



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 22, 2020 – 12:00 PM BST

PDB ID : 4DUZ
Title : Crystal structure of the *Thermus thermophilus* 30S ribosomal subunit with a 16S rRNA mutation, U13C, bound with streptomycin
Authors : Demirci, H.; Murphy IV, F.; Murphy, E.; Gregory, S.T.; Dahlberg, A.E.; Jogl, G.
Deposited on : 2012-02-22
Resolution : 3.65 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.13.1
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.13.1

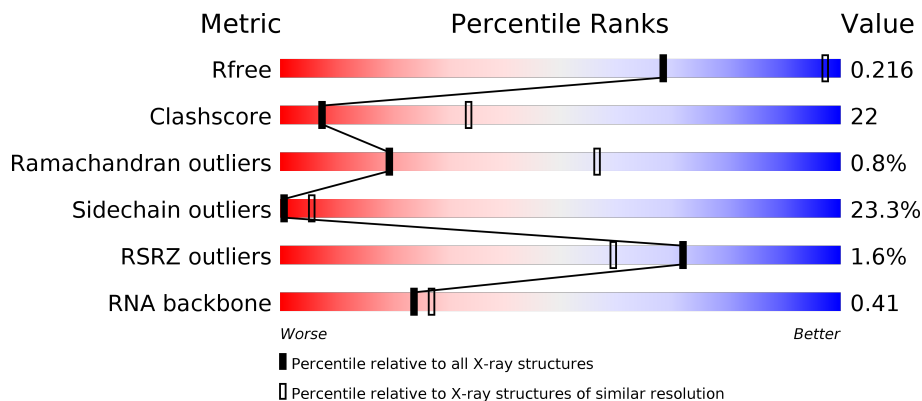
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.65 Å.

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






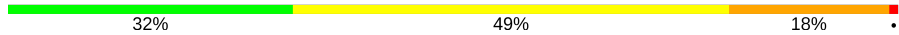
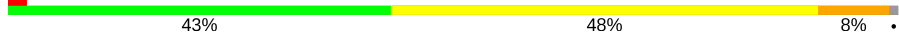
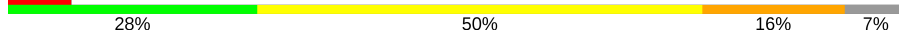
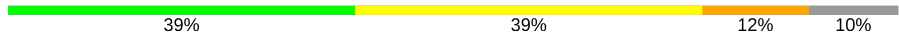
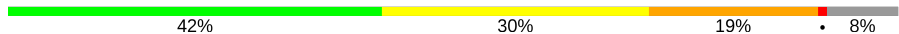
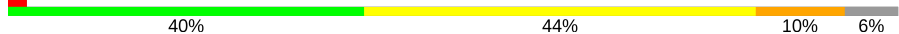
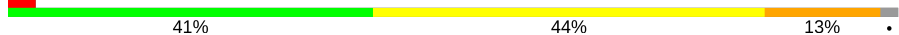
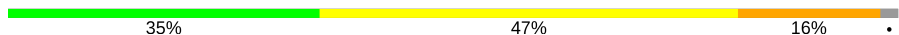
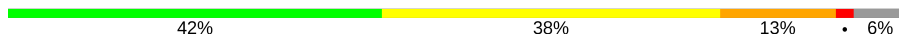
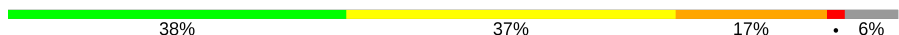
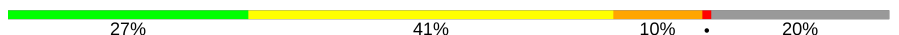



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1557 (3.82-3.50)
Clashscore	141614	1037 (3.80-3.52)
Ramachandran outliers	138981	1004 (3.80-3.52)
Sidechain outliers	138945	1002 (3.80-3.52)
RSRZ outliers	127900	1441 (3.82-3.50)
RNA backbone	3102	1024 (4.30-3.00)

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

Mol	Chain	Length	Quality of chain
1	A	1522	 15% 41% 33% 11%
2	B	256	 33% 48% 9% 9%
3	C	239	 5% 31% 44% 11% 14%
4	D	209	 49% 38% 11%

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Mol	Chain	Length	Quality of chain
5	E	162	
6	F	101	
7	G	156	
8	H	138	
9	I	128	
10	J	105	
11	K	129	
12	L	135	
13	M	126	
14	N	61	
15	O	89	
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	PSU	A	1540	-	-	-	X
1	PSU	A	1541	-	-	-	X
23	MG	A	1661	-	-	-	X
23	MG	A	1668	-	-	-	X
23	MG	A	1696	-	-	-	X
23	MG	A	1710	-	-	-	X
23	MG	A	1716	-	-	-	X
23	MG	A	1727	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
23	MG	A	1733	-	-	-	X
23	MG	A	1741	-	-	-	X
23	MG	A	1742	-	-	-	X
23	MG	A	1764	-	-	-	X
23	MG	A	1782	-	-	-	X
23	MG	A	1791	-	-	-	X
23	MG	A	1792	-	-	-	X
23	MG	A	1794	-	-	-	X
23	MG	A	1797	-	-	-	X
23	MG	A	1800	-	-	-	X
23	MG	A	1847	-	-	-	X
23	MG	H	204	-	-	-	X
23	MG	P	102	-	-	-	X

2 Entry composition [i](#)

There are 25 unique types of molecules in this entry. The entry contains 52289 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1512	32507	14477	6012	10506	1512	0	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	13	C	U	ENGINEERED MUTATION	GB M26923.1
A	1534	C	A	CONFLICT	GB M26923.1
A	1535	A	C	CONFLICT	GB M26923.1

- Molecule 2 is a protein called ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	234	1900	1213	341	341	5	0	0	0

- Molecule 3 is a protein called ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	206	1612	1016	314	281	1	0	0	0

- Molecule 4 is a protein called ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	208	1703	1066	339	291	7	0	0	0

- Molecule 5 is a protein called ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	E	150	1146	724	217	201	4	0	0	0

- Molecule 6 is a protein called ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	F	101	843	531	155	154	3	0	0	0

- Molecule 7 is a protein called ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	G	155	1257	781	252	218	6	0	0	0

- Molecule 8 is a protein called ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	H	138	1116	705	215	193	3	0	0	0

- Molecule 9 is a protein called ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
			Total	C	N	O				
9	I	127	1010	639	197	174		0	0	0

- Molecule 10 is a protein called ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	J	98	792	498	156	137	1	0	0	0

- Molecule 11 is a protein called ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	K	116	864	537	164	160	3	0	0	0

- Molecule 12 is a protein called ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	L	124	972	612	195	163	2	0	0	0

- Molecule 13 is a protein called ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	M	118	937	579	193	163	2	0	0	0

- Molecule 14 is a protein called ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	N	60	492	312	104	72	4	0	0	0

- Molecule 15 is a protein called ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	O	87	729	457	146	124	2	0	0	0

- Molecule 16 is a protein called ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	P	83	700	443	139	117	1	0	0	0

- Molecule 17 is a protein called ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	Q	99	823	528	152	141	2	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	96	GLN	GLU	CONFLICT	UNP Q5SHP7

- Molecule 18 is a protein called ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	R	70	574	367	112	95	0	0	0

- Molecule 19 is a protein called ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	S	80	647	414	119	112	2	0	0	0

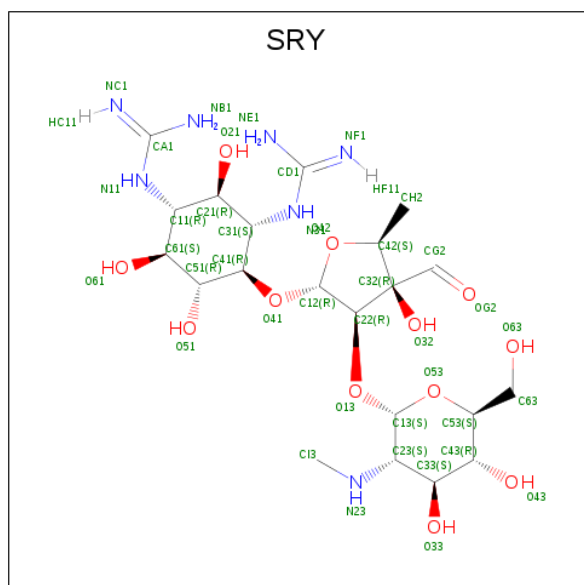
- Molecule 20 is a protein called ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	T	99	763	470	162	129	2	0	0	0

- Molecule 21 is a protein called ribosomal protein THX.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
21	U	24	208	128	50	30	0	0	0

- Molecule 22 is STREPTOMYCIN (three-letter code: SRY) (formula: $C_{21}H_{39}N_7O_{12}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
22	A	1	40	21	7	12	0	0

- Molecule 23 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	P	2	Total Mg 2 2	0	0
23	J	1	Total Mg 1 1	0	0
23	Q	2	Total Mg 2 2	0	0
23	D	1	Total Mg 1 1	0	0
23	E	1	Total Mg 1 1	0	0
23	H	4	Total Mg 4 4	0	0
23	B	2	Total Mg 2 2	0	0
23	A	249	Total Mg 249 249	0	0
23	T	2	Total Mg 2 2	0	0
23	S	1	Total Mg 1 1	0	0
23	M	2	Total Mg 2 2	0	0

- Molecule 24 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
24	D	1	Total Zn 1 1	0	0
24	N	1	Total Zn 1 1	0	0

- Molecule 25 is water.

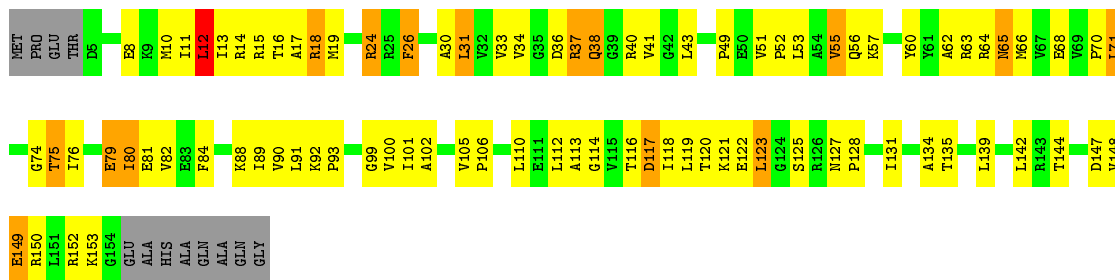
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	A	369	Total O 369 369	0	0
25	D	1	Total O 1 1	0	0
25	E	6	Total O 6 6	0	0
25	G	1	Total O 1 1	0	0

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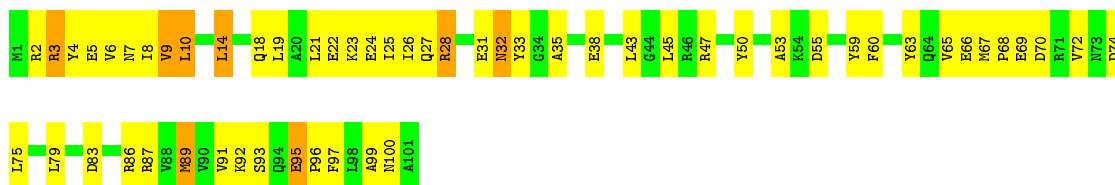
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	L	1	Total O 1 1	0	0
25	P	1	Total O 1 1	0	0
25	Q	4	Total O 4 4	0	0
25	T	2	Total O 2 2	0	0

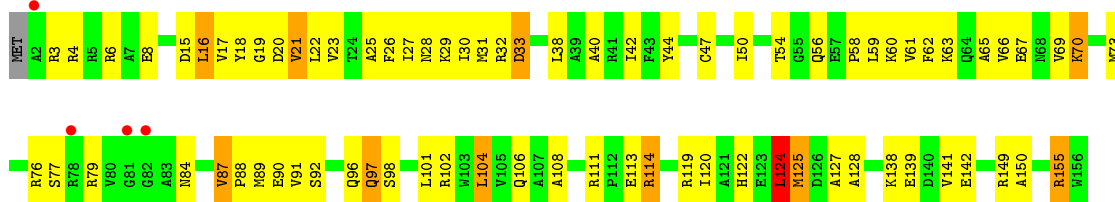
G1520	G1454	G1387	C1328	G1266	C1203	C1140	A1080	G1023	G983	G902	G836	G777	G714	U652
G1521	G1455	C1388	A1329	C1267	A1204	G11081	G1080	G1024	A964	G903	G837	A777	A715	A653
U1522	C1459	C1389	U1300	A1268	U1205	G1143	G1082	U1025	A965	G904	G838	G778	A716	G654
G1523	A1460	A1269	G1331	A1269	U1206	G1144	U1083	G1026	G966	U905	U839	G779	C717	A655
C1524	G1461	C1270	G1207	C1207	G1084	A1145	U1084	C1027	G967	G906	C840	A780	G718	C656
G1527	C1462	A1332	A1308	A1274	G1208	A1146	U1085	C1028	A968	A907	U841	A781	C720	G657
U1528	C1463	G1334	C1309	A1275	C1209	C1147	U1086	C1029	A969	A908	C848	A782	G721	G658
C1529	G1464	A1335	C1336	A1276	C1210	U1148	G1087	G1030	C970	A909	C849	C783	U659	U659
U1530	C1465	C1337	C1337	C1277	U1211	C1149	U1088	G1030A	G971	A910	U850	C784	A722	G660
A1531	C1466	G1338	A1308	A1278	A1213	U1151	U1089	C1030B	G972	U911	G851	C785	G723	G661
A1468	A1467	A1339	A1339	A1279	A1214	A1152	U1090	G1030C	G973	G912	G852	G786	G724	G662
C1533	A1468	A1340	A1340	A1280	G1215	C1153	A1091	A1030D	A974	A913	G853	A787	G725	A663
C	G1471	U1341	U1281	U1281	G1216	G1154	U1092	G1031	A975	A914	G854	U788	G726	G664
A	G1472	C1342	C1282	C1282	G1217	G1155	A1093	G1032	G976	A915	G855	U789	G727	A665
C	G1473	G1343	G1283	G1283	C1217	G1156	G1094	G1033	A977	G916	C856	A790	A728	G666
U	G1474	C1344	A1284	A1284	U1219	A1157	U1095	A1034	A978	G917	C857	A791	A729	G667
C	G1475	U1345	A1285	A1285	U1220	C1158	C1096	A1035	C979	A918	G858	A792	G730	G668
U1539	C1476	A1346	A1286	A1286	G1221	U1159	U1097	A1036	C980	A919	A859	U793	G731	U669
U1540	C1477	G1347	A1287	A1287	G1222	G1160	U1098	C1037	U981	U921	A860	A794	C732	G670
U1541	C1478	U1348	A1288	A1288	C1223	C1161	G1100	C1038	U982	U922	G861	C795	A733	G671
U1481	G1481	A1349	A1289	A1289	G1224	A1162	U1040	U1039	A983	G922	C862	C796	G734	U672
G1482	A1482	U1350	G1290	G1290	A1225	C1163	A1102	A1041	C984	A923	U863	C797	G735	G673
A1483	C1483	C1351	A1291	A1291	C1226	G1164	U1103	A1044	C985	C924	A864	G798	C736	G674
U1484	C1484	C1352	U1292	U1292	A1227	G1104	G1104	A1044	A936	G925	A865	G799	A737	A675
U1485	C1485	G1353	G1293	G1293	C1228	A1105	A1105	A1044	C986	G926	C865	G800	C738	A676
G1486	C1486	C1354	G1294	G1294	G1228	A1106	A1106	C1045	C989	G927	G867	U801	G741	U677
G1487	C1487	G1355	G1295	G1295	G1231	A1107	G1107	A1046	C990	G928	A802	A802	G742	U678
G1488	C1488	C1356	C1296	C1296	U1232	A1108	G1108	A1047	U991	G929	G868	G803	G743	G679
G1489	G1489	A1357	C1297	C1297	U1233	C1172	A1109	G1048	U992	C930	U804	U804	U743	C680
C1490	A1418	U1358	C1298	C1298	C1234	G1173	U1049	U1049	G993	C931	U871	C805	C744	
G1491	G1419	C1359	A1299	A1299	U1235	G1174	A1110	G1050	A994	C932	A872	C806	C745	G683
A1492	C1420	A1360	G1300	G1300	U1236	G1175	A1111	G1051	C995	C933	A873	A807	C746	A684
G1493	G1421	C1361	U1301	U1301	C1237	A1176	C1112	U1052	A996	C934	G874	C808	C747	G685
G1494	C1422	C1362	A1302	A1302	C1238	G1177	C1113	C1054	U997	A935	C875	G809	C748	U686
U1495	C1423	A1363	G1303	G1303	A1239	G1178	C1114	C1055	G998	C936	C876	C810	C749	A687
C1496	U1424	U1364	A1304	A1304	U1240	G1179	C1115	A1056	C999	A937	C877	C811	G750	G688
G1497	C1426	U1365	G1305	G1305	G1241	A1180	G1117	G1057	U1000	A938	G878	C812	U751	C689
U1498	C1430	C1366	A1306	A1306	C1242	A1181	C1118	A1058	A1001	C939	C879	U813	G752	G690
A1499	G1431	C1367	U1307	U1307	C1243	G1182	C1119	C1059	G1002	C940	C880	A814	A753	G691
C1500	G1432	G1368	G1308	G1308	C1244	A1183	G1120	A1060	U1003	G941	G881	A815	C754	U692
A1501	A1433	C1369	A1309	A1309	A1245	G1184	U1121	G1061	G1003A	G942	G882	A816	C755	G693
A1502	G1434	G1370	C1310	C1310	U1246	A1185	U1122	U1062	A1004	U943	C883	C817	C756	A694
C1503	A1434	A1371	G1311	G1311	U1247	G1186	A1123	C1063	A1005	G944	U864	G818	U757	A695
G1504	G1435	G1372	G1312	G1312	A1248	G1187	G1124	C1064	C1006	G945	C885	A819	G758	A696
G1505	U1436	G1373	C1313	C1313	C1249	A1188	U1125	U1065	C1007	A946	G886	U820	A759	U697
U1506	C1437	A1374	U1314	U1314	A1250	C1189	U1126	C1066	C1008	G947	G887	C821	G760	G698
A1507	G1440	A1375	U1315	U1315	A1251	G1190	G1127	A1067	G1009	C948	G888	G761	G761	C699
C1508	G1441	U1376	C1317	C1317	G1255	C1192	U1128	G1068	G1010	A949	G889	C762	G700	G700
U1510	G1442	A1377	A1318	A1318	U1256	G1193	A1129	C1069	U1012	U950	G890	C824	C764	A702
U1511	G1443	C1378	A1319	A1319	U1257	U1194	A1130	U1070	G1013	G953	A892	G826	G765	G703
U1512	A1444	G1379	C1320	C1320	G1258	C1195	G1131	A1071	A1014	G954	A893	U827	A766	A704
A1513	G1445	C1380	C1259	C1259	G1259	U1196	G1132	G1072	A1015	U955	G894	A828	A767	U705
C1514	C1448	A1381	C1260	C1260	U1260	U1197	G1133	U1073	A1016	U956	G895	G829	A768	A706
C1515	C1449	C1382	G1323	G1323	A1261	G1198	U1134	G1074	G1017	U957	C896	G830	G769	C707
G1516	U1450	C1383	A1324	A1324	C1262	U1199	U1135	C1075	C1018	C897	U831	G770	G770	G708
A1517	C1451	C1384	C1325	C1325	C1263	U1200	U1136	C1076	G1019	A958	G898	G771	G771	C708
A1518	C1452	G1385	C1326	C1326	U1264	C1201	C1137	G1077	U1020	U960	G899	U772	U772	G711
A1519	G1453	G1386	G1386	G1386	G1265	G1202	G1139	G1079	G1022	C962	A901	U835	G774	G713



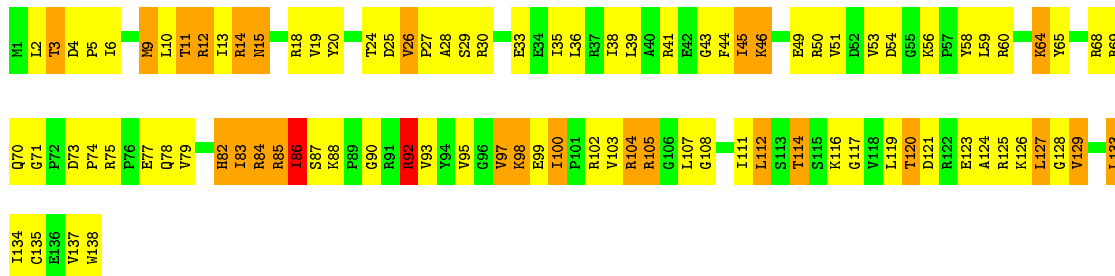
• Molecule 6: ribosomal protein S6



• Molecule 7: ribosomal protein S7



• Molecule 8: ribosomal protein S8

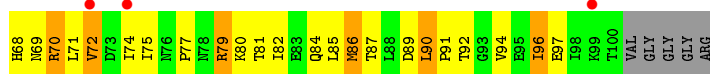
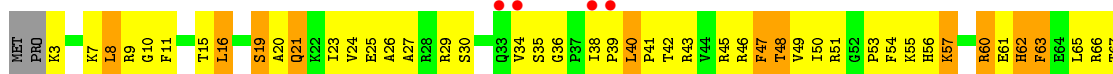


• Molecule 9: ribosomal protein S9

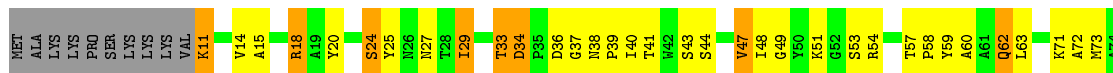




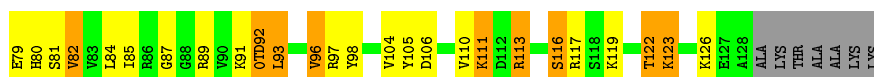
- Molecule 10: ribosomal protein S10



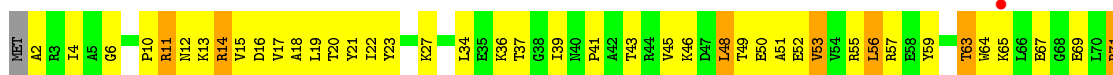
- Molecule 11: ribosomal protein S11



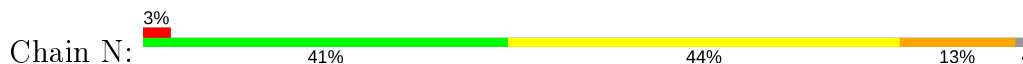
- Molecule 12: ribosomal protein S12

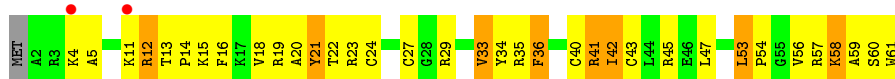


- Molecule 13: ribosomal protein S13

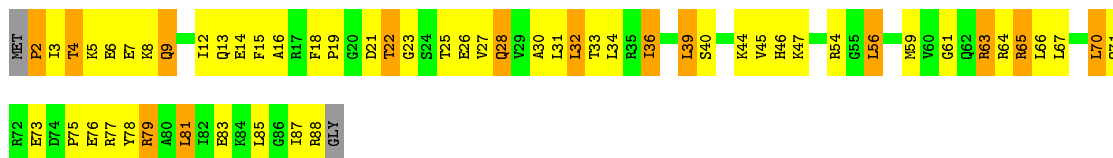


- Molecule 14: ribosomal protein S14

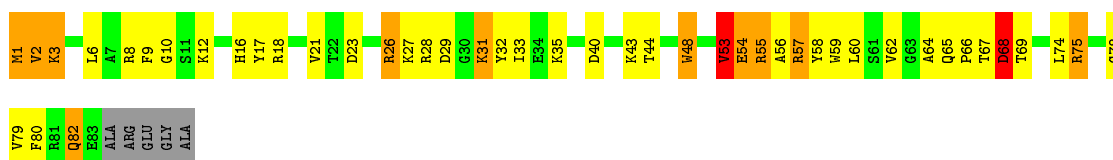




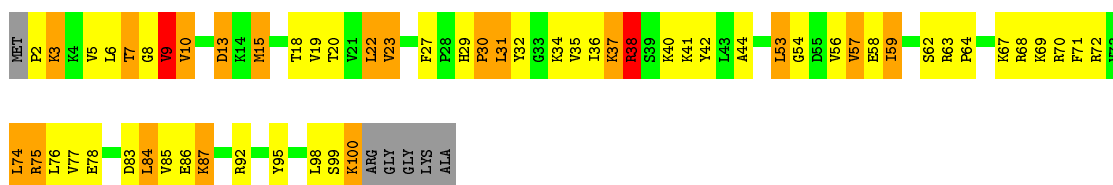
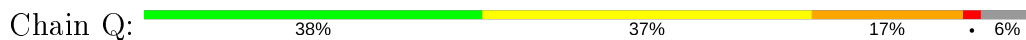
- Molecule 15: ribosomal protein S15



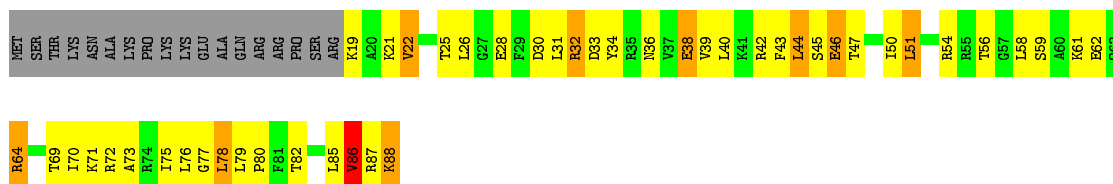
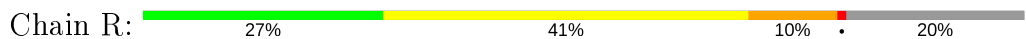
- Molecule 16: ribosomal protein S16



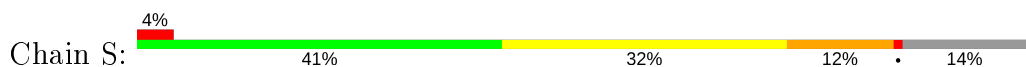
- Molecule 17: ribosomal protein S17



- Molecule 18: ribosomal protein S18



- Molecule 19: ribosomal protein S19



GLY
HIS
GLY
LYS
LYS
GLU
ALA
LYS
LYS
ALA
THR
LYS
LYS
LYS

- Molecule 20: ribosomal protein S20



MET
ALA
GLN
LYS
LYS
PRO
LYS
LYS
R6
R9
L10
S11
A12
L13
K14
R15
H16
R17
Q18
S19
L20
R23
K27
A28
K29
A32
I33
K34
T35
L36
S37
K38
I41
Q42
L43
E50
E51
A52
L53
M56
R57
L62
K65
A67
K68
T71
L72
H73
K74
M75
A76

A77
A78
R79
R80
K81
L84
M85
R86
K87
V88
R89
L92
E93
A94
L99
I100
G101
G102
G103
L104
S105
A106

- Molecule 21: ribosomal protein THX



MET
G2
K3
G4
D5
T8
R9
R10
G11
K12
I13
H14
T17
Y18
G19
K20
V21
R22
P23
R24
K25
LYS
LYS

4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	402.52Å 402.52Å 173.98Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.56 – 3.65 34.56 – 3.65	Depositor EDS
% Data completeness (in resolution range)	95.6 (34.56-3.65) 95.4 (34.56-3.65)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.27 (at 3.66Å)	Xtrriage
Refinement program	PHENIX dev_978	Depositor
R, R_{free}	0.156 , 0.216 0.156 , 0.216	Depositor DCC
R_{free} test set	7502 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	141.1	Xtrriage
Anisotropy	0.199	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.24 , 133.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	52289	wwPDB-VP
Average B, all atoms (Å ²)	172.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.07% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, M2G, MA6, 0TD, MG, 2MG, 5MC, UR3, 4OC, SRY, 7MG, PSU

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	1.30	226/36040 (0.6%)	2.04	2283/56243 (4.1%)
2	B	0.77	0/1935	0.97	6/2609 (0.2%)
3	C	0.62	0/1636	0.84	1/2205 (0.0%)
4	D	0.77	1/1733 (0.1%)	0.97	4/2318 (0.2%)
5	E	1.01	1/1162 (0.1%)	1.13	1/1564 (0.1%)
6	F	0.73	0/856	0.88	0/1154
7	G	0.74	0/1276	0.89	1/1709 (0.1%)
8	H	1.12	0/1136	1.23	4/1527 (0.3%)
9	I	0.63	0/1029	0.86	1/1379 (0.1%)
10	J	0.58	0/805	0.85	1/1082 (0.1%)
11	K	0.76	1/879 (0.1%)	1.01	3/1187 (0.3%)
12	L	0.91	0/977	1.13	3/1306 (0.2%)
13	M	0.70	0/947	0.93	0/1270
14	N	0.67	1/501 (0.2%)	0.86	0/664
15	O	0.84	0/740	1.03	3/987 (0.3%)
16	P	0.92	1/716 (0.1%)	1.10	1/963 (0.1%)
17	Q	1.09	1/836 (0.1%)	1.23	5/1117 (0.4%)
18	R	0.81	0/579	0.99	1/768 (0.1%)
19	S	0.64	0/661	0.88	0/890
20	T	0.79	0/765	1.05	3/1007 (0.3%)
21	U	0.57	0/212	0.92	0/277
All	All	1.15	232/55421 (0.4%)	1.77	2321/82226 (2.8%)

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
2	B	0	3
3	C	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	2
8	H	0	2
10	J	0	2
12	L	0	3
15	O	0	1
17	Q	0	1
18	R	0	1
20	T	0	1
All	All	0	19

All (232) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	279	A	N9-C4	-12.51	1.30	1.37
1	A	130	A	N3-C4	-10.46	1.28	1.34
1	A	828	A	N9-C4	-9.94	1.31	1.37
1	A	946	A	N3-C4	-9.94	1.28	1.34
1	A	819	A	N3-C4	-9.27	1.29	1.34
1	A	298	A	N3-C4	-8.91	1.29	1.34
1	A	279	A	N7-C5	-8.63	1.34	1.39
1	A	1377	A	N9-C4	-8.55	1.32	1.37
1	A	130	A	N9-C4	-8.48	1.32	1.37
1	A	563	A	N3-C4	-8.15	1.29	1.34
1	A	868	C	N1-C6	-8.11	1.32	1.37
1	A	860	A	N9-C4	-8.10	1.32	1.37
1	A	329	A	N9-C4	-7.97	1.33	1.37
1	A	1500	A	C6-N1	-7.64	1.30	1.35
1	A	833	U	C4-O4	7.61	1.29	1.23
1	A	915	A	N9-C4	-7.49	1.33	1.37
1	A	320	C	N1-C6	-7.29	1.32	1.37
1	A	779	C	N1-C6	-7.29	1.32	1.37
1	A	1520	G	N9-C4	-7.29	1.32	1.38
1	A	1243	C	N1-C6	-7.21	1.32	1.37
1	A	788	U	C2-N3	7.20	1.42	1.37
1	A	722	A	N9-C4	-7.19	1.33	1.37
1	A	931	C	N3-C4	-7.18	1.28	1.33
1	A	564	C	N1-C6	-7.15	1.32	1.37
1	A	946	A	C6-N1	-7.12	1.30	1.35
1	A	583	A	N9-C4	-7.08	1.33	1.37
1	A	279	A	C5-C6	-7.05	1.34	1.41
1	A	874	G	N9-C8	-6.97	1.32	1.37
1	A	589	C	N1-C6	-6.97	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	12	CYS	CB-SG	6.97	1.94	1.82
1	A	817	C	N1-C6	-6.94	1.32	1.37
1	A	1502	A	C5-C6	-6.92	1.34	1.41
1	A	602	A	N9-C4	-6.92	1.33	1.37
1	A	880	C	N3-C4	-6.84	1.29	1.33
1	A	108	G	N9-C8	6.82	1.42	1.37
1	A	566	G	N7-C5	-6.82	1.35	1.39
1	A	872	A	N7-C5	-6.80	1.35	1.39
1	A	576	G	N3-C4	-6.79	1.30	1.35
1	A	266	G	N9-C4	-6.75	1.32	1.38
1	A	706	A	N9-C4	-6.75	1.33	1.37
1	A	897	C	N3-C4	-6.73	1.29	1.33
1	A	533	A	N9-C4	6.72	1.41	1.37
1	A	117	G	C5-C4	6.72	1.43	1.38
1	A	131	C	N3-C4	-6.71	1.29	1.33
1	A	581	G	N7-C5	-6.67	1.35	1.39
1	A	16	A	N9-C4	-6.67	1.33	1.37
1	A	586	C	N1-C6	-6.65	1.33	1.37
1	A	729	A	N9-C4	-6.65	1.33	1.37
1	A	1078	U	C4-O4	-6.65	1.18	1.23
1	A	715	A	N9-C4	-6.65	1.33	1.37
1	A	856	C	N1-C6	-6.63	1.33	1.37
1	A	566	G	N3-C4	-6.61	1.30	1.35
1	A	569	C	N3-C4	-6.60	1.29	1.33
1	A	654	G	N9-C4	-6.56	1.32	1.38
1	A	152	A	N9-C4	-6.53	1.33	1.37
1	A	1346	A	C3'-O3'	6.53	1.51	1.42
1	A	1499	A	N7-C5	-6.47	1.35	1.39
1	A	1497	G	N7-C5	-6.46	1.35	1.39
1	A	124	G	N3-C4	-6.44	1.30	1.35
1	A	1509	C	N3-C4	-6.38	1.29	1.33
1	A	451	A	N9-C4	-6.37	1.34	1.37
1	A	1502	A	N3-C4	-6.28	1.31	1.34
1	A	109	A	N9-C4	-6.28	1.34	1.37
1	A	570	G	C5-C4	-6.27	1.33	1.38
1	A	869	G	C8-N7	-6.26	1.27	1.30
1	A	1338	G	C6-N1	-6.24	1.35	1.39
1	A	944	G	C6-N1	-6.22	1.35	1.39
1	A	600	C	N1-C6	-6.21	1.33	1.37
1	A	563	A	N9-C4	-6.18	1.34	1.37
1	A	1504	G	N7-C5	-6.16	1.35	1.39
1	A	730	G	N9-C8	-6.15	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	897	C	N1-C6	-6.14	1.33	1.37
1	A	1513	A	N3-C4	-6.14	1.31	1.34
1	A	1523	G	C5-C4	-6.11	1.34	1.38
1	A	676	A	N9-C4	-6.09	1.34	1.37
1	A	572	A	C6-N1	-6.07	1.31	1.35
17	Q	23	VAL	CB-CG1	-6.05	1.40	1.52
1	A	1329	A	N7-C5	-6.02	1.35	1.39
1	A	1501	C	N3-C4	-6.02	1.29	1.33
1	A	654	G	N3-C4	-6.01	1.31	1.35
1	A	357	G	N9-C8	-6.00	1.33	1.37
1	A	144	G	N1-C2	5.98	1.42	1.37
1	A	1442	G	N9-C4	5.95	1.42	1.38
1	A	572	A	C5-C4	-5.95	1.34	1.38
1	A	822	C	N1-C6	-5.95	1.33	1.37
1	A	124	G	C6-N1	-5.93	1.35	1.39
1	A	1499	A	C5-C6	-5.92	1.35	1.41
1	A	812	C	N1-C6	-5.91	1.33	1.37
1	A	730	G	C6-N1	-5.89	1.35	1.39
1	A	1243	C	N3-C4	-5.89	1.29	1.33
1	A	574	A	N9-C4	-5.89	1.34	1.37
1	A	822	C	C4-C5	-5.87	1.38	1.43
14	N	27	CYS	CB-SG	-5.86	1.72	1.81
1	A	570	G	N1-C2	-5.86	1.33	1.37
1	A	1079	G	N7-C5	-5.86	1.35	1.39
1	A	1524	C	N1-C6	-5.86	1.33	1.37
1	A	61	G	N3-C4	-5.84	1.31	1.35
1	A	1394	A	N9-C4	-5.84	1.34	1.37
1	A	722	A	C5-C6	-5.83	1.35	1.41
1	A	874	G	C5-C4	-5.83	1.34	1.38
1	A	633	G	C5-C4	-5.81	1.34	1.38
1	A	574	A	N3-C4	-5.80	1.31	1.34
1	A	1513	A	N9-C4	-5.80	1.34	1.37
1	A	357	G	N3-C4	-5.78	1.31	1.35
1	A	300	A	N3-C4	-5.78	1.31	1.34
1	A	190(G)	G	N7-C5	-5.78	1.35	1.39
1	A	1079	G	C6-N1	-5.77	1.35	1.39
1	A	1520	G	N7-C5	-5.77	1.35	1.39
1	A	1076	C	N3-C4	-5.76	1.29	1.33
1	A	1064	G	N9-C4	-5.76	1.33	1.38
1	A	746	A	N3-C4	-5.75	1.31	1.34
1	A	329	A	C5-C6	-5.70	1.35	1.41
1	A	1523	G	C5-C6	-5.69	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	802	A	N9-C4	-5.68	1.34	1.37
1	A	625	G	C6-N1	-5.67	1.35	1.39
1	A	1146	A	N9-C4	-5.66	1.34	1.37
1	A	605	U	C4-O4	5.64	1.28	1.23
1	A	559	A	N3-C4	-5.62	1.31	1.34
1	A	1500	A	N3-C4	-5.62	1.31	1.34
1	A	826	C	N1-C6	-5.60	1.33	1.37
1	A	460	A	N9-C4	5.60	1.41	1.37
1	A	11	G	C6-N1	-5.59	1.35	1.39
1	A	328	C	N3-C4	-5.59	1.30	1.33
1	A	909	A	N9-C4	-5.59	1.34	1.37
1	A	1524	C	C4'-C3'	-5.59	1.47	1.52
1	A	780	A	N3-C4	-5.59	1.31	1.34
1	A	885	G	C2-N3	-5.59	1.28	1.32
1	A	922	G	C6-N1	-5.59	1.35	1.39
1	A	901	A	N9-C4	-5.59	1.34	1.37
1	A	151	A	N9-C4	-5.58	1.34	1.37
1	A	803	G	N1-C2	-5.58	1.33	1.37
1	A	117	G	C6-O6	5.57	1.29	1.24
1	A	1329	A	C5-C6	-5.56	1.36	1.41
1	A	1520	G	C5-C6	-5.56	1.36	1.42
1	A	733	A	N9-C4	-5.55	1.34	1.37
1	A	765	G	N9-C4	-5.55	1.33	1.38
1	A	1078	U	C4-C5	-5.54	1.38	1.43
1	A	144	G	C6-N1	5.54	1.43	1.39
1	A	571	U	N1-C2	-5.54	1.33	1.38
1	A	926	G	N9-C4	5.54	1.42	1.38
1	A	1080	A	C6-N1	-5.52	1.31	1.35
1	A	807	A	N3-C4	-5.51	1.31	1.34
1	A	1520	G	C5-C4	-5.51	1.34	1.38
1	A	577	G	N9-C4	-5.50	1.33	1.38
1	A	1377	A	N3-C4	-5.50	1.31	1.34
1	A	905	U	N1-C2	-5.49	1.33	1.38
1	A	703	G	C6-O6	5.49	1.29	1.24
1	A	828	A	N3-C4	-5.47	1.31	1.34
1	A	1520	G	N3-C4	-5.47	1.31	1.35
1	A	240	C	N1-C6	-5.46	1.33	1.37
1	A	742	G	C5-C4	-5.45	1.34	1.38
1	A	1248	A	N9-C4	5.43	1.41	1.37
1	A	727	G	C6-N1	-5.42	1.35	1.39
1	A	880	C	N1-C6	-5.42	1.33	1.37
1	A	372	C	N3-C4	5.41	1.37	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	243	A	N7-C5	-5.41	1.36	1.39
1	A	1332	A	N9-C4	5.40	1.41	1.37
1	A	1515	C	C4-C5	-5.39	1.38	1.43
1	A	97	G	N9-C4	5.38	1.42	1.38
1	A	794	A	C5-C6	5.38	1.45	1.41
1	A	1306	A	N9-C8	-5.38	1.33	1.37
1	A	88	A	N9-C4	5.37	1.41	1.37
11	K	119	CYS	CB-SG	-5.37	1.73	1.81
1	A	819	A	C6-N1	-5.37	1.31	1.35
1	A	1370	G	N9-C4	5.35	1.42	1.38
5	E	33	VAL	CA-CB	-5.35	1.43	1.54
1	A	730	G	N3-C4	-5.35	1.31	1.35
1	A	303	A	N9-C4	-5.34	1.34	1.37
1	A	873	A	N9-C4	5.34	1.41	1.37
16	P	48	TRP	CB-CG	-5.34	1.40	1.50
1	A	129(A)	G	C2-N3	5.33	1.37	1.32
1	A	1377	A	C6-N1	-5.33	1.31	1.35
1	A	1502	A	N9-C4	-5.32	1.34	1.37
1	A	1401	G	N7-C5	-5.32	1.36	1.39
1	A	701	C	C3'-O3'	5.31	1.49	1.42
1	A	116	A	N9-C4	-5.30	1.34	1.37
1	A	287	U	C2-O2	-5.30	1.17	1.22
1	A	1338	G	N1-C2	-5.30	1.33	1.37
1	A	109	A	N3-C4	-5.29	1.31	1.34
1	A	90	U	C2-N3	5.28	1.41	1.37
1	A	819	A	N9-C4	-5.28	1.34	1.37
1	A	1504	G	C5-C4	-5.28	1.34	1.38
1	A	1502	A	N7-C5	-5.27	1.36	1.39
1	A	575	G	C6-N1	-5.27	1.35	1.39
1	A	1064	G	N3-C4	-5.26	1.31	1.35
1	A	944	G	N1-C2	-5.26	1.33	1.37
1	A	863	U	N1-C2	-5.26	1.33	1.38
1	A	913	A	C3'-O3'	5.25	1.49	1.42
1	A	812	C	C3'-O3'	5.25	1.49	1.42
1	A	525	C	N1-C6	-5.25	1.34	1.37
1	A	54	C	N3-C4	-5.24	1.30	1.33
1	A	728	A	C6-N6	-5.24	1.29	1.33
1	A	583	A	N3-C4	-5.22	1.31	1.34
1	A	828	A	N7-C5	-5.22	1.36	1.39
1	A	586	C	N3-C4	-5.21	1.30	1.33
1	A	1501	C	C2-N3	-5.20	1.31	1.35
1	A	279	A	N3-C4	-5.18	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	715	A	N3-C4	-5.18	1.31	1.34
1	A	889	A	N7-C5	-5.17	1.36	1.39
1	A	703	G	N3-C4	-5.17	1.31	1.35
1	A	611	A	N9-C4	-5.17	1.34	1.37
1	A	807	A	N9-C4	-5.17	1.34	1.37
1	A	606	G	N9-C4	5.16	1.42	1.38
1	A	802	A	C5-C4	-5.16	1.35	1.38
1	A	1442	G	N3-C4	5.16	1.39	1.35
1	A	922	G	N1-C2	-5.14	1.33	1.37
1	A	621	A	N7-C5	-5.14	1.36	1.39
1	A	746	A	N9-C4	-5.13	1.34	1.37
1	A	742	G	N3-C4	-5.12	1.31	1.35
1	A	109	A	N7-C5	-5.12	1.36	1.39
1	A	117	G	N1-C2	5.09	1.41	1.37
1	A	285	G	C6-O6	5.09	1.28	1.24
1	A	300	A	N9-C4	-5.09	1.34	1.37
1	A	931	C	C2-N3	-5.09	1.31	1.35
1	A	1516	G	N9-C4	5.08	1.42	1.38
1	A	230	G	C6-O6	5.08	1.28	1.24
1	A	1307	U	N1-C2	5.07	1.43	1.38
1	A	635	G	N3-C4	-5.06	1.31	1.35
1	A	1403	C	C1'-N1	-5.06	1.39	1.46
1	A	587	G	N1-C2	-5.06	1.33	1.37
1	A	674	G	N9-C4	-5.05	1.33	1.38
1	A	322	C	N1-C6	-5.05	1.34	1.37
1	A	945	G	N9-C8	5.05	1.41	1.37
1	A	374	A	N7-C5	5.04	1.42	1.39
1	A	742	G	N1-C2	-5.03	1.33	1.37
1	A	814	A	N9-C4	-5.03	1.34	1.37
1	A	120	A	C6-N1	-5.02	1.32	1.35
1	A	243	A	C3'-O3'	5.02	1.49	1.42
1	A	130	A	C6-N1	-5.01	1.32	1.35
1	A	474	G	N9-C4	-5.00	1.33	1.38
1	A	575	G	C6-O6	-5.00	1.19	1.24
1	A	120	A	N9-C8	-5.00	1.33	1.37

