	14:S:60:GLY:N	2.80	0.40
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.40
15:T:125:ARG:O	15:T:128:GLU:N	2.50	0.40
15:T:26:ASP:HB3	15:T:92:GLY:H	1.86	0.40
17:V:35:LEU:C	17:V:37:VAL:N	2.75	0.40
17:V:70:ILE:HG22	17:V:70:ILE:O	2.21	0.40
17:V:95:LEU:C	17:V:95:LEU:HD13	2.42	0.40
19:X:9:LEU:HA	24:2:36:ARG:HH21	1.86	0.40
21:Z:76:LEU:HA	21:Z:83:PRO:HA	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%)	204 (76%)	47 (17%)	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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	2
8	I	144/148 (97%)	93 (65%)	30 (21%)	21 (15%)	0	9
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%)	97 (70%)	28 (20%)	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%)	86 (75%)	20 (17%)	9 (8%)	1	29
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	20
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%)	57 (57%)	16 (16%)	27 (27%)	0	1
21	Z	181/206 (88%)	128 (71%)	36 (20%)	17 (9%)	1	23
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%)	2262 (67%)	648 (19%)	469 (14%)	0	10

All (469) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	26	LYS
3	D	28	GLU
3	D	123	ALA

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

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Mol	Chain	Res	Type
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	72	LEU
8	I	133	HIS
8	I	145	VAL
9	N	6	PRO
9	N	9	VAL
9	N	22	THR
9	N	36	GLY
9	N	58	ASP
9	N	95	PRO
9	N	97	ARG
9	N	119	ARG
9	N	131	GLN
9	N	133	GLN
9	N	134	ARG
10	O	49	ARG
11	P	5	ASP
11	P	10	PRO
11	P	15	ARG
11	P	19	VAL
11	P	21	ARG
11	P	25	SER
11	P	27	HIS
11	P	36	LYS
11	P	38	GLN
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

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Mol	Chain	Res	Type
12	Q	90	VAL
12	Q	134	ARG
13	R	2	ARG
13	R	3	HIS
13	R	4	LEU
13	R	14	SER
13	R	58	GLY
13	R	86	ARG
13	R	117	VAL
14	S	4	LEU
14	S	12	PHE
14	S	14	VAL
14	S	23	ARG
14	S	56	LEU
14	S	57	LYS
14	S	88	ASP
14	S	89	ARG
14	S	90	GLY
14	S	107	GLU
15	T	2	ASN
15	T	3	ARG
15	T	39	ARG
15	T	55	ASN
15	T	58	ASN
15	T	90	GLN
15	T	94	ALA
15	T	97	ALA
15	T	106	SER
15	T	107	ASP
17	V	28	GLU
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

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Mol	Chain	Res	Type
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA
20	Y	96	ILE
21	Z	6	LYS
21	Z	51	ALA
21	Z	146	ILE
21	Z	152	ALA
21	Z	166	SER
23	1	30	VAL
23	1	54	ALA
23	1	81	LYS
23	1	82	LEU
23	1	95	LEU
24	2	16	LEU
24	2	43	GLN
24	2	47	ASN
24	2	48	HIS
24	2	71	ASN
25	3	3	ARG
26	4	5	ILE
26	4	14	ILE
26	4	16	CYS
26	4	22	ILE
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

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

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Mol	Chain	Res	Type
6	G	36	LYS
6	G	81	LYS
6	G	82	LEU
6	G	96	ARG
6	G	110	ALA
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO
7	H	55	PRO
7	H	59	ARG
7	H	84	SER
7	H	151	ILE
7	H	156	ALA
7	H	168	PRO
8	I	11	ASN
8	I	15	VAL
8	I	29	TYR
8	I	84	GLY
8	I	87	LYS
8	I	102	SER
8	I	113	ARG
8	I	118	LYS
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU
11	P	6	LEU
11	P	11	GLY
11	P	12	ALA
11	P	16	ARG
12	Q	13	GLN
12	Q	24	GLY
12	Q	28	ALA
13	R	11	ASN
14	S	61	ASN
14	S	87	PHE
14	S	96	GLY
14	S	100	ALA
14	S	109	GLY
14	S	111	GLU

