



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 10, 2025 – 03:33 PM EST

PDB ID : 4DV5
Title : Crystal structure of the *Thermus thermophilus* 30S ribosomal subunit with a 16S rRNA mutation, A914G, 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 : 3.68 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 types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Mogul : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : 1.21
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.004 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

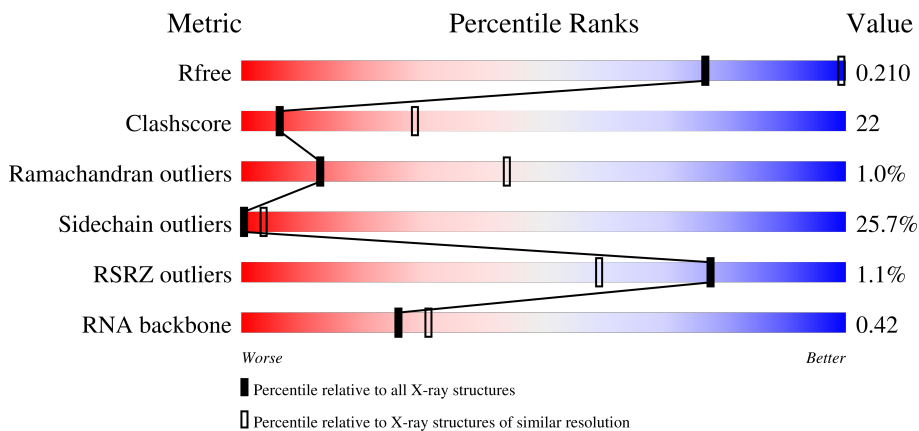
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.68 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}	164625	1132 (3.80-3.56)
Clashscore	180529	1194 (3.80-3.56)
Ramachandran outliers	177936	1173 (3.80-3.56)
Sidechain outliers	177891	1170 (3.80-3.56)
RSRZ outliers	164620	1132 (3.80-3.56)
RNA backbone	3690	1117 (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 of 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	
2	B	256	
3	C	239	

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Mol	Chain	Length	Quality of chain
4	D	209	4% 43% 44% 11% 7%
5	E	162	38% 39% 14% 7%
6	F	101	35% 52% 12%
7	G	156	39% 48% 11% 2% 1%
8	H	138	40% 46% 14%
9	I	128	41% 45% 12% 2% 1%
10	J	105	36% 48% 10% 7%
11	K	129	41% 36% 12% 10%
12	L	135	35% 37% 19% 8%
13	M	126	40% 43% 10% 6%
14	N	61	41% 48% 10%
15	O	89	36% 46% 16%
16	P	88	32% 50% 13% 6%
17	Q	105	35% 40% 18% 6%
18	R	88	27% 45% 7% 20%
19	S	93	10% 34% 33% 15% 14%
20	T	106	32% 48% 13% 7%
21	U	27	4% 41% 33% 15% 11%

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	5MC	A	1404	-	-	X	-
23	MG	A	1796	-	-	-	X

2 Entry composition

There are 25 unique types of molecules in this entry. The entry contains 52300 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	32508	14477	6011	10508	1512	0	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	914	G	A	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

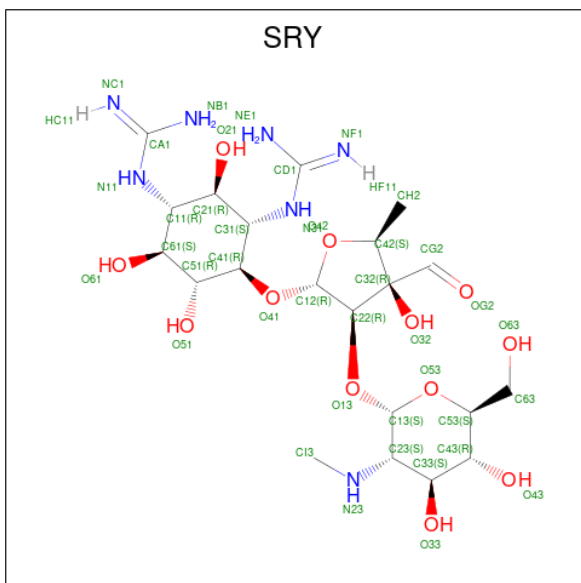
- Molecule 20 is a protein called ribosomal protein S20.

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	A	253	Total 253	Mg 253	0	0
23	B	2	Total 2	Mg 2	0	0
23	D	1	Total 1	Mg 1	0	0
23	E	1	Total 1	Mg 1	0	0
23	H	4	Total 4	Mg 4	0	0
23	J	2	Total 2	Mg 2	0	0
23	M	2	Total 2	Mg 2	0	0
23	N	1	Total 1	Mg 1	0	0
23	P	3	Total 3	Mg 3	0	0
23	Q	1	Total 1	Mg 1	0	0
23	S	1	Total 1	Mg 1	0	0
23	T	2	Total 2	Mg 2	0	0

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

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

- Molecule 25 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	A	374	Total 374	O 374	0	0
25	B	1	Total 1	O 1	0	0
25	D	1	Total 1	O 1	0	0

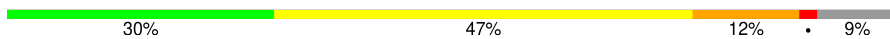
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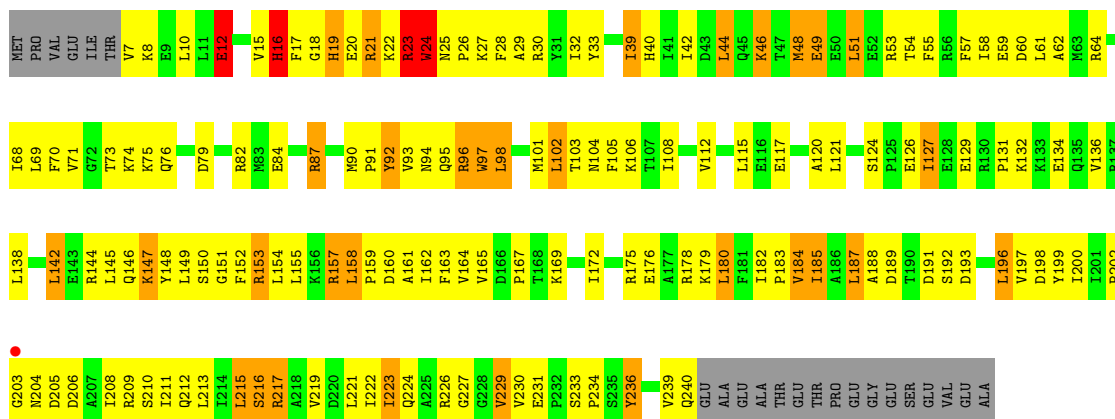
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	E	7	Total O 7 7	0	0
25	L	1	Total O 1 1	0	0
25	N	1	Total O 1 1	0	0
25	P	2	Total O 2 2	0	0
25	T	2	Total O 2 2	0	0

G1517	A1451	U1381	C1322	C1260	U1199	G1138	G1077	C1019	G954	G894	A868	A768	C707
A1518	C1452	C1382	G1323	A1261	C1200	G1139	U1078	U1020	U955	G895	G829	A769	C708
A1519	G1453	C1383	C1324	C1264	A1201	G1140	U1079	G1021	U956	C896	G830	G769	C709
G1520	C1384	C1384	C1325	G1265	C1203	C1141	A1080	G1022	U957	C897	U831	G770	C710
G1521	G1455	G1385	G1326	G1266	G1206	G1142	G1081	G1023	U960	C898	C832	U772	G711
U1522	G1459	G1386	C1327	C1267	G1207	G1143	G1082	G1024	U961	C899	U833	G773	A712
G1523	A1460	G1387	C1328	C1268	C1208	G1144	U1083	U1025	U962	A900	C834	G774	G713
C1524	G1461	C1388	A1329	A1269	C1209	C1145	U1084	G1026	G963	G902	U835	G775	G714
G1526	G1462	U1390	U1330	A1269	C1209	A1146	U1085	G1027	A964	G902	U836	G776	A715
G1527	C1463	G1331	A1332	C1270	C1210	U1148	U1086	C1028	A965	G903	G837	A777	A716
U1528	G1465	U1333	A1333	G1273	C1210	U1148	G1087	C1029	G966	C904	G838	G778	C717
G1529	C1466	U1334	G1334	G1274	U1211	C1149	G1088	G1030	C967	U905	U839	C779	G718
C1530	G1467	A1394	C1335	A1275	U1212	U1150	G1089	C1030A	A968	G906	C840	A780	C719
A1531	A1468	C1395	C1336	G1276	A1213	A1151	U1090	C1030B	A969	A907	U841	A781	C720
U1532	G1469	G1337	G1337	C1277	C1214	A1152	U1091	G1031	C970	A908	U842	A782	G721
C1533	G1470	U1338	G1338	C1277	C1215	A1153	A1092	G1032	G971	A909	C849	A783	A722
C	G1471	A1398	U1339	A1279	G1216	G1154	A1093	G1032	C972	U911	U850	C784	U723
A		C1399	A1340	U1279	C1217	G1155	G1094	G1032	C973	U911	C851	G785	U724
C	G1474	C1400	A1340	A1280	C1218	G1156	U1095	A1035	A974	C912	G852	G786	G725
U	G1475	U1341	U1342	U1281	U1219	A1157	C1096	G1036	A975	A913	C853	A787	C726
C	G1476	G1403	G1343	U1282	G1220	C1158	C1097	G1037	G976	G914	C854	U788	G727
C1539	C1477	C1403	C1344	G1284	G1222	U1159	C1098	C1038	A977	A915	C855	U789	A728
U1540		G1404	U1345	A1285	C1223	G1160	G1099	C1039	A978	A916	C856	A790	A729
U1541	U1481	G1405	U1346	A1286	C1224	C1161	C1100	U1040	C979	A918	C857	G791	G730
U1542	G1482	U1406	G1347	A1287	A1225	C1162	C1101	A1041	C980	A918	C858	A792	G731
C1543	A1483	C1407	G1348	A1288	C1226	C1163	A1102	G1042	U981	A919	A859	U793	C732
U1544	A1484	A1408	A1349	A1289	C1227	G1164	C1103	C1043	U982	U920	A860	A794	A733
	U1485	C1409	A1350	A1290	C1228	C1166	G1104	U1044	A983	U921	G861	G734	G734
	G1486	G1410	U1351	G1291	A1229	A1167	A1105	C1045	C984	G922	C862	C796	C735
	G1487	C1411	U1352	U1292	C1230	A1168	G1106	A1046	A985	A923	U863	C797	C736
	G1488	C1412	C1353	U1293	G1231	A1169	C1107	G1047	A986	C924	A864	G798	C738
	G1489	A1413	G1354	G1294	U1232	G1171	C1109	G1048	G987	G925	A865	G799	C739
	C1490	G1414	G1355	G1295	G1233	C1172	A1110	U1049	G988	G926	C866	G800	U740
	G1491	G1415	G1356	C1296	C1234	G1173	C1112	G1050	C990	G927	C867	U801	G741
	A1492	G1416	A1357	C1297	U1235	G1174	C1113	U1051	U991	C930	C868	A802	U743
	G1493	G1417	U1358	C1298	A1236	G1175	C1113	G1053	U992	C931	G869	G803	U744
	G1494	A1418	C1359	A1299	C1237	A1176	C1113	C1054	G993	G931	U871	U804	C745
	U1495	G1419	A1360	G1300	A1238	G1177	C1116	A1055	A994	C932	A872	C806	A746
	C1496		G1361	U1301	A1239	G1178	G1117	U1056	C995	G933	A873	A807	C747
	G1497	G1422	C1361A	U1302	A1240	A1179	C1118	G1057	A996	C934	C874	C808	C748
	U1498	C1423	C1362	C1303	G1241	A1180	C1119	G1058	C997	C935	C875	G809	C749
	A1499	C1424	U1363	G1304	C1242	G1181	G1120	C1059	U997	A935	C876	G810	G750
	A1500	U1425	U1364	G1305	C1243	G1182	U1121	G1060	U1000	G937	C877	C811	U751
	C1501	C1426	G1365	A1306	C1244	A1183	U1122	G1061	A1001	A938	G878	C812	G752
	A1502	U1427	C1366	U1307	A1245	G1184	A1123	U1062	G1002	G939	C879	U813	A753
	G1503	A1428	C1367	U1308	A1246	G1185	G1124	C1063	G1003	C940	C880	A814	C754
	G1504	G1432	G1368	G1309	U1247	G1186	U1125	G1064	G1003A	G941	C881	A815	G755
	G1505	G1433	C1369	G1310	C1248	G1187	U1126	U1065	A1004	G942	C882	A816	C756
	U1506	A1433	G1370	G1311	C1249	A1188	G1127	C1066	A1005	U943	C883	C817	U757
	A1507	A1434	G1371	G1312	A1250	C1189	C1128	A1067	C1006	G944	U884	C818	G758
	G1508	G1435	U1372	U1313	A1251	C1190	C1129	G1068	A885	G945	G885	A819	A759
	C1509	U1436	G1373	C1314	A1252	A1191	A1130	C1069	C886	U946	C886	U820	G760
	U1510	G1441	A1374	U1315	G1253	C1192	G1131	U1070	G947	G947	G887	G821	G761
	G1511	G1442	A1375	G1316	C1254	G1193	C1132	G1071	G1010	C948	G888	C822	C762
	U1512	G1443	U1376	C1317	G1255	U1194	G1133	G1072	G1011	A949	A889	G823	G763
	A1513	G1444	A1377	A1318	A1256	C1195	G1134	U1073	U950	G890	C824	C764	C764
	C1514	G1447	C1378	A1319	U1257	U1196	U1135	G1074	G951	U891	G825	G765	A766
	G1515		C1379	C1320	U1258	G1197	U1136	C1075	U952	A892	C826	A767	A767
	G1516		U1380	C1259	G1198	C1137	C1137	C1076	G953	C893	U827		

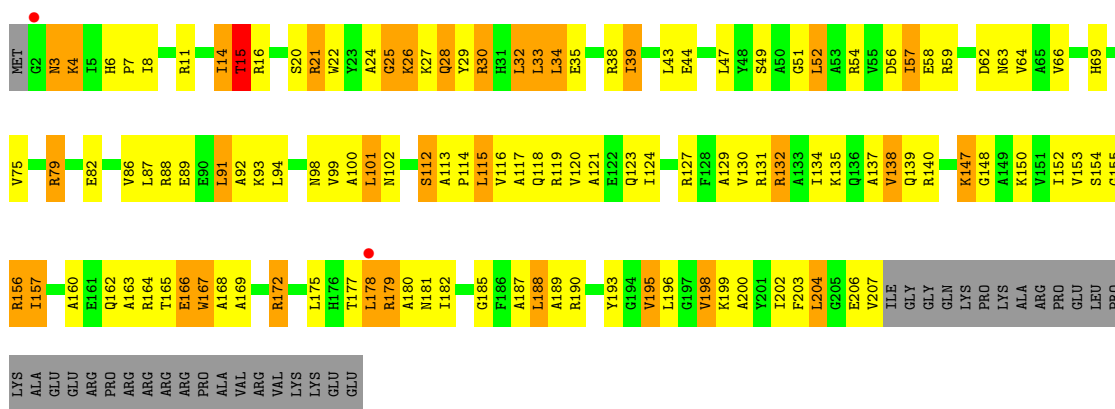
- Molecule 2: ribosomal protein S2

Chain B: 



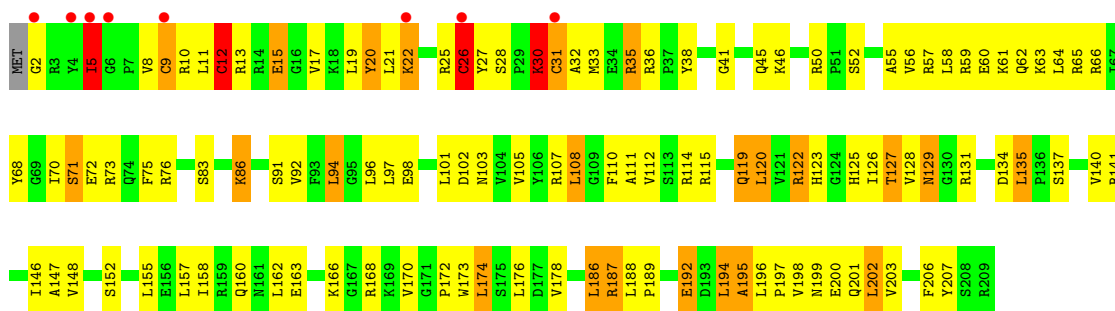
• Molecule 3: ribosomal protein S3

Chain C: 

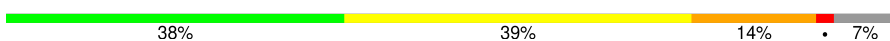


• Molecule 4: ribosomal protein S4

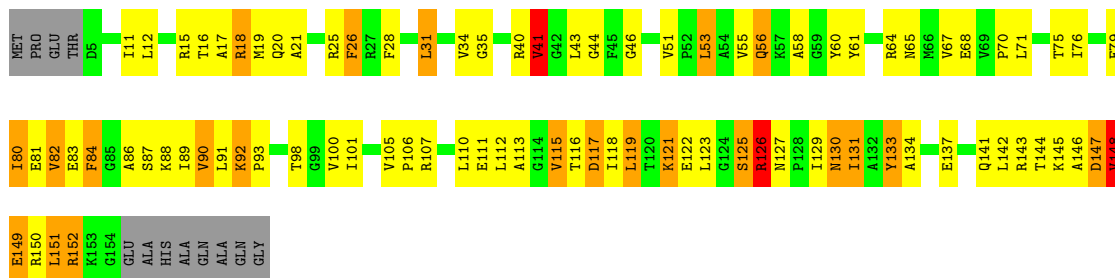
Chain D: 



• Molecule 5: ribosomal protein S5

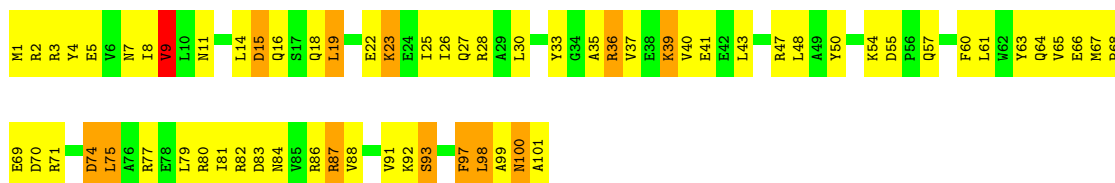
Chain E: 





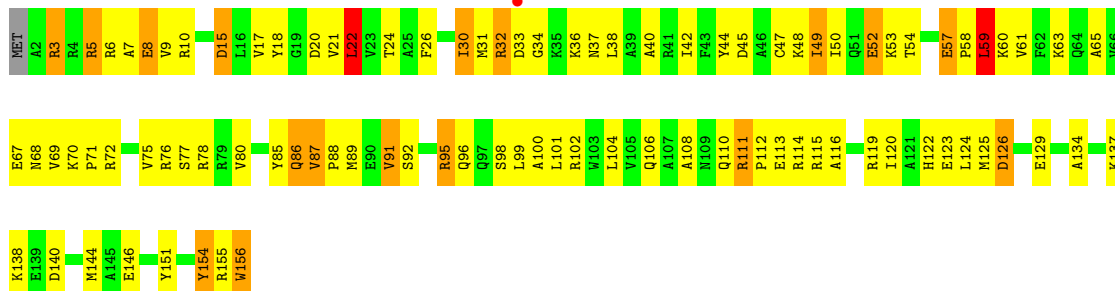
- Molecule 6: ribosomal protein S6

Chain F: 35% 52% 12%



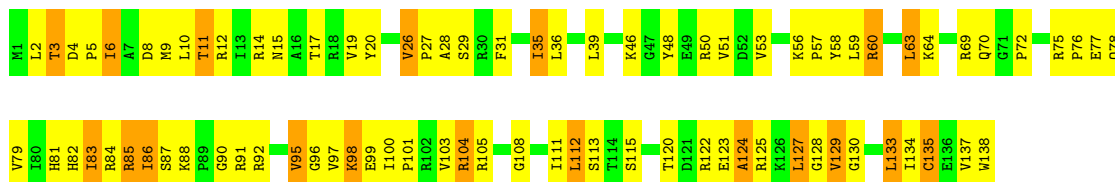
- Molecule 7: ribosomal protein S7

Chain G: 39% 48% 11%



- Molecule 8: ribosomal protein S8

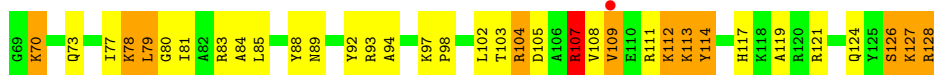
Chain H: 40% 46% 14%



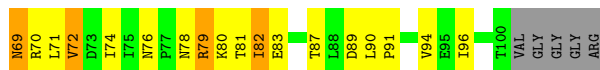
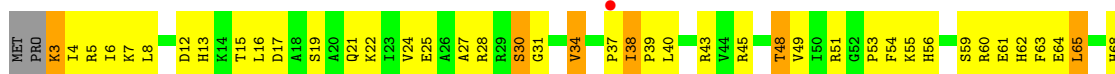
- Molecule 9: ribosomal protein S9

Chain I: 41% 45% 12%





- Molecule 10: ribosomal protein S10



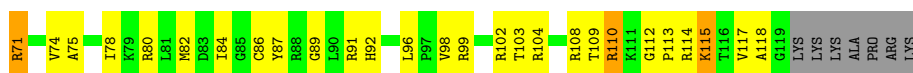
- Molecule 11: ribosomal protein S11



- Molecule 12: ribosomal protein S12

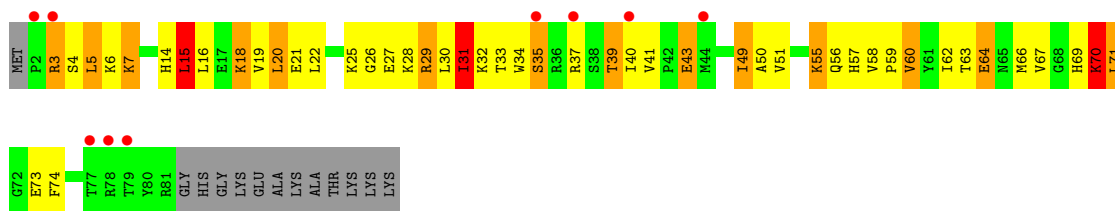


- Molecule 13: ribosomal protein S13

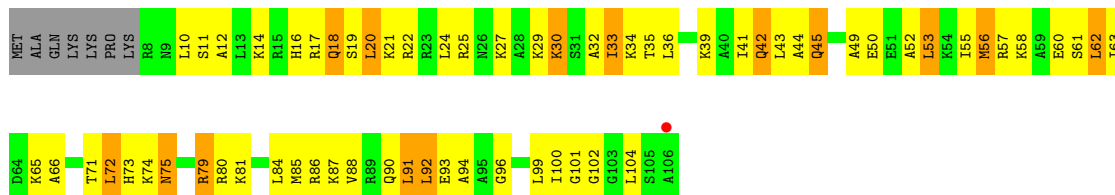


- Molecule 14: ribosomal protein S14





- Molecule 20: ribosomal protein S20



- Molecule 21: ribosomal protein THX



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	402.13Å 402.13Å 172.61Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.55 – 3.68 34.55 – 3.68	Depositor EDS
% Data completeness (in resolution range)	98.1 (34.55-3.68) 97.7 (34.55-3.68)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.92 (at 3.66Å)	Xtrriage
Refinement program	PHENIX dev_978	Depositor
R, R_{free}	0.156 , 0.211 0.155 , 0.210	Depositor DCC
R_{free} test set	7392 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	122.3	Xtrriage
Anisotropy	0.371	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 122.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	52300	wwPDB-VP
Average B, all atoms (Å ²)	148.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.44% 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, PSU, SRY, 7MG, MA6, 0TD, UR3, M2G, 2MG, MG, 5MC, 4OC

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	1.41	334/36041 (0.9%)	2.16	2692/56245 (4.8%)
2	B	0.91	1/1935 (0.1%)	1.06	7/2609 (0.3%)
3	C	0.70	0/1636	0.94	4/2205 (0.2%)
4	D	0.92	3/1733 (0.2%)	1.12	7/2318 (0.3%)
5	E	1.15	5/1162 (0.4%)	1.21	4/1564 (0.3%)
6	F	0.79	0/856	0.97	1/1154 (0.1%)
7	G	0.75	1/1276 (0.1%)	0.92	2/1709 (0.1%)
8	H	1.19	2/1136 (0.2%)	1.21	4/1527 (0.3%)
9	I	0.74	0/1029	0.98	1/1379 (0.1%)
10	J	0.70	0/805	0.95	0/1082
11	K	0.84	1/879 (0.1%)	1.05	1/1187 (0.1%)
12	L	0.97	1/977 (0.1%)	1.18	3/1306 (0.2%)
13	M	0.77	1/947 (0.1%)	0.95	0/1270
14	N	0.68	0/501	0.92	0/664
15	O	0.86	0/740	1.06	2/987 (0.2%)
16	P	0.95	1/716 (0.1%)	1.10	2/963 (0.2%)
17	Q	1.16	1/836 (0.1%)	1.32	9/1117 (0.8%)
18	R	0.81	0/579	0.97	0/768
19	S	0.67	0/661	0.90	1/890 (0.1%)
20	T	0.86	0/765	1.10	1/1007 (0.1%)
21	U	0.59	0/212	0.84	0/277
All	All	1.25	351/55422 (0.6%)	1.88	2741/82228 (3.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	C	0	2
4	D	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
7	G	0	1
8	H	0	1
9	I	0	1
10	J	0	2
12	L	0	1
17	Q	0	1
20	T	0	1
All	All	0	11