All (2321) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	279	A	C5-N7-C8	-16.40	95.70	103.90
1	A	873	A	C8-N9-C4	-15.88	99.45	105.80
1	A	279	A	N1-C6-N6	15.42	127.85	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1505	G	C8-N9-C4	-14.85	100.46	106.40
1	A	329	A	C2-N3-C4	-14.28	103.46	110.60
1	A	1403	C	C6-N1-C2	14.19	125.98	120.30
1	A	824	C	C6-N1-C2	13.94	125.88	120.30
1	A	599	C	C6-N1-C2	13.56	125.72	120.30
1	A	703	G	C4-C5-N7	-13.28	105.49	110.80
1	A	122	G	N1-C6-O6	13.12	127.78	119.90
1	A	285	G	N1-C6-O6	13.11	127.77	119.90
1	A	279	A	N7-C8-N9	12.79	120.20	113.80
1	A	117	G	C5-C6-N1	-12.77	105.11	111.50
1	A	28	G	N1-C6-O6	12.76	127.55	119.90
1	A	572	A	N1-C6-N6	-12.68	110.99	118.60
1	A	867	G	N1-C6-O6	12.63	127.48	119.90
1	A	266	G	N3-C4-C5	12.62	134.91	128.60
1	A	281	G	N1-C6-O6	12.62	127.47	119.90
1	A	676	A	C8-N9-C4	12.56	110.83	105.80
1	A	117	G	C6-C5-N7	-12.39	122.97	130.40
1	A	1403	C	N3-C2-O2	12.38	130.56	121.90
1	A	279	A	C6-C5-N7	-12.26	123.72	132.30
1	A	130	A	N1-C2-N3	12.17	135.39	129.30
1	A	572	A	N9-C4-C5	12.17	110.67	105.80
1	A	117	G	N1-C6-O6	12.09	127.16	119.90
1	A	945	G	C5-C6-N1	12.06	117.53	111.50
1	A	266	G	N3-C4-N9	-12.01	118.79	126.00
1	A	92	C	C4-C5-C6	11.97	123.39	117.40
1	A	279	A	C4-C5-N7	11.97	116.68	110.70
1	A	824	C	C5-C6-N1	-11.96	115.02	121.00
1	A	232	G	N1-C6-O6	11.93	127.06	119.90
1	A	931	C	C5-C6-N1	-11.89	115.05	121.00
1	A	794	A	C2-N3-C4	11.87	116.53	110.60
1	A	117	G	C4-C5-C6	11.82	125.89	118.80
1	A	579	G	N1-C6-O6	11.80	126.98	119.90
1	A	1329	A	N1-C6-N6	11.78	125.67	118.60
1	A	285	G	C5-C6-N1	-11.76	105.62	111.50
1	A	1080	A	N1-C6-N6	-11.72	111.56	118.60
1	A	945	G	C5-C6-O6	-11.72	121.57	128.60
1	A	1108	G	C8-N9-C4	-11.71	101.72	106.40
1	A	718	G	C8-N9-C4	-11.70	101.72	106.40
1	A	525	C	C6-N1-C2	11.67	124.97	120.30
1	A	117	G	C8-N9-C1'	-11.67	111.83	127.00
1	A	481	G	N3-C4-N9	11.62	132.97	126.00
1	A	285	G	C2-N3-C4	-11.56	106.12	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	852	G	C5-C6-N1	-11.55	105.72	111.50
1	A	731	G	N1-C6-O6	11.50	126.80	119.90
1	A	722	A	C2-N3-C4	-11.48	104.86	110.60
1	A	1200	C	C2-N1-C1'	11.47	131.42	118.80
1	A	819	A	C8-N9-C4	-11.27	101.29	105.80
1	A	1455	G	N1-C6-O6	11.27	126.66	119.90
1	A	814	A	C2-N3-C4	-11.18	105.01	110.60
1	A	1442	G	N3-C4-N9	11.15	132.69	126.00
1	A	635	G	C2-N3-C4	-11.13	106.33	111.90
1	A	933	G	N1-C6-O6	11.10	126.56	119.90
1	A	635	G	C5-C6-N1	-11.07	105.97	111.50
1	A	703	G	N9-C4-C5	11.04	109.82	105.40
1	A	295	C	C6-N1-C2	10.99	124.70	120.30
1	A	117	G	C4-N9-C1'	10.95	140.74	126.50
1	A	144	G	N1-C6-O6	10.95	126.47	119.90
1	A	1499	A	N1-C6-N6	10.89	125.14	118.60
1	A	259	G	C2-N3-C4	-10.87	106.47	111.90
1	A	933	G	C6-C5-N7	-10.79	123.92	130.40
1	A	801	U	C5-C6-N1	-10.78	117.31	122.70
1	A	833	U	N3-C4-C5	-10.73	108.16	114.60
1	A	255	G	N1-C6-O6	10.72	126.33	119.90
1	A	757	U	N3-C4-C5	-10.71	108.17	114.60
1	A	299	G	N1-C6-O6	10.69	126.32	119.90
1	A	107	G	C4-C5-N7	10.69	115.08	110.80
1	A	257	G	N3-C4-N9	10.68	132.41	126.00
1	A	596	C	C6-N1-C2	10.68	124.57	120.30
1	A	1460	A	N1-C6-N6	10.67	125.00	118.60
1	A	1496	C	C5-C6-N1	10.66	126.33	121.00
1	A	122	G	C5-C6-N1	-10.65	106.17	111.50
1	A	79	G	C8-N9-C4	-10.63	102.15	106.40
1	A	572	A	C8-N9-C4	-10.61	101.56	105.80
1	A	868	C	C4-C5-C6	10.61	122.70	117.40
1	A	329	A	C8-N9-C4	10.58	110.03	105.80
1	A	718	G	N7-C8-N9	10.58	118.39	113.10
1	A	266	G	C2-N3-C4	-10.58	106.61	111.90
1	A	605	U	N3-C4-C5	-10.55	108.27	114.60
1	A	1502	A	C5-N7-C8	-10.53	98.63	103.90
1	A	606	G	C8-N9-C4	-10.53	102.19	106.40
1	A	185	A	C8-N9-C4	10.53	110.01	105.80
1	A	599	C	N3-C4-C5	10.52	126.11	121.90
1	A	819	A	N9-C4-C5	10.52	110.01	105.80
1	A	928	G	N1-C6-O6	10.51	126.21	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	569	C	C5-C6-N1	-10.43	115.79	121.00
1	A	1200	C	C6-N1-C2	-10.40	116.14	120.30
1	A	703	G	C5-C6-O6	10.38	134.83	128.60
1	A	1080	A	C5-C6-N6	10.37	132.00	123.70
1	A	616	G	C5-C6-N1	-10.35	106.32	111.50
1	A	1082	G	C8-N9-C4	10.32	110.53	106.40
1	A	577	G	C8-N9-C4	10.31	110.53	106.40
1	A	745	C	N3-C4-C5	10.31	126.03	121.90
1	A	778	G	N1-C6-O6	10.30	126.08	119.90
1	A	730	G	C4-C5-N7	-10.27	106.69	110.80
1	A	797	C	C6-N1-C2	10.27	124.41	120.30
1	A	232	G	C6-C5-N7	-10.26	124.24	130.40
1	A	132	C	C2-N3-C4	-10.24	114.78	119.90
1	A	107	G	C6-C5-N7	-10.23	124.26	130.40
1	A	825	G	N1-C6-O6	10.22	126.03	119.90
1	A	1080	A	N9-C4-C5	10.18	109.87	105.80
1	A	1197	G	N9-C4-C5	-10.17	101.33	105.40
1	A	451	A	C8-N9-C4	10.16	109.87	105.80
1	A	828	A	C2-N3-C4	-10.14	105.53	110.60
1	A	130	A	C2-N3-C4	-10.12	105.54	110.60
1	A	1442	G	N3-C4-C5	-10.11	123.55	128.60
1	A	1362	C	C6-N1-C2	-10.10	116.26	120.30
1	A	922	G	N3-C4-C5	-10.08	123.56	128.60
1	A	1515	C	C6-N1-C2	-10.03	116.29	120.30
1	A	232	G	C2-N3-C4	-9.97	106.92	111.90
1	A	1500	A	C8-N9-C4	-9.97	101.81	105.80
1	A	546	G	N3-C4-N9	9.96	131.98	126.00
1	A	1505	G	N7-C8-N9	9.95	118.07	113.10
1	A	719	C	N1-C2-O2	9.95	124.87	118.90
1	A	703	G	N3-C4-C5	-9.94	123.63	128.60
1	A	875	C	C6-N1-C2	9.93	124.27	120.30
1	A	190(G)	G	C6-C5-N7	-9.92	124.45	130.40
1	A	577	G	C5-C6-O6	-9.88	122.67	128.60
1	A	455	C	N1-C2-O2	9.87	124.82	118.90
1	A	558	G	N1-C6-O6	9.82	125.79	119.90
1	A	1342	C	N3-C2-O2	9.81	128.77	121.90
1	A	132	C	C5-C6-N1	-9.80	116.10	121.00
1	A	628	G	N3-C4-C5	-9.79	123.71	128.60
1	A	944	G	N3-C4-C5	-9.78	123.71	128.60
1	A	303	A	C2-N3-C4	-9.78	105.71	110.60
1	A	600	C	C6-N1-C2	9.77	124.21	120.30
1	A	703	G	C8-N9-C4	-9.76	102.50	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	945	G	C2-N3-C4	9.76	116.78	111.90
1	A	941	G	N1-C6-O6	9.74	125.75	119.90
1	A	91	C	N1-C2-O2	-9.74	113.06	118.90
1	A	944	G	N1-C6-O6	-9.71	114.08	119.90
1	A	298	A	C6-N1-C2	-9.70	112.78	118.60
1	A	597	G	N1-C2-N2	-9.67	107.49	116.20
1	A	1502	A	C6-C5-N7	-9.66	125.53	132.30
1	A	1238	A	N9-C4-C5	9.65	109.66	105.80
1	A	175	C	C6-N1-C2	9.65	124.16	120.30
1	A	933	G	C5-C6-O6	-9.65	122.81	128.60
1	A	481	G	C8-N9-C4	9.63	110.25	106.40
1	A	898	G	C5-C6-O6	9.62	134.37	128.60
1	A	1059	C	C6-N1-C2	9.61	124.14	120.30
1	A	938	A	N1-C6-N6	-9.58	112.85	118.60
1	A	1377	A	C2-N3-C4	-9.58	105.81	110.60
1	A	292	G	N1-C6-O6	9.57	125.64	119.90
1	A	764	C	N3-C4-C5	9.55	125.72	121.90
1	A	27	G	C5-C6-O6	-9.54	122.88	128.60
1	A	706	A	C2-N3-C4	-9.53	105.84	110.60
1	A	281	G	C5-C6-O6	-9.52	122.89	128.60
1	A	190(G)	G	N1-C6-O6	9.52	125.61	119.90
1	A	245	C	C5-C4-N4	-9.51	113.55	120.20
1	A	876	G	C2-N3-C4	-9.50	107.15	111.90
1	A	735	C	C6-N1-C2	9.48	124.09	120.30
1	A	767	A	N1-C6-N6	-9.48	112.91	118.60
1	A	825	G	C8-N9-C4	9.48	110.19	106.40
1	A	931	C	C2-N3-C4	-9.47	115.16	119.90
1	A	602	A	C8-N9-C4	9.46	109.58	105.80
1	A	1497	G	C6-C5-N7	-9.46	124.73	130.40
1	A	108	G	N3-C4-C5	9.44	133.32	128.60
1	A	31	G	C4-C5-N7	-9.41	107.03	110.80
1	A	823	G	C2-N3-C4	-9.39	107.20	111.90
1	A	1342	C	N1-C2-O2	-9.39	113.27	118.90
1	A	805	C	N3-C4-C5	9.38	125.65	121.90
1	A	901	A	C2-N3-C4	-9.38	105.91	110.60
1	A	676	A	N7-C8-N9	-9.36	109.12	113.80
1	A	852	G	C2-N3-C4	-9.34	107.23	111.90
1	A	232	G	N9-C4-C5	-9.33	101.67	105.40
1	A	795	C	N3-C4-C5	-9.32	118.17	121.90
1	A	778	G	C2-N3-C4	-9.31	107.25	111.90
1	A	1523	G	C8-N9-C4	-9.31	102.68	106.40
1	A	482	A	N1-C6-N6	9.30	124.18	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	460	A	C8-N9-C4	-9.30	102.08	105.80
1	A	27	G	N1-C6-O6	9.29	125.48	119.90
1	A	577	G	N9-C4-C5	-9.29	101.68	105.40
1	A	1346	A	N1-C6-N6	-9.29	113.03	118.60
1	A	1087	G	N1-C6-O6	9.28	125.47	119.90
1	A	858	G	C4-C5-N7	9.27	114.51	110.80
1	A	605	U	C4-C5-C6	9.25	125.25	119.70
1	A	822	C	N3-C4-N4	9.24	124.47	118.00
1	A	1370	G	C8-N9-C4	-9.23	102.71	106.40
1	A	230	G	N1-C6-O6	9.21	125.43	119.90
1	A	130	A	C4-C5-C6	9.21	121.60	117.00
1	A	1348	U	C2-N1-C1'	9.21	128.75	117.70
1	A	614	A	C8-N9-C4	-9.20	102.12	105.80
1	A	605	U	N1-C2-N3	9.18	120.41	114.90
1	A	255	G	C6-C5-N7	-9.18	124.89	130.40
1	A	824	C	C2-N3-C4	-9.18	115.31	119.90
1	A	779	C	C5-C6-N1	-9.17	116.41	121.00
1	A	230	G	C8-N9-C4	9.14	110.06	106.40
1	A	943	U	N3-C2-O2	-9.14	115.80	122.20
1	A	915	A	C2-N3-C4	-9.13	106.04	110.60
1	A	32	A	N1-C2-N3	9.12	133.86	129.30
1	A	625	G	N3-C4-C5	-9.12	124.04	128.60
1	A	874	G	C5-C6-O6	-9.10	123.14	128.60
1	A	1434	A	N1-C6-N6	9.09	124.05	118.60
1	A	1502	A	C2-N3-C4	-9.08	106.06	110.60
1	A	474	G	N1-C6-O6	9.04	125.32	119.90
1	A	873	A	N9-C4-C5	9.03	109.41	105.80
1	A	546	G	N3-C4-C5	-9.03	124.08	128.60
1	A	876	G	C4-C5-N7	9.02	114.41	110.80
1	A	132	C	C4-C5-C6	9.01	121.91	117.40
1	A	944	G	C5-C6-O6	8.99	134.00	128.60
1	A	1236	A	N1-C2-N3	-8.99	124.81	129.30
1	A	820	U	N1-C2-O2	-8.98	116.51	122.80
1	A	606	G	N3-C4-C5	-8.98	124.11	128.60
1	A	481	G	N9-C4-C5	-8.97	101.81	105.40
1	A	1502	A	N7-C8-N9	8.97	118.28	113.80
1	A	129(A)	G	N9-C4-C5	-8.94	101.83	105.40
1	A	856	C	C4-C5-C6	8.93	121.87	117.40
1	A	565	U	C5-C4-O4	-8.93	120.54	125.90
1	A	635	G	N1-C2-N3	8.92	129.25	123.90
1	A	589	C	C5-C6-N1	-8.92	116.54	121.00
1	A	190(C)	C	C6-N1-C2	-8.91	116.73	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	328	C	N1-C2-O2	8.90	124.24	118.90
1	A	1462	G	N1-C6-O6	8.90	125.24	119.90
1	A	873	A	N1-C6-N6	-8.89	113.26	118.60
1	A	52	G	C6-C5-N7	-8.89	125.06	130.40
1	A	232	G	C5-C6-N1	-8.89	107.05	111.50
1	A	703	G	C5-N7-C8	8.89	108.75	104.30
1	A	1329	A	C6-C5-N7	-8.87	126.09	132.30
1	A	278	G	C4-C5-N7	-8.84	107.26	110.80
1	A	867	G	C6-C5-N7	-8.84	125.09	130.40
1	A	310	G	C5-C6-O6	-8.84	123.30	128.60
1	A	731	G	C5-C6-O6	-8.84	123.30	128.60
1	A	948	C	N3-C4-C5	8.84	125.43	121.90
1	A	78	G	C4-C5-N7	8.83	114.33	110.80
1	A	1249	C	C6-N1-C2	-8.83	116.77	120.30
1	A	298	A	N1-C2-N3	8.83	133.71	129.30
1	A	873	A	N7-C8-N9	8.82	118.21	113.80
1	A	260	G	C8-N9-C4	-8.82	102.87	106.40
1	A	820	U	N1-C2-N3	8.82	120.19	114.90
1	A	575	G	C6-N1-C2	-8.81	119.81	125.10
1	A	576	G	N3-C4-C5	-8.80	124.20	128.60
1	A	876	G	N1-C2-N3	8.81	129.18	123.90
1	A	316	G	C6-C5-N7	-8.80	125.12	130.40
1	A	525	C	C5-C4-N4	-8.77	114.06	120.20
1	A	329	A	N3-C4-C5	8.77	132.94	126.80
1	A	1516	G	N3-C4-C5	-8.77	124.22	128.60
1	A	228	A	C8-N9-C4	-8.75	102.30	105.80
1	A	753	A	C6-N1-C2	-8.74	113.36	118.60
1	A	577	G	C4-C5-N7	8.73	114.29	110.80
1	A	926	G	N3-C4-C5	-8.72	124.24	128.60
1	A	238	G	C5-C6-N1	-8.72	107.14	111.50
1	A	804	U	N3-C4-C5	-8.72	109.37	114.60
1	A	770	C	C5-C6-N1	-8.72	116.64	121.00
1	A	1108	G	N3-C4-C5	-8.71	124.24	128.60
1	A	230	G	N9-C4-C5	-8.71	101.92	105.40
1	A	824	C	N3-C4-C5	8.69	125.38	121.90
1	A	328	C	N3-C4-N4	-8.68	111.93	118.00
1	A	569	C	C4-C5-C6	8.67	121.74	117.40
1	A	730	G	C5-C6-O6	8.67	133.80	128.60
1	A	814	A	C8-N9-C4	8.67	109.27	105.80
1	A	277	C	C6-N1-C2	8.66	123.77	120.30
1	A	851	G	C4-N9-C1'	8.66	137.76	126.50
1	A	745	C	C6-N1-C2	8.65	123.76	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	856	C	N3-C4-C5	-8.65	118.44	121.90
1	A	860	A	C2-N3-C4	-8.65	106.28	110.60
1	A	43	C	C6-N1-C2	8.64	123.76	120.30
1	A	529	G	N1-C6-O6	8.64	125.08	119.90
1	A	720	C	N1-C2-O2	8.63	124.08	118.90
1	A	599	C	N3-C2-O2	8.62	127.94	121.90
1	A	255	G	N9-C4-C5	-8.62	101.95	105.40
1	A	577	G	N1-C6-O6	8.62	125.07	119.90
1	A	1371	G	C8-N9-C4	-8.62	102.95	106.40
1	A	59	A	C5-C6-N1	8.61	122.00	117.70
1	A	15	G	C8-N9-C4	8.60	109.84	106.40
1	A	854	G	N1-C2-N2	-8.60	108.46	116.20
1	A	690	G	C5-C6-O6	8.58	133.75	128.60
1	A	1502	A	C4-C5-N7	8.58	114.99	110.70
1	A	874	G	N1-C6-O6	8.56	125.04	119.90
1	A	577	G	N3-C4-C5	8.56	132.88	128.60
1	A	1390	U	N3-C4-C5	-8.56	109.47	114.60
1	A	137	C	N3-C4-C5	8.55	125.32	121.90
1	A	16	A	C2-N3-C4	-8.54	106.33	110.60
1	A	872	A	N1-C6-N6	8.54	123.72	118.60
1	A	729	A	C2-N3-C4	-8.53	106.33	110.60
1	A	1107	C	C6-N1-C2	-8.52	116.89	120.30
1	A	1102	A	C8-N9-C4	8.52	109.21	105.80
1	A	46	G	C5-C6-N1	-8.52	107.24	111.50
1	A	523	A	C8-N9-C4	8.51	109.21	105.80
1	A	771	G	C4-C5-N7	8.51	114.20	110.80
1	A	111	G	N1-C2-N2	8.50	123.85	116.20
1	A	128	G	N1-C6-O6	8.50	125.00	119.90
8	H	12	ARG	NE-CZ-NH1	-8.50	116.05	120.30
1	A	1149	C	C6-N1-C2	-8.48	116.91	120.30
1	A	54	C	C6-N1-C2	-8.47	116.91	120.30
1	A	1302	U	C5-C6-N1	-8.47	118.46	122.70
1	A	235	C	C6-N1-C2	8.47	123.69	120.30
1	A	1486	G	N1-C6-O6	8.46	124.98	119.90
1	A	14	U	N1-C2-N3	8.46	119.97	114.90
1	A	1452	C	C6-N1-C2	8.46	123.68	120.30
1	A	1380	U	N3-C2-O2	-8.45	116.29	122.20
1	A	259	G	C5-C6-N1	-8.44	107.28	111.50
1	A	1333	A	N1-C2-N3	8.42	133.51	129.30
1	A	787	A	N1-C6-N6	8.41	123.65	118.60
1	A	1530	G	N1-C6-O6	8.40	124.94	119.90
1	A	169	C	N3-C4-C5	-8.40	118.54	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	580	U	N3-C4-C5	-8.40	109.56	114.60
1	A	833	U	C5-C4-O4	8.40	130.94	125.90
1	A	939	G	C4-C5-N7	-8.40	107.44	110.80
1	A	1403	C	N1-C2-N3	-8.40	113.32	119.20
1	A	600	C	C5-C6-N1	-8.39	116.80	121.00
1	A	621	A	C8-N9-C4	-8.39	102.44	105.80
1	A	794	A	C5-N7-C8	8.39	108.09	103.90
1	A	23	C	N3-C4-C5	-8.39	118.55	121.90
1	A	788	U	N3-C4-O4	8.38	125.27	119.40
1	A	970	C	N1-C2-O2	8.38	123.93	118.90
1	A	547	A	C5-C6-N6	-8.38	117.00	123.70
1	A	27	G	C4-C5-N7	8.37	114.15	110.80
1	A	795	C	C2-N3-C4	8.37	124.09	119.90
1	A	117	G	C2-N3-C4	-8.37	107.72	111.90
1	A	1516	G	C8-N9-C4	-8.37	103.05	106.40
1	A	1369	C	C6-N1-C2	-8.36	116.95	120.30
1	A	1355	G	N3-C4-C5	-8.35	124.42	128.60
1	A	1442	G	C2-N3-C4	8.34	116.07	111.90
1	A	786	G	N1-C6-O6	8.34	124.91	119.90
1	A	1105	A	C8-N9-C4	-8.34	102.46	105.80
1	A	108	G	N3-C4-N9	-8.33	121.00	126.00
1	A	1240	U	C5-C4-O4	8.33	130.90	125.90
4	D	78	LEU	CA-CB-CG	-8.33	96.14	115.30
1	A	23	C	C6-N1-C2	-8.33	116.97	120.30
1	A	901	A	N1-C2-N3	8.32	133.46	129.30
1	A	1348	U	N3-C4-O4	8.32	125.23	119.40
1	A	279	A	C5-C6-N6	-8.32	117.04	123.70
1	A	98	U	C5-C6-N1	8.32	126.86	122.70
1	A	1197	G	C5-C6-O6	-8.32	123.61	128.60
1	A	372	C	C6-N1-C2	8.31	123.62	120.30
1	A	558	G	C5-C6-O6	-8.31	123.61	128.60
1	A	1388	C	N1-C2-O2	-8.30	113.92	118.90
1	A	259	G	N3-C4-C5	8.29	132.75	128.60
1	A	170	U	N1-C2-O2	-8.29	117.00	122.80
1	A	1516	G	N3-C4-N9	8.29	130.97	126.00
1	A	924	C	C6-N1-C2	-8.29	116.99	120.30
1	A	175	C	N3-C4-C5	8.28	125.21	121.90
1	A	812	C	C4-C5-C6	8.28	121.54	117.40
1	A	255	G	C5-C6-O6	-8.28	123.63	128.60
17	Q	31	LEU	CA-CB-CG	-8.28	96.26	115.30
1	A	78	G	C5-C6-N1	8.26	115.63	111.50
1	A	1064	G	C2-N3-C4	-8.23	107.78	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	484	G	C4-C5-N7	-8.23	107.51	110.80
1	A	144	G	N3-C4-C5	8.22	132.71	128.60
1	A	278	G	N1-C6-O6	-8.22	114.97	119.90
1	A	919	A	C8-N9-C4	8.22	109.09	105.80
1	A	1307	U	N1-C2-O2	8.21	128.55	122.80
1	A	762	C	C5-C4-N4	-8.21	114.45	120.20
1	A	871	U	N1-C2-O2	8.21	128.54	122.80
1	A	1377	A	N1-C6-N6	-8.20	113.68	118.60
1	A	1531	A	N7-C8-N9	8.21	117.90	113.80
1	A	628	G	N3-C4-N9	8.20	130.92	126.00
1	A	1079	G	C5-C6-O6	8.19	133.52	128.60
1	A	1108	G	N7-C8-N9	8.19	117.19	113.10
1	A	546	G	C4-N9-C1'	8.17	137.13	126.50
1	A	569	C	C2-N3-C4	-8.17	115.81	119.90
1	A	283	C	N3-C4-C5	-8.16	118.64	121.90
1	A	825	G	N3-C2-N2	-8.16	114.19	119.90
1	A	307	C	C5-C6-N1	8.16	125.08	121.00
1	A	909	A	C5-C6-N6	-8.16	117.18	123.70
1	A	1262	C	C6-N1-C2	-8.15	117.04	120.30
1	A	572	A	C5-C6-N1	8.15	121.77	117.70
1	A	1435	G	N1-C6-O6	8.15	124.79	119.90
1	A	129(A)	G	C8-N9-C1'	-8.13	116.43	127.00
1	A	851	G	C6-C5-N7	-8.13	125.52	130.40
1	A	658	G	N1-C2-N3	8.13	128.78	123.90
1	A	890	G	N1-C6-O6	-8.13	115.02	119.90
1	A	230	G	C5-C6-N1	-8.12	107.44	111.50
1	A	1385	G	N1-C6-O6	-8.12	115.03	119.90
1	A	79	G	N7-C8-N9	8.11	117.16	113.10
1	A	1030	C	C6-N1-C2	-8.11	117.06	120.30
1	A	1377	A	N1-C2-N3	8.10	133.35	129.30
1	A	583	A	C8-N9-C4	8.09	109.04	105.80
1	A	1339	A	N1-C6-N6	-8.09	113.75	118.60
1	A	939	G	N3-C4-C5	-8.09	124.56	128.60
1	A	1447	G	C4-C5-N7	8.08	114.03	110.80
1	A	579	G	C2-N3-C4	-8.08	107.86	111.90
1	A	729	A	C5-N7-C8	-8.07	99.86	103.90
1	A	75	G	C4-N9-C1'	8.07	136.99	126.50
1	A	931	C	N3-C4-N4	-8.07	112.35	118.00
1	A	1471	G	C8-N9-C4	8.07	109.63	106.40
1	A	621	A	N7-C8-N9	8.07	117.83	113.80
1	A	247	G	N1-C6-O6	8.06	124.74	119.90
1	A	671	G	C5-C6-N1	-8.06	107.47	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	98	U	C6-N1-C2	-8.04	116.17	121.00
1	A	1523	G	C5-C6-O6	-8.04	123.78	128.60
1	A	1200	C	N1-C2-O2	8.03	123.72	118.90
1	A	1307	U	N3-C2-O2	-8.03	116.58	122.20
1	A	111	G	N3-C4-N9	-8.03	121.19	126.00
1	A	1442	G	C4-N9-C1'	8.02	136.93	126.50
1	A	944	G	C8-N9-C4	-8.02	103.19	106.40
1	A	92	C	C5-C6-N1	-8.01	117.00	121.00
1	A	1236	A	C6-N1-C2	8.01	123.41	118.60
1	A	400	C	N3-C4-N4	-8.00	112.40	118.00
1	A	525	C	N3-C2-O2	8.00	127.50	121.90
1	A	667	G	N1-C6-O6	8.00	124.70	119.90
1	A	826	C	C6-N1-C2	7.99	123.50	120.30
1	A	830	G	C5-C6-N1	-7.98	107.51	111.50
1	A	1464	G	N1-C6-O6	7.98	124.69	119.90
1	A	778	G	C5-C6-N1	-7.98	107.51	111.50
1	A	1441	G	C4-C5-N7	-7.97	107.61	110.80
1	A	880	C	C5-C6-N1	-7.97	117.02	121.00
1	A	1499	A	C5-C6-N6	-7.96	117.33	123.70
1	A	690	G	N1-C6-O6	-7.96	115.12	119.90
1	A	674	G	C2-N3-C4	-7.96	107.92	111.90
1	A	771	G	N9-C4-C5	-7.96	102.22	105.40
1	A	597	G	N1-C2-N3	7.94	128.66	123.90
1	A	1421	G	C8-N9-C4	-7.94	103.22	106.40
1	A	123	C	C6-N1-C2	-7.93	117.13	120.30
1	A	1531	A	C8-N9-C4	-7.93	102.63	105.80
1	A	1502	A	N1-C6-N6	7.93	123.36	118.60
1	A	46	G	N3-C2-N2	-7.93	114.35	119.90
1	A	90	U	C6-N1-C2	-7.93	116.24	121.00
1	A	654	G	N3-C4-N9	-7.91	121.25	126.00
1	A	881	G	C6-C5-N7	-7.91	125.65	130.40
1	A	1383	C	N3-C4-N4	7.91	123.54	118.00
1	A	257	G	C6-C5-N7	-7.91	125.65	130.40
1	A	75	G	N3-C4-C5	-7.90	124.65	128.60
1	A	559	A	C4-C5-C6	7.90	120.95	117.00
1	A	90	U	C5-C6-N1	7.89	126.65	122.70
1	A	941	G	C5-C6-O6	-7.89	123.87	128.60
1	A	1496	C	C6-N1-C2	-7.88	117.15	120.30
1	A	881	G	N1-C6-O6	7.88	124.63	119.90
1	A	593	G	C2-N3-C4	-7.88	107.96	111.90
1	A	5	U	C2-N1-C1'	7.87	127.15	117.70
1	A	38	G	N3-C4-C5	7.87	132.54	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1079	G	N1-C6-O6	-7.87	115.18	119.90
1	A	556	C	C6-N1-C2	7.86	123.44	120.30
1	A	29	G	C2-N3-C4	-7.85	107.97	111.90
1	A	1370	G	N3-C4-C5	-7.84	124.68	128.60
1	A	1054	C	C5-C6-N1	7.84	124.92	121.00
1	A	317	G	C4-C5-N7	7.84	113.93	110.80
1	A	454	C	N1-C2-O2	7.83	123.60	118.90
1	A	111	G	N1-C6-O6	7.83	124.60	119.90
1	A	157	G	C5-C6-N1	-7.83	107.58	111.50
1	A	120	A	C2-N3-C4	-7.82	106.69	110.60
1	A	451	A	N9-C4-C5	-7.82	102.67	105.80
1	A	746	A	N1-C2-N3	7.82	133.21	129.30
1	A	814	A	N1-C6-N6	7.82	123.29	118.60
1	A	575	G	C5-C6-O6	-7.81	123.91	128.60
1	A	661	G	N1-C6-O6	7.81	124.58	119.90
1	A	819	A	N1-C2-N3	7.81	133.20	129.30
1	A	130	A	C6-C5-N7	-7.80	126.84	132.30
1	A	939	G	C6-N1-C2	-7.80	120.42	125.10
1	A	1064	G	N1-C2-N3	7.80	128.58	123.90
1	A	259	G	N3-C4-N9	-7.80	121.32	126.00
1	A	373	A	C8-N9-C4	-7.79	102.69	105.80
1	A	14	U	C6-N1-C2	-7.78	116.33	121.00
1	A	138	G	C8-N9-C4	7.78	109.51	106.40
1	A	52	G	C4-C5-N7	7.77	113.91	110.80
1	A	131	C	N3-C2-O2	-7.77	116.46	121.90
1	A	1527	C	N3-C4-C5	7.77	125.01	121.90
1	A	864	A	C5-C6-N1	-7.77	113.82	117.70
1	A	185	A	N7-C8-N9	-7.76	109.92	113.80
1	A	1362	C	C5-C6-N1	7.76	124.88	121.00
1	A	1231	G	C5-C6-N1	-7.75	107.62	111.50
1	A	1516	G	C6-C5-N7	-7.75	125.75	130.40
1	A	1197	G	N3-C4-N9	7.75	130.65	126.00
1	A	939	G	N1-C6-O6	-7.74	115.25	119.90
1	A	724	G	N9-C4-C5	-7.74	102.30	105.40
1	A	1197	G	C8-N9-C4	7.74	109.50	106.40
1	A	593	G	C5-C6-N1	-7.74	107.63	111.50
1	A	900	A	N1-C2-N3	7.73	133.17	129.30
1	A	852	G	N1-C6-O6	7.73	124.54	119.90
1	A	872	A	C6-C5-N7	-7.73	126.89	132.30
1	A	27	G	C5-N7-C8	-7.73	100.44	104.30
1	A	1086	U	C6-N1-C2	7.72	125.64	121.00
1	A	236	G	N1-C6-O6	-7.72	115.27	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	228	A	N9-C4-C5	7.71	108.89	105.80
4	D	174	LEU	CB-CG-CD2	-7.71	97.89	111.00
1	A	943	U	N1-C2-O2	7.71	128.20	122.80
1	A	1200	C	N3-C2-O2	-7.70	116.51	121.90
1	A	310	G	C8-N9-C4	7.70	109.48	106.40
1	A	794	A	C4-C5-N7	-7.70	106.85	110.70
1	A	898	G	C4-C5-N7	-7.69	107.72	110.80
1	A	934	C	C6-N1-C2	7.69	123.38	120.30
1	A	78	G	N9-C4-C5	-7.68	102.33	105.40
1	A	1348	U	C5-C6-N1	7.67	126.54	122.70
1	A	1244	C	C6-N1-C2	-7.67	117.23	120.30
1	A	111	G	N3-C2-N2	-7.67	114.53	119.90
1	A	940	C	N3-C4-C5	7.67	124.97	121.90
1	A	1062	U	C5-C4-O4	7.67	130.50	125.90
1	A	559	A	C8-N9-C4	-7.67	102.73	105.80
1	A	862	C	N3-C4-C5	7.66	124.96	121.90
1	A	589	C	C2-N3-C4	-7.66	116.07	119.90
1	A	880	C	C2-N3-C4	-7.65	116.08	119.90
1	A	546	G	C8-N9-C1'	-7.65	117.06	127.00
1	A	814	A	N1-C2-N3	7.65	133.12	129.30
1	A	703	G	C4-C5-C6	7.64	123.39	118.80
1	A	693	G	N9-C4-C5	-7.64	102.34	105.40
1	A	1234	C	C6-N1-C2	7.64	123.36	120.30
1	A	257	G	C5-C6-O6	-7.64	124.02	128.60
1	A	801	U	C6-N1-C2	7.63	125.58	121.00
1	A	1102	A	N7-C8-N9	-7.63	109.99	113.80
1	A	862	C	C5-C4-N4	-7.62	114.86	120.20
1	A	1304	G	N1-C6-O6	-7.62	115.33	119.90
1	A	278	G	C5-C6-O6	7.62	133.17	128.60
1	A	372	C	C6-N1-C1'	-7.61	111.67	120.80
1	A	602	A	C2-N3-C4	-7.61	106.80	110.60
1	A	817	C	C5-C4-N4	-7.61	114.87	120.20
1	A	629	G	N3-C4-C5	-7.61	124.80	128.60
1	A	788	U	N3-C2-O2	7.61	127.52	122.20
1	A	575	G	C5-C6-N1	7.60	115.30	111.50
1	A	308	C	C5-C4-N4	-7.60	114.88	120.20
1	A	651	C	C5-C6-N1	-7.59	117.20	121.00
1	A	947	G	C2-N3-C4	-7.59	108.11	111.90
1	A	1181	G	C8-N9-C4	7.59	109.44	106.40
1	A	730	G	N1-C6-O6	-7.58	115.35	119.90
1	A	660	G	N9-C4-C5	-7.58	102.37	105.40
1	A	1447	G	C5-N7-C8	-7.57	100.51	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	767	A	N9-C4-C5	7.57	108.83	105.80
1	A	941	G	C6-C5-N7	-7.57	125.86	130.40
1	A	1334	G	C8-N9-C4	7.57	109.43	106.40
1	A	257	G	C4-N9-C1'	7.57	136.34	126.50
1	A	287	U	N1-C2-N3	7.57	119.44	114.90
1	A	881	G	C5-C6-O6	-7.56	124.06	128.60
1	A	255	G	N3-C4-N9	7.56	130.53	126.00
1	A	1088	G	N1-C6-O6	7.56	124.43	119.90
1	A	945	G	N1-C2-N2	7.56	123.00	116.20
1	A	754	C	C6-N1-C2	-7.54	117.28	120.30
1	A	909	A	N1-C6-N6	7.54	123.13	118.60
1	A	260	G	N7-C8-N9	7.54	116.87	113.10
1	A	654	G	N3-C4-C5	7.54	132.37	128.60
1	A	1187	G	C8-N9-C4	-7.54	103.39	106.40
1	A	839	U	N1-C2-O2	7.53	128.07	122.80
1	A	1187	G	C4-N9-C1'	7.53	136.29	126.50
1	A	576	G	C4-C5-C6	7.53	123.32	118.80
1	A	255	G	C8-N9-C1'	-7.53	117.22	127.00
1	A	306	G	N3-C2-N2	-7.53	114.63	119.90
1	A	456	C	N3-C4-C5	7.53	124.91	121.90
1	A	975	A	N1-C6-N6	7.53	123.12	118.60
1	A	1312	G	C4-C5-N7	7.52	113.81	110.80
1	A	583	A	N7-C8-N9	-7.52	110.04	113.80
1	A	24	U	C5-C4-O4	-7.52	121.39	125.90
1	A	474	G	C4-C5-N7	7.52	113.81	110.80
1	A	606	G	C4-C5-N7	-7.51	107.80	110.80
1	A	804	U	C6-N1-C2	-7.51	116.50	121.00
1	A	727	G	C4-C5-N7	-7.51	107.80	110.80
1	A	372	C	C5-C4-N4	-7.50	114.95	120.20
1	A	721	G	C4-N9-C1'	7.50	136.25	126.50
1	A	1530	G	N3-C4-C5	7.50	132.35	128.60
1	A	1197	G	N1-C6-O6	7.50	124.40	119.90
1	A	108	G	C5-N7-C8	-7.49	100.55	104.30
1	A	257	G	N9-C4-C5	-7.49	102.40	105.40
1	A	1238	A	C5-C6-N6	7.49	129.69	123.70
1	A	46	G	N1-C6-O6	7.49	124.39	119.90
1	A	774	G	C6-C5-N7	-7.49	125.91	130.40
1	A	674	G	C8-N9-C4	7.48	109.39	106.40
1	A	243	A	P-O3'-C3'	7.47	128.67	119.70
1	A	712	A	C2-N3-C4	-7.47	106.86	110.60
1	A	117	G	N1-C2-N3	7.47	128.38	123.90
1	A	577	G	C2-N3-C4	-7.46	108.17	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1306	A	N1-C6-N6	7.46	123.08	118.60
1	A	107	G	C5-N7-C8	-7.46	100.57	104.30
1	A	1235	U	C5-C4-O4	-7.45	121.43	125.90
1	A	858	G	N3-C2-N2	7.45	125.11	119.90
1	A	833	U	C4-C5-C6	7.44	124.17	119.70
1	A	131	C	C2-N3-C4	-7.42	116.19	119.90
1	A	310	G	N1-C6-O6	7.42	124.35	119.90
1	A	597	G	C4-N9-C1'	7.42	136.14	126.50
1	A	575	G	N1-C2-N3	7.41	128.34	123.90
1	A	1347	G	C8-N9-C4	7.41	109.36	106.40
1	A	606	G	N9-C4-C5	7.40	108.36	105.40
1	A	777	A	C8-N9-C4	-7.39	102.84	105.80
1	A	253	U	N1-C2-O2	-7.39	117.63	122.80
1	A	1361(A)	C	N1-C2-O2	7.39	123.33	118.90
1	A	867	G	C5-C6-O6	-7.39	124.17	128.60
1	A	622	A	C8-N9-C4	7.38	108.75	105.80
1	A	1512	U	N1-C2-O2	-7.38	117.63	122.80
1	A	625	G	C8-N9-C4	-7.38	103.45	106.40
1	A	941	G	C4-C5-N7	7.38	113.75	110.80
1	A	1332	A	N1-C6-N6	-7.38	114.17	118.60
1	A	589	C	C4-C5-C6	7.38	121.09	117.40
1	A	1452	C	N1-C2-N3	-7.38	114.04	119.20
1	A	285	G	C6-C5-N7	-7.37	125.98	130.40
1	A	257	G	C8-N9-C1'	-7.37	117.42	127.00
1	A	389	A	C8-N9-C4	-7.37	102.85	105.80
1	A	825	G	C2-N3-C4	-7.37	108.21	111.90
1	A	576	G	C4-N9-C1'	7.37	136.08	126.50
1	A	1338	G	N1-C6-O6	-7.37	115.48	119.90
1	A	451	A	N3-C4-C5	7.37	131.96	126.80
1	A	1346	A	P-O3'-C3'	7.36	128.54	119.70
1	A	770	C	N3-C4-N4	-7.36	112.85	118.00
1	A	1414	U	N3-C4-C5	-7.36	110.18	114.60
1	A	1455	G	C5-C6-N1	-7.36	107.82	111.50
1	A	230	G	C2-N3-C4	-7.36	108.22	111.90
1	A	391	G	C8-N9-C4	7.36	109.34	106.40
1	A	174	C	N3-C4-C5	7.35	124.84	121.90
1	A	724	G	C4-C5-N7	7.35	113.74	110.80
1	A	1505	G	N9-C4-C5	7.35	108.34	105.40
1	A	581	G	C2-N3-C4	-7.34	108.23	111.90
1	A	89	C	C5-C6-N1	7.34	124.67	121.00
1	A	722	A	N3-C4-C5	7.34	131.94	126.80
1	A	1179	A	C8-N9-C4	-7.34	102.86	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	451	A	C4-C5-C6	-7.33	113.33	117.00
1	A	1209	C	C6-N1-C2	-7.33	117.37	120.30
1	A	727	G	C5-C6-O6	7.33	133.00	128.60
1	A	66	G	C8-N9-C4	-7.33	103.47	106.40
1	A	283	C	C6-N1-C2	-7.33	117.37	120.30
1	A	308	C	N1-C2-O2	7.32	123.29	118.90
1	A	357	G	C8-N9-C4	7.32	109.33	106.40
1	A	316	G	N3-C4-C5	-7.32	124.94	128.60
1	A	741	G	C6-C5-N7	7.32	134.79	130.40
1	A	237	C	N3-C4-C5	-7.32	118.97	121.90
1	A	228	A	N3-C4-N9	-7.31	121.55	127.40
1	A	928	G	C5-C6-O6	-7.31	124.21	128.60
1	A	916	G	C8-N9-C4	-7.31	103.48	106.40
1	A	8	A	C8-N9-C4	-7.30	102.88	105.80
1	A	108	G	N3-C2-N2	-7.30	114.79	119.90
1	A	257	G	C4-C5-N7	7.30	113.72	110.80
1	A	120	A	C5-C6-N6	7.29	129.53	123.70
1	A	783	C	C6-N1-C2	7.29	123.22	120.30
1	A	869	G	N1-C6-O6	7.29	124.27	119.90
1	A	122	G	C6-C5-N7	-7.29	126.03	130.40
1	A	128	G	C5-C6-O6	-7.29	124.23	128.60
1	A	751	U	C6-N1-C2	7.29	125.37	121.00
1	A	822	C	C5-C4-N4	-7.29	115.10	120.20
1	A	1416	G	N1-C6-O6	7.29	124.27	119.90
1	A	599	C	C5-C4-N4	-7.28	115.10	120.20
1	A	43	C	C5-C6-N1	-7.28	117.36	121.00
1	A	944	G	N9-C4-C5	7.27	108.31	105.40
1	A	703	G	C5-C6-N1	-7.27	107.87	111.50
1	A	838	G	C8-N9-C4	7.26	109.31	106.40
1	A	945	G	C4-C5-N7	7.26	113.70	110.80
1	A	1200	C	C5-C6-N1	7.26	124.63	121.00
1	A	635	G	C4-C5-C6	7.26	123.16	118.80
1	A	788	U	C5-C6-N1	7.26	126.33	122.70
1	A	329	A	N9-C4-C5	-7.26	102.90	105.80
1	A	480	U	N3-C4-C5	-7.26	110.25	114.60
1	A	1364	U	N3-C2-O2	-7.25	117.13	122.20
1	A	1516	G	N7-C8-N9	7.25	116.72	113.10
1	A	81	U	C5-C6-N1	7.25	126.32	122.70
1	A	584	G	C5-C6-O6	-7.24	124.26	128.60
1	A	1442	G	C8-N9-C1'	-7.24	117.59	127.00
1	A	22	G	C6-C5-N7	-7.23	126.06	130.40
1	A	563	A	C8-N9-C4	-7.23	102.91	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	899	C	N1-C2-O2	-7.22	114.56	118.90
1	A	1338	G	N1-C2-N2	-7.22	109.70	116.20
1	A	259	G	N1-C6-O6	7.21	124.23	119.90
1	A	103	C	N3-C4-C5	-7.21	119.02	121.90
1	A	779	C	C4-C5-C6	7.20	121.00	117.40
1	A	553	A	C5-C6-N1	7.20	121.30	117.70
1	A	1265	G	C8-N9-C4	-7.20	103.52	106.40
1	A	754	C	C2-N1-C1'	7.20	126.72	118.80
1	A	1455	G	C6-C5-N7	-7.20	126.08	130.40
1	A	757	U	C4-C5-C6	7.19	124.02	119.70
1	A	945	G	C4-C5-C6	-7.19	114.49	118.80
1	A	266	G	C5-N7-C8	-7.19	100.71	104.30
1	A	1373	G	N3-C4-N9	7.19	130.31	126.00
1	A	238	G	C6-C5-N7	-7.18	126.09	130.40
1	A	1195	C	C6-N1-C2	7.18	123.17	120.30
1	A	642	A	C6-N1-C2	-7.18	114.29	118.60
1	A	28	G	C5-C6-N1	-7.17	107.91	111.50
1	A	820	U	C4-C5-C6	7.17	124.00	119.70
1	A	946	A	C6-N1-C2	-7.17	114.30	118.60
1	A	132	C	N1-C2-N3	7.17	124.22	119.20
1	A	99	C	C6-N1-C2	-7.17	117.43	120.30
1	A	898	G	N1-C6-O6	-7.17	115.60	119.90
1	A	868	C	N3-C4-C5	-7.16	119.03	121.90
1	A	97	G	C8-N9-C4	-7.16	103.54	106.40
1	A	228	A	C5-C6-N6	7.16	129.43	123.70
1	A	122	G	C2-N3-C4	-7.16	108.32	111.90
1	A	482	A	N7-C8-N9	7.16	117.38	113.80
1	A	117	G	N3-C4-N9	7.15	130.29	126.00
1	A	1249	C	C5-C6-N1	7.15	124.58	121.00
1	A	28	G	N3-C2-N2	-7.15	114.90	119.90
1	A	1329	A	C4-C5-N7	7.15	114.27	110.70
1	A	278	G	C6-C5-N7	7.14	134.68	130.40
1	A	860	A	C5-N7-C8	-7.14	100.33	103.90
1	A	47	C	N3-C2-O2	-7.13	116.91	121.90
1	A	1084	G	N3-C4-N9	7.13	130.28	126.00
1	A	1083	U	C5-C4-O4	-7.13	121.62	125.90
1	A	1187	G	C6-C5-N7	-7.12	126.13	130.40
1	A	686	U	C5-C6-N1	-7.12	119.14	122.70
1	A	722	A	N1-C6-N6	7.12	122.87	118.60
1	A	736	C	N3-C2-O2	-7.12	116.92	121.90
1	A	851	G	C8-N9-C1'	-7.11	117.75	127.00
1	A	660	G	C8-N9-C4	7.11	109.25	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1084	G	N3-C4-C5	-7.11	125.05	128.60
1	A	1158	C	C6-N1-C2	-7.11	117.46	120.30
1	A	1197	G	C8-N9-C1'	-7.11	117.76	127.00
1	A	238	G	N1-C6-O6	7.11	124.16	119.90
1	A	263	A	C2-N3-C4	7.10	114.15	110.60
1	A	721	G	C8-N9-C1'	-7.10	117.77	127.00
1	A	938	A	C5-C6-N6	7.10	129.38	123.70
1	A	876	G	N1-C2-N2	-7.10	109.81	116.20
1	A	1200	C	C6-N1-C1'	-7.10	112.28	120.80
1	A	1196	U	N1-C2-O2	7.10	127.77	122.80
1	A	559	A	N1-C2-N3	7.09	132.85	129.30
1	A	1317	C	C6-N1-C2	7.08	123.13	120.30
1	A	129(A)	G	C6-C5-N7	-7.08	126.15	130.40
1	A	1323	G	C8-N9-C4	7.08	109.23	106.40
1	A	741	G	N1-C6-O6	-7.08	115.65	119.90
1	A	555	C	C2-N3-C4	-7.08	116.36	119.90
1	A	1478	C	C6-N1-C2	-7.07	117.47	120.30
1	A	624	C	C6-N1-C2	7.07	123.13	120.30
1	A	285	G	N1-C2-N3	7.07	128.14	123.90
1	A	283	C	C5-C6-N1	7.07	124.53	121.00
1	A	1235	U	N1-C2-O2	-7.06	117.86	122.80
1	A	801	U	C2-N1-C1'	-7.06	109.22	117.70
1	A	810	C	C5-C4-N4	-7.06	115.26	120.20
1	A	1380	U	C5-C4-O4	7.06	130.14	125.90
1	A	579	G	C6-C5-N7	-7.06	126.17	130.40
1	A	108	G	N1-C2-N2	7.06	122.55	116.20
1	A	876	G	C6-C5-N7	-7.06	126.17	130.40
1	A	686	U	C4-C5-C6	7.05	123.93	119.70
1	A	111	G	N3-C4-C5	7.05	132.12	128.60
1	A	474	G	C2-N3-C4	-7.05	108.37	111.90
1	A	281	G	C4-C5-N7	7.04	113.62	110.80
1	A	898	G	N3-C4-N9	-7.04	121.77	126.00
1	A	648	A	N1-C2-N3	7.04	132.82	129.30
1	A	481	G	N7-C8-N9	-7.04	109.58	113.10
1	A	801	U	C2-N3-C4	-7.04	122.78	127.00
1	A	38	G	C4-N9-C1'	-7.02	117.37	126.50
1	A	474	G	N9-C4-C5	-7.01	102.59	105.40
1	A	1497	G	N1-C6-O6	7.01	124.11	119.90
1	A	1500	A	N1-C6-N6	-7.01	114.39	118.60
1	A	558	G	C6-C5-N7	-7.01	126.19	130.40
1	A	876	G	N9-C4-C5	-7.01	102.60	105.40
1	A	646	U	N3-C2-O2	-7.01	117.30	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	16	A	N3-C4-C5	7.00	131.70	126.80
1	A	482	A	C6-C5-N7	-7.00	127.40	132.30
1	A	1238	A	C4-C5-N7	-7.00	107.20	110.70
1	A	693	G	C8-N9-C4	7.00	109.20	106.40
1	A	867	G	N9-C4-C5	-7.00	102.60	105.40
1	A	1397	C	C2-N3-C4	7.00	123.40	119.90
1	A	573	A	C8-N9-C4	-7.00	103.00	105.80
1	A	721	G	N3-C4-N9	6.99	130.20	126.00
1	A	660	G	C2-N3-C4	-6.99	108.41	111.90
1	A	400	C	N3-C4-C5	6.99	124.69	121.90
1	A	303	A	N1-C2-N3	6.98	132.79	129.30
1	A	929	G	C2-N3-C4	-6.98	108.41	111.90
1	A	137	C	C6-N1-C2	6.97	123.09	120.30
1	A	635	G	N1-C6-O6	6.97	124.08	119.90
1	A	780	A	C6-N1-C2	-6.96	114.42	118.60
1	A	660	G	C4-C5-N7	6.96	113.58	110.80
1	A	558	G	C4-C5-N7	6.95	113.58	110.80
1	A	117	G	N9-C4-C5	-6.95	102.62	105.40
1	A	460	A	C2-N3-C4	6.95	114.08	110.60
1	A	614	A	N7-C8-N9	6.95	117.28	113.80
1	A	671	G	C8-N9-C4	6.94	109.18	106.40
1	A	898	G	N9-C4-C5	6.94	108.18	105.40
1	A	559	A	N7-C8-N9	6.94	117.27	113.80
1	A	317	G	N1-C6-O6	6.93	124.06	119.90
1	A	1087	G	N9-C4-C5	-6.93	102.63	105.40
1	A	905	U	N3-C2-O2	6.93	127.05	122.20
1	A	602	A	N7-C8-N9	-6.93	110.33	113.80
1	A	719	C	N3-C2-O2	-6.93	117.05	121.90
1	A	1452	C	C6-N1-C1'	-6.93	112.49	120.80
1	A	823	G	N1-C2-N2	-6.92	109.97	116.20
1	A	823	G	N1-C2-N3	6.92	128.05	123.90
1	A	279	A	C8-N9-C4	-6.92	103.03	105.80
1	A	663	A	N7-C8-N9	-6.92	110.34	113.80
1	A	875	C	C5-C6-N1	-6.92	117.54	121.00
1	A	186	C	N3-C4-C5	6.92	124.67	121.90
1	A	238	G	C2-N3-C4	-6.92	108.44	111.90
1	A	75	G	C8-N9-C1'	-6.91	118.02	127.00
1	A	812	C	N3-C4-C5	-6.91	119.14	121.90
1	A	372	C	N3-C4-N4	6.91	122.83	118.00
1	A	670	G	C4-N9-C1'	6.90	135.47	126.50
1	A	1106	G	C4-C5-N7	6.90	113.56	110.80
1	A	235	C	N3-C4-C5	6.90	124.66	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	757	U	N3-C4-O4	6.90	124.23	119.40
1	A	1098	C	C6-N1-C2	6.89	123.06	120.30
1	A	886	G	N3-C2-N2	-6.89	115.08	119.90
1	A	190(G)	G	C4-N9-C1'	6.89	135.46	126.50
1	A	412	A	C8-N9-C4	6.88	108.55	105.80
1	A	1031	G	C8-N9-C4	-6.88	103.65	106.40
1	A	1187	G	N7-C8-N9	6.88	116.54	113.10
1	A	1193	G	N1-C6-O6	6.88	124.03	119.90
1	A	13	C	N1-C2-O2	6.88	123.03	118.90
1	A	583	A	N1-C2-N3	6.88	132.74	129.30
1	A	858	G	N9-C4-C5	-6.87	102.65	105.40
1	A	326	G	C4-C5-N7	-6.86	108.06	110.80