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Mol	Chain	Res	Type
15	T	4	GLY
15	T	36	GLU
15	T	43	GLN
15	T	67	SER
15	T	124	ASP
16	U	9	VAL
16	U	28	ARG
16	U	73	GLY
16	U	90	VAL
18	W	63	ASP
18	W	66	GLU
19	X	67	GLY
20	Y	4	LYS
20	Y	41	GLY
20	Y	53	PRO
20	Y	56	PRO
20	Y	57	GLN
20	Y	99	CYS
21	Z	13	GLU
21	Z	81	ARG
21	Z	153	SER
21	Z	159	PRO
22	0	12	ASN
22	0	18	ALA
22	0	55	ARG
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	12	SER
3	D	111	LEU
3	D	239	ARG
3	D	242	ARG
3	D	262	ARG
4	E	62	PRO

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Mol	Chain	Res	Type
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	115	ARG
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL
7	H	81	GLU
7	H	152	ARG
7	H	159	GLU
8	I	9	LEU
8	I	104	GLN
8	I	114	LEU
8	I	115	ALA
9	N	45	ASN
9	N	130	HIS
9	N	135	PRO
11	P	7	ARG
11	P	14	LYS
11	P	43	GLY
11	P	89	ALA
11	P	102	ARG
11	P	115	LEU
12	Q	57	HIS
12	Q	88	GLY
12	Q	91	GLU
13	R	42	LYS
13	R	45	ARG
13	R	71	GLN
13	R	107	ASP
14	S	19	LYS
14	S	74	ALA
14	S	75	GLU
15	T	78	LEU
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG
16	U	93	LYS
17	V	54	GLY

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Mol	Chain	Res	Type
18	W	68	ARG
18	W	93	ALA
19	X	48	LYS
19	X	87	GLN
20	Y	21	LYS
20	Y	39	VAL
20	Y	42	VAL
20	Y	69	ALA
20	Y	91	GLU
20	Y	102	CYS
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU
26	4	27	THR
26	4	46	GLN
28	6	18	ARG
29	7	32	LYS
30	8	46	ARG
30	8	47	LYS
3	D	73	VAL
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
5	F	136	THR
5	F	145	GLU
6	G	12	TYR
6	G	117	PHE
6	G	146	TYR
7	H	13	LYS
7	H	109	PHE
8	I	18	VAL
8	I	83	ALA
9	N	96	GLU
9	N	127	ASP
9	N	132	ALA
10	O	17	ARG
10	O	97	ARG
11	P	29	LYS
11	P	47	ASP
11	P	139	LYS
15	T	37	GLY

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Mol	Chain	Res	Type
15	T	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
21	Z	59	LEU
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS
30	8	25	MET
30	8	53	PRO
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	12	LEU
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	53	ILE
21	Z	117	LEU
22	0	15	ASP
25	3	13	ILE
26	4	30	GLU

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Mol	Chain	Res	Type
26	4	33	VAL
26	4	70	GLY
27	5	42	PRO
28	6	35	GLU
29	7	44	PRO
30	8	57	ARG
30	8	64	TYR
3	D	178	PRO
3	D	241	PRO
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
15	T	38	ASN
17	V	36	PRO
18	W	11	ARG
18	W	33	ARG
19	X	19	ALA
20	Y	33	LYS
21	Z	61	LEU
26	4	69	LYS
27	5	57	VAL
4	E	86	PRO
4	E	184	VAL
8	I	71	ILE
12	Q	86	GLY
13	R	32	GLY
18	W	35	ILE
6	G	52	ILE
20	Y	27	VAL
20	Y	32	PRO
21	Z	171	ILE
27	5	46	CYS
3	D	34	VAL
10	O	114	ILE
20	Y	51	VAL
21	Z	94	GLU
21	Z	160	GLY
27	5	34	PRO
4	E	52	LEU
4	E	55	ASN
8	I	110	ASP

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Mol	Chain	Res	Type
10	O	27	GLY
21	Z	143	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%)	178 (83%)	36 (17%)	3	24
4	E	165/166 (99%)	127 (77%)	38 (23%)	1	9
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	38
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	27
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	15
8	I	122/124 (98%)	92 (75%)	30 (25%)	1	8
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%)	131 (81%)	31 (19%)	2	16
22	0	65/67 (97%)	58 (89%)	7 (11%)	9	48
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	18