All (351) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	279	A	N9-C4	-14.20	1.29	1.37
1	A	1502	A	N9-C4	-12.65	1.30	1.37
1	A	917	G	N9-C4	-10.97	1.29	1.38
8	H	135	CYS	CB-SG	-10.53	1.64	1.82
1	A	1513	A	N9-C4	-10.06	1.31	1.37
1	A	279	A	N3-C4	-9.66	1.29	1.34
4	D	12	CYS	CB-SG	9.64	1.98	1.82
1	A	1508	G	N7-C5	-9.56	1.33	1.39
1	A	1227	A	N9-C4	-9.51	1.32	1.37
1	A	298	A	N9-C4	-9.37	1.32	1.37
1	A	329	A	C5-C6	-8.91	1.33	1.41
1	A	1377	A	N3-C4	-8.76	1.29	1.34
1	A	882	C	N3-C4	-8.75	1.27	1.33
1	A	1509	C	N1-C6	-8.74	1.31	1.37
1	A	266	G	N9-C4	-8.73	1.30	1.38
1	A	1502	A	C5-C6	-8.73	1.33	1.41
1	A	1394	A	N9-C4	-8.73	1.32	1.37
1	A	298	A	N3-C4	-8.63	1.29	1.34
1	A	279	A	N7-C5	-8.63	1.34	1.39
1	A	1500	A	N3-C4	-8.48	1.29	1.34
1	A	759	A	N9-C4	-8.36	1.32	1.37
1	A	1502	A	N3-C4	-8.32	1.29	1.34
1	A	1505	G	N7-C5	-8.31	1.34	1.39
1	A	1442	G	N3-C4	8.19	1.41	1.35
1	A	586	C	N1-C6	-8.16	1.32	1.37
1	A	1442	G	N9-C4	8.10	1.44	1.38
1	A	1502	A	N7-C5	-8.10	1.34	1.39
1	A	759	A	N7-C5	-8.09	1.34	1.39
1	A	901	A	N9-C4	-8.01	1.33	1.37
4	D	26	CYS	CB-SG	7.97	1.95	1.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	917	G	N3-C4	-7.88	1.29	1.35
1	A	876	G	C5-C4	-7.86	1.32	1.38
1	A	817	C	N1-C6	-7.80	1.32	1.37
1	A	574	A	C5-C4	-7.78	1.33	1.38
1	A	706	A	N9-C4	-7.73	1.33	1.37
1	A	88	A	N9-C4	7.71	1.42	1.37
1	A	795	C	N3-C4	7.67	1.39	1.33
1	A	1079	G	N7-C5	-7.62	1.34	1.39
1	A	905	U	C2-N3	-7.58	1.32	1.37
1	A	1401	G	N9-C8	-7.55	1.32	1.37
1	A	1499	A	N7-C5	-7.47	1.34	1.39
1	A	569	C	N3-C4	-7.44	1.28	1.33
1	A	904	C	N1-C6	-7.43	1.32	1.37
1	A	868	C	N1-C6	-7.41	1.32	1.37
1	A	860	A	N9-C4	-7.39	1.33	1.37
1	A	875	C	N1-C6	-7.39	1.32	1.37
1	A	568	G	C6-N1	-7.38	1.34	1.39
1	A	889	A	N7-C5	-7.38	1.34	1.39
2	B	12	GLU	CG-CD	7.37	1.63	1.51
1	A	1509	C	N3-C4	-7.36	1.28	1.33
1	A	1514	C	N1-C6	-7.34	1.32	1.37
1	A	795	C	C2-N3	7.29	1.41	1.35
1	A	828	A	N9-C4	-7.29	1.33	1.37
1	A	372	C	C2-O2	7.22	1.30	1.24
1	A	575	G	C6-N1	-7.21	1.34	1.39
1	A	892	A	N9-C4	-7.18	1.33	1.37
1	A	130	A	N3-C4	-7.17	1.30	1.34
1	A	130	A	N9-C4	-7.17	1.33	1.37
1	A	572	A	N3-C4	-7.16	1.30	1.34
1	A	779	C	N1-C6	-7.14	1.32	1.37
1	A	1080	A	N9-C8	-7.13	1.32	1.37
1	A	595	G	N7-C5	-7.12	1.34	1.39
1	A	580	U	C4-O4	7.12	1.29	1.23
1	A	1526	G	N7-C5	-7.11	1.34	1.39
1	A	807	A	N3-C4	-6.97	1.30	1.34
1	A	573	A	N7-C5	-6.96	1.35	1.39
1	A	730	G	N3-C4	-6.96	1.30	1.35
1	A	1543	C	N1-C2	6.94	1.47	1.40
1	A	860	A	N3-C4	-6.93	1.30	1.34
1	A	634	C	N1-C6	-6.93	1.32	1.37
1	A	1268	A	N9-C4	6.91	1.42	1.37
1	A	109	A	N7-C5	-6.87	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	758	G	N7-C5	-6.86	1.35	1.39
1	A	722	A	C5-C6	-6.77	1.34	1.41
1	A	1080	A	C5-C4	-6.77	1.34	1.38
1	A	1514	C	C2-N3	-6.76	1.30	1.35
1	A	1493	A	N9-C4	6.75	1.42	1.37
1	A	1500	A	C6-N1	-6.75	1.30	1.35
1	A	108	G	N9-C8	6.73	1.42	1.37
1	A	715	A	N9-C4	-6.72	1.33	1.37
1	A	753	A	N9-C4	-6.71	1.33	1.37
1	A	279	A	C5-C6	-6.70	1.35	1.41
1	A	791	G	N9-C4	6.70	1.43	1.38
1	A	563	A	N3-C4	-6.70	1.30	1.34
1	A	274	A	N9-C4	-6.68	1.33	1.37
1	A	16	A	N9-C4	-6.68	1.33	1.37
1	A	640	A	N3-C4	-6.67	1.30	1.34
1	A	568	G	N3-C4	-6.66	1.30	1.35
1	A	257	G	N1-C2	-6.65	1.32	1.37
1	A	144	G	N1-C2	6.65	1.43	1.37
1	A	766	A	C5-C6	-6.64	1.35	1.41
1	A	284	G	N7-C5	-6.56	1.35	1.39
1	A	1499	A	N3-C4	-6.54	1.30	1.34
1	A	1401	G	C5-C4	-6.52	1.33	1.38
1	A	1508	G	N9-C8	-6.52	1.33	1.37
1	A	482	A	N7-C5	-6.50	1.35	1.39
1	A	1524	C	N1-C6	-6.42	1.33	1.37
1	A	880	C	C4-C5	-6.41	1.37	1.43
1	A	574	A	N9-C4	-6.41	1.34	1.37
1	A	1377	A	N9-C4	-6.41	1.34	1.37
1	A	1401	G	N7-C5	-6.40	1.35	1.39
1	A	228	A	N9-C4	-6.39	1.34	1.37
1	A	899	C	C4-C5	-6.39	1.37	1.43
1	A	328	C	N1-C6	6.37	1.41	1.37
1	A	109	A	C5-C6	-6.37	1.35	1.41
1	A	822	C	N1-C6	-6.36	1.33	1.37
1	A	607	A	N3-C4	6.36	1.38	1.34
1	A	1504	G	N9-C8	-6.35	1.33	1.37
1	A	1492	A	N9-C4	6.34	1.41	1.37
1	A	726	C	N1-C6	-6.32	1.33	1.37
1	A	1499	A	N9-C4	-6.32	1.34	1.37
1	A	109	A	N9-C4	-6.31	1.34	1.37
1	A	1401	G	N9-C4	-6.31	1.32	1.38
1	A	245	C	N1-C2	-6.31	1.33	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1102	A	N7-C5	-6.30	1.35	1.39
1	A	872	A	C5-C6	-6.28	1.35	1.41
1	A	882	C	N1-C6	-6.28	1.33	1.37
1	A	811	C	N1-C6	-6.27	1.33	1.37
11	K	119	CYS	CB-SG	-6.27	1.71	1.82
1	A	880	C	P-O5'	-6.26	1.53	1.59
1	A	572	A	C6-N1	-6.26	1.31	1.35
1	A	372	C	N3-C4	6.25	1.38	1.33
1	A	938	A	N9-C4	-6.24	1.34	1.37
1	A	1241	G	N3-C4	-6.24	1.31	1.35
1	A	1482	G	N9-C4	6.23	1.43	1.38
1	A	1080	A	N9-C4	-6.22	1.34	1.37
1	A	915	A	N9-C4	-6.20	1.34	1.37
1	A	654	G	N9-C4	-6.19	1.32	1.38
1	A	151	A	N9-C4	-6.19	1.34	1.37
1	A	1514	C	N3-C4	-6.18	1.29	1.33
1	A	553	A	N9-C4	-6.18	1.34	1.37
1	A	109	A	N3-C4	-6.17	1.31	1.34
1	A	1401	G	N3-C4	-6.15	1.31	1.35
1	A	656	C	N1-C6	-6.14	1.33	1.37
1	A	822	C	N3-C4	-6.14	1.29	1.33
1	A	793	U	N1-C2	6.13	1.44	1.38
1	A	721	G	N7-C5	-6.12	1.35	1.39
1	A	862	C	N1-C6	-6.11	1.33	1.37
1	A	50	A	N9-C4	-6.10	1.34	1.37
1	A	1513	A	N3-C4	-6.08	1.31	1.34
1	A	807	A	N9-C4	-6.07	1.34	1.37
1	A	802	A	C5-C4	-6.06	1.34	1.38
1	A	790	A	N9-C4	6.06	1.41	1.37
1	A	21	G	N1-C2	-6.06	1.32	1.37
1	A	651	C	C2-O2	6.04	1.29	1.24
1	A	1501	C	N1-C6	-6.04	1.33	1.37
1	A	644	G	C5-C4	-6.03	1.34	1.38
1	A	574	A	N3-C4	-6.02	1.31	1.34
1	A	572	A	C5-C4	-5.99	1.34	1.38
1	A	250	A	C5-C4	5.98	1.43	1.38
1	A	880	C	C4-N4	-5.97	1.28	1.33
1	A	128	G	C5-C6	-5.96	1.36	1.42
1	A	1527	C	C4-C5	-5.96	1.38	1.43
1	A	298	A	C6-N1	-5.96	1.31	1.35
1	A	567	G	N3-C4	-5.96	1.31	1.35
1	A	828	A	N3-C4	-5.95	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	263	A	C5-C4	-5.95	1.34	1.38
1	A	1346	A	C3'-O3'	5.94	1.50	1.42
1	A	243	A	C3'-O3'	5.92	1.50	1.42
1	A	752	G	N3-C4	-5.92	1.31	1.35
1	A	760	G	N9-C4	-5.92	1.33	1.38
1	A	575	G	N3-C4	-5.92	1.31	1.35
1	A	632	A	N9-C4	-5.91	1.34	1.37
1	A	372	C	N1-C2	5.90	1.46	1.40
1	A	918	A	C5-C4	-5.90	1.34	1.38
1	A	802	A	N9-C4	-5.88	1.34	1.37
1	A	900	A	N7-C5	-5.88	1.35	1.39
5	E	148	VAL	CA-CB	-5.86	1.42	1.54
1	A	813	U	N1-C6	-5.85	1.32	1.38
1	A	895	G	N3-C4	-5.83	1.31	1.35
1	A	572	A	C6-N6	-5.82	1.29	1.33
1	A	53	A	C6-N1	-5.82	1.31	1.35
1	A	17	U	C4-O4	-5.81	1.19	1.23
1	A	861	G	C5-C4	-5.80	1.34	1.38
1	A	794	A	N1-C2	-5.79	1.29	1.34
1	A	1077	G	N7-C5	-5.79	1.35	1.39
1	A	1501	C	C4-C5	-5.79	1.38	1.43
1	A	788	U	N3-C4	5.78	1.43	1.38
1	A	1331	G	N9-C4	5.78	1.42	1.38
1	A	1525	G	N3-C4	-5.78	1.31	1.35
1	A	562	C	N1-C6	-5.75	1.33	1.37
1	A	666	G	N3-C4	-5.74	1.31	1.35
5	E	133	TYR	CE2-CZ	5.74	1.46	1.38
1	A	755	G	C5-C4	-5.74	1.34	1.38
1	A	778	G	N3-C4	-5.72	1.31	1.35
1	A	642	A	N3-C4	-5.71	1.31	1.34
1	A	567	G	C6-N1	-5.71	1.35	1.39
1	A	765	G	N3-C4	-5.70	1.31	1.35
1	A	862	C	C5-C6	-5.70	1.29	1.34
1	A	574	A	C6-N1	-5.69	1.31	1.35
1	A	752	G	N9-C4	-5.69	1.33	1.38
1	A	915	A	N3-C4	-5.69	1.31	1.34
1	A	363	A	N9-C4	-5.68	1.34	1.37
1	A	1236	A	C5-C4	-5.67	1.34	1.38
1	A	397	A	N3-C4	-5.65	1.31	1.34
1	A	1514	C	C2-O2	-5.65	1.19	1.24
1	A	875	C	N3-C4	-5.65	1.29	1.33
1	A	564	C	N1-C6	-5.64	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	858	G	C8-N7	-5.64	1.27	1.30
1	A	880	C	C2-O2	5.64	1.29	1.24
1	A	913	A	C3'-O3'	5.64	1.50	1.42
1	A	559	A	C6-N1	-5.64	1.31	1.35
1	A	642	A	N9-C4	-5.64	1.34	1.37
1	A	1338	G	C6-N1	-5.63	1.35	1.39
1	A	117	G	N1-C2	5.62	1.42	1.37
1	A	879	C	N1-C6	-5.61	1.33	1.37
1	A	786	G	N7-C5	-5.61	1.35	1.39
1	A	1334	G	N9-C8	-5.60	1.33	1.37
1	A	297	G	N7-C5	-5.59	1.35	1.39
1	A	675	A	N7-C5	-5.59	1.35	1.39
1	A	759	A	C5-C6	-5.59	1.36	1.41
1	A	868	C	N3-C4	-5.59	1.30	1.33
1	A	728	A	N7-C5	-5.58	1.35	1.39
1	A	825	G	N9-C8	-5.58	1.33	1.37
1	A	1080	A	C6-N1	-5.57	1.31	1.35
1	A	1094	G	C6-N1	-5.56	1.35	1.39
1	A	16	A	N9-C8	-5.55	1.33	1.37
1	A	1522	U	C4-C5	-5.55	1.38	1.43
1	A	602	A	N3-C4	-5.55	1.31	1.34
1	A	116	A	N9-C4	-5.54	1.34	1.37
1	A	1355	G	C6-N1	-5.54	1.35	1.39
1	A	1099	G	N9-C4	-5.54	1.33	1.38
1	A	128	G	N7-C5	-5.53	1.35	1.39
1	A	228	A	C5-C6	-5.53	1.36	1.41
1	A	1338	G	N3-C4	-5.53	1.31	1.35
1	A	1396	A	N9-C4	-5.53	1.34	1.37
1	A	123	C	N3-C4	-5.53	1.30	1.33
1	A	862	C	C4-C5	-5.53	1.38	1.43
1	A	935	A	N9-C4	-5.52	1.34	1.37
1	A	888	G	N3-C4	-5.52	1.31	1.35
1	A	909	A	N7-C5	-5.51	1.35	1.39
1	A	733	A	N3-C4	-5.50	1.31	1.34
4	D	5	ILE	CA-CB	5.49	1.67	1.54
17	Q	35	VAL	CA-CB	-5.49	1.43	1.54
1	A	1523	G	C2-N3	-5.48	1.28	1.32
1	A	706	A	N3-C4	-5.48	1.31	1.34
1	A	1250	A	N9-C4	-5.47	1.34	1.37
1	A	986	A	N9-C4	5.47	1.41	1.37
1	A	795	C	C2-O2	5.47	1.29	1.24
1	A	833	U	C4-O4	5.46	1.28	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1066	C	N1-C6	-5.45	1.33	1.37
1	A	1524	C	N1-C2	-5.45	1.34	1.40
1	A	918	A	N9-C8	-5.44	1.33	1.37
1	A	881	G	N9-C8	-5.43	1.34	1.37
1	A	1077	G	N9-C8	-5.43	1.34	1.37
1	A	1101	A	N3-C4	-5.43	1.31	1.34
1	A	882	C	N1-C2	-5.42	1.34	1.40
1	A	900	A	N3-C4	-5.42	1.31	1.34
1	A	577	G	N9-C4	-5.42	1.33	1.38
1	A	372	C	C2-N3	5.41	1.40	1.35
1	A	936	C	N1-C6	-5.41	1.33	1.37
1	A	902	G	C5-C4	-5.40	1.34	1.38
1	A	1101	A	C5-C4	-5.40	1.34	1.38
1	A	852	G	N3-C4	-5.39	1.31	1.35
1	A	1336	C	N1-C6	-5.39	1.33	1.37
1	A	763	G	N9-C4	-5.38	1.33	1.38
1	A	262	A	C6-N1	-5.36	1.31	1.35
1	A	715	A	N3-C4	-5.36	1.31	1.34
1	A	798	G	N3-C4	-5.34	1.31	1.35
1	A	1504	G	C5-C4	-5.33	1.34	1.38
1	A	1508	G	C5-C4	-5.33	1.34	1.38
5	E	149	GLU	CG-CD	5.33	1.59	1.51
1	A	563	A	O3'-P	-5.32	1.54	1.61
1	A	274	A	C5-C4	-5.32	1.35	1.38
1	A	803	G	N1-C2	-5.31	1.33	1.37
1	A	762	C	N1-C6	-5.31	1.33	1.37
1	A	872	A	N9-C4	-5.30	1.34	1.37
1	A	243	A	C5-C6	-5.29	1.36	1.41
1	A	1078	U	C4-C5	-5.29	1.38	1.43
1	A	15	G	C8-N7	-5.28	1.27	1.30
1	A	1103	C	N1-C6	-5.28	1.33	1.37
1	A	786	G	C5-C6	-5.28	1.37	1.42
1	A	15	G	N3-C4	-5.28	1.31	1.35
1	A	665	A	N3-C4	-5.27	1.31	1.34
1	A	765	G	C2-N3	-5.27	1.28	1.32
1	A	858	G	N9-C4	-5.27	1.33	1.38
12	L	68	ALA	CA-CB	-5.27	1.41	1.52
1	A	481	G	C8-N7	-5.27	1.27	1.30
1	A	872	A	N7-C5	-5.26	1.36	1.39
1	A	782	A	N3-C4	-5.26	1.31	1.34
1	A	269	C	N3-C4	-5.26	1.30	1.33
1	A	675	A	C5-C6	-5.26	1.36	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	350	G	N3-C4	-5.26	1.31	1.35
1	A	481	G	N3-C4	5.26	1.39	1.35
1	A	1526	G	C5-C4	-5.25	1.34	1.38
1	A	691	G	N7-C5	-5.25	1.36	1.39
1	A	918	A	N7-C5	-5.24	1.36	1.39
1	A	15	G	C6-O6	5.24	1.28	1.24
1	A	1514	C	N1-C2	-5.23	1.34	1.40
1	A	913	A	C6-N1	-5.23	1.31	1.35
1	A	867	G	C5-C6	-5.22	1.37	1.42
1	A	295	C	N1-C6	-5.22	1.34	1.37
1	A	900	A	C5-C6	-5.21	1.36	1.41
1	A	917	G	C5-C4	-5.21	1.34	1.38
1	A	67	C	N3-C4	-5.21	1.30	1.33
1	A	1515	C	N3-C4	-5.21	1.30	1.33
1	A	588	G	N9-C8	-5.20	1.34	1.37
1	A	1508	G	C6-N1	-5.20	1.35	1.39
1	A	765	G	C5-C6	-5.19	1.37	1.42
16	P	36	ILE	CA-CB	-5.19	1.43	1.54
1	A	583	A	N7-C5	-5.18	1.36	1.39
1	A	766	A	N7-C5	-5.17	1.36	1.39
1	A	1155	G	N9-C4	5.17	1.42	1.38
1	A	300	A	N7-C5	-5.17	1.36	1.39
1	A	321	A	C6-N6	-5.17	1.29	1.33
1	A	232	G	C5-C6	-5.16	1.37	1.42
1	A	602	A	N9-C4	-5.16	1.34	1.37
1	A	1339	A	C5-C4	-5.16	1.35	1.38
1	A	594	G	N7-C5	-5.16	1.36	1.39
1	A	753	A	N3-C4	-5.15	1.31	1.34
1	A	373	A	C5'-C4'	5.14	1.57	1.51
1	A	1078	U	C4-O4	-5.13	1.19	1.23
1	A	814	A	N3-C4	-5.13	1.31	1.34
1	A	659	U	N3-C4	-5.13	1.33	1.38
1	A	1513	A	C5-C4	-5.13	1.35	1.38
1	A	1515	C	C4-C5	-5.12	1.38	1.43
7	G	156	TRP	CB-CG	5.12	1.59	1.50
1	A	876	G	C6-N1	-5.12	1.35	1.39
1	A	575	G	C5-C4	-5.12	1.34	1.38
5	E	90	VAL	CA-CB	-5.11	1.44	1.54
1	A	1080	A	N7-C5	-5.11	1.36	1.39
1	A	868	C	C4-C5	-5.10	1.38	1.43
1	A	93	G	N9-C8	-5.10	1.34	1.37
1	A	566	G	N3-C4	-5.10	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	775	G	N7-C5	-5.09	1.36	1.39
1	A	895	G	N1-C2	-5.09	1.33	1.37
1	A	400	C	N3-C4	-5.08	1.30	1.33
1	A	449	C	N1-C6	-5.08	1.34	1.37
1	A	858	G	C5-C4	-5.07	1.34	1.38
1	A	903	G	N3-C4	-5.07	1.31	1.35
1	A	30	U	C2-N3	-5.07	1.34	1.37
1	A	150	C	N1-C6	-5.06	1.34	1.37
1	A	1084	G	N9-C8	-5.06	1.34	1.37
1	A	1530	G	C5-C6	-5.05	1.37	1.42
1	A	108	G	N3-C4	-5.05	1.31	1.35
13	M	64	TRP	CB-CG	-5.05	1.41	1.50
5	E	82	VAL	CA-CB	-5.05	1.44	1.54
1	A	106	C	N3-C4	-5.05	1.30	1.33
1	A	314	C	C4-N4	-5.05	1.29	1.33
1	A	634	C	C2-O2	-5.05	1.20	1.24
1	A	1236	A	N1-C2	-5.05	1.29	1.34
1	A	793	U	C1'-N1	5.04	1.56	1.48
1	A	813	U	C4-C5	-5.04	1.39	1.43
1	A	882	C	C2-O2	-5.04	1.20	1.24
8	H	124	ALA	CA-CB	-5.04	1.41	1.52
1	A	567	G	C5-C4	-5.04	1.34	1.38
1	A	917	G	N7-C5	-5.03	1.36	1.39
1	A	1529	G	N7-C5	-5.03	1.36	1.39
1	A	1261	A	N9-C4	5.03	1.40	1.37
1	A	577	G	C5-C4	-5.01	1.34	1.38
1	A	828	A	N7-C5	-5.00	1.36	1.39