1	A	1385	G	C4-C5-N7	-6.86	108.06	110.80
1	A	257	G	N3-C4-C5	-6.86	125.17	128.60
1	A	25	C	N3-C4-C5	6.86	124.64	121.90
1	A	295	C	C5-C6-N1	-6.86	117.57	121.00
1	A	24	U	N1-C2-O2	-6.86	118.00	122.80
1	A	449	C	C6-N1-C2	-6.86	117.56	120.30
1	A	874	G	N3-C4-C5	-6.86	125.17	128.60
1	A	963	G	C5-C6-N1	-6.86	108.07	111.50
1	A	22	G	N7-C8-N9	6.85	116.53	113.10
1	A	874	G	N3-C4-N9	6.85	130.11	126.00
1	A	1108	G	C4-C5-C6	6.85	122.91	118.80
1	A	373	A	N9-C4-C5	6.84	108.54	105.80
1	A	1370	G	C4-N9-C1'	6.84	135.39	126.50
1	A	236	G	N3-C2-N2	6.83	124.68	119.90
1	A	456	C	N1-C2-O2	6.83	123.00	118.90
1	A	460	A	N7-C8-N9	6.83	117.22	113.80
1	A	107	G	N1-C6-O6	6.83	124.00	119.90
1	A	1339	A	C5-C6-N1	6.83	121.11	117.70
1	A	1237	C	C4-C5-C6	6.83	120.81	117.40
1	A	93	G	N1-C6-O6	-6.82	115.81	119.90
1	A	1122	U	C5-C6-N1	6.82	126.11	122.70
1	A	1281	U	C6-N1-C2	-6.82	116.91	121.00
1	A	1318	A	C8-N9-C4	6.82	108.53	105.80
1	A	774	G	N1-C6-O6	6.82	123.99	119.90
1	A	819	A	N7-C8-N9	6.82	117.21	113.80
1	A	642	A	N1-C2-N3	6.81	132.71	129.30
1	A	1080	A	C8-N9-C4	-6.81	103.08	105.80
1	A	155	C	N3-C4-C5	-6.81	119.18	121.90
1	A	879	C	C6-N1-C2	6.81	123.02	120.30
1	A	382	A	C8-N9-C4	-6.80	103.08	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	77	G	N1-C6-O6	6.80	123.98	119.90
1	A	724	G	C5-C6-O6	-6.80	124.52	128.60
1	A	1375	A	C8-N9-C4	6.80	108.52	105.80
1	A	229	U	N1-C2-N3	6.80	118.98	114.90
1	A	274	A	N7-C8-N9	-6.79	110.40	113.80
1	A	1274	G	C8-N9-C4	-6.79	103.68	106.40
1	A	770	C	C6-N1-C2	6.79	123.02	120.30
1	A	1377	A	N3-C4-N9	-6.79	121.97	127.40
1	A	1425	U	C5-C4-O4	6.79	129.97	125.90
1	A	5	U	N3-C4-O4	6.79	124.15	119.40
1	A	793	U	N1-C2-O2	6.79	127.55	122.80
1	A	1374	A	C5-C6-N1	-6.79	114.31	117.70
1	A	481	G	N3-C4-C5	-6.79	125.21	128.60
1	A	277	C	C5-C6-N1	-6.79	117.61	121.00
1	A	357	G	C8-N9-C1'	-6.79	118.18	127.00
1	A	563	A	C5-N7-C8	-6.78	100.51	103.90
1	A	911	U	C5-C6-N1	-6.78	119.31	122.70
1	A	1108	G	C4-N9-C1'	6.78	135.31	126.50
1	A	28	G	C5-C6-O6	-6.78	124.53	128.60
1	A	651	C	C6-N1-C2	6.78	123.01	120.30
1	A	765	G	N3-C4-C5	6.78	131.99	128.60
1	A	727	G	C5-N7-C8	6.78	107.69	104.30
1	A	1414	U	C4-C5-C6	6.78	123.77	119.70
1	A	540	G	N1-C6-O6	6.77	123.96	119.90
1	A	32	A	C6-N1-C2	-6.77	114.54	118.60
1	A	970	C	N3-C2-O2	-6.77	117.16	121.90
1	A	547	A	N1-C6-N6	6.77	122.66	118.60
1	A	1355	G	N3-C4-N9	6.76	130.06	126.00
1	A	384	G	N3-C4-C5	-6.76	125.22	128.60
1	A	771	G	C8-N9-C4	6.76	109.10	106.40
1	A	131	C	N1-C2-N3	6.76	123.93	119.20
1	A	711	G	C5-C6-N1	6.76	114.88	111.50
1	A	780	A	N1-C2-N3	6.76	132.68	129.30
1	A	901	A	C5-C6-N6	6.76	129.11	123.70
1	A	1435	G	C2-N3-C4	-6.76	108.52	111.90
1	A	565	U	N3-C4-O4	6.75	124.13	119.40
1	A	851	G	N3-C4-N9	6.75	130.05	126.00
1	A	1340	A	N1-C2-N3	6.75	132.67	129.30
1	A	316	G	C4-C5-C6	6.75	122.85	118.80
1	A	879	C	N3-C4-C5	6.74	124.60	121.90
1	A	235	C	N3-C4-N4	-6.74	113.28	118.00
1	A	190(G)	G	N7-C8-N9	6.73	116.47	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	298	A	N9-C4-C5	6.73	108.49	105.80
1	A	15	G	N9-C4-C5	-6.73	102.71	105.40
1	A	305	G	C8-N9-C4	-6.73	103.71	106.40
1	A	5	U	C6-N1-C1'	-6.72	111.79	121.20
1	A	18	C	N1-C2-O2	6.72	122.93	118.90
1	A	752	G	N3-C4-C5	6.72	131.96	128.60
1	A	674	G	N3-C4-C5	6.71	131.96	128.60
1	A	297	G	N1-C6-O6	6.71	123.93	119.90
1	A	12	U	C5-C6-N1	-6.71	119.35	122.70
1	A	971	G	C5-C6-N1	-6.71	108.14	111.50
1	A	621	A	C6-C5-N7	-6.71	127.61	132.30
1	A	623	C	C6-N1-C2	6.71	122.98	120.30
1	A	718	G	C4-N9-C1'	6.71	135.22	126.50
1	A	556	C	N3-C4-C5	6.71	124.58	121.90
1	A	890	G	C5-C6-O6	6.71	132.62	128.60
1	A	794	A	N7-C8-N9	-6.70	110.45	113.80
1	A	922	G	C8-N9-C4	-6.70	103.72	106.40
1	A	1318	A	C4-C5-C6	-6.70	113.65	117.00
1	A	666	G	N1-C6-O6	6.70	123.92	119.90
1	A	260	G	N3-C4-N9	-6.70	121.98	126.00
1	A	525	C	N3-C4-N4	6.70	122.69	118.00
1	A	579	G	C5-C6-N1	-6.70	108.15	111.50
1	A	1375	A	N7-C8-N9	-6.70	110.45	113.80
1	A	52	G	N1-C6-O6	6.69	123.91	119.90
1	A	559	A	C6-C5-N7	-6.69	127.62	132.30
1	A	113	G	C4-C5-N7	6.69	113.48	110.80
1	A	316	G	N3-C4-N9	6.69	130.01	126.00
1	A	814	A	N9-C4-C5	-6.69	103.12	105.80
1	A	812	C	N1-C2-N3	6.68	123.88	119.20
1	A	720	C	N3-C2-O2	-6.68	117.22	121.90
1	A	1329	A	C5-C6-N6	-6.67	118.36	123.70
1	A	90	U	N3-C4-O4	6.67	124.07	119.40
1	A	328	C	N3-C2-O2	-6.67	117.23	121.90
1	A	1167	A	C8-N9-C4	-6.67	103.13	105.80
1	A	706	A	N3-C4-C5	6.67	131.47	126.80
1	A	933	G	C4-C5-C6	6.66	122.80	118.80
1	A	305	G	C6-C5-N7	-6.66	126.40	130.40
1	A	658	G	N1-C2-N2	-6.66	110.21	116.20
1	A	455	C	N3-C2-O2	-6.66	117.24	121.90
1	A	881	G	N1-C2-N3	6.66	127.89	123.90
1	A	1383	C	C6-N1-C2	-6.66	117.64	120.30
1	A	54	C	N3-C2-O2	-6.65	117.24	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	950	U	C5-C4-O4	6.65	129.89	125.90
1	A	890	G	C4-C5-N7	-6.65	108.14	110.80
1	A	1462	G	C5-C6-O6	-6.65	124.61	128.60
1	A	49	U	N3-C2-O2	6.65	126.85	122.20
1	A	616	G	N1-C6-O6	6.65	123.89	119.90
1	A	484	G	C5-N7-C8	6.64	107.62	104.30
1	A	10	A	N1-C2-N3	6.64	132.62	129.30
1	A	743	U	N3-C4-C5	-6.64	110.62	114.60
1	A	621	A	C5-N7-C8	-6.64	100.58	103.90
1	A	1370	G	N7-C8-N9	6.64	116.42	113.10
1	A	16	A	C5-C6-N1	-6.64	114.38	117.70
1	A	730	G	C5-N7-C8	6.63	107.62	104.30
1	A	570	G	N3-C4-C5	-6.63	125.28	128.60
1	A	661	G	N3-C2-N2	-6.63	115.26	119.90
1	A	839	U	C2-N1-C1'	6.63	125.66	117.70
1	A	1146	A	C8-N9-C4	6.62	108.45	105.80
1	A	919	A	C4-C5-C6	-6.62	113.69	117.00
1	A	88	A	C8-N9-C4	-6.62	103.15	105.80
1	A	1477	C	C6-N1-C2	-6.62	117.65	120.30
1	A	948	C	C6-N1-C2	6.61	122.94	120.30
1	A	540	G	C5-C6-O6	-6.60	124.64	128.60
1	A	389	A	N9-C4-C5	6.60	108.44	105.80
1	A	928	G	C4-C5-N7	6.60	113.44	110.80
1	A	892	A	C2-N3-C4	-6.59	107.30	110.60
1	A	1231	G	N1-C6-O6	6.59	123.86	119.90
1	A	524	G	N1-C6-O6	6.59	123.85	119.90
1	A	697	U	N3-C4-O4	-6.59	114.79	119.40
1	A	852	G	N3-C4-C5	6.59	131.89	128.60
1	A	1082	G	N7-C8-N9	-6.58	109.81	113.10
1	A	778	G	C8-N9-C4	6.58	109.03	106.40
1	A	190(G)	G	C4-C5-C6	6.58	122.75	118.80
1	A	824	C	C2-N1-C1'	-6.58	111.56	118.80
20	T	94	ALA	N-CA-C	-6.58	93.24	111.00
1	A	252	U	C5-C6-N1	-6.57	119.41	122.70
1	A	400	C	N1-C2-O2	6.57	122.84	118.90
1	A	331	G	C6-C5-N7	-6.56	126.46	130.40
1	A	1332	A	C5-C6-N6	6.56	128.95	123.70
1	A	851	G	N1-C6-O6	6.56	123.84	119.90
1	A	596	C	N1-C2-N3	-6.56	114.61	119.20
1	A	168	G	C4-N9-C1'	6.55	135.02	126.50
1	A	869	G	N9-C4-C5	-6.55	102.78	105.40
1	A	1317	C	N1-C2-O2	6.55	122.83	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	864	A	C5-C6-N6	6.55	128.94	123.70
1	A	1496	C	C2-N3-C4	6.55	123.18	119.90
1	A	1266	G	N3-C4-C5	6.55	131.88	128.60
1	A	597	G	C8-N9-C1'	-6.55	118.49	127.00
1	A	317	G	C2-N3-C4	-6.54	108.63	111.90
1	A	583	A	C2-N3-C4	-6.54	107.33	110.60
1	A	297	G	C6-C5-N7	-6.54	126.48	130.40
1	A	113	G	C5-N7-C8	-6.53	101.03	104.30
1	A	975	A	C5-N7-C8	-6.53	100.64	103.90
1	A	45	U	C5-C6-N1	-6.53	119.44	122.70
1	A	45	U	C4-C5-C6	6.53	123.62	119.70
1	A	316	G	C8-N9-C4	-6.53	103.79	106.40
1	A	361	G	N1-C6-O6	-6.53	115.98	119.90
1	A	922	G	C4-N9-C1'	6.53	134.99	126.50
1	A	144	G	C5-C6-O6	-6.53	124.69	128.60
1	A	481	G	C8-N9-C1'	-6.53	118.52	127.00
1	A	597	G	N3-C4-C5	-6.53	125.34	128.60
1	A	389	A	C4-C5-N7	-6.52	107.44	110.70
1	A	530	G	C4-N9-C1'	6.52	134.98	126.50
1	A	357	G	N1-C6-O6	6.52	123.81	119.90
1	A	523	A	C2-N3-C4	-6.51	107.34	110.60
1	A	606	G	C5-C6-O6	6.51	132.51	128.60
1	A	897	C	N3-C2-O2	-6.51	117.34	121.90
1	A	829	G	C8-N9-C4	6.51	109.00	106.40
1	A	1087	G	C2-N3-C4	-6.51	108.64	111.90
1	A	296	U	N1-C2-N3	6.51	118.81	114.90
1	A	867	G	C2-N3-C4	-6.51	108.64	111.90
1	A	285	G	C4-C5-C6	6.51	122.70	118.80
1	A	303	A	N1-C6-N6	6.51	122.50	118.60
1	A	786	G	C5-C6-O6	-6.50	124.70	128.60
1	A	882	C	C4-C5-C6	6.50	120.65	117.40
1	A	928	G	N9-C4-C5	-6.50	102.80	105.40
1	A	1520	G	N3-C4-C5	6.50	131.85	128.60
1	A	1340	A	C2-N3-C4	-6.50	107.35	110.60
1	A	146	G	N3-C2-N2	-6.50	115.35	119.90
1	A	721	G	C6-C5-N7	-6.50	126.50	130.40
1	A	1078	U	C5-C6-N1	6.50	125.95	122.70
1	A	1447	G	N7-C8-N9	6.50	116.35	113.10
1	A	378	G	C8-N9-C4	6.49	109.00	106.40
1	A	926	G	N3-C4-N9	6.49	129.89	126.00
1	A	946	A	N1-C2-N3	6.49	132.54	129.30
1	A	1086	U	N1-C2-N3	-6.49	111.01	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	129(A)	G	C4-N9-C1'	6.48	134.93	126.50
1	A	1394	A	N1-C6-N6	-6.48	114.71	118.60
1	A	78	G	N3-C2-N2	6.48	124.43	119.90
1	A	103	C	C6-N1-C2	-6.48	117.71	120.30
1	A	107	G	N7-C8-N9	6.48	116.34	113.10
1	A	1514	C	C6-N1-C2	-6.48	117.71	120.30
1	A	524	G	C5-C6-O6	-6.48	124.72	128.60
1	A	621	A	N1-C6-N6	6.47	122.48	118.60
1	A	812	C	P-O3'-C3'	6.47	127.47	119.70
1	A	129(A)	G	N3-C4-N9	6.47	129.88	126.00
1	A	273	A	C5-C6-N1	6.47	120.94	117.70
1	A	663	A	C8-N9-C4	6.47	108.39	105.80
1	A	22	G	C4-N9-C1'	6.47	134.91	126.50
1	A	1468	A	C6-N1-C2	-6.47	114.72	118.60
1	A	260	G	C5-N7-C8	-6.47	101.07	104.30
1	A	935	A	N1-C6-N6	-6.47	114.72	118.60
1	A	858	G	C5-N7-C8	-6.46	101.07	104.30
1	A	697	U	C2-N1-C1'	-6.46	109.95	117.70
1	A	854	G	N1-C2-N3	6.45	127.77	123.90
1	A	1073	U	N3-C4-O4	6.45	123.92	119.40
1	A	693	G	N3-C4-N9	6.45	129.87	126.00
1	A	1070	U	N3-C2-O2	-6.45	117.69	122.20
1	A	899	C	N3-C2-O2	6.44	126.41	121.90
1	A	413	G	C2-N3-C4	6.44	115.12	111.90
1	A	1156	G	C8-N9-C4	-6.44	103.83	106.40
1	A	1460	A	C6-C5-N7	-6.44	127.79	132.30
1	A	1475	G	C5-C6-N1	-6.44	108.28	111.50
7	G	124	LEU	CA-CB-CG	-6.44	100.50	115.30
1	A	1497	G	C4-C5-C6	6.44	122.66	118.80
1	A	48	C	C6-N1-C2	6.43	122.87	120.30
1	A	771	G	C5-C6-O6	-6.43	124.74	128.60
1	A	1385	G	C5-C6-O6	6.43	132.46	128.60
1	A	774	G	C4-C5-N7	6.43	113.37	110.80
1	A	74	C	C2-N1-C1'	6.43	125.87	118.80
1	A	52	G	C5-N7-C8	-6.43	101.09	104.30
1	A	24	U	N3-C2-O2	6.42	126.70	122.20
1	A	77	G	C6-C5-N7	-6.42	126.55	130.40
1	A	945	G	C5-N7-C8	-6.42	101.09	104.30
1	A	531	U	N3-C2-O2	-6.42	117.71	122.20
1	A	753	A	C5-C6-N1	6.42	120.91	117.70
1	A	796	C	C5-C6-N1	-6.42	117.79	121.00
1	A	671	G	C2-N3-C4	-6.41	108.69	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1497	G	C5-C6-N1	-6.41	108.29	111.50
1	A	888	G	N3-C2-N2	-6.41	115.41	119.90
1	A	1203	C	C5-C6-N1	6.41	124.21	121.00
1	A	1203	C	C6-N1-C2	-6.41	117.74	120.30
8	H	86	ILE	CG1-CB-CG2	-6.41	97.30	111.40
1	A	255	G	C4-N9-C1'	6.41	134.83	126.50
1	A	325	A	N1-C6-N6	-6.40	114.76	118.60
1	A	723	U	C6-N1-C2	-6.40	117.16	121.00
1	A	917	G	N1-C6-O6	6.40	123.74	119.90
1	A	880	C	C4-C5-C6	6.40	120.60	117.40
1	A	28	G	C6-C5-N7	-6.39	126.56	130.40
1	A	827	U	C2-N1-C1'	6.39	125.37	117.70
1	A	939	G	C5-N7-C8	6.39	107.50	104.30
1	A	320	C	N1-C2-N3	6.39	123.67	119.20
1	A	445	G	C8-N9-C4	-6.39	103.84	106.40
1	A	1499	A	C6-C5-N7	-6.39	127.83	132.30
1	A	810	C	N3-C2-O2	6.38	126.37	121.90
20	T	43	LEU	CA-CB-CG	-6.38	100.62	115.30
1	A	299	G	C5-C6-O6	-6.38	124.77	128.60
1	A	474	G	N3-C4-C5	6.38	131.79	128.60
1	A	635	G	C6-C5-N7	-6.38	126.57	130.40
1	A	639	G	N1-C2-N3	6.38	127.73	123.90
1	A	531	U	C5-C4-O4	6.38	129.72	125.90
1	A	801	U	N3-C4-O4	-6.38	114.94	119.40
1	A	31	G	C5-C6-O6	6.37	132.42	128.60
1	A	1500	A	N9-C4-C5	6.37	108.35	105.80
1	A	107	G	C5-C6-O6	-6.37	124.78	128.60
1	A	452	A	C8-N9-C4	6.37	108.35	105.80
1	A	690	G	C4-C5-N7	-6.37	108.25	110.80
1	A	854	G	C6-N1-C2	-6.37	121.28	125.10
1	A	8	A	N9-C4-C5	6.37	108.35	105.80
1	A	656	C	C2-N3-C4	-6.37	116.72	119.90
1	A	1374	A	C4-C5-C6	6.37	120.18	117.00
1	A	690	G	N9-C4-C5	6.36	107.95	105.40
1	A	1483	A	N1-C6-N6	-6.36	114.78	118.60
1	A	722	A	C5-C6-N1	-6.36	114.52	117.70
1	A	871	U	N3-C2-O2	-6.36	117.75	122.20
1	A	1303	C	N1-C2-O2	6.36	122.71	118.90
1	A	825	G	N7-C8-N9	-6.35	109.92	113.10
1	A	939	G	C5-C6-N1	6.35	114.68	111.50
1	A	28	G	C4-C5-C6	6.35	122.61	118.80
1	A	157	G	N1-C6-O6	6.35	123.71	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1306	A	C5-C6-N1	-6.35	114.52	117.70
1	A	153	C	N3-C4-C5	-6.35	119.36	121.90
1	A	293	G	C5-C6-N1	-6.35	108.33	111.50
1	A	897	C	C2-N3-C4	-6.35	116.72	119.90
1	A	607	A	C2-N3-C4	-6.35	107.43	110.60
1	A	130	A	C5-N7-C8	-6.34	100.73	103.90
1	A	292	G	C8-N9-C4	6.34	108.94	106.40
1	A	559	A	C4-N9-C1'	6.34	137.71	126.30
1	A	278	G	C5-N7-C8	6.33	107.47	104.30
1	A	752	G	C5-C6-N1	-6.33	108.33	111.50
1	A	1238	A	N1-C6-N6	-6.33	114.80	118.60
1	A	1475	G	N1-C6-O6	6.33	123.70	119.90
1	A	277	C	C2-N1-C1'	-6.33	111.84	118.80
1	A	862	C	N1-C2-N3	-6.33	114.77	119.20
1	A	855	G	C2-N3-C4	-6.33	108.74	111.90
1	A	454	C	C5-C6-N1	6.32	124.16	121.00
1	A	1294	G	C8-N9-C4	-6.32	103.87	106.40
1	A	247	G	C5-C6-O6	-6.32	124.81	128.60
1	A	274	A	C8-N9-C4	6.32	108.33	105.80
1	A	380	G	C5-C6-N1	-6.32	108.34	111.50
1	A	604	G	C4-C5-N7	-6.32	108.27	110.80
1	A	747	C	N3-C4-C5	6.32	124.43	121.90
1	A	1434	A	N9-C4-C5	-6.32	103.27	105.80
1	A	131	C	C5-C6-N1	-6.31	117.84	121.00
1	A	596	C	N1-C2-O2	6.31	122.69	118.90
1	A	10	A	C2-N3-C4	-6.31	107.44	110.60
1	A	288	A	C8-N9-C4	6.31	108.32	105.80
1	A	1391	U	N1-C2-O2	6.31	127.22	122.80
1	A	588	G	C8-N9-C4	6.31	108.92	106.40
1	A	752	G	C2-N3-C4	-6.31	108.75	111.90
1	A	1499	A	N9-C4-C5	-6.31	103.28	105.80
1	A	1502	A	C8-N9-C4	-6.31	103.28	105.80
1	A	1155	G	C8-N9-C4	-6.31	103.88	106.40
1	A	1082	G	N9-C4-C5	-6.30	102.88	105.40
1	A	867	G	C5-C6-N1	-6.30	108.35	111.50
1	A	310	G	N9-C4-C5	-6.30	102.88	105.40
1	A	546	G	C6-C5-N7	-6.29	126.62	130.40
1	A	881	G	C2-N3-C4	-6.29	108.75	111.90
1	A	929	G	N1-C2-N3	6.29	127.67	123.90
1	A	1375	A	N1-C6-N6	-6.29	114.83	118.60
1	A	245	C	N3-C4-N4	6.29	122.40	118.00
1	A	1181	G	N7-C8-N9	-6.29	109.96	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	237	C	C4-C5-C6	6.29	120.54	117.40
1	A	511	C	N3-C4-C5	6.29	124.41	121.90
1	A	878	G	C4-C5-N7	6.29	113.31	110.80
1	A	703	G	C4-N9-C1'	6.28	134.67	126.50
1	A	130	A	N1-C6-N6	6.28	122.37	118.60
1	A	963	G	C8-N9-C4	-6.28	103.89	106.40
1	A	1262	C	N3-C4-C5	-6.28	119.39	121.90
1	A	841	U	C5-C6-N1	6.28	125.84	122.70
1	A	147	G	N1-C6-O6	6.28	123.67	119.90
1	A	687	A	P-O3'-C3'	6.28	127.23	119.70
1	A	893	C	N1-C2-O2	6.28	122.67	118.90
1	A	860	A	N1-C2-N3	6.27	132.43	129.30
1	A	1106	G	C5-N7-C8	-6.26	101.17	104.30
1	A	599	C	N1-C2-O2	-6.26	115.14	118.90
1	A	778	G	N9-C4-C5	-6.26	102.89	105.40
1	A	221	C	N3-C4-C5	6.26	124.40	121.90
12	L	26	ALA	N-CA-C	-6.26	94.10	111.00
1	A	661	G	C5-C6-N1	-6.26	108.37	111.50
1	A	723	U	C5-C6-N1	6.26	125.83	122.70
1	A	91	C	C2-N1-C1'	-6.26	111.92	118.80
1	A	851	G	N3-C4-C5	-6.26	125.47	128.60
1	A	975	A	C5-C6-N1	-6.26	114.57	117.70
1	A	179	A	C6-N1-C2	-6.25	114.85	118.60
1	A	671	G	N1-C6-O6	6.25	123.65	119.90
1	A	263	A	N1-C6-N6	-6.25	114.85	118.60
1	A	574	A	N3-C4-N9	-6.25	122.40	127.40
1	A	741	G	C5-C6-N1	6.25	114.62	111.50
1	A	884	U	C5-C6-N1	-6.25	119.58	122.70
1	A	232	G	C8-N9-C4	6.25	108.90	106.40
1	A	1455	G	C4-C5-N7	6.24	113.30	110.80
1	A	1441	G	C5-C6-O6	6.24	132.34	128.60
17	Q	9	VAL	CB-CA-C	-6.24	99.54	111.40
1	A	279	A	C2-N3-C4	-6.24	107.48	110.60
1	A	262	A	N1-C6-N6	-6.24	114.86	118.60
1	A	474	G	C6-C5-N7	-6.24	126.66	130.40
1	A	1305	G	N1-C6-O6	6.23	123.64	119.90
1	A	93	G	C5-C6-N1	6.23	114.62	111.50
2	B	51	LEU	CA-CB-CG	-6.23	100.97	115.30
1	A	1158	C	N3-C4-C5	-6.23	119.41	121.90
1	A	1542	U	C2-N1-C1'	-6.23	110.23	117.70
1	A	799	G	C4-C5-N7	6.23	113.29	110.80
1	A	1366	C	C5-C6-N1	6.23	124.11	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	579	G	C5-C6-O6	-6.22	124.87	128.60
1	A	1443	G	C8-N9-C4	6.22	108.89	106.40
1	A	481	G	N3-C2-N2	6.21	124.25	119.90
1	A	584	G	C5-C6-N1	6.21	114.61	111.50
1	A	563	A	N7-C8-N9	6.21	116.91	113.80
1	A	1515	C	C5-C6-N1	6.21	124.11	121.00
1	A	416	G	N1-C6-O6	6.21	123.62	119.90
1	A	75	G	N3-C4-N9	6.21	129.72	126.00
1	A	224	C	C5-C6-N1	-6.20	117.90	121.00
1	A	731	G	C4-C5-N7	6.20	113.28	110.80
1	A	933	G	C4-C5-N7	6.20	113.28	110.80
1	A	70	G	N1-C6-O6	6.20	123.62	119.90
1	A	192	U	C6-N1-C2	6.20	124.72	121.00
1	A	833	U	N1-C2-N3	6.19	118.62	114.90
1	A	1434	A	C5-C6-N6	-6.19	118.75	123.70
12	L	66	VAL	CB-CA-C	-6.19	99.63	111.40
1	A	1197	G	C4-C5-N7	6.19	113.28	110.80
1	A	718	G	C6-C5-N7	-6.19	126.69	130.40
1	A	98	U	N3-C4-C5	-6.19	110.89	114.60
1	A	1383	C	N3-C4-C5	-6.19	119.42	121.90
1	A	1231	G	C2-N3-C4	-6.19	108.81	111.90
1	A	144	G	N3-C2-N2	-6.18	115.57	119.90
1	A	481	G	C5-C6-O6	-6.18	124.89	128.60
1	A	581	G	N3-C4-N9	-6.18	122.29	126.00
1	A	787	A	C5-C6-N6	-6.18	118.75	123.70
1	A	614	A	N1-C2-N3	6.18	132.39	129.30
1	A	28	G	C2-N3-C4	-6.18	108.81	111.90
1	A	1348	U	C6-N1-C1'	-6.18	112.55	121.20
1	A	628	G	N3-C2-N2	6.17	124.22	119.90
1	A	47	C	C4-C5-C6	6.17	120.49	117.40
1	A	604	G	N7-C8-N9	-6.17	110.02	113.10
1	A	1346	A	C6-C5-N7	6.17	136.62	132.30
1	A	46	G	C4-C5-C6	6.17	122.50	118.80
1	A	146	G	N1-C6-O6	6.17	123.60	119.90
1	A	232	G	C4-C5-C6	6.17	122.50	118.80
1	A	1488	G	C8-N9-C4	6.17	108.87	106.40
1	A	1380	U	N1-C2-N3	6.16	118.60	114.90
1	A	827	U	N3-C2-O2	-6.16	117.89	122.20
1	A	316	G	C4-N9-C1'	6.16	134.50	126.50
1	A	570	G	C2-N3-C4	6.15	114.98	111.90
1	A	144	G	C2-N3-C4	-6.15	108.82	111.90
1	A	850	U	C5-C4-O4	6.15	129.59	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	975	A	C2-N3-C4	-6.15	107.52	110.60
1	A	1513	A	N9-C4-C5	6.15	108.26	105.80
5	E	12	LEU	CA-CB-CG	6.15	129.45	115.30
1	A	1370	G	N1-C6-O6	6.15	123.59	119.90
1	A	285	G	C8-N9-C4	6.15	108.86	106.40
1	A	525	C	N1-C2-N3	-6.15	114.89	119.20
1	A	833	U	C6-N1-C2	-6.15	117.31	121.00
1	A	1401	G	C8-N9-C4	-6.14	103.94	106.40
1	A	238	G	N7-C8-N9	6.14	116.17	113.10
1	A	932	C	N3-C2-O2	-6.14	117.60	121.90
1	A	1352	C	C6-N1-C2	-6.14	117.84	120.30
1	A	1455	G	C5-N7-C8	-6.14	101.23	104.30
1	A	747	C	C2-N3-C4	-6.14	116.83	119.90
1	A	876	G	C5-N7-C8	-6.14	101.23	104.30
1	A	524	G	C6-C5-N7	-6.14	126.72	130.40
1	A	1234	C	C5-C4-N4	-6.14	115.91	120.20
1	A	670	G	N1-C6-O6	6.13	123.58	119.90
1	A	731	G	C6-C5-N7	-6.13	126.72	130.40
1	A	854	G	N3-C4-C5	-6.13	125.53	128.60
1	A	599	C	C2-N3-C4	-6.13	116.83	119.90
1	A	232	G	C4-C5-N7	6.13	113.25	110.80
1	A	237	C	N3-C2-O2	-6.13	117.61	121.90
1	A	263	A	N1-C2-N3	-6.13	126.23	129.30
1	A	445	G	C5-C6-N1	-6.13	108.43	111.50
1	A	1079	G	C8-N9-C4	-6.13	103.95	106.40
1	A	661	G	C2-N3-C4	-6.13	108.84	111.90
1	A	610	G	C4-N9-C1'	6.13	134.47	126.50
1	A	221	C	N3-C4-N4	-6.12	113.71	118.00
1	A	1533	C	C6-N1-C2	-6.12	117.85	120.30
1	A	301	G	N1-C2-N3	6.12	127.57	123.90
1	A	160	A	C8-N9-C4	-6.12	103.35	105.80
1	A	599	C	C5-C6-N1	-6.12	117.94	121.00
1	A	331	G	C8-N9-C1'	-6.12	119.05	127.00
1	A	566	G	C5-C6-N1	-6.12	108.44	111.50
1	A	1373	G	N3-C4-C5	-6.12	125.54	128.60
1	A	722	A	C4-C5-N7	6.11	113.75	110.70
1	A	350	G	C2-N3-C4	-6.11	108.85	111.90
1	A	489	C	N3-C2-O2	6.10	126.17	121.90
1	A	1329	A	C5-N7-C8	-6.10	100.85	103.90
1	A	865	A	C5-C6-N1	6.10	120.75	117.70
1	A	357	G	C4-C5-C6	6.10	122.46	118.80
1	A	1249	C	C2-N1-C1'	6.10	125.51	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	66	G	N3-C2-N2	-6.09	115.63	119.90
1	A	38	G	N3-C4-N9	-6.09	122.35	126.00
1	A	1379	G	N3-C4-C5	-6.09	125.56	128.60
1	A	1399	C	N1-C2-N3	6.09	123.46	119.20
1	A	654	G	C2-N3-C4	-6.09	108.86	111.90
1	A	941	G	C5-N7-C8	-6.08	101.26	104.30
1	A	46	G	C4-C5-N7	-6.08	108.37	110.80
1	A	277	C	N3-C4-N4	-6.08	113.74	118.00
1	A	316	G	N1-C6-O6	6.08	123.55	119.90
1	A	730	G	N1-C2-N3	6.08	127.55	123.90
1	A	107	G	N9-C4-C5	-6.08	102.97	105.40
1	A	232	G	C8-N9-C1'	-6.08	119.09	127.00
1	A	108	G	C4-C5-N7	6.08	113.23	110.80
1	A	1332	A	C8-N9-C4	-6.08	103.37	105.80
1	A	625	G	C4-N9-C1'	6.07	134.40	126.50
1	A	1531	A	C5-N7-C8	-6.07	100.86	103.90
1	A	855	G	C5-C6-N1	-6.07	108.46	111.50
1	A	1333	A	C4-C5-C6	6.07	120.03	117.00
1	A	153	C	C6-N1-C2	-6.07	117.87	120.30
1	A	366	C	N3-C2-O2	-6.07	117.65	121.90
1	A	917	G	C6-C5-N7	-6.07	126.76	130.40
1	A	284	G	C5-C6-O6	-6.06	124.96	128.60
1	A	452	A	C2-N3-C4	-6.06	107.57	110.60
1	A	816	A	C2-N3-C4	-6.06	107.57	110.60
1	A	867	G	C4-C5-N7	6.06	113.22	110.80
1	A	523	A	N7-C8-N9	-6.06	110.77	113.80
1	A	854	G	N3-C4-N9	6.06	129.63	126.00
1	A	617	G	N3-C4-N9	6.06	129.63	126.00
1	A	832	C	N1-C2-O2	-6.06	115.27	118.90
1	A	893	C	N3-C2-O2	-6.06	117.66	121.90
1	A	895	G	N1-C2-N3	6.06	127.53	123.90
1	A	75	G	C4-C5-C6	6.06	122.43	118.80
1	A	580	U	C6-N1-C2	-6.06	117.37	121.00
1	A	884	U	C6-N1-C2	6.06	124.63	121.00
1	A	1347	G	N7-C8-N9	-6.05	110.07	113.10
1	A	264	U	N1-C2-O2	-6.05	118.56	122.80
1	A	892	A	C8-N9-C4	6.05	108.22	105.80
1	A	944	G	N1-C2-N2	-6.05	110.76	116.20
1	A	730	G	N9-C4-C5	6.05	107.82	105.40
1	A	1391	U	N1-C2-N3	-6.04	111.27	114.90
1	A	1235	U	N3-C4-O4	6.04	123.63	119.40
1	A	1390	U	C5-C4-O4	6.04	129.53	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	502	G	N1-C6-O6	6.04	123.52	119.90
1	A	1080	A	N3-C4-N9	-6.04	122.57	127.40
1	A	628	G	N1-C2-N2	-6.04	110.77	116.20
17	Q	84	LEU	CA-CB-CG	-6.04	101.41	115.30
1	A	175	C	C5-C6-N1	-6.04	117.98	121.00
1	A	9	G	N1-C6-O6	6.03	123.52	119.90
1	A	764	C	C5-C4-N4	-6.03	115.98	120.20
1	A	1460	A	C5-C6-N6	-6.03	118.88	123.70
1	A	1533	C	C2-N1-C1'	6.03	125.43	118.80
1	A	29	G	N1-C2-N3	6.03	127.52	123.90
1	A	788	U	C2-N3-C4	6.03	130.62	127.00
1	A	316	G	N7-C8-N9	6.02	116.11	113.10
1	A	98	U	C2-N3-C4	6.02	130.61	127.00
1	A	723	U	C2-N1-C1'	6.02	124.93	117.70
1	A	1482	G	C4-N9-C1'	6.02	134.33	126.50
1	A	124	G	C8-N9-C4	-6.02	103.99	106.40
1	A	755	G	N3-C4-C5	-6.02	125.59	128.60
1	A	854	G	N1-C6-O6	-6.02	116.29	119.90
1	A	1236	A	N1-C6-N6	6.01	122.21	118.60
1	A	860	A	N1-C6-N6	6.01	122.21	118.60
1	A	634	C	C6-N1-C2	-6.01	117.90	120.30
1	A	835	U	N3-C2-O2	-6.01	117.99	122.20
1	A	629	G	N3-C4-N9	6.00	129.60	126.00
1	A	683	G	C4-C5-N7	-6.00	108.40	110.80
1	A	275	G	C8-N9-C4	6.00	108.80	106.40
1	A	280	C	N3-C4-N4	-6.00	113.80	118.00
1	A	309	G	N3-C4-N9	6.00	129.60	126.00
1	A	817	C	N3-C4-N4	6.00	122.20	118.00
2	B	23	ARG	N-CA-C	-6.00	94.79	111.00
1	A	255	G	C4-C5-N7	6.00	113.20	110.80
1	A	482	A	C4-C5-C6	6.00	120.00	117.00
1	A	664	G	C5-C6-O6	6.00	132.20	128.60
1	A	1239	A	C8-N9-C4	6.00	108.20	105.80
1	A	712	A	N1-C2-N3	5.99	132.29	129.30
1	A	698	G	C4-N9-C1'	5.99	134.28	126.50
1	A	282	A	N1-C6-N6	-5.98	115.01	118.60
1	A	1102	A	C5-N7-C8	5.98	106.89	103.90
1	A	25	C	C5-C4-N4	-5.98	116.01	120.20
1	A	799	G	C5-C6-O6	-5.98	125.01	128.60
1	A	183	G	C6-C5-N7	-5.98	126.81	130.40
1	A	1078	U	N3-C2-O2	-5.98	118.02	122.20
1	A	755	G	C4-N9-C1'	5.97	134.27	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1078	U	C6-N1-C2	-5.97	117.42	121.00
1	A	281	G	C6-C5-N7	-5.97	126.82	130.40
1	A	1307	U	C2-N1-C1'	5.97	124.86	117.70
1	A	936	C	C5-C6-N1	-5.97	118.02	121.00
1	A	372	C	N1-C2-N3	-5.96	115.03	119.20
1	A	1380	U	N3-C4-O4	-5.96	115.22	119.40
1	A	746	A	C2-N3-C4	-5.96	107.62	110.60
1	A	765	G	C2-N3-C4	-5.96	108.92	111.90
1	A	1471	G	C2-N3-C4	-5.96	108.92	111.90
1	A	784	C	N1-C2-O2	-5.96	115.33	118.90
1	A	819	A	N1-C6-N6	-5.96	115.03	118.60
1	A	1293	G	C8-N9-C4	-5.96	104.02	106.40
1	A	1509	C	C6-N1-C2	-5.96	117.92	120.30
1	A	266	G	C5-C6-O6	5.96	132.17	128.60
1	A	480	U	C4-C5-C6	5.96	123.27	119.70
1	A	851	G	N7-C8-N9	5.96	116.08	113.10
1	A	862	C	N3-C2-O2	5.96	126.07	121.90
1	A	74	C	C6-N1-C1'	-5.95	113.66	120.80
1	A	303	A	C5-C6-N1	-5.95	114.73	117.70
1	A	786	G	C4-C5-N7	5.95	113.18	110.80
1	A	666	G	C5-C6-N1	-5.95	108.53	111.50
1	A	825	G	C5-C6-O6	-5.94	125.03	128.60
1	A	1344	C	N3-C4-C5	5.94	124.28	121.90
1	A	1371	G	N7-C8-N9	5.94	116.07	113.10
1	A	1520	G	C5-C6-O6	-5.94	125.04	128.60
1	A	388	G	C8-N9-C4	5.94	108.78	106.40
1	A	317	G	C6-C5-N7	-5.94	126.84	130.40
1	A	788	U	N3-C4-C5	-5.94	111.04	114.60
1	A	229	U	C4-C5-C6	5.94	123.26	119.70
1	A	818	G	N3-C4-N9	-5.94	122.44	126.00
1	A	670	G	C8-N9-C1'	-5.93	119.28	127.00
1	A	931	C	N3-C4-C5	5.93	124.27	121.90
1	A	90	U	N3-C4-C5	-5.93	111.04	114.60
1	A	922	G	N3-C4-N9	5.93	129.56	126.00
1	A	422	C	N1-C2-O2	5.93	122.46	118.90
1	A	559	A	N3-C4-C5	-5.93	122.65	126.80
1	A	228	A	N7-C8-N9	5.93	116.76	113.80
1	A	868	C	C5-C6-N1	-5.93	118.04	121.00
1	A	1388	C	N3-C2-O2	5.93	126.05	121.90
1	A	484	G	N1-C6-O6	-5.92	116.35	119.90
1	A	80	G	C8-N9-C4	-5.92	104.03	106.40
1	A	864	A	C6-N1-C2	5.92	122.15	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	762	C	C4-C5-C6	-5.92	114.44	117.40
1	A	230	G	C8-N9-C1'	-5.92	119.31	127.00
1	A	1520	G	C5-N7-C8	-5.92	101.34	104.30
1	A	1149	C	C2-N1-C1'	5.92	125.31	118.80
1	A	761	G	C2-N3-C4	-5.91	108.94	111.90
1	A	147	G	C8-N9-C4	5.91	108.76	106.40
1	A	1381	U	N1-C2-N3	-5.90	111.36	114.90
1	A	228	A	C2-N3-C4	-5.90	107.65	110.60
1	A	556	C	C5-C6-N1	-5.90	118.05	121.00
1	A	43	C	N3-C4-C5	5.90	124.26	121.90
1	A	296	U	C5-C6-N1	-5.90	119.75	122.70
1	A	1248	A	C2-N3-C4	5.90	113.55	110.60
1	A	1187	G	N1-C6-O6	5.90	123.44	119.90
1	A	283	C	C2-N3-C4	5.89	122.85	119.90
1	A	839	U	C6-N1-C1'	-5.89	112.95	121.20
1	A	936	C	C4-C5-C6	5.89	120.35	117.40
1	A	1302	U	C2-N3-C4	-5.89	123.47	127.00
1	A	894	G	C2-N3-C4	-5.89	108.95	111.90
1	A	169	C	C4-C5-C6	5.89	120.34	117.40
1	A	773	G	N1-C2-N3	5.89	127.43	123.90
1	A	292	G	N9-C4-C5	-5.89	103.05	105.40
1	A	1322	C	C2-N1-C1'	5.89	125.28	118.80
1	A	1520	G	N3-C4-N9	-5.89	122.47	126.00
1	A	551	U	C5-C6-N1	-5.88	119.76	122.70
1	A	1203	C	N3-C4-C5	-5.88	119.55	121.90
1	A	1375	A	C5-N7-C8	5.88	106.84	103.90
1	A	570	G	C4-N9-C1'	5.88	134.15	126.50
1	A	141	A	N1-C6-N6	5.88	122.13	118.60
1	A	657	G	N1-C6-O6	5.88	123.43	119.90
1	A	774	G	C5-C6-O6	-5.88	125.07	128.60
1	A	361	G	C5-C6-N1	5.88	114.44	111.50
1	A	887	G	N1-C2-N2	-5.88	110.91	116.20
1	A	147	G	C5-C6-O6	-5.87	125.08	128.60
1	A	893	C	C2-N1-C1'	5.87	125.26	118.80
1	A	777	A	N1-C6-N6	-5.87	115.08	118.60
1	A	318	G	N1-C2-N3	5.86	127.42	123.90
1	A	810	C	N3-C4-N4	5.86	122.11	118.00
1	A	882	C	C5-C6-N1	-5.86	118.07	121.00
1	A	1367	C	C6-N1-C2	-5.86	117.95	120.30
1	A	236	G	C5-C6-O6	5.86	132.12	128.60
1	A	326	G	N3-C4-C5	-5.86	125.67	128.60
1	A	808	C	C6-N1-C2	5.86	122.64	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1306	A	C8-N9-C1'	-5.86	117.16	127.70
1	A	1441	G	N9-C4-C5	5.85	107.74	105.40
1	A	190(I)	G	C8-N9-C4	5.85	108.74	106.40
1	A	701	C	P-O3'-C3'	5.85	126.72	119.70
2	B	16	HIS	N-CA-C	5.85	126.80	111.00
1	A	241	C	C4-C5-C6	5.85	120.33	117.40
1	A	245	C	C6-N1-C2	5.85	122.64	120.30
11	K	118	GLY	N-CA-C	5.85	127.71	113.10
1	A	307	C	N3-C4-N4	5.84	122.09	118.00
1	A	671	G	N3-C4-C5	5.84	131.52	128.60
1	A	848	C	N3-C4-C5	5.84	124.24	121.90
1	A	1496	C	C2-N1-C1'	5.84	125.23	118.80
1	A	51	A	C5-N7-C8	-5.84	100.98	103.90
1	A	1300	G	C8-N9-C4	5.84	108.74	106.40
1	A	328	C	N3-C4-C5	5.84	124.23	121.90
1	A	745	C	C2-N3-C4	-5.84	116.98	119.90
1	A	938	A	N9-C4-C5	5.84	108.13	105.80
1	A	760	G	C2-N3-C4	-5.83	108.98	111.90
1	A	168	G	N3-C4-N9	5.83	129.50	126.00
1	A	916	G	N7-C8-N9	5.83	116.02	113.10
1	A	995	C	N1-C2-O2	5.83	122.40	118.90
1	A	373	A	C6-N1-C2	-5.83	115.10	118.60
1	A	388	G	N3-C4-N9	5.83	129.50	126.00
1	A	1132	C	C6-N1-C2	-5.83	117.97	120.30
1	A	581	G	N3-C4-C5	5.82	131.51	128.60
1	A	719	C	C6-N1-C1'	-5.82	113.81	120.80
1	A	129	U	N3-C4-C5	-5.82	111.11	114.60
1	A	283	C	N1-C2-O2	5.82	122.39	118.90
1	A	199	G	N3-C2-N2	-5.81	115.83	119.90
1	A	975	A	C4-C5-N7	5.81	113.61	110.70
1	A	1311	G	N3-C2-N2	-5.81	115.83	119.90
1	A	229	U	N3-C4-C5	-5.81	111.11	114.60
1	A	754	C	N3-C2-O2	-5.81	117.83	121.90
1	A	1499	A	C4-C5-N7	5.81	113.61	110.70
1	A	542	G	C8-N9-C4	-5.81	104.08	106.40
1	A	1087	G	C8-N9-C4	5.81	108.72	106.40
1	A	253	U	N3-C2-O2	5.80	126.26	122.20
1	A	777	A	N9-C4-C5	5.80	108.12	105.80
1	A	1238	A	N1-C2-N3	5.80	132.20	129.30
1	A	287	U	C6-N1-C2	-5.80	117.52	121.00
1	A	1462	G	C2-N3-C4	-5.80	109.00	111.90
1	A	591	U	C5-C6-N1	-5.80	119.80	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	661	G	N7-C8-N9	5.80	116.00	113.10
1	A	506	G	C2-N3-C4	-5.80	109.00	111.90
1	A	852	G	C8-N9-C4	5.80	108.72	106.40
1	A	400	C	C6-N1-C2	5.80	122.62	120.30
1	A	607	A	C5-N7-C8	-5.80	101.00	103.90
1	A	887	G	N1-C2-N3	5.79	127.38	123.90
1	A	33	A	C8-N9-C4	5.79	108.12	105.80
1	A	242	C	C6-N1-C2	5.79	122.62	120.30
1	A	1121	U	N3-C4-O4	5.79	123.45	119.40
1	A	1122	U	C6-N1-C2	-5.79	117.53	121.00
1	A	246	A	C8-N9-C4	-5.79	103.49	105.80
1	A	670	G	C6-C5-N7	-5.79	126.93	130.40
1	A	694	A	C5-C6-N1	-5.79	114.81	117.70
1	A	765	G	N1-C6-O6	5.79	123.37	119.90
1	A	1390	U	C4-C5-C6	5.79	123.17	119.70
1	A	1543	C	N1-C2-N3	-5.79	115.15	119.20
1	A	670	G	N3-C4-C5	-5.78	125.71	128.60
1	A	389	A	N3-C4-C5	-5.78	122.75	126.80
1	A	460	A	N3-C4-C5	-5.78	122.75	126.80
1	A	557	G	C5-C6-N1	-5.78	108.61	111.50
1	A	876	G	N1-C6-O6	5.78	123.37	119.90
10	J	40	LEU	CA-CB-CG	5.78	128.58	115.30
1	A	76	C	C5-C6-N1	-5.77	118.11	121.00
1	A	129(A)	G	N1-C6-O6	5.77	123.36	119.90
1	A	781	A	C5-N7-C8	-5.77	101.01	103.90
1	A	5	U	P-O3'-C3'	5.77	126.63	119.70
1	A	1414	U	C5-C4-O4	5.77	129.36	125.90
1	A	547	A	C4-C5-N7	5.77	113.59	110.70
1	A	77	G	C5-C6-O6	-5.77	125.14	128.60
1	A	542	G	N3-C4-C5	-5.77	125.72	128.60
1	A	1087	G	N3-C4-C5	5.77	131.48	128.60
1	A	1108	G	N9-C4-C5	5.76	107.71	105.40
1	A	789	U	C6-N1-C2	-5.76	117.54	121.00
1	A	1054	C	C4-C5-C6	-5.76	114.52	117.40
1	A	576	G	C8-N9-C4	-5.76	104.10	106.40
1	A	605	U	C6-N1-C2	-5.76	117.54	121.00
1	A	1332	A	C4-C5-N7	-5.76	107.82	110.70
1	A	1508	G	C8-N9-C4	-5.76	104.10	106.40
1	A	91	C	C6-N1-C1'	5.75	127.70	120.80
1	A	1080	A	C4-C5-N7	-5.75	107.82	110.70
1	A	1539	C	C6-N1-C2	5.75	122.60	120.30
1	A	779	C	N1-C2-O2	-5.75	115.45	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1202	G	N3-C4-C5	-5.75	125.72	128.60
1	A	336	C	N3-C4-N4	5.75	122.02	118.00
1	A	1195	C	N3-C2-O2	5.75	125.92	121.90
1	A	1377	A	C5-C6-N6	5.75	128.30	123.70
1	A	1528	U	C6-N1-C2	5.75	124.45	121.00
1	A	99	C	C2-N1-C1'	5.75	125.12	118.80
1	A	113	G	C6-C5-N7	-5.75	126.95	130.40
1	A	317	G	N9-C4-C5	-5.75	103.10	105.40
8	H	92	ARG	CG-CD-NE	5.75	123.87	111.80
1	A	108	G	N7-C8-N9	5.75	115.97	113.10
1	A	31	G	C5-N7-C8	5.74	107.17	104.30
1	A	276	G	C8-N9-C4	5.74	108.70	106.40
1	A	703	G	C2-N3-C4	5.74	114.77	111.90
1	A	474	G	C5-C6-O6	-5.74	125.16	128.60
1	A	604	G	C5-N7-C8	5.74	107.17	104.30
1	A	656	C	C5-C6-N1	-5.74	118.13	121.00
1	A	890	G	C6-C5-N7	5.74	133.84	130.40
15	O	36	ILE	CB-CA-C	-5.74	100.13	111.60
15	O	56	LEU	CA-CB-CG	-5.74	102.10	115.30
1	A	480	U	C5-C4-O4	5.74	129.34	125.90
1	A	93	G	N3-C2-N2	5.73	123.91	119.90
1	A	931	C	C4-C5-C6	5.73	120.27	117.40
1	A	597	G	C6-N1-C2	-5.72	121.67	125.10
1	A	1311	G	C5-C6-N1	-5.72	108.64	111.50
1	A	157	G	N3-C2-N2	-5.72	115.89	119.90
1	A	27	G	C6-C5-N7	-5.72	126.97	130.40
1	A	751	U	N1-C2-N3	-5.72	111.47	114.90
1	A	245	C	N3-C2-O2	5.72	125.90	121.90
1	A	862	C	C6-N1-C2	5.72	122.59	120.30
1	A	925	G	N3-C2-N2	5.72	123.90	119.90
1	A	723	U	N1-C2-O2	5.72	126.80	122.80
1	A	119	A	N9-C4-C5	5.72	108.09	105.80
1	A	1390	U	N1-C2-O2	-5.72	118.80	122.80
1	A	11	G	N1-C2-N3	5.71	127.33	123.90
1	A	116	A	C5-C6-N1	-5.71	114.84	117.70
1	A	660	G	N1-C6-O6	5.71	123.33	119.90
1	A	1067	A	P-O3'-C3'	5.71	126.56	119.70
1	A	107	G	N3-C2-N2	5.71	123.90	119.90
1	A	905	U	C2-N1-C1'	-5.71	110.84	117.70
1	A	569	C	N3-C4-N4	-5.71	114.00	118.00
1	A	22	G	C8-N9-C4	-5.71	104.12	106.40
1	A	157	G	N3-C4-N9	-5.71	122.58	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	240	C	C5-C4-N4	-5.71	116.21	120.20
1	A	1087	G	C4-C5-N7	5.71	113.08	110.80
1	A	1149	C	C5-C6-N1	5.71	123.85	121.00
1	A	217	C	C5-C6-N1	5.70	123.85	121.00
1	A	616	G	C2-N3-C4	-5.70	109.05	111.90
1	A	658	G	C8-N9-C4	5.70	108.68	106.40
1	A	137	C	N3-C4-N4	-5.70	114.01	118.00
1	A	579	G	N1-C2-N3	5.70	127.32	123.90
1	A	1353	G	C5-C6-N1	5.70	114.35	111.50
1	A	945	G	C8-N9-C4	-5.70	104.12	106.40
1	A	309	G	C6-C5-N7	-5.70	126.98	130.40
1	A	943	U	C2-N1-C1'	5.70	124.53	117.70
1	A	1298	C	N1-C2-O2	5.70	122.32	118.90
1	A	481	G	C5-N7-C8	5.69	107.15	104.30
1	A	130	A	N7-C8-N9	5.69	116.65	113.80
1	A	595	G	N1-C6-O6	-5.69	116.48	119.90
1	A	946	A	N1-C6-N6	-5.69	115.18	118.60
1	A	1095	U	C6-N1-C2	5.69	124.42	121.00
1	A	1197	G	C6-C5-N7	-5.69	126.98	130.40
1	A	1523	G	N3-C2-N2	-5.69	115.92	119.90
1	A	697	U	C5-C6-N1	-5.69	119.86	122.70
1	A	1381	U	C6-N1-C2	5.69	124.42	121.00
1	A	1524	C	N3-C4-C5	-5.69	119.62	121.90
1	A	122	G	N3-C4-C5	5.69	131.44	128.60
1	A	778	G	N3-C4-C5	5.69	131.44	128.60
1	A	1352	C	C5-C6-N1	5.69	123.84	121.00
1	A	1388	C	C2-N1-C1'	-5.69	112.55	118.80
1	A	15	G	N1-C6-O6	5.68	123.31	119.90
1	A	168	G	C8-N9-C1'	-5.68	119.61	127.00
1	A	244	U	C5-C6-N1	-5.68	119.86	122.70
1	A	307	C	C5-C4-N4	-5.68	116.22	120.20
1	A	168	G	N3-C4-C5	-5.68	125.76	128.60
1	A	1338	G	C5-C6-O6	5.68	132.01	128.60