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	2351 (82%)	502 (18%)	3	21

All (502) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	10	THR
3	D	17	THR
3	D	26	LYS
3	D	33	LEU
3	D	43	ARG
3	D	44	ASN
3	D	61	LEU
3	D	65	ILE
3	D	67	PHE
3	D	71	ASP
3	D	73	VAL
3	D	94	LEU
3	D	98	VAL
3	D	105	ILE
3	D	106	ILE
3	D	131	LEU
3	D	134	ARG
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN
3	D	173	VAL
3	D	183	ARG
3	D	192	THR
3	D	198	ASN
3	D	200	ASP

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Mol	Chain	Res	Type
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
4	E	2	LYS
4	E	4	ILE
4	E	13	ARG
4	E	16	ARG
4	E	17	ASP
4	E	25	VAL
4	E	26	ILE
4	E	27	LEU
4	E	33	VAL
4	E	36	ARG
4	E	37	ARG
4	E	38	THR
4	E	41	LYS
4	E	45	THR
4	E	54	GLN
4	E	61	ARG
4	E	62	PRO
4	E	66	HIS
4	E	73	GLU
4	E	75	VAL
4	E	77	ILE
4	E	78	LEU
4	E	79	ARG
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE
4	E	117	MET
4	E	119	ARG
4	E	143	ASN
4	E	146	THR
4	E	154	LYS
4	E	167	VAL

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Mol	Chain	Res	Type
4	E	179	GLU
4	E	184	VAL
4	E	196	VAL
4	E	200	GLU
4	E	202	LYS
4	E	203	LYS
5	F	7	TYR
5	F	9	ILE
5	F	25	PRO
5	F	32	LEU
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	66	PRO
5	F	67	GLN
5	F	70	THR
5	F	82	ILE
5	F	106	ARG
5	F	108	LYS
5	F	117	ARG
5	F	124	LEU
5	F	127	GLU
5	F	145	GLU
5	F	164	ARG
5	F	181	LEU
5	F	183	VAL
5	F	206	ILE
6	G	4	ASP
6	G	22	ARG
6	G	26	GLN
6	G	33	ARG
6	G	34	LEU
6	G	35	GLU
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE
6	G	67	LYS
6	G	71	THR
6	G	88	ILE
6	G	94	LEU
6	G	96	ARG
6	G	97	ASP

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Mol	Chain	Res	Type
6	G	103	LEU
6	G	115	ARG
6	G	118	ARG
6	G	133	LEU
6	G	147	ASP
6	G	155	MET
6	G	156	ASP
6	G	159	VAL
6	G	167	GLU
6	G	174	GLU
7	H	3	ARG
7	H	4	ILE
7	H	9	ILE
7	H	10	PRO
7	H	11	VAL
7	H	16	SER
7	H	27	LYS
7	H	32	GLU
7	H	37	VAL
7	H	41	MET
7	H	43	VAL
7	H	59	ARG
7	H	64	LEU
7	H	77	LYS
7	H	81	GLU
7	H	85	LYS
7	H	88	LEU
7	H	89	ILE
7	H	105	LEU
7	H	132	ARG
7	H	139	GLN
7	H	143	GLN
7	H	152	ARG
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	158	HIS
7	H	169	VAL
8	I	1	MET
8	I	2	LYS
8	I	3	VAL
8	I	12	LEU

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Mol	Chain	Res	Type
8	I	27	ARG
8	I	33	ARG
8	I	38	LEU
8	I	56	LYS
8	I	67	ARG
8	I	70	GLU
8	I	72	LEU
8	I	81	VAL
8	I	85	GLU
8	I	92	VAL
8	I	93	THR
8	I	96	ASP
8	I	101	LEU
8	I	105	HIS
8	I	110	ASP
8	I	112	LYS
8	I	113	ARG
8	I	118	LYS
8	I	128	LEU
8	I	130	TYR
8	I	131	LYS
8	I	135	GLU
8	I	136	VAL
8	I	140	LEU
8	I	141	LYS
8	I	142	VAL
9	N	2	LYS
9	N	7	LYS
9	N	43	THR
9	N	48	MET
9	N	60	ILE
9	N	61	ARG
9	N	65	LYS
9	N	73	THR
9	N	78	TYR
9	N	90	MET
9	N	93	THR
9	N	94	HIS
9	N	101	HIS
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU

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

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

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

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

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Mol	Chain	Res	Type
20	Y	77	PRO
20	Y	79	CYS
20	Y	87	LYS
20	Y	88	LYS
20	Y	89	PHE
20	Y	90	LEU
20	Y	95	LYS
20	Y	97	ARG
21	Z	2	GLU
21	Z	8	TYR
21	Z	20	ARG
21	Z	39	VAL
21	Z	41	LEU
21	Z	52	SER
21	Z	53	ILE
21	Z	60	GLU
21	Z	66	SER
21	Z	70	LEU
21	Z	71	VAL
21	Z	76	LEU
21	Z	81	ARG
21	Z	82	ARG
21	Z	87	ASP
21	Z	91	LEU
21	Z	93	ASP
21	Z	94	GLU
21	Z	122	ARG
21	Z	123	ASP
21	Z	136	PHE
21	Z	139	VAL
21	Z	140	ASP
21	Z	141	VAL
21	Z	144	LEU
21	Z	150	LEU
21	Z	151	HIS
21	Z	156	LYS
21	Z	163	LEU
21	Z	181	GLU
21	Z	182	LYS
22	0	10	THR
22	0	11	ARG
22	0	14	ARG

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Mol	Chain	Res	Type
22	0	25	ARG
22	0	36	ILE
22	0	68	GLU
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 (29) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	44	ASN
3	D	143	HIS
3	D	166	GLN
3	D	198	ASN
4	E	48	GLN
7	H	143	GLN
7	H	147	ASN
9	N	56	ASN
9	N	101	HIS
9	N	131	GLN
10	O	5	GLN
10	O	82	ASN
11	P	81	GLN
11	P	84	ASN
15	T	55	ASN
15	T	58	ASN
16	U	49	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
23	1	56	GLN

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Mol	Chain	Res	Type
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	2880/2916 (98%)	865 (30%)	93 (3%)
2	B	119/122 (97%)	42 (35%)	2 (1%)
32	a	1/3 (33%)	0	0
All	All	3000/3041 (98%)	907 (30%)	95 (3%)

All (907) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	14	A
1	A	15	G
1	A	26	G
1	A	34	C
1	A	35	G
1	A	40	C
1	A	46	C
1	A	50	U
1	A	51	G
1	A	55	G
1	A	61	G
1	A	63	U
1	A	71	A
1	A	72	U
1	A	73	A
1	A	74	A
1	A	75	G
1	A	77	C
1	A	79	G
1	A	84	A
1	A	97	C
1	A	99	U
1	A	101	G

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Mol	Chain	Res	Type
1	A	102	G
1	A	103	A
1	A	106	C
1	A	110	G
1	A	113	G
1	A	114	U
1	A	117	G
1	A	118	A
1	A	120	U
1	A	125	G
1	A	131	G
1	A	141(A)	C
1	A	149	A
1	A	155	C
1	A	161	U
1	A	162	U
1	A	173	G
1	A	177	G
1	A	178	G
1	A	181	A
1	A	188	G
1	A	196	A
1	A	199	A
1	A	202	U
1	A	204	A
1	A	206	U
1	A	213	A
1	A	214	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	224	G
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	233	A
1	A	241	A
1	A	242	G
1	A	243	U
1	A	245	G

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Mol	Chain	Res	Type
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(L)	U
1	A	270(M)	U
1	A	270(N)	G
1	A	270(O)	U
1	A	270(P)	C
1	A	270(W)	G
1	A	271(A)	C
1	A	271(B)	G
1	A	271(C)	U
1	A	271	G
1	A	274	G
1	A	275	G
1	A	276	A
1	A	278	A
1	A	279	C
1	A	284	U
1	A	285	C
1	A	287	C
1	A	288	C
1	A	294	A
1	A	299	A
1	A	305	U
1	A	311	A
1	A	316	C
1	A	322	A
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	331	A
1	A	332	A
1	A	334	C
1	A	338	G
1	A	342	G
1	A	343	C
1	A	345	A

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Mol	Chain	Res	Type
1	A	349	G
1	A	352	G
1	A	353	G
1	A	363(E)	U
1	A	364	C
1	A	365	C
1	A	366	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	374	A
1	A	383	U
1	A	386	G
1	A	387	U
1	A	388	G
1	A	395	U
1	A	396	G
1	A	405	U
1	A	406	G
1	A	411	G
1	A	426	C
1	A	428	A
1	A	441	U
1	A	444	C
1	A	447	A
1	A	448	U
1	A	454	A
1	A	457	A
1	A	470	A
1	A	473	G
1	A	478	A
1	A	479	A
1	A	480	A
1	A	481	G
1	A	483	A
1	A	504	U
1	A	505	A
1	A	508	G
1	A	509	C
1	A	510	C
1	A	518	G
1	A	531	C