All (2741) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	117	G	N1-C6-O6	20.89	132.43	119.90
1	A	279	A	C5-N7-C8	-17.64	95.08	103.90
1	A	1505	G	C8-N9-C4	-17.36	99.45	106.40
1	A	117	G	C5-C6-N1	-16.75	103.12	111.50
1	A	117	G	C2-N3-C4	-16.57	103.61	111.90
1	A	144	G	N1-C6-O6	16.04	129.53	119.90
1	A	1502	A	C5-N7-C8	-15.79	96.00	103.90
1	A	481	G	N3-C4-N9	15.15	135.09	126.00
1	A	232	G	N1-C6-O6	14.92	128.85	119.90
1	A	279	A	N7-C8-N9	14.91	121.25	113.80
1	A	1505	G	N7-C8-N9	14.57	120.39	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	251	G	N1-C6-O6	14.54	128.63	119.90
1	A	1346	A	N1-C6-N6	-14.39	109.97	118.60
1	A	1531	A	N1-C6-N6	14.34	127.21	118.60
1	A	117	G	C6-C5-N7	-14.34	121.80	130.40
1	A	128	G	N1-C6-O6	14.33	128.50	119.90
1	A	1502	A	N1-C6-N6	13.98	126.99	118.60
1	A	580	U	N3-C4-C5	-13.81	106.31	114.60
1	A	1502	A	C6-C5-N7	-13.74	122.68	132.30
1	A	795	C	C2-N3-C4	13.68	126.74	119.90
1	A	971	G	C8-N9-C4	13.61	111.84	106.40
1	A	21	G	N1-C6-O6	-13.53	111.78	119.90
1	A	1502	A	C4-C5-N7	13.44	117.42	110.70
1	A	1442	G	N3-C4-N9	13.42	134.05	126.00
1	A	1502	A	C2-N3-C4	-13.41	103.89	110.60
1	A	122	G	N1-C6-O6	13.26	127.85	119.90
1	A	232	G	C4-C5-N7	13.24	116.10	110.80
1	A	875	C	C5-C6-N1	-13.10	114.45	121.00
1	A	310	G	N1-C6-O6	13.07	127.74	119.90
1	A	284	G	N1-C6-O6	13.03	127.72	119.90
1	A	794	A	C2-N3-C4	12.92	117.06	110.60
1	A	292	G	N1-C6-O6	12.78	127.57	119.90
1	A	862	C	C6-N1-C2	12.66	125.36	120.30
1	A	1181	G	C8-N9-C4	12.65	111.46	106.40
1	A	1539	C	C6-N1-C2	12.59	125.33	120.30
1	A	1189	C	C6-N1-C2	12.36	125.24	120.30
1	A	130	A	N1-C6-N6	12.36	126.01	118.60
1	A	725	G	N1-C6-O6	12.31	127.29	119.90
1	A	232	G	N9-C4-C5	-12.25	100.50	105.40
1	A	1482	G	N3-C4-C5	-12.19	122.51	128.60
1	A	235	C	C6-N1-C2	12.07	125.13	120.30
1	A	725	G	C5-C6-O6	-12.07	121.36	128.60
1	A	822	C	C6-N1-C2	-12.03	115.49	120.30
1	A	795	C	N1-C2-N3	-11.99	110.80	119.20
1	A	559	A	C6-N1-C2	-11.98	111.41	118.60
1	A	251	G	C6-C5-N7	-11.95	123.23	130.40
1	A	232	G	C6-C5-N7	-11.92	123.25	130.40
1	A	787	A	N1-C6-N6	11.83	125.70	118.60
1	A	1126	U	C5-C6-N1	11.81	128.60	122.70
1	A	108	G	C5-N7-C8	-11.80	98.40	104.30
1	A	279	A	C8-N9-C4	-11.80	101.08	105.80
1	A	572	A	N1-C6-N6	-11.76	111.54	118.60
1	A	1543	C	N1-C2-O2	11.73	125.94	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	795	C	N3-C2-O2	11.71	130.10	121.90
1	A	1531	A	C6-C5-N7	-11.70	124.11	132.30
1	A	481	G	C8-N9-C4	11.69	111.08	106.40
1	A	15	G	C4-N9-C1'	11.64	141.63	126.50
1	A	825	G	C8-N9-C4	11.60	111.04	106.40
1	A	15	G	C8-N9-C1'	-11.58	111.95	127.00
1	A	279	A	C6-C5-N7	-11.52	124.24	132.30
1	A	88	A	C8-N9-C4	-11.49	101.20	105.80
1	A	1447	G	C4-C5-N7	11.40	115.36	110.80
1	A	279	A	C2-N3-C4	-11.38	104.91	110.60
1	A	108	G	N7-C8-N9	11.37	118.79	113.10
1	A	129(A)	G	N1-C6-O6	11.37	126.72	119.90
1	A	607	A	N9-C4-C5	-11.36	101.26	105.80
1	A	821	G	N1-C6-O6	11.36	126.72	119.90
1	A	944	G	C8-N9-C4	-11.34	101.86	106.40
1	A	336	C	C6-N1-C2	11.32	124.83	120.30
1	A	128	G	C6-C5-N7	-11.30	123.62	130.40
1	A	1442	G	C4-N9-C1'	11.28	141.17	126.50
1	A	1088	G	N1-C6-O6	11.25	126.65	119.90
1	A	567	G	C4-C5-N7	-11.21	106.32	110.80
1	A	144	G	C5-C6-N1	-11.21	105.90	111.50
1	A	782	A	N1-C2-N3	11.18	134.89	129.30
1	A	873	A	C8-N9-C4	-11.15	101.34	105.80
1	A	1505	G	C6-C5-N7	-11.13	123.72	130.40
1	A	875	C	C6-N1-C2	11.12	124.75	120.30
1	A	1377	A	N1-C6-N6	-11.06	111.96	118.60
1	A	255	G	N1-C6-O6	11.03	126.52	119.90
1	A	787	A	C2-N3-C4	-11.01	105.09	110.60
1	A	706	A	C2-N3-C4	-11.00	105.10	110.60
1	A	745	C	C6-N1-C2	11.00	124.70	120.30
1	A	481	G	N9-C4-C5	-10.98	101.01	105.40
1	A	129(A)	G	N9-C4-C5	-10.98	101.01	105.40
1	A	247	G	N1-C6-O6	10.94	126.46	119.90
1	A	817	C	C6-N1-C2	10.90	124.66	120.30
1	A	852	G	C5-C6-N1	-10.90	106.05	111.50
1	A	607	A	C4-C5-N7	10.87	116.14	110.70
1	A	627	G	N1-C6-O6	10.86	126.41	119.90
8	H	12	ARG	NE-CZ-NH1	-10.85	114.88	120.30
1	A	1502	A	N7-C8-N9	10.84	119.22	113.80
1	A	901	A	C2-N3-C4	-10.83	105.19	110.60
1	A	21	G	N3-C2-N2	10.82	127.47	119.90
1	A	1302	U	N3-C2-O2	-10.80	114.64	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	833	U	N3-C2-O2	-10.79	114.64	122.20
1	A	833	U	C4-C5-C6	10.79	126.17	119.70
1	A	228	A	C2-N3-C4	-10.78	105.21	110.60
1	A	607	A	N1-C6-N6	10.77	125.06	118.60
1	A	851	G	N1-C6-O6	10.77	126.36	119.90
1	A	266	G	N3-C4-C5	10.76	133.98	128.60
1	A	106	C	C6-N1-C2	-10.76	116.00	120.30
1	A	232	G	C5-C6-O6	-10.75	122.15	128.60
1	A	651	C	N3-C2-O2	10.70	129.39	121.90
1	A	930	C	N3-C4-C5	10.68	126.17	121.90
1	A	1455	G	N1-C6-O6	10.67	126.30	119.90
1	A	1505	G	N3-C4-C5	-10.67	123.27	128.60
1	A	1403	C	C6-N1-C2	10.65	124.56	120.30
1	A	1231	G	N1-C6-O6	10.65	126.29	119.90
1	A	266	G	C5-N7-C8	-10.62	98.99	104.30
1	A	269	C	C6-N1-C2	-10.62	116.05	120.30
1	A	1531	A	N7-C8-N9	10.59	119.09	113.80
1	A	90	U	C6-N1-C2	-10.52	114.69	121.00
1	A	1338	G	N1-C6-O6	-10.50	113.60	119.90
1	A	1088	G	C6-C5-N7	-10.48	124.11	130.40
1	A	1442	G	C8-N9-C1'	-10.48	113.38	127.00
1	A	786	G	N1-C6-O6	10.47	126.18	119.90
1	A	372	C	N1-C2-N3	-10.47	111.87	119.20
1	A	278	G	C8-N9-C4	-10.41	102.23	106.40
1	A	1236	A	C8-N9-C4	10.41	109.97	105.80
1	A	1347	G	C8-N9-C4	10.40	110.56	106.40
1	A	1334	G	C8-N9-C4	10.39	110.56	106.40
1	A	721	G	C6-C5-N7	-10.38	124.17	130.40
1	A	1442	G	C5-C6-O6	-10.37	122.38	128.60
1	A	1529	G	C8-N9-C4	-10.34	102.26	106.40
1	A	128	G	C5-C6-O6	-10.32	122.41	128.60
1	A	1530	G	C8-N9-C4	10.30	110.52	106.40
1	A	16	A	C8-N9-C4	10.30	109.92	105.80
1	A	944	G	C5-C6-O6	10.29	134.78	128.60
1	A	190(I)	G	C8-N9-C4	10.29	110.52	106.40
1	A	255	G	C6-C5-N7	-10.29	124.23	130.40
1	A	1394	A	C8-N9-C4	10.28	109.91	105.80
1	A	734	G	C5-C6-O6	-10.26	122.44	128.60
1	A	1367	C	C6-N1-C2	-10.26	116.20	120.30
1	A	820	U	N1-C2-N3	10.26	121.05	114.90
1	A	103	C	N3-C4-C5	-10.25	117.80	121.90
1	A	108	G	C8-N9-C4	-10.25	102.30	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	117	G	C4-C5-C6	10.24	124.95	118.80
1	A	310	G	C5-C6-O6	-10.22	122.47	128.60
1	A	873	A	N1-C6-N6	-10.21	112.47	118.60
1	A	309	G	C5-C6-O6	-10.16	122.50	128.60
1	A	279	A	C4-C5-N7	10.16	115.78	110.70
1	A	292	G	C5-C6-O6	-10.14	122.52	128.60
1	A	1202	G	N1-C6-O6	-10.14	113.82	119.90
1	A	309	G	C6-N1-C2	-10.12	119.03	125.10
1	A	1442	G	N1-C6-O6	10.12	125.97	119.90
1	A	1155	G	C8-N9-C4	-10.11	102.36	106.40
1	A	813	U	C5-C4-O4	-10.09	119.85	125.90
1	A	1378	C	C6-N1-C2	-10.09	116.27	120.30
1	A	1474	G	N1-C6-O6	10.08	125.95	119.90
1	A	1346	A	C5-C6-N1	10.06	122.73	117.70
1	A	284	G	C6-C5-N7	-10.05	124.37	130.40
1	A	788	U	N3-C2-O2	10.05	129.23	122.20
1	A	372	C	C6-N1-C2	10.04	124.32	120.30
1	A	788	U	N1-C2-N3	-10.03	108.88	114.90
1	A	1531	A	C4-C5-C6	10.02	122.01	117.00
1	A	1442	G	C6-C5-N7	-10.02	124.39	130.40
1	A	970	C	N1-C2-O2	10.01	124.91	118.90
1	A	769	G	N1-C6-O6	9.99	125.89	119.90
1	A	786	G	C6-C5-N7	-9.96	124.42	130.40
1	A	121	C	C6-N1-C2	9.96	124.28	120.30
1	A	1442	G	N9-C4-C5	-9.92	101.43	105.40
1	A	89	C	C5-C6-N1	9.90	125.95	121.00
1	A	1361(A)	C	N1-C2-O2	9.89	124.83	118.90
1	A	1305	G	C5-C6-N1	-9.86	106.57	111.50
1	A	873	A	C5-C6-N1	9.83	122.61	117.70
1	A	940	C	N3-C4-C5	9.82	125.83	121.90
1	A	328	C	N3-C4-C5	9.82	125.83	121.90
1	A	946	A	C6-N1-C2	-9.78	112.73	118.60
1	A	944	G	N1-C6-O6	-9.76	114.04	119.90
1	A	141	A	N1-C6-N6	9.76	124.46	118.60
1	A	230	G	C5-C6-N1	-9.74	106.63	111.50
1	A	372	C	C5-C4-N4	-9.73	113.39	120.20
1	A	1530	G	N1-C6-O6	9.72	125.73	119.90
1	A	1200	C	N1-C2-O2	9.70	124.72	118.90
1	A	880	C	N3-C4-C5	9.69	125.78	121.90
1	A	336	C	N3-C4-C5	9.67	125.77	121.90
1	A	572	A	C5-C6-N1	9.64	122.52	117.70
1	A	651	C	C6-N1-C2	9.64	124.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1338	G	N9-C4-C5	9.64	109.25	105.40
1	A	122	G	C5-C6-N1	-9.63	106.69	111.50
1	A	876	G	C5-C6-N1	9.63	116.31	111.50
1	A	108	G	N3-C4-C5	9.62	133.41	128.60
1	A	1365	G	C8-N9-C4	-9.62	102.55	106.40
1	A	88	A	N1-C6-N6	-9.61	112.84	118.60
1	A	880	C	C5-C4-N4	-9.60	113.48	120.20
1	A	129(A)	G	C6-C5-N7	-9.59	124.65	130.40
1	A	309	G	N3-C4-N9	9.59	131.75	126.00
1	A	279	A	N1-C6-N6	9.59	124.35	118.60
1	A	723	U	C5-C6-N1	9.58	127.49	122.70
1	A	1249	C	C2-N1-C1'	9.57	129.33	118.80
1	A	108	G	C2-N3-C4	-9.57	107.12	111.90
1	A	251	G	C5-C6-N1	-9.56	106.72	111.50
1	A	559	A	N1-C2-N3	9.55	134.07	129.30
1	A	941	G	N1-C6-O6	9.55	125.63	119.90
1	A	944	G	N3-C4-C5	-9.55	123.83	128.60
4	D	12	CYS	CA-CB-SG	9.54	131.18	114.00
1	A	640	A	C8-N9-C4	-9.53	101.99	105.80
1	A	328	C	N3-C4-N4	-9.53	111.33	118.00
1	A	793	U	C6-N1-C2	-9.50	115.30	121.00
1	A	1331	G	N1-C6-O6	-9.50	114.20	119.90
1	A	276	G	N3-C2-N2	-9.50	113.25	119.90
1	A	787	A	C4-C5-C6	9.48	121.74	117.00
1	A	791	G	C8-N9-C4	-9.48	102.61	106.40
1	A	667	G	N1-C6-O6	9.46	125.58	119.90
1	A	541	G	N1-C6-O6	9.45	125.57	119.90
1	A	946	A	N9-C4-C5	9.45	109.58	105.80
1	A	946	A	N1-C6-N6	-9.44	112.93	118.60
1	A	190(A)	C	C6-N1-C2	-9.44	116.52	120.30
1	A	787	A	C6-C5-N7	-9.44	125.69	132.30
1	A	291	C	C2-N3-C4	-9.43	115.19	119.90
1	A	24	U	N3-C2-O2	9.43	128.80	122.20
1	A	190(C)	C	C6-N1-C2	-9.42	116.53	120.30
1	A	1496	C	C5-C6-N1	9.42	125.71	121.00
1	A	384	G	N3-C4-C5	-9.40	123.90	128.60
1	A	103	C	C6-N1-C2	-9.40	116.54	120.30
1	A	481	G	N3-C4-C5	-9.39	123.91	128.60
1	A	372	C	N1-C2-O2	9.37	124.52	118.90
1	A	1531	A	C5-C6-N1	-9.37	113.02	117.70
1	A	567	G	N9-C4-C5	9.36	109.14	105.40
1	A	904	C	C6-N1-C2	-9.36	116.56	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1377	A	N9-C4-C5	9.36	109.54	105.80
1	A	572	A	C6-N1-C2	-9.35	112.99	118.60
1	A	21	G	N3-C4-N9	9.32	131.59	126.00
1	A	573	A	C8-N9-C4	-9.32	102.07	105.80
1	A	117	G	N3-C2-N2	-9.32	113.38	119.90
1	A	890	G	C4-C5-N7	-9.31	107.07	110.80
1	A	1442	G	C4-C5-N7	9.30	114.52	110.80
1	A	260	G	N1-C6-O6	9.28	125.47	119.90
1	A	722	A	C2-N3-C4	-9.25	105.97	110.60
1	A	129(A)	G	C8-N9-C1'	-9.25	114.98	127.00
1	A	266	G	C2-N3-C4	-9.24	107.28	111.90
1	A	755	G	C5-C6-N1	9.24	116.12	111.50
1	A	878	G	N1-C2-N3	9.23	129.44	123.90
1	A	1339	A	N1-C6-N6	-9.22	113.06	118.60
1	A	324	G	C8-N9-C4	-9.22	102.71	106.40
1	A	1367	C	C5-C6-N1	9.22	125.61	121.00
1	A	779	C	C4-C5-C6	9.22	122.01	117.40
1	A	474	G	N1-C6-O6	9.21	125.42	119.90
1	A	788	U	C5-C6-N1	9.20	127.30	122.70
1	A	734	G	C4-C5-N7	9.20	114.48	110.80
1	A	284	G	C5-C6-O6	-9.19	123.09	128.60
1	A	1505	G	C4-C5-C6	9.18	124.31	118.80
1	A	795	C	C5-C6-N1	9.18	125.59	121.00
1	A	285	G	C2-N3-C4	-9.17	107.31	111.90
1	A	822	C	N1-C2-N3	9.17	125.62	119.20
1	A	1389	C	C6-N1-C2	9.17	123.97	120.30
1	A	1249	C	N1-C2-O2	9.16	124.40	118.90
1	A	1296	C	N3-C4-C5	-9.16	118.23	121.90
1	A	89	C	C6-N1-C2	-9.16	116.64	120.30
1	A	735	C	C6-N1-C2	9.16	123.96	120.30
1	A	946	A	N1-C2-N3	9.15	133.88	129.30
1	A	326	G	N3-C4-C5	-9.15	124.02	128.60
1	A	1526	G	N1-C6-O6	9.15	125.39	119.90
1	A	890	G	C5-N7-C8	9.15	108.88	104.30
1	A	1524	C	C6-N1-C2	-9.14	116.64	120.30
1	A	1084	G	N3-C4-C5	-9.14	124.03	128.60
1	A	108	G	N3-C4-N9	-9.14	120.52	126.00
1	A	269	C	N3-C2-O2	-9.13	115.51	121.90
1	A	250	A	C2-N3-C4	-9.13	106.04	110.60
1	A	971	G	N7-C8-N9	-9.12	108.54	113.10
1	A	247	G	C5-C6-N1	-9.11	106.94	111.50
1	A	108	G	C4-C5-N7	9.11	114.44	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	21	G	C5-C6-N1	9.10	116.05	111.50
1	A	1530	G	N3-C4-C5	9.10	133.15	128.60
1	A	21	G	N3-C4-C5	-9.09	124.05	128.60
1	A	901	A	N1-C2-N3	9.09	133.84	129.30
1	A	872	A	N9-C4-C5	-9.08	102.17	105.80
1	A	1296	C	N1-C2-O2	-9.07	113.46	118.90
1	A	1443	G	C8-N9-C4	9.07	110.03	106.40
1	A	144	G	N3-C2-N2	-9.06	113.56	119.90
1	A	731	G	N1-C6-O6	9.06	125.33	119.90
1	A	1502	A	C5-C6-N1	-9.04	113.18	117.70
1	A	1543	C	C5-C6-N1	9.04	125.52	121.00
1	A	599	C	C6-N1-C2	9.03	123.91	120.30
1	A	813	U	N3-C4-O4	9.03	125.72	119.40
1	A	15	G	C5-C6-N1	-9.02	106.99	111.50
1	A	586	C	C5-C6-N1	-9.01	116.49	121.00
1	A	234	C	C6-N1-C2	8.99	123.90	120.30
1	A	963	G	C8-N9-C4	-8.99	102.80	106.40
1	A	1524	C	N3-C4-C5	-8.98	118.31	121.90
1	A	259	G	C8-N9-C4	-8.97	102.81	106.40
1	A	569	C	N1-C2-O2	-8.97	113.52	118.90
1	A	308	C	C5-C4-N4	-8.96	113.93	120.20
1	A	882	C	N1-C2-N3	8.95	125.47	119.20
1	A	734	G	N1-C6-O6	8.95	125.27	119.90
1	A	916	G	C6-N1-C2	-8.94	119.73	125.10
1	A	1200	C	C2-N1-C1'	8.92	128.62	118.80
1	A	685	G	N3-C4-C5	8.91	133.06	128.60
1	A	580	U	C4-C5-C6	8.91	125.05	119.70
1	A	15	G	C6-C5-N7	-8.91	125.05	130.40
1	A	825	G	N7-C8-N9	-8.91	108.65	113.10
1	A	631	G	C8-N9-C4	-8.90	102.84	106.40
1	A	941	G	C5-C6-O6	-8.90	123.26	128.60
1	A	945	G	C5-C6-N1	8.90	115.95	111.50
1	A	308	C	N3-C4-N4	8.89	124.22	118.00
1	A	589	C	C2-N1-C1'	-8.89	109.02	118.80
1	A	797	C	C6-N1-C2	8.88	123.85	120.30
1	A	322	C	N1-C2-O2	-8.87	113.58	118.90
1	A	1331	G	N3-C4-C5	-8.87	124.17	128.60
1	A	747	C	C6-N1-C2	8.87	123.85	120.30
1	A	794	A	N1-C6-N6	-8.86	113.28	118.60
1	A	586	C	C6-N1-C2	8.86	123.84	120.30
1	A	1084	G	C4-C5-N7	-8.85	107.26	110.80
1	A	88	A	N9-C4-C5	8.84	109.33	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	821	G	C5-C6-O6	-8.83	123.30	128.60
1	A	761	G	C6-C5-N7	-8.83	125.10	130.40
1	A	1099	G	N3-C4-C5	8.82	133.01	128.60
1	A	591	U	N3-C4-O4	8.82	125.57	119.40
1	A	1080	A	N1-C6-N6	-8.82	113.31	118.60
1	A	723	U	C2-N1-C1'	8.81	128.27	117.70
1	A	946	A	C8-N9-C4	-8.81	102.28	105.80
1	A	1181	G	N7-C8-N9	-8.81	108.69	113.10
1	A	1524	C	N1-C2-O2	-8.80	113.62	118.90
1	A	297	G	C6-C5-N7	-8.79	125.12	130.40
1	A	1331	G	C4-C5-N7	-8.79	107.28	110.80
1	A	872	A	N1-C6-N6	8.79	123.87	118.60
1	A	638	G	N1-C2-N2	-8.78	108.30	116.20
1	A	881	G	N1-C6-O6	8.78	125.17	119.90
1	A	823	G	C2-N3-C4	-8.77	107.51	111.90
1	A	1394	A	C2-N3-C4	-8.77	106.22	110.60
1	A	1447	G	C5-N7-C8	-8.77	99.92	104.30
1	A	1531	A	C8-N9-C4	-8.76	102.30	105.80
1	A	260	G	C8-N9-C4	-8.76	102.90	106.40
1	A	793	U	C2-N1-C1'	8.75	128.20	117.70
1	A	1338	G	C5-C6-O6	8.75	133.85	128.60
1	A	1543	C	C2-N1-C1'	8.75	128.42	118.80
1	A	130	A	C4-C5-C6	8.74	121.37	117.00
1	A	328	C	C4-C5-C6	-8.74	113.03	117.40
1	A	235	C	N3-C4-C5	8.74	125.39	121.90
1	A	474	G	C6-C5-N7	-8.73	125.16	130.40
1	A	722	A	N1-C6-N6	8.73	123.84	118.60
1	A	277	C	C6-N1-C2	8.72	123.79	120.30
1	A	1189	C	C5-C6-N1	-8.72	116.64	121.00
1	A	1055	A	N1-C6-N6	-8.71	113.38	118.60
1	A	1079	G	N3-C4-C5	-8.71	124.25	128.60
1	A	1241	G	N3-C4-N9	-8.70	120.78	126.00
1	A	1060	C	N1-C2-O2	8.70	124.12	118.90
1	A	595	G	C6-C5-N7	-8.69	125.19	130.40
1	A	130	A	C6-C5-N7	-8.69	126.22	132.30
1	A	1340	A	N1-C2-N3	8.69	133.64	129.30
1	A	38	G	N3-C4-C5	8.68	132.94	128.60
1	A	824	C	N3-C4-C5	8.66	125.36	121.90
1	A	400	C	N3-C4-N4	-8.66	111.94	118.00
1	A	1236	A	N7-C8-N9	-8.66	109.47	113.80
1	A	788	U	C4-C5-C6	-8.65	114.51	119.70
1	A	930	C	N3-C4-N4	-8.65	111.94	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	389	A	C8-N9-C4	-8.65	102.34	105.80
1	A	989	C	C6-N1-C2	-8.64	116.84	120.30
1	A	591	U	C5-C4-O4	-8.63	120.72	125.90
1	A	875	C	C2-N3-C4	-8.64	115.58	119.90
1	A	266	G	C4-C5-N7	8.63	114.25	110.80
1	A	309	G	C5-C6-N1	8.63	115.81	111.50
1	A	412	A	C8-N9-C4	8.63	109.25	105.80
1	A	556	C	C2-N3-C4	-8.63	115.59	119.90
1	A	252	U	C5-C6-N1	-8.62	118.39	122.70
1	A	787	A	N1-C2-N3	8.62	133.61	129.30
1	A	176	C	C6-N1-C2	8.61	123.74	120.30
1	A	1074	G	C5-C6-N1	-8.60	107.20	111.50
1	A	309	G	N9-C4-C5	-8.59	101.96	105.40
1	A	129(A)	G	C5-C6-O6	-8.59	123.44	128.60
1	A	481	G	C8-N9-C1'	-8.59	115.83	127.00
1	A	710	G	N1-C6-O6	8.59	125.06	119.90
1	A	113	G	N1-C6-O6	8.59	125.05	119.90
1	A	916	G	N3-C4-C5	-8.59	124.31	128.60
1	A	833	U	N3-C4-C5	-8.58	109.45	114.60
1	A	1482	G	C8-N9-C4	-8.58	102.97	106.40
1	A	820	U	N1-C2-O2	-8.58	116.80	122.80
1	A	511	C	C2-N1-C1'	-8.57	109.38	118.80
1	A	372	C	N3-C4-N4	8.56	124.00	118.00
1	A	482	A	N1-C6-N6	8.56	123.74	118.60
1	A	113	G	C6-C5-N7	-8.56	125.27	130.40
1	A	569	C	C5-C6-N1	-8.55	116.72	121.00
1	A	190(D)	U	C5-C6-N1	-8.53	118.44	122.70
1	A	279	A	N1-C2-N3	8.53	133.56	129.30
1	A	721	G	N1-C6-O6	8.52	125.01	119.90
1	A	589	C	C6-N1-C2	8.52	123.71	120.30
1	A	1303	C	C6-N1-C2	8.52	123.71	120.30
1	A	447	G	C5-C6-O6	8.51	133.70	128.60
1	A	1436	U	N3-C2-O2	-8.51	116.25	122.20
1	A	190	C	C6-N1-C2	-8.49	116.91	120.30
1	A	1491	G	N3-C4-C5	-8.48	124.36	128.60
1	A	1490	C	C5-C6-N1	8.48	125.24	121.00
1	A	276	G	N3-C4-C5	8.47	132.84	128.60
1	A	360	A	C5-N7-C8	-8.47	99.66	103.90
1	A	130	A	C5-C6-N1	-8.47	113.47	117.70
1	A	1355	G	C8-N9-C4	-8.47	103.01	106.40
1	A	1526	G	C6-C5-N7	-8.47	125.32	130.40
1	A	882	C	C6-N1-C2	-8.46	116.92	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	129(A)	G	C4-C5-N7	8.45	114.18	110.80
1	A	350	G	C8-N9-C4	-8.44	103.02	106.40
1	A	500	G	N1-C6-O6	8.44	124.96	119.90
2	B	158	LEU	CA-CB-CG	-8.43	95.92	115.30
1	A	570	G	C4-N9-C1'	8.42	137.45	126.50
1	A	740	U	N3-C2-O2	-8.42	116.30	122.20
1	A	326	G	N1-C6-O6	-8.42	114.85	119.90
1	A	708	C	C6-N1-C2	8.42	123.67	120.30
1	A	1490	C	C6-N1-C2	-8.41	116.94	120.30
1	A	511	C	N3-C4-N4	-8.41	112.11	118.00
1	A	794	A	C8-N9-C4	-8.40	102.44	105.80
1	A	21	G	C2-N3-C4	8.40	116.10	111.90
1	A	251	G	C4-C5-C6	8.40	123.84	118.80
1	A	570	G	C8-N9-C1'	-8.40	116.08	127.00
1	A	1508	G	C8-N9-C4	-8.38	103.05	106.40
1	A	874	G	C8-N9-C4	8.38	109.75	106.40
1	A	29	G	N1-C2-N3	8.36	128.92	123.90
1	A	794	A	N9-C4-C5	8.36	109.14	105.80
1	A	562	C	C5-C6-N1	-8.36	116.82	121.00
1	A	812	C	N1-C2-O2	-8.35	113.89	118.90
1	A	556	C	C5-C6-N1	-8.34	116.83	121.00
1	A	568	G	C8-N9-C4	-8.34	103.06	106.40
1	A	765	G	C4-C5-N7	8.34	114.14	110.80
1	A	1231	G	C4-C5-N7	8.34	114.14	110.80
1	A	1333	A	C8-N9-C4	-8.34	102.47	105.80
1	A	316	G	N1-C6-O6	8.33	124.90	119.90
1	A	746	A	C8-N9-C4	8.33	109.13	105.80
1	A	1370	G	N1-C6-O6	8.33	124.90	119.90
1	A	316	G	C6-C5-N7	-8.33	125.40	130.40
1	A	707	C	C6-N1-C2	8.33	123.63	120.30
1	A	113	G	C5-C6-O6	-8.31	123.61	128.60
1	A	776	G	N3-C4-C5	8.31	132.76	128.60
1	A	15	G	N1-C6-O6	8.30	124.88	119.90
1	A	79	G	C5-C6-N1	-8.30	107.35	111.50
1	A	79	G	N1-C6-O6	8.30	124.88	119.90
1	A	266	G	N3-C4-N9	-8.29	121.02	126.00
1	A	1389	C	N3-C4-C5	8.29	125.22	121.90
1	A	1490	C	N1-C2-O2	-8.29	113.92	118.90
1	A	1246	C	N3-C2-O2	8.28	127.69	121.90
1	A	1238	A	C5-C6-N6	8.28	130.32	123.70
1	A	1165	C	C6-N1-C2	-8.27	116.99	120.30
1	A	698	G	C8-N9-C4	-8.26	103.09	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	793	U	C5-C6-N1	8.26	126.83	122.70
1	A	128	G	C4-C5-N7	8.26	114.10	110.80
1	A	295	C	C6-N1-C2	8.25	123.60	120.30
1	A	642	A	C8-N9-C4	-8.25	102.50	105.80
1	A	881	G	C5-C6-O6	-8.25	123.65	128.60
1	A	108	G	N1-C6-O6	8.24	124.84	119.90
1	A	862	C	N3-C4-C5	8.24	125.19	121.90
1	A	27	G	N3-C4-N9	8.23	130.94	126.00
1	A	788	U	C5-C4-O4	-8.23	120.96	125.90
1	A	576	G	C5-C6-O6	-8.23	123.66	128.60
1	A	93	G	N3-C4-N9	8.23	130.94	126.00
1	A	1200	C	C6-N1-C1'	-8.23	110.93	120.80
1	A	1461	G	C8-N9-C4	8.22	109.69	106.40
1	A	607	A	C6-N1-C2	8.22	123.53	118.60
1	A	627	G	C6-C5-N7	-8.21	125.47	130.40
1	A	926	G	N3-C4-N9	8.21	130.93	126.00
1	A	1346	A	C2-N3-C4	8.21	114.71	110.60
1	A	1527	C	C6-N1-C2	-8.21	117.02	120.30
1	A	190(F)	G	N3-C4-N9	-8.21	121.08	126.00
1	A	580	U	N1-C2-O2	-8.21	117.05	122.80
1	A	948	C	C6-N1-C2	8.21	123.58	120.30
1	A	1530	G	C5-C6-O6	-8.20	123.68	128.60
1	A	481	G	N3-C2-N2	8.20	125.64	119.90
1	A	694	A	C5-C6-N1	-8.20	113.60	117.70
1	A	79	G	C8-N9-C4	-8.19	103.13	106.40
1	A	78	G	C4-C5-N7	8.18	114.07	110.80
1	A	197	A	N1-C6-N6	-8.18	113.69	118.60
1	A	859	A	N3-C4-C5	-8.18	121.08	126.80
1	A	1079	G	C6-C5-N7	-8.18	125.49	130.40
1	A	872	A	C4-C5-N7	8.17	114.79	110.70
1	A	1442	G	N3-C4-C5	-8.17	124.51	128.60
1	A	1254	C	C6-N1-C2	-8.17	117.03	120.30
1	A	144	G	C6-C5-N7	-8.17	125.50	130.40
1	A	545	C	C6-N1-C2	-8.16	117.03	120.30
1	A	297	G	N1-C6-O6	8.16	124.80	119.90
1	A	907	A	N1-C6-N6	-8.16	113.70	118.60
1	A	650	G	N1-C6-O6	8.15	124.79	119.90
1	A	29	G	C5-N7-C8	8.15	108.37	104.30
1	A	913	A	N1-C6-N6	-8.15	113.71	118.60
1	A	822	C	N1-C2-O2	-8.14	114.01	118.90
1	A	117	G	N1-C2-N3	8.14	128.78	123.90
1	A	456	C	N1-C2-O2	8.14	123.78	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	450	G	C8-N9-C4	8.14	109.66	106.40
1	A	730	G	C5-C6-O6	8.14	133.48	128.60
1	A	899	C	C5-C6-N1	8.14	125.07	121.00
1	A	1064	G	C6-C5-N7	-8.13	125.52	130.40
1	A	176	C	N3-C4-C5	8.12	125.15	121.90
1	A	607	A	C5-N7-C8	-8.12	99.84	103.90
1	A	328	C	N1-C2-O2	8.12	123.77	118.90
1	A	329	A	C4-C5-N7	8.12	114.76	110.70
1	A	1367	C	N1-C2-O2	8.12	123.77	118.90
1	A	141	A	C2-N3-C4	-8.12	106.54	110.60
1	A	323	U	N3-C2-O2	8.11	127.88	122.20
1	A	314	C	N3-C4-C5	8.11	125.14	121.90
1	A	872	A	C2-N3-C4	-8.11	106.55	110.60
1	A	1375	A	N7-C8-N9	-8.09	109.75	113.80
1	A	859	A	C2-N3-C4	8.09	114.64	110.60
1	A	729	A	C5-N7-C8	-8.08	99.86	103.90
1	A	919	A	C8-N9-C4	8.08	109.03	105.80
1	A	916	G	N3-C4-N9	8.08	130.85	126.00
1	A	80	G	C6-C5-N7	-8.08	125.55	130.40
1	A	401	C	C6-N1-C2	-8.08	117.07	120.30
1	A	930	C	C2-N3-C4	-8.07	115.86	119.90
1	A	1152	A	N1-C6-N6	-8.07	113.76	118.60
1	A	117	G	N3-C4-C5	8.07	132.63	128.60
1	A	995	C	C2-N1-C1'	8.07	127.67	118.80
1	A	322	C	N3-C4-C5	-8.06	118.68	121.90
1	A	632	A	N1-C6-N6	8.06	123.44	118.60
1	A	873	A	C2-N3-C4	8.06	114.63	110.60
1	A	35	G	N1-C6-O6	8.05	124.73	119.90
1	A	255	G	C8-N9-C1'	-8.05	116.53	127.00
1	A	703	G	C4-C5-N7	-8.05	107.58	110.80
1	A	916	G	N1-C2-N3	8.05	128.73	123.90
1	A	647	C	C6-N1-C2	8.05	123.52	120.30
1	A	1249	C	C5-C6-N1	8.05	125.02	121.00
1	A	950	U	N3-C4-C5	-8.04	109.78	114.60
1	A	230	G	C2-N3-C4	-8.04	107.88	111.90
1	A	832	C	N3-C2-O2	8.03	127.52	121.90
1	A	567	G	C5-N7-C8	8.02	108.31	104.30
1	A	481	G	C2-N3-C4	8.01	115.91	111.90
1	A	885	G	N7-C8-N9	8.00	117.10	113.10
1	A	1063	C	C6-N1-C2	-8.00	117.10	120.30
1	A	708	C	N3-C4-C5	7.99	125.10	121.90
1	A	859	A	C5-C6-N6	-7.99	117.31	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	725	G	C4-C5-N7	7.99	114.00	110.80
1	A	1408	A	N1-C6-N6	7.99	123.39	118.60
1	A	108	G	C5-C6-N1	-7.98	107.51	111.50
1	A	29	G	C5-C6-N1	-7.97	107.51	111.50
1	A	1455	G	C8-N9-C4	-7.97	103.21	106.40
1	A	285	G	C5-C6-N1	-7.97	107.52	111.50
1	A	1069	C	C6-N1-C2	7.97	123.49	120.30
1	A	776	G	N3-C4-N9	-7.96	121.22	126.00
1	A	400	C	N1-C2-O2	7.96	123.67	118.90
1	A	942	G	N1-C6-O6	7.95	124.67	119.90
1	A	791	G	N3-C4-C5	-7.95	124.62	128.60
1	A	1249	C	C6-N1-C1'	-7.95	111.26	120.80
1	A	774	G	N3-C4-N9	7.94	130.76	126.00
1	A	795	C	N3-C4-N4	7.94	123.56	118.00
1	A	627	G	C2-N3-C4	-7.94	107.93	111.90
1	A	823	G	N1-C2-N3	7.94	128.66	123.90
1	A	780	A	C6-N1-C2	-7.94	113.84	118.60
1	A	793	U	N3-C2-O2	-7.93	116.65	122.20
1	A	607	A	N1-C2-N3	-7.93	125.33	129.30
1	A	889	A	C8-N9-C4	-7.92	102.63	105.80
8	H	12	ARG	NE-CZ-NH2	7.92	124.26	120.30
1	A	1342	C	N1-C2-O2	-7.92	114.15	118.90
1	A	1279	A	N7-C8-N9	7.91	117.75	113.80
1	A	1084	G	N1-C6-O6	-7.90	115.16	119.90
1	A	299	G	N1-C6-O6	7.90	124.64	119.90
1	A	384	G	N3-C4-N9	7.89	130.73	126.00
1	A	1060	C	N3-C2-O2	-7.89	116.38	121.90
1	A	292	G	C8-N9-C4	7.88	109.55	106.40
1	A	595	G	C4-C5-C6	7.88	123.53	118.80