1	A	250	A	C2-N3-C4	-5.68	107.76	110.60
1	A	586	C	C5-C6-N1	-5.68	118.16	121.00
1	A	659	U	C5-C6-N1	-5.68	119.86	122.70
1	A	922	G	N1-C6-O6	-5.68	116.49	119.90
4	D	94	LEU	CA-CB-CG	-5.68	102.25	115.30
1	A	273	A	N1-C6-N6	-5.67	115.19	118.60
1	A	1392	G	C8-N9-C1'	-5.67	119.62	127.00
1	A	416	G	C5-C6-O6	-5.67	125.20	128.60
1	A	502	G	C5-C6-O6	-5.67	125.20	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	119	A	C6-N1-C2	-5.67	115.20	118.60
1	A	769	G	C5-C6-O6	-5.67	125.20	128.60
1	A	1447	G	C8-N9-C4	-5.67	104.13	106.40
1	A	598	U	C6-N1-C2	5.67	124.40	121.00
1	A	373	A	N7-C8-N9	5.67	116.63	113.80
1	A	1087	G	C6-C5-N7	-5.67	127.00	130.40
1	A	1193	G	C5-C6-N1	-5.67	108.67	111.50
1	A	721	G	C4-C5-C6	5.67	122.20	118.80
1	A	931	C	N1-C2-N3	5.67	123.17	119.20
1	A	944	G	C4-C5-N7	-5.67	108.53	110.80
1	A	1084	G	C5-C6-O6	-5.67	125.20	128.60
1	A	1488	G	N7-C8-N9	-5.67	110.27	113.10
1	A	1516	G	C4-N9-C1'	5.67	133.86	126.50
1	A	662	G	C8-N9-C4	5.66	108.67	106.40
1	A	660	G	N1-C2-N2	-5.66	111.11	116.20
1	A	285	G	N3-C4-C5	5.66	131.43	128.60
1	A	888	G	C4-C5-N7	-5.66	108.54	110.80
1	A	885	G	C5-C6-N1	-5.66	108.67	111.50
1	A	1334	G	N7-C8-N9	-5.66	110.27	113.10
1	A	741	G	C4-N9-C1'	-5.65	119.15	126.50
1	A	888	G	C5-C6-N1	-5.65	108.67	111.50
1	A	661	G	C8-N9-C4	-5.65	104.14	106.40
1	A	1312	G	C5-N7-C8	-5.65	101.47	104.30
1	A	1360	A	C8-N9-C4	-5.65	103.54	105.80
1	A	452	A	N3-C4-C5	5.64	130.75	126.80
1	A	805	C	N1-C2-O2	5.64	122.29	118.90
1	A	768	A	C6-N1-C2	-5.64	115.21	118.60
1	A	770	C	C2-N3-C4	-5.64	117.08	119.90
1	A	779	C	C2-N3-C4	-5.64	117.08	119.90
1	A	874	G	C8-N9-C1'	-5.64	119.67	127.00
1	A	635	G	C8-N9-C1'	-5.64	119.67	127.00
1	A	862	C	C4-C5-C6	-5.64	114.58	117.40
1	A	888	G	N9-C4-C5	5.64	107.66	105.40
1	A	111	G	C5-C6-O6	-5.64	125.22	128.60
1	A	580	U	N3-C4-O4	5.64	123.35	119.40
1	A	373	A	N1-C2-N3	5.63	132.12	129.30
1	A	575	G	C4-C5-N7	5.63	113.05	110.80
1	A	597	G	N3-C2-N2	5.63	123.84	119.90
1	A	577	G	C4-N9-C1'	-5.63	119.18	126.50
1	A	1031	G	N7-C8-N9	5.63	115.92	113.10
1	A	474	G	C8-N9-C4	5.63	108.65	106.40
1	A	751	U	N3-C2-O2	5.63	126.14	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	872	A	C5-C6-N6	-5.63	119.20	123.70
1	A	1312	G	C5-C6-O6	-5.63	125.22	128.60
1	A	223	U	N1-C2-O2	-5.63	118.86	122.80
1	A	801	U	N3-C4-C5	5.63	117.98	114.60
1	A	885	G	N3-C4-C5	5.63	131.41	128.60
1	A	1330	U	N1-C2-O2	5.63	126.74	122.80
1	A	1361(A)	C	C5-C4-N4	-5.63	116.26	120.20
1	A	26	A	N1-C2-N3	5.62	132.11	129.30
1	A	79	G	N1-C6-O6	5.62	123.27	119.90
1	A	106	C	C6-N1-C2	-5.62	118.05	120.30
1	A	856	C	N1-C2-O2	-5.62	115.53	118.90
1	A	80	G	N1-C6-O6	5.62	123.27	119.90
1	A	120	A	C4-C5-N7	-5.62	107.89	110.70
4	D	12	CYS	CA-CB-SG	5.62	124.11	114.00
1	A	1392	G	C4-N9-C1'	5.62	133.80	126.50
1	A	723	U	N3-C2-O2	-5.61	118.27	122.20
1	A	1468	A	N1-C6-N6	-5.61	115.23	118.60
1	A	580	U	N1-C2-N3	5.61	118.27	114.90
1	A	934	C	C5-C6-N1	-5.61	118.19	121.00
1	A	1542	U	C5-C4-O4	5.61	129.26	125.90
1	A	326	G	C5-N7-C8	5.60	107.10	104.30
1	A	485	G	C4-N9-C1'	-5.60	119.22	126.50
1	A	670	G	N3-C4-N9	5.60	129.36	126.00
1	A	1078	U	C2-N1-C1'	5.60	124.42	117.70
1	A	565	U	N1-C2-N3	-5.59	111.54	114.90
1	A	644	G	N1-C6-O6	5.59	123.26	119.90
1	A	1447	G	C5-C6-N1	5.59	114.30	111.50
1	A	93	G	N3-C4-C5	-5.59	125.80	128.60
1	A	597	G	N3-C4-N9	5.59	129.35	126.00
1	A	1516	G	C4-C5-C6	5.59	122.15	118.80
1	A	1240	U	N3-C4-O4	-5.59	115.49	119.40
1	A	781	A	C2-N3-C4	-5.59	107.81	110.60
1	A	1073	U	N3-C4-C5	-5.59	111.25	114.60
1	A	920	U	N3-C4-C5	-5.58	111.25	114.60
1	A	685	G	C2-N3-C4	-5.58	109.11	111.90
1	A	73	C	C5-C6-N1	5.58	123.79	121.00
1	A	308	C	N1-C2-N3	-5.58	115.29	119.20
1	A	651	C	C4-C5-C6	5.58	120.19	117.40
1	A	853	G	C6-C5-N7	-5.58	127.05	130.40
1	A	25	C	C6-N1-C2	5.58	122.53	120.30
1	A	482	A	C5-N7-C8	-5.58	101.11	103.90
1	A	1238	A	C8-N9-C4	-5.57	103.57	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	120	A	N1-C6-N6	-5.57	115.26	118.60
1	A	750	G	C6-N1-C2	-5.57	121.76	125.10
1	A	878	G	C5-C6-O6	-5.57	125.26	128.60
1	A	1462	G	C8-N9-C4	5.57	108.63	106.40
1	A	254	G	C8-N9-C4	5.56	108.62	106.40
1	A	518	C	N1-C2-O2	5.56	122.24	118.90
1	A	779	C	C6-N1-C2	5.56	122.53	120.30
1	A	1313	U	N3-C4-O4	5.56	123.29	119.40
1	A	1370	G	C5-C6-O6	-5.56	125.26	128.60
1	A	931	C	N3-C2-O2	-5.56	118.01	121.90
1	A	1335	C	N3-C4-C5	5.56	124.12	121.90
1	A	1517	G	N3-C4-C5	5.56	131.38	128.60
1	A	52	G	N3-C4-N9	5.56	129.33	126.00
1	A	458	C	N1-C2-O2	-5.55	115.57	118.90
1	A	647	C	C6-N1-C2	5.55	122.52	120.30
1	A	867	G	C8-N9-C1'	-5.55	119.78	127.00
1	A	121	C	C6-N1-C2	-5.55	118.08	120.30
1	A	637	G	N3-C4-N9	5.55	129.33	126.00
1	A	909	A	C4-C5-N7	5.55	113.48	110.70
1	A	485	G	N1-C6-O6	5.55	123.23	119.90
1	A	885	G	N1-C6-O6	5.55	123.23	119.90
1	A	1528	U	N3-C4-C5	5.55	117.93	114.60
1	A	58	C	C6-N1-C2	-5.54	118.08	120.30
1	A	129(A)	G	C4-C5-N7	5.54	113.02	110.80
1	A	353	A	N1-C6-N6	-5.54	115.27	118.60
1	A	1302	U	N1-C2-N3	5.54	118.23	114.90
1	A	1107	C	C5-C6-N1	5.54	123.77	121.00
1	A	1325	C	C5-C4-N4	-5.54	116.32	120.20
1	A	1370	G	N3-C4-N9	5.54	129.32	126.00
1	A	190(G)	G	C5-C6-N1	-5.54	108.73	111.50
1	A	1231	G	C6-C5-N7	-5.54	127.08	130.40
1	A	485	G	C5-C6-N1	-5.54	108.73	111.50
1	A	14	U	N3-C2-O2	-5.53	118.33	122.20
1	A	50	A	C8-N9-C4	5.53	108.01	105.80
1	A	559	A	C6-N1-C2	-5.53	115.28	118.60
1	A	605	U	N3-C4-O4	5.53	123.27	119.40
1	A	1442	G	C5-C6-O6	-5.53	125.28	128.60
1	A	576	G	C8-N9-C1'	-5.53	119.81	127.00
1	A	604	G	C8-N9-C4	5.53	108.61	106.40
1	A	963	G	N1-C6-O6	5.53	123.22	119.90
1	A	131	C	N3-C4-N4	-5.53	114.13	118.00
1	A	407	G	N3-C4-C5	5.53	131.36	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	854	G	N3-C2-N2	5.52	123.77	119.90
1	A	863	U	C2-N1-C1'	-5.52	111.07	117.70
1	A	1442	G	C5-C6-N1	5.52	114.26	111.50
1	A	571	U	N1-C2-O2	-5.52	118.94	122.80
1	A	760	G	N7-C8-N9	-5.52	110.34	113.10
1	A	1276	G	N1-C6-O6	5.52	123.21	119.90
1	A	489	C	C6-N1-C2	5.52	122.51	120.30
1	A	597	G	N1-C6-O6	-5.51	116.59	119.90
1	A	629	G	C4-N9-C1'	5.51	133.67	126.50
1	A	717	C	N3-C2-O2	5.51	125.76	121.90
1	A	1082	G	C5-C6-O6	-5.51	125.29	128.60
1	A	828	A	N1-C2-N3	5.51	132.06	129.30
1	A	1435	G	N3-C4-C5	5.51	131.35	128.60
1	A	1053	G	C5-N7-C8	5.50	107.05	104.30
1	A	1306	A	N9-C4-C5	-5.50	103.60	105.80
1	A	1329	A	C2-N3-C4	-5.50	107.85	110.60
1	A	238	G	C5-N7-C8	-5.50	101.55	104.30
1	A	619	U	N1-C2-N3	5.50	118.20	114.90
1	A	697	U	C5-C4-O4	5.50	129.20	125.90
1	A	1270	C	C6-N1-C2	5.50	122.50	120.30
1	A	237	C	C6-N1-C2	-5.50	118.10	120.30
1	A	1262	C	C5-C6-N1	5.50	123.75	121.00
1	A	266	G	C5-C6-N1	-5.49	108.75	111.50
1	A	27	G	N7-C8-N9	5.49	115.85	113.10
1	A	354	G	C8-N9-C4	-5.49	104.20	106.40
1	A	1196	U	N3-C2-O2	-5.49	118.36	122.20
1	A	925	G	N3-C4-N9	5.49	129.29	126.00
1	A	93	G	N3-C4-N9	5.49	129.29	126.00
1	A	190(D)	U	C5-C6-N1	-5.49	119.96	122.70
1	A	917	G	C4-C5-C6	5.49	122.09	118.80
1	A	1009	G	C8-N9-C4	-5.49	104.20	106.40
1	A	123	C	C5-C6-N1	5.49	123.74	121.00
1	A	107	G	N3-C4-N9	5.49	129.29	126.00
1	A	119	A	C5-C6-N1	5.49	120.44	117.70
1	A	1487	G	C8-N9-C4	-5.49	104.21	106.40
1	A	840	C	C2-N1-C1'	5.48	124.83	118.80
1	A	350	G	N3-C4-N9	-5.48	122.71	126.00
1	A	1088	G	N3-C4-N9	-5.48	122.71	126.00
1	A	293	G	N1-C6-O6	5.48	123.19	119.90
1	A	546	G	N1-C2-N2	-5.48	111.27	116.20
1	A	247	G	C6-C5-N7	-5.48	127.11	130.40
1	A	1520	G	C4-C5-N7	5.48	112.99	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	879	C	C2-N1-C1'	-5.48	112.78	118.80
1	A	273	A	C6-N1-C2	-5.47	115.31	118.60
1	A	929	G	N1-C6-O6	5.47	123.19	119.90
1	A	1452	C	N1-C2-O2	5.47	122.18	118.90
1	A	23	C	C4-C5-C6	5.47	120.14	117.40
1	A	228	A	N1-C6-N6	-5.47	115.32	118.60
1	A	789	U	C5-C6-N1	5.47	125.43	122.70
1	A	901	A	C5-C6-N1	-5.47	114.97	117.70
1	A	1353	G	N3-C4-C5	-5.47	125.87	128.60
1	A	282	A	C2-N3-C4	5.46	113.33	110.60
1	A	317	G	C5-C6-O6	-5.46	125.32	128.60
1	A	389	A	C4-C5-C6	5.46	119.73	117.00
1	A	550	G	N1-C2-N3	5.46	127.18	123.90
1	A	571	U	N3-C2-O2	5.46	126.03	122.20
1	A	31	G	N9-C4-C5	5.46	107.58	105.40
1	A	721	G	N3-C4-C5	-5.46	125.87	128.60
1	A	55	A	C6-N1-C2	-5.46	115.32	118.60
1	A	925	G	N1-C2-N2	-5.46	111.28	116.20
1	A	1189	C	C6-N1-C2	5.46	122.48	120.30
1	A	120	A	N1-C2-N3	5.46	132.03	129.30
1	A	329	A	N1-C6-N6	5.46	121.88	118.60
1	A	484	G	C2-N3-C4	5.46	114.63	111.90
1	A	910	C	C2-N3-C4	-5.46	117.17	119.90
1	A	289	G	N1-C2-N3	5.46	127.17	123.90
1	A	299	G	C6-C5-N7	-5.46	127.13	130.40
1	A	59	A	C5-C6-N6	-5.45	119.34	123.70
1	A	793	U	N1-C2-N3	-5.45	111.63	114.90
1	A	1240	U	N1-C2-N3	5.45	118.17	114.90
1	A	5	U	C5-C4-O4	-5.45	122.63	125.90
1	A	99	C	N3-C2-O2	-5.45	118.08	121.90
1	A	606	G	C2-N3-C4	5.45	114.62	111.90
1	A	606	G	N1-C6-O6	-5.45	116.63	119.90
1	A	778	G	C6-C5-N7	-5.45	127.13	130.40
1	A	804	U	C5-C4-O4	5.45	129.17	125.90
1	A	818	G	N3-C4-C5	5.45	131.32	128.60
1	A	661	G	C5-N7-C8	-5.45	101.58	104.30
1	A	771	G	C2-N3-C4	-5.45	109.18	111.90
1	A	1361(A)	C	N3-C4-C5	5.45	124.08	121.90
1	A	1361(A)	C	C4-C5-C6	-5.45	114.68	117.40
1	A	447	G	C8-N9-C1'	-5.44	119.93	127.00
1	A	878	G	C6-C5-N7	-5.44	127.14	130.40
1	A	1079	G	N3-C2-N2	5.44	123.71	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1455	G	N7-C8-N9	5.44	115.82	113.10
1	A	1306	A	C4-C5-C6	5.44	119.72	117.00
1	A	1421	G	N7-C8-N9	5.44	115.82	113.10
1	A	452	A	C5-C6-N1	-5.44	114.98	117.70
1	A	38	G	C8-N9-C1'	5.43	134.07	127.00
1	A	314	C	C6-N1-C2	5.43	122.47	120.30
1	A	872	A	C4-C5-N7	5.43	113.42	110.70
1	A	1104	G	N9-C4-C5	5.43	107.57	105.40
1	A	84	U	N3-C4-O4	5.43	123.20	119.40
1	A	794	A	C6-C5-N7	5.43	136.10	132.30
1	A	638	G	N1-C6-O6	5.43	123.16	119.90
1	A	1374	A	N1-C2-N3	5.43	132.01	129.30
1	A	1105	A	N7-C8-N9	5.43	116.51	113.80
1	A	45	U	C5-C4-O4	5.43	129.16	125.90
1	A	229	U	C6-N1-C2	-5.43	117.74	121.00
1	A	366	C	C2-N1-C1'	5.43	124.77	118.80
1	A	391	G	N7-C8-N9	-5.43	110.39	113.10
1	A	654	G	C4-N9-C1'	-5.43	119.45	126.50
1	A	919	A	N9-C4-C5	-5.43	103.63	105.80
2	B	12	GLU	N-CA-C	5.43	125.65	111.00
1	A	476	G	N9-C4-C5	-5.42	103.23	105.40
1	A	1413	A	C5-N7-C8	-5.42	101.19	103.90
1	A	1461	G	C8-N9-C4	5.42	108.57	106.40
1	A	1074	G	C5-C6-O6	5.42	131.85	128.60
1	A	44	G	N9-C4-C5	-5.42	103.23	105.40
1	A	477	G	N1-C6-O6	5.42	123.15	119.90
1	A	1087	G	C5-C6-N1	-5.42	108.79	111.50
1	A	1403	C	C2-N3-C4	5.42	122.61	119.90
1	A	855	G	N3-C4-C5	5.42	131.31	128.60
12	L	85	ILE	CB-CA-C	-5.42	100.76	111.60
1	A	553	A	N1-C6-N6	-5.42	115.35	118.60
1	A	830	G	C2-N3-C4	-5.42	109.19	111.90
1	A	1373	G	N3-C2-N2	5.42	123.69	119.90
1	A	1344	C	C2-N3-C4	-5.42	117.19	119.90
1	A	303	A	C8-N9-C4	5.41	107.97	105.80
1	A	504	C	C6-N1-C2	-5.41	118.13	120.30
1	A	600	C	C4-C5-C6	5.41	120.11	117.40
1	A	733	A	C2-N3-C4	-5.41	107.89	110.60
1	A	797	C	N3-C4-C5	5.41	124.06	121.90
1	A	320	C	C4-C5-C6	5.41	120.10	117.40
1	A	133	U	N3-C2-O2	-5.41	118.42	122.20
1	A	328	C	C2-N1-C1'	5.41	124.75	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	419	C	C6-N1-C2	5.41	122.46	120.30
1	A	576	G	N9-C4-C5	5.41	107.56	105.40
1	A	1432	G	N1-C6-O6	-5.40	116.66	119.90
20	T	62	LEU	CB-CG-CD2	-5.40	101.82	111.00
1	A	76	C	C2-N3-C4	-5.40	117.20	119.90
1	A	895	G	N1-C2-N2	-5.40	111.34	116.20
1	A	1406	U	N3-C4-O4	5.40	123.18	119.40
1	A	154	C	N3-C4-N4	5.40	121.78	118.00
1	A	190(F)	G	C4-N9-C1'	-5.40	119.48	126.50
1	A	947	G	N9-C4-C5	-5.40	103.24	105.40
1	A	1266	G	C4-N9-C1'	-5.40	119.48	126.50
1	A	1088	G	N3-C4-C5	5.40	131.30	128.60
1	A	175	C	C2-N3-C4	-5.39	117.20	119.90
1	A	787	A	N9-C4-C5	-5.39	103.64	105.80
1	A	76	C	N3-C4-N4	-5.39	114.23	118.00
1	A	1543	C	N1-C2-O2	5.39	122.13	118.90
1	A	296	U	C4-C5-C6	5.39	122.93	119.70
1	A	889	A	C8-N9-C4	-5.39	103.64	105.80
1	A	947	G	C6-C5-N7	-5.39	127.17	130.40
1	A	1295	G	C8-N9-C4	-5.39	104.25	106.40
1	A	129(A)	G	C8-N9-C4	5.38	108.55	106.40
1	A	663	A	N1-C6-N6	-5.38	115.37	118.60
1	A	78	G	C4-C5-C6	-5.38	115.57	118.80
1	A	718	G	C5-N7-C8	-5.38	101.61	104.30
1	A	774	G	N7-C8-N9	5.38	115.79	113.10
1	A	302	G	C8-N9-C4	5.38	108.55	106.40
1	A	47	C	N1-C2-O2	5.38	122.13	118.90
1	A	292	G	C5-C6-O6	-5.38	125.37	128.60
1	A	872	A	C4-C5-C6	5.38	119.69	117.00
1	A	963	G	N7-C8-N9	5.38	115.79	113.10
1	A	117	G	N1-C2-N2	-5.38	111.36	116.20
1	A	555	C	N3-C4-C5	5.38	124.05	121.90
1	A	245	C	N3-C4-C5	5.37	124.05	121.90
1	A	363	A	N1-C6-N6	-5.37	115.38	118.60
1	A	460	A	C4-N9-C1'	5.37	135.97	126.30
1	A	829	G	N3-C4-N9	5.37	129.22	126.00
1	A	944	G	C4-N9-C1'	5.37	133.49	126.50
1	A	38	G	C8-N9-C4	5.37	108.55	106.40
1	A	451	A	C4-C5-N7	5.37	113.39	110.70
1	A	480	U	C6-N1-C2	-5.37	117.78	121.00
1	A	664	G	N1-C6-O6	-5.37	116.68	119.90
1	A	1088	G	N3-C2-N2	-5.37	116.14	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	44	LEU	CA-CB-CG	-5.37	102.95	115.30
1	A	308	C	C6-N1-C1'	-5.37	114.36	120.80
1	A	576	G	N1-C2-N3	5.37	127.12	123.90
1	A	1179	A	N9-C4-C5	5.37	107.95	105.80
1	A	31	G	N7-C8-N9	-5.37	110.42	113.10
1	A	413	G	C5-C6-O6	-5.37	125.38	128.60
1	A	571	U	C5-C4-O4	-5.37	122.68	125.90
1	A	324	G	C5-C6-N1	-5.36	108.82	111.50
1	A	535	A	C4-C5-C6	5.36	119.68	117.00
1	A	642	A	C8-N9-C4	-5.36	103.66	105.80
1	A	645	C	C5-C6-N1	5.36	123.68	121.00
1	A	79	G	C5-C6-N1	-5.36	108.82	111.50
1	A	762	C	N3-C4-C5	5.36	124.05	121.90
1	A	363	A	N3-C4-N9	-5.36	123.11	127.40
1	A	787	A	C8-N9-C4	5.36	107.94	105.80
1	A	105	G	N1-C2-N3	5.36	127.11	123.90
1	A	451	A	C2-N3-C4	-5.36	107.92	110.60
1	A	866	C	C5-C6-N1	-5.36	118.32	121.00
1	A	74	C	N3-C4-N4	5.36	121.75	118.00
1	A	983	A	C2-N3-C4	5.36	113.28	110.60
1	A	1190	G	P-O3'-C3'	5.36	126.13	119.70
1	A	1513	A	C8-N9-C4	-5.36	103.66	105.80
1	A	329	A	N7-C8-N9	-5.35	111.12	113.80
1	A	131	C	C4-C5-C6	5.35	120.08	117.40
1	A	1116	C	N3-C4-C5	5.35	124.04	121.90
1	A	617	G	C8-N9-C1'	-5.35	120.05	127.00
1	A	913	A	C8-N9-C4	-5.35	103.66	105.80
1	A	1234	C	N1-C2-N3	-5.35	115.45	119.20
1	A	1397	C	N1-C2-N3	-5.35	115.45	119.20
1	A	1530	G	C8-N9-C4	5.35	108.54	106.40
1	A	183	G	N7-C8-N9	5.35	115.77	113.10
1	A	679	C	N3-C4-C5	5.35	124.04	121.90
1	A	760	G	C5-C6-N1	-5.35	108.83	111.50
1	A	1330	U	C2-N1-C1'	5.35	124.11	117.70
1	A	16	A	C6-N1-C2	5.34	121.81	118.60
1	A	565	U	C6-N1-C2	5.34	124.21	121.00
1	A	1486	G	N3-C4-C5	5.34	131.27	128.60
1	A	326	G	C2-N3-C4	5.34	114.57	111.90
1	A	28	G	N1-C2-N3	5.34	127.11	123.90
1	A	376	G	C4-C5-N7	-5.34	108.66	110.80
1	A	377	G	C6-C5-N7	-5.34	127.20	130.40
1	A	741	G	N7-C8-N9	-5.34	110.43	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1199	U	C6-N1-C2	-5.34	117.80	121.00
1	A	610	G	C8-N9-C1'	-5.34	120.06	127.00
1	A	1209	C	N3-C4-C5	-5.34	119.77	121.90
1	A	147	G	N9-C4-C5	-5.33	103.27	105.40
1	A	52	G	N7-C8-N9	5.33	115.77	113.10
1	A	765	G	C5-C6-N1	-5.33	108.83	111.50
1	A	1109	C	N1-C2-O2	5.33	122.10	118.90
1	A	1305	G	P-O3'-C3'	5.33	126.10	119.70
1	A	454	C	C2-N1-C1'	5.33	124.66	118.80
1	A	865	A	N1-C6-N6	-5.33	115.40	118.60
1	A	922	G	C6-N1-C2	-5.33	121.90	125.10
1	A	641	U	N1-C2-N3	5.33	118.10	114.90
1	A	866	C	C2-N3-C4	-5.33	117.24	119.90
1	A	264	U	C2-N1-C1'	-5.33	111.31	117.70
1	A	285	G	N9-C4-C5	-5.33	103.27	105.40
1	A	381	C	N1-C2-O2	5.33	122.10	118.90
1	A	727	G	N1-C6-O6	-5.33	116.70	119.90
1	A	753	A	N1-C2-N3	5.33	131.96	129.30
1	A	305	G	C4-C5-C6	5.32	121.99	118.80
1	A	826	C	C5-C6-N1	-5.32	118.34	121.00
1	A	887	G	C2-N3-C4	-5.32	109.24	111.90
1	A	600	C	C2-N3-C4	-5.32	117.24	119.90
1	A	686	U	N1-C2-N3	5.32	118.09	114.90
1	A	551	U	C6-N1-C2	5.32	124.19	121.00
1	A	1158	C	C5-C4-N4	5.32	123.92	120.20
1	A	144	G	C5-C6-N1	-5.31	108.84	111.50
1	A	186	C	N3-C2-O2	-5.31	118.18	121.90
1	A	266	G	C8-N9-C1'	5.31	133.91	127.00
1	A	794	A	N3-C4-C5	-5.31	123.08	126.80
1	A	1528	U	N1-C2-O2	5.31	126.52	122.80
1	A	1542	U	C5-C6-N1	-5.31	120.04	122.70
1	A	928	G	C6-C5-N7	-5.31	127.21	130.40
1	A	181	G	C6-C5-N7	-5.31	127.22	130.40
1	A	616	G	C4-C5-C6	5.31	121.99	118.80
1	A	812	C	C6-N1-C2	-5.31	118.18	120.30
1	A	43	C	C2-N3-C4	-5.31	117.25	119.90
1	A	1060	C	C2-N3-C4	-5.31	117.25	119.90
1	A	1390	U	C6-N1-C1'	5.31	128.63	121.20
1	A	284	G	N1-C6-O6	5.30	123.08	119.90
1	A	767	A	C6-N1-C2	-5.30	115.42	118.60
1	A	240	C	N3-C4-N4	5.30	121.71	118.00
1	A	641	U	N3-C2-O2	-5.30	118.49	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1203	C	C2-N1-C1'	5.30	124.63	118.80
1	A	186	C	N1-C2-O2	5.30	122.08	118.90
1	A	975	A	C6-N1-C2	5.30	121.78	118.60
1	A	900	A	C2-N3-C4	-5.29	107.95	110.60
1	A	183	G	C8-N9-C4	-5.29	104.28	106.40
1	A	598	U	C2-N1-C1'	-5.29	111.35	117.70
1	A	853	G	N1-C6-O6	5.29	123.08	119.90
1	A	382	A	C5-N7-C8	-5.29	101.25	103.90
1	A	851	G	C4-C5-C6	5.29	121.97	118.80
1	A	352	C	N3-C2-O2	-5.29	118.20	121.90
1	A	1069	C	N1-C2-O2	5.29	122.07	118.90
1	A	311	C	C6-N1-C2	-5.29	118.19	120.30
1	A	617	G	N1-C6-O6	5.29	123.07	119.90
1	A	62	U	C5-C6-N1	-5.29	120.06	122.70
1	A	302	G	N7-C8-N9	-5.29	110.46	113.10
1	A	353	A	C5-C6-N6	5.29	127.93	123.70
1	A	1330	U	N3-C2-O2	-5.29	118.50	122.20
1	A	1385	G	N9-C4-C5	5.29	107.52	105.40
3	C	175	LEU	CA-CB-CG	5.29	127.46	115.30
1	A	253	U	C5-C4-O4	-5.29	122.73	125.90
1	A	508	C	N3-C4-C5	5.28	124.01	121.90
1	A	1521	G	C5-C6-N1	5.28	114.14	111.50
1	A	372	C	C2-N1-C1'	5.28	124.61	118.80
1	A	547	A	C5-C6-N1	5.28	120.34	117.70
1	A	190(G)	G	C8-N9-C4	-5.28	104.29	106.40
1	A	572	A	C2-N3-C4	5.28	113.24	110.60
1	A	721	G	N1-C6-O6	5.28	123.07	119.90
1	A	130	A	C5-C6-N1	-5.28	115.06	117.70
1	A	301	G	N7-C8-N9	5.28	115.74	113.10
1	A	823	G	C8-N9-C4	5.28	108.51	106.40
1	A	1468	A	N7-C8-N9	-5.28	111.16	113.80
1	A	301	G	C8-N9-C4	-5.27	104.29	106.40
1	A	672	U	C2-N1-C1'	-5.27	111.37	117.70
1	A	718	G	N3-C4-C5	-5.27	125.96	128.60
1	A	859	A	C8-N9-C4	-5.27	103.69	105.80
1	A	1485	U	N3-C2-O2	5.27	125.89	122.20
1	A	299	G	C5-C6-N1	-5.27	108.86	111.50
1	A	329	A	N1-C2-N3	5.27	131.94	129.30
1	A	572	A	C6-N1-C2	-5.27	115.44	118.60
1	A	1329	A	C4-C5-C6	5.27	119.64	117.00
1	A	1433	A	C6-N1-C2	-5.27	115.44	118.60
17	Q	38	ARG	NE-CZ-NH2	-5.27	117.66	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	576	G	C4-C5-N7	-5.27	108.69	110.80
1	A	1266	G	N3-C4-N9	-5.27	122.84	126.00
1	A	306	G	N1-C2-N2	5.27	120.94	116.20
1	A	547	A	N9-C4-C5	-5.27	103.69	105.80
1	A	1289	A	N1-C6-N6	-5.27	115.44	118.60
1	A	281	G	N3-C2-N2	-5.27	116.21	119.90
1	A	484	G	C6-C5-N7	5.26	133.56	130.40
1	A	667	G	C6-C5-N7	-5.26	127.24	130.40
1	A	1490	C	C6-N1-C2	-5.26	118.20	120.30
1	A	1496	C	C4-C5-C6	-5.26	114.77	117.40
1	A	242	C	C5-C4-N4	-5.26	116.52	120.20
1	A	416	G	C6-C5-N7	-5.26	127.25	130.40
1	A	762	C	C5-C6-N1	5.26	123.63	121.00
1	A	1441	G	C5-C6-N1	-5.26	108.87	111.50
1	A	1454	G	C8-N9-C4	-5.26	104.30	106.40
1	A	31	G	N3-C4-N9	-5.26	122.84	126.00
1	A	262	A	C5-C6-N6	5.26	127.91	123.70
1	A	1462	G	N9-C4-C5	-5.26	103.30	105.40
1	A	177	C	N1-C2-O2	5.26	122.05	118.90
1	A	1356	G	N1-C6-O6	-5.26	116.75	119.90
1	A	1486	G	C5-C6-N1	-5.26	108.87	111.50
1	A	388	G	C8-N9-C1'	-5.25	120.17	127.00
1	A	1099	G	N3-C4-N9	-5.25	122.85	126.00
1	A	241	C	N1-C2-O2	-5.25	115.75	118.90
1	A	695	A	N1-C2-N3	5.25	131.93	129.30
1	A	1091	U	C2-N1-C1'	5.25	124.00	117.70
1	A	531	U	N1-C2-N3	5.25	118.05	114.90
1	A	913	A	P-O3'-C3'	5.25	126.00	119.70
1	A	31	G	C6-C5-N7	5.25	133.55	130.40
1	A	331	G	N1-C6-O6	5.25	123.05	119.90
1	A	500	G	N3-C4-C5	5.25	131.22	128.60
1	A	528	C	C6-N1-C2	-5.25	118.20	120.30
1	A	774	G	C5-N7-C8	-5.25	101.68	104.30
1	A	1500	A	C6-N1-C2	-5.25	115.45	118.60
1	A	642	A	N9-C4-C5	5.24	107.90	105.80
1	A	729	A	N1-C2-N3	5.24	131.92	129.30
1	A	749	C	C5-C6-N1	5.24	123.62	121.00
1	A	876	G	C5-C6-O6	-5.24	125.45	128.60
1	A	931	C	C2-N1-C1'	-5.24	113.03	118.80
11	K	98	LEU	CA-CB-CG	-5.24	103.24	115.30
1	A	945	G	N1-C2-N3	-5.24	120.75	123.90
1	A	97	G	N7-C8-N9	5.24	115.72	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	162	A	C8-N9-C4	-5.24	103.70	105.80
1	A	382	A	N7-C8-N9	5.24	116.42	113.80
1	A	755	G	C8-N9-C1'	-5.24	120.19	127.00
1	A	628	G	C2-N3-C4	5.24	114.52	111.90
1	A	858	G	N1-C2-N2	-5.24	111.49	116.20
1	A	1210	C	C5-C6-N1	5.24	123.62	121.00
1	A	908	A	C8-N9-C4	-5.24	103.71	105.80
1	A	945	G	N3-C2-N2	-5.24	116.23	119.90
1	A	1180	A	C2-N3-C4	5.24	113.22	110.60
1	A	1462	G	N3-C4-C5	5.24	131.22	128.60
1	A	924	C	C5-C6-N1	5.23	123.62	121.00
1	A	16	A	N3-C4-N9	-5.23	123.22	127.40
1	A	1416	G	C4-C5-N7	5.23	112.89	110.80
1	A	1482	G	C8-N9-C1'	-5.23	120.20	127.00
1	A	1513	A	C6-N1-C2	-5.23	115.46	118.60
1	A	254	G	N1-C2-N2	-5.23	111.49	116.20
1	A	1078	U	N1-C2-O2	5.23	126.46	122.80
1	A	713	G	N3-C4-C5	-5.23	125.99	128.60
1	A	331	G	N9-C4-C5	-5.23	103.31	105.40
1	A	1492	A	C8-N9-C4	5.23	107.89	105.80
1	A	190(H)	G	C5-C6-N1	-5.22	108.89	111.50
1	A	523	A	C5-C6-N1	-5.22	115.09	117.70
1	A	745	C	C5-C4-N4	-5.22	116.54	120.20
1	A	760	G	C8-N9-C4	5.22	108.49	106.40
1	A	870	U	C6-N1-C2	5.22	124.13	121.00
1	A	350	G	N3-C4-C5	5.22	131.21	128.60
1	A	863	U	C6-N1-C1'	5.22	128.51	121.20
1	A	629	G	N1-C2-N2	-5.22	111.50	116.20
1	A	374	A	C8-N9-C4	5.22	107.89	105.80
1	A	658	G	C8-N9-C1'	-5.22	120.22	127.00
1	A	829	G	N9-C4-C5	-5.22	103.31	105.40
1	A	971	G	N1-C6-O6	5.22	123.03	119.90
1	A	450	G	C4-C5-N7	-5.21	108.71	110.80
1	A	506	G	C4-C5-N7	5.21	112.89	110.80
1	A	821	G	C5-C6-O6	-5.21	125.47	128.60
1	A	1521	G	N3-C4-C5	-5.21	125.99	128.60
1	A	190(G)	G	C8-N9-C1'	-5.21	120.23	127.00
1	A	1475	G	N3-C2-N2	-5.21	116.25	119.90
1	A	292	G	C8-N9-C1'	-5.21	120.23	127.00
1	A	190(F)	G	N3-C4-N9	-5.21	122.88	126.00
1	A	722	A	C5-N7-C8	-5.21	101.30	103.90
1	A	1187	G	C4-C5-C6	5.21	121.92	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1312	G	N7-C8-N9	5.21	115.70	113.10
1	A	758	G	C2-N3-C4	-5.20	109.30	111.90
1	A	824	C	N1-C2-O2	-5.20	115.78	118.90
2	B	21	ARG	N-CA-C	5.20	125.05	111.00
15	O	63	ARG	NE-CZ-NH1	-5.20	117.70	120.30
1	A	321	A	N1-C6-N6	5.20	121.72	118.60
1	A	559	A	N1-C6-N6	5.20	121.72	118.60
1	A	1202	G	N3-C4-N9	5.20	129.12	126.00
1	A	1332	A	N9-C4-C5	5.20	107.88	105.80
1	A	153	C	N3-C4-N4	5.20	121.64	118.00
1	A	328	C	C5-C4-N4	5.20	123.84	120.20
1	A	1451	A	C8-N9-C4	5.20	107.88	105.80
1	A	625	G	N3-C4-N9	5.20	129.12	126.00
1	A	919	A	N1-C2-N3	-5.20	126.70	129.30
1	A	240	C	N3-C2-O2	5.20	125.54	121.90
1	A	279	A	C5-C6-N1	-5.20	115.10	117.70
1	A	574	A	C5-C6-N6	5.20	127.86	123.70
1	A	1053	G	C4-C5-N7	-5.20	108.72	110.80
1	A	84	U	C2-N1-C1'	5.19	123.93	117.70
1	A	157	G	N3-C4-C5	5.19	131.20	128.60
1	A	279	A	C4-C5-C6	5.19	119.60	117.00
1	A	281	G	N3-C4-C5	5.19	131.20	128.60
1	A	146	G	C5-C6-N1	-5.19	108.91	111.50
1	A	580	U	N1-C2-O2	-5.19	119.17	122.80
1	A	895	G	C6-C5-N7	-5.19	127.29	130.40
1	A	617	G	C6-C5-N7	-5.19	127.29	130.40
1	A	1360	A	N9-C4-C5	5.19	107.88	105.80
1	A	59	A	C6-N1-C2	-5.19	115.49	118.60
1	A	617	G	N9-C4-C5	-5.18	103.33	105.40
1	A	947	G	C8-N9-C4	5.18	108.47	106.40
1	A	138	G	N7-C8-N9	-5.18	110.51	113.10
1	A	377	G	C4-N9-C1'	5.18	133.24	126.50
1	A	888	G	N1-C2-N3	5.18	127.01	123.90
1	A	129	U	C4-C5-C6	5.18	122.81	119.70
1	A	1290	G	N1-C6-O6	5.18	123.01	119.90
1	A	47	C	N3-C4-C5	-5.18	119.83	121.90
1	A	915	A	N3-C4-C5	5.18	130.42	126.80
1	A	255	G	C4-C5-C6	5.17	121.91	118.80
1	A	812	C	N3-C2-O2	-5.17	118.28	121.90
1	A	828	A	N3-C4-C5	5.17	130.42	126.80
1	A	1234	C	N3-C4-N4	5.17	121.62	118.00
1	A	239	U	C4-C5-C6	5.17	122.80	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1059	C	C5-C6-N1	-5.17	118.41	121.00
1	A	947	G	N1-C6-O6	5.17	123.00	119.90
1	A	1338	G	N3-C2-N2	5.17	123.52	119.90
1	A	1403	C	N3-C4-N4	5.17	121.62	118.00
1	A	170	U	N3-C2-O2	5.17	125.82	122.20
1	A	1370	G	C6-C5-N7	-5.17	127.30	130.40
1	A	376	G	N9-C4-C5	5.17	107.47	105.40
1	A	909	A	C6-N1-C2	-5.17	115.50	118.60
17	Q	99	SER	N-CA-C	5.17	124.95	111.00
1	A	1084	G	C4-N9-C1'	5.17	133.22	126.50
1	A	1416	G	C6-C5-N7	-5.17	127.30	130.40
1	A	564	C	N3-C4-N4	5.16	121.61	118.00
1	A	764	C	C4-C5-C6	-5.16	114.82	117.40
1	A	869	G	C4-C5-N7	5.16	112.87	110.80
1	A	44	G	C8-N9-C1'	-5.16	120.29	127.00
1	A	869	G	C5-C6-O6	-5.16	125.50	128.60
1	A	1510	U	C6-N1-C1'	-5.16	113.97	121.20
1	A	1511	G	N1-C6-O6	-5.16	116.80	119.90
1	A	584	G	C2-N3-C4	5.16	114.48	111.90
1	A	784	C	N1-C2-N3	5.16	122.81	119.20
1	A	1196	U	C2-N1-C1'	5.16	123.89	117.70
1	A	1319	A	C5-C6-N1	-5.16	115.12	117.70
1	A	67	C	C6-N1-C2	-5.16	118.24	120.30
1	A	187	C	N3-C4-C5	-5.16	119.84	121.90
1	A	383	A	C5-C6-N6	-5.16	119.58	123.70
1	A	818	G	N3-C2-N2	-5.16	116.29	119.90
1	A	1523	G	N1-C6-O6	5.16	122.99	119.90
11	K	87	THR	CB-CA-C	-5.16	97.68	111.60
1	A	518	C	N3-C2-O2	-5.15	118.29	121.90
1	A	818	G	N1-C6-O6	5.15	122.99	119.90
1	A	1084	G	C6-N1-C2	-5.15	122.01	125.10
1	A	533	A	C8-N9-C4	-5.15	103.74	105.80
1	A	1338	G	N3-C4-C5	-5.15	126.02	128.60
1	A	309	G	C5-C6-O6	-5.15	125.51	128.60
1	A	586	C	C2-N3-C4	-5.15	117.32	119.90
1	A	1314	C	N3-C4-N4	5.15	121.61	118.00
16	P	68	ASP	CB-CG-OD1	-5.15	113.67	118.30
1	A	633	G	N3-C2-N2	5.15	123.50	119.90
1	A	795	C	N3-C4-N4	5.15	121.60	118.00
1	A	1236	A	N9-C4-C5	-5.15	103.74	105.80
1	A	1265	G	N7-C8-N9	5.15	115.67	113.10
1	A	372	C	N1-C2-O2	5.14	121.99	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	799	G	C6-C5-N7	-5.14	127.31	130.40
1	A	859	A	N7-C8-N9	5.14	116.37	113.80
1	A	1194	U	C6-N1-C2	-5.14	117.91	121.00
1	A	59	A	C5-N7-C8	-5.14	101.33	103.90
1	A	59	A	C4-C5-N7	5.14	113.27	110.70
1	A	148	G	C5-C6-N1	5.14	114.07	111.50
1	A	1111	A	N1-C6-N6	-5.14	115.52	118.60
1	A	1468	A	C4-C5-N7	-5.14	108.13	110.70
1	A	70	G	C5-C6-O6	-5.14	125.52	128.60
1	A	154	C	C5-C4-N4	-5.14	116.60	120.20
1	A	1187	G	C8-N9-C1'	-5.14	120.32	127.00
8	H	13	ILE	CG1-CB-CG2	-5.14	100.09	111.40
1	A	1455	G	C5-C6-O6	-5.14	125.52	128.60
1	A	1520	G	N3-C2-N2	-5.14	116.30	119.90
1	A	63	C	N3-C2-O2	5.14	125.50	121.90
1	A	239	U	N3-C4-C5	-5.14	111.52	114.60
1	A	256	U	C5-C4-O4	-5.14	122.82	125.90
1	A	637	G	C8-N9-C4	5.14	108.45	106.40
1	A	819	A	C5-C6-N6	5.14	127.81	123.70
1	A	1129	C	N3-C2-O2	-5.14	118.30	121.90
1	A	297	G	C2-N3-C4	-5.13	109.33	111.90
1	A	1377	A	N3-C4-C5	5.13	130.40	126.80
1	A	132	C	N3-C2-O2	-5.13	118.31	121.90
1	A	318	G	C4-C5-C6	5.13	121.88	118.80
1	A	492	G	C5-C6-N1	-5.13	108.93	111.50
1	A	577	G	C5-N7-C8	-5.13	101.73	104.30
1	A	825	G	C5-C6-N1	-5.13	108.94	111.50
1	A	1455	G	C2-N3-C4	-5.13	109.33	111.90
1	A	357	G	N7-C8-N9	-5.13	110.53	113.10
1	A	874	G	N3-C2-N2	-5.13	116.31	119.90
1	A	122	G	C6-N1-C2	5.13	128.18	125.10
1	A	1447	G	C4-C5-C6	-5.13	115.72	118.80
1	A	237	C	N1-C2-N3	5.13	122.79	119.20
1	A	1227	A	C8-N9-C4	-5.13	103.75	105.80
1	A	1348	U	N3-C4-C5	-5.13	111.52	114.60
1	A	1398	A	N1-C2-N3	5.13	131.86	129.30
1	A	894	G	C4-C5-N7	5.12	112.85	110.80
1	A	231	G	N3-C4-C5	-5.12	126.04	128.60
1	A	305	G	N7-C8-N9	5.12	115.66	113.10
1	A	523	A	N3-C4-C5	5.12	130.38	126.80
1	A	587	G	C8-N9-C4	-5.12	104.35	106.40
1	A	818	G	N1-C2-N2	5.12	120.81	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	574	A	N1-C6-N6	-5.12	115.53	118.60
1	A	781	A	C4-C5-N7	5.12	113.26	110.70
1	A	288	A	C2-N3-C4	-5.12	108.04	110.60
1	A	305	G	C5-C6-N1	-5.12	108.94	111.50
1	A	602	A	N3-C4-C5	5.12	130.38	126.80
1	A	665	A	N1-C6-N6	-5.12	115.53	118.60
1	A	9	G	C6-C5-N7	-5.11	127.33	130.40
1	A	157	G	C2-N3-C4	-5.11	109.34	111.90
1	A	670	G	C4-C5-C6	5.11	121.87	118.80
1	A	760	G	N3-C4-C5	5.11	131.16	128.60
1	A	1460	A	C4-C5-N7	5.11	113.26	110.70
1	A	1521	G	C6-N1-C2	-5.11	122.03	125.10
1	A	375	U	N1-C2-N3	5.11	117.96	114.90
1	A	416	G	C4-C5-N7	5.11	112.84	110.80
1	A	572	A	C8-N9-C1'	5.11	136.89	127.70
1	A	794	A	N1-C6-N6	-5.11	115.54	118.60
1	A	1312	G	C6-C5-N7	-5.11	127.34	130.40
1	A	586	C	C4-C5-C6	5.11	119.95	117.40
1	A	1306	A	C6-C5-N7	-5.11	128.73	132.30
1	A	902	G	C8-N9-C4	5.10	108.44	106.40
1	A	79	G	N3-C2-N2	-5.10	116.33	119.90
1	A	975	A	N3-C4-C5	5.10	130.37	126.80
1	A	995	C	C2-N1-C1'	5.10	124.41	118.80
1	A	1505	G	N3-C4-C5	-5.10	126.05	128.60
1	A	1364	U	N1-C2-O2	5.10	126.37	122.80
1	A	1371	G	N3-C4-C5	-5.10	126.05	128.60
1	A	1452	C	C5-C4-N4	-5.10	116.63	120.20
1	A	646	U	C4-C5-C6	5.10	122.76	119.70
1	A	907	A	N1-C2-N3	5.10	131.85	129.30
1	A	185	A	N9-C4-C5	-5.10	103.76	105.80
1	A	52	G	C5-C6-O6	-5.09	125.54	128.60
1	A	325	A	C6-N1-C2	-5.09	115.54	118.60
1	A	1437	C	C2-N3-C4	5.09	122.45	119.90
1	A	883	C	C6-N1-C2	-5.09	118.26	120.30
1	A	1083	U	N3-C4-O4	5.09	122.96	119.40
1	A	1468	A	C5-N7-C8	5.09	106.44	103.90
1	A	257	G	N1-C6-O6	5.08	122.95	119.90
1	A	729	A	C4-C5-N7	5.08	113.24	110.70
1	A	190(F)	G	C8-N9-C1'	5.08	133.61	127.00
1	A	1435	G	C5-C6-N1	-5.08	108.96	111.50
1	A	111	G	C8-N9-C1'	5.08	133.60	127.00
1	A	660	G	C5-C6-O6	-5.08	125.55	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	666	G	C8-N9-C1'	-5.08	120.39	127.00
1	A	1434	A	C6-C5-N7	-5.08	128.75	132.30
1	A	9	G	C5-C6-O6	-5.08	125.55	128.60
1	A	331	G	C4-N9-C1'	5.08	133.10	126.50
1	A	724	G	C8-N9-C4	5.08	108.43	106.40
1	A	119	A	C8-N9-C4	-5.07	103.77	105.80
1	A	624	C	C5-C4-N4	-5.07	116.65	120.20
1	A	946	A	N9-C4-C5	5.07	107.83	105.80
1	A	1250	A	C4-C5-C6	5.07	119.54	117.00
1	A	1502	A	N1-C2-N3	5.07	131.84	129.30
1	A	145	G	N1-C6-O6	5.07	122.94	119.90
1	A	389	A	N1-C6-N6	-5.07	115.56	118.60
1	A	833	U	C6-N1-C1'	5.07	128.30	121.20
1	A	874	G	C4-C5-C6	5.07	121.84	118.80
1	A	901	A	N3-C4-N9	-5.07	123.35	127.40
1	A	557	G	N1-C2-N3	5.06	126.94	123.90
9	I	56	LEU	CA-CB-CG	5.06	126.95	115.30
1	A	573	A	N7-C8-N9	5.06	116.33	113.80
1	A	257	G	N3-C2-N2	5.06	123.44	119.90
1	A	1079	G	N3-C4-C5	-5.06	126.07	128.60
18	R	44	LEU	CB-CG-CD2	-5.06	102.40	111.00
1	A	760	G	N3-C4-N9	-5.06	122.97	126.00
1	A	292	G	C6-C5-N7	-5.06	127.37	130.40
1	A	635	G	C8-N9-C4	5.06	108.42	106.40
1	A	1195	C	C5-C4-N4	-5.06	116.66	120.20
1	A	1399	C	C2-N3-C4	-5.05	117.37	119.90
1	A	1515	C	C5-C4-N4	-5.05	116.66	120.20
1	A	1094	G	C4-C5-N7	5.05	112.82	110.80
1	A	1414	U	N1-C2-N3	5.05	117.93	114.90
1	A	123	C	C2-N3-C4	5.05	122.43	119.90
1	A	916	G	C5-N7-C8	-5.05	101.77	104.30
1	A	648	A	C6-N1-C2	-5.05	115.57	118.60
1	A	866	C	N3-C4-C5	5.05	123.92	121.90
1	A	902	G	C5-C6-N1	5.05	114.02	111.50
1	A	522	C	C2-N1-C1'	-5.05	113.25	118.80
1	A	881	G	C4-C5-C6	5.05	121.83	118.80
1	A	1416	G	C5-C6-O6	-5.05	125.57	128.60
1	A	1455	G	C8-N9-C4	-5.05	104.38	106.40
1	A	890	G	N7-C8-N9	-5.04	110.58	113.10
1	A	1386	G	N7-C8-N9	-5.04	110.58	113.10
1	A	752	G	N3-C4-N9	-5.04	122.97	126.00
1	A	1325	C	N3-C4-N4	5.04	121.53	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1370	G	C2-N3-C4	5.04	114.42	111.90
1	A	743	U	C4-C5-C6	5.04	122.72	119.70
1	A	14	U	C5-C4-O4	5.04	128.92	125.90
1	A	1373	G	C8-N9-C1'	-5.04	120.45	127.00
1	A	893	C	C6-N1-C2	-5.04	118.28	120.30
1	A	895	G	C4-N9-C1'	5.04	133.05	126.50
1	A	1339	A	C6-C5-N7	5.04	135.82	132.30
1	A	363	A	N9-C4-C5	5.03	107.81	105.80
1	A	5	U	C5-C6-N1	5.03	125.22	122.70
1	A	62	U	C4-C5-C6	5.03	122.72	119.70
1	A	1502	A	C4-N9-C1'	5.03	135.35	126.30
1	A	1543	C	C5-C6-N1	5.03	123.51	121.00
1	A	292	G	C5-C6-N1	-5.03	108.99	111.50
1	A	481	G	C2-N3-C4	5.03	114.41	111.90
1	A	52	G	N1-C2-N2	-5.03	111.68	116.20
1	A	530	G	C8-N9-C1'	-5.02	120.47	127.00
1	A	665	A	C6-N1-C2	-5.02	115.59	118.60
1	A	695	A	C5-N7-C8	-5.02	101.39	103.90
1	A	748	C	C6-N1-C2	-5.02	118.29	120.30
1	A	376	G	N3-C2-N2	-5.02	116.39	119.90
1	A	761	G	N9-C4-C5	-5.02	103.39	105.40
1	A	309	G	C6-N1-C2	-5.02	122.09	125.10
1	A	24	U	C2-N3-C4	-5.02	123.99	127.00
1	A	1172	C	C6-N1-C2	5.02	122.31	120.30
1	A	622	A	N7-C8-N9	-5.02	111.29	113.80
1	A	477	G	C5-C6-N1	-5.01	108.99	111.50
1	A	915	A	C8-N9-C4	5.01	107.81	105.80
1	A	235	C	C5-C6-N1	-5.01	118.49	121.00
1	A	608	A	N9-C4-C5	5.01	107.81	105.80
1	A	80	G	N7-C8-N9	5.01	115.61	113.10
1	A	130	A	C6-N1-C2	-5.01	115.59	118.60
1	A	1058	G	C4-C5-N7	-5.01	108.80	110.80
1	A	1062	U	N3-C4-O4	-5.01	115.89	119.40
1	A	306	G	N1-C6-O6	5.01	122.91	119.90
1	A	280	C	C5-C4-N4	5.01	123.71	120.20
1	A	507	C	N3-C4-C5	5.01	123.90	121.90
1	A	656	C	N3-C4-C5	5.01	123.90	121.90
1	A	679	C	N1-C2-O2	5.01	121.91	118.90
1	A	852	G	N1-C2-N3	5.01	126.91	123.90
1	A	400	C	C5-C6-N1	-5.01	118.50	121.00
1	A	125	U	C5-C6-N1	-5.00	120.20	122.70
1	A	125	U	N1-C2-N3	5.00	117.90	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	190(G)	G	C4-C5-N7	5.00	112.80	110.80
1	A	553	A	N7-C8-N9	-5.00	111.30	113.80
1	A	628	G	C4-N9-C1'	5.00	133.00	126.50
1	A	762	C	N3-C4-N4	5.00	121.50	118.00
1	A	1365	G	N3-C2-N2	-5.00	116.40	119.90
1	A	150	C	C5-C4-N4	-5.00	116.70	120.20
1	A	322	C	N3-C4-C5	-5.00	119.90	121.90
1	A	829	G	C8-N9-C1'	-5.00	120.50	127.00