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Mol	Chain	Res	Type
1	A	532	A
1	A	533	G
1	A	536	A
1	A	537	C
1	A	539	G
1	A	540	G
1	A	546	C
1	A	547	A
1	A	549	G
1	A	556	G
1	A	558	G
1	A	562	U
1	A	563	G
1	A	571	A
1	A	572	A
1	A	573	G
1	A	574	C
1	A	575	A
1	A	584	C
1	A	586	A
1	A	587	C
1	A	588	U
1	A	603	A
1	A	607	U
1	A	609(A)	G
1	A	613	U
1	A	614	U
1	A	615	G
1	A	617	G
1	A	618	G
1	A	618(A)	C
1	A	620	G
1	A	621	A
1	A	622	G
1	A	624	C
1	A	626	U
1	A	627	A
1	A	629	G
1	A	630	G
1	A	631	A
1	A	634	C
1	A	637	A

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Mol	Chain	Res	Type
1	A	638	G
1	A	645	C
1	A	646	A
1	A	651	G
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	654(T)	C
1	A	654(V)	A
1	A	657	U
1	A	662	G
1	A	664	C
1	A	668	G
1	A	669	G
1	A	670	A
1	A	682	G
1	A	686	G
1	A	695	G
1	A	702	G
1	A	705	A
1	A	715	G
1	A	717	G
1	A	722	A
1	A	724	U
1	A	730	C
1	A	740	U
1	A	741	G
1	A	745	G
1	A	747	U
1	A	752	A
1	A	753	C
1	A	765	G
1	A	771	G
1	A	773	U
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	790	C
1	A	792	G
1	A	794	G
1	A	797	C

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Mol	Chain	Res	Type
1	A	805	G
1	A	812	C
1	A	819	A
1	A	825	C
1	A	827	U
1	A	828	U
1	A	831	G
1	A	836	G
1	A	845	G
1	A	846	C
1	A	847	U
1	A	853	G
1	A	856	C
1	A	857	C
1	A	859	G
1	A	860	U
1	A	871	U
1	A	872	A
1	A	881	G
1	A	882	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C
1	A	890	A
1	A	896	A
1	A	897	C
1	A	899	A
1	A	900	A
1	A	901	A
1	A	905	U
1	A	907	U
1	A	910	A
1	A	916	G
1	A	917	A
1	A	920	G
1	A	928	G
1	A	932	G
1	A	941	A
1	A	945	A
1	A	946	G

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Mol	Chain	Res	Type
1	A	948	G
1	A	959	A
1	A	961	C
1	A	973	A
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	978	G
1	A	980	A
1	A	983	A
1	A	989	G
1	A	990	A
1	A	996	A
1	A	997	G
1	A	1003	G
1	A	1004	C
1	A	1005	C
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1024	G
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1045	A
1	A	1046	A
1	A	1047	G
1	A	1050	A
1	A	1054	A
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1069	A

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Mol	Chain	Res	Type
1	A	1070	A
1	A	1071	G
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1080	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1087	G
1	A	1088	A
1	A	1090	U
1	A	1093	G
1	A	1095	A
1	A	1096	A
1	A	1097	U
1	A	1099	G
1	A	1103	A
1	A	1104	C
1	A	1105	U
1	A	1110	G
1	A	1111	A
1	A	1112	G
1	A	1126	A
1	A	1127	A
1	A	1128	A
1	A	1129	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	1148	A
1	A	1151	G
1	A	1160	G
1	A	1173	G
1	A	1174	A

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Mol	Chain	Res	Type
1	A	1175	U
1	A	1176	G
1	A	1178	C
1	A	1179	C
1	A	1180	C
1	A	1195	G
1	A	1204	A
1	A	1205	U
1	A	1210	A
1	A	1211	U
1	A	1214	A
1	A	1218	C
1	A	1219	G
1	A	1220	A
1	A	1221	C
1	A	1225	C
1	A	1228	G
1	A	1234	U
1	A	1236	G
1	A	1238	G
1	A	1242	A
1	A	1244	G
1	A	1246	A
1	A	1247	A
1	A	1248	G
1	A	1250	G
1	A	1253	A
1	A	1256	G
1	A	1257	C
1	A	1259	G
1	A	1264	G
1	A	1265	A
1	A	1267	U
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1275	A
1	A	1281	G
1	A	1289	C
1	A	1299	G
1	A	1300	U
1	A	1301	A