1	A	875	C	N1-C2-O2	-7.88	114.17	118.90
1	A	623	C	N3-C4-C5	7.87	125.05	121.90
1	A	787	A	C5-C6-N1	-7.87	113.77	117.70
1	A	1064	G	N1-C6-O6	7.87	124.62	119.90
1	A	190(F)	G	N3-C4-C5	7.86	132.53	128.60
1	A	1370	G	C4-N9-C1'	7.86	136.72	126.50
1	A	98	U	C6-N1-C2	-7.86	116.28	121.00
1	A	569	C	C2-N3-C4	-7.86	115.97	119.90
1	A	570	G	C6-C5-N7	-7.86	125.69	130.40
1	A	778	G	C2-N3-C4	-7.86	107.97	111.90
1	A	1514	C	C2-N3-C4	-7.86	115.97	119.90
1	A	659	U	C5-C6-N1	-7.85	118.78	122.70
1	A	919	A	N1-C2-N3	-7.85	125.38	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1542	U	N3-C4-C5	-7.85	109.89	114.60
1	A	43	C	C6-N1-C2	7.84	123.44	120.30
1	A	852	G	C2-N3-C4	-7.84	107.98	111.90
1	A	867	G	C6-C5-N7	-7.84	125.69	130.40
1	A	20	U	C3'-C2'-C1'	-7.84	95.23	101.50
1	A	400	C	N3-C4-C5	7.83	125.03	121.90
1	A	1179	A	N1-C6-N6	-7.83	113.90	118.60
1	A	199	G	N1-C6-O6	7.83	124.60	119.90
1	A	567	G	C5-C6-O6	7.83	133.30	128.60
1	A	62	U	N3-C2-O2	-7.83	116.72	122.20
1	A	21	G	N1-C2-N2	-7.82	109.16	116.20
1	A	255	G	C4-N9-C1'	7.82	136.66	126.50
1	A	481	G	N7-C8-N9	-7.82	109.19	113.10
1	A	580	U	C6-N1-C2	-7.81	116.31	121.00
1	A	1182	G	N1-C6-O6	7.81	124.59	119.90
1	A	218	C	C5-C6-N1	7.81	124.90	121.00
1	A	875	C	C4-C5-C6	7.80	121.30	117.40
1	A	610	G	C8-N9-C4	-7.80	103.28	106.40
1	A	285	G	N1-C6-O6	7.79	124.58	119.90
1	A	606	G	N3-C4-C5	-7.79	124.70	128.60
1	A	1482	G	N3-C4-N9	7.79	130.67	126.00
1	A	43	C	C5-C6-N1	-7.78	117.11	121.00
1	A	703	G	C5-C6-O6	7.78	133.27	128.60
1	A	719	C	N3-C2-O2	-7.76	116.47	121.90
1	A	1069	C	N3-C2-O2	7.76	127.33	121.90
1	A	331	G	C5-C6-N1	-7.76	107.62	111.50
1	A	765	G	C5-N7-C8	-7.76	100.42	104.30
1	A	638	G	N1-C2-N3	7.76	128.56	123.90
1	A	717	C	C6-N1-C2	7.76	123.40	120.30
1	A	559	A	C5-C6-N1	7.75	121.58	117.70
1	A	15	G	C4-C5-C6	7.75	123.45	118.80
1	A	728	A	C8-N9-C4	-7.75	102.70	105.80
1	A	1334	G	N7-C8-N9	-7.74	109.23	113.10
1	A	786	G	C5-C6-O6	-7.74	123.95	128.60
1	A	1265	G	N1-C6-O6	7.74	124.55	119.90
1	A	132	C	C4-C5-C6	7.74	121.27	117.40
1	A	1088	G	C8-N9-C4	-7.74	103.31	106.40
1	A	1484	C	C6-N1-C2	-7.73	117.21	120.30
1	A	1346	A	C6-C5-N7	7.73	137.71	132.30
1	A	323	U	C5-C4-O4	-7.72	121.27	125.90
1	A	88	A	N3-C4-C5	-7.72	121.40	126.80
1	A	1521	G	C5-C6-N1	7.71	115.36	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	780	A	C5-C6-N1	7.71	121.56	117.70
1	A	599	C	C5-C6-N1	-7.71	117.14	121.00
1	A	927	G	C5-C6-N1	-7.71	107.65	111.50
1	A	703	G	N1-C6-O6	-7.70	115.28	119.90
1	A	881	G	C4-C5-C6	7.70	123.42	118.80
1	A	881	G	C6-C5-N7	-7.70	125.78	130.40
1	A	251	G	C4-N9-C1'	7.69	136.50	126.50
1	A	1181	G	N3-C4-C5	7.69	132.45	128.60
1	A	309	G	C8-N9-C4	7.69	109.48	106.40
1	A	867	G	C5-C6-O6	-7.68	123.99	128.60
1	A	1088	G	N7-C8-N9	7.68	116.94	113.10
1	A	1375	A	C8-N9-C4	7.68	108.87	105.80
1	A	1355	G	N1-C6-O6	-7.67	115.30	119.90
1	A	7	G	C2-N3-C4	7.67	115.74	111.90
1	A	1152	A	N9-C4-C5	7.67	108.87	105.80
1	A	650	G	C5-C6-O6	-7.67	124.00	128.60
1	A	919	A	C4-C5-C6	-7.66	113.17	117.00
1	A	1084	G	C5-N7-C8	7.66	108.13	104.30
1	A	230	G	N1-C2-N3	7.66	128.50	123.90
1	A	890	G	N7-C8-N9	-7.66	109.27	113.10
1	A	1348	U	C2-N1-C1'	7.66	126.89	117.70
1	A	812	C	N3-C4-C5	-7.65	118.84	121.90
1	A	1512	U	N1-C2-O2	-7.65	117.44	122.80
12	L	66	VAL	CB-CA-C	-7.65	96.86	111.40
1	A	782	A	C4-C5-C6	7.64	120.82	117.00
1	A	860	A	C2-N3-C4	-7.64	106.78	110.60
1	A	236	G	C4-N9-C1'	7.64	136.43	126.50
1	A	685	G	C2-N3-C4	-7.64	108.08	111.90
1	A	144	G	C2-N3-C4	-7.63	108.08	111.90
1	A	1526	G	C4-N9-C1'	7.63	136.42	126.50
1	A	97	G	C8-N9-C4	-7.63	103.35	106.40
1	A	190	C	N3-C2-O2	-7.63	116.56	121.90
1	A	1380	U	N3-C2-O2	-7.63	116.86	122.20
1	A	39	G	C5-C6-N1	7.62	115.31	111.50
1	A	1279	A	C6-C5-N7	-7.62	126.97	132.30
1	A	745	C	N3-C4-C5	7.61	124.94	121.90
1	A	139	G	N1-C6-O6	7.60	124.46	119.90
1	A	368	U	C5-C6-N1	-7.60	118.90	122.70
1	A	75	G	N3-C4-N9	7.60	130.56	126.00
1	A	755	G	N1-C2-N3	-7.60	119.34	123.90
1	A	673	G	N3-C4-N9	7.60	130.56	126.00
1	A	824	C	C2-N3-C4	-7.59	116.10	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1346	A	N9-C4-C5	7.59	108.84	105.80
1	A	859	A	N7-C8-N9	7.59	117.59	113.80
1	A	557	G	C6-C5-N7	-7.59	125.85	130.40
1	A	113	G	C8-N9-C1'	-7.58	117.15	127.00
1	A	132	C	N1-C2-N3	7.57	124.50	119.20
1	A	357	G	C5-C6-N1	-7.57	107.71	111.50
1	A	941	G	N3-C2-N2	-7.57	114.60	119.90
1	A	851	G	N3-C2-N2	-7.57	114.60	119.90
1	A	1416	G	C5-C6-N1	-7.57	107.72	111.50
1	A	24	U	C5-C4-O4	-7.56	121.36	125.90
1	A	238	G	C2-N3-C4	-7.56	108.12	111.90
1	A	1369	C	C6-N1-C2	-7.56	117.28	120.30
1	A	106	C	N1-C2-N3	7.56	124.49	119.20
1	A	570	G	N1-C2-N3	7.56	128.44	123.90
3	C	179	ARG	N-CA-C	-7.55	90.60	111.00
1	A	1455	G	C4-C5-N7	7.55	113.82	110.80
1	A	1497	G	C4-C5-N7	7.55	113.82	110.80
1	A	1455	G	C5-N7-C8	-7.55	100.53	104.30
1	A	483	C	C2-N1-C1'	-7.54	110.50	118.80
1	A	1409	C	C6-N1-C2	-7.54	117.28	120.30
20	T	94	ALA	N-CA-C	-7.54	90.65	111.00
1	A	1148	U	C5-C6-N1	7.53	126.47	122.70
1	A	317	G	C5-C6-O6	-7.53	124.08	128.60
1	A	1529	G	N7-C8-N9	7.53	116.86	113.10
1	A	586	C	C2-N3-C4	-7.53	116.14	119.90
1	A	29	G	C2-N3-C4	-7.52	108.14	111.90
1	A	257	G	N3-C2-N2	7.52	125.16	119.90
1	A	798	G	C2-N3-C4	-7.51	108.14	111.90
1	A	859	A	N1-C6-N6	7.51	123.11	118.60
1	A	654	G	C2-N3-C4	-7.51	108.15	111.90
1	A	873	A	N9-C4-C5	7.50	108.80	105.80
1	A	326	G	C2-N3-C4	7.50	115.65	111.90
1	A	809	G	C8-N9-C4	-7.50	103.40	106.40
1	A	280	C	C6-N1-C2	7.49	123.30	120.30
1	A	1241	G	C5-C6-N1	-7.49	107.75	111.50
1	A	66	G	C5-N7-C8	-7.49	100.56	104.30
1	A	30	U	N3-C4-C5	7.48	119.09	114.60
1	A	755	G	C2-N3-C4	7.48	115.64	111.90
1	A	1513	A	C2-N3-C4	-7.48	106.86	110.60
1	A	730	G	N1-C2-N3	7.48	128.39	123.90
1	A	190(G)	G	C8-N9-C4	-7.48	103.41	106.40
1	A	16	A	N7-C8-N9	-7.47	110.06	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1521	G	N1-C6-O6	-7.47	115.42	119.90
1	A	859	A	N3-C4-N9	7.46	133.37	127.40
1	A	1279	A	C5-N7-C8	-7.45	100.17	103.90
1	A	518	C	C6-N1-C2	7.45	123.28	120.30
1	A	113	G	N3-C4-N9	7.44	130.46	126.00
1	A	580	U	N3-C4-O4	7.44	124.61	119.40
1	A	708	C	C5-C6-N1	-7.44	117.28	121.00
1	A	257	G	N1-C2-N2	-7.44	109.51	116.20
1	A	295	C	N3-C4-C5	7.43	124.87	121.90
1	A	721	G	C4-C5-N7	7.43	113.77	110.80
1	A	1347	G	N7-C8-N9	-7.42	109.39	113.10
1	A	325	A	N9-C4-C5	7.42	108.77	105.80
1	A	524	G	C5-C6-O6	-7.42	124.15	128.60
1	A	811	C	N3-C4-C5	-7.42	118.93	121.90
1	A	559	A	N3-C4-C5	-7.41	121.61	126.80
1	A	1074	G	C6-C5-N7	-7.41	125.95	130.40
1	A	1155	G	N7-C8-N9	7.41	116.80	113.10
1	A	899	C	N3-C4-N4	7.40	123.18	118.00
1	A	141	A	C4-C5-N7	7.40	114.40	110.70
1	A	1241	G	C2-N3-C4	-7.39	108.20	111.90
1	A	928	G	C4-C5-N7	7.39	113.76	110.80
1	A	1529	G	C4-N9-C1'	7.39	136.10	126.50
1	A	1338	G	N3-C4-N9	-7.39	121.57	126.00
1	A	1192	C	C2-N3-C4	-7.38	116.21	119.90
1	A	1382	C	C6-N1-C2	-7.38	117.35	120.30
1	A	1494	G	N1-C6-O6	7.38	124.33	119.90
1	A	122	G	C2-N3-C4	-7.37	108.21	111.90
1	A	128	G	N9-C4-C5	-7.37	102.45	105.40
1	A	722	A	C6-C5-N7	-7.37	127.14	132.30
1	A	329	A	C5-C6-N6	-7.36	117.81	123.70
1	A	721	G	N9-C4-C5	-7.36	102.46	105.40
1	A	1328	C	C6-N1-C2	-7.35	117.36	120.30
1	A	1435	G	N1-C6-O6	7.35	124.31	119.90
1	A	393	A	N1-C6-N6	7.35	123.01	118.60
1	A	944	G	N7-C8-N9	7.35	116.78	113.10
1	A	1279	A	N1-C6-N6	7.35	123.01	118.60
1	A	238	G	C5-C6-N1	-7.35	107.83	111.50
1	A	128	G	C2-N3-C4	-7.34	108.23	111.90
1	A	707	C	C2-N1-C1'	-7.34	110.72	118.80
1	A	416	G	N1-C6-O6	7.34	124.30	119.90
1	A	1455	G	N7-C8-N9	7.34	116.77	113.10
1	A	773	G	N1-C6-O6	7.33	124.30	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1080	A	N7-C8-N9	-7.33	110.14	113.80
1	A	372	C	C6-N1-C1'	-7.33	112.01	120.80
1	A	741	G	C4-C5-N7	-7.33	107.87	110.80
1	A	865	A	C5-C6-N1	7.32	121.36	117.70
1	A	971	G	N1-C6-O6	7.32	124.29	119.90
1	A	669	U	C6-N1-C2	7.32	125.39	121.00
1	A	451	A	C4-C5-C6	-7.32	113.34	117.00
1	A	499	A	N9-C4-C5	7.32	108.73	105.80
1	A	1181	G	C4-N9-C1'	-7.32	116.99	126.50
1	A	93	G	N3-C4-C5	-7.32	124.94	128.60
1	A	80	G	C8-N9-C4	-7.31	103.47	106.40
1	A	557	G	N1-C6-O6	7.31	124.29	119.90
1	A	146	G	N1-C6-O6	7.30	124.28	119.90
1	A	627	G	N9-C4-C5	-7.30	102.48	105.40
1	A	98	U	C5-C6-N1	7.30	126.35	122.70
1	A	7	G	C4-C5-N7	-7.30	107.88	110.80
1	A	122	G	C6-C5-N7	-7.30	126.02	130.40
1	A	926	G	N3-C4-C5	-7.30	124.95	128.60
1	A	507	C	N3-C4-C5	7.30	124.82	121.90
1	A	1200	C	C5-C6-N1	7.30	124.65	121.00
1	A	1348	U	N3-C4-O4	7.29	124.51	119.40
1	A	27	G	C6-C5-N7	-7.29	126.02	130.40
1	A	481	G	C5-C6-O6	-7.29	124.22	128.60
1	A	417	C	C5-C6-N1	7.29	124.64	121.00
1	A	119	A	N1-C6-N6	-7.28	114.23	118.60
1	A	827	U	N1-C2-N3	7.28	119.27	114.90
1	A	882	C	N1-C2-O2	-7.28	114.53	118.90
1	A	731	G	C4-C5-N7	7.28	113.71	110.80
1	A	1469	G	N1-C6-O6	7.28	124.27	119.90
1	A	251	G	N7-C8-N9	7.27	116.74	113.10
1	A	782	A	C6-N1-C2	-7.27	114.24	118.60
1	A	927	G	N3-C4-C5	7.27	132.23	128.60
1	A	971	G	C5-C6-N1	-7.27	107.87	111.50
1	A	228	A	N1-C6-N6	7.26	122.96	118.60
1	A	927	G	N1-C6-O6	7.26	124.26	119.90
1	A	755	G	N1-C2-N2	7.26	122.73	116.20
1	A	628	G	N3-C4-N9	7.25	130.35	126.00
1	A	1238	A	N1-C6-N6	-7.25	114.25	118.60
1	A	1202	G	C5-C6-O6	7.25	132.95	128.60
1	A	852	G	N1-C6-O6	7.24	124.25	119.90
1	A	1465	C	C5-C4-N4	-7.24	115.13	120.20
1	A	1447	G	N7-C8-N9	7.24	116.72	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1370	G	C5-C6-O6	-7.24	124.26	128.60
1	A	499	A	C8-N9-C4	-7.24	102.91	105.80
1	A	106	C	C4-C5-C6	7.23	121.01	117.40
1	A	483	C	C5-C6-N1	-7.23	117.39	121.00
1	A	129(A)	G	C4-N9-C1'	7.23	135.90	126.50
1	A	919	A	C5-C6-N1	7.23	121.31	117.70
1	A	244	U	C5-C6-N1	-7.22	119.09	122.70
1	A	640	A	N9-C4-C5	7.22	108.69	105.80
1	A	1061	G	N1-C6-O6	7.22	124.23	119.90
1	A	519	C	N3-C4-C5	-7.22	119.01	121.90
1	A	1208	C	C6-N1-C2	-7.22	117.41	120.30
1	A	190(G)	G	N7-C8-N9	7.22	116.71	113.10
1	A	44	G	C6-C5-N7	-7.22	126.07	130.40
1	A	238	G	N1-C6-O6	7.21	124.23	119.90
1	A	651	C	N1-C2-N3	-7.21	114.15	119.20
1	A	1409	C	C5-C6-N1	7.21	124.61	121.00
1	A	310	G	C4-C5-N7	7.21	113.68	110.80
1	A	881	G	N3-C4-N9	7.21	130.33	126.00
1	A	927	G	C2-N3-C4	-7.21	108.30	111.90
1	A	1496	C	C4-C5-C6	-7.20	113.80	117.40
1	A	1219	U	C6-N1-C2	-7.20	116.68	121.00
1	A	589	C	C5-C6-N1	-7.19	117.40	121.00
1	A	1469	G	C5-C6-O6	-7.19	124.28	128.60
1	A	1152	A	C8-N9-C4	-7.19	102.92	105.80
1	A	1373	G	N3-C4-C5	-7.19	125.01	128.60
17	Q	35	VAL	CB-CA-C	-7.19	97.74	111.40
1	A	276	G	N3-C4-N9	-7.18	121.69	126.00
1	A	857	C	C6-N1-C2	-7.18	117.43	120.30
1	A	821	G	C8-N9-C4	7.18	109.27	106.40
1	A	766	A	C2-N3-C4	-7.17	107.02	110.60
1	A	1344	C	C2-N3-C4	-7.17	116.32	119.90
1	A	1241	G	N3-C4-C5	7.16	132.18	128.60
1	A	288	A	C2-N3-C4	-7.16	107.02	110.60
1	A	1528	U	C6-N1-C2	7.16	125.30	121.00
1	A	108	G	C6-C5-N7	-7.16	126.11	130.40
1	A	1240	U	C5-C4-O4	7.15	130.19	125.90
1	A	1377	A	C5-C6-N6	7.15	129.42	123.70
1	A	920	U	C5-C4-O4	7.15	130.19	125.90
1	A	329	A	N1-C6-N6	7.15	122.89	118.60
1	A	157	G	N1-C6-O6	7.14	124.19	119.90
1	A	197	A	C5-C6-N1	7.14	121.27	117.70
1	A	265	G	C8-N9-C4	7.14	109.26	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1231	G	C2-N3-C4	-7.14	108.33	111.90
1	A	266	G	N7-C8-N9	7.13	116.67	113.10
1	A	247	G	C2-N3-C4	-7.13	108.33	111.90
1	A	673	G	C6-C5-N7	-7.13	126.12	130.40
1	A	731	G	C5-C6-O6	-7.13	124.32	128.60
1	A	870	U	N1-C2-O2	7.13	127.79	122.80
1	A	900	A	C2-N3-C4	-7.13	107.04	110.60
1	A	933	G	N3-C4-C5	7.13	132.16	128.60
1	A	1436	U	N1-C2-O2	7.13	127.79	122.80
1	A	240	C	C5-C4-N4	-7.12	115.21	120.20
1	A	373	A	C2-N3-C4	-7.12	107.04	110.60
1	A	1517	G	C8-N9-C4	-7.12	103.55	106.40
1	A	616	G	C5-C6-N1	-7.12	107.94	111.50
1	A	779	C	N1-C2-N3	7.11	124.18	119.20
1	A	190(D)	U	C2-N1-C1'	-7.11	109.17	117.70
1	A	383	A	N1-C6-N6	7.11	122.87	118.60
1	A	572	A	N7-C8-N9	-7.11	110.25	113.80
1	A	109	A	N1-C6-N6	7.10	122.86	118.60
1	A	750	G	N1-C2-N3	7.10	128.16	123.90
1	A	319	G	C6-C5-N7	-7.09	126.14	130.40
1	A	755	G	C5-C6-O6	-7.09	124.34	128.60
1	A	1182	G	C5-C6-O6	-7.09	124.34	128.60
1	A	309	G	N1-C2-N3	7.09	128.15	123.90
1	A	1238	A	C4-C5-N7	-7.09	107.16	110.70
1	A	1367	C	C2-N1-C1'	7.09	126.60	118.80
1	A	656	C	C2-N3-C4	-7.09	116.36	119.90
1	A	1441	G	C5-C6-O6	7.08	132.85	128.60
1	A	121	C	C2-N1-C1'	-7.08	111.01	118.80
1	A	858	G	N3-C4-C5	7.08	132.14	128.60
1	A	291	C	N1-C2-N3	7.08	124.16	119.20
1	A	1494	G	N9-C4-C5	-7.07	102.57	105.40
1	A	234	C	N3-C4-C5	7.07	124.73	121.90
1	A	80	G	N7-C8-N9	7.07	116.63	113.10
1	A	144	G	N7-C8-N9	7.07	116.63	113.10
1	A	779	C	N1-C2-O2	-7.07	114.66	118.90
1	A	234	C	C5-C6-N1	-7.07	117.47	121.00
1	A	1071	C	C5-C4-N4	-7.07	115.25	120.20
1	A	255	G	C4-C5-C6	7.06	123.04	118.80
1	A	1474	G	C5-C6-O6	-7.06	124.36	128.60
1	A	59	A	C5-C6-N1	7.06	121.23	117.70
1	A	29	G	N7-C8-N9	-7.06	109.57	113.10
1	A	1455	G	C6-C5-N7	-7.05	126.17	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1452	C	N1-C2-O2	7.05	123.13	118.90
1	A	1100	C	C6-N1-C2	-7.04	117.48	120.30
1	A	167	G	C8-N9-C4	-7.04	103.59	106.40
1	A	310	G	C6-C5-N7	-7.04	126.18	130.40
1	A	606	G	C8-N9-C4	-7.04	103.59	106.40
1	A	653	A	C8-N9-C4	-7.04	102.99	105.80
1	A	779	C	N3-C4-C5	-7.03	119.09	121.90
1	A	782	A	C2-N3-C4	-7.03	107.09	110.60
1	A	888	G	N9-C4-C5	7.02	108.21	105.40
1	A	1499	A	N1-C6-N6	7.02	122.81	118.60
1	A	928	G	C5-C6-O6	-7.02	124.39	128.60
1	A	645	C	C5-C6-N1	7.02	124.51	121.00
2	B	23	ARG	N-CA-C	-7.02	92.06	111.00
1	A	1497	G	C5-N7-C8	-7.01	100.79	104.30
1	A	1043	C	C6-N1-C2	-7.01	117.50	120.30
1	A	706	A	N1-C2-N3	7.01	132.81	129.30
1	A	711	G	N1-C6-O6	7.01	124.11	119.90
1	A	908	A	C8-N9-C4	-7.01	103.00	105.80
1	A	764	C	N3-C4-C5	7.01	124.70	121.90
1	A	701	C	N3-C4-N4	-7.01	113.09	118.00
1	A	18	C	C6-N1-C2	7.00	123.10	120.30
1	A	481	G	C5-N7-C8	7.00	107.80	104.30
1	A	142	G	N3-C4-C5	-6.99	125.10	128.60
1	A	1338	G	N1-C2-N3	6.99	128.10	123.90
1	A	1231	G	C6-C5-N7	-6.99	126.20	130.40
1	A	168	G	C6-C5-N7	-6.98	126.21	130.40
1	A	407	G	C2-N3-C4	-6.98	108.41	111.90
1	A	563	A	C8-N9-C1'	-6.98	115.13	127.70
1	A	399	G	C2-N3-C4	-6.98	108.41	111.90
1	A	1425	U	C5-C4-O4	6.98	130.09	125.90
1	A	719	C	C5-C6-N1	-6.98	117.51	121.00
1	A	862	C	C5-C6-N1	-6.98	117.51	121.00
1	A	1522	U	C5-C6-N1	6.97	126.19	122.70
1	A	565	U	N1-C2-N3	-6.97	110.72	114.90
1	A	1310	G	C8-N9-C1'	-6.97	117.94	127.00
1	A	598	U	C5-C6-N1	-6.96	119.22	122.70
1	A	563	A	C4-C5-C6	6.96	120.48	117.00
1	A	707	C	N3-C4-N4	-6.95	113.13	118.00
5	E	41	VAL	CB-CA-C	-6.95	98.19	111.40
1	A	322	C	N3-C4-N4	6.95	122.86	118.00
1	A	898	G	C2-N3-C4	-6.95	108.43	111.90
1	A	145	G	N1-C6-O6	6.95	124.07	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	759	A	C5-N7-C8	-6.94	100.43	103.90
1	A	319	G	C5-C6-O6	-6.94	124.44	128.60
1	A	1302	U	N1-C2-O2	6.94	127.66	122.80
1	A	1079	G	C6-N1-C2	-6.94	120.94	125.10
1	A	274	A	C8-N9-C4	6.94	108.58	105.80
1	A	658	G	C8-N9-C4	6.94	109.17	106.40
1	A	785	G	C6-C5-N7	-6.94	126.24	130.40
1	A	30	U	C5-C6-N1	-6.93	119.23	122.70
1	A	769	G	C6-C5-N7	-6.93	126.24	130.40
1	A	117	G	C5-C6-O6	-6.93	124.44	128.60
1	A	705	U	N1-C2-O2	-6.93	117.95	122.80
1	A	1084	G	C5-C6-O6	6.93	132.76	128.60
1	A	874	G	N1-C2-N3	6.92	128.05	123.90
1	A	627	G	C5-C6-O6	-6.92	124.45	128.60
1	A	867	G	N1-C6-O6	6.92	124.05	119.90
1	A	262	A	C8-N9-C4	-6.92	103.03	105.80
1	A	754	C	N3-C4-C5	6.92	124.67	121.90
1	A	948	C	N3-C4-C5	6.92	124.67	121.90
1	A	1082	G	N9-C4-C5	-6.92	102.63	105.40
1	A	511	C	N3-C4-C5	6.91	124.67	121.90
1	A	1189	C	C2-N1-C1'	-6.91	111.20	118.80
1	A	296	U	C5-C6-N1	-6.91	119.25	122.70
1	A	704	A	C2-N3-C4	-6.91	107.15	110.60
1	A	777	A	C5-C6-N6	-6.91	118.17	123.70
1	A	627	G	C4-C5-N7	6.91	113.56	110.80
1	A	656	C	C4-C5-C6	6.91	120.85	117.40
1	A	1236	A	C4-C5-C6	-6.91	113.55	117.00
1	A	885	G	C5-N7-C8	-6.90	100.85	104.30
1	A	1331	G	C5-N7-C8	6.90	107.75	104.30
1	A	190(D)	U	C5-C4-O4	6.90	130.04	125.90
1	A	251	G	C8-N9-C1'	-6.90	118.03	127.00
1	A	1339	A	C5-C6-N1	6.89	121.15	117.70
1	A	1088	G	C5-C6-O6	-6.89	124.47	128.60
1	A	1531	A	C5-N7-C8	-6.89	100.45	103.90
1	A	1064	G	C5-C6-O6	-6.89	124.47	128.60
1	A	1064	G	C8-N9-C1'	-6.89	118.05	127.00
1	A	766	A	C5-N7-C8	-6.88	100.46	103.90
1	A	1447	G	C5-C6-O6	-6.88	124.47	128.60
1	A	1532	U	C5-C6-N1	6.88	126.14	122.70
1	A	945	G	C5-C6-O6	-6.88	124.47	128.60
1	A	565	U	C5-C4-O4	-6.87	121.78	125.90
1	A	898	G	C8-N9-C4	6.87	109.15	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	517	G	C4-C5-N7	-6.87	108.05	110.80
1	A	1344	C	C5-C6-N1	-6.87	117.57	121.00
1	A	1486	G	N1-C6-O6	6.86	124.02	119.90
1	A	260	G	N3-C2-N2	-6.86	115.10	119.90
1	A	760	G	C2-N3-C4	-6.86	108.47	111.90
1	A	1233	G	C8-N9-C4	6.86	109.14	106.40
1	A	373	A	N7-C8-N9	6.86	117.23	113.80
1	A	66	G	C4-C5-N7	6.85	113.54	110.80
1	A	109	A	C5-N7-C8	-6.85	100.47	103.90
1	A	240	C	N3-C4-N4	6.85	122.80	118.00
1	A	759	A	C2-N3-C4	-6.85	107.17	110.60
1	A	1240	U	N1-C2-N3	6.85	119.01	114.90
1	A	1077	G	C5-C6-N1	-6.85	108.07	111.50
1	A	1512	U	N1-C2-N3	6.85	119.01	114.90
1	A	190(G)	G	C6-C5-N7	-6.85	126.29	130.40
1	A	1281	U	C5-C6-N1	6.85	126.12	122.70
1	A	357	G	C8-N9-C4	6.84	109.14	106.40
1	A	879	C	C5-C4-N4	-6.84	115.41	120.20
1	A	167	G	N9-C4-C5	6.84	108.14	105.40
17	Q	21	VAL	CB-CA-C	-6.84	98.41	111.40
1	A	705	U	C6-N1-C1'	6.83	130.77	121.20
1	A	574	A	N7-C8-N9	-6.83	110.38	113.80
1	A	771	G	C2-N3-C4	-6.83	108.48	111.90
1	A	376	G	N1-C6-O6	6.83	124.00	119.90
1	A	1338	G	C8-N9-C4	-6.83	103.67	106.40
1	A	1416	G	C2-N3-C4	-6.83	108.48	111.90
1	A	1505	G	N1-C6-O6	6.83	124.00	119.90
1	A	277	C	C5-C6-N1	-6.83	117.59	121.00
1	A	1099	G	N3-C4-N9	-6.83	121.91	126.00
1	A	129(A)	G	N3-C4-N9	6.82	130.09	126.00
1	A	1064	G	N9-C4-C5	-6.82	102.67	105.40
1	A	90	U	N3-C4-C5	-6.82	110.51	114.60
1	A	357	G	N1-C6-O6	6.82	123.99	119.90
1	A	377	G	C2-N3-C4	-6.82	108.49	111.90
1	A	521	G	C6-C5-N7	6.82	134.49	130.40
1	A	1494	G	C6-C5-N7	-6.82	126.31	130.40
1	A	839	U	N1-C2-O2	6.82	127.57	122.80
1	A	707	C	C5-C6-N1	-6.82	117.59	121.00
1	A	790	A	C8-N9-C4	-6.82	103.07	105.80
1	A	319	G	N3-C4-N9	6.81	130.09	126.00
1	A	637	G	C8-N9-C1'	-6.81	118.14	127.00
1	A	27	G	C8-N9-C1'	-6.81	118.14	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1530	G	N9-C4-C5	-6.81	102.67	105.40
17	Q	98	LEU	CA-CB-CG	6.81	130.97	115.30
1	A	833	U	N1-C2-N3	6.81	118.99	114.90
1	A	373	A	N1-C2-N3	6.81	132.70	129.30
1	A	634	C	C6-N1-C2	-6.80	117.58	120.30
1	A	46	G	N3-C4-C5	-6.80	125.20	128.60
1	A	628	G	N3-C4-C5	-6.80	125.20	128.60
1	A	746	A	N9-C4-C5	-6.80	103.08	105.80
1	A	1340	A	C2-N3-C4	-6.80	107.20	110.60
1	A	568	G	C6-N1-C2	-6.79	121.03	125.10
1	A	366	C	N1-C2-O2	6.79	122.97	118.90
1	A	862	C	C5-C4-N4	-6.79	115.45	120.20
1	A	123	C	N1-C2-N3	6.78	123.95	119.20
1	A	229	U	C6-N1-C2	-6.78	116.93	121.00
1	A	944	G	N1-C2-N2	-6.78	110.10	116.20
1	A	336	C	N3-C2-O2	6.78	126.64	121.90
1	A	1335	C	C6-N1-C1'	6.78	128.94	120.80
1	A	404	U	N1-C2-O2	-6.78	118.06	122.80
1	A	259	G	N7-C8-N9	6.77	116.49	113.10
1	A	760	G	N3-C4-C5	6.77	131.99	128.60
1	A	230	G	N1-C6-O6	6.77	123.96	119.90
1	A	780	A	N1-C6-N6	-6.77	114.54	118.60
1	A	262	A	N1-C6-N6	-6.77	114.54	118.60
1	A	1099	G	N1-C6-O6	6.77	123.96	119.90
1	A	606	G	C4-C5-N7	-6.76	108.10	110.80
1	A	1264	C	C6-N1-C2	-6.75	117.60	120.30
1	A	1182	G	C4-C5-N7	6.75	113.50	110.80
1	A	1087	G	C4-C5-N7	6.75	113.50	110.80
1	A	255	G	C5-C6-O6	-6.75	124.55	128.60
1	A	541	G	N3-C2-N2	-6.75	115.18	119.90
1	A	553	A	C5-C6-N1	6.75	121.07	117.70
1	A	794	A	N3-C4-C5	-6.75	122.08	126.80
1	A	761	G	N1-C6-O6	6.75	123.95	119.90
1	A	814	A	N1-C2-N3	6.75	132.67	129.30
1	A	265	G	C2-N3-C4	-6.75	108.53	111.90
1	A	832	C	C5-C4-N4	-6.75	115.48	120.20
1	A	1403	C	C4-C5-C6	-6.75	114.03	117.40
1	A	1443	G	N9-C4-C5	-6.74	102.70	105.40
1	A	930	C	N3-C2-O2	-6.74	117.19	121.90
1	A	1060	C	C2-N1-C1'	6.73	126.21	118.80
1	A	129(A)	G	C8-N9-C4	6.73	109.09	106.40
1	A	1539	C	N3-C4-C5	6.73	124.59	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	Q	22	LEU	CA-CB-CG	-6.73	99.82	115.30
1	A	260	G	C5-C6-N1	-6.73	108.14	111.50
1	A	753	A	C2-N3-C4	-6.72	107.24	110.60
1	A	1084	G	C2-N3-C4	6.72	115.26	111.90
1	A	1233	G	N7-C8-N9	-6.72	109.74	113.10
1	A	559	A	C4-C5-C6	6.72	120.36	117.00
1	A	878	G	N1-C2-N2	-6.72	110.15	116.20
1	A	1157	A	C5-C6-N6	6.72	129.08	123.70
1	A	277	C	N3-C4-C5	6.72	124.59	121.90
1	A	906	G	C4-C5-N7	6.72	113.49	110.80
1	A	144	G	C5-N7-C8	-6.72	100.94	104.30
1	A	27	G	N1-C2-N3	6.71	127.93	123.90
1	A	484	G	N3-C4-N9	6.71	130.03	126.00
1	A	236	G	C8-N9-C1'	-6.71	118.28	127.00
1	A	144	G	C5-C6-O6	-6.71	124.58	128.60
1	A	1370	G	C8-N9-C1'	-6.71	118.28	127.00
1	A	243	A	P-O3'-C3'	6.70	127.75	119.70
1	A	1108	G	N3-C4-C5	-6.70	125.25	128.60
1	A	1482	G	N1-C2-N2	-6.70	110.17	116.20
1	A	1544	U	N3-C2-O2	6.70	126.89	122.20
1	A	833	U	C5-C6-N1	-6.70	119.35	122.70
1	A	649	G	C5-C6-O6	-6.70	124.58	128.60
1	A	725	G	C5-N7-C8	-6.70	100.95	104.30
1	A	244	U	C6-N1-C2	6.70	125.02	121.00
1	A	634	C	N3-C4-C5	-6.69	119.22	121.90
1	A	113	G	C4-N9-C1'	6.69	135.20	126.50
1	A	786	G	C4-C5-N7	6.69	113.48	110.80
1	A	1051	C	N3-C4-C5	-6.69	119.22	121.90
1	A	577	G	C2-N3-C4	-6.69	108.56	111.90
1	A	269	C	N1-C2-N3	6.68	123.88	119.20
1	A	575	G	C5-C6-N1	6.68	114.84	111.50
1	A	705	U	N3-C4-C5	-6.68	110.59	114.60
1	A	876	G	C6-N1-C2	-6.68	121.09	125.10
1	A	928	G	N9-C4-C5	-6.68	102.73	105.40
1	A	309	G	N1-C2-N2	-6.68	110.19	116.20
1	A	631	G	N7-C8-N9	6.68	116.44	113.10
1	A	703	G	N3-C4-C5	-6.68	125.26	128.60
1	A	1047	G	N3-C4-C5	-6.68	125.26	128.60
1	A	1419	G	C5-C6-N1	-6.68	108.16	111.50
1	A	278	G	N7-C8-N9	6.68	116.44	113.10
1	A	62	U	N1-C2-O2	6.67	127.47	122.80
1	A	380	G	C5-C6-N1	-6.67	108.16	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	612	C	N1-C2-O2	6.67	122.91	118.90
1	A	634	C	N1-C2-N3	6.67	123.87	119.20
1	A	384	G	C6-N1-C2	-6.67	121.10	125.10
1	A	1505	G	C5-N7-C8	-6.67	100.96	104.30
1	A	47	C	C2-N1-C1'	6.67	126.13	118.80
1	A	1370	G	C6-C5-N7	-6.67	126.40	130.40
1	A	78	G	N9-C4-C5	-6.67	102.73	105.40
1	A	256	U	C5-C4-O4	-6.67	121.90	125.90
1	A	307	C	N1-C2-O2	6.67	122.90	118.90
1	A	75	G	N3-C4-C5	-6.66	125.27	128.60
1	A	572	A	N9-C4-C5	6.66	108.47	105.80
1	A	1079	G	C4-C5-C6	6.66	122.80	118.80
1	A	521	G	N1-C6-O6	-6.66	115.90	119.90
1	A	27	G	C4-N9-C1'	6.66	135.16	126.50
1	A	1126	U	C6-N1-C2	-6.66	117.01	121.00
1	A	1200	C	C4-C5-C6	-6.65	114.07	117.40
1	A	358	U	N1-C2-N3	6.65	118.89	114.90
1	A	867	G	C4-C5-N7	6.65	113.46	110.80
1	A	1329	A	N1-C6-N6	6.65	122.59	118.60
1	A	1482	G	C4-N9-C1'	6.65	135.14	126.50
1	A	93	G	N3-C2-N2	6.64	124.55	119.90
1	A	1394	A	N7-C8-N9	-6.64	110.48	113.80
1	A	260	G	N7-C8-N9	6.63	116.42	113.10
1	A	562	C	C4-C5-C6	6.63	120.72	117.40
1	A	30	U	C2-N3-C4	-6.62	123.03	127.00
1	A	93	G	N1-C2-N2	-6.62	110.24	116.20
1	A	563	A	C4-N9-C1'	6.62	138.22	126.30
1	A	722	A	C4-C5-N7	6.62	114.01	110.70
1	A	588	G	C8-N9-C1'	-6.62	118.40	127.00
1	A	700	G	N3-C4-C5	-6.62	125.29	128.60
1	A	263	A	C5-C6-N1	6.62	121.01	117.70
1	A	673	G	C8-N9-C1'	-6.62	118.40	127.00
1	A	1532	U	C4-C5-C6	-6.61	115.73	119.70