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	11	LEU	Peptide
2	B	77	ALA	Peptide
2	B	8	LYS	Peptide
3	C	166	GLU	Peptide
3	C	179	ARG	Peptide
3	C	24	ALA	Peptide
4	D	2	GLY	Peptide
4	D	28	SER	Peptide
8	H	27	PRO	Peptide
8	H	90	GLY	Peptide
10	J	86	MET	Peptide
10	J	90	LEU	Peptide
12	L	24	VAL	Peptide
12	L	27	LEU	Peptide
12	L	91	LYS	Peptide
15	O	2	PRO	Peptide
17	Q	13	ASP	Peptide
18	R	86	VAL	Peptide
20	T	93	GLU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32507	0	16434	989	0
2	B	1900	0	1951	109	0
3	C	1612	0	1677	103	0
4	D	1703	0	1763	90	0
5	E	1146	0	1207	63	0
6	F	843	0	857	50	0
7	G	1257	0	1296	63	0
8	H	1116	0	1177	83	0
9	I	1010	0	1037	69	0
10	J	792	0	835	54	0
11	K	864	0	881	48	0
12	L	972	0	1058	49	0
13	M	937	0	995	50	0
14	N	492	0	529	45	0
15	O	729	0	768	48	0
16	P	700	0	720	39	0
17	Q	823	0	893	59	0
18	R	574	0	644	38	0
19	S	647	0	673	33	0
20	T	763	0	861	41	0
21	U	208	0	221	18	0
22	A	40	0	37	5	0
23	A	249	0	0	0	0
23	B	2	0	0	0	0
23	D	1	0	0	0	0
23	E	1	0	0	0	0
23	H	4	0	0	0	0
23	J	1	0	0	0	0
23	M	2	0	0	0	0
23	P	2	0	0	0	0
23	Q	2	0	0	0	0
23	S	1	0	0	0	0
23	T	2	0	0	0	0
24	D	1	0	0	0	0
24	N	1	0	0	0	0
25	A	369	0	0	20	0
25	D	1	0	0	0	0
25	E	6	0	0	0	0
25	G	1	0	0	0	0
25	L	1	0	0	0	0
25	P	1	0	0	0	0
25	Q	4	0	0	0	0
25	T	2	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	52289	0	36514	1932	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (1932) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1433:A:N7	1:A:1467:G:N2	2.15	0.95
12:L:24:VAL:HG12	12:L:26:ALA:H	1.33	0.93
17:Q:29:HIS:CD2	17:Q:32:TYR:H	1.88	0.92
1:A:1240:U:OP1	7:G:119:ARG:NH2	2.02	0.92
19:S:11:VAL:HG22	19:S:39:THR:HB	1.49	0.92
10:J:15:THR:HG22	10:J:94:VAL:HG13	1.54	0.90
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.05	0.90
1:A:427:U:OP1	4:D:13:ARG:NH2	2.05	0.89
10:J:38:ILE:HD11	10:J:71:LEU:HB2	1.54	0.89
1:A:279:A:OP2	17:Q:95:TYR:OH	1.90	0.89
9:I:126:SER:OG	9:I:127:LYS:N	2.06	0.88
1:A:1061:G:H1	1:A:1195:C:H42	1.20	0.88
1:A:1316:G:N2	1:A:1319:A:OP2	2.07	0.87
3:C:150:LYS:HB3	3:C:201:TYR:HB2	1.57	0.85
1:A:1195:C:H3'	1:A:1196:U:H5''	1.55	0.85
1:A:310:G:OP2	16:P:27:LYS:NZ	2.09	0.85
7:G:155:ARG:HA	7:G:155:ARG:HH11	1.42	0.84
8:H:82:HIS:HE1	8:H:84:ARG:HB2	1.42	0.84
1:A:1055:A:O2'	3:C:156:ARG:NH1	2.10	0.84
1:A:384:G:H2'	1:A:385:C:C6	2.13	0.83
1:A:1338:G:H2'	1:A:1339:A:C8	2.14	0.83
8:H:69:ARG:NH2	8:H:75:ARG:O	2.12	0.82
2:B:109:SER:HA	2:B:112:VAL:HG23	1.61	0.82
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.60	0.82
1:A:986:A:O2'	19:S:52:TYR:OH	1.98	0.82
17:Q:29:HIS:HD2	17:Q:32:TYR:H	1.26	0.82
8:H:9:MET:HG3	8:H:26:VAL:HG21	1.60	0.81
11:K:57:THR:HG23	11:K:60:ALA:H	1.44	0.81
1:A:1112:C:H1'	3:C:179:ARG:HH22	1.45	0.81
1:A:869:G:N7	25:A:2219:HOH:O	2.12	0.81
1:A:1055:A:N7	1:A:1200:C:N4	2.29	0.81
3:C:153:VAL:HG12	3:C:154:SER:H	1.46	0.80
12:L:25:PRO:HB3	12:L:27:LEU:HD22	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1047:G:H5''	14:N:4:LYS:HD3	1.63	0.80
1:A:407:G:OP1	4:D:115:ARG:NH1	2.15	0.80
1:A:517:G:N1	1:A:533:A:OP2	2.13	0.80
13:M:91:ARG:HB3	13:M:98:VAL:HG22	1.63	0.80
1:A:1009:G:H1	1:A:1020:U:H3	1.28	0.79
1:A:1257:U:H4'	1:A:1258:G:O5'	1.78	0.79
3:C:14:ILE:HB	3:C:15:THR:HG23	1.64	0.79
4:D:13:ARG:HD2	4:D:38:TYR:O	1.82	0.79
1:A:1101:A:H4'	1:A:1102:A:O5'	1.82	0.79
1:A:1125:U:OP2	1:A:1145:C:N4	2.16	0.79
1:A:1347:G:H3'	9:I:108:VAL:O	1.82	0.78
1:A:1130:A:H4'	9:I:20:ARG:HH22	1.48	0.78
11:K:40:ILE:HG22	11:K:41:THR:HG23	1.65	0.78
15:O:25:THR:HG21	15:O:70:LEU:HD23	1.65	0.78
1:A:190(A):C:H42	1:A:190(H):G:H1	1.32	0.77
1:A:1309:G:OP2	13:M:99:ARG:NH2	2.17	0.77
5:E:11:ILE:HB	5:E:31:LEU:HB3	1.67	0.77
1:A:1412:C:H2'	1:A:1413:A:C8	2.19	0.77
1:A:337:C:H2'	1:A:338:A:H8	1.49	0.77
1:A:91:C:C5	1:A:92:C:H5	2.03	0.77
1:A:967:5MC:H4'	9:I:128:ARG:HG3	1.66	0.76
1:A:1368:G:H5''	9:I:112:LYS:HB3	1.68	0.76
15:O:33:THR:HG23	15:O:63:ARG:NH1	2.00	0.76
6:F:33:TYR:CD1	6:F:75:LEU:HA	2.20	0.76
3:C:92:ALA:HB2	3:C:99:VAL:HG12	1.67	0.76
7:G:18:TYR:HD2	7:G:59:LEU:HD13	1.50	0.75
12:L:27:LEU:C	12:L:29:GLY:H	1.87	0.75
3:C:27:LYS:O	3:C:30:ARG:NH2	2.19	0.75
1:A:92:C:O2'	1:A:93:G:H5'	1.85	0.75
8:H:2:LEU:HD23	8:H:3:THR:N	2.02	0.75
3:C:17:ASP:O	3:C:54:ARG:NH2	2.19	0.75
4:D:64:LEU:HA	4:D:67:ILE:HD12	1.68	0.75
1:A:1435:G:H2'	1:A:1436:U:C6	2.22	0.75
1:A:1369:C:H2'	1:A:1370:G:C8	2.22	0.74
1:A:1128:C:O2'	1:A:1130:A:OP2	2.04	0.74
1:A:1113:C:H42	1:A:1187:G:H1	1.34	0.74
8:H:114:THR:HB	8:H:116:LYS:H	1.50	0.74
1:A:1073:U:OP2	5:E:57:LYS:NZ	2.15	0.74
10:J:47:PHE:HB3	14:N:34:TYR:HE2	1.52	0.74
1:A:474:G:H2'	1:A:475:G:H8	1.52	0.73
4:D:15:GLU:OE2	4:D:59:ARG:NH2	2.20	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:108:VAL:HG12	9:I:109:VAL:H	1.52	0.73
1:A:1368:G:O2'	10:J:46:ARG:NH2	2.22	0.73
1:A:1285:A:H4'	1:A:1286:A:O5'	1.88	0.73
7:G:27:ILE:HD12	7:G:40:ALA:HA	1.71	0.73
1:A:1504:G:OP1	1:A:1507:A:H4'	1.88	0.73
15:O:6:GLU:HA	15:O:9:GLN:HB2	1.69	0.73
1:A:793:U:O2'	1:A:794:A:O5'	2.07	0.73
2:B:158:LEU:H	2:B:158:LEU:HD12	1.54	0.73
7:G:15:ASP:HB3	7:G:19:GLY:H	1.54	0.73
3:C:58:GLU:H	3:C:65:ALA:HB3	1.54	0.72
10:J:9:ARG:HH21	10:J:97:GLU:HG3	1.53	0.72
13:M:22:ILE:HG22	13:M:23:TYR:H	1.53	0.72
1:A:1342:C:H2'	1:A:1343:G:H8	1.54	0.72
13:M:75:ALA:HA	13:M:78:ILE:HD12	1.71	0.72
11:K:121:PRO:HG2	11:K:126:ARG:HG2	1.72	0.72
3:C:88:ARG:HA	3:C:91:LEU:HD23	1.71	0.72
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.71	0.72
1:A:1086:U:H3	1:A:1099:G:H22	1.35	0.72
3:C:188:LEU:HD21	3:C:195:VAL:HG13	1.71	0.72
3:C:48:TYR:HA	3:C:52:LEU:HD23	1.70	0.72
6:F:33:TYR:HD1	6:F:75:LEU:HA	1.52	0.72
2:B:213:LEU:HD23	2:B:214:ILE:HD13	1.72	0.71
1:A:926:G:N2	1:A:1542:U:OP1	2.23	0.71
2:B:205:ASP:OD1	2:B:206:ASP:N	2.24	0.71
11:K:43:SER:HB2	11:K:47:VAL:HG11	1.71	0.71
16:P:57:ARG:HG3	16:P:79:VAL:HG12	1.72	0.71
1:A:1059:C:N4	1:A:1198:G:O6	2.14	0.71
1:A:91:C:C6	1:A:92:C:H5	2.08	0.71
1:A:1347:G:O2'	1:A:1348:U:O5'	2.08	0.71
1:A:547:A:OP2	4:D:2:GLY:N	2.24	0.71
10:J:63:PHE:HB3	14:N:57:ARG:O	1.91	0.71
1:A:827:U:H5'	1:A:828:A:OP2	1.92	0.70
1:A:750:G:H1'	15:O:23:GLY:H	1.56	0.70
18:R:73:ALA:HB3	18:R:79:LEU:HD12	1.73	0.70
1:A:1057:G:H5''	3:C:154:SER:HB2	1.73	0.70
8:H:26:VAL:HG13	8:H:59:LEU:HB2	1.73	0.70
1:A:1234:C:H1'	1:A:1364:U:O2	1.91	0.70
14:N:18:VAL:HG22	14:N:19:ARG:HD2	1.74	0.70
4:D:22:LYS:HB2	4:D:26:CYS:SG	2.31	0.70
20:T:56:MET:HE2	20:T:85:MET:HA	1.73	0.70
8:H:4:ASP:OD2	8:H:85:ARG:NH1	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:26:GLU:HG3	15:O:81:LEU:HG	1.74	0.70
1:A:1175:G:H2'	1:A:1176:A:C8	2.26	0.70
1:A:1200:C:O2	1:A:1205:U:N3	2.25	0.69
1:A:716:A:H1'	11:K:118:GLY:HA2	1.73	0.69
1:A:992:U:O2'	1:A:993:G:OP2	2.10	0.69
1:A:337:C:H2'	1:A:338:A:C8	2.28	0.69
1:A:1111:A:H61	3:C:177:THR:HG22	1.57	0.69
15:O:70:LEU:HB3	15:O:78:TYR:HB2	1.74	0.69
1:A:964:A:O2'	10:J:55:LYS:NZ	2.16	0.69
3:C:5:ILE:HD11	3:C:10:PHE:HD2	1.55	0.69
6:F:69:GLU:N	6:F:69:GLU:OE1	2.24	0.69
1:A:1347:G:H1'	1:A:1348:U:H5	1.57	0.69
21:U:5:ASP:HB3	21:U:8:THR:OG1	1.92	0.69
1:A:1158:C:N3	1:A:1181:G:N2	2.41	0.69
15:O:12:ILE:HG12	15:O:31:LEU:HD11	1.75	0.69
1:A:1090:U:H2'	1:A:1091:U:H6	1.57	0.69
1:A:1400:5MC:H3'	1:A:1401:G:H5'	1.75	0.69
1:A:718:G:C8	1:A:718:G:H5''	2.28	0.69
8:H:38:ILE:HD13	8:H:41:ARG:NH2	2.08	0.69
1:A:1397:C:O2'	1:A:1398:A:OP1	2.07	0.69
1:A:93:G:C2	1:A:95:U:C2	2.81	0.69
3:C:156:ARG:HB3	3:C:196:LEU:HD22	1.73	0.69
1:A:485:G:O2'	1:A:486:U:OP2	2.10	0.69
1:A:80:G:H22	1:A:89:C:H42	1.40	0.69
9:I:48:GLU:OE1	9:I:51:ARG:NH1	2.23	0.69
1:A:93:G:H2'	1:A:95:U:C6	2.28	0.69
9:I:21:PRO:HA	9:I:59:PHE:HA	1.75	0.69
7:G:22:LEU:HD23	7:G:62:PHE:HE2	1.58	0.68
11:K:101:SER:OG	11:K:103:LEU:N	2.26	0.68
11:K:90:GLY:HA2	11:K:93:GLN:HB2	1.76	0.68
13:M:59:TYR:O	13:M:63:THR:OG1	2.10	0.68
14:N:16:PHE:HB2	14:N:19:ARG:HD3	1.75	0.68
17:Q:29:HIS:HD2	17:Q:32:TYR:N	1.91	0.68
18:R:59:SER:H	18:R:62:GLU:HB2	1.58	0.68
1:A:112:G:C2'	1:A:113:G:H5'	2.24	0.68
12:L:53:ARG:NH1	12:L:92:0TD:OD2	2.27	0.68
1:A:250:A:H4'	1:A:251:G:O5'	1.94	0.68
1:A:1130:A:H4'	9:I:20:ARG:NH2	2.09	0.68
1:A:9:G:OP1	5:E:122:GLU:HG3	1.94	0.68
17:Q:31:LEU:HD23	17:Q:32:TYR:CE2	2.29	0.68
1:A:28:G:O2'	1:A:296:U:OP1	2.10	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:838:G:H2'	1:A:839:U:H5''	1.74	0.68
1:A:1349:A:OP2	9:I:118:LYS:HD3	1.94	0.68
1:A:1278:U:H4'	1:A:1279:A:N3	2.10	0.67
2:B:132:LYS:NZ	2:B:135:GLN:OE1	2.20	0.67
1:A:1510:U:H2'	1:A:1511:G:C8	2.30	0.67
22:A:1601:SRY:H12	22:A:1601:SRY:O63	1.95	0.67
1:A:345:C:H6	1:A:345:C:OP2	1.77	0.67
17:Q:62:SER:OG	17:Q:72:ARG:HG2	1.94	0.67
1:A:21:G:H2'	1:A:22:G:C8	2.29	0.67
1:A:90:U:C4	1:A:91:C:N4	2.62	0.67
1:A:90:U:O4	1:A:91:C:N4	2.27	0.67
1:A:679:C:H2'	1:A:680:C:H6	1.60	0.67
5:E:110:LEU:HD13	5:E:118:ILE:HD13	1.77	0.67
7:G:16:LEU:HD23	9:I:42:ARG:HG2	1.75	0.67
1:A:1356:G:H2'	1:A:1357:A:C8	2.30	0.67
17:Q:38:ARG:HD2	17:Q:38:ARG:N	2.09	0.67
3:C:39:ILE:HD12	3:C:57:ILE:HD13	1.77	0.67
11:K:93:GLN:HA	11:K:96:ARG:HD3	1.76	0.67
14:N:24:CYS:HB3	14:N:33:VAL:HG12	1.75	0.67
1:A:1442:G:N2	1:A:1447:G:N7	2.37	0.66
1:A:1492:A:H2'	1:A:1493:A:H4'	1.77	0.66
1:A:819:A:H8	1:A:819:A:H5'	1.60	0.66
2:B:101:MET:HA	2:B:108:ILE:HG13	1.77	0.66
1:A:1305:G:H5''	21:U:4:GLY:HA3	1.77	0.66
1:A:992:U:H3	1:A:1044:A:H62	1.44	0.66
9:I:8:GLY:HA2	9:I:79:LEU:HD12	1.77	0.66
15:O:12:ILE:HD11	15:O:31:LEU:HD21	1.78	0.66
1:A:914:A:OP1	22:A:1601:SRY:HI33	1.94	0.66
13:M:19:LEU:HD21	13:M:56:LEU:HD11	1.78	0.66
14:N:40:CYS:HB3	14:N:43:CYS:SG	2.35	0.66
1:A:484:G:O2'	1:A:485:G:OP2	2.11	0.66
1:A:1147:C:O2	9:I:16:ARG:NH2	2.26	0.66
1:A:1367:C:H5'	10:J:60:ARG:NH2	2.11	0.66
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.77	0.66
7:G:70:LYS:HG2	7:G:96:GLN:HB3	1.78	0.66
1:A:1191:A:OP1	3:C:3:ASN:ND2	2.29	0.66
1:A:902:G:H2'	1:A:903:G:H8	1.59	0.66
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.76	0.66
13:M:19:LEU:O	13:M:22:ILE:HG13	1.94	0.66
1:A:1181:G:O2'	1:A:1182:G:O4'	2.12	0.66
1:A:1376:U:OP1	7:G:98:SER:OG	2.08	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:110:ASN:HD22	3:C:140:ARG:HB3	1.60	0.66
16:P:67:THR:HG22	16:P:69:THR:H	1.60	0.66
1:A:78:G:N1	1:A:92:C:C4	2.64	0.66
1:A:1118:C:H1'	1:A:1179:A:C4	2.30	0.66
13:M:11:ARG:HA	13:M:45:VAL:HG11	1.77	0.66
10:J:8:LEU:HD13	10:J:20:ALA:HB2	1.76	0.65
1:A:916:G:H2'	1:A:917:G:H8	1.62	0.65
1:A:946:A:H2'	1:A:947:G:C8	2.30	0.65
3:C:131:ARG:HA	3:C:134:ILE:HD12	1.78	0.65
3:C:93:LYS:HG2	3:C:94:LEU:HD22	1.77	0.65
7:G:18:TYR:CD2	7:G:59:LEU:HD13	2.30	0.65
1:A:1243:C:OP2	21:U:10:ARG:NH2	2.29	0.65
1:A:1201:A:H4'	1:A:1202:G:H5'	1.78	0.65
1:A:1323:G:OP2	19:S:3:ARG:NH1	2.29	0.65
19:S:16:LEU:HA	19:S:19:VAL:HG12	1.77	0.65
3:C:83:ARG:O	3:C:87:LEU:HB2	1.97	0.65
7:G:26:PHE:HD1	7:G:101:LEU:HD22	1.61	0.65
21:U:9:ARG:HH22	21:U:23:PRO:HD2	1.61	0.65
14:N:21:TYR:HB2	14:N:23:ARG:HG2	1.79	0.65
16:P:75:ARG:HB2	16:P:80:PHE:CD1	2.30	0.65
1:A:617:G:H1	1:A:623:C:H42	1.44	0.65
2:B:132:LYS:HA	2:B:135:GLN:HB3	1.77	0.65
6:F:32:ASN:ND2	6:F:32:ASN:O	2.27	0.65
1:A:1343:G:H2'	1:A:1344:C:C6	2.32	0.65
8:H:82:HIS:CE1	8:H:84:ARG:HB2	2.27	0.65
1:A:1513:A:N6	25:A:2057:HOH:O	2.30	0.65
1:A:144:G:H1	1:A:178:C:H42	1.43	0.65
1:A:1255:G:O2'	1:A:1258:G:N3	2.30	0.65
16:P:75:ARG:HB2	16:P:80:PHE:HD1	1.62	0.65
1:A:263:A:OP2	20:T:79:ARG:NH1	2.29	0.65
2:B:97:TRP:HZ2	2:B:102:LEU:HD13	1.62	0.64
19:S:18:LYS:O	19:S:22:LEU:HB2	1.97	0.64
6:F:2:ARG:O	6:F:66:GLU:HA	1.98	0.64
1:A:1143:G:H2'	1:A:1144:G:H8	1.61	0.64
12:L:113:ARG:HH22	12:L:116:SER:H	1.45	0.64
17:Q:75:ARG:HB2	17:Q:75:ARG:HH11	1.63	0.64
2:B:209:ARG:HH11	2:B:209:ARG:HG3	1.63	0.64
1:A:93:G:N2	1:A:95:U:H1'	2.12	0.64
1:A:1496:C:O2'	1:A:1497:G:H5''	1.98	0.64
1:A:414:A:OP2	1:A:428:G:N2	2.20	0.64
1:A:1391:U:H2'	1:A:1392:G:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:131:PRO:HG2	2:B:134:GLU:HG3	1.80	0.64
3:C:167:TRP:HE3	3:C:168:ALA:N	1.95	0.64
9:I:97:LYS:HB2	9:I:102:LEU:HD12	1.80	0.64
1:A:243:A:H4'	1:A:244:U:O5'	1.98	0.64
1:A:679:C:H2'	1:A:680:C:C6	2.33	0.63
7:G:90:GLU:HG2	7:G:91:VAL:H	1.63	0.63
1:A:1342:C:H2'	1:A:1343:G:C8	2.34	0.63
1:A:184:G:H2'	1:A:185:A:H8	1.63	0.63
1:A:839:U:H5'	1:A:840:C:H5	1.64	0.63
17:Q:29:HIS:CG	17:Q:30:PRO:HD2	2.33	0.63
17:Q:18:THR:HG23	17:Q:69:LYS:HE3	1.79	0.63
1:A:718:G:H8	1:A:718:G:H5''	1.63	0.63
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.81	0.63
1:A:945:G:O6	1:A:1236:A:N1	2.31	0.63
8:H:103:VAL:HG12	8:H:108:GLY:HA3	1.79	0.63
6:F:50:TYR:CE1	18:R:77:GLY:HA2	2.34	0.63
1:A:1442:G:N7	1:A:1446:A:N6	2.47	0.63
1:A:434:U:H2'	1:A:435:C:C6	2.34	0.63
9:I:25:LYS:HG3	9:I:60:ASP:OD1	1.98	0.63
1:A:1417:G:O2'	1:A:1483:A:N6	2.31	0.63
1:A:837:G:H1	1:A:849:C:H42	1.47	0.63
1:A:1128:C:OP1	9:I:66:ARG:NH1	2.30	0.63
1:A:1359:C:OP2	14:N:35:ARG:NH1	2.31	0.63
2:B:142:LEU:HD13	2:B:146:GLN:HE22	1.63	0.63
18:R:30:ASP:HB3	18:R:33:ASP:HB2	1.80	0.63
4:D:68:TYR:OH	4:D:98:GLU:OE1	2.11	0.63
10:J:36:GLY:HA2	10:J:72:VAL:HG13	1.79	0.63
1:A:633:G:H2'	1:A:634:C:C6	2.34	0.62
1:A:802:A:H2'	1:A:803:G:O4'	1.99	0.62
5:E:60:TYR:CE1	5:E:64:ARG:HD2	2.34	0.62
5:E:65:ASN:ND2	5:E:65:ASN:O	2.32	0.62
1:A:795:C:H5''	1:A:796:C:OP2	1.99	0.62
1:A:1358:U:O2'	1:A:1359:C:OP1	2.17	0.62
1:A:481:G:HO2'	1:A:482:A:H8	1.43	0.62
2:B:21:ARG:HA	2:B:39:ILE:HA	1.82	0.62
1:A:1286:A:H2'	1:A:1287:A:H4'	1.79	0.62
1:A:1251:A:H4'	9:I:12:GLU:OE2	1.99	0.62
1:A:1255:G:O2'	1:A:1258:G:H1'	1.99	0.62
1:A:299:G:H2'	1:A:300:A:C8	2.35	0.62
1:A:474:G:H2'	1:A:475:G:C8	2.35	0.62
1:A:501:C:H2'	1:A:502:G:C8	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:31:CYS:C	4:D:33:MET:H	2.03	0.62
1:A:1004:A:H5'	1:A:1025:U:H3	1.65	0.62
1:A:1068:G:H8	1:A:1068:G:OP2	1.82	0.62
1:A:1255:G:H2'	1:A:1279:A:H61	1.64	0.62
1:A:1420:C:H2'	1:A:1421:G:H8	1.65	0.62
1:A:190(E):U:O2'	17:Q:63:ARG:NH2	2.32	0.62
1:A:393:A:OP2	16:P:12:LYS:NZ	2.29	0.62
2:B:12:GLU:HG2	2:B:213:LEU:HD22	1.80	0.62
12:L:27:LEU:C	12:L:29:GLY:N	2.53	0.62
15:O:33:THR:HA	15:O:63:ARG:HH11	1.64	0.62
1:A:235:C:H5'	17:Q:70:ARG:HG2	1.80	0.62
19:S:80:TYR:CE1	19:S:81:ARG:HB3	2.34	0.62
1:A:184:G:H2'	1:A:185:A:C8	2.35	0.62
3:C:75:VAL:O	3:C:83:ARG:HD3	2.00	0.62
1:A:825:G:H21	8:H:11:THR:HG21	1.65	0.62
9:I:26:VAL:HB	9:I:33:PHE:HB2	1.82	0.62
1:A:738:C:OP1	6:F:92:LYS:HD3	1.99	0.61
2:B:73:THR:HG21	2:B:96:ARG:HD2	1.81	0.61
15:O:33:THR:HA	15:O:63:ARG:NH1	2.15	0.61
1:A:14:U:O2	1:A:16:A:C8	2.53	0.61
14:N:16:PHE:HD1	14:N:19:ARG:HH11	1.48	0.61
1:A:1143:G:H2'	1:A:1144:G:C8	2.35	0.61
2:B:16:HIS:HB3	2:B:210:SER:HB2	1.83	0.61
2:B:30:ARG:HG3	2:B:31:TYR:CD2	2.35	0.61
4:D:64:LEU:HD22	4:D:64:LEU:O	2.00	0.61
1:A:1179:A:H2'	1:A:1180:A:O4'	2.01	0.61
1:A:1400:5MC:H3'	1:A:1401:G:C5'	2.31	0.61
1:A:815:A:N6	1:A:1509:C:H1'	2.15	0.61
1:A:633:G:H2'	1:A:634:C:H6	1.65	0.61
6:F:70:ASP:N	6:F:70:ASP:OD1	2.33	0.61
13:M:34:LEU:HD13	13:M:41:PRO:HA	1.82	0.61
16:P:6:LEU:HD23	16:P:17:TYR:CD2	2.35	0.61
1:A:93:G:H2'	1:A:95:U:H6	1.62	0.61
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.81	0.61
8:H:119:LEU:HD12	8:H:124:ALA:HB2	1.83	0.61
1:A:1241:G:H2'	1:A:1242:C:H6	1.65	0.61
7:G:27:ILE:HA	7:G:30:ILE:HD12	1.80	0.61
1:A:79:G:C6	1:A:80:G:C6	2.88	0.61
5:E:17:ALA:HA	5:E:26:PHE:HB3	1.80	0.61
16:P:68:ASP:OD1	16:P:68:ASP:N	2.28	0.61
19:S:36:ARG:HB3	19:S:51:VAL:HG11	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:685:G:O2'	1:A:686:U:H5''	2.01	0.61
2:B:96:ARG:HE	2:B:97:TRP:H	1.49	0.61
15:O:33:THR:HG23	15:O:63:ARG:HH12	1.64	0.61
1:A:1063:C:H2'	1:A:1064:G:C8	2.36	0.61
3:C:14:ILE:O	3:C:16:ARG:N	2.27	0.61
1:A:1190:G:O3'	3:C:3:ASN:HB2	2.01	0.60
1:A:518:C:H2'	1:A:530:G:C8	2.35	0.60
3:C:134:ILE:O	3:C:138:VAL:HG23	2.01	0.60
1:A:1182:G:H4'	1:A:1183:A:H5'	1.83	0.60
1:A:527:7MG:H5''	1:A:527:7MG:H81	1.81	0.60
1:A:902:G:H2'	1:A:903:G:C8	2.35	0.60
7:G:65:ALA:HB1	7:G:127:ALA:HB3	1.83	0.60
4:D:15:GLU:HG2	4:D:63:LYS:HG3	1.82	0.60
4:D:26:CYS:HA	4:D:31:CYS:HB2	1.82	0.60
10:J:27:ALA:HA	10:J:81:THR:HG23	1.83	0.60
10:J:16:LEU:HD13	10:J:68:HIS:HB2	1.83	0.60
11:K:58:PRO:HD3	11:K:89:ALA:HB1	1.83	0.60
2:B:82:ARG:HG2	2:B:92:TYR:CE1	2.36	0.60
12:L:10:LEU:HD12	17:Q:32:TYR:CZ	2.37	0.60
20:T:65:LYS:O	20:T:68:LYS:HB2	2.02	0.60
5:E:74:GLY:HA3	5:E:116:THR:HG22	1.82	0.60
5:E:90:VAL:O	5:E:91:LEU:HD23	2.01	0.60
7:G:108:ALA:O	7:G:119:ARG:HB3	2.01	0.60
8:H:46:LYS:HG3	8:H:64:LYS:HB2	1.84	0.60
1:A:1059:C:N3	1:A:1198:G:N1	2.32	0.60
1:A:1236:A:H4'	1:A:1304:G:H4'	1.84	0.60
1:A:429:U:OP1	4:D:36:ARG:NH1	2.32	0.60
21:U:8:THR:HG22	21:U:9:ARG:H	1.67	0.60
1:A:355:C:H5'	1:A:389:A:OP2	2.00	0.60
4:D:125:HIS:HD1	4:D:152:SER:HG	1.50	0.60
18:R:46:GLU:OE2	18:R:86:VAL:HG23	2.02	0.60
1:A:1005:A:N6	1:A:1024:G:O2'	2.35	0.59
1:A:135:C:O2	16:P:1:MET:HB2	2.01	0.59
1:A:864:A:H2'	1:A:865:A:C8	2.37	0.59
1:A:1126:U:N3	1:A:1149:C:H1'	2.17	0.59
1:A:112:G:H2'	1:A:113:G:H5'	1.83	0.59
1:A:1441:G:H4'	1:A:1442:G:C5	2.37	0.59
1:A:757:U:H2'	1:A:758:G:O4'	2.02	0.59
5:E:81:GLU:HG3	5:E:90:VAL:HG22	1.84	0.59
1:A:706:A:O2'	11:K:29:ILE:HD11	2.02	0.59
1:A:1145:C:HO2'	1:A:1146:A:P	2.25	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:79:G:H2'	1:A:80:G:C8	2.37	0.59
3:C:6:HIS:HD2	3:C:9:GLY:H	1.49	0.59
12:L:110:VAL:HA	12:L:111:LYS:HE3	1.83	0.59
12:L:66:VAL:HG11	12:L:98:TYR:CE1	2.38	0.59
5:E:121:LYS:HG2	5:E:123:LEU:CD2	2.32	0.59
5:E:37:ARG:HB3	5:E:37:ARG:HH11	1.66	0.59
1:A:673:G:H5'	6:F:87:ARG:HD2	1.83	0.59
13:M:22:ILE:HG22	13:M:23:TYR:N	2.17	0.59
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.84	0.59
1:A:76:C:H2'	1:A:77:G:C8	2.37	0.59
2:B:142:LEU:HD13	2:B:146:GLN:NE2	2.18	0.59
20:T:12:ALA:HA	25:T:1302:HOH:O	2.02	0.59
1:A:1410:G:H2'	1:A:1411:C:H6	1.67	0.59
1:A:1391:U:H2'	1:A:1392:G:H8	1.66	0.59
3:C:180:ALA:HB1	3:C:182:ILE:HG13	1.83	0.59
1:A:113:G:H1'	1:A:354:G:H5'	1.85	0.59
12:L:28:LYS:HE3	12:L:33:ARG:HH12	1.67	0.59
1:A:835:U:OP1	18:R:64:ARG:NH2	2.34	0.59
20:T:50:GLU:HA	20:T:100:ILE:HG13	1.85	0.59
1:A:1145:C:O2'	1:A:1146:A:O5'	2.18	0.59
9:I:43:ALA:HA	9:I:74:ILE:HD13	1.83	0.59
1:A:160:A:O2'	1:A:161:A:OP1	2.21	0.59
1:A:819:A:H5'	1:A:819:A:C8	2.37	0.59
5:E:71:LEU:HD21	5:E:113:ALA:O	2.03	0.59
8:H:95:VAL:HB	8:H:99:GLU:HB2	1.85	0.59
1:A:758:G:C8	25:A:2216:HOH:O	2.52	0.58
1:A:92:C:O2	1:A:93:G:C8	2.56	0.58
3:C:202:ILE:HG22	3:C:204:LEU:HD23	1.85	0.58
11:K:78:GLN:HA	11:K:103:LEU:HD22	1.84	0.58
13:M:48:LEU:HD12	13:M:53:VAL:HG23	1.85	0.58
1:A:1241:G:H2'	1:A:1242:C:C6	2.38	0.58
1:A:62:U:H2'	1:A:63:C:C6	2.39	0.58
10:J:48:THR:HA	10:J:62:HIS:HB3	1.85	0.58
11:K:73:MET:HG2	11:K:103:LEU:HD21	1.85	0.58
1:A:1009:G:N2	1:A:1010:G:H1'	2.18	0.58
6:F:53:ALA:HB3	6:F:86:ARG:NE	2.19	0.58
14:N:16:PHE:HD1	14:N:19:ARG:NH1	2.01	0.58
1:A:1028:C:H2'	1:A:1029:C:H6	1.69	0.58
1:A:839:U:H5'	1:A:840:C:C5	2.38	0.58
1:A:966:M2G:HM22	1:A:967:5MC:C2	2.39	0.58
1:A:108:G:C6	20:T:15:ARG:HG2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1516:G:H1'	1:A:1519:MA6:H101	1.86	0.58
1:A:692:U:OP1	11:K:124:LYS:NZ	2.32	0.58
1:A:620:C:N1	4:D:135:LEU:HD13	2.19	0.58
8:H:20:TYR:HA	8:H:65:TYR:CZ	2.38	0.58
1:A:1114:C:O2	14:N:60:SER:OG	2.21	0.58
1:A:80:G:N2	1:A:89:C:H42	2.01	0.58
1:A:90:U:N3	1:A:91:C:N3	2.52	0.58
1:A:1266:G:N2	1:A:1269:A:OP2	2.35	0.58
1:A:1399:C:H4'	1:A:1400:5MC:H5''	1.85	0.58
1:A:1402:4OC:HM22	1:A:1403:C:H5'	1.85	0.58
1:A:938:A:H5'	7:G:76:ARG:HH22	1.69	0.58
3:C:64:VAL:HG11	3:C:99:VAL:HG23	1.85	0.58
1:A:653:A:O4'	8:H:56:LYS:HE2	2.04	0.58
18:R:38:GLU:OE1	18:R:38:GLU:HA	2.03	0.58
1:A:1498:UR3:O2'	1:A:1499:A:OP2	2.14	0.58
4:D:127:THR:HB	4:D:147:ALA:HB3	1.86	0.58
1:A:95:U:H2'	1:A:96:G:H8	1.68	0.58
1:A:975:A:H4'	1:A:976:G:O5'	2.02	0.58
8:H:51:VAL:HG11	8:H:60:ARG:HG2	1.84	0.58
1:A:1123:A:H2	10:J:39:PRO:HG3	1.68	0.58
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.04	0.58
1:A:677:U:H3	1:A:713:G:H22	1.52	0.57
7:G:27:ILE:CD1	7:G:40:ALA:HA	2.34	0.57
1:A:1476:G:H2'	1:A:1477:C:C6	2.39	0.57
1:A:279:A:H8	1:A:279:A:H5'	1.68	0.57
10:J:77:PRO:HB2	10:J:82:ILE:HD11	1.84	0.57
1:A:1163:C:H2'	1:A:1164:G:O4'	2.04	0.57
1:A:411:A:N7	1:A:413:G:N3	2.52	0.57
1:A:707:C:H2'	1:A:708:C:C6	2.39	0.57
1:A:780:A:O2'	1:A:781:A:H5''	2.05	0.57
16:P:53:VAL:O	16:P:56:ALA:N	2.37	0.57
1:A:1497:G:H2'	1:A:1498:UR3:H5'	1.85	0.57
1:A:827:U:H3'	1:A:870:U:O4	2.05	0.57
10:J:11:PHE:CE2	10:J:65:LEU:HD21	2.39	0.57
1:A:909:A:H2'	1:A:910:C:O4'	2.03	0.57
11:K:54:ARG:O	11:K:57:THR:HG22	2.04	0.57
1:A:451:A:N6	1:A:481:G:C4	2.72	0.57
1:A:714:G:H2'	1:A:715:A:C8	2.39	0.57
1:A:966:M2G:HM22	1:A:967:5MC:H1'	1.87	0.57
8:H:114:THR:HB	8:H:116:LYS:N	2.19	0.57
16:P:10:GLY:HA3	16:P:16:HIS:H	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1206:G:H2'	1:A:1207:2MG:C8	2.40	0.57
1:A:243:A:C2	1:A:246:A:C8	2.92	0.57
1:A:88:A:H2'	1:A:89:C:C6	2.40	0.57
5:E:80:ILE:HG12	5:E:81:GLU:N	2.16	0.57
10:J:62:HIS:O	14:N:59:ALA:HB3	2.04	0.57
1:A:750:G:O2'	15:O:21:ASP:OD2	2.23	0.57
1:A:552:U:H2'	1:A:553:A:C8	2.40	0.57
1:A:571:U:H5''	1:A:572:A:OP2	2.05	0.57
1:A:80:G:H22	1:A:89:C:N4	2.02	0.57
1:A:1372:U:H2'	1:A:1373:G:O4'	2.05	0.57
1:A:481:G:O2'	1:A:482:A:H8	1.88	0.57
1:A:93:G:H21	1:A:95:U:H1'	1.68	0.57
1:A:384:G:H2'	1:A:385:C:H6	1.64	0.57
3:C:112:SER:O	3:C:115:LEU:HB2	2.04	0.57
4:D:187:ARG:NE	4:D:188:LEU:H	2.02	0.57
9:I:79:LEU:O	9:I:83:ARG:HG2	2.05	0.57
11:K:47:VAL:HG12	11:K:48:ILE:HG13	1.87	0.57
13:M:49:THR:HG22	13:M:51:ALA:H	1.70	0.57
15:O:4:THR:HG23	15:O:7:GLU:HB2	1.86	0.57
1:A:1238:A:H5'	1:A:1336:C:H41	1.70	0.56
1:A:1403:C:O2'	1:A:1404:5MC:H5'	2.05	0.56
1:A:321:A:H2'	1:A:322:C:H6	1.70	0.56
1:A:858:G:O6	1:A:869:G:C8	2.58	0.56
5:E:76:ILE:O	5:E:93:PRO:HB3	2.04	0.56
8:H:6:ILE:HB	8:H:85:ARG:NH1	2.20	0.56
4:D:98:GLU:HG2	4:D:189:PRO:HG3	1.87	0.56
12:L:69:TYR:HE2	12:L:71:PRO:HA	1.68	0.56
12:L:93:LEU:O	12:L:96:VAL:HG23	2.05	0.56
1:A:390:C:O3'	16:P:28:ARG:NH2	2.38	0.56
1:A:687:A:C2	1:A:704:A:C5	2.93	0.56
6:F:4:TYR:CE1	6:F:92:LYS:HG2	2.40	0.56
21:U:9:ARG:HH22	21:U:23:PRO:CD	2.17	0.56
1:A:838:G:H1	1:A:848:C:H42	1.53	0.56
1:A:9:G:OP2	5:E:121:LYS:NZ	2.31	0.56
11:K:104:GLN:HG2	11:K:106:LYS:NZ	2.20	0.56
1:A:1267:C:O2'	21:U:20:LYS:HG3	2.06	0.56
1:A:31:G:O2'	1:A:48:C:N4	2.38	0.56
2:B:68:ILE:O	2:B:90:MET:HB3	2.05	0.56
3:C:123:GLN:HE21	3:C:128:PHE:HD2	1.53	0.56
4:D:191:ARG:O	4:D:194:LEU:HD12	2.05	0.56
13:M:12:ASN:H	13:M:45:VAL:HB	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1195:C:H3'	1:A:1196:U:C5'	2.32	0.56
1:A:1204:A:H2'	1:A:1205:U:H5'	1.87	0.56
17:Q:95:TYR:HA	17:Q:98:LEU:CD1	2.36	0.56
1:A:1323:G:H2'	1:A:1324:A:C8	2.40	0.56
1:A:60:A:P	1:A:331:G:H22	2.29	0.56
1:A:694:A:N1	1:A:787:A:O2'	2.39	0.56
5:E:152:ARG:NE	8:H:44:PHE:HE1	2.04	0.56
9:I:17:VAL:HG22	9:I:63:ILE:HD12	1.88	0.56
12:L:7:ILE:O	12:L:11:VAL:HG23	2.06	0.56
15:O:32:LEU:HD12	15:O:63:ARG:HB2	1.88	0.56
1:A:1089:G:C6	1:A:1090:U:N3	2.74	0.56
5:E:116:THR:HG23	5:E:117:ASP:OD2	2.06	0.56
15:O:16:ALA:HB1	15:O:21:ASP:HB3	1.87	0.56
19:S:31:ILE:HG22	19:S:49:ILE:HG12	1.88	0.56
1:A:126:G:OP1	1:A:605:U:O2'	2.21	0.56
1:A:412:A:H1'	4:D:35:ARG:HH21	1.70	0.56
1:A:56:U:H2'	1:A:57:G:H8	1.71	0.56
13:M:14:ARG:HH11	13:M:14:ARG:HG2	1.70	0.56
13:M:49:THR:HB	13:M:52:GLU:H	1.70	0.56
20:T:81:LYS:O	20:T:85:MET:HG3	2.06	0.56
1:A:200:G:H1	1:A:217:C:H42	1.54	0.56
1:A:397:A:O2'	1:A:399:G:OP2	2.20	0.56
4:D:57:ARG:HB3	4:D:206:PHE:HB2	1.88	0.56
9:I:89:ASN:O	9:I:92:TYR:HB2	2.05	0.56
14:N:24:CYS:H	14:N:33:VAL:HG11	1.71	0.56
1:A:1280:A:N7	10:J:40:LEU:HD22	2.21	0.55
1:A:758:G:N7	25:A:2216:HOH:O	2.37	0.55
2:B:36:ARG:O	2:B:39:ILE:HG12	2.06	0.55
5:E:15:ARG:HG3	5:E:15:ARG:HH11	1.72	0.55
2:B:178:ARG:NH1	8:H:71:GLY:O	2.39	0.55
1:A:501:C:H2'	1:A:502:G:H8	1.69	0.55
3:C:167:TRP:HE3	3:C:168:ALA:H	1.51	0.55
4:D:15:GLU:O	4:D:17:VAL:N	2.39	0.55
1:A:1188:A:O3'	14:N:58:LYS:NZ	2.38	0.55
1:A:1004:A:H5'	1:A:1025:U:N3	2.21	0.55
1:A:1352:C:H2'	1:A:1353:G:C8	2.41	0.55
1:A:463:A:H2'	1:A:474:G:O4'	2.05	0.55
3:C:77:ILE:HG22	3:C:81:GLY:HA2	1.88	0.55
7:G:38:LEU:O	7:G:42:ILE:HG13	2.07	0.55
1:A:1113:C:N4	1:A:1187:G:H1	2.02	0.55
1:A:1361(A):C:C2'	1:A:1362:C:H5''	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:629:G:H2'	1:A:630:G:O4'	2.07	0.55
8:H:86:ILE:HG21	8:H:133:LEU:HD13	1.89	0.55
17:Q:15:MET:HB3	17:Q:18:THR:HB	1.88	0.55
1:A:1496:C:O2'	1:A:1497:G:O4'	2.24	0.55
17:Q:5:VAL:C	17:Q:6:LEU:HD23	2.27	0.55
1:A:1228:C:OP1	13:M:108:ARG:NH2	2.39	0.55
1:A:1395:C:C2'	1:A:1396:A:H5'	2.37	0.55
1:A:858:G:N7	25:A:2220:HOH:O	2.33	0.55
2:B:180:LEU:HB2	2:B:182:ILE:CD1	2.37	0.55
4:D:18:LYS:HB3	4:D:20:TYR:HE2	1.72	0.55
13:M:12:ASN:N	13:M:45:VAL:HB	2.22	0.55
2:B:72:GLY:HA3	2:B:165:VAL:HG22	1.87	0.55
2:B:24:TRP:CZ3	2:B:26:PRO:HA	2.42	0.55
9:I:48:GLU:N	9:I:49:PRO:HD2	2.22	0.55
16:P:2:VAL:O	16:P:64:ALA:HA	2.07	0.55
16:P:53:VAL:O	16:P:55:ARG:N	2.39	0.55
1:A:1054:C:H3'	1:A:1054:C:H6	1.71	0.55
1:A:1191:A:H2'	1:A:1192:C:H6	1.72	0.55
1:A:1284:C:OP2	1:A:1285:A:O2'	2.22	0.55
1:A:322:C:C2'	1:A:323:U:H5'	2.37	0.55
1:A:89:C:H2'	1:A:90:U:O4'	2.07	0.55
1:A:933:G:OP2	7:G:3:ARG:HB2	2.06	0.55
2:B:45:GLN:O	2:B:48:MET:HB2	2.06	0.55
5:E:79:GLU:HB3	5:E:92:LYS:HA	1.88	0.55
1:A:1117:G:H5''	9:I:104:ARG:NH2	2.22	0.55
2:B:119:GLU:OE1	2:B:153:ARG:NH2	2.40	0.55
2:B:71:VAL:O	2:B:164:VAL:HA	2.07	0.55
13:M:11:ARG:HG3	13:M:12:ASN:N	2.22	0.55
16:P:9:PHE:HD2	16:P:18:ARG:HG3	1.72	0.55
1:A:838:G:C2'	1:A:839:U:H5''	2.37	0.55
4:D:9:CYS:O	4:D:12:CYS:HB2	2.07	0.55
17:Q:7:THR:HA	17:Q:57:VAL:O	2.07	0.55
18:R:44:LEU:HD21	18:R:70:ILE:HD13	1.89	0.55
20:T:11:SER:HA	20:T:13:LEU:HD11	1.89	0.55
1:A:1282:C:H2'	1:A:1283:G:O4'	2.06	0.54
1:A:350:G:H5''	1:A:350:G:H8	1.72	0.54
10:J:25:GLU:HB3	10:J:29:ARG:HH21	1.72	0.54
1:A:1217:C:OP1	14:N:5:ALA:HB1	2.06	0.54
1:A:1430:C:C2	1:A:1471:G:N2	2.76	0.54
1:A:580:U:H2'	1:A:581:G:O4'	2.07	0.54
11:K:62:GLN:HG3	11:K:63:LEU:N	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:39:LEU:HB3	15:O:56:LEU:HD13	1.88	0.54
17:Q:8:GLY:O	17:Q:56:VAL:HA	2.07	0.54
1:A:1095:U:OP1	1:A:1108:G:N2	2.33	0.54
1:A:1305:G:N2	1:A:1331:G:H1'	2.22	0.54
1:A:1414:U:H2'	1:A:1415:G:H8	1.73	0.54
4:D:102:ASP:OD1	4:D:103:ASN:N	2.37	0.54
1:A:1171:G:H2'	1:A:1172:C:H6	1.73	0.54
1:A:1403:C:C5	1:A:1404:5MC:HM52	2.43	0.54
1:A:1443:G:H5'	1:A:1446:A:H5'	1.88	0.54
1:A:620:C:H2'	1:A:621:A:O4'	2.07	0.54
3:C:156:ARG:NH1	3:C:160:ALA:O	2.41	0.54
5:E:75:THR:HB	5:E:117:ASP:O	2.08	0.54
11:K:92:GLU:O	11:K:95:ILE:HG13	2.08	0.54
10:J:53:PRO:HA	14:N:41:ARG:HH22	1.72	0.54
1:A:1298:C:O2'	7:G:114:ARG:NH1	2.41	0.54
1:A:781:A:C5	1:A:802:A:C2	2.96	0.54
2:B:17:PHE:HD1	2:B:18:GLY:N	2.04	0.54
12:L:54:LYS:HB3	12:L:70:ILE:HD12	1.90	0.54
17:Q:9:VAL:HG12	17:Q:54:GLY:HA2	1.89	0.54
1:A:35:G:H2'	1:A:36:C:H6	1.72	0.54
3:C:120:VAL:O	3:C:124:ILE:HG12	2.07	0.54
3:C:6:HIS:CD2	3:C:9:GLY:H	2.25	0.54
4:D:15:GLU:C	4:D:17:VAL:H	2.09	0.54
4:D:35:ARG:O	4:D:36:ARG:HG3	2.07	0.54
5:E:34:VAL:HG12	5:E:62:ALA:HB1	1.89	0.54
1:A:1302:U:H5''	25:A:2227:HOH:O	2.07	0.54
1:A:984:C:H42	1:A:1221:G:H1	1.55	0.54
9:I:89:ASN:O	9:I:92:TYR:N	2.37	0.54
15:O:22:THR:O	15:O:27:VAL:HG11	2.07	0.54
1:A:735:C:H1'	18:R:75:ILE:HD12	1.90	0.54
1:A:1347:G:H1'	1:A:1348:U:C5	2.41	0.54
1:A:1361(A):C:O2'	1:A:1362:C:H6	1.91	0.54
1:A:815:A:H62	1:A:1509:C:H1'	1.72	0.54
1:A:1518:MA6:H102	1:A:1519:MA6:H103	1.90	0.54
1:A:173:U:H6	1:A:198:G:HO2'	1.56	0.54
1:A:447:G:N1	1:A:485:G:O2'	2.40	0.54
1:A:526:C:O3'	22:A:1601:SRY:HI31	2.07	0.54
1:A:858:G:N7	25:A:2218:HOH:O	2.40	0.54
13:M:16:ASP:N	13:M:16:ASP:OD1	2.40	0.54
1:A:1061:G:H1	1:A:1195:C:N4	1.98	0.54
1:A:1065:U:H5	1:A:1190:G:C4	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:369:C:OP2	1:A:388:G:N2	2.39	0.54
2:B:184:VAL:HG23	2:B:198:ASP:H	1.73	0.54
1:A:503:C:OP2	12:L:116:SER:HB3	2.07	0.54
2:B:21:ARG:HG2	2:B:23:ARG:HH11	1.73	0.54
4:D:9:CYS:SG	4:D:31:CYS:O	2.65	0.54
1:A:1367:C:OP2	9:I:112:LYS:NZ	2.41	0.54
1:A:1424:C:H2'	1:A:1425:U:H6	1.73	0.53
2:B:105:PHE:HE2	2:B:157:ARG:HA	1.73	0.53
3:C:110:ASN:ND2	3:C:140:ARG:HB3	2.22	0.53
13:M:14:ARG:HG2	13:M:14:ARG:NH1	2.23	0.53
16:P:75:ARG:HH11	16:P:75:ARG:HG3	1.72	0.53
1:A:532:A:O2'	1:A:533:A:OP1	2.22	0.53
1:A:558:G:H5'	1:A:559:A:H3'	1.89	0.53
2:B:88:ALA:HB2	2:B:219:VAL:HG13	1.90	0.53
7:G:26:PHE:CD1	7:G:101:LEU:HD22	2.43	0.53
10:J:82:ILE:HA	10:J:85:LEU:HD12	1.90	0.53
18:R:36:ASN:O	18:R:40:LEU:HG	2.08	0.53
1:A:1511:G:H2'	1:A:1512:U:O4'	2.09	0.53
1:A:1518:MA6:H2'	1:A:1519:MA6:C8	2.38	0.53
1:A:620:C:C2	4:D:135:LEU:HD13	2.43	0.53
1:A:90:U:C4	1:A:91:C:C4	2.96	0.53
1:A:973:G:O2'	14:N:29:ARG:NH2	2.40	0.53
21:U:13:ILE:HA	21:U:22:ARG:NH1	2.23	0.53
1:A:1504:G:C3'	1:A:1505:G:H5'	2.37	0.53
1:A:254:G:OP1	17:Q:67:LYS:O	2.25	0.53
1:A:321:A:C2	1:A:333:G:C2	2.96	0.53
1:A:381:C:H2'	1:A:382:A:O4'	2.08	0.53
1:A:394:G:H2'	1:A:395:C:C6	2.44	0.53
9:I:103:THR:HG22	9:I:104:ARG:O	2.08	0.53
1:A:564:C:C5	17:Q:31:LEU:HD21	2.43	0.53
17:Q:40:LYS:HD3	17:Q:42:TYR:CZ	2.43	0.53
1:A:1008:C:H42	1:A:1021:G:H1	1.56	0.53
1:A:954:G:H21	1:A:1227:A:H62	1.55	0.53
1:A:1502:A:H2'	1:A:1504:G:C8	2.42	0.53
3:C:87:LEU:HD22	3:C:101:LEU:HD11	1.89	0.53
4:D:174:LEU:C	4:D:186:LEU:HD21	2.29	0.53
10:J:8:LEU:HD23	10:J:96:ILE:HG23	1.88	0.53
15:O:22:THR:OG1	15:O:23:GLY:N	2.40	0.53
1:A:462:G:H21	16:P:82:GLN:HE21	1.57	0.53
1:A:1392:G:H2'	1:A:1393:U:H6	1.74	0.53
1:A:1404:5MC:H2'	1:A:1405:G:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1539:C:H2'	1:A:1540:PSU:H6	1.73	0.53
1:A:49:U:O2'	1:A:50:A:H2'	2.08	0.53
2:B:23:ARG:O	2:B:24:TRP:HD1	1.91	0.53
4:D:31:CYS:SG	4:D:31:CYS:O	2.66	0.53
6:F:95:GLU:HG3	6:F:96:PRO:HD2	1.90	0.53
7:G:54:THR:HG22	7:G:56:GLN:H	1.74	0.53
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.44	0.53
11:K:41:THR:HG21	11:K:71:LYS:HB3	1.90	0.53
13:M:107:ALA:HB3	13:M:111:LYS:HE3	1.89	0.53
17:Q:27:PHE:CZ	17:Q:36:ILE:HD11	2.43	0.53
18:R:39:VAL:HG13	18:R:40:LEU:HD23	1.91	0.53
1:A:1007:C:H2'	1:A:1008:C:C5	2.43	0.53
1:A:117:G:O5'	1:A:117:G:H8	1.92	0.53
1:A:1403:C:H2'	1:A:1404:5MC:C6	2.44	0.53
1:A:1532:U:H2'	1:A:1533:C:H3'	1.91	0.53
1:A:405:U:O4	4:D:2:GLY:HA3	2.08	0.53
2:B:223:ILE:HG21	2:B:230:VAL:HB	1.90	0.53
8:H:15:ASN:N	8:H:15:ASN:OD1	2.41	0.53
1:A:1448:C:H2'	1:A:1449:C:H6	1.74	0.53
1:A:596:C:C2'	1:A:597:G:H5'	2.38	0.53
1:A:976:G:OP2	1:A:1358:U:H1'	2.08	0.53
2:B:82:ARG:HG2	2:B:92:TYR:HE1	1.73	0.53
4:D:173:TRP:HB2	4:D:187:ARG:O	2.09	0.53
10:J:7:LYS:HA	10:J:71:LEU:HD13	1.91	0.53
1:A:383:A:C6	1:A:384:G:H1'	2.44	0.53
1:A:1198:G:H2'	1:A:1199:U:C6	2.43	0.52
1:A:685:G:C2'	1:A:686:U:H5''	2.38	0.52
2:B:180:LEU:HB2	2:B:182:ILE:HD12	1.90	0.52
7:G:73:MET:SD	7:G:90:GLU:HA	2.49	0.52
9:I:118:LYS:O	9:I:120:ARG:N	2.39	0.52
1:A:560:U:H5'	1:A:566:G:N2	2.24	0.52
1:A:673:G:H2'	1:A:674:G:C8	2.44	0.52
10:J:51:ARG:CZ	10:J:61:GLU:HB2	2.38	0.52
13:M:99:ARG:HB2	13:M:101:GLN:HE22	1.73	0.52
15:O:87:ILE:HG22	15:O:88:ARG:N	2.23	0.52
2:B:21:ARG:HG3	2:B:22:LYS:H	1.73	0.52
1:A:921:U:O2'	5:E:19:MET:O	2.17	0.52
5:E:84:PHE:HB2	5:E:134:ALA:HB2	1.91	0.52
20:T:71:THR:O	20:T:72:LEU:HD23	2.09	0.52
1:A:838:G:N2	1:A:849:C:C2	2.77	0.52
2:B:19:HIS:CE1	2:B:204:ASN:ND2	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:53:ALA:HB3	6:F:86:ARG:HE	1.73	0.52
8:H:97:VAL:HG12	8:H:98:LYS:HD3	1.92	0.52
13:M:23:TYR:CZ	13:M:71:ARG:HD3	2.44	0.52
14:N:21:TYR:CD1	14:N:21:TYR:N	2.77	0.52
16:P:6:LEU:HD23	16:P:17:TYR:CG	2.45	0.52
1:A:1305:G:H3'	21:U:4:GLY:O	2.10	0.52
1:A:1517:G:H5''	25:A:2084:HOH:O	2.08	0.52
17:Q:6:LEU:O	17:Q:58:GLU:HA	2.09	0.52
1:A:1006:C:H41	1:A:1024:G:H21	1.56	0.52
1:A:1121:U:H2'	1:A:1122:U:C6	2.45	0.52
7:G:62:PHE:CE2	7:G:66:VAL:HG21	2.44	0.52
1:A:1144:G:N2	1:A:1146:A:H62	2.07	0.52
1:A:1177:G:N2	1:A:1181:G:O6	2.43	0.52
1:A:1305:G:C8	1:A:1305:G:OP2	2.63	0.52
1:A:1359:C:H1'	1:A:1361(A):C:H41	1.74	0.52
1:A:170:U:O2'	1:A:171:A:H5'	2.08	0.52
9:I:2:GLU:HG3	9:I:3:GLN:OE1	2.09	0.52
13:M:52:GLU:HG2	13:M:55:ARG:HH21	1.75	0.52
16:P:75:ARG:O	16:P:75:ARG:HG2	2.09	0.52
1:A:1171:G:H2'	1:A:1172:C:C6	2.45	0.52
1:A:1403:C:C6	1:A:1404:5MC:HM52	2.45	0.52
2:B:189:ASP:HB3	2:B:203:GLY:O	2.10	0.52
5:E:24:ARG:HB2	5:E:26:PHE:HE2	1.75	0.52
10:J:91:PRO:O	10:J:94:VAL:HG22	2.10	0.52
12:L:66:VAL:HG11	12:L:98:TYR:HE1	1.75	0.52
1:A:191:G:N2	20:T:103:GLY:O	2.42	0.52
1:A:1347:G:O2'	1:A:1348:U:P	2.68	0.52
1:A:1505:G:H3'	1:A:1505:G:C8	2.44	0.52
1:A:248:C:O2'	1:A:283:C:H4'	2.09	0.52
1:A:79:G:C2	1:A:80:G:C4	2.98	0.52
2:B:12:GLU:HA	2:B:12:GLU:OE1	2.09	0.52
4:D:25:ARG:C	4:D:27:TYR:H	2.09	0.52
7:G:60:LYS:HD2	7:G:63:LYS:HE2	1.90	0.52
8:H:11:THR:OG1	8:H:14:ARG:NH1	2.32	0.52
8:H:64:LYS:HG2	8:H:79:VAL:HG21	1.91	0.52
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.44	0.52
1:A:1012:U:H2'	1:A:1013:G:C8	2.45	0.52
3:C:30:ARG:HD3	3:C:30:ARG:H	1.75	0.52
1:A:385:C:H2'	1:A:386:C:C6	2.44	0.51
1:A:436:C:H2'	1:A:437:U:H6	1.75	0.51
1:A:83:U:C2'	1:A:84:U:H5'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:62:SER:OG	12:L:64:TYR:HB2	2.09	0.51
1:A:581:G:O3'	15:O:64:ARG:NH2	2.43	0.51
1:A:1248:A:N3	9:I:70:LYS:HE3	2.25	0.51
1:A:316:G:H1	1:A:337:C:H42	1.59	0.51
1:A:445:G:O5'	1:A:445:G:H8	1.91	0.51
1:A:833:U:H2'	1:A:834:C:C6	2.45	0.51
1:A:8:A:N7	4:D:208:SER:OG	2.44	0.51
6:F:97:PHE:H	18:R:32:ARG:HH12	1.59	0.51
11:K:58:PRO:HA	11:K:90:GLY:HA3	1.91	0.51
16:P:26:ARG:HD2	16:P:31:LYS:O	2.10	0.51
1:A:1347:G:N2	1:A:1373:G:H2'	2.25	0.51
1:A:251:G:H4'	1:A:252:U:OP1	2.07	0.51
6:F:7:ASN:HB2	6:F:89:MET:O	2.09	0.51
8:H:100:ILE:HG23	8:H:112:LEU:HD21	1.93	0.51
15:O:26:GLU:OE1	15:O:77:ARG:HD2	2.10	0.51
17:Q:74:LEU:HD22	17:Q:75:ARG:HG2	1.91	0.51
1:A:1395:C:O2'	1:A:1396:A:H5'	2.10	0.51
2:B:139:LYS:O	2:B:143:GLU:HG3	2.09	0.51
8:H:86:ILE:HG21	8:H:133:LEU:HB3	1.92	0.51
13:M:2:ALA:O	13:M:10:PRO:HD2	2.10	0.51
19:S:12:ASP:CG	19:S:38:SER:HB3	2.30	0.51
19:S:4:SER:O	19:S:6:LYS:NZ	2.44	0.51
1:A:1222:G:OP1	19:S:77:THR:HG21	2.11	0.51
20:T:10:LEU:HD13	20:T:11:SER:N	2.24	0.51
1:A:425:G:H2'	1:A:426:G:H5'	1.92	0.51
1:A:690:G:H2'	1:A:691:G:O4'	2.09	0.51
1:A:704:A:C2	1:A:705:U:H1'	2.45	0.51
8:H:9:MET:CG	8:H:26:VAL:HG21	2.37	0.51
20:T:17:ARG:O	20:T:20:LEU:HB2	2.10	0.51
1:A:118:U:H3'	1:A:288:A:H61	1.76	0.51
1:A:838:G:H1	1:A:848:C:N4	2.08	0.51
2:B:157:ARG:H	2:B:157:ARG:HD2	1.75	0.51
9:I:42:ARG:NH2	9:I:75:ASP:OD1	2.43	0.51
12:L:126:LYS:HD2	12:L:126:LYS:N	2.26	0.51
1:A:278:G:C6	17:Q:95:TYR:HD2	2.27	0.51
1:A:1424:C:H2'	1:A:1425:U:C6	2.45	0.51
1:A:428:G:H4'	1:A:429:U:O5'	2.11	0.51
1:A:510:A:H5''	1:A:511:C:P	2.51	0.51
6:F:100:ASN:ND2	6:F:100:ASN:O	2.43	0.51
1:A:938:A:H5'	7:G:76:ARG:HH12	1.75	0.51
10:J:42:THR:HG23	10:J:67:THR:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:76:LEU:HB3	18:R:78:LEU:HD21	1.93	0.51
1:A:106:C:O2	1:A:379:C:H4'	2.11	0.51
1:A:1329:A:H2'	1:A:1330:U:H6	1.76	0.51
1:A:647:C:H2'	1:A:648:A:H8	1.76	0.51
2:B:189:ASP:O	2:B:192:SER:OG	2.29	0.51
2:B:217:ARG:O	2:B:220:ASP:HB2	2.10	0.51
1:A:935:A:N6	7:G:3:ARG:HG3	2.25	0.51
8:H:84:ARG:O	8:H:135:CYS:HB2	2.11	0.51
11:K:104:GLN:HB3	11:K:106:LYS:HE2	1.92	0.51
18:R:46:GLU:OE2	18:R:85:LEU:HD12	2.10	0.51
1:A:344:A:H5'	1:A:345:C:C5	2.45	0.51
1:A:836:G:OP1	18:R:61:LYS:NZ	2.37	0.51
1:A:857:C:H3'	25:A:2218:HOH:O	2.09	0.51
3:C:172:ARG:NH2	3:C:174:PRO:HG3	2.26	0.51
3:C:91:LEU:HG	3:C:99:VAL:HG11	1.92	0.51
1:A:1095:U:P	1:A:1108:G:H22	2.34	0.51
1:A:1186:G:H2'	1:A:1187:G:O4'	2.10	0.51
1:A:216:G:C2	1:A:217:C:C4	2.99	0.51
1:A:976:G:H4'	1:A:977:A:OP1	2.11	0.51
1:A:1360:A:OP2	14:N:35:ARG:NH2	2.44	0.51
1:A:1243:C:H5''	21:U:8:THR:CG2	2.41	0.51
1:A:60:A:H4'	1:A:61:G:O5'	2.10	0.50
1:A:731:G:OP1	1:A:766:A:H1'	2.11	0.50
15:O:15:PHE:CD2	15:O:30:ALA:HB2	2.46	0.50
1:A:1366:C:H2'	1:A:1367:C:H6	1.76	0.50
1:A:1450:U:H2'	1:A:1452:C:N4	2.26	0.50
1:A:235:C:N4	25:A:1970:HOH:O	2.44	0.50
1:A:60:A:O5'	1:A:331:G:N2	2.44	0.50
7:G:91:VAL:HG12	7:G:92:SER:N	2.27	0.50
1:A:1255:G:H2'	1:A:1279:A:N6	2.24	0.50
1:A:1447:G:N3	1:A:1447:G:H2'	2.25	0.50
1:A:321:A:H2'	1:A:322:C:C6	2.46	0.50
2:B:240:GLN:OE1	2:B:240:GLN:N	2.45	0.50
3:C:66:VAL:HG12	3:C:68:VAL:HG23	1.93	0.50
7:G:69:VAL:HG21	7:G:104:LEU:HD21	1.92	0.50
18:R:22:VAL:HG23	18:R:56:THR:HA	1.92	0.50
1:A:390:C:H2'	1:A:391:G:C8	2.46	0.50
1:A:826:C:H2'	1:A:827:U:H6	1.76	0.50
1:A:92:C:H2'	1:A:93:G:H8	1.76	0.50
1:A:957:U:O2'	1:A:959:A:N7	2.38	0.50
3:C:70:VAL:HG13	3:C:72:LYS:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:21:LEU:HD21	4:D:67:ILE:O	2.11	0.50
1:A:1303:C:H2'	1:A:1304:G:H5'	1.93	0.50
1:A:1332:A:H2'	1:A:1333:A:C8	2.47	0.50
1:A:1543:C:H6	1:A:1543:C:O5'	1.95	0.50
1:A:157:G:H2'	1:A:158:G:H8	1.75	0.50
1:A:481:G:O2'	1:A:482:A:C8	2.58	0.50
1:A:782:A:H2'	1:A:783:C:O4'	2.12	0.50
1:A:91:C:C6	1:A:92:C:C5	2.96	0.50
2:B:122:PHE:CE2	2:B:139:LYS:HD3	2.46	0.50
6:F:4:TYR:HB2	6:F:65:VAL:CG2	2.41	0.50
6:F:91:VAL:HG12	6:F:92:LYS:O	2.12	0.50
10:J:29:ARG:NH1	10:J:84:GLN:OE1	2.35	0.50
8:H:50:ARG:HA	8:H:59:LEU:HD23	1.92	0.50
10:J:65:LEU:HD23	10:J:66:ARG:N	2.27	0.50
12:L:111:LYS:H	12:L:111:LYS:HE3	1.75	0.50
19:S:22:LEU:HD21	19:S:28:LYS:HB2	1.92	0.50
20:T:29:LYS:O	20:T:32:ALA:HB3	2.12	0.50
1:A:1500:A:H5''	1:A:1501:C:OP2	2.12	0.50
1:A:778:G:H2'	1:A:779:C:O4'	2.11	0.50
5:E:51:VAL:N	5:E:52:PRO:HD2	2.27	0.50
1:A:1494:G:C2	1:A:1495:U:C4	3.00	0.50
1:A:455:C:C2'	1:A:456:C:H5'	2.42	0.50
1:A:721:G:C6	1:A:733:A:C2	3.00	0.50
1:A:781:A:C4	1:A:802:A:C2	3.00	0.50
7:G:79:ARG:HB2	7:G:84:ASN:CG	2.32	0.50
12:L:82:VAL:O	12:L:106:ASP:HB2	2.11	0.50
1:A:1016:A:O2'	1:A:1217:C:O2	2.29	0.50
1:A:5:U:H4'	1:A:6:G:O5'	2.11	0.50
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.14	0.50
4:D:152:SER:O	4:D:155:LEU:HB2	2.12	0.50
8:H:124:ALA:O	8:H:128:GLY:N	2.45	0.50
8:H:2:LEU:HD23	8:H:3:THR:H	1.75	0.50
1:A:1040:U:H2'	1:A:1041:A:H8	1.76	0.49
1:A:1486:G:H2'	1:A:1487:G:O4'	2.12	0.49
1:A:353:A:H8	1:A:353:A:H5'	1.77	0.49
1:A:77:G:N1	1:A:93:G:C5	2.80	0.49
15:O:2:PRO:O	15:O:3:ILE:HG13	2.11	0.49
1:A:1046:A:H3'	1:A:1047:G:H8	1.78	0.49
1:A:1370:G:C2	1:A:1371:G:N7	2.80	0.49
1:A:1442:G:C5	1:A:1446:A:N6	2.80	0.49
1:A:583:A:H2'	1:A:584:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:677:U:H2'	1:A:678:U:H6	1.76	0.49
1:A:78:G:C6	1:A:92:C:N4	2.80	0.49
1:A:95:U:O2'	1:A:96:G:H5'	2.12	0.49
6:F:23:LYS:O	6:F:27:GLN:HG2	2.12	0.49
8:H:120:THR:HG23	8:H:123:GLU:OE1	2.12	0.49
1:A:978:A:O2'	1:A:1322:C:N3	2.44	0.49
1:A:149:A:H2'	1:A:150:C:C6	2.47	0.49
1:A:1392:G:H21	1:A:1502:A:H8	1.59	0.49
1:A:156:G:H1	1:A:165:C:H42	1.59	0.49
4:D:102:ASP:HB3	4:D:136:PRO:HB3	1.94	0.49
5:E:149:GLU:O	5:E:153:LYS:HB2	2.12	0.49
1:A:1126:U:H3	1:A:1149:C:H1'	1.77	0.49
1:A:75:G:N1	1:A:96:G:C6	2.80	0.49
1:A:865:A:O5'	1:A:865:A:H8	1.96	0.49
1:A:908:A:C2	1:A:909:A:C4	3.00	0.49
1:A:98:U:H2'	1:A:99:C:C6	2.48	0.49
2:B:18:GLY:HA3	2:B:42:ILE:H	1.76	0.49
3:C:18:TRP:CD1	14:N:54:PRO:HA	2.47	0.49
1:A:35:G:H2'	1:A:36:C:C6	2.48	0.49
1:A:705:U:H5''	1:A:706:A:OP2	2.13	0.49
1:A:790:A:H3'	1:A:791:G:C8	2.48	0.49
3:C:43:LEU:HD23	3:C:47:LEU:HD13	1.94	0.49
1:A:409:G:OP1	4:D:24:GLU:O	2.31	0.49
9:I:18:PHE:CD1	9:I:62:TYR:HD2	2.31	0.49
1:A:325:A:H2'	1:A:326:G:O4'	2.13	0.49
1:A:997:U:H2'	1:A:998:G:O4'	2.13	0.49
5:E:99:GLY:O	5:E:101:ILE:HG12	2.12	0.49
8:H:121:ASP:HB2	8:H:125:ARG:NH2	2.28	0.49
8:H:20:TYR:HA	8:H:65:TYR:CE2	2.48	0.49
12:L:78:GLN:HG2	12:L:81:SER:HB3	1.95	0.49
16:P:10:GLY:CA	16:P:16:HIS:H	2.26	0.49
21:U:18:TYR:CD2	21:U:24:ARG:HA	2.48	0.49
1:A:1513:A:H2'	1:A:1514:C:C6	2.47	0.49
3:C:152:ILE:HG22	3:C:153:VAL:O	2.13	0.49
8:H:28:ALA:CB	8:H:59:LEU:HG	2.43	0.49
9:I:108:VAL:HG12	9:I:109:VAL:N	2.23	0.49
1:A:1030:C:H2'	1:A:1030(A):G:C8	2.48	0.49
1:A:1347:G:O6	9:I:10:ARG:NH2	2.37	0.49
1:A:186:C:H2'	1:A:187:C:C6	2.47	0.49
1:A:7:G:H5'	1:A:298:A:H5'	1.94	0.49
1:A:688:G:H1	1:A:699:C:H42	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:825:G:H2'	1:A:826:C:O4'	2.13	0.49
8:H:45:ILE:O	8:H:45:ILE:HG12	2.08	0.49
9:I:99:LEU:HB3	9:I:101:PHE:CD1	2.47	0.49
10:J:24:VAL:HG22	10:J:72:VAL:HG11	1.95	0.49
11:K:27:ASN:ND2	11:K:29:ILE:HG22	2.28	0.49
14:N:12:ARG:HG2	14:N:14:PRO:HD3	1.94	0.49
1:A:1005:A:H8	1:A:1006:C:C6	2.31	0.49
2:B:59:GLU:HB2	2:B:221:LEU:HD21	1.94	0.49
3:C:164:ARG:HG2	3:C:165:THR:N	2.27	0.49
3:C:35:GLU:O	3:C:39:ILE:HG13	2.13	0.49
1:A:673:G:H5'	6:F:87:ARG:CD	2.42	0.49
7:G:65:ALA:HB2	7:G:128:ALA:HB2	1.95	0.49
8:H:41:ARG:NH1	8:H:123:GLU:OE2	2.42	0.49
11:K:84:VAL:HG11	11:K:91:ARG:HD3	1.95	0.49
1:A:1173:G:C6	1:A:1174:G:C5	3.01	0.48
1:A:1250:A:H2	1:A:1353:G:H21	1.61	0.48
1:A:1351:U:H4'	7:G:33:ASP:OD2	2.13	0.48
1:A:149:A:H2'	1:A:150:C:H6	1.78	0.48
6:F:9:VAL:HG13	6:F:60:PHE:CD2	2.48	0.48
7:G:91:VAL:HG11	7:G:96:GLN:HG3	1.95	0.48
8:H:11:THR:O	8:H:12:ARG:C	2.50	0.48
10:J:82:ILE:HD12	10:J:82:ILE:H	1.77	0.48
12:L:34:ARG:HB2	12:L:105:TYR:CE1	2.47	0.48
15:O:5:LYS:O	15:O:8:LYS:N	2.44	0.48
18:R:73:ALA:CB	18:R:79:LEU:HD12	2.42	0.48
1:A:1074:G:O4'	2:B:104:ASN:HB2	2.12	0.48
1:A:1412:C:H2'	1:A:1413:A:H8	1.75	0.48
1:A:1399:C:C6	1:A:1502:A:N6	2.81	0.48
1:A:338:A:C2	1:A:339:C:C2	3.01	0.48
1:A:411:A:H62	1:A:413:G:N2	2.11	0.48
1:A:654:G:H2'	1:A:655:A:C8	2.48	0.48
1:A:1023:G:H3'	1:A:1024:G:C5'	2.43	0.48
1:A:122:G:C2	1:A:123:C:C2	3.01	0.48
1:A:1291:G:H2'	1:A:1292:U:C6	2.48	0.48
3:C:20:SER:O	14:N:54:PRO:HB3	2.14	0.48
9:I:111:ARG:HH22	10:J:62:HIS:HE1	1.60	0.48
12:L:113:ARG:HH12	12:L:116:SER:N	2.12	0.48
1:A:1054:C:OP1	1:A:1197:G:OP1	2.31	0.48
1:A:91:C:C5	1:A:92:C:C5	2.93	0.48
1:A:954:G:N2	1:A:1227:A:H62	2.11	0.48
2:B:17:PHE:CD1	2:B:18:GLY:N	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:153:VAL:HG12	3:C:154:SER:N	2.23	0.48
8:H:86:ILE:HG22	8:H:87:SER:N	2.28	0.48
12:L:27:LEU:CA	12:L:29:GLY:H	2.27	0.48
13:M:67:GLU:OE1	13:M:71:ARG:NH2	2.47	0.48
1:A:1502:A:H2'	1:A:1504:G:N7	2.28	0.48
1:A:688:G:H2'	1:A:689:C:H6	1.78	0.48
1:A:765:G:C6	1:A:812:C:C2	3.01	0.48
2:B:160:ASP:N	2:B:160:ASP:OD2	2.46	0.48
20:T:67:ALA:HB2	20:T:77:ALA:HB2	1.95	0.48
1:A:1265:G:C6	1:A:1266:G:C6	3.01	0.48
1:A:1413:A:C2	1:A:1488:G:C2	3.01	0.48
1:A:259:G:H2'	1:A:260:G:O4'	2.13	0.48
1:A:344:A:H5'	1:A:345:C:H5	1.78	0.48
1:A:373:A:H1'	1:A:481:G:N3	2.27	0.48
1:A:953:G:H2'	1:A:954:G:O4'	2.12	0.48
3:C:44:GLU:HG3	3:C:52:LEU:HD22	1.96	0.48
3:C:73:PRO:HG3	3:C:105:GLU:CD	2.33	0.48
4:D:170:VAL:HG13	4:D:174:LEU:HB2	1.95	0.48
6:F:35:ALA:HA	6:F:67:MET:HB3	1.95	0.48
8:H:104:ARG:HG2	8:H:104:ARG:HH11	1.78	0.48
13:M:34:LEU:CD1	13:M:41:PRO:HA	2.42	0.48
14:N:15:LYS:HE2	14:N:16:PHE:CZ	2.49	0.48