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Mol	Chain	Res	Type
1	A	1302	A
1	A	1305	C
1	A	1309	G
1	A	1311	G
1	A	1312	U
1	A	1313	U
1	A	1316	U
1	A	1317	A
1	A	1318	C
1	A	1319	G
1	A	1321	A
1	A	1329	U
1	A	1338	G
1	A	1342	A
1	A	1348	G
1	A	1349	A
1	A	1358	G
1	A	1365	A
1	A	1368	G
1	A	1379	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1388	G
1	A	1390	U
1	A	1391	U
1	A	1393	A
1	A	1395	A
1	A	1396	U
1	A	1398	C
1	A	1402	C
1	A	1403	C
1	A	1407	C
1	A	1408	C
1	A	1411	C
1	A	1412	A
1	A	1415	U
1	A	1416	G
1	A	1417	C
1	A	1419	A
1	A	1420	U

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Mol	Chain	Res	Type
1	A	1421	G
1	A	1428	C
1	A	1429	G
1	A	1433	U
1	A	1444(A)	A
1	A	1445	C
1	A	1447	G
1	A	1448	G
1	A	1449	A
1	A	1449(A)	G
1	A	1451	C
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	1477	A
1	A	1480	G
1	A	1482	U
1	A	1483	G
1	A	1484	G
1	A	1485	G
1	A	1490	A
1	A	1493	C
1	A	1494	A
1	A	1495	A
1	A	1497	U
1	A	1505	C
1	A	1506	C
1	A	1507	A
1	A	1508	A
1	A	1510	A
1	A	1511	A
1	A	1513	C
1	A	1514	U
1	A	1522	G
1	A	1527	G
1	A	1533	C
1	A	1534	G
1	A	1535	U

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Mol	Chain	Res	Type
1	A	1536	A
1	A	1537	C
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1546	C
1	A	1547	C
1	A	1549	C
1	A	1558	A
1	A	1559	G
1	A	1569	A
1	A	1570	A
1	A	1578	U
1	A	1579	A
1	A	1581	G
1	A	1585	C
1	A	1586	A
1	A	1587	A
1	A	1589	C
1	A	1590	U
1	A	1592	C
1	A	1595	G
1	A	1602	U
1	A	1606	G
1	A	1608	A
1	A	1609	A
1	A	1612	C
1	A	1613	G
1	A	1617	C
1	A	1618	A
1	A	1626	G
1	A	1630(A)	C
1	A	1640	C
1	A	1646	C
1	A	1648	C
1	A	1654	A
1	A	1660	C
1	A	1667	G
1	A	1669	A
1	A	1674	G
1	A	1678	G
1	A	1681	G

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Mol	Chain	Res	Type
1	A	1682	G
1	A	1685	C
1	A	1686	C
1	A	1695	G
1	A	1698	A
1	A	1699	G
1	A	1700	A
1	A	1701	A
1	A	1718	G
1	A	1725	G
1	A	1728	G
1	A	1729	A
1	A	1730	U
1	A	1731	G
1	A	1732	A
1	A	1733	G
1	A	1734	C
1	A	1742	C
1	A	1750	G
1	A	1754	C
1	A	1755	A
1	A	1756	G
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1772	G
1	A	1773	A
1	A	1779	U
1	A	1780	A
1	A	1781	C
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1815	A
1	A	1816	G
1	A	1819	A
1	A	1820	U
1	A	1829	A
1	A	1834	U
1	A	1835	G
1	A	1839	G

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Mol	Chain	Res	Type
1	A	1847	A
1	A	1848	A
1	A	1850	G
1	A	1851	U
1	A	1858	G
1	A	1860	G
1	A	1864	U
1	A	1869	G
1	A	1871	A
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1888	G
1	A	1889	A
1	A	1896	G
1	A	1900	A
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1914	C
1	A	1923	U
1	A	1926	U
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	1940	U
1	A	1943	U
1	A	1944	U
1	A	1955	U
1	A	1956	U
1	A	1960	A
1	A	1963	U
1	A	1964	G
1	A	1967	C
1	A	1968	G
1	A	1969	A
1	A	1970	A
1	A	1971	A