1	A	257	G	N3-C4-N9	6.61	129.97	126.00
1	A	416	G	C4-C5-N7	6.61	113.44	110.80
1	A	474	G	C4-C5-N7	6.61	113.44	110.80
1	A	1291	G	C8-N9-C1'	-6.61	118.41	127.00
1	A	1285	A	C5-N7-C8	-6.61	100.60	103.90
1	A	725	G	C6-C5-N7	-6.60	126.44	130.40
1	A	1323	G	N1-C6-O6	6.60	123.86	119.90
1	A	1116	C	C6-N1-C2	6.60	122.94	120.30
1	A	416	G	N3-C4-C5	6.60	131.90	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	770	C	C2-N3-C4	-6.60	116.60	119.90
1	A	27	G	N3-C4-C5	-6.59	125.30	128.60
1	A	765	G	N3-C4-C5	6.59	131.90	128.60
1	A	922	G	C8-N9-C4	-6.59	103.76	106.40
1	A	235	C	C5-C6-N1	-6.59	117.70	121.00
1	A	731	G	N9-C4-C5	-6.59	102.76	105.40
1	A	250	A	C5-C6-N1	-6.59	114.41	117.70
1	A	1529	G	N3-C2-N2	-6.59	115.29	119.90
1	A	1526	G	C4-C5-C6	6.59	122.75	118.80
1	A	723	U	C6-N1-C2	-6.58	117.05	121.00
1	A	771	G	C8-N9-C4	6.58	109.03	106.40
1	A	944	G	N9-C4-C5	6.58	108.03	105.40
1	A	971	G	N9-C4-C5	-6.58	102.77	105.40
1	A	1331	G	N9-C4-C5	6.58	108.03	105.40
1	A	232	G	N3-C4-N9	6.57	129.94	126.00
1	A	251	G	C5-C6-O6	-6.57	124.66	128.60
1	A	837	G	C8-N9-C4	6.57	109.03	106.40
1	A	1387	G	N1-C2-N2	-6.57	110.28	116.20
1	A	234	C	C2-N3-C4	-6.57	116.61	119.90
1	A	500	G	C5-C6-O6	-6.57	124.66	128.60
1	A	201	C	C2-N1-C1'	6.57	126.02	118.80
1	A	314	C	N3-C4-N4	-6.57	113.40	118.00
1	A	1403	C	N1-C2-N3	-6.57	114.60	119.20
1	A	1489	G	C8-N9-C4	-6.56	103.78	106.40
1	A	119	A	C5-C6-N6	6.55	128.94	123.70
1	A	928	G	N3-C4-C5	6.55	131.88	128.60
1	A	1394	A	N3-C4-C5	6.55	131.39	126.80
1	A	730	G	C5-C6-N1	-6.55	108.22	111.50
1	A	906	G	C5-C6-O6	-6.55	124.67	128.60
1	A	740	U	N1-C2-N3	6.55	118.83	114.90
1	A	119	A	C4-C5-N7	-6.55	107.43	110.70
1	A	456	C	N3-C2-O2	-6.54	117.32	121.90
1	A	1231	G	N9-C4-C5	-6.54	102.78	105.40
1	A	38	G	C4-N9-C1'	-6.54	118.00	126.50
1	A	785	G	N1-C6-O6	6.54	123.82	119.90
1	A	1194	U	C6-N1-C2	-6.54	117.08	121.00
1	A	906	G	N1-C6-O6	6.54	123.82	119.90
1	A	190(F)	G	C4-N9-C1'	-6.54	118.00	126.50
1	A	1502	A	N9-C4-C5	-6.54	103.19	105.80
1	A	281	G	N1-C6-O6	6.53	123.82	119.90
1	A	995	C	C5-C6-N1	6.53	124.27	121.00
1	A	1333	A	N7-C8-N9	6.53	117.07	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	900	A	C5-N7-C8	-6.53	100.63	103.90
1	A	1086	U	C5-C6-N1	6.53	125.97	122.70
1	A	518	C	N1-C2-O2	6.53	122.82	118.90
1	A	121	C	C5-C6-N1	-6.53	117.73	121.00
1	A	602	A	N1-C2-N3	6.53	132.56	129.30
1	A	778	G	N1-C2-N3	6.53	127.81	123.90
1	A	1187	G	N1-C6-O6	6.53	123.81	119.90
4	D	30	LYS	N-CA-C	6.53	128.62	111.00
1	A	765	G	N1-C6-O6	6.52	123.81	119.90
1	A	509	A	C3'-C2'-C1'	-6.52	96.28	101.50
1	A	1491	G	N3-C4-N9	6.52	129.91	126.00
1	A	382	A	C8-N9-C4	-6.51	103.20	105.80
1	A	117	G	N9-C4-C5	-6.51	102.80	105.40
1	A	628	G	C4-N9-C1'	6.51	134.96	126.50
1	A	919	A	C2-N3-C4	6.51	113.85	110.60
1	A	324	G	N9-C4-C5	6.50	108.00	105.40
1	A	584	G	C5-C6-O6	-6.50	124.70	128.60
1	A	1155	G	C6-C5-N7	-6.50	126.50	130.40
1	A	1512	U	N3-C4-C5	-6.50	110.70	114.60
1	A	666	G	C5-C6-N1	-6.50	108.25	111.50
1	A	1192	C	N1-C2-N3	6.50	123.75	119.20
1	A	815	A	N7-C8-N9	-6.49	110.55	113.80
1	A	1502	A	N3-C4-C5	6.49	131.35	126.80
1	A	130	A	C8-N9-C1'	-6.49	116.02	127.70
1	A	1078	U	C5-C6-N1	6.49	125.95	122.70
1	A	1482	G	N1-C6-O6	-6.49	116.01	119.90
1	A	557	G	C4-C5-C6	6.49	122.69	118.80
1	A	705	U	N1-C2-N3	6.49	118.79	114.90
1	A	1492	A	C8-N9-C4	-6.49	103.20	105.80
1	A	236	G	N1-C6-O6	-6.49	116.01	119.90
1	A	309	G	C8-N9-C1'	-6.48	118.57	127.00
1	A	877	C	C4-C5-C6	6.48	120.64	117.40
1	A	460	A	C8-N9-C4	-6.48	103.21	105.80
1	A	360	A	N7-C8-N9	6.47	117.04	113.80
1	A	1157	A	N1-C6-N6	-6.47	114.72	118.60
1	A	572	A	C4-C5-N7	-6.47	107.46	110.70
8	H	112	LEU	CA-CB-CG	-6.47	100.41	115.30
1	A	579	G	C4-C5-N7	6.47	113.39	110.80
1	A	53	A	N1-C2-N3	6.47	132.53	129.30
1	A	560	U	N3-C4-C5	-6.47	110.72	114.60
1	A	666	G	N1-C2-N3	6.47	127.78	123.90
1	A	805	C	N3-C4-C5	6.47	124.49	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	798	G	N1-C2-N3	6.46	127.78	123.90
1	A	1300	G	P-O3'-C3'	6.46	127.46	119.70
1	A	292	G	N9-C4-C5	-6.46	102.81	105.40
1	A	1377	A	C6-C5-N7	6.46	136.82	132.30
1	A	796	C	C2-N3-C4	-6.46	116.67	119.90
1	A	1398	A	C6-N1-C2	-6.46	114.72	118.60
1	A	17	U	N3-C4-C5	6.46	118.47	114.60
1	A	59	A	C4-C5-N7	6.46	113.93	110.70
1	A	766	A	N1-C6-N6	6.46	122.48	118.60
1	A	1310	G	C4-N9-C1'	6.46	134.90	126.50
1	A	1223	C	C6-N1-C2	-6.46	117.72	120.30
1	A	99	C	C5-C6-N1	6.45	124.23	121.00
1	A	589	C	N3-C4-N4	-6.45	113.48	118.00
1	A	1416	G	N1-C6-O6	6.45	123.77	119.90
1	A	569	C	C2-N1-C1'	-6.45	111.71	118.80
1	A	1266	G	N3-C4-C5	6.45	131.82	128.60
1	A	1080	A	C5-N7-C8	6.44	107.12	103.90
1	A	1285	A	N7-C8-N9	6.44	117.02	113.80
1	A	1192	C	N1-C2-O2	-6.44	115.04	118.90
1	A	1077	G	C6-C5-N7	-6.44	126.54	130.40
1	A	632	A	C5-N7-C8	-6.44	100.68	103.90
1	A	638	G	N3-C4-N9	6.44	129.86	126.00
1	A	1310	G	C5-C6-N1	-6.44	108.28	111.50
1	A	1341	U	C2-N1-C1'	-6.44	109.98	117.70
1	A	1383	C	N3-C4-N4	6.44	122.51	118.00
1	A	190(I)	G	N7-C8-N9	-6.43	109.88	113.10
1	A	774	G	C6-C5-N7	-6.43	126.54	130.40
1	A	822	C	C4-C5-C6	6.43	120.61	117.40
1	A	1078	U	C6-N1-C2	-6.43	117.14	121.00
1	A	916	G	C8-N9-C1'	-6.43	118.64	127.00
1	A	482	A	C6-C5-N7	-6.42	127.80	132.30
1	A	721	G	C8-N9-C1'	-6.42	118.65	127.00
1	A	1469	G	C6-C5-N7	-6.42	126.55	130.40
1	A	707	C	N3-C4-C5	6.42	124.47	121.90
1	A	1135	U	C2-N1-C1'	6.42	125.41	117.70
1	A	1312	G	C4-C5-N7	6.41	113.36	110.80
1	A	1203	C	C2-N1-C1'	6.41	125.85	118.80
1	A	1346	A	P-O3'-C3'	6.41	127.39	119.70
1	A	1212	U	C2-N1-C1'	6.40	125.38	117.70
1	A	1335	C	C2-N1-C1'	-6.40	111.76	118.80
1	A	833	U	C5-C4-O4	6.40	129.74	125.90
1	A	249	U	C5-C4-O4	6.40	129.74	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	876	G	C5-C6-O6	-6.40	124.76	128.60
1	A	860	A	C5-N7-C8	-6.39	100.70	103.90
1	A	156	G	N1-C6-O6	6.39	123.73	119.90
1	A	995	C	N1-C2-O2	6.39	122.73	118.90
1	A	348	G	N1-C6-O6	6.39	123.73	119.90
1	A	1512	U	C6-N1-C2	-6.39	117.17	121.00
1	A	7	G	C5-C6-N1	6.38	114.69	111.50
1	A	1514	C	N3-C4-C5	6.38	124.45	121.90
1	A	123	C	C6-N1-C2	-6.38	117.75	120.30
1	A	879	C	N3-C4-C5	6.38	124.45	121.90
1	A	190(F)	G	C8-N9-C1'	6.38	135.29	127.00
1	A	734	G	N9-C4-C5	-6.37	102.85	105.40
1	A	276	G	N1-C6-O6	6.37	123.72	119.90
1	A	795	C	C4-C5-C6	-6.37	114.22	117.40
1	A	878	G	C6-N1-C2	-6.37	121.28	125.10
1	A	1354	C	N3-C4-C5	6.37	124.45	121.90
1	A	888	G	C4-C5-N7	-6.37	108.25	110.80
1	A	32	A	N1-C2-N3	6.37	132.48	129.30
1	A	275	G	N1-C6-O6	6.37	123.72	119.90
1	A	1282	C	N3-C4-C5	-6.36	119.35	121.90
1	A	1079	G	N3-C4-N9	6.36	129.81	126.00
1	A	812	C	C5-C4-N4	6.36	124.65	120.20
1	A	130	A	C2-N3-C4	-6.36	107.42	110.60
1	A	551	U	C2-N1-C1'	6.36	125.33	117.70
1	A	595	G	N3-C4-C5	-6.36	125.42	128.60
1	A	1238	A	N9-C4-C5	6.36	108.34	105.80
1	A	1099	G	C2-N3-C4	-6.35	108.72	111.90
1	A	53	A	N1-C6-N6	-6.35	114.79	118.60
1	A	1531	A	C4-C5-N7	6.35	113.88	110.70
1	A	199	G	C6-C5-N7	-6.35	126.59	130.40
1	A	373	A	C8-N9-C4	-6.35	103.26	105.80
1	A	706	A	C8-N9-C4	6.35	108.34	105.80
1	A	558	G	N1-C6-O6	6.35	123.71	119.90
1	A	973	G	C8-N9-C1'	-6.35	118.75	127.00
1	A	1502	A	C4-N9-C1'	6.35	137.72	126.30
1	A	821	G	C6-C5-N7	-6.34	126.59	130.40
1	A	832	C	N1-C2-O2	-6.34	115.09	118.90
1	A	328	C	P-O3'-C3'	6.34	127.31	119.70
1	A	329	A	C5-N7-C8	-6.34	100.73	103.90
1	A	556	C	N3-C4-N4	-6.34	113.56	118.00
1	A	676	A	C8-N9-C4	6.34	108.34	105.80
1	A	1112	C	C6-N1-C2	6.34	122.84	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	404	U	N3-C2-O2	6.34	126.64	122.20
1	A	818	G	N1-C6-O6	6.34	123.70	119.90
1	A	1398	A	N1-C6-N6	-6.34	114.80	118.60
1	A	300	A	N7-C8-N9	6.34	116.97	113.80
1	A	1079	G	C8-N9-C4	-6.33	103.87	106.40
1	A	815	A	C5-N7-C8	6.33	107.07	103.90
1	A	30	U	N3-C4-O4	-6.33	114.97	119.40
1	A	1543	C	C5-C4-N4	-6.33	115.77	120.20
1	A	350	G	N7-C8-N9	6.33	116.27	113.10
1	A	1088	G	C4-C5-C6	6.32	122.59	118.80
1	A	319	G	C4-C5-N7	6.32	113.33	110.80
1	A	1481	U	C5-C4-O4	6.32	129.69	125.90
1	A	103	C	C4-C5-C6	6.32	120.56	117.40
1	A	872	A	C6-C5-N7	-6.32	127.88	132.30
1	A	926	G	C6-C5-N7	-6.32	126.61	130.40
1	A	1087	G	C5-C6-O6	-6.32	124.81	128.60
1	A	1106	G	C2-N3-C4	-6.32	108.74	111.90
1	A	877	C	C2-N3-C4	-6.31	116.75	119.90
1	A	51	A	C5-N7-C8	-6.31	100.75	103.90
1	A	93	G	C8-N9-C1'	-6.31	118.80	127.00
1	A	1411	C	C6-N1-C2	-6.31	117.78	120.30
1	A	345	C	C6-N1-C2	-6.31	117.78	120.30
1	A	1219	U	N3-C2-O2	-6.31	117.79	122.20
1	A	1505	G	C4-N9-C1'	6.31	134.70	126.50
1	A	130	A	N1-C2-N3	6.30	132.45	129.30
1	A	795	C	C6-N1-C2	6.30	122.82	120.30
1	A	918	A	N7-C8-N9	-6.30	110.65	113.80
1	A	700	G	N3-C4-N9	6.30	129.78	126.00
1	A	1030	C	C6-N1-C2	-6.30	117.78	120.30
1	A	141	A	C5-N7-C8	-6.30	100.75	103.90
1	A	511	C	C6-N1-C1'	6.30	128.36	120.80
1	A	1346	A	C6-N1-C2	-6.30	114.82	118.60
1	A	88	A	C2-N3-C4	6.29	113.75	110.60
1	A	1403	C	N3-C4-C5	6.29	124.42	121.90
1	A	245	C	C6-N1-C1'	6.29	128.35	120.80
1	A	766	A	C4-C5-N7	6.29	113.84	110.70
1	A	1166	G	C8-N9-C4	-6.29	103.88	106.40
1	A	1408	A	C4-C5-N7	6.29	113.84	110.70
1	A	322	C	N3-C2-O2	6.29	126.30	121.90
1	A	385	C	N3-C2-O2	-6.29	117.50	121.90
1	A	384	G	C8-N9-C1'	-6.29	118.83	127.00
1	A	1436	U	C2-N1-C1'	6.29	125.24	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	178	C	N1-C2-O2	6.28	122.67	118.90
1	A	625	G	C8-N9-C4	-6.28	103.89	106.40
1	A	22	G	N3-C2-N2	6.28	124.30	119.90
1	A	284	G	C4-C5-C6	6.28	122.57	118.80
1	A	838	G	C8-N9-C4	6.28	108.91	106.40
1	A	1508	G	N3-C4-C5	-6.28	125.46	128.60
1	A	708	C	N3-C4-N4	-6.28	113.61	118.00
1	A	865	A	N1-C6-N6	-6.28	114.83	118.60
1	A	1231	G	N3-C4-C5	6.28	131.74	128.60
1	A	122	G	N3-C4-C5	6.27	131.74	128.60
1	A	790	A	N7-C8-N9	6.27	116.94	113.80
1	A	258	G	N1-C6-O6	6.27	123.66	119.90
1	A	1080	A	C4-C5-N7	-6.27	107.57	110.70
1	A	1331	G	C5-C6-O6	6.27	132.36	128.60
1	A	113	G	N9-C4-C5	-6.27	102.89	105.40
1	A	232	G	C5-N7-C8	-6.27	101.17	104.30
1	A	29	G	C4-C5-N7	-6.27	108.29	110.80
1	A	367	U	C5-C4-O4	-6.27	122.14	125.90
1	A	451	A	C8-N9-C4	6.26	108.31	105.80
1	A	1358	U	C6-N1-C2	-6.26	117.24	121.00
1	A	1520	G	C5-C6-O6	-6.26	124.84	128.60
1	A	703	G	C5-N7-C8	6.26	107.43	104.30
1	A	789	U	C5-C6-N1	6.26	125.83	122.70
1	A	1513	A	N3-C4-C5	6.26	131.18	126.80
1	A	247	G	N3-C2-N2	-6.26	115.52	119.90
1	A	759	A	N1-C6-N6	6.26	122.35	118.60
1	A	1499	A	C6-C5-N7	-6.25	127.92	132.30
1	A	96	G	N1-C6-O6	6.25	123.65	119.90
1	A	363	A	C2-N3-C4	-6.25	107.47	110.60
1	A	1023	G	N3-C4-N9	6.25	129.75	126.00
1	A	301	G	C4-C5-C6	6.25	122.55	118.80
1	A	394	G	C5-C6-N1	-6.25	108.38	111.50
1	A	179	A	N1-C2-N3	6.25	132.42	129.30
1	A	384	G	C5-N7-C8	6.25	107.42	104.30
1	A	125	U	C5-C6-N1	-6.24	119.58	122.70
1	A	1023	G	N3-C4-C5	-6.24	125.48	128.60
1	A	1088	G	C4-C5-N7	6.24	113.30	110.80
1	A	1089	G	N3-C4-C5	-6.24	125.48	128.60
1	A	673	G	N1-C2-N3	6.24	127.64	123.90
1	A	743	U	C5-C4-O4	6.24	129.64	125.90
1	A	1530	G	C4-N9-C1'	-6.24	118.39	126.50
1	A	859	A	C6-N1-C2	-6.24	114.86	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1516	G	N3-C4-C5	6.24	131.72	128.60
1	A	146	G	C5-C6-N1	-6.23	108.38	111.50
1	A	301	G	C6-C5-N7	-6.23	126.66	130.40
1	A	886	G	C2-N3-C4	-6.23	108.78	111.90
1	A	1348	U	C6-N1-C1'	-6.23	112.48	121.20
1	A	1524	C	N1-C2-N3	6.23	123.56	119.20
1	A	78	G	C5-C6-O6	-6.23	124.86	128.60
1	A	300	A	C8-N9-C4	-6.23	103.31	105.80
1	A	818	G	C8-N9-C4	-6.23	103.91	106.40
1	A	928	G	C8-N9-C4	6.23	108.89	106.40
1	A	852	G	C4-C5-C6	6.22	122.53	118.80
1	A	941	G	N3-C4-C5	6.22	131.71	128.60
1	A	1082	G	C6-C5-N7	-6.22	126.67	130.40
1	A	1193	G	N1-C6-O6	6.22	123.64	119.90
1	A	144	G	N3-C4-C5	6.22	131.71	128.60
1	A	46	G	C4-C5-C6	6.21	122.53	118.80
1	A	336	C	C5-C4-N4	-6.21	115.85	120.20
1	A	900	A	C8-N9-C4	-6.21	103.31	105.80
1	A	926	G	N3-C2-N2	6.21	124.25	119.90
1	A	852	G	C6-C5-N7	-6.21	126.67	130.40
1	A	568	G	N1-C2-N3	6.21	127.63	123.90
1	A	1132	C	C6-N1-C2	-6.21	117.82	120.30
1	A	1393	U	C4-C5-C6	6.21	123.42	119.70
1	A	735	C	C5-C6-N1	-6.20	117.90	121.00
1	A	265	G	N1-C2-N2	-6.20	110.62	116.20
1	A	719	C	N1-C2-O2	6.20	122.62	118.90
1	A	909	A	C6-N1-C2	-6.20	114.88	118.60
1	A	989	C	N3-C4-C5	-6.20	119.42	121.90
1	A	80	G	C4-N9-C1'	6.20	134.55	126.50
1	A	360	A	C8-N9-C4	-6.20	103.32	105.80
1	A	59	A	C4-C5-C6	-6.19	113.90	117.00
1	A	813	U	N1-C2-N3	6.19	118.62	114.90
1	A	393	A	C2-N3-C4	-6.19	107.50	110.60
1	A	511	C	C5-C6-N1	-6.19	117.91	121.00
1	A	1539	C	N1-C2-O2	6.19	122.61	118.90
1	A	786	G	C2-N3-C4	-6.19	108.81	111.90
1	A	1375	A	C5-N7-C8	6.19	106.99	103.90
1	A	632	A	C2-N3-C4	-6.19	107.51	110.60
1	A	1186	G	C5-C6-N1	-6.19	108.41	111.50
1	A	1386	G	N7-C8-N9	-6.19	110.01	113.10
1	A	821	G	N9-C4-C5	-6.19	102.93	105.40
1	A	567	G	N3-C4-C5	-6.18	125.51	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1401	G	C6-C5-N7	-6.18	126.69	130.40
1	A	669	U	C5-C6-N1	-6.18	119.61	122.70
1	A	1293	G	C8-N9-C4	-6.18	103.93	106.40
1	A	774	G	N9-C4-C5	-6.18	102.93	105.40
1	A	595	G	C4-N9-C1'	6.18	134.53	126.50
1	A	381	C	N1-C2-O2	6.18	122.61	118.90
1	A	240	C	N1-C2-O2	-6.17	115.20	118.90
1	A	643	C	N3-C4-N4	6.17	122.32	118.00
17	Q	31	LEU	CA-CB-CG	-6.17	101.11	115.30
1	A	878	G	C2-N3-C4	-6.17	108.82	111.90
1	A	66	G	N3-C4-C5	6.17	131.68	128.60
1	A	874	G	N7-C8-N9	-6.17	110.02	113.10
1	A	241	C	C2-N3-C4	-6.17	116.82	119.90
1	A	856	C	N3-C4-C5	-6.17	119.43	121.90
1	A	1499	A	C4-C5-C6	6.17	120.08	117.00
1	A	144	G	N1-C2-N2	6.16	121.75	116.20
1	A	245	C	C2-N1-C1'	-6.16	112.02	118.80
1	A	605	U	N1-C2-N3	6.16	118.60	114.90
1	A	932	C	C6-N1-C2	-6.16	117.83	120.30
1	A	88	A	C4-C5-N7	-6.16	107.62	110.70
1	A	797	C	C5-C6-N1	-6.16	117.92	121.00
1	A	1132	C	C5-C6-N1	6.16	124.08	121.00
1	A	945	G	C4-C5-N7	6.15	113.26	110.80
1	A	1228	C	C6-N1-C2	-6.15	117.84	120.30
1	A	638	G	C8-N9-C1'	-6.15	119.00	127.00
1	A	1107	C	C6-N1-C2	-6.15	117.84	120.30
1	A	1526	G	C8-N9-C1'	-6.15	119.01	127.00
1	A	1246	C	C6-N1-C2	6.15	122.76	120.30
1	A	1279	A	C4-C5-N7	6.15	113.77	110.70
1	A	41	G	C8-N9-C4	-6.15	103.94	106.40
1	A	117	G	C4-C5-N7	6.14	113.26	110.80
1	A	107	G	C6-C5-N7	-6.14	126.72	130.40
1	A	595	G	N3-C4-N9	6.14	129.68	126.00
1	A	661	G	C2-N3-C4	-6.14	108.83	111.90
1	A	685	G	C4-C5-N7	6.13	113.25	110.80
1	A	1187	G	C8-N9-C4	-6.13	103.95	106.40
1	A	1543	C	C6-N1-C1'	-6.13	113.44	120.80
1	A	908	A	C5-C6-N6	6.13	128.61	123.70
1	A	718	G	N1-C6-O6	6.13	123.58	119.90
1	A	164	U	C5-C4-O4	6.13	129.58	125.90
1	A	693	G	N9-C4-C5	-6.13	102.95	105.40
1	A	1227	A	N3-C4-C5	6.13	131.09	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	275	G	C8-N9-C4	6.12	108.85	106.40
1	A	904	C	N1-C2-N3	6.12	123.49	119.20
4	D	135	LEU	CB-CG-CD1	-6.12	100.59	111.00
1	A	633	G	N3-C4-C5	6.12	131.66	128.60
1	A	109	A	C6-C5-N7	-6.12	128.02	132.30
1	A	278	G	N9-C4-C5	6.12	107.85	105.40
1	A	1517	G	N7-C8-N9	6.12	116.16	113.10
1	A	676	A	N1-C6-N6	6.12	122.27	118.60
1	A	763	G	C8-N9-C4	6.12	108.85	106.40
1	A	1177	G	C8-N9-C4	-6.12	103.95	106.40
1	A	975	A	N1-C6-N6	6.11	122.27	118.60
1	A	108	G	N3-C2-N2	-6.11	115.62	119.90
1	A	793	U	N1-C2-O2	6.11	127.08	122.80
1	A	1378	C	C5-C6-N1	6.11	124.06	121.00
1	A	79	G	N7-C8-N9	6.11	116.15	113.10
1	A	90	U	C5-C6-N1	6.11	125.75	122.70
1	A	8	A	N1-C6-N6	-6.10	114.94	118.60
1	A	1527	C	N1-C2-O2	-6.10	115.24	118.90
1	A	573	A	N7-C8-N9	6.10	116.85	113.80
1	A	1250	A	N1-C6-N6	-6.10	114.94	118.60
1	A	147	G	C5-C6-N1	-6.10	108.45	111.50
1	A	368	U	N3-C4-O4	-6.10	115.13	119.40
1	A	693	G	C8-N9-C4	6.10	108.84	106.40
1	A	120	A	C2-N3-C4	-6.10	107.55	110.60
1	A	637	G	N3-C4-N9	6.10	129.66	126.00
1	A	1318	A	C8-N9-C4	6.10	108.24	105.80
1	A	608	A	C2-N3-C4	-6.09	107.55	110.60
1	A	1493	A	C2-N3-C4	6.09	113.65	110.60
1	A	671	G	N1-C6-O6	6.09	123.56	119.90
1	A	1069	C	N1-C2-N3	-6.09	114.94	119.20
1	A	1234	C	C5-C6-N1	6.09	124.05	121.00
1	A	416	G	C5-N7-C8	-6.09	101.25	104.30
1	A	1246	C	C2-N1-C1'	-6.09	112.10	118.80
1	A	1370	G	N3-C4-N9	6.09	129.66	126.00
1	A	1393	U	C5-C6-N1	-6.09	119.65	122.70
1	A	78	G	C5-C6-N1	6.09	114.54	111.50
1	A	200	G	C5-C6-N1	-6.09	108.46	111.50
1	A	401	C	N1-C2-N3	6.09	123.46	119.20
1	A	610	G	N7-C8-N9	6.09	116.14	113.10
1	A	1455	G	C2-N3-C4	-6.09	108.86	111.90
1	A	271	C	N1-C2-O2	-6.08	115.25	118.90
1	A	305	G	C8-N9-C4	-6.08	103.97	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1451	A	N1-C6-N6	6.08	122.25	118.60
1	A	1346	A	C4-C5-N7	-6.08	107.66	110.70
1	A	6	G	N1-C6-O6	6.08	123.55	119.90
1	A	851	G	C5-C6-O6	-6.08	124.95	128.60
1	A	903	G	N1-C2-N3	6.08	127.55	123.90
1	A	909	A	C5-C6-N6	-6.08	118.84	123.70
1	A	324	G	C5-C6-N1	-6.08	108.46	111.50
1	A	325	A	N1-C6-N6	-6.08	114.95	118.60
1	A	809	G	N9-C4-C5	6.08	107.83	105.40
1	A	628	G	C6-C5-N7	-6.07	126.76	130.40
1	A	1366	C	N3-C4-C5	6.07	124.33	121.90
1	A	885	G	C4-C5-N7	6.07	113.23	110.80
1	A	708	C	C2-N3-C4	-6.07	116.86	119.90
1	A	805	C	C6-N1-C2	6.07	122.73	120.30
1	A	673	G	C4-N9-C1'	6.07	134.39	126.50
1	A	722	A	C5-C6-N1	-6.07	114.67	117.70
1	A	1048	G	N3-C4-N9	-6.07	122.36	126.00
1	A	1264	C	C5-C6-N1	6.06	124.03	121.00
1	A	265	G	N9-C4-C5	-6.06	102.97	105.40
1	A	945	G	C4-C5-C6	-6.06	115.16	118.80
1	A	1305	G	C8-N9-C4	-6.06	103.97	106.40
1	A	1236	A	N1-C2-N3	-6.06	126.27	129.30
1	A	1442	G	N3-C2-N2	6.06	124.14	119.90
1	A	450	G	N7-C8-N9	-6.06	110.07	113.10
1	A	696	A	C8-N9-C4	6.06	108.22	105.80
1	A	1495	U	C5-C4-O4	-6.06	122.26	125.90
1	A	331	G	N1-C6-O6	6.06	123.53	119.90
1	A	1495	U	N3-C4-C5	6.06	118.23	114.60
1	A	276	G	C2-N3-C4	-6.06	108.87	111.90
1	A	532	A	C4-C5-C6	-6.05	113.97	117.00
1	A	647	C	C5-C6-N1	-6.05	117.97	121.00
1	A	228	A	C5-C6-N1	-6.05	114.67	117.70
1	A	1192	C	N3-C4-N4	6.05	122.24	118.00
1	A	1367	C	N3-C2-O2	-6.05	117.67	121.90
1	A	363	A	C5-N7-C8	-6.05	100.88	103.90
1	A	373	A	C5-C6-N1	-6.05	114.68	117.70
1	A	487	A	C8-N9-C4	6.05	108.22	105.80
1	A	909	A	C5-C6-N1	6.05	120.72	117.70
1	A	628	G	C4-C5-C6	6.04	122.43	118.80
1	A	628	G	C8-N9-C1'	-6.04	119.14	127.00
1	A	761	G	C5-C6-N1	-6.04	108.48	111.50
1	A	1083	U	N3-C4-C5	-6.04	110.97	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	230	G	C4-C5-C6	6.04	122.42	118.80
1	A	832	C	C6-N1-C2	6.04	122.72	120.30
1	A	328	C	C5-C6-N1	6.03	124.02	121.00
1	A	723	U	N1-C2-O2	6.03	127.02	122.80
1	A	799	G	C4-C5-N7	6.03	113.21	110.80
1	A	665	A	C6-N1-C2	-6.03	114.98	118.60
1	A	933	G	C2-N3-C4	-6.03	108.89	111.90
1	A	640	A	N7-C8-N9	6.03	116.81	113.80
1	A	940	C	N3-C2-O2	-6.03	117.68	121.90
1	A	1353	G	N3-C4-C5	-6.03	125.59	128.60
1	A	698	G	C4-N9-C1'	6.03	134.33	126.50
1	A	1328	C	N3-C2-O2	-6.03	117.68	121.90
1	A	593	G	C5-C6-N1	-6.02	108.49	111.50
1	A	111	G	N3-C4-N9	-6.02	122.39	126.00
15	O	63	ARG	NE-CZ-NH2	-6.02	117.29	120.30
1	A	114	U	C6-N1-C2	6.02	124.61	121.00
1	A	1342	C	N3-C2-O2	6.02	126.11	121.90
1	A	228	A	N3-C4-C5	6.02	131.01	126.80
1	A	773	G	C4-C5-N7	6.02	113.21	110.80
1	A	951	G	N7-C8-N9	-6.02	110.09	113.10
1	A	899	C	C5-C4-N4	-6.01	115.99	120.20
1	A	803	G	N1-C2-N3	6.01	127.51	123.90
1	A	706	A	N3-C4-C5	6.01	131.00	126.80
1	A	1455	G	C5-C6-O6	-6.01	125.00	128.60
1	A	1442	G	N7-C8-N9	6.00	116.10	113.10
1	A	638	G	C6-C5-N7	-6.00	126.80	130.40
1	A	1455	G	N3-C2-N2	-6.00	115.70	119.90
1	A	1527	C	C5-C4-N4	-6.00	116.00	120.20
1	A	710	G	C2-N3-C4	-6.00	108.90	111.90
1	A	1231	G	C5-C6-N1	-6.00	108.50	111.50
1	A	1355	G	N9-C4-C5	6.00	107.80	105.40
1	A	1408	A	C5-N7-C8	-6.00	100.90	103.90
1	A	116	A	C2-N3-C4	-6.00	107.60	110.60
1	A	1009	G	C8-N9-C4	-5.99	104.00	106.40
1	A	1377	A	C4-C5-N7	-5.99	107.70	110.70
1	A	971	G	C2-N3-C4	-5.99	108.90	111.90
1	A	1268	A	C8-N9-C4	-5.99	103.40	105.80
1	A	1063	C	C4-C5-C6	5.99	120.40	117.40
1	A	830	G	C4-C5-C6	5.99	122.39	118.80
1	A	1435	G	C5-C6-N1	-5.99	108.50	111.50
1	A	773	G	C5-C6-O6	-5.99	125.01	128.60
1	A	92	C	N1-C2-O2	5.99	122.49	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1075	C	N3-C4-C5	5.99	124.29	121.90
1	A	1522	U	C6-N1-C2	-5.99	117.41	121.00
1	A	119	A	N9-C4-C5	5.98	108.19	105.80
1	A	298	A	C2-N3-C4	-5.98	107.61	110.60
1	A	334	C	C6-N1-C2	5.98	122.69	120.30
1	A	7	G	N1-C6-O6	-5.98	116.31	119.90
1	A	291	C	C4-C5-C6	5.98	120.39	117.40
1	A	109	A	C2-N3-C4	-5.98	107.61	110.60
1	A	97	G	N7-C8-N9	5.97	116.09	113.10
1	A	38	G	C8-N9-C4	5.97	108.79	106.40
1	A	61	G	N1-C6-O6	5.97	123.48	119.90
1	A	752	G	C5-C6-N1	-5.97	108.51	111.50
1	A	350	G	N9-C4-C5	5.97	107.79	105.40
1	A	942	G	C5-C6-N1	-5.97	108.52	111.50
1	A	451	A	C4-C5-N7	5.97	113.68	110.70
1	A	659	U	N3-C4-O4	-5.97	115.22	119.40
1	A	301	G	N1-C2-N3	5.97	127.48	123.90
1	A	1194	U	C5-C6-N1	5.97	125.68	122.70
1	A	1396	A	C2-N3-C4	-5.97	107.62	110.60
1	A	1491	G	C2-N3-C4	5.96	114.88	111.90
1	A	607	A	C5-C6-N6	-5.96	118.93	123.70
1	A	642	A	N9-C4-C5	5.96	108.19	105.80
1	A	279	A	C4-C5-C6	5.96	119.98	117.00
1	A	360	A	C4-C5-N7	5.96	113.68	110.70
1	A	799	G	C2-N3-C4	-5.96	108.92	111.90
1	A	1544	U	N3-C4-O4	5.96	123.57	119.40
1	A	477	G	N1-C6-O6	5.96	123.48	119.90
1	A	1481	U	N3-C4-C5	-5.96	111.02	114.60
1	A	79	G	C6-C5-N7	-5.96	126.83	130.40
1	A	301	G	C4-N9-C1'	5.96	134.24	126.50
3	C	138	VAL	CB-CA-C	-5.96	100.08	111.40
1	A	285	G	N3-C4-C5	5.95	131.57	128.60
1	A	933	G	N1-C6-O6	5.95	123.47	119.90
1	A	1377	A	N1-C2-N3	5.95	132.27	129.30
1	A	375	U	C6-N1-C2	-5.95	117.43	121.00
1	A	975	A	C5-N7-C8	-5.95	100.93	103.90
1	A	1223	C	C5-C6-N1	5.95	123.97	121.00
1	A	816	A	N1-C2-N3	5.94	132.27	129.30
1	A	389	A	N7-C8-N9	5.94	116.77	113.80
1	A	571	U	N3-C4-O4	-5.94	115.24	119.40
1	A	190(G)	G	N1-C6-O6	5.94	123.47	119.90
1	A	752	G	N3-C4-C5	5.94	131.57	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	860	A	N1-C2-N3	5.94	132.27	129.30
1	A	1250	A	C5-C6-N6	5.94	128.45	123.70
1	A	21	G	C5-C6-O6	5.94	132.16	128.60
1	A	1361(A)	C	N3-C2-O2	-5.94	117.74	121.90
1	A	1398	A	N9-C4-C5	5.94	108.17	105.80
1	A	37	U	N3-C2-O2	-5.94	118.04	122.20
1	A	556	C	N1-C2-N3	5.94	123.36	119.20
1	A	240	C	N3-C2-O2	5.93	126.05	121.90
1	A	642	A	N7-C8-N9	5.93	116.77	113.80
1	A	1291	G	N9-C4-C5	-5.93	103.03	105.40
1	A	764	C	C2-N3-C4	-5.93	116.94	119.90
1	A	831	U	C6-N1-C2	-5.93	117.44	121.00
1	A	918	A	C8-N9-C4	5.93	108.17	105.80
1	A	150	C	C2-N1-C1'	5.93	125.32	118.80
1	A	377	G	N1-C2-N3	5.93	127.46	123.90
1	A	935	A	C8-N9-C4	5.93	108.17	105.80
1	A	1008	C	C5-C6-N1	5.93	123.96	121.00
1	A	1398	A	N1-C2-N3	5.93	132.26	129.30
1	A	672	U	C6-N1-C2	5.93	124.56	121.00
1	A	19	C	C2-N3-C4	-5.92	116.94	119.90
1	A	877	C	N1-C2-O2	-5.92	115.35	118.90
1	A	484	G	C8-N9-C1'	-5.92	119.30	127.00
1	A	565	U	C4-C5-C6	-5.92	116.15	119.70
1	A	776	G	C2-N3-C4	-5.92	108.94	111.90
1	A	668	G	C8-N9-C4	5.92	108.77	106.40
1	A	733	A	N1-C2-N3	5.92	132.26	129.30
1	A	99	C	C6-N1-C2	-5.92	117.93	120.30
1	A	297	G	C4-C5-N7	5.91	113.17	110.80
1	A	699	C	N1-C2-O2	-5.91	115.35	118.90
1	A	717	C	N3-C2-O2	5.91	126.04	121.90
1	A	769	G	C5-C6-O6	-5.91	125.05	128.60
1	A	796	C	N3-C4-C5	5.91	124.26	121.90
1	A	1099	G	N3-C2-N2	-5.91	115.76	119.90
1	A	1323	G	C2-N3-C4	-5.91	108.94	111.90
1	A	917	G	C8-N9-C1'	-5.91	119.32	127.00
1	A	989	C	C2-N1-C1'	5.91	125.30	118.80