17:Q:29:HIS:CD2	17:Q:31:LEU:H	2.31	0.48
17:Q:63:ARG:HG2	17:Q:64:PRO:N	2.29	0.48
1:A:1426:C:H42	1:A:1474:G:H1	1.61	0.48
1:A:78:G:C2	1:A:92:C:C2	3.02	0.48
2:B:172:ILE:H	2:B:172:ILE:HD12	1.78	0.48
3:C:71:ALA:HB1	3:C:109:PRO:HB3	1.96	0.48
5:E:11:ILE:HG22	5:E:12:LEU:HD13	1.95	0.48
18:R:25:THR:OG1	18:R:25:THR:O	2.14	0.48
18:R:45:SER:HB3	18:R:47:THR:O	2.14	0.48
1:A:1255:G:C8	1:A:1279:A:N6	2.78	0.48
1:A:1265:G:H2'	1:A:1266:G:O4'	2.14	0.48
2:B:47:THR:OG1	2:B:202:PRO:O	2.32	0.48
2:B:38:GLY:O	2:B:39:ILE:HD13	2.14	0.48
6:F:6:VAL:HB	6:F:63:TYR:HB2	1.96	0.48
13:M:16:ASP:HB3	13:M:34:LEU:HD12	1.95	0.48
13:M:37:THR:HB	13:M:39:ILE:HG13	1.95	0.48
20:T:84:LEU:O	20:T:88:VAL:HG23	2.14	0.48
1:A:267:C:H2'	1:A:268:C:C6	2.49	0.48
1:A:429:U:H1'	1:A:430:A:H5''	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:880:C:OP1	12:L:12:ARG:NH1	2.46	0.48
2:B:44:LEU:HD23	2:B:44:LEU:HA	1.67	0.48
4:D:61:LYS:HE2	4:D:72:GLU:OE2	2.13	0.48
4:D:88:VAL:O	4:D:92:VAL:HG23	2.13	0.48
7:G:22:LEU:O	7:G:25:ALA:HB3	2.14	0.48
10:J:69:ASN:C	10:J:70:ARG:HG2	2.34	0.48
13:M:17:VAL:O	13:M:20:THR:HB	2.13	0.48
13:M:52:GLU:HG2	13:M:55:ARG:NH2	2.29	0.48
14:N:16:PHE:CD1	14:N:19:ARG:NH1	2.82	0.48
1:A:1082:G:O2'	1:A:1083:U:H5'	2.14	0.48
1:A:1346:A:O2'	1:A:1347:G:OP2	2.26	0.48
1:A:919:A:O2'	1:A:920:U:H5'	2.14	0.48
5:E:36:ASP:C	5:E:38:GLN:H	2.18	0.48
1:A:1201:A:H4'	1:A:1202:G:C5'	2.44	0.47
1:A:1368:G:OP2	9:I:112:LYS:HD3	2.14	0.47
1:A:267:C:H2'	1:A:268:C:H6	1.79	0.47
1:A:299:G:C6	1:A:300:A:C6	3.02	0.47
1:A:402:G:C6	1:A:403:C:C4	3.02	0.47
1:A:93:G:C2	1:A:95:U:N1	2.82	0.47
4:D:15:GLU:O	4:D:17:VAL:HG13	2.14	0.47
4:D:187:ARG:HD2	4:D:187:ARG:HA	1.65	0.47
17:Q:44:ALA:HB1	17:Q:72:ARG:HA	1.95	0.47
21:U:5:ASP:O	21:U:11:GLY:HA3	2.14	0.47
1:A:357:G:H1'	1:A:368:U:O2	2.14	0.47
1:A:594:G:H1	1:A:645:C:H42	1.62	0.47
1:A:766:A:C8	1:A:814:A:N6	2.82	0.47
3:C:139:GLN:O	3:C:143:GLU:HB2	2.14	0.47
5:E:127:ASN:HA	5:E:128:PRO:HD3	1.75	0.47
15:O:18:PHE:HD1	15:O:19:PRO:O	1.97	0.47
1:A:1314:C:H41	19:S:6:LYS:NZ	2.11	0.47
21:U:10:ARG:HA	21:U:13:ILE:HB	1.96	0.47
1:A:236:G:H2'	1:A:237:C:O4'	2.13	0.47
1:A:581:G:C8	25:A:2214:HOH:O	2.66	0.47
1:A:767:A:H2'	1:A:768:A:O4'	2.14	0.47
1:A:858:G:C8	25:A:2218:HOH:O	2.56	0.47
1:A:939:G:H5'	7:G:102:ARG:NH1	2.30	0.47
10:J:50:ILE:HG22	10:J:60:ARG:HD3	1.96	0.47
12:L:47:LYS:HE2	12:L:47:LYS:HB2	1.56	0.47
1:A:1007:C:H2'	1:A:1008:C:H5	1.77	0.47
1:A:1009:G:N2	1:A:1020:U:O2	2.48	0.47
1:A:1028:C:N4	1:A:1034:G:H21	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:976:G:N7	1:A:1358:U:N3	2.61	0.47
1:A:103:C:O2'	1:A:172:A:N1	2.31	0.47
1:A:632:A:H2'	1:A:633:G:H5'	1.96	0.47
1:A:925:G:C2	1:A:927:G:C8	3.02	0.47
1:A:96:G:H2'	1:A:97:G:C8	2.49	0.47
3:C:94:LEU:HA	3:C:94:LEU:HD13	1.67	0.47
5:E:40:ARG:HB3	5:E:66:MET:HE2	1.96	0.47
9:I:112:LYS:HG2	9:I:113:LYS:N	2.30	0.47
18:R:43:PHE:O	18:R:51:LEU:HB2	2.15	0.47
21:U:13:ILE:HG22	21:U:14:TRP:N	2.29	0.47
1:A:103:C:OP1	20:T:17:ARG:NH1	2.47	0.47
1:A:1361(A):C:HO2'	1:A:1362:C:H5''	1.79	0.47
1:A:1361(A):C:O2'	1:A:1362:C:O4'	2.32	0.47
1:A:781:A:H2'	1:A:782:A:H5'	1.96	0.47
1:A:788:U:H2'	1:A:789:U:O4'	2.14	0.47
1:A:88:A:H2'	1:A:89:C:H6	1.78	0.47
2:B:126:GLU:HA	2:B:129:GLU:HG3	1.96	0.47
1:A:407:G:O2'	4:D:116:GLN:HG3	2.13	0.47
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.55	0.47
5:E:52:PRO:O	5:E:55:VAL:HG12	2.14	0.47
5:E:152:ARG:CZ	8:H:44:PHE:HE1	2.28	0.47
1:A:1368:G:C5'	9:I:112:LYS:HB3	2.42	0.47
12:L:55:VAL:HG12	12:L:69:TYR:HA	1.95	0.47
1:A:106:C:C2'	1:A:107:G:H5'	2.45	0.47
1:A:1144:G:H22	1:A:1146:A:H62	1.62	0.47
1:A:130:A:H1'	1:A:263:A:O2'	2.15	0.47
1:A:123:C:OP1	1:A:312:C:H5'	2.14	0.47
1:A:778:G:H8	1:A:778:G:O5'	1.96	0.47
1:A:941:G:C6	1:A:942:G:C8	3.03	0.47
1:A:959:A:HO2'	1:A:984:C:HO2'	1.58	0.47
4:D:23:GLY:HA3	4:D:112:VAL:HG12	1.96	0.47
4:D:140:VAL:HG11	4:D:146:ILE:HD11	1.96	0.47
4:D:174:LEU:O	4:D:186:LEU:HD11	2.14	0.47
17:Q:87:LYS:HE3	17:Q:87:LYS:HA	1.97	0.47
20:T:36:LEU:HA	20:T:36:LEU:HD23	1.49	0.47
21:U:12:LYS:HB3	21:U:22:ARG:HD2	1.96	0.47
1:A:1003(A):G:H3'	1:A:1004:A:H5''	1.97	0.47
1:A:1022:G:H2'	1:A:1023:G:H5''	1.97	0.47
1:A:1117:G:N2	1:A:1180:A:O2'	2.47	0.47
1:A:62:U:H2'	1:A:63:C:H6	1.78	0.47
1:A:766:A:OP2	25:A:2188:HOH:O	2.21	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:59:ARG:HE	3:C:59:ARG:HB2	1.60	0.47
4:D:100:ARG:NH1	4:D:137:SER:HA	2.30	0.47
4:D:32:ALA:O	4:D:36:ARG:N	2.48	0.47
5:E:84:PHE:CB	5:E:134:ALA:HB2	2.45	0.47
5:E:81:GLU:CD	5:E:88:LYS:HE3	2.35	0.47
10:J:47:PHE:HB3	14:N:34:TYR:CE2	2.42	0.47
11:K:98:LEU:HA	11:K:98:LEU:HD12	1.54	0.47
15:O:33:THR:O	15:O:36:ILE:HB	2.15	0.47
1:A:1074:G:C6	1:A:1075:C:C4	3.02	0.47
1:A:1106:G:H5''	3:C:172:ARG:HB3	1.96	0.47
2:B:98:LEU:HB2	2:B:101:MET:HG3	1.96	0.47
3:C:167:TRP:CE3	3:C:168:ALA:N	2.75	0.47
8:H:36:LEU:HA	8:H:36:LEU:HD23	1.72	0.47
18:R:79:LEU:HD23	18:R:80:PRO:HD2	1.96	0.47
1:A:1240:U:C2	7:G:32:ARG:HD2	2.50	0.47
1:A:1357:A:H5''	1:A:1358:U:OP2	2.15	0.47
1:A:309:G:O2'	1:A:607:A:N1	2.48	0.47
1:A:707:C:H5''	11:K:20:TYR:CD2	2.50	0.47
1:A:723:U:O2	1:A:723:U:H2'	2.14	0.47
1:A:824:C:H42	1:A:876:G:H1	1.63	0.47
1:A:953:G:C5'	1:A:965:A:H61	2.27	0.47
3:C:54:ARG:H	3:C:69:HIS:HB2	1.79	0.47
5:E:139:LEU:HA	5:E:139:LEU:HD23	1.61	0.47
16:P:67:THR:HG22	16:P:69:THR:N	2.27	0.47
18:R:46:GLU:OE2	18:R:86:VAL:N	2.30	0.47
20:T:52:ALA:O	20:T:56:MET:HB2	2.15	0.47
20:T:56:MET:HG3	20:T:88:VAL:HG21	1.97	0.47
1:A:1262:C:H2'	1:A:1263:C:C6	2.50	0.47
1:A:941:G:C2	1:A:1343:G:C2	3.03	0.47
2:B:55:PHE:HA	2:B:58:ILE:HG12	1.95	0.47
4:D:61:LYS:HD3	4:D:206:PHE:CE2	2.49	0.47
9:I:96:LEU:HB3	9:I:102:LEU:HG	1.97	0.47
13:M:4:ILE:HG23	13:M:57:ARG:HA	1.97	0.47
1:A:1314:C:H2'	1:A:1315:U:C6	2.50	0.47
1:A:1358:U:H5''	14:N:35:ARG:HG3	1.96	0.47
1:A:1361:G:O5'	1:A:1361:G:H8	1.98	0.47
1:A:160:A:HO2'	1:A:161:A:P	2.37	0.47
1:A:328:C:O2	1:A:328:C:H2'	2.15	0.47
1:A:699:C:C2'	1:A:700:G:H5'	2.45	0.47
6:F:24:GLU:HG3	6:F:28:ARG:HD2	1.97	0.47
7:G:26:PHE:HA	7:G:101:LEU:HD13	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:63:ILE:HG21	9:I:77:ILE:HG12	1.96	0.47
11:K:34:ASP:O	11:K:37:GLY:N	2.31	0.47
12:L:93:LEU:HD12	12:L:96:VAL:HG21	1.95	0.47
17:Q:84:LEU:HD23	17:Q:84:LEU:HA	1.49	0.47
1:A:1109:C:OP2	3:C:176:HIS:ND1	2.47	0.46
1:A:1053:G:HO2'	1:A:1199:U:H5	1.62	0.46
1:A:1361(A):C:H2'	1:A:1362:C:H5''	1.97	0.46
1:A:1450:U:H2'	1:A:1452:C:H41	1.78	0.46
1:A:44:G:N2	1:A:399:G:C4	2.83	0.46
2:B:103:THR:N	2:B:176:GLU:OE1	2.47	0.46
5:E:117:ASP:OD2	5:E:117:ASP:N	2.48	0.46
8:H:28:ALA:HB2	8:H:59:LEU:HG	1.98	0.46
8:H:73:ASP:HA	8:H:74:PRO:HD2	1.68	0.46
1:A:1381:U:C5	1:A:1382:C:C5	3.03	0.46
1:A:204:U:H4'	1:A:216:G:OP1	2.14	0.46
1:A:509:A:H5''	4:D:55:ALA:HB2	1.97	0.46
1:A:839:U:C5'	1:A:840:C:H5	2.28	0.46
1:A:942:G:N3	1:A:943:U:C6	2.83	0.46
2:B:30:ARG:HG3	2:B:31:TYR:CE2	2.49	0.46
12:L:117:ARG:HB3	12:L:122:THR:O	2.15	0.46
17:Q:75:ARG:HB2	17:Q:75:ARG:NH1	2.30	0.46
19:S:12:ASP:OD2	19:S:35:SER:OG	2.32	0.46
1:A:192:U:H4'	20:T:57:ARG:HD2	1.97	0.46
1:A:150:C:H2'	1:A:151:A:O5'	2.16	0.46
1:A:657:G:H4'	15:O:28:GLN:HG3	1.96	0.46
3:C:91:LEU:O	3:C:95:THR:HG23	2.16	0.46
4:D:61:LYS:HD2	4:D:207:TYR:OH	2.16	0.46
5:E:8:GLU:OE1	5:E:63:ARG:NH2	2.49	0.46
6:F:33:TYR:CD1	6:F:75:LEU:HD23	2.50	0.46
9:I:99:LEU:HD13	9:I:101:PHE:HE1	1.80	0.46
11:K:18:ARG:HB3	11:K:33:THR:HG23	1.96	0.46
14:N:21:TYR:HD1	14:N:21:TYR:N	2.12	0.46
1:A:101:A:H2'	1:A:102:G:H8	1.81	0.46
1:A:1126:U:H2'	1:A:1127:G:H5'	1.97	0.46
1:A:353:A:H5'	1:A:353:A:C8	2.50	0.46
1:A:369:C:C2'	1:A:370:C:H5'	2.45	0.46
1:A:374:A:H2'	1:A:375:U:C6	2.51	0.46
1:A:411:A:C5	1:A:413:G:N3	2.84	0.46
1:A:436:C:C2	1:A:437:U:C5	3.04	0.46
3:C:34:LEU:HD22	3:C:38:ARG:HE	1.80	0.46
4:D:173:TRP:O	4:D:186:LEU:HG	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:69:ARG:N	8:H:74:PRO:O	2.46	0.46
9:I:20:ARG:O	9:I:60:ASP:N	2.49	0.46
11:K:101:SER:HG	11:K:103:LEU:H	1.59	0.46
15:O:39:LEU:HD13	15:O:56:LEU:HB2	1.97	0.46
1:A:130:A:C8	17:Q:63:ARG:HG3	2.50	0.46
19:S:31:ILE:HA	19:S:31:ILE:HD13	1.78	0.46
1:A:1064:G:N2	1:A:1190:G:H2'	2.31	0.46
1:A:1347:G:H22	1:A:1374:A:P	2.39	0.46
1:A:1374:A:C4	1:A:1375:A:C8	3.03	0.46
1:A:695:A:C2	1:A:787:A:H1'	2.51	0.46
1:A:837:G:H1	1:A:849:C:N4	2.13	0.46
8:H:97:VAL:O	8:H:100:ILE:HG13	2.16	0.46
13:M:77:ASN:O	13:M:80:ARG:HB3	2.16	0.46
17:Q:74:LEU:HB3	17:Q:75:ARG:HG2	1.97	0.46
1:A:1305:G:O2'	1:A:1306:A:P	2.73	0.46
1:A:1237:C:N4	1:A:1336:C:O2	2.48	0.46
1:A:748:C:H4'	1:A:749:C:O5'	2.16	0.46
4:D:100:ARG:HH12	4:D:137:SER:HB3	1.81	0.46
1:A:195:A:H5'	1:A:196:A:OP2	2.15	0.46
1:A:131:C:O2	1:A:262:A:H2	1.97	0.46
1:A:547:A:H4'	1:A:548:G:O5'	2.15	0.46
2:B:87:ARG:HH21	2:B:219:VAL:HG12	1.79	0.46
8:H:38:ILE:HD13	8:H:41:ARG:HH21	1.78	0.46
12:L:92:0TD:N	12:L:92:0TD:OD1	2.44	0.46
16:P:60:LEU:HD23	16:P:60:LEU:HA	1.56	0.46
1:A:235:C:C5'	17:Q:70:ARG:HG2	2.45	0.46
20:T:84:LEU:HD22	20:T:88:VAL:CG2	2.46	0.46
1:A:1191:A:C4	1:A:1192:C:C5	3.04	0.46
1:A:1287:A:H2	1:A:1353:G:N3	2.13	0.46
1:A:1410:G:C4	1:A:1411:C:C5	3.04	0.46
1:A:460:A:C6	1:A:462:G:C6	3.04	0.46
1:A:620:C:H2'	1:A:621:A:C8	2.51	0.46
4:D:205:GLU:O	4:D:208:SER:HB3	2.16	0.46
8:H:86:ILE:HD12	8:H:86:ILE:HG23	1.66	0.46
1:A:1117:G:H4'	9:I:104:ARG:NH1	2.30	0.46
1:A:1249:C:HO2'	9:I:73:GLN:NE2	2.10	0.46
15:O:32:LEU:HD22	15:O:32:LEU:HA	1.76	0.46
15:O:36:ILE:HG12	15:O:59:MET:HG2	1.98	0.46
1:A:1064:G:OP1	1:A:1386:G:H4'	2.16	0.46
1:A:1175:G:H2'	1:A:1176:A:H8	1.78	0.46
1:A:1337:G:H5''	1:A:1338:G:OP1	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:179:A:H2'	1:A:180:U:H6	1.81	0.46
1:A:394:G:H2'	1:A:395:C:H6	1.79	0.46
1:A:413:G:H3'	1:A:413:G:C8	2.51	0.46
1:A:509:A:O2'	1:A:510:A:OP1	2.21	0.46
1:A:977:A:O2'	1:A:978:A:H5''	2.16	0.46
1:A:1189:C:H4'	3:C:10:PHE:CE2	2.50	0.46
3:C:25:GLY:HA2	3:C:29:TYR:HB2	1.97	0.46
4:D:155:LEU:HD23	4:D:156:GLU:N	2.30	0.46
4:D:15:GLU:CD	4:D:59:ARG:HH21	2.18	0.46
5:E:118:ILE:O	5:E:119:LEU:HD23	2.15	0.46
6:F:8:ILE:HD13	6:F:26:ILE:HD13	1.96	0.46
10:J:38:ILE:HD11	10:J:71:LEU:N	2.30	0.46
16:P:8:ARG:HG2	16:P:10:GLY:H	1.80	0.46
1:A:106:C:H2'	1:A:107:G:O4'	2.15	0.46
1:A:1090:U:H2'	1:A:1091:U:C6	2.45	0.46
1:A:181:G:C6	1:A:194:C:N3	2.84	0.46
1:A:197:A:N3	1:A:198:G:H1'	2.30	0.46
1:A:316:G:OP2	1:A:351:G:O2'	2.34	0.46
1:A:668:G:H1'	15:O:46:HIS:HD2	1.81	0.46
2:B:201:ILE:HG21	2:B:214:ILE:HG21	1.98	0.46
7:G:138:LYS:HE2	7:G:139:GLU:HG3	1.98	0.46
9:I:17:VAL:HG11	9:I:81:ILE:HA	1.98	0.46
9:I:49:PRO:O	9:I:53:VAL:HB	2.16	0.46
16:P:74:LEU:HD22	16:P:79:VAL:HG21	1.98	0.46
20:T:20:LEU:O	20:T:23:ARG:HB3	2.16	0.46
1:A:1193:G:H2'	1:A:1194:U:H6	1.81	0.45
1:A:1338:G:C6	1:A:1339:A:C6	3.04	0.45
1:A:190(K):G:H2'	1:A:190(L):U:C6	2.52	0.45
1:A:699:C:H2'	1:A:700:G:H5'	1.97	0.45
1:A:750:G:N3	15:O:23:GLY:HA3	2.30	0.45
2:B:155:LEU:HA	2:B:155:LEU:HD23	1.74	0.45
4:D:78:LEU:HD21	4:D:96:LEU:HB3	1.98	0.45
9:I:66:ARG:HE	9:I:66:ARG:HB2	1.43	0.45
1:A:1151:A:H5''	10:J:41:PRO:HA	1.98	0.45
1:A:972:C:H4'	10:J:57:LYS:CD	2.46	0.45
17:Q:31:LEU:HA	17:Q:31:LEU:HD12	1.55	0.45
19:S:28:LYS:HD3	19:S:31:ILE:HG12	1.98	0.45
20:T:43:LEU:HG	20:T:43:LEU:H	1.40	0.45
1:A:1107:C:C4	1:A:1108:G:C8	3.04	0.45
1:A:1279:A:OP2	10:J:9:ARG:NH1	2.49	0.45
1:A:1392:G:O2'	1:A:1393:U:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:G:H2'	1:A:201:C:O4'	2.17	0.45
1:A:331:G:H5'	25:A:1996:HOH:O	2.16	0.45
1:A:372:C:H4'	1:A:373:A:O5'	2.16	0.45
1:A:411:A:N6	1:A:413:G:C2	2.84	0.45
1:A:518:C:H1'	12:L:50:SER:HB3	1.98	0.45
1:A:735:C:H5'	18:R:71:LYS:HD3	1.98	0.45
1:A:738:C:P	6:F:92:LYS:HD3	2.56	0.45
3:C:17:ASP:OD1	3:C:21:ARG:NH1	2.49	0.45
4:D:30:LYS:O	4:D:32:ALA:N	2.49	0.45
8:H:25:ASP:OD1	8:H:60:ARG:HD3	2.15	0.45
8:H:87:SER:HA	8:H:93:VAL:HG23	1.98	0.45
8:H:97:VAL:HG23	8:H:129:VAL:O	2.16	0.45
12:L:58:VAL:O	12:L:65:GLU:HA	2.16	0.45
14:N:14:PRO:O	14:N:15:LYS:HB3	2.16	0.45
19:S:49:ILE:O	19:S:60:VAL:HG12	2.16	0.45
19:S:74:PHE:N	19:S:74:PHE:CD1	2.85	0.45
1:A:1046:A:H5'	1:A:1047:G:OP2	2.17	0.45
1:A:1053:G:O2'	1:A:1199:U:H5	1.99	0.45
1:A:1216:G:H5''	14:N:5:ALA:HB2	1.98	0.45
1:A:1221:G:C4	1:A:1222:G:C8	3.04	0.45
1:A:1435:G:O5'	1:A:1435:G:H8	2.00	0.45
1:A:234:C:H2'	1:A:235:C:C6	2.52	0.45
1:A:597:G:H2'	1:A:598:U:H5'	1.99	0.45
1:A:647:C:H2'	1:A:648:A:C8	2.52	0.45
1:A:980:C:H3'	1:A:981:U:H6	1.81	0.45
1:A:98:U:H2'	1:A:99:C:H6	1.80	0.45
4:D:177:ASP:OD2	4:D:179:GLU:HB2	2.16	0.45
5:E:89:ILE:HG21	5:E:135:THR:HA	1.99	0.45
7:G:87:VAL:HA	7:G:88:PRO:HD3	1.71	0.45
9:I:93:ARG:HB3	9:I:93:ARG:HH11	1.81	0.45
1:A:1124:G:H5'	10:J:35:SER:O	2.17	0.45
1:A:1359:C:P	14:N:35:ARG:HH11	2.40	0.45
1:A:1064:G:H1'	1:A:1190:G:H21	1.81	0.45
1:A:1348:U:O2'	9:I:120:ARG:HD2	2.16	0.45
1:A:1417:G:N2	1:A:1484:C:C4	2.84	0.45
1:A:1465:C:H2'	1:A:1466:C:O4'	2.16	0.45
1:A:83:U:O2'	1:A:84:U:H5'	2.16	0.45
1:A:978:A:OP1	1:A:1361:G:N2	2.46	0.45
1:A:986:A:H4'	19:S:55:LYS:NZ	2.32	0.45
2:B:194:PRO:HA	2:B:200:ILE:HD11	1.98	0.45
6:F:5:GLU:OE1	18:R:34:TYR:OH	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:17:VAL:HG12	7:G:18:TYR:HD1	1.82	0.45
1:A:1092:A:H5'	7:G:4:ARG:NH1	2.31	0.45
7:G:40:ALA:CB	9:I:41:VAL:HG21	2.47	0.45
12:L:25:PRO:HB3	12:L:27:LEU:CD2	2.42	0.45
1:A:958:A:C5	19:S:55:LYS:HB2	2.50	0.45
20:T:20:LEU:HD13	20:T:20:LEU:HA	1.66	0.45
1:A:1102:A:H2'	1:A:1103:C:H6	1.82	0.45
1:A:1292:U:H2'	1:A:1293:G:H8	1.81	0.45
1:A:509:A:OP2	25:A:2198:HOH:O	2.21	0.45
1:A:654:G:H2'	1:A:655:A:H8	1.81	0.45
2:B:24:TRP:HA	2:B:191:ASP:HA	1.99	0.45
3:C:101:LEU:HD23	3:C:102:ASN:H	1.82	0.45
3:C:116:VAL:HG21	3:C:202:ILE:HD11	1.97	0.45
3:C:179:ARG:HD2	3:C:206:GLU:HG3	1.98	0.45
7:G:138:LYS:HG2	7:G:139:GLU:N	2.31	0.45
11:K:11:LYS:NZ	11:K:11:LYS:HB2	2.31	0.45
17:Q:37:LYS:C	17:Q:38:ARG:HD2	2.36	0.45
20:T:75:ASN:O	20:T:78:ALA:N	2.49	0.45
1:A:1094:G:OP2	1:A:1095:U:C5	2.69	0.45
1:A:1226:C:H4'	1:A:1227:A:OP1	2.16	0.45
1:A:1504:G:H4'	1:A:1505:G:H5'	1.97	0.45
1:A:1507:A:C2	1:A:1508:G:C4	3.05	0.45
1:A:425:G:C2'	1:A:426:G:H5'	2.47	0.45
1:A:922:G:C6	1:A:923:A:C6	3.05	0.45
6:F:33:TYR:HD1	6:F:75:LEU:HD23	1.81	0.45
13:M:106:ASN:N	13:M:106:ASN:OD1	2.49	0.45
17:Q:77:VAL:HG12	17:Q:78:GLU:N	2.30	0.45
1:A:105:G:H2'	1:A:106:C:C6	2.51	0.45
1:A:62:U:O2'	1:A:379:C:O2	2.29	0.45
1:A:578:C:H2'	1:A:579:G:O4'	2.16	0.45
1:A:734:G:H21	18:R:75:ILE:HD13	1.82	0.45
5:E:82:VAL:HG12	5:E:82:VAL:O	2.15	0.45
7:G:120:ILE:O	7:G:124:LEU:HB2	2.17	0.45
8:H:104:ARG:HG3	8:H:138:TRP:CD2	2.51	0.45
12:L:123:LYS:HG2	12:L:123:LYS:H	1.45	0.45
13:M:94:ARG:HB3	13:M:96:LEU:CD1	2.46	0.45
15:O:79:ARG:O	15:O:83:GLU:HG2	2.17	0.45
1:A:128:G:O3'	17:Q:3:LYS:NZ	2.49	0.45
1:A:1320:C:OP1	19:S:70:LYS:HE2	2.17	0.45
1:A:110:C:H2'	1:A:111:G:O4'	2.16	0.45
1:A:1189:C:P	10:J:51:ARG:HH22	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1410:G:C4	1:A:1491:G:N2	2.85	0.45
2:B:215:LEU:HD23	2:B:215:LEU:HA	1.58	0.45
4:D:126:ILE:HD13	4:D:126:ILE:HA	1.70	0.45
7:G:15:ASP:OD2	7:G:16:LEU:N	2.49	0.45
12:L:11:VAL:H	12:L:11:VAL:HG23	1.40	0.45
1:A:586:C:OP1	17:Q:34:LYS:NZ	2.50	0.45
19:S:28:LYS:HG2	19:S:29:ARG:H	1.82	0.45
1:A:1008:C:O4'	1:A:1023:G:N2	2.50	0.45
1:A:1047:G:H2'	1:A:1048:G:H5'	1.99	0.45
1:A:1054:C:H3'	1:A:1054:C:C6	2.52	0.45
1:A:113:G:H2'	1:A:114:U:C6	2.52	0.45
1:A:1361(A):C:HO2'	1:A:1362:C:H6	1.64	0.45
1:A:1400:5MC:H4'	1:A:1544:U:C5	2.52	0.45
1:A:1476:G:H2'	1:A:1477:C:H6	1.81	0.45
1:A:113:G:C2	1:A:315:A:N1	2.85	0.45
1:A:78:G:H5'	1:A:79:G:OP2	2.16	0.45
1:A:90:U:C4	1:A:91:C:N3	2.85	0.45
1:A:946:A:H2'	1:A:947:G:H8	1.79	0.45
2:B:189:ASP:OD1	2:B:205:ASP:HB3	2.16	0.45
2:B:47:THR:O	2:B:51:LEU:HB2	2.17	0.45
3:C:7:PRO:HB3	3:C:11:ARG:HH21	1.81	0.45
3:C:26:LYS:HD3	3:C:26:LYS:HA	1.81	0.45
5:E:13:ILE:HG22	5:E:30:ALA:HA	1.99	0.45
7:G:70:LYS:NZ	7:G:97:GLN:HA	2.32	0.45
13:M:78:ILE:HA	13:M:81:LEU:HD23	1.97	0.45
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.50	0.45
6:F:99:ALA:HB2	18:R:31:LEU:HG	1.99	0.45
1:A:1133:G:C2	1:A:1134:G:C8	3.05	0.45
1:A:1418:A:H61	1:A:1482:G:H1'	1.81	0.45
1:A:1494:G:H2'	1:A:1495:U:H6	1.81	0.45
1:A:247:G:OP2	17:Q:100:LYS:HD2	2.16	0.45
1:A:452:A:C2	1:A:453:A:C4	3.05	0.45
1:A:81:U:H6	1:A:81:U:H3'	1.82	0.45
1:A:942:G:C2	1:A:943:U:C6	3.05	0.45
9:I:2:GLU:OE2	9:I:3:GLN:NE2	2.50	0.45
14:N:12:ARG:HB3	14:N:13:THR:H	1.50	0.45
15:O:81:LEU:HA	15:O:81:LEU:HD23	1.78	0.45
16:P:21:VAL:HG21	16:P:59:TRP:CG	2.52	0.45
16:P:57:ARG:HG3	16:P:79:VAL:CG1	2.45	0.45
1:A:1031:G:C8	1:A:1032:G:N7	2.85	0.44
1:A:960:U:H1'	1:A:1223:C:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1349:A:H2'	1:A:1350:A:O4'	2.17	0.44
1:A:428:G:C5	1:A:430:A:C6	3.05	0.44
1:A:559:A:H4'	1:A:560:U:O5'	2.17	0.44
1:A:725:G:O2'	1:A:726:C:H5'	2.17	0.44
1:A:89:C:N3	1:A:90:U:N3	2.65	0.44
3:C:10:PHE:C	3:C:10:PHE:CD1	2.91	0.44
3:C:130:VAL:HG11	3:C:157:ILE:HG23	1.99	0.44
4:D:163:GLU:HG3	4:D:166:LYS:HE3	1.99	0.44
7:G:58:PRO:O	7:G:61:VAL:HB	2.17	0.44
1:A:429:U:H4'	1:A:430:A:O5'	2.17	0.44
1:A:674:G:H5'	6:F:50:TYR:CE2	2.52	0.44
7:G:20:ASP:OD1	7:G:21:VAL:N	2.50	0.44
1:A:1232:U:H5''	9:I:124:GLN:O	2.17	0.44
11:K:15:ALA:HA	11:K:77:MET:HA	1.97	0.44
12:L:84:LEU:HB3	12:L:104:VAL:HG11	1.99	0.44
20:T:13:LEU:HG	20:T:13:LEU:H	1.51	0.44
1:A:108:G:O6	20:T:15:ARG:HG2	2.17	0.44
1:A:1454:G:H2'	1:A:1455:G:H8	1.82	0.44
1:A:371:G:O2'	1:A:372:C:H5'	2.17	0.44
1:A:918:A:H2'	1:A:919:A:C8	2.53	0.44
1:A:96:G:H2'	1:A:97:G:H8	1.82	0.44
2:B:184:VAL:HG22	2:B:198:ASP:OD2	2.17	0.44
3:C:90:GLU:OE1	3:C:93:LYS:HD2	2.18	0.44
4:D:65:ARG:HG3	4:D:70:ILE:HG22	1.99	0.44
8:H:111:ILE:HG22	8:H:134:ILE:HB	1.99	0.44
14:N:19:ARG:H	14:N:19:ARG:HG2	1.46	0.44
1:A:1008:C:N4	1:A:1021:G:H1	2.14	0.44
1:A:1067:A:H4'	1:A:1068:G:O5'	2.17	0.44
1:A:1355:G:H2'	1:A:1356:G:H8	1.83	0.44
1:A:1250:A:O2'	1:A:1370:G:O2'	2.29	0.44
1:A:1497:G:C2'	1:A:1498:UR3:H5'	2.47	0.44
1:A:80:G:N2	1:A:90:U:H3	2.16	0.44
1:A:961:U:H2'	1:A:962:C:O4'	2.18	0.44
1:A:98:U:C2	1:A:99:C:C5	3.05	0.44
5:E:90:VAL:O	5:E:120:THR:HA	2.17	0.44
6:F:14:LEU:HD13	6:F:18:GLN:HB3	1.99	0.44
12:L:25:PRO:C	12:L:27:LEU:HB2	2.37	0.44
19:S:11:VAL:HA	19:S:38:SER:HB2	2.00	0.44
1:A:1494:G:C2	1:A:1495:U:C5	3.06	0.44
3:C:32:LEU:HG	3:C:59:ARG:NH1	2.33	0.44
8:H:100:ILE:CG2	8:H:112:LEU:HD21	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:10:VAL:HG22	17:Q:10:VAL:O	2.17	0.44
17:Q:22:LEU:HD22	17:Q:41:LYS:HG3	1.99	0.44
1:A:1060:C:O2	10:J:56:HIS:NE2	2.51	0.44
1:A:1477:C:H2'	1:A:1478:C:H6	1.82	0.44
1:A:434:U:C4	1:A:435:C:N4	2.85	0.44
1:A:532:A:H2'	1:A:533:A:C5'	2.47	0.44
1:A:80:G:H1	1:A:89:C:H42	1.65	0.44
1:A:914:A:P	22:A:1601:SRY:HI33	2.57	0.44
2:B:107:THR:HG23	2:B:110:GLN:OE1	2.17	0.44
2:B:96:ARG:NE	2:B:97:TRP:H	2.13	0.44
10:J:10:GLY:O	10:J:67:THR:HA	2.17	0.44
15:O:14:GLU:HG2	15:O:15:PHE:CE1	2.53	0.44
1:A:1064:G:H21	1:A:1190:G:H2'	1.82	0.44
1:A:1329:A:H2'	1:A:1330:U:O4'	2.18	0.44
1:A:230:G:H2'	1:A:231:G:O4'	2.18	0.44
1:A:250:A:O4'	1:A:252:U:C6	2.71	0.44
1:A:413:G:H3'	1:A:413:G:H8	1.82	0.44
1:A:874:G:C2'	1:A:875:C:H5'	2.48	0.44
1:A:972:C:H4'	10:J:57:LYS:HG2	2.00	0.44
2:B:162:ILE:O	2:B:185:ILE:HD12	2.18	0.44
4:D:22:LYS:HG3	4:D:26:CYS:SG	2.57	0.44
6:F:22:GLU:O	6:F:26:ILE:HG13	2.17	0.44
6:F:4:TYR:CZ	6:F:72:VAL:HG21	2.52	0.44
12:L:25:PRO:CA	12:L:27:LEU:HB2	2.48	0.44
13:M:67:GLU:O	13:M:71:ARG:HG2	2.17	0.44
14:N:20:ALA:C	14:N:21:TYR:HD1	2.21	0.44
1:A:1032:G:O5'	1:A:1032:G:H8	2.00	0.44
1:A:103:C:OP2	20:T:14:LYS:HD2	2.18	0.44
1:A:1154:G:C6	1:A:1155:G:C5	3.06	0.44
1:A:1189:C:H4'	3:C:10:PHE:HE2	1.83	0.44
1:A:956:U:C2	1:A:1225:A:C2	3.06	0.44
1:A:1245:A:H5''	1:A:1246:C:OP2	2.18	0.44
1:A:1358:U:H3'	1:A:1359:C:C5	2.53	0.44
1:A:1392:G:H2'	1:A:1393:U:C6	2.53	0.44
1:A:1420:C:H2'	1:A:1421:G:C8	2.47	0.44
1:A:257:G:H1	1:A:269:C:H42	1.66	0.44
1:A:59:A:H3'	1:A:331:G:N2	2.33	0.44
1:A:772:U:H2'	1:A:773:G:O4'	2.18	0.44
1:A:869:G:C5	25:A:2219:HOH:O	2.67	0.44
1:A:89:C:N3	1:A:90:U:C2	2.86	0.44
1:A:978:A:C6	1:A:1318:A:C6	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:61:LEU:HG	2:B:66:GLY:HA3	1.99	0.44
4:D:4:TYR:C	4:D:5:ILE:HG13	2.38	0.44
5:E:11:ILE:HA	5:E:11:ILE:HD13	1.74	0.44
5:E:152:ARG:HB3	8:H:43:GLY:HA3	1.99	0.44
5:E:90:VAL:C	5:E:91:LEU:HD23	2.38	0.44
6:F:95:GLU:O	18:R:32:ARG:NH1	2.51	0.44
11:K:24:SER:OG	11:K:25:TYR:N	2.49	0.44
16:P:1:MET:O	16:P:3:LYS:HG2	2.17	0.44
18:R:25:THR:OG1	18:R:42:ARG:NH1	2.50	0.44
19:S:41:VAL:HB	19:S:42:PRO:HD2	1.99	0.44
1:A:1093:A:N3	1:A:1109:C:O2'	2.43	0.44
1:A:312:C:H2'	1:A:313:A:O4'	2.18	0.44
1:A:619:U:C4	4:D:135:LEU:HD21	2.53	0.44
1:A:643:C:C2'	1:A:644:G:H5'	2.47	0.44
1:A:78:G:C6	1:A:92:C:C4	3.06	0.44
1:A:858:G:O6	25:A:2220:HOH:O	2.21	0.44
1:A:93:G:N2	1:A:95:U:C2	2.86	0.44
1:A:979:C:C5	1:A:980:C:C4	3.06	0.44
2:B:97:TRP:CH2	2:B:176:GLU:CD	2.90	0.44
2:B:217:ARG:HD3	2:B:217:ARG:HA	1.76	0.44
4:D:207:TYR:HD2	4:D:207:TYR:HA	1.64	0.44
6:F:32:ASN:HD22	6:F:32:ASN:C	2.17	0.44
8:H:82:HIS:CD2	8:H:138:TRP:NE1	2.86	0.44
11:K:38:ASN:HA	11:K:39:PRO:HD3	1.58	0.44
15:O:75:PRO:O	15:O:79:ARG:HD3	2.18	0.44
12:L:8:ASN:OD1	17:Q:34:LYS:HE2	2.17	0.44
17:Q:53:LEU:HA	17:Q:53:LEU:HD13	1.56	0.44
1:A:1492:A:C2'	1:A:1493:A:H4'	2.45	0.43
2:B:212:GLN:C	2:B:212:GLN:HE21	2.21	0.43
4:D:84:LYS:HE2	4:D:84:LYS:HB3	1.88	0.43
10:J:38:ILE:HD11	10:J:71:LEU:H	1.83	0.43
1:A:192:U:H5'	20:T:102:GLY:O	2.18	0.43
1:A:113:G:H2'	1:A:114:U:H6	1.82	0.43
1:A:1250:A:C6	1:A:1251:A:C6	3.07	0.43
1:A:1255:G:N2	1:A:1259:C:O2	2.46	0.43
1:A:128:G:OP1	17:Q:2:PRO:HD2	2.18	0.43
1:A:145:G:H1	1:A:177:C:H42	1.65	0.43
1:A:406:G:H21	4:D:119:GLN:HE22	1.64	0.43
2:B:147:LYS:HZ2	2:B:148:TYR:HE2	1.64	0.43
4:D:135:LEU:H	4:D:135:LEU:HG	1.64	0.43
8:H:107:LEU:HD23	8:H:107:LEU:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:119:LEU:HD12	8:H:124:ALA:CB	2.47	0.43
11:K:18:ARG:HB3	11:K:20:TYR:HE1	1.83	0.43
1:A:1026:G:C8	1:A:1027:C:C5	3.07	0.43
1:A:114:U:O2'	1:A:115:G:H5'	2.18	0.43
1:A:1500:A:OP2	1:A:1505:G:OP1	2.36	0.43
1:A:16:A:C2	1:A:920:U:C2	3.07	0.43
1:A:253:U:H2'	1:A:254:G:H8	1.82	0.43
1:A:109:A:C6	1:A:326:G:C6	3.06	0.43
1:A:359:U:H2'	1:A:360:A:C8	2.54	0.43
1:A:892:A:C2	1:A:907:A:C4	3.07	0.43
1:A:939:G:H2'	1:A:940:C:C6	2.53	0.43
1:A:966:M2G:HM22	1:A:967:5MC:O2	2.18	0.43
3:C:43:LEU:O	3:C:47:LEU:HB2	2.18	0.43
6:F:33:TYR:HD1	6:F:75:LEU:CA	2.28	0.43
6:F:33:TYR:CE1	6:F:75:LEU:HA	2.52	0.43
7:G:22:LEU:HD12	7:G:22:LEU:HA	1.69	0.43
7:G:28:ASN:HA	7:G:31:MET:HE2	2.00	0.43
8:H:86:ILE:CG2	8:H:133:LEU:HB3	2.47	0.43
9:I:86:VAL:HG23	9:I:96:LEU:HD22	2.00	0.43
13:M:65:LYS:HE3	13:M:69:GLU:HG2	2.00	0.43
15:O:40:SER:O	15:O:44:LYS:HG2	2.18	0.43
1:A:1089:G:C2	1:A:1097:C:C2	3.06	0.43
1:A:157:G:H2'	1:A:158:G:C8	2.54	0.43
2:B:166:ASP:OD1	2:B:167:PRO:HD2	2.18	0.43
2:B:87:ARG:O	2:B:223:ILE:HD11	2.18	0.43
3:C:153:VAL:HA	3:C:198:VAL:HG12	1.99	0.43
7:G:47:CYS:O	7:G:50:ILE:HB	2.19	0.43
1:A:599:C:O2'	8:H:129:VAL:HG12	2.17	0.43
8:H:85:ARG:NE	8:H:87:SER:O	2.51	0.43
1:A:1199:U:H4'	10:J:54:PHE:CD1	2.53	0.43
11:K:18:ARG:CB	11:K:33:THR:HG23	2.49	0.43
1:A:728:A:C8	15:O:54:ARG:NH1	2.86	0.43
17:Q:22:LEU:HA	17:Q:22:LEU:HD22	1.69	0.43
17:Q:23:VAL:HG21	17:Q:42:TYR:CD1	2.53	0.43
1:A:1255:G:H22	1:A:1283:G:H1'	1.83	0.43
1:A:1277:C:O2'	1:A:1279:A:H1'	2.18	0.43
1:A:445:G:H2'	1:A:446:G:C8	2.53	0.43
1:A:455:C:H2'	1:A:456:C:H5'	1.99	0.43
1:A:518:C:H4'	1:A:519:C:O5'	2.18	0.43
18:R:46:GLU:HG3	18:R:47:THR:N	2.31	0.43
20:T:29:LYS:HB2	20:T:29:LYS:HE2	1.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1060:C:C2'	1:A:1061:G:H5'	2.49	0.43
1:A:115:G:O2'	1:A:116:A:OP2	2.22	0.43
1:A:1330:U:H2'	1:A:1331:G:H5'	2.00	0.43
1:A:1516:G:O5'	1:A:1516:G:H8	2.02	0.43
1:A:257:G:H2'	1:A:258:G:O4'	2.19	0.43
1:A:500:G:C6	1:A:501:C:N4	2.87	0.43
2:B:101:MET:O	2:B:105:PHE:HA	2.17	0.43
6:F:27:GLN:O	6:F:31:GLU:HG3	2.19	0.43
12:L:69:TYR:CE2	12:L:71:PRO:HA	2.51	0.43
15:O:87:ILE:HG22	15:O:88:ARG:HB2	2.01	0.43
17:Q:29:HIS:ND1	17:Q:30:PRO:HD2	2.33	0.43
6:F:91:VAL:HG13	18:R:72:ARG:NH2	2.34	0.43
19:S:22:LEU:HD11	19:S:31:ILE:HG13	2.01	0.43
19:S:31:ILE:HG23	19:S:32:LYS:N	2.33	0.43
1:A:1148:U:H2'	1:A:1149:C:H6	1.84	0.43
1:A:1150:U:O4	1:A:1151:A:N6	2.50	0.43
1:A:1181:G:C5	1:A:1182:G:C6	3.07	0.43
1:A:509:A:H3'	1:A:509:A:C8	2.53	0.43
4:D:13:ARG:NH2	4:D:36:ARG:HH22	2.17	0.43
5:E:37:ARG:O	5:E:114:GLY:HA3	2.19	0.43
7:G:155:ARG:HA	7:G:155:ARG:NH1	2.22	0.43
11:K:27:ASN:HD22	11:K:29:ILE:HG22	1.83	0.43
19:S:33:THR:O	19:S:51:VAL:HA	2.18	0.43
1:A:1028:C:O2'	1:A:1029:C:H5'	2.18	0.43
1:A:949:A:C2	1:A:1233:G:N3	2.87	0.43
1:A:587:G:O2'	1:A:588:G:OP2	2.32	0.43
1:A:593:G:H2'	1:A:594:G:O4'	2.19	0.43
1:A:836:G:C6	1:A:851:G:C6	3.06	0.43
3:C:76:VAL:HG11	3:C:103:VAL:HG11	2.00	0.43
3:C:76:VAL:HG12	3:C:77:ILE:HD13	2.01	0.43
4:D:4:TYR:HE2	4:D:6:GLY:C	2.22	0.43
4:D:17:VAL:HG21	4:D:63:LYS:HD3	2.01	0.43
5:E:11:ILE:HG22	5:E:12:LEU:N	2.33	0.43
14:N:53:LEU:HD12	14:N:56:VAL:HG21	2.01	0.43
1:A:1060:C:C2	1:A:1198:G:C2	3.07	0.43
1:A:1255:G:N1	1:A:1283:G:C2	2.87	0.43
1:A:1287:A:H2'	1:A:1288:A:C8	2.53	0.43
1:A:1328:C:C2'	1:A:1329:A:H5'	2.49	0.43
1:A:253:U:H2'	1:A:254:G:C8	2.54	0.43
1:A:428:G:H1'	1:A:429:U:OP2	2.19	0.43
1:A:500:G:C6	1:A:501:C:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:528:C:H41	12:L:49:ASN:CG	2.21	0.43
1:A:860:A:H2'	1:A:861:G:O4'	2.19	0.43
1:A:940:C:H5''	1:A:941:G:OP2	2.19	0.43
2:B:17:PHE:HA	2:B:44:LEU:HD11	2.00	0.43
2:B:44:LEU:HA	2:B:47:THR:HB	2.01	0.43
6:F:79:LEU:HD23	6:F:79:LEU:HA	1.66	0.43
8:H:6:ILE:O	8:H:10:LEU:HG	2.19	0.43
11:K:48:ILE:HG22	11:K:49:GLY:H	1.83	0.43
16:P:32:TYR:CE2	16:P:35:LYS:HB2	2.54	0.43
20:T:53:LEU:HA	20:T:53:LEU:HD22	1.81	0.43
21:U:8:THR:HG22	21:U:9:ARG:N	2.33	0.43
1:A:1015:A:H2'	1:A:1016:A:O4'	2.19	0.43
1:A:1200:C:OP1	1:A:1201:A:H2'	2.19	0.43
1:A:1225:A:N3	1:A:1225:A:H2'	2.33	0.43
1:A:299:G:O5'	1:A:299:G:H8	2.02	0.43
1:A:662:G:H2'	1:A:663:A:C8	2.54	0.43
1:A:92:C:C2	1:A:93:G:C8	3.06	0.43
1:A:968:A:C8	1:A:1062:U:H4'	2.53	0.43
3:C:18:TRP:NE1	14:N:54:PRO:HA	2.34	0.43
1:A:413:G:O6	4:D:36:ARG:NE	2.52	0.43
4:D:38:TYR:HB2	4:D:39:PRO:HD2	2.01	0.43
4:D:68:TYR:CD2	4:D:97:LEU:HD22	2.54	0.43
8:H:10:LEU:HD22	8:H:83:ILE:HD12	1.99	0.43
10:J:26:ALA:HA	10:J:29:ARG:CZ	2.49	0.43
17:Q:6:LEU:HD23	17:Q:6:LEU:N	2.34	0.43
19:S:6:LYS:HB3	19:S:7:LYS:H	1.31	0.43
1:A:1033:G:H2'	1:A:1034:G:O4'	2.19	0.42
1:A:119:A:H2'	25:A:2149:HOH:O	2.17	0.42
1:A:1368:G:OP1	9:I:111:ARG:NH2	2.47	0.42
1:A:197:A:H1'	1:A:198:G:O4'	2.19	0.42
1:A:265:G:H2'	1:A:267:C:C5	2.54	0.42
1:A:39:G:O6	1:A:547:A:H2'	2.18	0.42
2:B:114:ARG:HH21	2:B:118:LEU:HD21	1.84	0.42
4:D:173:TRP:C	4:D:186:LEU:HG	2.39	0.42
5:E:51:VAL:HG12	5:E:52:PRO:HD3	2.01	0.42
6:F:3:ARG:NE	6:F:38:GLU:OE2	2.51	0.42
8:H:65:TYR:HA	8:H:79:VAL:HG23	1.99	0.42
9:I:118:LYS:C	9:I:120:ARG:H	2.21	0.42
9:I:97:LYS:N	9:I:98:PRO:HD2	2.34	0.42
11:K:115:PRO:C	11:K:117:ASN:H	2.21	0.42
11:K:44:SER:H	11:K:47:VAL:HB	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:13:LYS:HB2	13:M:18:ALA:HB2	2.01	0.42
14:N:36:PHE:CD1	14:N:36:PHE:C	2.92	0.42
16:P:43:LYS:HB2	16:P:43:LYS:HE2	1.90	0.42
17:Q:20:THR:HG22	17:Q:41:LYS:HG2	2.01	0.42
1:A:1057:G:C4	1:A:1058:G:C8	3.07	0.42
1:A:1260:C:O5'	1:A:1284:C:H4'	2.20	0.42
1:A:1357:A:H2'	1:A:1358:U:C6	2.54	0.42
1:A:146:G:N2	1:A:147:G:C4	2.87	0.42
1:A:503:C:O5'	1:A:503:C:H6	2.03	0.42
1:A:575:G:O2'	1:A:821:G:H5'	2.19	0.42
1:A:74:C:H2'	1:A:75:G:C8	2.54	0.42
1:A:793:U:HO2'	1:A:794:A:C5'	2.26	0.42
2:B:98:LEU:HB2	2:B:101:MET:CG	2.50	0.42
3:C:73:PRO:HG3	3:C:105:GLU:OE1	2.19	0.42
3:C:34:LEU:HD13	3:C:38:ARG:HE	1.84	0.42
3:C:8:ILE:HG23	3:C:16:ARG:HG2	2.02	0.42
6:F:45:LEU:HD23	6:F:45:LEU:HA	1.87	0.42
1:A:935:A:H61	7:G:3:ARG:HG3	1.83	0.42
11:K:112:THR:HA	11:K:113:PRO:HD2	1.91	0.42
11:K:95:ILE:O	11:K:99:GLN:HG3	2.19	0.42
13:M:15:VAL:HG12	13:M:34:LEU:HD11	2.00	0.42
13:M:36:LYS:HD2	13:M:59:TYR:OH	2.18	0.42
15:O:85:LEU:HD23	15:O:85:LEU:HA	1.54	0.42
1:A:107:G:N2	1:A:108:G:H1'	2.35	0.42
1:A:1200:C:H2'	1:A:1200:C:O2	2.20	0.42
1:A:197:A:H4'	1:A:198:G:O5'	2.20	0.42
1:A:993:G:N3	1:A:993:G:H2'	2.35	0.42
2:B:54:THR:OG1	2:B:199:TYR:HB3	2.20	0.42
3:C:137:ALA:O	3:C:141:VAL:HG23	2.19	0.42
8:H:104:ARG:HG2	8:H:104:ARG:NH1	2.35	0.42
8:H:105:ARG:HD3	8:H:105:ARG:HA	1.79	0.42
10:J:19:SER:O	10:J:23:ILE:HG12	2.19	0.42
11:K:48:ILE:HG13	11:K:48:ILE:H	1.42	0.42
12:L:98:TYR:CD1	12:L:98:TYR:N	2.87	0.42
13:M:94:ARG:HB3	13:M:96:LEU:HD12	2.00	0.42
20:T:41:ILE:HA	20:T:41:ILE:HD12	1.67	0.42
1:A:1168:A:H2'	1:A:1169:A:C8	2.54	0.42
1:A:285:G:O2'	1:A:286:G:H5'	2.20	0.42
1:A:586:C:C2'	1:A:587:G:H5'	2.49	0.42
1:A:643:C:H2'	1:A:644:G:H5'	2.01	0.42
1:A:678:U:H1'	1:A:777:A:O3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:81:U:H5'	1:A:82:U:OP1	2.20	0.42
1:A:811:C:H4'	1:A:900:A:N6	2.34	0.42
1:A:96:G:C2	1:A:97:G:C4	3.08	0.42
1:A:975:A:H5'	1:A:975:A:H8	1.83	0.42
2:B:193:ASP:HA	2:B:194:PRO:HD2	1.72	0.42
2:B:7:VAL:HG11	2:B:221:LEU:HB2	2.01	0.42
2:B:78:GLN:HB2	2:B:94:ASN:OD1	2.19	0.42
4:D:30:LYS:C	4:D:32:ALA:H	2.21	0.42
5:E:112:LEU:HA	5:E:112:LEU:HD23	1.87	0.42
8:H:83:ILE:HG22	8:H:83:ILE:O	2.18	0.42
12:L:7:ILE:O	12:L:10:LEU:N	2.52	0.42
1:A:229:U:H4'	16:P:33:ILE:HD13	2.00	0.42
1:A:1057:G:C5	1:A:1058:G:N7	2.88	0.42
1:A:1095:U:H2'	1:A:1096:C:O4'	2.19	0.42
1:A:1510:U:H2'	1:A:1511:G:H8	1.81	0.42
1:A:152:A:OP2	1:A:153:C:N4	2.43	0.42
1:A:558:G:C5'	1:A:559:A:H3'	2.48	0.42
1:A:602:A:C2	1:A:637:G:C2	3.08	0.42
1:A:981:U:H5''	1:A:982:U:O5'	2.19	0.42
3:C:10:PHE:C	3:C:10:PHE:HD1	2.23	0.42
5:E:147:ASP:O	5:E:150:ARG:HB3	2.19	0.42
5:E:88:LYS:HB3	5:E:123:LEU:HB2	2.02	0.42
11:K:72:ALA:HB1	11:K:77:MET:CG	2.50	0.42
14:N:18:VAL:O	14:N:20:ALA:N	2.53	0.42
20:T:27:LYS:HG3	20:T:28:ALA:N	2.33	0.42
1:A:1030(A):G:N3	1:A:1030(C):G:OP2	2.53	0.42
1:A:1089:G:C6	1:A:1090:U:C4	3.08	0.42
1:A:1144:G:C2	1:A:1145:C:O2	2.72	0.42
1:A:1215:G:H2'	1:A:1215:G:N3	2.34	0.42
1:A:1226:C:N4	13:M:104:ARG:HG3	2.35	0.42
1:A:1540:PSU:O4	1:A:1540:PSU:H2'	2.19	0.42
1:A:175:C:H2'	1:A:176:C:H6	1.85	0.42
1:A:229:U:O2'	16:P:23:ASP:HB2	2.19	0.42
1:A:276:G:O3'	17:Q:68:ARG:NH1	2.53	0.42
1:A:402:G:C6	1:A:403:C:C5	3.08	0.42
1:A:687:A:C2	1:A:704:A:C6	3.08	0.42
1:A:826:C:H2'	1:A:827:U:C6	2.54	0.42
1:A:960:U:H4'	1:A:961:U:C5'	2.50	0.42
2:B:11:LEU:O	2:B:13:ALA:N	2.51	0.42
6:F:43:LEU:HA	6:F:43:LEU:HD13	1.83	0.42
9:I:12:GLU:O	9:I:12:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:6:GLY:O	13:M:67:GLU:HG2	2.20	0.42
15:O:4:THR:OG1	15:O:5:LYS:N	2.52	0.42
1:A:1089:G:C6	1:A:1090:U:C2	3.08	0.42
1:A:226:G:N2	25:A:2108:HOH:O	2.13	0.42
1:A:279:A:C8	1:A:279:A:H5'	2.53	0.42
1:A:371:G:C2'	1:A:372:C:H5'	2.49	0.42
1:A:579:G:H2'	1:A:580:U:C6	2.54	0.42
1:A:81:U:C6	1:A:81:U:H3'	2.55	0.42
2:B:73:THR:HG23	2:B:95:GLN:O	2.20	0.42
6:F:9:VAL:HG13	6:F:60:PHE:CE2	2.54	0.42
7:G:122:HIS:O	7:G:125:MET:HG3	2.19	0.42
11:K:120:ARG:HD3	11:K:120:ARG:HH11	1.65	0.42
12:L:28:LYS:HD2	12:L:33:ARG:NH2	2.35	0.42
13:M:18:ALA:O	13:M:21:TYR:HB2	2.20	0.42
15:O:61:GLY:O	15:O:65:ARG:HD2	2.19	0.42
15:O:70:LEU:HD22	15:O:70:LEU:HA	1.46	0.42
16:P:40:ASP:HB3	16:P:48:TRP:HB2	2.01	0.42
16:P:75:ARG:C	16:P:78:GLY:H	2.23	0.42
17:Q:20:THR:CG2	17:Q:41:LYS:HG2	2.49	0.42
18:R:51:LEU:HB3	18:R:56:THR:HG23	2.01	0.42
18:R:59:SER:N	18:R:62:GLU:OE1	2.53	0.42
18:R:87:ARG:HB3	18:R:88:LYS:H	1.67	0.42
1:A:1056:U:H2'	1:A:1057:G:H8	1.84	0.42
1:A:1058:G:C6	1:A:1059:C:C4	3.07	0.42
1:A:785:G:H2'	1:A:786:G:H5'	2.02	0.42
1:A:89:C:C2	1:A:90:U:C2	3.07	0.42
1:A:922:G:N1	1:A:923:A:C2	2.88	0.42
2:B:126:GLU:HG2	2:B:129:GLU:HB2	2.00	0.42
3:C:78:GLY:HA3	3:C:83:ARG:HB2	2.01	0.42
3:C:99:VAL:HG22	3:C:100:ALA:O	2.19	0.42
14:N:40:CYS:HB3	14:N:43:CYS:H	1.83	0.42
17:Q:15:MET:CB	17:Q:18:THR:HB	2.50	0.42
20:T:34:LYS:O	20:T:38:LYS:HE3	2.19	0.42
1:A:1303:C:C2'	1:A:1304:G:H5'	2.50	0.42
1:A:443:C:H2'	1:A:444:C:H6	1.85	0.42
1:A:479:C:H2'	1:A:480:U:O4'	2.20	0.42
1:A:510:A:P	25:A:2199:HOH:O	2.77	0.42
2:B:145:LEU:HA	2:B:145:LEU:HD23	1.66	0.42
4:D:18:LYS:HG3	4:D:33:MET:HE2	2.01	0.42
8:H:114:THR:OG1	8:H:117:GLY:O	2.24	0.42
8:H:97:VAL:HG23	8:H:129:VAL:C	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:107:ALA:CB	13:M:111:LYS:HE3	2.49	0.42
15:O:14:GLU:HG2	15:O:15:PHE:HE1	1.85	0.42
13:M:99:ARG:NH1	19:S:2:PRO:HD3	2.35	0.42
1:A:1008:C:O5'	1:A:1008:C:H6	2.03	0.42
1:A:1329:A:H2'	1:A:1330:U:C6	2.55	0.42
1:A:404:U:H2'	1:A:405:U:H6	1.85	0.42
1:A:494:G:HO2'	1:A:495:U:H6	1.63	0.42
1:A:597:G:H2'	1:A:598:U:C5'	2.49	0.42
1:A:651:C:O2'	1:A:652:U:H5'	2.20	0.42
2:B:176:GLU:O	2:B:179:LYS:N	2.52	0.42
3:C:32:LEU:O	3:C:35:GLU:HB3	2.20	0.42
5:E:102:ALA:HB1	5:E:106:PRO:HB2	2.02	0.42
15:O:87:ILE:CG2	15:O:88:ARG:N	2.83	0.42
17:Q:29:HIS:CD2	17:Q:32:TYR:N	2.67	0.42
17:Q:59:ILE:CG2	17:Q:71:PHE:HD1	2.33	0.42
1:A:1089:G:O6	1:A:1090:U:N3	2.52	0.41
1:A:1150:U:H4'	10:J:41:PRO:HG3	2.01	0.41
1:A:1190:G:OP1	3:C:4:LYS:HA	2.19	0.41
1:A:1419:G:C6	1:A:1420:C:C4	3.08	0.41
1:A:791:G:N2	1:A:792:A:H62	2.18	0.41
3:C:139:GLN:HG2	3:C:170:GLN:OE1	2.20	0.41
1:A:1371:G:H4'	9:I:69:GLY:HA3	2.01	0.41
16:P:58:TYR:CD1	16:P:58:TYR:C	2.93	0.41
18:R:54:ARG:HE	18:R:54:ARG:HB2	1.48	0.41
6:F:50:TYR:HE1	18:R:77:GLY:HA2	1.82	0.41
1:A:1378:C:H2'	1:A:1379:G:O4'	2.20	0.41
1:A:164:U:H2'	1:A:165:C:C6	2.55	0.41
1:A:194:C:O3'	20:T:68:LYS:HE2	2.20	0.41
1:A:393:A:C2	1:A:394:G:C8	3.07	0.41
1:A:642:A:C5	1:A:643:C:C4	3.09	0.41
2:B:83:MET:SD	2:B:234:PRO:HB2	2.61	0.41
4:D:21:LEU:HA	4:D:21:LEU:HD22	1.93	0.41
7:G:15:ASP:OD1	7:G:18:TYR:HB2	2.20	0.41
10:J:48:THR:OG1	10:J:62:HIS:CD2	2.73	0.41
1:A:1063:C:H2'	1:A:1064:G:H8	1.82	0.41
1:A:113:G:C2	1:A:315:A:C2	3.09	0.41
1:A:1218:C:H2'	1:A:1219:U:C6	2.55	0.41
1:A:1442:G:C6	1:A:1446:A:N7	2.88	0.41
1:A:76:C:H2'	1:A:77:G:H8	1.82	0.41
1:A:838:G:C3'	1:A:839:U:H5''	2.51	0.41
1:A:859:A:H2'	1:A:860:A:O4'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:892:A:C5	1:A:893:C:C4	3.07	0.41
1:A:901:A:N7	1:A:902:G:H1'	2.34	0.41
1:A:921:U:O2'	5:E:18:ARG:HG3	2.20	0.41
1:A:982:U:O2	1:A:1222:G:N2	2.53	0.41
3:C:179:ARG:HD2	3:C:207:VAL:HA	2.01	0.41
4:D:49:ARG:HG3	4:D:50:ARG:N	2.36	0.41
7:G:88:PRO:O	7:G:89:MET:HB3	2.21	0.41
9:I:8:GLY:N	9:I:83:ARG:HD2	2.35	0.41
10:J:38:ILE:O	10:J:38:ILE:HD12	2.20	0.41
1:A:958:A:H1'	19:S:55:LYS:HD3	2.01	0.41
1:A:1031:G:H8	1:A:1031:G:H3'	1.85	0.41
1:A:329:A:C5	1:A:332:G:C6	3.09	0.41
1:A:75:G:C6	1:A:96:G:C6	3.09	0.41
2:B:29:ALA:HA	2:B:32:ILE:HG13	2.01	0.41
2:B:84:GLU:HB3	2:B:219:VAL:HG21	2.01	0.41
4:D:158:ILE:HA	4:D:158:ILE:HD13	1.69	0.41
4:D:68:TYR:CE2	4:D:97:LEU:HB3	2.54	0.41
6:F:14:LEU:HD22	6:F:18:GLN:OE1	2.20	0.41
7:G:18:TYR:HD1	7:G:18:TYR:N	2.18	0.41
8:H:92:ARG:HH11	8:H:92:ARG:CG	2.33	0.41
8:H:9:MET:HE3	8:H:9:MET:HB3	2.00	0.41
7:G:16:LEU:HD11	9:I:44:VAL:HB	2.02	0.41
9:I:111:ARG:HD2	14:N:61:TRP:OXT	2.20	0.41
1:A:1312:G:N2	1:A:1313:U:H1'	2.36	0.41
22:A:1601:SRY:C22	22:A:1601:SRY:HI32	2.50	0.41
3:C:172:ARG:HH22	3:C:174:PRO:HG3	1.85	0.41
3:C:29:TYR:CE2	3:C:33:LEU:HD11	2.56	0.41
5:E:80:ILE:O	5:E:80:ILE:HG23	2.21	0.41
8:H:119:LEU:HB3	8:H:123:GLU:HB3	2.02	0.41
10:J:43:ARG:HD3	10:J:45:ARG:NH2	2.36	0.41
16:P:74:LEU:O	16:P:79:VAL:HG23	2.20	0.41
19:S:11:VAL:HG12	19:S:15:LEU:HD11	2.02	0.41
1:A:1040:U:O4	1:A:1041:A:N6	2.53	0.41
1:A:1267:C:O2	21:U:20:LYS:HD2	2.20	0.41
1:A:132:C:H4'	20:T:74:LYS:HD2	2.03	0.41
1:A:1345:U:C2	1:A:1377:A:C2	3.09	0.41
1:A:1397:C:HO2'	1:A:1398:A:P	2.37	0.41
1:A:264:U:C2'	1:A:265:G:H5'	2.49	0.41
1:A:451:A:OP1	1:A:451:A:H8	2.04	0.41
1:A:642:A:C6	1:A:643:C:C4	3.08	0.41
1:A:526:C:OP1	1:A:913:A:H3'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:941:G:C6	1:A:942:G:N7	2.89	0.41
2:B:97:TRP:CZ2	2:B:101:MET:HB2	2.55	0.41
2:B:163:PHE:HA	2:B:185:ILE:O	2.20	0.41
7:G:18:TYR:N	7:G:18:TYR:CD1	2.89	0.41
8:H:30:ARG:O	8:H:33:GLU:N	2.54	0.41
2:B:181:PHE:CD2	8:H:70:GLN:HB3	2.56	0.41
14:N:4:LYS:HB3	14:N:4:LYS:HE2	1.89	0.41
1:A:1091:U:O2	1:A:1093:A:C8	2.74	0.41
1:A:1481:U:O2'	1:A:1482:G:H5'	2.21	0.41
1:A:1494:G:H2'	1:A:1495:U:C6	2.56	0.41
1:A:421:U:H5'	1:A:422:C:H5	1.86	0.41
1:A:427:U:OP2	4:D:36:ARG:NH2	2.53	0.41
1:A:490:G:C6	1:A:491:G:N7	2.88	0.41
1:A:730:G:C5	1:A:731:G:H1'	2.56	0.41
1:A:977:A:C2'	1:A:978:A:H5''	2.50	0.41
3:C:138:VAL:HG22	3:C:151:VAL:HG23	2.02	0.41
1:A:1071:C:H5''	5:E:49:PRO:HG2	2.02	0.41
8:H:77:GLU:HG2	8:H:78:GLN:H	1.84	0.41
17:Q:18:THR:HG22	17:Q:19:VAL:N	2.35	0.41
18:R:58:LEU:HB3	18:R:62:GLU:HB3	2.03	0.41
20:T:89:ARG:NH2	20:T:104:LEU:HB3	2.36	0.41
1:A:1256:A:H4'	1:A:1257:U:O5'	2.19	0.41
1:A:403:C:OP1	4:D:137:SER:OG	2.29	0.41
1:A:727:G:H4'	1:A:741:G:H22	1.86	0.41
1:A:77:G:N1	1:A:93:G:C6	2.89	0.41
1:A:78:G:O6	1:A:92:C:N4	2.54	0.41
2:B:211:ILE:O	2:B:215:LEU:HB2	2.20	0.41
3:C:108:ASN:N	3:C:109:PRO:HD3	2.35	0.41
4:D:64:LEU:CD1	4:D:75:PHE:HZ	2.34	0.41
5:E:118:ILE:HG12	5:E:119:LEU:N	2.35	0.41
5:E:52:PRO:HG2	5:E:53:LEU:H	1.86	0.41
7:G:15:ASP:OD2	7:G:44:TYR:OH	2.39	0.41
8:H:120:THR:HG23	8:H:123:GLU:CD	2.41	0.41
8:H:65:TYR:N	8:H:65:TYR:CD1	2.88	0.41
14:N:42:ILE:HG13	14:N:42:ILE:H	1.64	0.41
1:A:1001:A:H61	1:A:1041:A:N6	2.19	0.41
1:A:1181:G:HO2'	1:A:1182:G:C1'	2.32	0.41
1:A:1442:G:C5	1:A:1446:A:C6	3.09	0.41
1:A:306:G:H2'	1:A:307:C:H6	1.85	0.41
1:A:617:G:N2	1:A:618:C:N3	2.69	0.41
1:A:791:G:H2'	1:A:792:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:982:U:O2	1:A:1222:G:N1	2.54	0.41
2:B:80:ILE:HD12	2:B:212:GLN:HG3	2.02	0.41
3:C:186:PHE:CD2	3:C:187:ALA:N	2.88	0.41
5:E:131:ILE:HD13	5:E:131:ILE:HA	1.95	0.41
8:H:124:ALA:HA	8:H:127:LEU:HB2	2.03	0.41
13:M:82:MET:HA	13:M:89:GLY:HA3	2.03	0.41
15:O:15:PHE:CZ	15:O:85:LEU:HD21	2.56	0.41
16:P:65:GLN:HA	16:P:66:PRO:HD2	1.97	0.41
20:T:10:LEU:HD22	20:T:10:LEU:HA	1.57	0.41
20:T:74:LYS:HA	20:T:74:LYS:HD3	1.71	0.41
21:U:13:ILE:HA	21:U:22:ARG:HH12	1.86	0.41
1:A:116:A:H8	1:A:116:A:O5'	2.04	0.41
1:A:1247:U:O2	1:A:1291:G:N1	2.54	0.41
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.55	0.41
9:I:99:LEU:HB3	9:I:101:PHE:CE1	2.55	0.41
11:K:99:GLN:OE1	11:K:105:VAL:HG21	2.21	0.41
16:P:53:VAL:O	16:P:54:GLU:C	2.59	0.41
1:A:1064:G:H1'	1:A:1190:G:N2	2.37	0.41
1:A:1189:C:H5''	1:A:1190:G:OP2	2.21	0.41
1:A:990:C:C4	1:A:1216:G:N2	2.89	0.41
1:A:448:A:C2	1:A:449:C:C4	3.09	0.41
1:A:652:U:O4	1:A:752:G:O2'	2.28	0.41
1:A:1111:A:N6	3:C:177:THR:HG22	2.31	0.41
4:D:28:SER:O	4:D:30:LYS:N	2.46	0.41
5:E:142:LEU:HD23	5:E:142:LEU:HA	1.81	0.41
17:Q:59:ILE:CG2	17:Q:71:PHE:CD1	3.04	0.41
1:A:1037:C:H2'	1:A:1038:C:C5	2.57	0.40
1:A:1205:U:H2'	1:A:1206:G:C8	2.56	0.40
1:A:1245:A:N1	1:A:1293:G:C2	2.89	0.40
1:A:1368:G:OP2	9:I:114:TYR:N	2.54	0.40
1:A:234:C:H2'	1:A:235:C:H6	1.87	0.40
1:A:370:C:C2'	1:A:371:G:H5'	2.50	0.40
1:A:374:A:C6	1:A:375:U:C4	3.09	0.40
1:A:401:C:H2'	1:A:402:G:C8	2.57	0.40
1:A:707:C:H5''	11:K:20:TYR:HD2	1.84	0.40
1:A:16:A:C2	1:A:920:U:O2	2.74	0.40
1:A:966:M2G:N3	1:A:966:M2G:H2'	2.36	0.40
2:B:222:ILE:HG21	2:B:222:ILE:HD13	1.85	0.40
3:C:121:ALA:O	3:C:125:GLU:HG3	2.21	0.40
7:G:47:CYS:HA	7:G:50:ILE:HG12	2.03	0.40
11:K:59:TYR:O	11:K:62:GLN:N	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:45:VAL:HG12	15:O:46:HIS:H	1.87	0.40
1:A:1250:A:H2	1:A:1353:G:N2	2.19	0.40
1:A:1440:C:C2'	1:A:1441:G:H5'	2.51	0.40
1:A:1516:G:H1'	1:A:1519:MA6:C10	2.51	0.40
1:A:17:U:H2'	1:A:18:C:C6	2.56	0.40
1:A:363:A:OP1	12:L:61:THR:OG1	2.30	0.40
1:A:636:U:H2'	1:A:637:G:C8	2.56	0.40
1:A:976:G:C8	1:A:1358:U:C2	3.09	0.40
2:B:114:ARG:O	2:B:117:GLU:HG2	2.21	0.40
3:C:179:ARG:HD3	3:C:179:ARG:HA	1.84	0.40
5:E:105:VAL:HB	5:E:106:PRO:HD3	2.04	0.40
11:K:47:VAL:HG12	11:K:48:ILE:N	2.36	0.40
12:L:46:LYS:CG	12:L:47:LYS:H	2.35	0.40
1:A:582:U:OP1	15:O:64:ARG:NH2	2.53	0.40
17:Q:72:ARG:HH11	17:Q:72:ARG:HD2	1.70	0.40
6:F:97:PHE:H	18:R:32:ARG:NH1	2.17	0.40
1:A:1248:A:C6	1:A:1249:C:N4	2.90	0.40
1:A:7:G:H5'	1:A:298:A:O4'	2.22	0.40
1:A:389:A:H2'	1:A:390:C:H5'	2.03	0.40
1:A:448:A:C2	1:A:449:C:C5	3.10	0.40
1:A:734:G:H21	18:R:75:ILE:CD1	2.35	0.40
1:A:735:C:O2'	1:A:736:C:H5'	2.21	0.40
1:A:810:C:O2	1:A:899:C:N4	2.54	0.40
2:B:60:ASP:O	2:B:64:ARG:HG3	2.21	0.40
2:B:69:LEU:HB3	2:B:162:ILE:HD12	2.03	0.40
9:I:28:VAL:O	9:I:31:GLN:N	2.54	0.40
20:T:73:HIS:HB3	20:T:74:LYS:H	1.48	0.40
1:A:1219:U:C4	1:A:1220:G:N7	2.89	0.40
1:A:1314:C:H41	19:S:6:LYS:HZ2	1.69	0.40
1:A:1375:A:H4'	7:G:29:LYS:NZ	2.36	0.40
1:A:357:G:C2	1:A:358:U:C5	3.09	0.40
1:A:451:A:OP1	1:A:451:A:C8	2.75	0.40
1:A:669:U:H2'	1:A:670:G:C8	2.56	0.40
1:A:803:G:H2'	1:A:804:U:O4'	2.22	0.40
3:C:59:ARG:HG3	3:C:63:ASN:O	2.21	0.40
7:G:150:ALA:HA	11:K:59:TYR:CD2	2.56	0.40
9:I:112:LYS:HG3	9:I:117:HIS:O	2.22	0.40
19:S:28:LYS:CD	19:S:31:ILE:HG12	2.51	0.40
20:T:53:LEU:HD12	20:T:102:GLY:H	1.86	0.40
1:A:1148:U:H4'	9:I:14:VAL:HG11	2.04	0.40
1:A:1162:C:C2	1:A:1175:G:C2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1297:C:H6	1:A:1297:C:OP2	2.05	0.40
1:A:1504:G:C4'	1:A:1505:G:H5'	2.51	0.40
1:A:179:A:H2'	1:A:180:U:C6	2.56	0.40
1:A:542:G:O2'	1:A:543:C:H5'	2.21	0.40
1:A:981:U:H4'	14:N:21:TYR:CE2	2.56	0.40
2:B:27:LYS:HB3	2:B:27:LYS:HE2	1.78	0.40
4:D:172:PRO:HD2	4:D:173:TRP:CE3	2.56	0.40
4:D:70:ILE:HG23	4:D:71:SER:N	2.36	0.40
8:H:137:VAL:HG12	8:H:138:TRP:N	2.36	0.40
8:H:92:ARG:HH11	8:H:92:ARG:HG3	1.86	0.40
9:I:75:ASP:OD2	9:I:78:LYS:HE3	2.21	0.40
10:J:21:GLN:O	10:J:25:GLU:HG3	2.22	0.40
12:L:53:ARG:HD3	12:L:93:LEU:CD2	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	232/256 (91%)	203 (88%)	25 (11%)	4 (2%)	9	42
3	C	204/239 (85%)	175 (86%)	28 (14%)	1 (0%)	29	66
4	D	206/209 (99%)	190 (92%)	14 (7%)	2 (1%)	15	52
5	E	148/162 (91%)	138 (93%)	9 (6%)	1 (1%)	22	59
6	F	99/101 (98%)	90 (91%)	9 (9%)	0	100	100
7	G	153/156 (98%)	133 (87%)	20 (13%)	0	100	100
8	H	136/138 (99%)	127 (93%)	9 (7%)	0	100	100
9	I	125/128 (98%)	113 (90%)	11 (9%)	1 (1%)	19	56
10	J	96/105 (91%)	73 (76%)	19 (20%)	4 (4%)	3	25
11	K	114/129 (88%)	104 (91%)	10 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	L	121/135 (90%)	109 (90%)	10 (8%)	2 (2%)	9	42
13	M	116/126 (92%)	105 (90%)	10 (9%)	1 (1%)	17	54
14	N	58/61 (95%)	53 (91%)	5 (9%)	0	100	100
15	O	85/89 (96%)	75 (88%)	10 (12%)	0	100	100
16	P	81/88 (92%)	75 (93%)	5 (6%)	1 (1%)	13	49
17	Q	97/105 (92%)	88 (91%)	9 (9%)	0	100	100
18	R	68/88 (77%)	62 (91%)	6 (9%)	0	100	100
19	S	78/93 (84%)	70 (90%)	7 (9%)	1 (1%)	12	47
20	T	97/106 (92%)	79 (81%)	17 (18%)	1 (1%)	15	52
21	U	22/27 (82%)	19 (86%)	3 (14%)	0	100	100
All	All	2336/2541 (92%)	2081 (89%)	236 (10%)	19 (1%)	19	56