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Mol	Chain	Res	Type
1	A	1972	A
1	A	1981	A
1	A	1982	C
1	A	1991	U
1	A	1993	U
1	A	2010	G
1	A	2013	A
1	A	2020	A
1	A	2023	G
1	A	2031	A
1	A	2033	A
1	A	2043	C
1	A	2055	C
1	A	2056	G
1	A	2059	A
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2063	C
1	A	2069	G
1	A	2071	A
1	A	2078	C
1	A	2092	U
1	A	2093	G
1	A	2096	U
1	A	2100	G
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2118	U
1	A	2119	A
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2128	C
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2136	C

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Mol	Chain	Res	Type
1	A	2146	C
1	A	2147	G
1	A	2148	G
1	A	2158	A
1	A	2166	G
1	A	2167	U
1	A	2168	G
1	A	2169	A
1	A	2171	A
1	A	2173	A
1	A	2176	A
1	A	2178	C
1	A	2190	G
1	A	2191	G
1	A	2192	G
1	A	2198	A
1	A	2199	A
1	A	2209	C
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2215	G
1	A	2225	A
1	A	2228	G
1	A	2234	G
1	A	2238	G
1	A	2239	G
1	A	2242	G
1	A	2243	U
1	A	2251	G
1	A	2264	C
1	A	2273	A
1	A	2274	A
1	A	2275	C
1	A	2278	A
1	A	2280	G
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2294	C
1	A	2298	A
1	A	2299	G

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Mol	Chain	Res	Type
1	A	2307	G
1	A	2308	G
1	A	2310	A
1	A	2311	A
1	A	2315	G
1	A	2319	G
1	A	2320	A
1	A	2324	C
1	A	2325	G
1	A	2334	G
1	A	2335	A
1	A	2336	A
1	A	2340	G
1	A	2342	C
1	A	2343	C
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2352	A
1	A	2355	C
1	A	2376	A
1	A	2379	G
1	A	2382	G
1	A	2383	G
1	A	2385	C
1	A	2386	C
1	A	2387	U
1	A	2389	G
1	A	2390	U
1	A	2392	A
1	A	2396	G
1	A	2400	G
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2410	G
1	A	2413	G
1	A	2421	G
1	A	2422	A
1	A	2423	U
1	A	2424	C

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Mol	Chain	Res	Type
1	A	2425	A
1	A	2426	A
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2432	A
1	A	2434	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2446	G
1	A	2448	A
1	A	2450	A
1	A	2455	G
1	A	2460	U
1	A	2464	C
1	A	2468	G
1	A	2469	A
1	A	2475	C
1	A	2476	A
1	A	2477	C
1	A	2480	C
1	A	2482	G
1	A	2494	G
1	A	2499	C
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2519	U
1	A	2520	C
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2551	C
1	A	2554	U
1	A	2559	C
1	A	2566	A
1	A	2567	G
1	A	2573	C
1	A	2574	G

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Mol	Chain	Res	Type
1	A	2582	G
1	A	2586	C
1	A	2590	A
1	A	2599	G
1	A	2601	C
1	A	2602	A
1	A	2609	U
1	A	2611	U
1	A	2612	C
1	A	2621	A
1	A	2623	G
1	A	2629	A
1	A	2632	A
1	A	2633	G
1	A	2645	G
1	A	2655	G
1	A	2656	U
1	A	2657	A
1	A	2665	A
1	A	2666	C
1	A	2673	G
1	A	2675	A
1	A	2682	U
1	A	2683	C
1	A	2689	U
1	A	2690	C
1	A	2693	A
1	A	2701	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2720	U
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2739	U
1	A	2741	A

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Mol	Chain	Res	Type
1	A	2744	G
1	A	2749	A
1	A	2750	A
1	A	2752	C
1	A	2755	C
1	A	2757	A
1	A	2758	A
1	A	2759	G
1	A	2761	G
1	A	2762	G
1	A	2765	A
1	A	2766	G
1	A	2770	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2789	C
1	A	2790	A
1	A	2791	C
1	A	2794	C
1	A	2797	U
1	A	2807	G
1	A	2808	U
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2830	G
1	A	2831	G
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2846	G
1	A	2849	U
1	A	2865	U
1	A	2866	U
1	A	2867	G
1	A	2868	A
1	A	2871	C
1	A	2872	G
1	A	2891	G
1	A	2892	A
1	A	2894	G