1	A	1376	U	N1-C2-N3	5.91	118.44	114.90
1	A	316	G	C4-C5-C6	5.91	122.34	118.80
1	A	1476	G	C8-N9-C4	-5.91	104.04	106.40
1	A	723	U	C2-N3-C4	5.90	130.54	127.00
1	A	171	A	C6-N1-C2	-5.90	115.06	118.60
1	A	258	G	C4-C5-N7	5.90	113.16	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1180	A	C8-N9-C4	-5.90	103.44	105.80
1	A	1265	G	C5-C6-N1	-5.90	108.55	111.50
1	A	1387	G	N1-C2-N3	5.90	127.44	123.90
1	A	1393	U	N1-C2-N3	5.89	118.44	114.90
1	A	29	G	C8-N9-C4	5.89	108.76	106.40
1	A	1107	C	N3-C4-C5	-5.89	119.54	121.90
1	A	168	G	C8-N9-C4	-5.89	104.04	106.40
1	A	120	A	N1-C2-N3	5.89	132.25	129.30
1	A	298	A	N3-C4-N9	-5.89	122.69	127.40
1	A	190(G)	G	C5-C6-N1	-5.89	108.56	111.50
1	A	299	G	C6-C5-N7	-5.89	126.87	130.40
1	A	482	A	C5-C6-N6	-5.89	118.99	123.70
1	A	1305	G	C4-C5-C6	5.89	122.33	118.80
1	A	1335	C	N3-C2-O2	-5.88	117.78	121.90
1	A	1530	G	N7-C8-N9	-5.88	110.16	113.10
1	A	242	C	C4-C5-C6	5.88	120.34	117.40
1	A	1530	G	C4-C5-N7	5.88	113.15	110.80
1	A	110	C	C4-C5-C6	5.88	120.34	117.40
1	A	541	G	N3-C4-C5	5.88	131.54	128.60
1	A	1064	G	N3-C4-N9	5.88	129.53	126.00
1	A	145	G	C5-C6-N1	-5.88	108.56	111.50
1	A	615	C	C5-C4-N4	-5.87	116.09	120.20
1	A	885	G	C2-N3-C4	-5.87	108.96	111.90
1	A	1145	C	C2-N1-C1'	-5.87	112.34	118.80
1	A	27	G	C4-C5-C6	5.87	122.32	118.80
1	A	225	C	C2-N3-C4	-5.87	116.97	119.90
1	A	607	A	N3-C4-C5	5.87	130.91	126.80
1	A	285	G	N1-C2-N3	5.86	127.42	123.90
1	A	592	G	N1-C6-O6	-5.86	116.38	119.90
1	A	577	G	C5-C6-O6	-5.86	125.08	128.60
1	A	1048	G	N3-C4-C5	5.86	131.53	128.60
1	A	429	U	C5-C6-N1	-5.86	119.77	122.70
4	D	94	LEU	CA-CB-CG	-5.86	101.83	115.30
1	A	719	C	C2-N3-C4	-5.86	116.97	119.90
1	A	632	A	C4-C5-N7	5.86	113.63	110.70
1	A	1542	U	C6-N1-C2	-5.86	117.49	121.00
1	A	799	G	C5-C6-O6	-5.85	125.09	128.60
1	A	317	G	C4-C5-N7	5.85	113.14	110.80
1	A	551	U	N3-C4-C5	-5.85	111.09	114.60
1	A	705	U	C2-N1-C1'	-5.85	110.68	117.70
1	A	1250	A	N3-C4-N9	-5.85	122.72	127.40
1	A	423	G	C4-C5-N7	5.85	113.14	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	274	A	N7-C8-N9	-5.85	110.88	113.80
1	A	819	A	C2-N3-C4	-5.85	107.68	110.60
1	A	1156	G	C8-N9-C4	-5.85	104.06	106.40
1	A	38	G	N3-C4-N9	-5.84	122.49	126.00
1	A	899	C	C2-N3-C4	5.84	122.82	119.90
1	A	1416	G	N3-C2-N2	-5.84	115.81	119.90
1	A	1505	G	N3-C4-N9	5.84	129.50	126.00
1	A	1529	G	N9-C4-C5	5.84	107.74	105.40
1	A	900	A	N7-C8-N9	5.84	116.72	113.80
1	A	396	G	N3-C4-C5	-5.84	125.68	128.60
1	A	541	G	C2-N3-C4	-5.84	108.98	111.90
1	A	1074	G	C4-C5-C6	5.84	122.30	118.80
16	P	80	PHE	N-CA-C	5.84	126.76	111.00
1	A	417	C	C6-N1-C2	-5.83	117.97	120.30
1	A	483	C	C5-C4-N4	5.83	124.28	120.20
1	A	721	G	C4-N9-C1'	5.83	134.08	126.50
1	A	1196	U	N3-C4-O4	-5.83	115.32	119.40
1	A	292	G	C6-C5-N7	-5.83	126.90	130.40
1	A	877	C	C5-C6-N1	-5.83	118.08	121.00
1	A	1325	C	C6-N1-C2	5.83	122.63	120.30
1	A	635	G	N1-C2-N3	5.83	127.40	123.90
1	A	897	C	C6-N1-C2	5.83	122.63	120.30
1	A	218	C	C6-N1-C2	-5.83	117.97	120.30
1	A	762	C	C5-C4-N4	-5.83	116.12	120.20
1	A	957	U	C4-C5-C6	5.83	123.20	119.70
1	A	1251	A	N9-C4-C5	5.83	108.13	105.80
1	A	1373	G	N3-C4-N9	5.83	129.50	126.00
1	A	787	A	N9-C4-C5	-5.83	103.47	105.80
1	A	1499	A	C2-N3-C4	-5.83	107.69	110.60
12	L	119	LYS	N-CA-C	-5.83	95.27	111.00
1	A	90	U	N1-C2-N3	5.82	118.39	114.90
1	A	635	G	C4-C5-C6	5.82	122.29	118.80
1	A	1125	U	C5-C6-N1	5.82	125.61	122.70
1	A	21	G	C5-N7-C8	5.82	107.21	104.30
1	A	326	G	C4-C5-N7	-5.82	108.47	110.80
1	A	761	G	C2-N3-C4	-5.82	108.99	111.90
1	A	141	A	C5-C6-N6	-5.82	119.05	123.70
1	A	825	G	C5-C6-O6	-5.82	125.11	128.60
1	A	881	G	C6-N1-C2	-5.82	121.61	125.10
1	A	881	G	N3-C4-C5	-5.82	125.69	128.60
1	A	1335	C	N3-C4-N4	-5.82	113.93	118.00
1	A	203	U	C5-C4-O4	-5.82	122.41	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	557	G	C5-C6-N1	-5.82	108.59	111.50
1	A	799	G	N1-C6-O6	5.82	123.39	119.90
1	A	908	A	N9-C4-C5	5.82	108.13	105.80
3	C	25	GLY	N-CA-C	5.82	127.64	113.10
1	A	44	G	N1-C6-O6	5.81	123.39	119.90
1	A	565	U	N3-C4-C5	5.81	118.09	114.60
1	A	859	A	C4-C5-C6	5.81	119.91	117.00
1	A	1281	U	C6-N1-C2	-5.81	117.51	121.00
1	A	481	G	C5-C6-N1	5.81	114.40	111.50
1	A	730	G	N9-C4-C5	5.81	107.72	105.40
1	A	1093	A	N1-C6-N6	5.81	122.08	118.60
1	A	1512	U	C4-C5-C6	5.81	123.19	119.70
1	A	570	G	C4-C5-C6	5.81	122.28	118.80
1	A	514	C	C6-N1-C2	-5.80	117.98	120.30
1	A	147	G	N1-C6-O6	5.80	123.38	119.90
1	A	328	C	N3-C2-O2	-5.80	117.84	121.90
1	A	885	G	C8-N9-C4	-5.80	104.08	106.40
1	A	494	G	C5-C6-N1	-5.80	108.60	111.50
1	A	743	U	C5-C6-N1	-5.80	119.80	122.70
6	F	9	VAL	CB-CA-C	-5.80	100.38	111.40
1	A	825	G	C8-N9-C1'	-5.80	119.47	127.00
1	A	1454	G	C4-C5-N7	5.80	113.12	110.80
1	A	112	G	N3-C2-N2	-5.79	115.84	119.90
1	A	128	G	C4-C5-C6	5.79	122.28	118.80
1	A	551	U	C6-N1-C2	-5.79	117.52	121.00
1	A	659	U	C2-N3-C4	-5.79	123.52	127.00
1	A	859	A	C6-C5-N7	-5.79	128.25	132.30
1	A	1067	A	C2-N3-C4	5.79	113.50	110.60
1	A	108	G	C4-N9-C1'	5.79	134.03	126.50
1	A	175	C	N3-C4-C5	5.79	124.22	121.90
1	A	774	G	C4-C5-N7	5.79	113.12	110.80
1	A	856	C	C4-C5-C6	5.79	120.29	117.40
1	A	81	U	N3-C2-O2	-5.79	118.15	122.20
1	A	566	G	N9-C4-C5	5.79	107.71	105.40
1	A	617	G	C8-N9-C1'	-5.78	119.48	127.00
1	A	1358	U	C5-C6-N1	5.78	125.59	122.70
2	B	51	LEU	CA-CB-CG	-5.78	102.00	115.30
1	A	1493	A	C8-N9-C4	-5.78	103.49	105.80
1	A	610	G	C4-N9-C1'	5.78	134.01	126.50
1	A	886	G	C5-C6-N1	-5.78	108.61	111.50
1	A	936	C	C6-N1-C2	5.78	122.61	120.30
1	A	1061	G	C6-C5-N7	-5.78	126.93	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1063	C	N1-C2-N3	5.78	123.24	119.20
1	A	1067	A	N3-C4-C5	-5.78	122.75	126.80
1	A	1335	C	C5-C4-N4	5.78	124.24	120.20
1	A	182	U	C5-C6-N1	5.78	125.59	122.70
1	A	399	G	N1-C2-N3	5.78	127.36	123.90
1	A	820	U	C2-N3-C4	-5.78	123.53	127.00
1	A	335	C	C2-N3-C4	-5.77	117.01	119.90
1	A	730	G	C4-C5-C6	5.77	122.26	118.80
1	A	1523	G	N1-C2-N2	5.77	121.40	116.20
1	A	691	G	C6-C5-N7	-5.77	126.94	130.40
1	A	877	C	N1-C2-N3	5.77	123.24	119.20
1	A	555	C	C5-C4-N4	-5.77	116.16	120.20
1	A	568	G	N3-C2-N2	-5.77	115.86	119.90
1	A	1338	G	C8-N9-C1'	5.77	134.50	127.00
1	A	859	A	C8-N9-C4	-5.77	103.49	105.80
1	A	79	G	C4-C5-C6	5.77	122.26	118.80
2	B	16	HIS	CB-CA-C	-5.77	98.87	110.40
1	A	285	G	C8-N9-C4	5.76	108.71	106.40
1	A	319	G	N9-C4-C5	-5.76	103.09	105.40
1	A	551	U	N3-C2-O2	-5.76	118.17	122.20
1	A	791	G	N7-C8-N9	5.76	115.98	113.10
1	A	1268	A	N3-C4-C5	-5.76	122.77	126.80
1	A	487	A	N7-C8-N9	-5.76	110.92	113.80
1	A	861	G	C5-C6-N1	5.76	114.38	111.50
1	A	816	A	C6-N1-C2	-5.76	115.15	118.60
1	A	1522	U	C2-N1-C1'	5.76	124.61	117.70
1	A	75	G	C4-N9-C1'	5.75	133.98	126.50
1	A	568	G	N9-C4-C5	5.75	107.70	105.40
1	A	580	U	N1-C2-N3	5.75	118.35	114.90
1	A	717	C	N3-C4-C5	5.75	124.20	121.90
1	A	852	G	N1-C2-N3	5.75	127.35	123.90
1	A	984	C	N3-C4-C5	-5.75	119.60	121.90
1	A	572	A	C6-C5-N7	5.75	136.33	132.30
1	A	588	G	N1-C2-N3	5.75	127.35	123.90
1	A	1254	C	N3-C4-C5	-5.75	119.60	121.90
1	A	1502	A	C4-C5-C6	5.75	119.88	117.00
1	A	661	G	C5-C6-N1	-5.75	108.62	111.50
1	A	824	C	C6-N1-C2	5.75	122.60	120.30
1	A	696	A	N7-C8-N9	-5.75	110.93	113.80
1	A	261	U	N3-C4-C5	-5.75	111.15	114.60
1	A	888	G	N3-C2-N2	-5.75	115.88	119.90
1	A	975	A	N7-C8-N9	5.75	116.67	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1522	U	N3-C4-O4	5.75	123.42	119.40
1	A	916	G	C4-N9-C1'	5.75	133.97	126.50
1	A	243	A	N1-C6-N6	5.74	122.05	118.60
1	A	881	G	C8-N9-C1'	-5.74	119.54	127.00
1	A	730	G	C4-C5-N7	-5.74	108.50	110.80
1	A	768	A	N1-C2-N3	5.74	132.17	129.30
1	A	1361(A)	C	N3-C4-C5	5.74	124.19	121.90
1	A	1469	G	C4-C5-N7	5.74	113.09	110.80
1	A	250	A	N3-C4-C5	5.74	130.81	126.80
1	A	1490	C	N3-C2-O2	5.74	125.91	121.90
1	A	777	A	N1-C6-N6	5.73	122.04	118.60
1	A	895	G	C8-N9-C4	-5.73	104.11	106.40
1	A	49	U	N1-C2-O2	-5.73	118.79	122.80
1	A	258	G	C6-C5-N7	-5.73	126.96	130.40
1	A	310	G	C5-N7-C8	-5.73	101.43	104.30
1	A	491	G	N1-C6-O6	5.73	123.34	119.90
1	A	20	U	P-O3'-C3'	5.73	126.57	119.70
1	A	263	A	C2-N3-C4	5.73	113.46	110.60
1	A	451	A	N9-C4-C5	-5.73	103.51	105.80
1	A	1366	C	C4-C5-C6	-5.73	114.54	117.40
1	A	98	U	N3-C4-O4	5.72	123.41	119.40
1	A	600	C	C5-C6-N1	-5.72	118.14	121.00
1	A	760	G	N3-C4-N9	-5.72	122.56	126.00
1	A	784	C	C5-C4-N4	-5.72	116.19	120.20
1	A	1416	G	C8-N9-C4	-5.72	104.11	106.40
1	A	812	C	C4-C5-C6	5.72	120.26	117.40
1	A	606	G	N9-C4-C5	5.72	107.69	105.40
1	A	1374	A	C8-N9-C4	-5.72	103.51	105.80
1	A	137	C	N3-C4-N4	-5.72	114.00	118.00
1	A	951	G	C8-N9-C4	5.72	108.69	106.40
1	A	771	G	N9-C4-C5	-5.71	103.11	105.40
1	A	300	A	C5-N7-C8	-5.71	101.05	103.90
1	A	778	G	C5-C6-N1	-5.71	108.65	111.50
1	A	1299	A	C5-N7-C8	-5.71	101.05	103.90
1	A	1354	C	N3-C2-O2	-5.71	117.91	121.90
1	A	944	G	N3-C2-N2	5.71	123.89	119.90
1	A	973	G	N3-C4-N9	5.70	129.42	126.00
1	A	1243	C	N3-C4-N4	-5.70	114.01	118.00
1	A	132	C	C5-C6-N1	-5.70	118.15	121.00
1	A	1513	A	N3-C4-N9	-5.70	122.84	127.40
1	A	164	U	C2-N1-C1'	-5.69	110.87	117.70
1	A	166	G	C8-N9-C4	5.69	108.68	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	461	C	N1-C2-O2	5.69	122.31	118.90
2	B	44	LEU	CA-CB-CG	-5.69	102.21	115.30
1	A	588	G	C8-N9-C4	5.69	108.68	106.40
1	A	608	A	N1-C2-N3	5.69	132.15	129.30
1	A	694	A	C2-N3-C4	-5.69	107.75	110.60
1	A	482	A	C4-C5-C6	5.69	119.84	117.00
1	A	1231	G	C5-N7-C8	-5.69	101.46	104.30
1	A	375	U	N3-C4-C5	-5.68	111.19	114.60
1	A	1337	G	N1-C2-N3	5.68	127.31	123.90
1	A	276	G	N1-C2-N2	5.68	121.31	116.20
1	A	315	A	C8-N9-C4	-5.68	103.53	105.80
1	A	141	A	C6-C5-N7	-5.68	128.32	132.30
1	A	711	G	C6-C5-N7	-5.68	126.99	130.40
1	A	157	G	C5-C6-N1	-5.68	108.66	111.50
1	A	342	C	C5-C6-N1	5.68	123.84	121.00
1	A	694	A	N1-C6-N6	5.68	122.01	118.60
1	A	905	U	N3-C2-O2	-5.68	118.22	122.20
1	A	1526	G	N3-C4-C5	-5.68	125.76	128.60
1	A	323	U	N3-C4-O4	5.68	123.37	119.40
1	A	827	U	C4-C5-C6	5.68	123.11	119.70
1	A	474	G	C5-N7-C8	-5.68	101.46	104.30
1	A	913	A	P-O3'-C3'	5.68	126.51	119.70
1	A	1248	A	N1-C6-N6	5.68	122.01	118.60
1	A	1521	G	C2-N3-C4	5.68	114.74	111.90
1	A	260	G	C6-C5-N7	-5.67	127.00	130.40
1	A	331	G	C6-C5-N7	-5.67	127.00	130.40
1	A	885	G	C6-C5-N7	-5.67	127.00	130.40
1	A	1088	G	C5-N7-C8	-5.67	101.46	104.30
1	A	1286	A	C2-N3-C4	-5.67	107.76	110.60
1	A	904	C	N3-C4-N4	5.67	121.97	118.00
1	A	14	U	C6-N1-C2	-5.67	117.60	121.00
1	A	1499	A	N1-C2-N3	5.67	132.13	129.30
1	A	253	U	C5-C6-N1	-5.67	119.87	122.70
1	A	794	A	C4-C5-N7	-5.67	107.87	110.70
1	A	583	A	N1-C6-N6	5.66	122.00	118.60
1	A	732	C	N1-C2-O2	5.66	122.30	118.90
1	A	1374	A	N1-C6-N6	-5.66	115.20	118.60
1	A	1294	G	N3-C4-C5	5.66	131.43	128.60
1	A	447	G	N1-C6-O6	-5.66	116.50	119.90
1	A	474	G	C5-C6-N1	-5.66	108.67	111.50
1	A	725	G	N3-C2-N2	-5.66	115.94	119.90
1	A	874	G	C2-N3-C4	-5.66	109.07	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	741	G	N9-C4-C5	5.65	107.66	105.40
1	A	940	C	N1-C2-O2	5.65	122.29	118.90
1	A	1153	C	N1-C2-O2	5.65	122.29	118.90
1	A	1461	G	N1-C6-O6	5.65	123.29	119.90
1	A	1542	U	C4-C5-C6	5.65	123.09	119.70
1	A	66	G	N3-C2-N2	-5.65	115.94	119.90
1	A	329	A	C2-N3-C4	-5.65	107.78	110.60
1	A	546	G	N3-C4-N9	5.65	129.39	126.00
1	A	729	A	N7-C8-N9	5.65	116.62	113.80
1	A	1231	G	C5-C6-O6	-5.65	125.21	128.60
1	A	1129	C	C6-N1-C2	-5.65	118.04	120.30
1	A	1187	G	N7-C8-N9	5.65	115.92	113.10
1	A	262	A	N9-C4-C5	5.64	108.06	105.80
1	A	667	G	C2-N3-C4	-5.64	109.08	111.90
1	A	1227	A	N3-C4-N9	-5.64	122.89	127.40
1	A	649	G	C4-C5-N7	5.64	113.06	110.80
1	A	734	G	C6-C5-N7	-5.64	127.02	130.40
1	A	856	C	C6-N1-C2	-5.64	118.05	120.30
1	A	748	C	C5-C6-N1	-5.64	118.18	121.00
1	A	281	G	C5-N7-C8	-5.63	101.48	104.30
1	A	284	G	C4-C5-N7	5.63	113.05	110.80
1	A	933	G	C5-C6-O6	-5.63	125.22	128.60
1	A	1203	C	N3-C4-C5	-5.63	119.65	121.90
17	Q	99	SER	N-CA-C	5.63	126.21	111.00
1	A	218	C	N1-C2-O2	5.63	122.28	118.90
1	A	1528	U	N3-C4-C5	5.63	117.98	114.60
1	A	375	U	N1-C2-N3	5.63	118.28	114.90
1	A	637	G	C4-N9-C1'	5.63	133.82	126.50
1	A	1398	A	C4-C5-N7	-5.63	107.88	110.70
1	A	729	A	C5-C6-N6	-5.63	119.20	123.70
1	A	851	G	C5-C6-N1	-5.63	108.69	111.50
1	A	230	G	C6-C5-N7	-5.63	127.02	130.40
1	A	372	C	C2-N3-C4	5.63	122.71	119.90
1	A	914	G	N1-C2-N3	5.63	127.28	123.90
1	A	79	G	N3-C2-N2	-5.62	115.96	119.90
1	A	1406	U	N3-C2-O2	5.62	126.14	122.20
1	A	913	A	N9-C4-C5	5.62	108.05	105.80
1	A	1377	A	N3-C4-N9	-5.62	122.90	127.40
1	A	1432	G	N3-C4-N9	-5.62	122.63	126.00
1	A	190(A)	C	C5-C6-N1	5.62	123.81	121.00
1	A	1173	G	C8-N9-C4	5.62	108.65	106.40
1	A	1373	G	C4-N9-C1'	5.62	133.81	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	123	C	C5-C4-N4	5.62	124.13	120.20
1	A	325	A	C5-C6-N6	5.62	128.19	123.70
1	A	1212	U	C6-N1-C1'	-5.62	113.34	121.20
1	A	81	U	N1-C2-O2	5.62	126.73	122.80
1	A	1108	G	C8-N9-C4	-5.62	104.15	106.40
1	A	297	G	N7-C8-N9	5.61	115.91	113.10
1	A	643	C	C6-N1-C2	-5.61	118.06	120.30
1	A	1098	C	C6-N1-C2	5.61	122.55	120.30
1	A	1268	A	C2-N3-C4	5.61	113.41	110.60
1	A	18	C	C5-C6-N1	-5.61	118.19	121.00
1	A	92	C	C5-C6-N1	-5.61	118.19	121.00
1	A	326	G	C5-C6-O6	5.61	131.97	128.60
1	A	24	U	N1-C2-N3	-5.61	111.53	114.90
1	A	248	C	C5-C4-N4	-5.61	116.28	120.20
1	A	376	G	N3-C2-N2	-5.61	115.98	119.90
1	A	1009	G	C4-N9-C1'	5.61	133.79	126.50
1	A	1294	G	N1-C6-O6	5.61	123.26	119.90
7	G	22	LEU	CA-CB-CG	-5.61	102.41	115.30
1	A	1155	G	N1-C6-O6	5.60	123.26	119.90
1	A	1203	C	N3-C4-N4	5.60	121.92	118.00
1	A	1227	A	C2-N3-C4	-5.60	107.80	110.60
1	A	1442	G	C2-N3-C4	5.60	114.70	111.90
1	A	299	G	C2-N3-C4	-5.60	109.10	111.90
1	A	671	G	C5-C6-N1	-5.60	108.70	111.50
1	A	1455	G	C5-C6-N1	-5.60	108.70	111.50
1	A	1494	G	C8-N9-C1'	-5.60	119.72	127.00
1	A	541	G	C5-C6-N1	-5.60	108.70	111.50
1	A	662	G	C4-N9-C1'	5.60	133.78	126.50
1	A	1179	A	N9-C4-C5	5.59	108.04	105.80
1	A	1474	G	C6-C5-N7	-5.59	127.04	130.40
1	A	292	G	N3-C2-N2	-5.59	115.98	119.90
1	A	581	G	N3-C4-N9	-5.59	122.64	126.00
1	A	1365	G	N7-C8-N9	5.59	115.90	113.10
1	A	44	G	C4-C5-N7	5.59	113.04	110.80
1	A	624	C	C6-N1-C2	5.59	122.54	120.30
1	A	654	G	N1-C2-N3	5.59	127.25	123.90
1	A	1253	G	C4-C5-N7	5.59	113.03	110.80
1	A	1339	A	N9-C4-C5	5.59	108.03	105.80
1	A	1526	G	C5-C6-O6	-5.59	125.25	128.60
1	A	245	C	N1-C2-O2	-5.58	115.55	118.90
1	A	540	G	C5-C6-O6	-5.58	125.25	128.60
1	A	777	A	C2-N3-C4	5.58	113.39	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1241	G	N3-C2-N2	-5.58	115.99	119.90
12	L	85	ILE	CB-CA-C	-5.58	100.43	111.60
1	A	774	G	C5-C6-O6	-5.58	125.25	128.60
1	A	383	A	C4-C5-N7	5.58	113.49	110.70
17	Q	100	LYS	CD-CE-NZ	5.58	124.54	111.70
1	A	113	G	C4-C5-N7	5.58	113.03	110.80
1	A	551	U	C4-C5-C6	5.58	123.05	119.70
1	A	591	U	N1-C2-N3	5.58	118.25	114.90
1	A	264	U	N1-C2-N3	5.58	118.25	114.90
1	A	123	C	C4-C5-C6	5.58	120.19	117.40
1	A	732	C	C6-N1-C1'	-5.58	114.11	120.80
1	A	759	A	C6-C5-N7	-5.58	128.40	132.30
1	A	27	G	N1-C6-O6	5.57	123.24	119.90
1	A	673	G	N3-C4-C5	-5.57	125.81	128.60
1	A	1159	U	N3-C4-O4	5.57	123.30	119.40
1	A	403	C	N3-C4-N4	5.57	121.90	118.00
1	A	944	G	C4-N9-C1'	5.57	133.74	126.50
1	A	325	A	C4-C5-N7	-5.57	107.92	110.70
1	A	1095	U	C5-C4-O4	-5.57	122.56	125.90
1	A	609	A	C8-N9-C4	-5.57	103.57	105.80
1	A	1192	C	C5-C4-N4	-5.57	116.30	120.20
7	G	59	LEU	CA-CB-CG	5.57	128.10	115.30
1	A	654	G	N3-C4-C5	5.56	131.38	128.60
1	A	1417	G	N3-C4-C5	-5.56	125.82	128.60
1	A	858	G	C8-N9-C4	5.56	108.62	106.40
1	A	562	C	N3-C2-O2	-5.56	118.01	121.90
1	A	593	G	C2-N3-C4	-5.56	109.12	111.90
1	A	614	A	C8-N9-C4	-5.56	103.58	105.80
1	A	1233	G	C5-C6-N1	5.56	114.28	111.50
1	A	327	A	C6-N1-C2	-5.56	115.27	118.60
1	A	579	G	C5-C6-O6	-5.56	125.27	128.60
1	A	630	G	N1-C6-O6	5.56	123.23	119.90
1	A	1172	C	C2-N1-C1'	-5.56	112.69	118.80
1	A	1229	A	N3-C4-C5	5.56	130.69	126.80
1	A	1516	G	N3-C4-N9	-5.56	122.67	126.00
1	A	1543	C	N3-C2-O2	-5.56	118.01	121.90
1	A	203	U	N1-C2-N3	-5.56	111.57	114.90
1	A	864	A	N1-C6-N6	-5.55	115.27	118.60
1	A	186	C	C2-N3-C4	-5.55	117.12	119.90
1	A	186	C	N3-C2-O2	-5.55	118.01	121.90
4	D	31	CYS	N-CA-CB	5.55	120.60	110.60
1	A	190(J)	U	C4-C5-C6	5.55	123.03	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	115	G	C8-N9-C4	5.55	108.62	106.40
1	A	190(G)	G	C4-C5-C6	5.55	122.13	118.80
1	A	1047	G	N3-C4-N9	5.55	129.33	126.00
1	A	373	A	C4-C5-C6	5.54	119.77	117.00
1	A	499	A	C2-N3-C4	5.54	113.37	110.60
16	P	6	LEU	CA-CB-CG	-5.54	102.55	115.30
1	A	102	G	C8-N9-C4	-5.54	104.18	106.40
1	A	546	G	C8-N9-C1'	-5.54	119.80	127.00
1	A	553	A	C5-C6-N6	-5.54	119.27	123.70
1	A	553	A	C6-N1-C2	-5.54	115.28	118.60
1	A	1082	G	C8-N9-C1'	-5.54	119.80	127.00
1	A	1116	C	N3-C4-C5	5.54	124.12	121.90
1	A	1229	A	C4-C5-C6	-5.54	114.23	117.00
1	A	256	U	N1-C2-N3	-5.54	111.58	114.90
1	A	765	G	N3-C4-N9	-5.54	122.68	126.00
1	A	104	G	C2-N3-C4	-5.54	109.13	111.90
1	A	1077	G	C4-C5-C6	5.54	122.12	118.80
1	A	522	C	C5-C4-N4	5.53	124.07	120.20
1	A	963	G	N9-C4-C5	5.53	107.61	105.40
1	A	1295	G	C8-N9-C4	-5.53	104.19	106.40
1	A	171	A	N1-C6-N6	-5.53	115.28	118.60
1	A	1199	U	N3-C4-C5	-5.53	111.28	114.60
1	A	1523	G	N3-C2-N2	-5.53	116.03	119.90
1	A	461	C	C6-N1-C2	-5.53	118.09	120.30
1	A	563	A	C5-C6-N1	-5.53	114.94	117.70
1	A	950	U	C5-C4-O4	5.53	129.22	125.90
1	A	578	C	C4-C5-C6	5.53	120.16	117.40
1	A	366	C	N3-C2-O2	-5.52	118.03	121.90
1	A	366	C	C2-N1-C1'	5.52	124.88	118.80
1	A	801	U	N3-C4-O4	-5.52	115.53	119.40
1	A	1064	G	C4-C5-N7	5.52	113.01	110.80
1	A	483	C	C4-C5-C6	5.52	120.16	117.40
1	A	666	G	C8-N9-C1'	-5.52	119.83	127.00
1	A	483	C	C6-N1-C1'	5.52	127.42	120.80
1	A	1340	A	C6-N1-C2	-5.52	115.29	118.60
1	A	995	C	C6-N1-C1'	-5.51	114.18	120.80
1	A	92	C	C6-N1-C2	5.51	122.50	120.30
1	A	1324	A	N1-C6-N6	5.51	121.91	118.60
1	A	101	A	C5-C6-N1	5.51	120.45	117.70
1	A	417	C	C2-N1-C1'	5.51	124.86	118.80
1	A	735	C	C2-N1-C1'	-5.51	112.74	118.80
1	A	1067	A	P-O3'-C3'	5.51	126.31	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	457	C	C5-C6-N1	5.50	123.75	121.00
1	A	799	G	C6-C5-N7	-5.50	127.10	130.40
1	A	78	G	N3-C2-N2	5.50	123.75	119.90
1	A	774	G	C8-N9-C1'	-5.50	119.85	127.00
1	A	786	G	C4-C5-C6	5.50	122.10	118.80
1	A	1189	C	N3-C4-N4	-5.50	114.15	118.00
1	A	848	C	C6-N1-C2	5.50	122.50	120.30
2	B	48	MET	CG-SD-CE	5.50	109.00	100.20
1	A	707	C	C2-N3-C4	-5.50	117.15	119.90
1	A	1331	G	C2-N3-C4	5.50	114.65	111.90
1	A	116	A	N1-C2-N3	5.50	132.05	129.30
1	A	255	G	N9-C4-C5	-5.50	103.20	105.40
1	A	1277	C	C6-N1-C2	-5.49	118.10	120.30
1	A	154	C	C5-C6-N1	5.49	123.75	121.00
1	A	167	G	C4-C5-N7	-5.49	108.60	110.80
1	A	834	C	C2-N3-C4	5.49	122.65	119.90
1	A	190(D)	U	N3-C4-O4	-5.49	115.56	119.40
1	A	319	G	C8-N9-C1'	-5.49	119.86	127.00
1	A	348	G	C4-C5-N7	5.49	113.00	110.80
1	A	700	G	C4-C5-C6	5.49	122.09	118.80
1	A	946	A	C5-C6-N1	5.49	120.44	117.70
1	A	1299	A	N7-C8-N9	5.49	116.55	113.80
1	A	315	A	C2-N3-C4	-5.49	107.86	110.60
1	A	494	G	C8-N9-C4	-5.49	104.20	106.40
1	A	1092	A	C4-C5-C6	-5.49	114.26	117.00
9	I	107	ARG	NE-CZ-NH1	5.49	123.04	120.30
1	A	66	G	N3-C4-N9	-5.48	122.71	126.00
1	A	667	G	C5-C6-O6	-5.48	125.31	128.60
1	A	908	A	N3-C4-N9	-5.48	123.01	127.40
1	A	241	C	C5-C6-N1	-5.48	118.26	121.00
1	A	901	A	C4-C5-C6	5.48	119.74	117.00
1	A	546	G	C4-N9-C1'	5.48	133.62	126.50
1	A	734	G	C5-N7-C8	-5.48	101.56	104.30
1	A	1126	U	C5-C4-O4	-5.48	122.61	125.90
1	A	578	C	N3-C4-C5	-5.48	119.71	121.90
1	A	770	C	N3-C4-N4	-5.48	114.17	118.00
1	A	1331	G	C8-N9-C4	-5.48	104.21	106.40
1	A	869	G	C5-C6-O6	5.48	131.89	128.60
1	A	508	C	C2-N1-C1'	5.47	124.82	118.80
1	A	583	A	C4-C5-C6	5.47	119.74	117.00
1	A	924	C	N3-C4-N4	5.47	121.83	118.00
1	A	247	G	C6-C5-N7	-5.47	127.12	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	559	A	C8-N9-C4	-5.47	103.61	105.80
1	A	643	C	C5-C6-N1	5.47	123.74	121.00
1	A	705	U	C4-C5-C6	5.47	122.98	119.70
1	A	730	G	N1-C2-N2	-5.47	111.28	116.20
1	A	748	C	C4-C5-C6	5.47	120.14	117.40
1	A	752	G	C2-N3-C4	-5.47	109.16	111.90
1	A	895	G	N1-C2-N3	5.47	127.18	123.90
1	A	673	G	N1-C2-N2	-5.47	111.28	116.20
1	A	746	A	C2-N3-C4	-5.47	107.86	110.60
1	A	1187	G	C6-C5-N7	-5.47	127.12	130.40
19	S	15	LEU	CA-CB-CG	5.47	127.88	115.30
1	A	8	A	N9-C4-C5	5.47	107.99	105.80
1	A	198	G	C8-N9-C1'	-5.47	119.89	127.00
1	A	910	C	N3-C4-C5	5.47	124.09	121.90
1	A	230	G	C8-N9-C1'	-5.46	119.90	127.00
1	A	75	G	C8-N9-C1'	-5.46	119.90	127.00
1	A	1087	G	C5-N7-C8	-5.46	101.57	104.30
1	A	384	G	C4-C5-N7	-5.45	108.62	110.80
1	A	874	G	C8-N9-C1'	-5.45	119.91	127.00
1	A	167	G	C2-N3-C4	5.45	114.63	111.90
1	A	582	U	C2-N3-C4	-5.45	123.73	127.00
1	A	926	G	N1-C2-N2	-5.45	111.29	116.20
1	A	546	G	N3-C4-C5	-5.45	125.88	128.60
1	A	554	C	C6-N1-C1'	5.45	127.34	120.80
1	A	873	A	N7-C8-N9	5.45	116.52	113.80
1	A	1301	U	N3-C4-O4	5.45	123.22	119.40
1	A	7	G	C5-N7-C8	5.45	107.02	104.30
1	A	274	A	C5-C6-N1	5.45	120.42	117.70
1	A	795	C	N3-C4-C5	-5.45	119.72	121.90
1	A	718	G	C5-C6-N1	-5.44	108.78	111.50
1	A	1082	G	N3-C4-N9	5.44	129.27	126.00
1	A	115	G	N1-C6-O6	5.44	123.17	119.90
1	A	226	G	N1-C2-N3	5.44	127.17	123.90
1	A	1353	G	N3-C4-N9	5.44	129.27	126.00
1	A	1461	G	N9-C4-C5	-5.44	103.22	105.40
1	A	245	C	C5-C6-N1	5.44	123.72	121.00
1	A	888	G	N3-C4-N9	-5.44	122.74	126.00
1	A	1026	G	N3-C4-C5	5.44	131.32	128.60
1	A	1192	C	C4-C5-C6	5.44	120.12	117.40
1	A	24	U	C6-N1-C2	5.44	124.26	121.00
1	A	141	A	N9-C4-C5	-5.43	103.63	105.80
1	A	865	A	C2-N3-C4	5.43	113.32	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1543	C	C6-N1-C2	-5.43	118.13	120.30
1	A	721	G	C4-C5-C6	5.43	122.06	118.80
1	A	574	A	N1-C6-N6	-5.43	115.34	118.60
1	A	654	G	N3-C4-N9	-5.43	122.74	126.00
1	A	687	A	P-O3'-C3'	5.43	126.22	119.70
1	A	879	C	C2-N3-C4	-5.43	117.19	119.90
1	A	306	G	C8-N9-C4	5.43	108.57	106.40
1	A	1296	C	C6-N1-C2	-5.43	118.13	120.30
1	A	1416	G	C6-C5-N7	-5.43	127.14	130.40
1	A	615	C	C5-C6-N1	5.43	123.71	121.00
1	A	823	G	C8-N9-C4	5.43	108.57	106.40
1	A	995	C	C6-N1-C2	-5.43	118.13	120.30
1	A	834	C	N3-C2-O2	5.42	125.70	121.90
1	A	511	C	C2-N3-C4	-5.42	117.19	119.90
1	A	682	G	N1-C6-O6	5.42	123.15	119.90
1	A	928	G	C4-N9-C1'	-5.42	119.45	126.50
1	A	667	G	N3-C2-N2	-5.42	116.11	119.90
1	A	785	G	C5-C6-O6	-5.42	125.35	128.60
1	A	1047	G	C4-N9-C1'	5.42	133.55	126.50
1	A	1116	C	N3-C4-N4	-5.42	114.20	118.00
1	A	364	A	C2-N3-C4	-5.42	107.89	110.60
1	A	561	U	N3-C4-O4	5.42	123.19	119.40
1	A	265	G	C5-C6-N1	-5.42	108.79	111.50
1	A	287	U	C6-N1-C2	-5.42	117.75	121.00
1	A	309	G	C6-C5-N7	-5.41	127.15	130.40
1	A	1234	C	C5-C4-N4	-5.41	116.41	120.20
1	A	257	G	N1-C6-O6	-5.41	116.65	119.90
1	A	316	G	C5-C6-N1	-5.41	108.79	111.50
1	A	262	A	C5-C6-N6	5.41	128.03	123.70
1	A	131	C	N3-C2-O2	-5.41	118.11	121.90
1	A	661	G	C8-N9-C4	-5.41	104.24	106.40
1	A	1186	G	N3-C4-C5	5.41	131.31	128.60
1	A	1387	G	C8-N9-C4	5.41	108.56	106.40
1	A	324	G	C5-C6-O6	5.41	131.84	128.60
1	A	946	A	N3-C4-C5	-5.41	123.02	126.80
1	A	1212	U	C5-C6-N1	5.41	125.40	122.70
1	A	712	A	N1-C2-N3	5.40	132.00	129.30
1	A	242	C	C5-C6-N1	-5.40	118.30	121.00
1	A	577	G	N3-C4-C5	5.40	131.30	128.60