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	21	ARG
2	B	24	TRP
3	C	15	THR
12	L	28	LYS
19	S	31	ILE
10	J	79	ARG
10	J	86	MET
4	D	156	GLU
20	T	99	LEU
2	B	12	GLU
9	I	119	ALA
4	D	5	ILE
12	L	25	PRO
10	J	34	VAL
5	E	70	PRO
2	B	229	VAL
13	M	84	ILE
16	P	53	VAL
10	J	72	VAL

5.3.2 Protein sidechains [i](#)

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	
2	B	202/220 (92%)	163 (81%)	39 (19%)	1	9
3	C	160/188 (85%)	125 (78%)	35 (22%)	1	6
4	D	180/181 (99%)	139 (77%)	41 (23%)	1	6
5	E	115/123 (94%)	88 (76%)	27 (24%)	1	5
6	F	90/90 (100%)	74 (82%)	16 (18%)	2	11
7	G	126/127 (99%)	104 (82%)	22 (18%)	2	12
8	H	119/119 (100%)	80 (67%)	39 (33%)	0	1
9	I	98/99 (99%)	82 (84%)	16 (16%)	2	14
10	J	87/92 (95%)	66 (76%)	21 (24%)	0	5
11	K	88/99 (89%)	66 (75%)	22 (25%)	0	4
12	L	103/110 (94%)	69 (67%)	34 (33%)	0	1
13	M	94/101 (93%)	70 (74%)	24 (26%)	0	4
14	N	49/50 (98%)	38 (78%)	11 (22%)	1	6
15	O	79/80 (99%)	61 (77%)	18 (23%)	1	6
16	P	72/74 (97%)	57 (79%)	15 (21%)	1	7
17	Q	94/97 (97%)	71 (76%)	23 (24%)	0	5
18	R	61/77 (79%)	45 (74%)	16 (26%)	0	4
19	S	71/80 (89%)	50 (70%)	21 (30%)	0	2
20	T	76/82 (93%)	57 (75%)	19 (25%)	0	4
21	U	19/22 (86%)	15 (79%)	4 (21%)	1	7
All	All	1983/2111 (94%)	1520 (77%)	463 (23%)	1	5

All (463) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	7	VAL
2	B	8	LYS
2	B	9	GLU

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Mol	Chain	Res	Type
2	B	11	LEU
2	B	12	GLU
2	B	17	PHE
2	B	19	HIS
2	B	23	ARG
2	B	24	TRP
2	B	39	ILE
2	B	47	THR
2	B	51	LEU
2	B	53	ARG
2	B	55	PHE
2	B	63	MET
2	B	106	LYS
2	B	109	SER
2	B	110	GLN
2	B	121	LEU
2	B	127	ILE
2	B	140	HIS
2	B	142	LEU
2	B	157	ARG
2	B	160	ASP
2	B	162	ILE
2	B	164	VAL
2	B	168	THR
2	B	170	GLU
2	B	178	ARG
2	B	187	LEU
2	B	190	THR
2	B	195	ASP
2	B	196	LEU
2	B	206	ASP
2	B	209	ARG
2	B	212	GLN
2	B	215	LEU
2	B	217	ARG
2	B	236	TYR
3	C	3	ASN
3	C	10	PHE
3	C	14	ILE
3	C	19	GLU
3	C	21	ARG
3	C	22	TRP

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Mol	Chain	Res	Type
3	C	30	ARG
3	C	31	HIS
3	C	34	LEU
3	C	56	ASP
3	C	59	ARG
3	C	70	VAL
3	C	84	ILE
3	C	91	LEU
3	C	95	THR
3	C	101	LEU
3	C	103	VAL
3	C	111	LEU
3	C	116	VAL
3	C	130	VAL
3	C	131	ARG
3	C	143	GLU
3	C	144	SER
3	C	162	GLN
3	C	167	TRP
3	C	172	ARG
3	C	175	LEU
3	C	176	HIS
3	C	188	LEU
3	C	190	ARG
3	C	192	THR
3	C	196	LEU
3	C	198	VAL
3	C	204	LEU
3	C	207	VAL
4	D	5	ILE
4	D	9	CYS
4	D	10	ARG
4	D	19	LEU
4	D	21	LEU
4	D	25	ARG
4	D	26	CYS
4	D	34	GLU
4	D	47	ARG
4	D	49	ARG
4	D	50	ARG
4	D	58	LEU
4	D	59	ARG

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Mol	Chain	Res	Type
4	D	61	LYS
4	D	64	LEU
4	D	70	ILE
4	D	71	SER
4	D	73	ARG
4	D	78	LEU
4	D	85	LYS
4	D	89	THR
4	D	108	LEU
4	D	114	ARG
4	D	115	ARG
4	D	122	ARG
4	D	132	ARG
4	D	135	LEU
4	D	137	SER
4	D	140	VAL
4	D	150	GLU
4	D	156	GLU
4	D	162	LEU
4	D	170	VAL
4	D	176	LEU
4	D	186	LEU
4	D	187	ARG
4	D	192	GLU
4	D	194	LEU
4	D	196	LEU
4	D	200	GLU
4	D	208	SER
5	E	10	MET
5	E	12	LEU
5	E	14	ARG
5	E	16	THR
5	E	18	ARG
5	E	24	ARG
5	E	26	PHE
5	E	31	LEU
5	E	37	ARG
5	E	38	GLN
5	E	41	VAL
5	E	43	LEU
5	E	55	VAL
5	E	56	GLN

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Mol	Chain	Res	Type
5	E	65	ASN
5	E	68	GLU
5	E	71	LEU
5	E	75	THR
5	E	79	GLU
5	E	80	ILE
5	E	100	VAL
5	E	117	ASP
5	E	123	LEU
5	E	125	SER
5	E	144	THR
5	E	148	VAL
5	E	149	GLU
6	F	3	ARG
6	F	9	VAL
6	F	10	LEU
6	F	14	LEU
6	F	19	LEU
6	F	21	LEU
6	F	25	ILE
6	F	28	ARG
6	F	32	ASN
6	F	47	ARG
6	F	55	ASP
6	F	74	ASP
6	F	83	ASP
6	F	89	MET
6	F	93	SER
6	F	95	GLU
7	G	6	ARG
7	G	8	GLU
7	G	16	LEU
7	G	21	VAL
7	G	23	VAL
7	G	33	ASP
7	G	67	GLU
7	G	70	LYS
7	G	77	SER
7	G	87	VAL
7	G	97	GLN
7	G	104	LEU
7	G	106	GLN

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Mol	Chain	Res	Type
7	G	111	ARG
7	G	113	GLU
7	G	114	ARG
7	G	124	LEU
7	G	125	MET
7	G	141	VAL
7	G	142	GLU
7	G	149	ARG
7	G	155	ARG
8	H	3	THR
8	H	5	PRO
8	H	9	MET
8	H	11	THR
8	H	14	ARG
8	H	15	ASN
8	H	18	ARG
8	H	19	VAL
8	H	24	THR
8	H	26	VAL
8	H	29	SER
8	H	35	ILE
8	H	39	LEU
8	H	45	ILE
8	H	46	LYS
8	H	49	GLU
8	H	54	ASP
8	H	64	LYS
8	H	68	ARG
8	H	82	HIS
8	H	83	ILE
8	H	84	ARG
8	H	85	ARG
8	H	86	ILE
8	H	88	LYS
8	H	92	ARG
8	H	97	VAL
8	H	98	LYS
8	H	100	ILE
8	H	102	ARG
8	H	104	ARG
8	H	105	ARG
8	H	112	LEU

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Mol	Chain	Res	Type
8	H	114	THR
8	H	120	THR
8	H	126	LYS
8	H	127	LEU
8	H	129	VAL
8	H	133	LEU
9	I	16	ARG
9	I	19	LEU
9	I	38	GLN
9	I	40	LEU
9	I	51	ARG
9	I	53	VAL
9	I	66	ARG
9	I	79	LEU
9	I	83	ARG
9	I	85	LEU
9	I	86	VAL
9	I	88	TYR
9	I	93	ARG
9	I	97	LYS
9	I	99	LEU
9	I	110	GLU
10	J	3	LYS
10	J	8	LEU
10	J	16	LEU
10	J	19	SER
10	J	21	GLN
10	J	30	SER
10	J	47	PHE
10	J	48	THR
10	J	57	LYS
10	J	60	ARG
10	J	62	HIS
10	J	63	PHE
10	J	70	ARG
10	J	74	ILE
10	J	75	ILE
10	J	79	ARG
10	J	80	LYS
10	J	87	THR
10	J	89	ASP
10	J	90	LEU

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Mol	Chain	Res	Type
10	J	96	ILE
11	K	11	LYS
11	K	14	VAL
11	K	18	ARG
11	K	24	SER
11	K	29	ILE
11	K	33	THR
11	K	34	ASP
11	K	36	ASP
11	K	47	VAL
11	K	51	LYS
11	K	53	SER
11	K	62	GLN
11	K	75	TYR
11	K	78	GLN
11	K	79	SER
11	K	95	ILE
11	K	116	HIS
11	K	119	CYS
11	K	120	ARG
11	K	122	LYS
11	K	124	LYS
11	K	126	ARG
12	L	7	ILE
12	L	10	LEU
12	L	18	VAL
12	L	20	LYS
12	L	21	LYS
12	L	33	ARG
12	L	34	ARG
12	L	36	VAL
12	L	41	ARG
12	L	42	THR
12	L	43	VAL
12	L	47	LYS
12	L	52	LEU
12	L	54	LYS
12	L	55	VAL
12	L	60	LEU
12	L	61	THR
12	L	64	TYR
12	L	65	GLU

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Mol	Chain	Res	Type
12	L	66	VAL
12	L	70	ILE
12	L	79	GLU
12	L	80	HIS
12	L	82	VAL
12	L	89	ARG
12	L	93	LEU
12	L	96	VAL
12	L	97	ARG
12	L	111	LYS
12	L	113	ARG
12	L	116	SER
12	L	119	LYS
12	L	122	THR
12	L	123	LYS
13	M	11	ARG
13	M	14	ARG
13	M	27	LYS
13	M	43	THR
13	M	46	LYS
13	M	48	LEU
13	M	50	GLU
13	M	53	VAL
13	M	56	LEU
13	M	63	THR
13	M	64	TRP
13	M	71	ARG
13	M	73	GLU
13	M	77	ASN
13	M	80	ARG
13	M	91	ARG
13	M	94	ARG
13	M	102	ARG
13	M	103	THR
13	M	105	THR
13	M	106	ASN
13	M	108	ARG
13	M	110	ARG
13	M	115	LYS
14	N	11	LYS
14	N	12	ARG
14	N	21	TYR

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Mol	Chain	Res	Type
14	N	22	THR
14	N	33	VAL
14	N	36	PHE
14	N	41	ARG
14	N	42	ILE
14	N	47	LEU
14	N	53	LEU
14	N	58	LYS
15	O	4	THR
15	O	9	GLN
15	O	13	GLN
15	O	22	THR
15	O	28	GLN
15	O	32	LEU
15	O	34	LEU
15	O	39	LEU
15	O	47	LYS
15	O	65	ARG
15	O	66	LEU
15	O	67	LEU
15	O	70	LEU
15	O	71	GLN
15	O	73	GLU
15	O	76	GLU
15	O	79	ARG
15	O	81	LEU
16	P	1	MET
16	P	2	VAL
16	P	3	LYS
16	P	26	ARG
16	P	29	ASP
16	P	31	LYS
16	P	44	THR
16	P	53	VAL
16	P	54	GLU
16	P	55	ARG
16	P	57	ARG
16	P	62	VAL
16	P	68	ASP
16	P	75	ARG
16	P	82	GLN
17	Q	3	LYS

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Mol	Chain	Res	Type
17	Q	7	THR
17	Q	9	VAL
17	Q	10	VAL
17	Q	13	ASP
17	Q	15	MET
17	Q	22	LEU
17	Q	30	PRO
17	Q	35	VAL
17	Q	37	LYS
17	Q	38	ARG
17	Q	53	LEU
17	Q	57	VAL
17	Q	59	ILE
17	Q	74	LEU
17	Q	75	ARG
17	Q	76	LEU
17	Q	83	ASP
17	Q	85	VAL
17	Q	86	GLU
17	Q	87	LYS
17	Q	92	ARG
17	Q	100	LYS
18	R	19	LYS
18	R	21	LYS
18	R	22	VAL
18	R	26	LEU
18	R	28	GLU
18	R	32	ARG
18	R	38	GLU
18	R	46	GLU
18	R	50	ILE
18	R	51	LEU
18	R	64	ARG
18	R	69	THR
18	R	78	LEU
18	R	82	THR
18	R	86	VAL
18	R	88	LYS
19	S	4	SER
19	S	7	LYS
19	S	15	LEU
19	S	22	LEU

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Mol	Chain	Res	Type
19	S	29	ARG
19	S	30	LEU
19	S	31	ILE
19	S	32	LYS
19	S	33	THR
19	S	34	TRP
19	S	36	ARG
19	S	41	VAL
19	S	43	GLU
19	S	49	ILE
19	S	57	HIS
19	S	58	VAL
19	S	63	THR
19	S	71	LEU
19	S	78	ARG
19	S	79	THR
19	S	81	ARG
20	T	10	LEU
20	T	13	LEU
20	T	15	ARG
20	T	19	SER
20	T	23	ARG
20	T	27	LYS
20	T	35	THR
20	T	36	LEU
20	T	41	ILE
20	T	53	LEU
20	T	56	MET
20	T	62	LEU
20	T	72	LEU
20	T	75	ASN
20	T	84	LEU
20	T	87	LYS
20	T	92	LEU
20	T	93	GLU
20	T	104	LEU
21	U	8	THR
21	U	9	ARG
21	U	12	LYS
21	U	25	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	19	HIS
3	C	6	HIS
3	C	110	ASN
4	D	119	GLN
5	E	20	GLN
7	G	28	ASN
8	H	82	HIS
9	I	73	GLN
9	I	117	HIS
16	P	82	GLN
17	Q	29	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1508/1522 (99%)	409 (27%)	57 (3%)

All (409) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	7	G
1	A	9	G
1	A	22	G
1	A	31	G
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	51	A
1	A	54	C
1	A	55	A
1	A	59	A
1	A	66	G
1	A	67	C
1	A	69	G
1	A	73	C
1	A	81	U
1	A	88	A
1	A	91	C
1	A	92	C
1	A	98	U

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Mol	Chain	Res	Type
1	A	113	G
1	A	114	U
1	A	115	G
1	A	116	A
1	A	120	A
1	A	121	C
1	A	122	G
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	135	C
1	A	151	A
1	A	160	A
1	A	161	A
1	A	163	C
1	A	164	U
1	A	166	G
1	A	173	U
1	A	181	G
1	A	182	U
1	A	183	G
1	A	190(C)	C
1	A	190(E)	U
1	A	190(F)	G
1	A	195	A
1	A	197	A
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	220	G
1	A	226	G
1	A	227	G
1	A	231	G
1	A	244	U
1	A	247	G
1	A	251	G
1	A	252	U
1	A	253	U
1	A	254	G
1	A	266	G
1	A	267	C