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Mol	Chain	Res	Type
1	A	2897	U
2	B	2	C
2	B	7	G
2	B	8	U
2	B	10	C
2	B	12	C
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G
2	B	22	U
2	B	24	G
2	B	25	A
2	B	26	A
2	B	32	C
2	B	34	U
2	B	35	U
2	B	39	A
2	B	41	U
2	B	42	C
2	B	43	C
2	B	44	G
2	B	45	A
2	B	47	C
2	B	52	A
2	B	53	A
2	B	56	G
2	B	64	C
2	B	67	G
2	B	72	G
2	B	73	A
2	B	75	G
2	B	82	G
2	B	87	G
2	B	88	C
2	B	89	G
2	B	90	C
2	B	96	G
2	B	101	A
2	B	105	G
2	B	106	G
2	B	109	G

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Mol	Chain	Res	Type
2	B	115	G

All (95) 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	205	G
1	A	221	A
1	A	222	A
1	A	226	G
1	A	227	A
1	A	229	A
1	A	242	G
1	A	271(B)	G
1	A	278	A
1	A	332	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	562	U
1	A	574	C
1	A	587	C
1	A	620	G
1	A	637	A
1	A	645	C
1	A	653	A
1	A	669	G
1	A	704	G
1	A	752	A
1	A	846	C
1	A	856	C
1	A	858	U
1	A	859	G
1	A	961	C
1	A	973	A
1	A	974	G
1	A	974(A)	C
1	A	1012	U

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Mol	Chain	Res	Type
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1109	C
1	A	1128	A
1	A	1130	U
1	A	1175	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1220	A
1	A	1379	A
1	A	1416	G
1	A	1460	A
1	A	1558	A
1	A	1608	A
1	A	1653	G
1	A	1667	G
1	A	1694	C
1	A	1698	A
1	A	1799	G
1	A	1819	A
1	A	1899	G
1	A	1929	G
1	A	1930	G
1	A	1943	U
1	A	1955	U
1	A	1992	G
1	A	2035	G
1	A	2060	A
1	A	2092	U
1	A	2126	A
1	A	2211	G
1	A	2238	G
1	A	2318	G
1	A	2335	A
1	A	2351	G
1	A	2405	G
1	A	2439	A
1	A	2481	G

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Mol	Chain	Res	Type
1	A	2506	U
1	A	2518	A
1	A	2566	A
1	A	2610	C
1	A	2655	G
1	A	2681	C
1	A	2689	U
1	A	2712	U
1	A	2751	G
1	A	2756	U
1	A	2776	A
1	A	2832	U
1	A	2867	G
1	A	2873	A
2	B	24	G
2	B	66	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
32	PPU	a	76	1,32	38,40,41	2.42	8 (21%)	54,57,60	2.60	14 (25%)

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

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

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	O-C	9.16	1.41	1.23
32	a	76	PPU	C9-N6	-5.37	1.32	1.45
32	a	76	PPU	C-N3'	5.36	1.46	1.34
32	a	76	PPU	C10-N6	-5.15	1.32	1.45
32	a	76	PPU	C4-N9	-3.09	1.33	1.37
32	a	76	PPU	C8-N9	-3.00	1.32	1.36
32	a	76	PPU	O4'-C1'	2.91	1.44	1.41
32	a	76	PPU	C6-C5	-2.58	1.40	1.44

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	N3-C2-N1	-8.54	121.38	128.89
32	a	76	PPU	C3'-N3'-C	-8.16	110.20	123.19
32	a	76	PPU	C5-C4-N3	-6.27	119.87	125.98
32	a	76	PPU	C2'-C1'-N9	-5.49	98.40	113.35
32	a	76	PPU	C2'-C3'-N3'	5.17	125.07	113.08
32	a	76	PPU	C2-N1-C6	4.70	121.69	111.52
32	a	76	PPU	C4'-O4'-C1'	-3.95	105.38	109.72
32	a	76	PPU	N3-C4-N9	3.86	132.02	125.39
32	a	76	PPU	C4-C5-N7	-3.52	106.01	109.41
32	a	76	PPU	CM-OC-CZ	-3.14	110.22	117.54
32	a	76	PPU	O4'-C1'-N9	-2.67	102.28	108.10
32	a	76	PPU	C2-N3-C4	2.64	120.86	113.27
32	a	76	PPU	C4'-C3'-N3'	-2.61	108.06	113.56
32	a	76	PPU	CA-C-N3'	2.04	121.68	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 278 ligands modelled in this entry, 278 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.