1	A	364	A	N1-C2-N3	5.40	132.00	129.30
1	A	581	G	C8-N9-C1'	5.40	134.02	127.00
1	A	1066	C	C6-N1-C2	5.40	122.46	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1289	A	C2-N3-C4	5.40	113.30	110.60
1	A	1291	G	N3-C4-N9	5.40	129.24	126.00
1	A	591	U	C4-C5-C6	5.40	122.94	119.70
1	A	913	A	C8-N9-C4	-5.40	103.64	105.80
1	A	406	G	C6-C5-N7	-5.40	127.16	130.40
1	A	569	C	N3-C4-N4	-5.40	114.22	118.00
1	A	1062	U	C5-C4-O4	5.40	129.14	125.90
1	A	386	C	N1-C2-O2	-5.39	115.66	118.90
1	A	825	G	N1-C6-O6	5.39	123.14	119.90
1	A	255	G	N3-C4-N9	5.39	129.24	126.00
1	A	290	C	N3-C4-C5	5.39	124.06	121.90
1	A	786	G	N1-C2-N3	5.39	127.14	123.90
1	A	575	G	N1-C6-O6	-5.39	116.67	119.90
1	A	971	G	N3-C4-C5	5.39	131.29	128.60
1	A	1141	C	N1-C2-O2	5.39	122.13	118.90
1	A	709	G	C5-C6-O6	-5.39	125.37	128.60
1	A	229	U	N3-C4-O4	5.38	123.17	119.40
1	A	589	C	C6-N1-C1'	5.38	127.26	120.80
1	A	200	G	C4-C5-C6	5.38	122.03	118.80
1	A	660	G	N3-C4-C5	5.38	131.29	128.60
1	A	644	G	C5-C6-O6	-5.38	125.37	128.60
1	A	46	G	N3-C4-N9	5.38	129.23	126.00
1	A	569	C	N3-C4-C5	5.38	124.05	121.90
1	A	872	A	C5-C6-N6	-5.38	119.40	123.70
1	A	1361	G	N1-C6-O6	-5.38	116.67	119.90
1	A	364	A	C4-C5-C6	5.37	119.69	117.00
1	A	550	G	N3-C2-N2	-5.37	116.14	119.90
1	A	1387	G	N9-C4-C5	-5.37	103.25	105.40
1	A	326	G	C5-N7-C8	5.37	106.98	104.30
1	A	439	A	C8-N9-C4	-5.37	103.65	105.80
1	A	623	C	N1-C2-O2	-5.37	115.68	118.90
1	A	752	G	N3-C4-N9	-5.37	122.78	126.00
1	A	919	A	N7-C8-N9	-5.37	111.11	113.80
1	A	1520	G	C6-N1-C2	-5.37	121.88	125.10
1	A	168	G	N7-C8-N9	5.37	115.78	113.10
1	A	447	G	C4-N9-C1'	5.37	133.48	126.50
1	A	807	A	N1-C2-N3	5.37	131.98	129.30
1	A	834	C	N3-C4-C5	-5.37	119.75	121.90
1	A	1059	C	C4-C5-C6	5.37	120.08	117.40
1	A	484	G	N3-C4-C5	-5.36	125.92	128.60
1	A	938	A	N1-C6-N6	-5.36	115.38	118.60
1	A	1059	C	N3-C4-C5	-5.36	119.75	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1082	G	C8-N9-C4	5.36	108.55	106.40
1	A	1414	U	C5-C6-N1	-5.36	120.02	122.70
1	A	353	A	N1-C6-N6	-5.36	115.38	118.60
1	A	914	G	N1-C2-N2	-5.36	111.38	116.20
1	A	1149	C	C6-N1-C2	-5.36	118.16	120.30
1	A	279	A	C5-C6-N6	-5.36	119.41	123.70
1	A	1064	G	N1-C2-N3	5.36	127.12	123.90
1	A	89	C	C5-C4-N4	-5.36	116.45	120.20
1	A	236	G	C5-C6-O6	5.36	131.81	128.60
1	A	310	G	N3-C2-N2	-5.36	116.15	119.90
1	A	555	C	N3-C4-N4	5.36	121.75	118.00
1	A	1279	A	C4-N9-C1'	5.36	135.94	126.30
1	A	673	G	C4-C5-C6	5.36	122.01	118.80
1	A	236	G	N3-C4-C5	-5.35	125.92	128.60
5	E	126	ARG	NE-CZ-NH2	-5.35	117.62	120.30
1	A	403	C	N3-C2-O2	-5.35	118.15	121.90
1	A	1419	G	N1-C6-O6	5.35	123.11	119.90
1	A	653	A	N1-C2-N3	5.35	131.97	129.30
1	A	1093	A	C5-C6-N6	-5.35	119.42	123.70
1	A	190(J)	U	N3-C4-C5	-5.34	111.39	114.60
1	A	904	C	C4-C5-C6	5.34	120.07	117.40
1	A	1251	A	N1-C6-N6	-5.34	115.39	118.60
4	D	12	CYS	N-CA-C	-5.34	96.57	111.00
1	A	257	G	C5-C6-N1	5.34	114.17	111.50
1	A	1019	C	N1-C2-O2	5.34	122.10	118.90
1	A	818	G	N7-C8-N9	5.34	115.77	113.10
1	A	1227	A	C5-N7-C8	-5.34	101.23	103.90
1	A	74	C	C5-C6-N1	5.34	123.67	121.00
1	A	245	C	N3-C2-O2	5.34	125.64	121.90
1	A	1063	C	N3-C2-O2	-5.34	118.17	121.90
1	A	109	A	C4-C5-N7	5.33	113.37	110.70
1	A	685	G	C8-N9-C4	5.33	108.53	106.40
1	A	854	G	C4-C5-N7	5.33	112.93	110.80
1	A	1165	C	C5-C6-N1	5.33	123.67	121.00
1	A	922	G	N7-C8-N9	5.33	115.77	113.10
1	A	1484	C	C5-C6-N1	5.33	123.67	121.00
1	A	644	G	C5-C6-N1	5.33	114.16	111.50
1	A	911	U	C5-C4-O4	-5.33	122.70	125.90
1	A	1301	U	P-O3'-C3'	5.33	126.09	119.70
1	A	588	G	N1-C2-N2	-5.33	111.41	116.20
1	A	666	G	C4-N9-C1'	5.33	133.42	126.50
1	A	251	G	C4-C5-N7	5.32	112.93	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	336	C	C2-N1-C1'	-5.32	112.94	118.80
1	A	384	G	C4-N9-C1'	5.32	133.42	126.50
1	A	515	G	C2-N3-C4	-5.32	109.24	111.90
1	A	703	G	N1-C2-N2	-5.32	111.41	116.20
1	A	814	A	C2-N3-C4	-5.32	107.94	110.60
1	A	819	A	C5-N7-C8	-5.32	101.24	103.90
1	A	854	G	C5-C6-N1	5.32	114.16	111.50
1	A	17	U	C2-N3-C4	-5.32	123.81	127.00
1	A	457	C	N3-C4-N4	5.32	121.72	118.00
1	A	309	G	C4-C5-N7	5.32	112.93	110.80
1	A	1234	C	N3-C4-N4	5.32	121.72	118.00
1	A	1368	G	C5-C6-N1	5.32	114.16	111.50
1	A	638	G	C4-N9-C1'	5.32	133.41	126.50
1	A	856	C	N1-C2-N3	5.32	122.92	119.20
1	A	858	G	N7-C8-N9	-5.32	110.44	113.10
1	A	916	G	C4-C5-C6	5.32	121.99	118.80
1	A	1080	A	C6-N1-C2	-5.32	115.41	118.60
1	A	1502	A	C8-N9-C1'	-5.32	118.13	127.70
1	A	297	G	C5-N7-C8	-5.32	101.64	104.30
1	A	761	G	C4-C5-C6	5.32	121.99	118.80
1	A	29	G	C4-C5-C6	5.31	121.99	118.80
1	A	92	C	N3-C2-O2	-5.31	118.18	121.90
1	A	574	A	C8-N9-C4	5.31	107.92	105.80
1	A	716	A	N1-C6-N6	-5.31	115.41	118.60
1	A	567	G	C4-C5-C6	5.31	121.99	118.80
1	A	781	A	C5-N7-C8	-5.31	101.24	103.90
1	A	688	G	C8-N9-C4	-5.31	104.28	106.40
1	A	1152	A	C5-C6-N6	5.31	127.95	123.70
1	A	1186	G	N3-C4-N9	-5.31	122.81	126.00
1	A	762	C	C6-N1-C2	5.31	122.42	120.30
1	A	1356	G	C8-N9-C4	-5.31	104.28	106.40
1	A	1511	G	N1-C6-O6	-5.31	116.72	119.90
1	A	252	U	C4-C5-C6	5.31	122.88	119.70
1	A	1112	C	C5-C6-N1	-5.30	118.35	121.00
1	A	407	G	N1-C6-O6	5.30	123.08	119.90
1	A	573	A	C4-C5-C6	5.30	119.65	117.00
1	A	1432	G	C5-C6-N1	-5.30	108.85	111.50
1	A	420	U	N3-C4-C5	-5.30	111.42	114.60
1	A	1268	A	N9-C4-C5	5.30	107.92	105.80
1	A	89	C	N3-C4-N4	5.30	121.71	118.00
1	A	362	G	C5-C6-N1	-5.30	108.85	111.50
1	A	394	G	C4-C5-N7	-5.30	108.68	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	580	U	C5-C4-O4	5.30	129.08	125.90
17	Q	63	ARG	NE-CZ-NH1	-5.30	117.65	120.30
1	A	1383	C	C5-C4-N4	-5.29	116.49	120.20
1	A	307	C	C4-C5-C6	-5.29	114.75	117.40
1	A	459	G	C8-N9-C4	-5.29	104.28	106.40
1	A	1074	G	N1-C6-O6	5.29	123.08	119.90
1	A	1246	C	N1-C2-O2	-5.29	115.72	118.90
1	A	1332	A	N1-C6-N6	-5.29	115.43	118.60
1	A	88	A	C6-N1-C2	-5.29	115.43	118.60
1	A	108	G	C1'-O4'-C4'	-5.29	105.67	109.90
1	A	317	G	N1-C6-O6	5.29	123.07	119.90
1	A	367	U	N3-C2-O2	5.29	125.90	122.20
1	A	617	G	C8-N9-C4	5.29	108.52	106.40
1	A	617	G	N1-C6-O6	5.29	123.07	119.90
1	A	783	C	C5-C4-N4	-5.29	116.50	120.20
1	A	803	G	N1-C2-N2	-5.29	111.44	116.20
1	A	942	G	C6-C5-N7	-5.29	127.23	130.40
1	A	1482	G	C2-N3-C4	5.29	114.54	111.90
1	A	647	C	C2-N1-C1'	-5.29	112.98	118.80
1	A	850	U	C5-C4-O4	5.29	129.07	125.90
1	A	570	G	N3-C4-N9	5.28	129.17	126.00
1	A	1303	C	N3-C4-C5	5.28	124.01	121.90
1	A	1355	G	C6-N1-C2	-5.28	121.93	125.10
1	A	24	U	N3-C4-O4	5.28	123.10	119.40
1	A	770	C	N3-C4-C5	5.28	124.01	121.90
1	A	886	G	N3-C4-N9	-5.28	122.83	126.00
1	A	1212	U	N1-C2-N3	-5.28	111.73	114.90
1	A	797	C	N3-C4-C5	5.28	124.01	121.90
1	A	186	C	N3-C4-N4	-5.28	114.31	118.00
1	A	315	A	N1-C2-N3	5.28	131.94	129.30
1	A	1329	A	C4-C5-N7	5.28	113.34	110.70
1	A	725	G	N7-C8-N9	5.28	115.74	113.10
1	A	923	A	C2-N3-C4	-5.28	107.96	110.60
1	A	412	A	N7-C8-N9	-5.27	111.16	113.80
1	A	1157	A	N9-C4-C5	5.27	107.91	105.80
1	A	457	C	C6-N1-C2	-5.27	118.19	120.30
1	A	904	C	N3-C4-C5	-5.27	119.79	121.90
1	A	941	G	C2-N3-C4	-5.27	109.27	111.90
1	A	351	G	C8-N9-C4	5.27	108.51	106.40
1	A	607	A	C6-C5-N7	-5.27	128.61	132.30
1	A	761	G	C4-C5-N7	5.27	112.91	110.80
1	A	190(I)	G	N9-C4-C5	-5.27	103.29	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1529	G	C4-C5-C6	5.27	121.96	118.80
1	A	867	G	C5-N7-C8	-5.26	101.67	104.30
1	A	447	G	C4-C5-N7	-5.26	108.70	110.80
1	A	825	G	C5-N7-C8	5.26	106.93	104.30
1	A	1074	G	C6-N1-C2	5.26	128.26	125.10
1	A	1496	C	C2-N3-C4	5.26	122.53	119.90
1	A	1527	C	C5-C6-N1	5.26	123.63	121.00
1	A	7	G	C6-C5-N7	5.26	133.55	130.40
1	A	229	U	N3-C4-C5	-5.26	111.45	114.60
1	A	665	A	N1-C2-N3	5.26	131.93	129.30
1	A	973	G	N9-C4-C5	-5.26	103.30	105.40
1	A	9	G	N1-C6-O6	5.25	123.05	119.90
1	A	1416	G	N7-C8-N9	5.25	115.73	113.10
1	A	6	G	C4-C5-C6	5.25	121.95	118.80
1	A	384	G	C5-C6-N1	5.25	114.13	111.50
1	A	548	G	C2-N3-C4	-5.25	109.27	111.90
1	A	774	G	C4-N9-C1'	5.25	133.33	126.50
1	A	65	U	N1-C2-O2	5.25	126.48	122.80
1	A	609	A	N7-C8-N9	5.25	116.42	113.80
1	A	1257	U	C6-N1-C2	-5.25	117.85	121.00
1	A	647	C	N1-C2-O2	-5.25	115.75	118.90
1	A	1291	G	C4-N9-C1'	5.25	133.32	126.50
1	A	1144	G	N3-C4-N9	-5.25	122.85	126.00
1	A	1467	G	C8-N9-C4	-5.25	104.30	106.40
1	A	1202	G	C6-C5-N7	5.25	133.55	130.40
1	A	1329	A	C6-C5-N7	-5.25	128.63	132.30
1	A	191	G	N1-C2-N3	5.24	127.05	123.90
1	A	257	G	N3-C4-C5	-5.24	125.98	128.60
1	A	805	C	C5-C4-N4	-5.24	116.53	120.20
1	A	142	G	C2-N3-C4	5.24	114.52	111.90
1	A	582	U	C5-C4-O4	-5.24	122.75	125.90
1	A	756	C	N3-C4-C5	5.24	124.00	121.90
1	A	1411	C	N1-C2-O2	-5.24	115.75	118.90
1	A	323	U	N1-C2-O2	-5.24	119.13	122.80
1	A	597	G	N1-C2-N3	5.24	127.05	123.90
1	A	710	G	C5-C6-N1	-5.24	108.88	111.50
1	A	1088	G	C5-C6-N1	-5.24	108.88	111.50
1	A	1353	G	C5-C6-N1	5.24	114.12	111.50
1	A	936	C	C5-C6-N1	-5.24	118.38	121.00
1	A	258	G	C5-N7-C8	-5.24	101.68	104.30
1	A	665	A	C5-C6-N1	5.24	120.32	117.70
1	A	22	G	C4-C5-N7	5.24	112.89	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	769	G	C4-C5-C6	5.24	121.94	118.80
1	A	851	G	C4-C5-C6	5.24	121.94	118.80
1	A	794	A	C5-C6-N6	5.23	127.89	123.70
1	A	1253	G	N7-C8-N9	5.23	115.72	113.10
1	A	122	G	C5-C6-O6	-5.23	125.46	128.60
1	A	270	A	C8-N9-C4	-5.23	103.71	105.80
1	A	577	G	C8-N9-C4	5.23	108.49	106.40
1	A	824	C	C5-C4-N4	-5.23	116.54	120.20
1	A	1344	C	C4-C5-C6	5.23	120.02	117.40
1	A	27	G	N1-C2-N2	-5.23	111.49	116.20
1	A	115	G	P-O3'-C3'	5.23	125.98	119.70
1	A	1328	C	N1-C2-O2	5.23	122.04	118.90
1	A	1411	C	N3-C4-C5	-5.23	119.81	121.90
1	A	656	C	C5-C6-N1	-5.23	118.39	121.00
1	A	1425	U	C4-C5-C6	5.23	122.83	119.70
1	A	484	G	C4-N9-C1'	5.22	133.29	126.50
1	A	691	G	C8-N9-C4	-5.22	104.31	106.40
1	A	701	C	C5-C6-N1	-5.22	118.39	121.00
1	A	715	A	C2-N3-C4	-5.22	107.99	110.60
1	A	1447	G	C8-N9-C4	-5.22	104.31	106.40
1	A	1498	UR3	P-O3'-C3'	5.22	125.97	119.70
1	A	665	A	N1-C6-N6	-5.22	115.47	118.60
1	A	1267	C	N3-C4-C5	-5.22	119.81	121.90
1	A	122	G	C8-N9-C4	5.22	108.49	106.40
1	A	717	C	N1-C2-O2	-5.22	115.77	118.90
1	A	1355	G	N3-C4-C5	-5.22	125.99	128.60
1	A	331	G	C2-N3-C4	-5.22	109.29	111.90
1	A	753	A	N3-C4-N9	-5.22	123.22	127.40
1	A	1265	G	C6-C5-N7	-5.22	127.27	130.40
1	A	474	G	N7-C8-N9	5.22	115.71	113.10
1	A	1451	A	N9-C4-C5	-5.22	103.71	105.80
1	A	901	A	C5-C6-N1	-5.22	115.09	117.70
1	A	130	A	C5-N7-C8	-5.21	101.29	103.90
1	A	525	C	C6-N1-C2	5.21	122.39	120.30
1	A	777	A	N3-C4-C5	-5.21	123.15	126.80
1	A	884	U	N1-C2-O2	5.21	126.45	122.80
1	A	1305	G	N7-C8-N9	5.21	115.71	113.10
1	A	1391	U	N1-C2-O2	5.21	126.45	122.80
1	A	1196	U	C3'-C2'-C1'	-5.21	97.33	101.50
1	A	53	A	N9-C4-C5	5.21	107.89	105.80
1	A	190	C	N1-C2-O2	5.21	122.03	118.90
1	A	926	G	C4-N9-C1'	5.21	133.28	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	644	G	C8-N9-C4	-5.21	104.32	106.40
1	A	308	C	C2-N1-C1'	5.21	124.53	118.80
1	A	110	C	C5-C6-N1	-5.21	118.40	121.00
1	A	418	C	C5-C6-N1	5.21	123.60	121.00
1	A	551	U	N3-C4-O4	5.21	123.05	119.40
1	A	890	G	C5-C6-O6	5.21	131.72	128.60
1	A	1172	C	N1-C2-O2	-5.21	115.78	118.90
1	A	1417	G	N3-C4-N9	5.21	129.12	126.00
1	A	1380	U	C2-N1-C1'	5.21	123.95	117.70
1	A	28	G	C4-C5-C6	5.20	121.92	118.80
1	A	594	G	C6-C5-N7	-5.20	127.28	130.40
1	A	822	C	C2-N3-C4	-5.20	117.30	119.90
1	A	1234	C	N3-C2-O2	5.20	125.54	121.90
11	K	118	GLY	N-CA-C	5.20	126.11	113.10
1	A	132	C	C2-N3-C4	-5.20	117.30	119.90
1	A	103	C	N3-C4-N4	5.20	121.64	118.00
1	A	494	G	N9-C4-C5	5.20	107.48	105.40
1	A	232	G	C8-N9-C1'	-5.20	120.24	127.00
1	A	617	G	N1-C2-N3	5.20	127.02	123.90
1	A	768	A	C2-N3-C4	-5.20	108.00	110.60
1	A	799	G	N1-C2-N3	5.20	127.02	123.90
1	A	1462	G	C5-C6-N1	-5.20	108.90	111.50
1	A	550	G	C2-N3-C4	-5.20	109.30	111.90
1	A	1531	A	C4-N9-C1'	5.20	135.65	126.30
1	A	721	G	C5-C6-O6	-5.19	125.48	128.60
1	A	824	C	C5-C6-N1	-5.19	118.40	121.00
1	A	121	C	N3-C4-C5	5.19	123.98	121.90
1	A	46	G	C4-N9-C1'	5.19	133.25	126.50
1	A	559	A	N9-C4-C5	5.19	107.88	105.80
1	A	777	A	N3-C4-N9	5.19	131.55	127.40
1	A	1088	G	C2-N3-C4	-5.19	109.31	111.90
1	A	1079	G	C4-N9-C1'	5.19	133.25	126.50
1	A	1243	C	N3-C4-C5	5.19	123.98	121.90
1	A	168	G	C4-N9-C1'	5.19	133.24	126.50
1	A	957	U	N3-C4-C5	-5.19	111.49	114.60
1	A	587	G	N1-C2-N2	-5.19	111.53	116.20
1	A	853	G	N1-C2-N2	-5.19	111.53	116.20
1	A	1355	G	C5-C6-N1	5.19	114.09	111.50
1	A	248	C	N3-C4-N4	5.18	121.63	118.00
1	A	1158	C	N3-C4-C5	-5.18	119.83	121.90
1	A	134	A	N7-C8-N9	-5.18	111.21	113.80
1	A	1425	U	N3-C4-C5	-5.18	111.49	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	269	C	C4-C5-C6	5.18	119.99	117.40
1	A	685	G	N9-C4-C5	-5.18	103.33	105.40
1	A	8	A	C4-C5-N7	-5.18	108.11	110.70
1	A	517	G	N9-C4-C5	5.18	107.47	105.40
1	A	830	G	C5-C6-N1	-5.18	108.91	111.50
1	A	917	G	N3-C4-C5	5.18	131.19	128.60
1	A	321	A	C5-C6-N1	5.18	120.29	117.70
1	A	246	A	C8-N9-C4	5.17	107.87	105.80
1	A	259	G	C6-C5-N7	-5.17	127.30	130.40
1	A	762	C	N3-C4-N4	5.17	121.62	118.00
1	A	1533	C	C6-N1-C2	-5.17	118.23	120.30
1	A	225	C	C5-C6-N1	-5.17	118.41	121.00
1	A	315	A	N7-C8-N9	5.17	116.39	113.80
1	A	1494	G	N3-C4-N9	5.17	129.10	126.00
1	A	23	C	C4-C5-C6	5.17	119.99	117.40
1	A	96	G	C6-C5-N7	-5.17	127.30	130.40
1	A	263	A	C6-N1-C2	-5.17	115.50	118.60
1	A	635	G	C5-C6-N1	-5.17	108.91	111.50
1	A	894	G	C6-C5-N7	-5.17	127.30	130.40
1	A	1135	U	C5-C6-N1	5.17	125.28	122.70
1	A	315	A	C5-N7-C8	-5.17	101.32	103.90
1	A	632	A	C6-C5-N7	-5.17	128.68	132.30
1	A	803	G	C2-N3-C4	-5.17	109.32	111.90
1	A	898	G	N1-C2-N3	5.17	127.00	123.90
1	A	1385	G	N1-C6-O6	-5.17	116.80	119.90
1	A	581	G	N3-C4-C5	5.17	131.18	128.60
1	A	1286	A	C5-C6-N1	-5.17	115.12	117.70
8	H	60	ARG	CG-CD-NE	-5.17	100.95	111.80
1	A	218	C	C4-C5-C6	-5.16	114.82	117.40
1	A	235	C	C2-N3-C4	-5.16	117.32	119.90
1	A	246	A	N1-C6-N6	-5.16	115.50	118.60
1	A	610	G	N1-C2-N3	5.16	127.00	123.90
1	A	1512	U	N3-C4-O4	5.16	123.02	119.40
1	A	132	C	N3-C2-O2	-5.16	118.29	121.90
1	A	729	A	C4-C5-N7	5.16	113.28	110.70
1	A	797	C	C2-N3-C4	-5.16	117.32	119.90
1	A	615	C	N3-C4-N4	5.16	121.61	118.00
1	A	657	G	C8-N9-C4	-5.16	104.34	106.40
1	A	569	C	C4-C5-C6	5.16	119.98	117.40
1	A	660	G	C5-C6-O6	-5.16	125.50	128.60
1	A	668	G	N1-C2-N3	5.16	127.00	123.90
1	A	872	A	C5-N7-C8	-5.16	101.32	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	289	G	N1-C6-O6	5.16	122.99	119.90
1	A	728	A	N7-C8-N9	5.15	116.38	113.80
1	A	1527	C	N3-C4-N4	5.15	121.61	118.00
1	A	203	U	C4-C5-C6	-5.15	116.61	119.70
1	A	109	A	C8-N9-C4	-5.15	103.74	105.80
1	A	1199	U	C4-C5-C6	5.15	122.79	119.70
1	A	1483	A	C6-N1-C2	-5.15	115.51	118.60
1	A	383	A	C5-N7-C8	-5.15	101.33	103.90
1	A	390	C	C4-C5-C6	5.15	119.97	117.40
1	A	600	C	C6-N1-C2	5.15	122.36	120.30
1	A	691	G	C2-N3-C4	-5.15	109.33	111.90
1	A	360	A	C2-N3-C4	-5.14	108.03	110.60
1	A	602	A	N9-C4-C5	5.14	107.86	105.80
1	A	800	G	N1-C2-N3	5.14	126.99	123.90
1	A	32	A	C8-N9-C1'	-5.14	118.44	127.70
1	A	718	G	N3-C2-N2	-5.14	116.30	119.90
1	A	895	G	C4-N9-C1'	5.14	133.19	126.50
1	A	900	A	C6-C5-N7	-5.14	128.70	132.30
1	A	1145	C	C6-N1-C1'	5.14	126.97	120.80
1	A	1229	A	C2-N3-C4	-5.14	108.03	110.60
1	A	400	C	N3-C2-O2	-5.14	118.30	121.90
1	A	1294	G	N3-C4-N9	-5.14	122.92	126.00
1	A	280	C	N3-C4-N4	-5.14	114.40	118.00
1	A	421	U	C2-N1-C1'	5.14	123.87	117.70
1	A	1035	A	C8-N9-C4	5.14	107.86	105.80
1	A	1051	C	C2-N3-C4	5.14	122.47	119.90
1	A	1191	A	N1-C6-N6	-5.14	115.52	118.60
1	A	1219	U	C5-C6-N1	5.14	125.27	122.70
1	A	233	C	N3-C4-N4	5.14	121.60	118.00
1	A	1482	G	N3-C2-N2	5.14	123.50	119.90
1	A	255	G	C5-C6-N1	-5.14	108.93	111.50
1	A	812	C	N1-C2-N3	5.13	122.79	119.20
1	A	251	G	C5-N7-C8	-5.13	101.73	104.30
1	A	383	A	C6-C5-N7	-5.13	128.71	132.30
17	Q	35	VAL	CG1-CB-CG2	5.13	119.11	110.90
1	A	627	G	N1-C2-N3	5.13	126.98	123.90
1	A	1286	A	N7-C8-N9	5.13	116.36	113.80
1	A	746	A	N1-C6-N6	5.13	121.68	118.60
1	A	825	G	N9-C4-C5	-5.13	103.35	105.40
1	A	888	G	C5-C6-N1	-5.13	108.94	111.50
1	A	492	G	C5-C6-N1	-5.13	108.94	111.50
1	A	698	G	N7-C8-N9	5.13	115.66	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1110	A	C2-N3-C4	-5.13	108.04	110.60
1	A	766	A	C6-C5-N7	-5.12	128.71	132.30
1	A	380	G	C4-C5-N7	-5.12	108.75	110.80
1	A	1323	G	C8-N9-C4	5.12	108.45	106.40
5	E	115	VAL	CB-CA-C	-5.12	101.66	111.40
1	A	43	C	N3-C4-N4	-5.12	114.42	118.00
1	A	1432	G	C2-N3-C4	-5.12	109.34	111.90
1	A	238	G	N3-C4-C5	5.12	131.16	128.60
1	A	344	A	N7-C8-N9	5.12	116.36	113.80
1	A	813	U	C2-N3-C4	-5.12	123.93	127.00
1	A	48	C	C6-N1-C2	5.12	122.35	120.30
1	A	672	U	N3-C2-O2	5.12	125.78	122.20
1	A	319	G	C4-N9-C1'	5.12	133.15	126.50
1	A	701	C	P-O3'-C3'	5.12	125.84	119.70
1	A	1496	C	C6-N1-C2	-5.12	118.25	120.30
2	B	16	HIS	N-CA-C	5.12	124.82	111.00
15	O	39	LEU	CA-CB-CG	-5.12	103.53	115.30
1	A	306	G	N3-C2-N2	-5.12	116.32	119.90
1	A	899	C	C6-N1-C2	-5.12	118.25	120.30
1	A	1426	C	C6-N1-C2	5.12	122.35	120.30
1	A	1432	G	C5-C6-O6	5.12	131.67	128.60
1	A	55	A	C8-N9-C4	-5.11	103.75	105.80
1	A	640	A	N1-C2-N3	5.11	131.86	129.30
1	A	709	G	N1-C6-O6	5.11	122.97	119.90
1	A	1064	G	C4-N9-C1'	5.11	133.15	126.50
1	A	355	C	N3-C4-C5	5.11	123.94	121.90
1	A	645	C	C6-N1-C2	-5.11	118.25	120.30
1	A	814	A	N7-C8-N9	-5.11	111.24	113.80
1	A	256	U	C5-C6-N1	5.11	125.25	122.70
1	A	451	A	C5-C6-N1	5.11	120.25	117.70
1	A	702	A	C2-N3-C4	5.11	113.15	110.60
1	A	1141	C	N3-C2-O2	-5.11	118.33	121.90
1	A	652	U	C5-C4-O4	-5.10	122.84	125.90
1	A	7	G	C6-N1-C2	-5.10	122.04	125.10
1	A	508	C	C6-N1-C1'	-5.10	114.68	120.80
1	A	638	G	C4-C5-C6	5.10	121.86	118.80
1	A	833	U	N1-C2-O2	5.10	126.37	122.80
1	A	756	C	C4-C5-C6	-5.10	114.85	117.40
1	A	1249	C	N1-C2-N3	-5.10	115.63	119.20
1	A	1251	A	C8-N9-C4	-5.10	103.76	105.80
1	A	1282	C	C2-N3-C4	5.10	122.45	119.90
1	A	1520	G	N1-C2-N3	5.10	126.96	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	119	LEU	CB-CG-CD1	-5.10	102.33	111.00
1	A	140	A	C8-N9-C4	-5.10	103.76	105.80
1	A	860	A	N1-C6-N6	5.10	121.66	118.60
1	A	1009	G	N3-C4-C5	-5.10	126.05	128.60
1	A	194	C	N1-C2-O2	5.09	121.96	118.90
1	A	368	U	C2-N3-C4	-5.09	123.94	127.00
1	A	587	G	N1-C2-N3	5.09	126.96	123.90
1	A	941	G	C4-C5-N7	5.09	112.84	110.80
1	A	872	A	N3-C4-C5	5.09	130.37	126.80
1	A	1482	G	C6-N1-C2	-5.09	122.04	125.10
1	A	287	U	N3-C4-C5	-5.09	111.55	114.60
1	A	575	G	C6-N1-C2	-5.09	122.05	125.10
1	A	660	G	N1-C6-O6	5.09	122.95	119.90
1	A	907	A	N9-C4-C5	5.09	107.84	105.80
1	A	1287	A	C8-N9-C4	-5.09	103.77	105.80
1	A	1254	C	C5-C6-N1	5.09	123.54	121.00
1	A	142	G	N3-C4-N9	5.08	129.05	126.00
1	A	567	G	N1-C6-O6	-5.08	116.85	119.90
1	A	700	G	C4-N9-C1'	5.08	133.11	126.50
1	A	1055	A	C6-C5-N7	5.08	135.86	132.30
1	A	1126	U	C2-N1-C1'	5.08	123.80	117.70
1	A	167	G	N1-C6-O6	-5.08	116.85	119.90
1	A	200	G	C8-N9-C4	-5.08	104.37	106.40
1	A	452	A	C5-N7-C8	5.08	106.44	103.90
1	A	638	G	C2-N3-C4	-5.08	109.36	111.90
1	A	301	G	N1-C6-O6	5.08	122.95	119.90
1	A	181	G	C4-C5-N7	5.08	112.83	110.80
1	A	577	G	C4-C5-N7	5.08	112.83	110.80
1	A	822	C	N3-C4-C5	-5.08	119.87	121.90
1	A	946	A	C4-C5-N7	-5.08	108.16	110.70
1	A	26	A	C8-N9-C4	-5.07	103.77	105.80
1	A	119	A	C5-N7-C8	5.07	106.44	103.90
1	A	15	G	N7-C8-N9	5.07	115.64	113.10
1	A	801	U	N3-C4-C5	5.07	117.64	114.60
1	A	1465	C	N3-C4-N4	5.07	121.55	118.00
1	A	698	G	N9-C4-C5	5.07	107.43	105.40
1	A	1452	C	C6-N1-C1'	-5.07	114.72	120.80
1	A	7	G	N7-C8-N9	-5.07	110.57	113.10
1	A	93	G	C8-N9-C4	5.07	108.43	106.40
1	A	612	C	C2-N1-C1'	5.07	124.37	118.80
1	A	760	G	C4-N9-C1'	-5.07	119.91	126.50
1	A	90	U	N1-C2-O2	-5.07	119.25	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1155	G	N3-C4-C5	-5.06	126.07	128.60
1	A	1329	A	C5-N7-C8	-5.06	101.37	103.90
1	A	916	G	C5-C6-O6	-5.06	125.56	128.60
1	A	1160	G	N1-C6-O6	-5.06	116.86	119.90
1	A	1279	A	C8-N9-C4	-5.06	103.78	105.80
1	A	1387	G	C2-N3-C4	-5.06	109.37	111.90
1	A	1516	G	C2-N3-C4	-5.06	109.37	111.90
1	A	1112	C	N3-C4-C5	5.06	123.92	121.90
1	A	261	U	C6-N1-C2	-5.06	117.97	121.00
1	A	1067	A	C6-N1-C2	-5.06	115.56	118.60
1	A	506	G	C2-N3-C4	-5.06	109.37	111.90
1	A	928	G	N1-C6-O6	5.06	122.93	119.90
1	A	236	G	N1-C2-N2	-5.06	111.65	116.20
1	A	839	U	C2-N1-C1'	5.06	123.77	117.70
1	A	306	G	N1-C6-O6	5.05	122.93	119.90
1	A	319	G	N1-C6-O6	5.05	122.93	119.90
4	D	97	LEU	CA-CB-CG	-5.05	103.67	115.30
1	A	595	G	C8-N9-C1'	-5.05	120.43	127.00
1	A	661	G	N7-C8-N9	5.05	115.63	113.10
1	A	866	C	N1-C2-O2	-5.05	115.87	118.90
1	A	1530	G	C2-N3-C4	-5.05	109.37	111.90
1	A	488	C	C5-C6-N1	5.05	123.52	121.00
1	A	580	U	C2-N3-C4	5.05	130.03	127.00
1	A	761	G	N9-C4-C5	-5.05	103.38	105.40
1	A	1441	G	C4-C5-N7	-5.05	108.78	110.80
1	A	1249	C	C4-C5-C6	-5.05	114.88	117.40
1	A	1303	C	C2-N1-C1'	-5.05	113.25	118.80
1	A	1403	C	N3-C2-O2	5.05	125.43	121.90
1	A	1408	A	C2-N3-C4	-5.05	108.08	110.60
1	A	1329	A	C5-C6-N6	-5.04	119.66	123.70
1	A	1108	G	N3-C4-N9	5.04	129.03	126.00
1	A	1514	C	N1-C2-N3	5.04	122.73	119.20
1	A	1470	G	N1-C6-O6	5.04	122.92	119.90
1	A	332	G	C2-N3-C4	-5.04	109.38	111.90
1	A	350	G	C5-C6-O6	5.04	131.62	128.60
1	A	773	G	C5-N7-C8	-5.04	101.78	104.30
1	A	1155	G	C4-N9-C1'	5.04	133.05	126.50
1	A	1311	G	N3-C2-N2	-5.04	116.37	119.90
1	A	1349	A	N3-C4-N9	-5.04	123.37	127.40
1	A	827	U	N3-C4-O4	5.04	122.93	119.40
1	A	728	A	C2-N3-C4	-5.04	108.08	110.60
1	A	1084	G	N9-C4-C5	5.04	107.42	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	407	G	N1-C2-N3	5.03	126.92	123.90
1	A	1380	U	P-O3'-C3'	5.03	125.74	119.70
1	A	395	C	N3-C4-C5	-5.03	119.89	121.90
1	A	771	G	N1-C2-N3	5.03	126.92	123.90
1	A	1079	G	C5-C6-O6	-5.03	125.58	128.60
1	A	699	C	N3-C2-O2	5.03	125.42	121.90
1	A	1059	C	N1-C2-N3	5.03	122.72	119.20
1	A	1060	C	C6-N1-C1'	-5.03	114.77	120.80
1	A	132	C	N3-C4-C5	-5.03	119.89	121.90
1	A	649	G	C5-C6-N1	5.03	114.01	111.50
1	A	802	A	C4-C5-N7	5.03	113.21	110.70
1	A	1083	U	N3-C4-O4	5.03	122.92	119.40
1	A	568	G	C4-N9-C1'	5.02	133.03	126.50
1	A	667	G	C6-C5-N7	-5.02	127.39	130.40
1	A	711	G	C5-C6-O6	-5.02	125.59	128.60
1	A	546	G	C6-C5-N7	-5.02	127.39	130.40
1	A	41	G	N7-C8-N9	5.02	115.61	113.10
1	A	532	A	C8-N9-C4	5.02	107.81	105.80
1	A	7	G	N9-C4-C5	5.02	107.41	105.40
1	A	17	U	C5-C6-N1	-5.02	120.19	122.70
1	A	348	G	C5-N7-C8	-5.02	101.79	104.30
1	A	451	A	C5-C6-N6	-5.02	119.69	123.70
1	A	780	A	C2-N3-C4	5.02	113.11	110.60
1	A	860	A	C6-C5-N7	-5.02	128.79	132.30
1	A	1324	A	C6-C5-N7	-5.02	128.79	132.30
1	A	175	C	C6-N1-C2	5.01	122.31	120.30
1	A	854	G	C6-N1-C2	-5.01	122.09	125.10
1	A	906	G	C6-C5-N7	-5.01	127.39	130.40
1	A	389	A	N3-C4-C5	-5.01	123.29	126.80
1	A	276	G	C8-N9-C4	5.01	108.40	106.40
1	A	906	G	C5-N7-C8	-5.01	101.80	104.30
1	A	80	G	C4-C5-C6	5.01	121.81	118.80
1	A	331	G	C4-C5-C6	5.01	121.81	118.80
1	A	651	C	C5-C4-N4	-5.01	116.69	120.20
3	C	52	LEU	CA-CB-CG	5.01	126.82	115.30
1	A	183	G	C6-C5-N7	-5.01	127.40	130.40
1	A	642	A	C5-N7-C8	-5.01	101.40	103.90
1	A	481	G	N1-C2-N2	-5.00	111.69	116.20
1	A	1087	G	C6-C5-N7	-5.00	127.40	130.40
1	A	226	G	C5-C6-N1	-5.00	109.00	111.50
1	A	232	G	C5-C6-N1	-5.00	109.00	111.50
1	A	1229	A	C5-N7-C8	-5.00	101.40	103.90