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Mol	Chain	Res	Type
1	A	269	C
1	A	289	G
1	A	292	G
1	A	293	G
1	A	299	G
1	A	319	G
1	A	321	A
1	A	323	U
1	A	328	C
1	A	329	A
1	A	330	C
1	A	331	G
1	A	332	G
1	A	344	A
1	A	345	C
1	A	349	A
1	A	350	G
1	A	351	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	356	A
1	A	367	U
1	A	370	C
1	A	371	G
1	A	373	A
1	A	379	C
1	A	384	G
1	A	390	C
1	A	398	C
1	A	406	G
1	A	411	A
1	A	412	A
1	A	413	G
1	A	415	A
1	A	421	U
1	A	422	C
1	A	428	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	445	G

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Mol	Chain	Res	Type
1	A	450	G
1	A	452	A
1	A	455	C
1	A	456	C
1	A	460	A
1	A	461	C
1	A	477	G
1	A	479	C
1	A	481	G
1	A	482	A
1	A	485	G
1	A	497	A
1	A	498	U
1	A	499	A
1	A	503	C
1	A	505	G
1	A	509	A
1	A	510	A
1	A	511	C
1	A	513	C
1	A	516	PSU
1	A	517	G
1	A	518	C
1	A	519	C
1	A	531	U
1	A	532	A
1	A	533	A
1	A	547	A
1	A	559	A
1	A	560	U
1	A	564	C
1	A	566	G
1	A	568	G
1	A	571	U
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	579	G
1	A	581	G
1	A	582	U
1	A	587	G

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Mol	Chain	Res	Type
1	A	588	G
1	A	597	G
1	A	598	U
1	A	609	A
1	A	616	G
1	A	618	C
1	A	645	C
1	A	653	A
1	A	661	G
1	A	665	A
1	A	670	G
1	A	673	G
1	A	686	U
1	A	687	A
1	A	688	G
1	A	697	U
1	A	701	C
1	A	702	A
1	A	718	G
1	A	719	C
1	A	721	G
1	A	722	A
1	A	723	U
1	A	731	G
1	A	749	C
1	A	751	U
1	A	755	G
1	A	770	C
1	A	777	A
1	A	781	A
1	A	782	A
1	A	787	A
1	A	792	A
1	A	793	U
1	A	794	A
1	A	813	U
1	A	814	A
1	A	815	A
1	A	817	C
1	A	819	A
1	A	821	G
1	A	828	A

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Mol	Chain	Res	Type
1	A	837	G
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	849	C
1	A	858	G
1	A	859	A
1	A	865	A
1	A	869	G
1	A	872	A
1	A	876	G
1	A	889	A
1	A	895	G
1	A	902	G
1	A	914	A
1	A	917	G
1	A	922	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	939	G
1	A	940	C
1	A	941	G
1	A	942	G
1	A	943	U
1	A	960	U
1	A	961	U
1	A	963	G
1	A	964	A
1	A	966	M2G
1	A	968	A
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	981	U
1	A	982	U
1	A	984	C

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Mol	Chain	Res	Type
1	A	989	C
1	A	990	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1000	U
1	A	1003(A)	G
1	A	1004	A
1	A	1005	A
1	A	1006	C
1	A	1008	C
1	A	1010	G
1	A	1011	G
1	A	1016	A
1	A	1018	C
1	A	1020	U
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1026	G
1	A	1027	C
1	A	1030(B)	C
1	A	1031	G
1	A	1044	A
1	A	1045	C
1	A	1046	A
1	A	1052	U
1	A	1054	C
1	A	1055	A
1	A	1060	C
1	A	1061	G
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1073	U
1	A	1078	U
1	A	1085	U
1	A	1090	U
1	A	1092	A
1	A	1094	G
1	A	1095	U

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Mol	Chain	Res	Type
1	A	1101	A
1	A	1120	G
1	A	1122	U
1	A	1123	A
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1128	C
1	A	1129	C
1	A	1130	A
1	A	1136	U
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1146	A
1	A	1152	A
1	A	1154	G
1	A	1159	U
1	A	1160	G
1	A	1167	A
1	A	1168	A
1	A	1169	A
1	A	1171	G
1	A	1174	G
1	A	1178	G
1	A	1181	G
1	A	1183	A
1	A	1184	G
1	A	1185	G
1	A	1190	G
1	A	1191	A
1	A	1193	G
1	A	1196	U
1	A	1197	G
1	A	1198	G
1	A	1200	C
1	A	1201	A
1	A	1202	G
1	A	1206	G
1	A	1207	2MG
1	A	1212	U

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Mol	Chain	Res	Type
1	A	1214	C
1	A	1215	G
1	A	1224	G
1	A	1225	A
1	A	1227	A
1	A	1238	A
1	A	1241	G
1	A	1245	A
1	A	1250	A
1	A	1251	A
1	A	1256	A
1	A	1257	U
1	A	1258	G
1	A	1260	C
1	A	1270	C
1	A	1277	C
1	A	1278	U
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1297	C
1	A	1298	C
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1303	C
1	A	1304	G
1	A	1305	G
1	A	1306	A
1	A	1307	U
1	A	1310	G
1	A	1312	G
1	A	1315	U
1	A	1319	A
1	A	1320	C
1	A	1322	C
1	A	1326	C
1	A	1335	C
1	A	1336	C

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Mol	Chain	Res	Type
1	A	1338	G
1	A	1339	A
1	A	1340	A
1	A	1347	G
1	A	1348	U
1	A	1351	U
1	A	1353	G
1	A	1359	C
1	A	1362	C
1	A	1364	U
1	A	1370	G
1	A	1379	G
1	A	1381	U
1	A	1398	A
1	A	1399	C
1	A	1400	5MC
1	A	1401	G
1	A	1411	C
1	A	1419	G
1	A	1437	C
1	A	1440	C
1	A	1441	G
1	A	1442	G
1	A	1443	G
1	A	1446	A
1	A	1447	G
1	A	1451	A
1	A	1452	C
1	A	1453	G
1	A	1454	G
1	A	1485	U
1	A	1487	G
1	A	1493	A
1	A	1494	G
1	A	1496	C
1	A	1497	G
1	A	1498	UR3
1	A	1499	A
1	A	1500	A
1	A	1501	C
1	A	1502	A
1	A	1504	G

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Mol	Chain	Res	Type
1	A	1505	G
1	A	1506	U
1	A	1509	C
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1531	A
1	A	1533	C
1	A	1542	U

All (57) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	91	C
1	A	115	G
1	A	129(A)	G
1	A	150	C
1	A	160	A
1	A	181	G
1	A	202	U
1	A	203	U
1	A	204	U
1	A	243	A
1	A	246	A
1	A	250	A
1	A	251	G
1	A	329	A
1	A	350	G
1	A	372	C
1	A	428	G
1	A	429	U
1	A	484	G
1	A	509	A
1	A	518	C
1	A	532	A
1	A	559	A
1	A	686	U
1	A	687	A
1	A	701	C
1	A	718	G
1	A	733	A

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Mol	Chain	Res	Type
1	A	748	C
1	A	777	A
1	A	792	A
1	A	812	C
1	A	819	A
1	A	913	A
1	A	960	U
1	A	975	A
1	A	992	U
1	A	1004	A
1	A	1065	U
1	A	1067	A
1	A	1139	G
1	A	1145	C
1	A	1190	G
1	A	1196	U
1	A	1201	A
1	A	1256	A
1	A	1257	U
1	A	1279	A
1	A	1285	A
1	A	1300	G
1	A	1305	G
1	A	1346	A
1	A	1347	G
1	A	1358	U
1	A	1380	U
1	A	1505	G

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

15 non-standard protein/DNA/RNA residues are 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
1	2MG	A	1207	1	19,26,27	2.23	3 (15%)	21,38,41	2.08	4 (19%)
1	5MC	A	1404	1	15,22,23	1.21	1 (6%)	19,32,35	0.98	0
1	5MC	A	967	1	15,22,23	0.90	0	19,32,35	1.20	2 (10%)
1	5MC	A	1400	1	15,22,23	0.86	0	19,32,35	1.34	5 (26%)
1	7MG	A	527	1	22,26,27	2.36	7 (31%)	28,39,42	1.55	7 (25%)
1	MA6	A	1519	1	19,26,27	3.23	7 (36%)	18,38,41	0.81	1 (5%)
1	M2G	A	966	1	20,27,28	1.71	3 (15%)	22,40,43	2.65	7 (31%)
1	UR3	A	1498	1	14,22,23	2.68	5 (35%)	15,32,35	1.27	1 (6%)
1	PSU	A	516	1,23	17,21,22	1.23	2 (11%)	20,30,33	3.61	5 (25%)
1	PSU	A	1540	1	17,21,22	1.23	2 (11%)	20,30,33	4.06	6 (30%)
1	MA6	A	1518	1	19,26,27	1.85	6 (31%)	18,38,41	1.93	2 (11%)
1	4OC	A	1402	1	16,23,24	1.52	3 (18%)	17,32,35	0.84	0
12	0TD	L	92	12	4,9,10	1.31	0	3,11,13	4.43	2 (66%)
1	PSU	A	1541	1	17,21,22	1.12	1 (5%)	20,30,33	3.47	8 (40%)
1	5MC	A	1407	1	15,22,23	1.55	2 (13%)	19,32,35	1.25	4 (21%)

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
1	2MG	A	1207	1	-	2/5/27/28	0/3/3/3
1	5MC	A	1404	1	-	2/5/25/26	0/2/2/2
1	5MC	A	967	1	-	1/5/25/26	0/2/2/2
1	5MC	A	1400	1	-	2/5/25/26	0/2/2/2
1	7MG	A	527	1	-	2/7/37/38	0/3/3/3
1	MA6	A	1519	1	-	6/7/29/30	0/3/3/3
1	M2G	A	966	1	-	5/7/29/30	0/3/3/3
1	UR3	A	1498	1	-	2/5/25/26	0/2/2/2
1	PSU	A	516	1,23	-	3/7/25/26	0/2/2/2
1	PSU	A	1540	1	-	1/7/25/26	0/2/2/2
1	MA6	A	1518	1	-	2/7/29/30	0/3/3/3
1	4OC	A	1402	1	-	5/9/29/30	0/2/2/2
12	0TD	L	92	12	-	1/3/12/14	-
1	PSU	A	1541	1	-	1/7/25/26	0/2/2/2
1	5MC	A	1407	1	-	0/5/25/26	0/2/2/2

All (42) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1519	MA6	C4-N3	8.88	1.47	1.35
1	A	1519	MA6	C6-N1	8.46	1.45	1.33
1	A	1498	UR3	C6-N1	-7.99	1.26	1.35
1	A	1207	2MG	C6-N1	6.48	1.44	1.33
1	A	1207	2MG	C2-N2	5.93	1.39	1.34
1	A	527	7MG	C2-N2	5.80	1.45	1.33
1	A	966	M2G	C6-N1	4.87	1.41	1.33
1	A	527	7MG	C4-N3	4.85	1.40	1.34
1	A	1407	5MC	C5-C4	4.58	1.48	1.41
1	A	1518	MA6	C2-N1	4.48	1.42	1.33
1	A	1498	UR3	C4-N3	-4.43	1.31	1.38
1	A	966	M2G	C4-N3	4.25	1.42	1.35
1	A	527	7MG	C8-N9	-4.24	1.35	1.45
1	A	1402	4OC	C2-N3	3.99	1.46	1.38
1	A	1541	PSU	C4-N3	3.82	1.39	1.33
1	A	1518	MA6	C6-N1	3.61	1.38	1.33
1	A	1540	PSU	C4-N3	3.59	1.39	1.33
1	A	516	PSU	C4-N3	3.39	1.38	1.33
1	A	1519	MA6	C2-N3	3.23	1.37	1.32
1	A	1402	4OC	CM4-N4	3.12	1.50	1.45
1	A	527	7MG	CM7-N7	-3.08	1.40	1.46
1	A	1404	5MC	C2-N3	3.05	1.44	1.38
1	A	1519	MA6	C2-N1	2.98	1.39	1.33
1	A	1518	MA6	C9-N6	2.95	1.52	1.45
1	A	1519	MA6	C5-N7	2.93	1.50	1.39
1	A	527	7MG	C6-C5	2.88	1.45	1.41
1	A	1519	MA6	C9-N6	2.81	1.52	1.45
1	A	527	7MG	O6-C6	-2.74	1.17	1.24
1	A	1540	PSU	C5-C1'	-2.71	1.49	1.52
1	A	1207	2MG	C2-N1	2.64	1.42	1.34
1	A	966	M2G	C2-N2	2.57	1.39	1.34
1	A	1407	5MC	C6-C5	-2.56	1.33	1.40
1	A	516	PSU	O4'-C1'	-2.53	1.40	1.44
1	A	1518	MA6	C5-C4	2.53	1.47	1.40
1	A	1498	UR3	C6-C5	-2.44	1.32	1.38
1	A	527	7MG	C5-N7	2.36	1.43	1.39
1	A	1519	MA6	C5-C4	2.34	1.47	1.40
1	A	1402	4OC	C6-N1	2.24	1.38	1.35
1	A	1498	UR3	O3'-C3'	2.18	1.48	1.43
1	A	1518	MA6	C10-N6	2.06	1.50	1.45
1	A	1498	UR3	C3U-N3	-2.05	1.43	1.47
1	A	1518	MA6	C4-N3	2.03	1.38	1.35

All (54) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1540	PSU	N1-C2-N3	-12.28	118.67	128.43
1	A	516	PSU	N1-C2-N3	-11.83	119.03	128.43
1	A	1541	PSU	N1-C2-N3	-11.27	119.47	128.43
1	A	516	PSU	C4-N3-C2	8.16	122.03	115.14
1	A	1540	PSU	C4-N3-C2	7.89	121.80	115.14
1	A	966	M2G	C5-C6-N1	-7.73	112.86	123.43
1	A	1207	2MG	C5-C6-N1	-7.62	113.01	123.43
1	A	1540	PSU	C5-C1'-C2'	-7.42	102.09	115.32
1	A	1541	PSU	C4-N3-C2	7.17	121.19	115.14
1	A	966	M2G	C6-N1-C2	6.66	124.11	116.18
1	A	1518	MA6	C1'-N9-C4	-5.73	116.57	126.64
12	L	92	0TD	CSB-SB-CB	-5.71	90.61	101.85
1	A	1540	PSU	C5-C4-N3	-5.55	118.22	125.36
1	A	516	PSU	C5-C4-N3	-5.32	118.51	125.36
1	A	1541	PSU	C5-C4-N3	-5.02	118.90	125.36
12	L	92	0TD	CB-CA-N	-4.91	98.64	109.10
1	A	1518	MA6	N1-C6-N6	-4.40	112.42	117.06
1	A	966	M2G	N3-C2-N2	3.82	121.06	117.18
1	A	966	M2G	N1-C2-N2	-3.71	113.43	117.19
1	A	527	7MG	C5-C4-N3	-3.55	120.70	126.49
1	A	527	7MG	N3-C4-N9	3.47	131.37	126.91
1	A	1207	2MG	C6-N1-C2	3.41	121.29	115.18
1	A	1540	PSU	C6-N1-C2	3.27	120.76	115.36
1	A	527	7MG	N7-C8-N9	3.14	107.87	103.38
1	A	1519	MA6	C1'-N9-C4	-2.85	121.63	126.64
1	A	1541	PSU	O4'-C1'-C5	-2.84	105.54	109.93
1	A	967	5MC	C2-N3-C4	2.81	119.41	116.02
1	A	516	PSU	C6-N1-C2	2.79	119.95	115.36
1	A	967	5MC	CM5-C5-C6	2.78	124.55	118.68
1	A	1541	PSU	C6-N1-C2	2.73	119.86	115.36
1	A	1207	2MG	CM2-N2-C2	-2.72	120.31	123.59
1	A	1407	5MC	N4-C4-N3	-2.71	113.20	117.03
1	A	516	PSU	C5-C6-N1	-2.67	121.16	124.44
1	A	527	7MG	C2-N3-C4	2.63	121.16	113.89
1	A	1400	5MC	N4-C4-N3	-2.59	113.37	117.03
1	A	527	7MG	C4-N9-C1'	-2.57	120.51	126.60
1	A	1400	5MC	C5-C4-N3	2.56	125.30	121.26
1	A	1400	5MC	C2-N3-C4	2.53	119.07	116.02
1	A	1207	2MG	C4-C5-N7	2.43	111.93	109.40
1	A	527	7MG	N1-C2-N3	-2.37	121.70	125.42
1	A	1498	UR3	C3'-C2'-C1'	2.36	104.53	100.98
1	A	966	M2G	C2-N3-C4	-2.32	112.64	115.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1540	PSU	C5-C6-N1	-2.26	121.65	124.44
1	A	1407	5MC	C5-C4-N3	2.24	124.80	121.26
1	A	527	7MG	N2-C2-N1	2.24	120.74	117.25
1	A	1541	PSU	C4-C5-C1'	2.22	125.30	121.12
1	A	1541	PSU	C5-C1'-C2'	2.17	119.19	115.32
1	A	1407	5MC	CM5-C5-C4	2.16	123.91	121.72
1	A	1400	5MC	CM5-C5-C6	2.15	123.23	118.68
1	A	1400	5MC	CM5-C5-C4	-2.15	119.55	121.72
1	A	966	M2G	C4-C5-N7	2.14	111.63	109.40
1	A	1407	5MC	C6-N1-C1'	-2.14	114.44	119.24
1	A	1541	PSU	O4'-C1'-C2'	2.10	108.07	104.66
1	A	966	M2G	CM2-N2-C2	2.05	123.24	121.29

There are no chirality outliers.

All (35) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1207	2MG	O4'-C4'-C5'-O5'
1	A	1207	2MG	C3'-C4'-C5'-O5'
1	A	1519	MA6	O4'-C4'-C5'-O5'
1	A	1519	MA6	C3'-C4'-C5'-O5'
1	A	1519	MA6	C5-C6-N6-C9
1	A	1519	MA6	C5-C6-N6-C10
1	A	1519	MA6	N1-C6-N6-C9
1	A	1519	MA6	N1-C6-N6-C10
1	A	966	M2G	N1-C2-N2-CM1
1	A	966	M2G	N1-C2-N2-CM2
1	A	966	M2G	N3-C2-N2-CM1
1	A	966	M2G	N3-C2-N2-CM2
1	A	1402	4OC	C2'-C1'-N1-C6
1	A	1402	4OC	N3-C4-N4-CM4
1	A	1402	4OC	C5-C4-N4-CM4
12	L	92	0TD	CG-CB-SB-CSB
1	A	1400	5MC	O4'-C4'-C5'-O5'
1	A	1400	5MC	C3'-C4'-C5'-O5'
1	A	516	PSU	O4'-C4'-C5'-O5'
1	A	1518	MA6	O4'-C4'-C5'-O5'
1	A	527	7MG	O4'-C4'-C5'-O5'
1	A	516	PSU	C3'-C4'-C5'-O5'
1	A	1518	MA6	C3'-C4'-C5'-O5'
1	A	527	7MG	C3'-C4'-C5'-O5'
1	A	1498	UR3	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	A	966	M2G	C4'-C5'-O5'-P
1	A	1402	4OC	O4'-C4'-C5'-O5'
1	A	1402	4OC	C3'-C4'-C5'-O5'
1	A	1404	5MC	O4'-C4'-C5'-O5'
1	A	1404	5MC	C3'-C4'-C5'-O5'
1	A	1498	UR3	C3'-C4'-C5'-O5'
1	A	967	5MC	O4'-C4'-C5'-O5'
1	A	516	PSU	C2'-C1'-C5-C6
1	A	1540	PSU	C2'-C1'-C5-C6
1	A	1541	PSU	C2'-C1'-C5-C6

There are no ring outliers.

12 monomers are involved in 28 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	1207	2MG	1	0
1	A	1404	5MC	5	0
1	A	967	5MC	4	0
1	A	1400	5MC	4	0
1	A	527	7MG	1	0
1	A	1519	MA6	4	0
1	A	966	M2G	4	0
1	A	1498	UR3	3	0
1	A	1540	PSU	2	0
1	A	1518	MA6	2	0
1	A	1402	4OC	1	0
12	L	92	0TD	2	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 270 ligands modelled in this entry, 269 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
22	SRY	A	1601	-	40,42,42	2.30	9 (22%)	49,63,63	2.13	16 (32%)

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
22	SRY	A	1601	-	-	1/20/87/87	0/3/3/3

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1601	SRY	CD1-N31	8.75	1.48	1.33
22	A	1601	SRY	CA1-N11	6.96	1.45	1.33
22	A	1601	SRY	O53-C53	-3.33	1.36	1.44
22	A	1601	SRY	C23-N23	-3.10	1.42	1.47
22	A	1601	SRY	CA1-NB1	2.74	1.46	1.34
22	A	1601	SRY	O32-C32	-2.68	1.40	1.44
22	A	1601	SRY	O51-C51	-2.53	1.37	1.43
22	A	1601	SRY	CD1-NE1	2.32	1.44	1.34
22	A	1601	SRY	C21-C11	-2.28	1.48	1.53

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1601	SRY	C12-O42-C42	-7.47	96.63	108.38
22	A	1601	SRY	C13-O53-C53	-4.30	105.25	113.69
22	A	1601	SRY	C61-C11-N11	-3.82	103.40	110.62
22	A	1601	SRY	C13-O13-C22	-3.59	110.01	116.25
22	A	1601	SRY	C33-C43-C53	-3.41	104.16	110.24
22	A	1601	SRY	O42-C12-C22	-3.13	103.92	107.30
22	A	1601	SRY	O13-C13-C23	2.94	113.32	108.24
22	A	1601	SRY	CI3-N23-C23	-2.89	110.17	114.38
22	A	1601	SRY	O41-C41-C51	2.85	114.85	107.28
22	A	1601	SRY	C63-C53-C43	2.68	119.28	113.00
22	A	1601	SRY	C43-C33-C23	-2.47	106.72	110.34
22	A	1601	SRY	O33-C33-C23	2.44	114.58	109.66
22	A	1601	SRY	O42-C42-CH2	2.40	115.04	110.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1601	SRY	O13-C13-O53	-2.26	104.37	110.67
22	A	1601	SRY	O43-C43-C53	2.19	114.75	109.30
22	A	1601	SRY	O13-C22-C32	2.17	116.81	111.75

There are no chirality outliers.

All (1) torsion outliers are listed below:

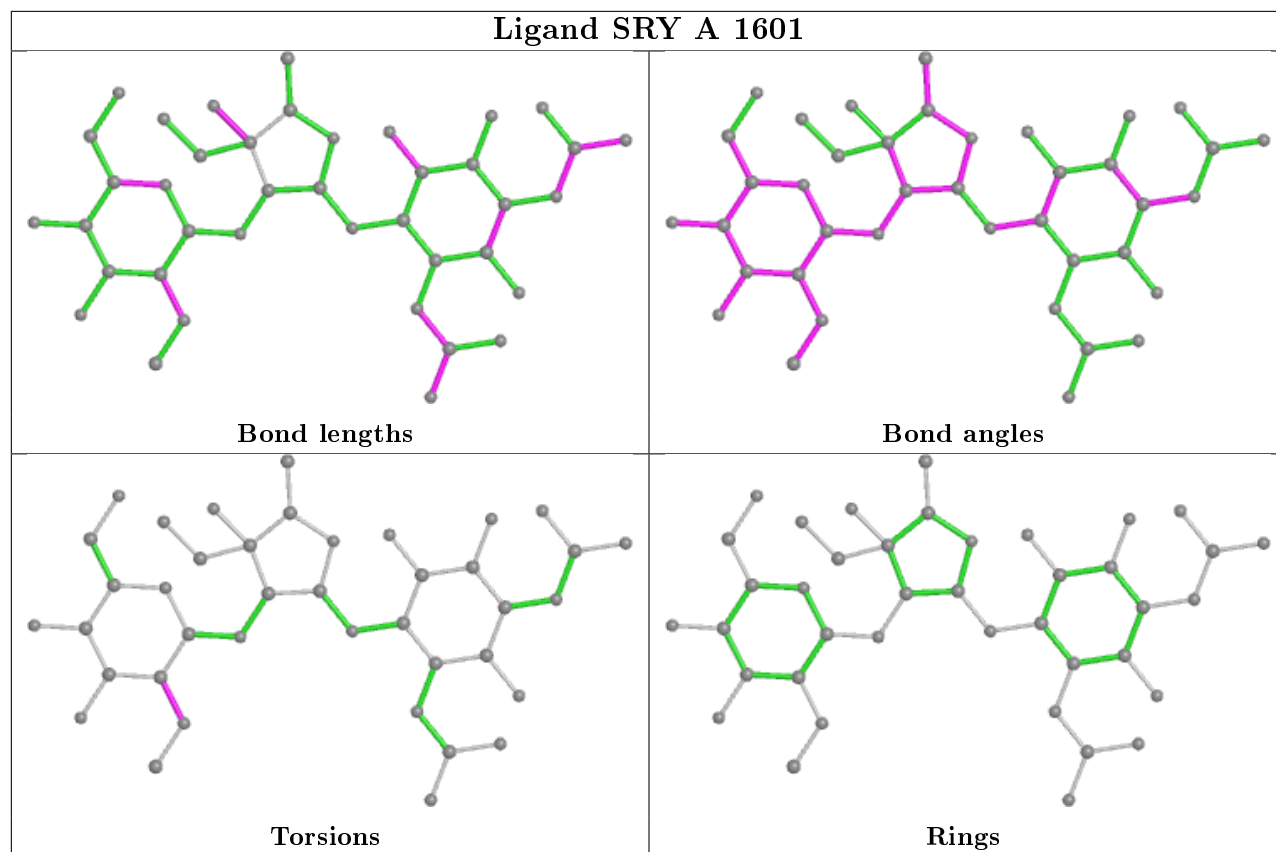
Mol	Chain	Res	Type	Atoms
22	A	1601	SRY	C13-C23-N23-CI3

There are no ring outliers.

1 monomer is involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	1601	SRY	5	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data i

6.1 Protein, DNA and RNA chains i

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1498/1522 (98%)	-0.43	22 (1%) 73 61	91, 154, 301, 391	0
2	B	234/256 (91%)	-0.61	0 100 100	125, 174, 266, 283	0
3	C	206/239 (86%)	-0.11	11 (5%) 26 18	181, 240, 279, 300	0
4	D	208/209 (99%)	-0.53	2 (0%) 82 72	112, 159, 214, 231	0
5	E	150/162 (92%)	-0.64	0 100 100	80, 126, 173, 210	0
6	F	101/101 (100%)	-0.72	0 100 100	123, 174, 206, 235	0
7	G	155/156 (99%)	-0.44	4 (2%) 56 42	151, 198, 247, 296	0
8	H	138/138 (100%)	-0.76	0 100 100	81, 110, 145, 193	0
9	I	127/128 (99%)	-0.30	2 (1%) 72 59	154, 229, 263, 300	0
10	J	98/105 (93%)	0.24	7 (7%) 16 10	217, 246, 300, 348	0
11	K	116/129 (89%)	-0.67	0 100 100	117, 150, 194, 234	0
12	L	123/135 (91%)	-0.50	0 100 100	87, 145, 186, 245	0
13	M	118/126 (93%)	-0.33	2 (1%) 70 57	136, 183, 220, 242	0
14	N	60/61 (98%)	0.08	2 (3%) 46 33	184, 226, 269, 294	0
15	O	87/89 (97%)	-0.59	0 100 100	87, 137, 178, 199	0
16	P	83/88 (94%)	-0.60	0 100 100	117, 152, 181, 207	0
17	Q	99/105 (94%)	-0.69	0 100 100	89, 128, 163, 183	0
18	R	70/88 (79%)	-0.73	0 100 100	113, 150, 199, 218	0
19	S	80/93 (86%)	0.14	4 (5%) 28 20	180, 242, 278, 303	0
20	T	99/106 (93%)	-0.67	1 (1%) 82 72	117, 155, 206, 236	0
21	U	24/27 (88%)	0.98	5 (20%) 1 0	154, 205, 230, 236	0
All	All	3874/4063 (95%)	-0.44	62 (1%) 72 59	80, 165, 269, 391	0

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
21	U	17	THR	4.7
3	C	193	TYR	4.6
1	A	994	A	4.5
1	A	1018	C	4.5
1	A	1037	C	4.5
1	A	1129	C	4.4
1	A	1019	C	4.3
1	A	1539	C	4.3
10	J	39	PRO	4.3
3	C	103	VAL	3.9
10	J	33	GLN	3.8
3	C	65	ALA	3.6
1	A	1017	G	3.6
1	A	993	G	3.5
3	C	102	ASN	3.5
21	U	25	LYS	3.5
1	A	1005	A	3.4
3	C	155	GLY	3.3
21	U	18	TYR	3.3
7	G	81	GLY	3.3
14	N	11	LYS	3.2
1	A	1006	C	3.1
7	G	2	ALA	3.0
1	A	1045	C	3.0
19	S	31	ILE	3.0
13	M	117	VAL	2.9
1	A	1007	C	2.9
14	N	4	LYS	2.8
19	S	30	LEU	2.8
19	S	32	LYS	2.8
1	A	1050	G	2.8
3	C	66	VAL	2.7
1	A	995	C	2.7
1	A	202	U	2.6
10	J	99	LYS	2.5
10	J	34	VAL	2.5
1	A	1004	A	2.4
1	A	1036	G	2.4
3	C	157	ILE	2.4
10	J	74	ILE	2.4
1	A	1257	U	2.4
3	C	162	GLN	2.3
21	U	24	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
1	A	1003(A)	G	2.3
1	A	1047	G	2.3
13	M	65	LYS	2.3
1	A	81	U	2.3
1	A	1003	G	2.3
7	G	82	GLY	2.3
10	J	38	ILE	2.2
3	C	76	VAL	2.2
9	I	4	TYR	2.2
4	D	20	TYR	2.2
3	C	77	ILE	2.1
4	D	35	ARG	2.1
9	I	128	ARG	2.1
20	T	106	ALA	2.1
3	C	146	ALA	2.1
21	U	11	GLY	2.0
19	S	41	VAL	2.0
7	G	78	ARG	2.0
10	J	72	VAL	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
1	PSU	A	1541	20/21	0.76	0.46	257,268,323,323	0
1	PSU	A	1540	20/21	0.80	0.68	251,258,331,332	0
1	2MG	A	1207	24/25	0.89	0.27	233,253,259,266	0
1	UR3	A	1498	21/22	0.92	0.26	130,151,177,185	0
1	PSU	A	516	20/21	0.94	0.10	126,162,186,188	0
1	M2G	A	966	25/26	0.94	0.19	141,169,180,185	0
1	5MC	A	1400	21/22	0.94	0.19	123,161,167,168	0
1	MA6	A	1518	24/25	0.95	0.14	138,166,194,200	0
1	4OC	A	1402	22/23	0.95	0.19	130,148,159,165	0
1	5MC	A	1404	21/22	0.95	0.17	140,150,159,171	0
12	0TD	L	92	10/11	0.96	0.31	111,148,156,269	0
1	5MC	A	967	21/22	0.96	0.14	145,164,179,184	0
1	5MC	A	1407	21/22	0.96	0.12	163,173,184,184	0
1	MA6	A	1519	24/25	0.97	0.14	126,149,157,161	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
1	7MG	A	527	24/25	0.97	0.14	118,132,143,146	0

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1764	1/1	0.32	0.47	122,122,122,122	0
23	MG	A	1791	1/1	0.49	0.48	138,138,138,138	0
23	MG	A	1661	1/1	0.51	0.92	118,118,118,118	0
23	MG	A	1777	1/1	0.57	0.30	132,132,132,132	0
23	MG	A	1707	1/1	0.57	0.34	117,117,117,117	0
23	MG	A	1794	1/1	0.61	0.51	117,117,117,117	0
23	MG	P	102	1/1	0.65	0.47	115,115,115,115	0
23	MG	H	204	1/1	0.67	1.00	125,125,125,125	0
23	MG	A	1741	1/1	0.67	0.57	105,105,105,105	0
23	MG	A	1737	1/1	0.68	0.39	158,158,158,158	0
23	MG	A	1847	1/1	0.68	0.43	418,418,418,418	0
23	MG	A	1803	1/1	0.68	0.23	103,103,103,103	0
23	MG	A	1782	1/1	0.69	0.43	123,123,123,123	0
23	MG	B	302	1/1	0.70	0.11	112,112,112,112	0
23	MG	A	1673	1/1	0.71	0.40	99,99,99,99	0
23	MG	A	1783	1/1	0.73	0.39	91,91,91,91	0
23	MG	A	1698	1/1	0.73	0.36	115,115,115,115	0
23	MG	P	101	1/1	0.74	0.38	93,93,93,93	0
23	MG	A	1733	1/1	0.74	0.57	124,124,124,124	0
23	MG	A	1727	1/1	0.74	0.47	116,116,116,116	0
23	MG	S	101	1/1	0.76	0.20	130,130,130,130	0
23	MG	A	1668	1/1	0.76	0.44	191,191,191,191	0
23	MG	A	1696	1/1	0.76	0.84	138,138,138,138	0
23	MG	A	1742	1/1	0.76	0.48	151,151,151,151	0
23	MG	A	1830	1/1	0.77	0.38	114,114,114,114	0
23	MG	A	1602	1/1	0.77	0.33	198,198,198,198	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1800	1/1	0.78	0.57	105,105,105,105	0
23	MG	A	1792	1/1	0.78	0.48	136,136,136,136	0
23	MG	A	1710	1/1	0.78	0.67	98,98,98,98	0
23	MG	A	1833	1/1	0.79	0.12	189,189,189,189	0
23	MG	A	1798	1/1	0.79	0.26	131,131,131,131	0
23	MG	Q	202	1/1	0.79	0.35	89,89,89,89	0
23	MG	A	1716	1/1	0.79	0.50	111,111,111,111	0
23	MG	A	1797	1/1	0.79	0.86	140,140,140,140	0
23	MG	A	1838	1/1	0.79	0.38	427,427,427,427	0
23	MG	A	1640	1/1	0.79	0.39	107,107,107,107	0
23	MG	A	1651	1/1	0.80	0.32	144,144,144,144	0
23	MG	A	1746	1/1	0.80	0.19	145,145,145,145	0
23	MG	A	1758	1/1	0.80	0.34	106,106,106,106	0
23	MG	A	1766	1/1	0.80	0.37	114,114,114,114	0
23	MG	A	1683	1/1	0.81	0.24	272,272,272,272	0
23	MG	A	1747	1/1	0.82	0.15	104,104,104,104	0
23	MG	A	1708	1/1	0.82	0.28	115,115,115,115	0
23	MG	A	1701	1/1	0.82	0.31	133,133,133,133	0
23	MG	A	1755	1/1	0.84	0.38	122,122,122,122	0
23	MG	A	1711	1/1	0.84	0.34	121,121,121,121	0
23	MG	A	1787	1/1	0.85	0.28	145,145,145,145	0
23	MG	A	1744	1/1	0.85	0.42	115,115,115,115	0
23	MG	A	1718	1/1	0.85	0.14	145,145,145,145	0
23	MG	H	201	1/1	0.86	0.39	85,85,85,85	0
23	MG	A	1793	1/1	0.86	0.51	139,139,139,139	0
23	MG	A	1719	1/1	0.86	0.26	143,143,143,143	0
23	MG	M	201	1/1	0.86	0.46	139,139,139,139	0
23	MG	A	1790	1/1	0.87	0.33	133,133,133,133	0
23	MG	A	1761	1/1	0.87	0.38	163,163,163,163	0
23	MG	A	1667	1/1	0.87	0.30	114,114,114,114	0
23	MG	A	1691	1/1	0.87	0.40	331,331,331,331	0
23	MG	A	1779	1/1	0.87	0.80	119,119,119,119	0
23	MG	A	1732	1/1	0.87	0.28	101,101,101,101	0
23	MG	A	1763	1/1	0.87	0.47	290,290,290,290	0
23	MG	A	1648	1/1	0.88	0.34	144,144,144,144	0
23	MG	A	1748	1/1	0.88	0.23	144,144,144,144	0
23	MG	A	1641	1/1	0.88	0.30	149,149,149,149	0
23	MG	A	1664	1/1	0.88	0.30	180,180,180,180	0
23	MG	A	1671	1/1	0.88	0.49	135,135,135,135	0
23	MG	A	1680	1/1	0.89	0.28	190,190,190,190	0
23	MG	A	1778	1/1	0.89	0.16	180,180,180,180	0
23	MG	A	1771	1/1	0.89	0.24	348,348,348,348	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1806	1/1	0.89	0.29	128,128,128,128	0
23	MG	A	1713	1/1	0.89	0.28	110,110,110,110	0
23	MG	A	1850	1/1	0.89	0.25	314,314,314,314	0
23	MG	A	1801	1/1	0.89	0.26	105,105,105,105	0
23	MG	A	1834	1/1	0.90	0.06	204,204,204,204	0
23	MG	A	1750	1/1	0.90	0.12	158,158,158,158	0
23	MG	A	1815	1/1	0.90	0.40	406,406,406,406	0
23	MG	A	1624	1/1	0.90	0.35	214,214,214,214	0
23	MG	A	1654	1/1	0.90	0.12	176,176,176,176	0
23	MG	A	1704	1/1	0.90	0.29	97,97,97,97	0
23	MG	A	1769	1/1	0.90	1.33	157,157,157,157	0
23	MG	A	1738	1/1	0.90	0.20	112,112,112,112	0
23	MG	A	1646	1/1	0.90	0.11	148,148,148,148	0
23	MG	A	1632	1/1	0.90	0.24	103,103,103,103	0
23	MG	A	1740	1/1	0.91	0.15	112,112,112,112	0
23	MG	A	1697	1/1	0.91	0.18	260,260,260,260	0
23	MG	A	1765	1/1	0.91	0.28	139,139,139,139	0
23	MG	A	1731	1/1	0.91	0.45	118,118,118,118	0
23	MG	A	1692	1/1	0.91	0.23	117,117,117,117	0
23	MG	Q	201	1/1	0.91	0.32	118,118,118,118	0
23	MG	A	1638	1/1	0.91	0.26	136,136,136,136	0
23	MG	B	301	1/1	0.91	0.56	159,159,159,159	0
23	MG	A	1721	1/1	0.91	0.10	98,98,98,98	0
23	MG	A	1703	1/1	0.91	0.25	121,121,121,121	0
23	MG	A	1818	1/1	0.91	0.18	423,423,423,423	0
23	MG	A	1756	1/1	0.91	0.30	120,120,120,120	0
23	MG	A	1789	1/1	0.91	0.38	137,137,137,137	0
23	MG	A	1685	1/1	0.91	0.13	127,127,127,127	0
23	MG	A	1694	1/1	0.91	0.27	141,141,141,141	0
23	MG	J	201	1/1	0.92	0.42	128,128,128,128	0
23	MG	A	1682	1/1	0.92	0.24	185,185,185,185	0
23	MG	A	1781	1/1	0.92	0.18	101,101,101,101	0
23	MG	A	1690	1/1	0.92	0.31	138,138,138,138	0
23	MG	A	1846	1/1	0.92	0.34	228,228,228,228	0
23	MG	A	1658	1/1	0.92	0.23	148,148,148,148	0
23	MG	A	1610	1/1	0.92	0.34	106,106,106,106	0
23	MG	A	1604	1/1	0.92	0.27	103,103,103,103	0
23	MG	A	1817	1/1	0.92	0.18	354,354,354,354	0
23	MG	A	1796	1/1	0.92	0.14	137,137,137,137	0
23	MG	A	1616	1/1	0.92	0.25	95,95,95,95	0
23	MG	A	1603	1/1	0.92	0.25	135,135,135,135	0
23	MG	A	1615	1/1	0.92	0.44	121,121,121,121	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1757	1/1	0.92	0.26	122,122,122,122	0
23	MG	A	1714	1/1	0.92	0.10	112,112,112,112	0
23	MG	A	1785	1/1	0.92	0.09	137,137,137,137	0
23	MG	A	1735	1/1	0.93	0.12	112,112,112,112	0
23	MG	A	1776	1/1	0.93	0.14	135,135,135,135	0
23	MG	A	1788	1/1	0.93	0.22	112,112,112,112	0
23	MG	A	1739	1/1	0.93	0.24	117,117,117,117	0
23	MG	A	1607	1/1	0.93	0.07	183,183,183,183	0
23	MG	T	1202	1/1	0.93	0.37	330,330,330,330	0
23	MG	A	1665	1/1	0.93	0.09	247,247,247,247	0
23	MG	A	1679	1/1	0.93	0.58	125,125,125,125	0
23	MG	A	1799	1/1	0.93	0.40	117,117,117,117	0
23	MG	A	1819	1/1	0.93	0.17	309,309,309,309	0
23	MG	H	202	1/1	0.94	0.31	83,83,83,83	0
23	MG	A	1652	1/1	0.94	0.63	126,126,126,126	0
23	MG	A	1627	1/1	0.94	0.20	130,130,130,130	0
23	MG	A	1759	1/1	0.94	0.25	161,161,161,161	0
23	MG	A	1634	1/1	0.94	0.31	101,101,101,101	0
23	MG	A	1745	1/1	0.94	0.60	179,179,179,179	0
23	MG	A	1786	1/1	0.94	0.26	155,155,155,155	0
23	MG	A	1720	1/1	0.94	0.20	115,115,115,115	0
23	MG	A	1621	1/1	0.94	0.16	109,109,109,109	0
23	MG	A	1728	1/1	0.94	0.39	156,156,156,156	0
23	MG	A	1706	1/1	0.94	0.20	167,167,167,167	0
23	MG	A	1802	1/1	0.94	0.12	139,139,139,139	0
23	MG	A	1666	1/1	0.94	0.29	168,168,168,168	0
23	MG	A	1749	1/1	0.94	0.07	142,142,142,142	0
23	MG	A	1835	1/1	0.94	0.15	166,166,166,166	0
23	MG	A	1824	1/1	0.94	0.22	485,485,485,485	0
23	MG	A	1656	1/1	0.94	0.18	143,143,143,143	0
23	MG	A	1724	1/1	0.94	0.35	128,128,128,128	0
23	MG	A	1699	1/1	0.94	0.29	130,130,130,130	0
23	MG	A	1660	1/1	0.94	0.22	211,211,211,211	0
23	MG	A	1702	1/1	0.95	0.20	116,116,116,116	0
23	MG	A	1813	1/1	0.95	0.28	371,371,371,371	0
23	MG	A	1804	1/1	0.95	0.20	146,146,146,146	0
23	MG	A	1734	1/1	0.95	0.13	145,145,145,145	0
23	MG	A	1743	1/1	0.95	1.01	129,129,129,129	0
23	MG	A	1831	1/1	0.95	0.23	114,114,114,114	0
23	MG	A	1620	1/1	0.95	0.58	166,166,166,166	0
23	MG	A	1723	1/1	0.95	0.17	102,102,102,102	0
24	ZN	N	101	1/1	0.95	0.14	395,395,395,395	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1630	1/1	0.95	0.11	116,116,116,116	0
23	MG	A	1722	1/1	0.95	0.18	117,117,117,117	0
23	MG	A	1729	1/1	0.95	0.29	162,162,162,162	0
23	MG	A	1663	1/1	0.95	0.23	141,141,141,141	0
23	MG	A	1760	1/1	0.96	0.17	139,139,139,139	0
23	MG	A	1617	1/1	0.96	0.14	92,92,92,92	0
23	MG	A	1647	1/1	0.96	0.21	146,146,146,146	0
23	MG	A	1811	1/1	0.96	0.24	226,226,226,226	0
23	MG	D	302	1/1	0.96	0.17	124,124,124,124	0
23	MG	A	1637	1/1	0.96	0.66	177,177,177,177	0
23	MG	A	1809	1/1	0.96	0.21	118,118,118,118	0
23	MG	A	1629	1/1	0.96	0.55	97,97,97,97	0
23	MG	A	1700	1/1	0.96	0.11	144,144,144,144	0
23	MG	A	1675	1/1	0.96	0.15	113,113,113,113	0
23	MG	H	203	1/1	0.96	0.88	111,111,111,111	0
23	MG	A	1625	1/1	0.96	0.14	206,206,206,206	0
23	MG	A	1705	1/1	0.96	0.26	127,127,127,127	0
23	MG	A	1826	1/1	0.96	0.29	366,366,366,366	0
22	SRY	A	1601	40/40	0.96	0.20	103,141,162,165	0
23	MG	A	1623	1/1	0.96	0.15	100,100,100,100	0
23	MG	A	1762	1/1	0.96	0.55	172,172,172,172	0
23	MG	A	1752	1/1	0.96	0.13	148,148,148,148	0
23	MG	A	1821	1/1	0.96	0.21	315,315,315,315	0
23	MG	A	1730	1/1	0.96	0.15	144,144,144,144	0
23	MG	A	1726	1/1	0.96	0.36	121,121,121,121	0
23	MG	A	1657	1/1	0.96	0.09	177,177,177,177	0
23	MG	A	1828	1/1	0.96	0.28	409,409,409,409	0
23	MG	A	1614	1/1	0.96	0.20	94,94,94,94	0
23	MG	A	1662	1/1	0.96	0.11	148,148,148,148	0
23	MG	A	1659	1/1	0.96	0.15	154,154,154,154	0
23	MG	A	1689	1/1	0.96	0.25	336,336,336,336	0
23	MG	A	1784	1/1	0.97	1.03	125,125,125,125	0
23	MG	A	1642	1/1	0.97	0.18	249,249,249,249	0
23	MG	A	1613	1/1	0.97	0.28	177,177,177,177	0
23	MG	A	1688	1/1	0.97	0.11	116,116,116,116	0
23	MG	A	1608	1/1	0.97	0.33	112,112,112,112	0
23	MG	A	1612	1/1	0.97	0.41	128,128,128,128	0
23	MG	A	1774	1/1	0.97	0.10	496,496,496,496	0
23	MG	A	1687	1/1	0.97	0.18	114,114,114,114	0
23	MG	A	1653	1/1	0.97	0.10	124,124,124,124	0
23	MG	T	1201	1/1	0.97	0.18	81,81,81,81	0
23	MG	A	1695	1/1	0.97	0.08	146,146,146,146	0

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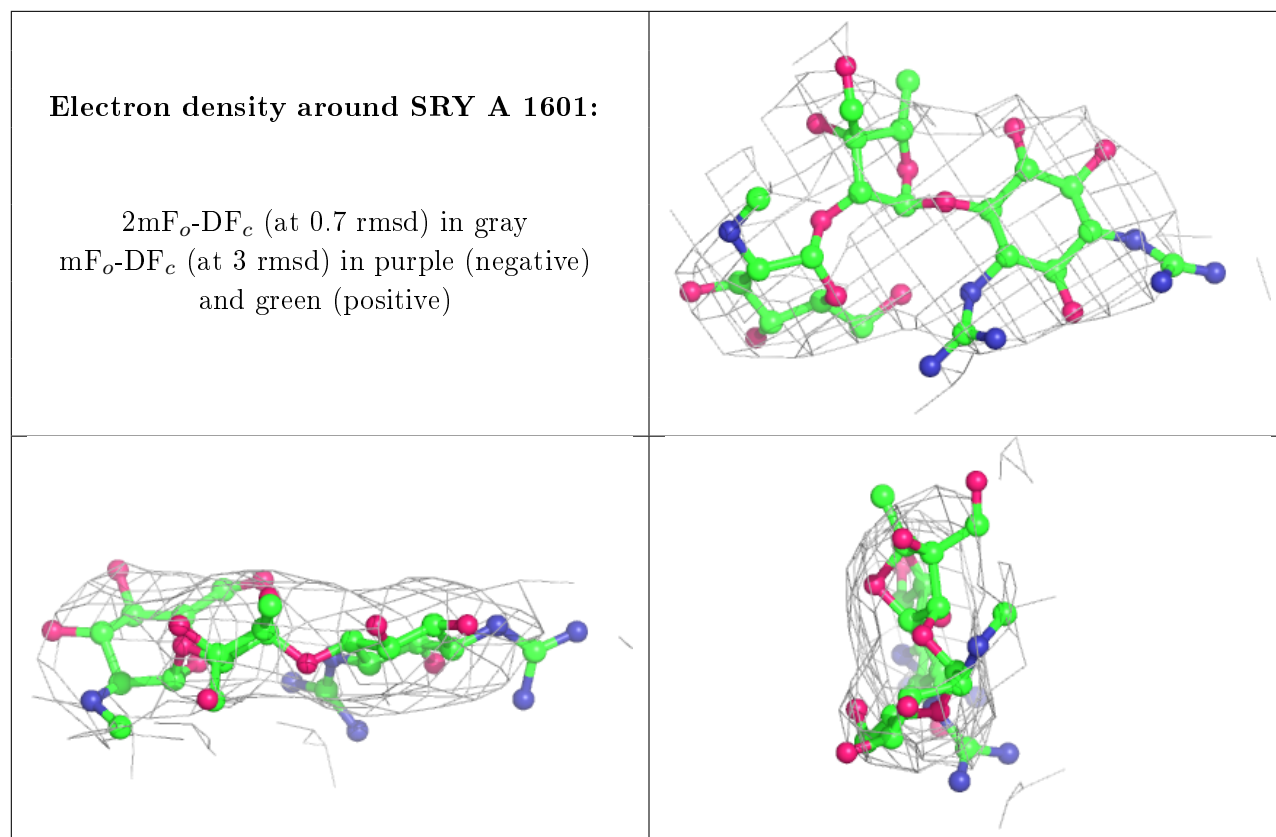
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1709	1/1	0.97	0.17	102,102,102,102	0
23	MG	A	1795	1/1	0.97	0.36	127,127,127,127	0
23	MG	A	1775	1/1	0.97	0.25	135,135,135,135	0
23	MG	A	1681	1/1	0.97	0.06	226,226,226,226	0
23	MG	A	1837	1/1	0.97	0.36	350,350,350,350	0
23	MG	A	1808	1/1	0.97	0.15	139,139,139,139	0
23	MG	A	1773	1/1	0.97	0.17	334,334,334,334	0
23	MG	A	1832	1/1	0.97	0.20	148,148,148,148	0
23	MG	A	1845	1/1	0.97	0.15	341,341,341,341	0
23	MG	A	1844	1/1	0.97	0.14	199,199,199,199	0
23	MG	A	1849	1/1	0.97	0.29	399,399,399,399	0
23	MG	A	1670	1/1	0.97	0.55	130,130,130,130	0
23	MG	A	1768	1/1	0.97	0.25	118,118,118,118	0
23	MG	A	1628	1/1	0.98	0.12	131,131,131,131	0
23	MG	A	1823	1/1	0.98	0.19	307,307,307,307	0
23	MG	A	1717	1/1	0.98	0.14	107,107,107,107	0
23	MG	A	1841	1/1	0.98	0.11	274,274,274,274	0
23	MG	A	1626	1/1	0.98	0.19	162,162,162,162	0
23	MG	A	1677	1/1	0.98	0.22	149,149,149,149	0
23	MG	A	1611	1/1	0.98	0.13	174,174,174,174	0
23	MG	A	1812	1/1	0.98	0.18	202,202,202,202	0
23	MG	A	1753	1/1	0.98	0.12	265,265,265,265	0
23	MG	E	201	1/1	0.98	0.07	167,167,167,167	0
23	MG	A	1678	1/1	0.98	0.10	146,146,146,146	0
23	MG	A	1725	1/1	0.98	0.30	89,89,89,89	0
23	MG	A	1843	1/1	0.98	0.18	380,380,380,380	0
23	MG	A	1767	1/1	0.98	0.24	132,132,132,132	0
23	MG	A	1684	1/1	0.98	0.37	242,242,242,242	0
23	MG	A	1619	1/1	0.98	0.14	150,150,150,150	0
23	MG	A	1807	1/1	0.98	0.14	99,99,99,99	0
23	MG	A	1814	1/1	0.98	0.15	254,254,254,254	0
23	MG	A	1644	1/1	0.98	0.30	127,127,127,127	0
23	MG	A	1820	1/1	0.98	0.08	176,176,176,176	0
23	MG	A	1848	1/1	0.98	0.28	278,278,278,278	0
23	MG	A	1635	1/1	0.98	0.06	89,89,89,89	0
23	MG	A	1650	1/1	0.98	0.10	138,138,138,138	0
23	MG	A	1825	1/1	0.98	0.13	314,314,314,314	0
23	MG	A	1842	1/1	0.98	0.17	159,159,159,159	0
23	MG	A	1822	1/1	0.98	0.19	265,265,265,265	0
23	MG	A	1736	1/1	0.98	0.11	109,109,109,109	0
23	MG	A	1655	1/1	0.98	0.14	161,161,161,161	0
23	MG	A	1751	1/1	0.98	0.07	257,257,257,257	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1810	1/1	0.98	0.16	190,190,190,190	0
23	MG	A	1606	1/1	0.98	0.16	117,117,117,117	0
23	MG	A	1712	1/1	0.98	0.12	128,128,128,128	0
23	MG	A	1686	1/1	0.98	0.16	184,184,184,184	0
23	MG	A	1643	1/1	0.98	0.14	85,85,85,85	0
23	MG	A	1780	1/1	0.98	0.26	105,105,105,105	0
23	MG	A	1674	1/1	0.98	0.12	113,113,113,113	0
23	MG	M	202	1/1	0.98	0.46	137,137,137,137	0
23	MG	A	1649	1/1	0.99	0.12	206,206,206,206	0
23	MG	A	1805	1/1	0.99	0.14	105,105,105,105	0
23	MG	A	1693	1/1	0.99	0.08	134,134,134,134	0
23	MG	A	1754	1/1	0.99	0.14	122,122,122,122	0
23	MG	A	1840	1/1	0.99	0.17	100,100,100,100	0
23	MG	A	1639	1/1	0.99	0.32	139,139,139,139	0
23	MG	A	1672	1/1	0.99	0.12	167,167,167,167	0
23	MG	A	1605	1/1	0.99	0.08	107,107,107,107	0
23	MG	A	1772	1/1	0.99	0.32	243,243,243,243	0
23	MG	A	1839	1/1	0.99	0.21	116,116,116,116	0
23	MG	A	1816	1/1	0.99	0.08	179,179,179,179	0
23	MG	A	1829	1/1	0.99	0.09	180,180,180,180	0
23	MG	A	1618	1/1	0.99	0.14	139,139,139,139	0
23	MG	A	1827	1/1	0.99	0.17	134,134,134,134	0
23	MG	A	1836	1/1	0.99	0.06	201,201,201,201	0
23	MG	A	1609	1/1	0.99	0.19	126,126,126,126	0
23	MG	A	1633	1/1	0.99	0.13	91,91,91,91	0
23	MG	A	1636	1/1	0.99	0.41	167,167,167,167	0
23	MG	A	1645	1/1	0.99	0.12	144,144,144,144	0
23	MG	A	1622	1/1	0.99	0.17	156,156,156,156	0
23	MG	A	1770	1/1	0.99	0.10	215,215,215,215	0
23	MG	A	1715	1/1	0.99	0.18	134,134,134,134	0
23	MG	A	1676	1/1	0.99	0.18	109,109,109,109	0
23	MG	A	1669	1/1	0.99	0.45	131,131,131,131	0
24	ZN	D	301	1/1	1.00	0.31	125,125,125,125	0
23	MG	A	1631	1/1	1.00	0.11	102,102,102,102	0

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



6.5 Other polymers [i](#)

There are no such residues in this entry.