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	166	GLU	Peptide
3	C	24	ALA	Peptide
4	D	195	ALA	Peptide
7	G	154	TYR	Peptide
8	H	90	GLY	Peptide
9	I	126	SER	Peptide
10	J	3	LYS	Peptide
10	J	87	THR	Peptide
12	L	25	PRO	Peptide
17	Q	13	ASP	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	32508	0	16426	863	0
2	B	1900	0	1951	117	0
3	C	1612	0	1677	93	0
4	D	1703	0	1763	100	0
5	E	1146	0	1207	73	0
6	F	843	0	857	55	0
7	G	1257	0	1296	76	0
8	H	1116	0	1177	70	0
9	I	1010	0	1037	76	0
10	J	792	0	835	50	0
11	K	864	0	881	51	0
12	L	972	0	1058	67	0
13	M	937	0	995	55	0
14	N	492	0	529	49	0
15	O	729	0	768	47	0
16	P	700	0	720	48	0
17	Q	823	0	893	52	0
18	R	574	0	644	47	0
19	S	647	0	673	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	T	763	0	861	49	0
21	U	208	0	221	20	0
22	A	40	0	37	7	0
23	A	253	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	2	0	0	0	0
23	M	2	0	0	0	0
23	N	1	0	0	0	0
23	P	3	0	0	0	0
23	Q	1	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	374	0	0	14	0
25	B	1	0	0	0	0
25	D	1	0	0	0	0
25	E	7	0	0	0	0
25	L	1	0	0	0	0
25	N	1	0	0	0	0
25	P	2	0	0	0	0
25	T	2	0	0	1	0
All	All	52300	0	36506	1903	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 (1903) 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)
18:R:26:LEU:HD11	18:R:42:ARG:HD3	1.46	0.98
1:A:792:A:H1'	1:A:793:U:H2'	1.47	0.96
11:K:48:ILE:HD12	11:K:63:LEU:HB2	1.45	0.96
1:A:1326:C:OP2	21:U:6:ARG:NH2	2.00	0.93
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.51	0.92
3:C:129:ALA:HB1	3:C:132:ARG:HB3	1.51	0.92
3:C:27:LYS:O	3:C:30:ARG:NH2	2.05	0.89
1:A:103:C:OP1	20:T:17:ARG:NH1	2.05	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:87:ARG:HH11	6:F:87:ARG:HG3	1.36	0.89
1:A:1030:C:O2	1:A:1031:G:N2	2.05	0.89
15:O:39:LEU:HD23	15:O:56:LEU:HB2	1.53	0.89
3:C:153:VAL:HG12	3:C:166:GLU:HB2	1.55	0.89
1:A:1373:G:H5''	7:G:36:LYS:HD2	1.55	0.88
11:K:91:ARG:HD2	18:R:88:LYS:HZ3	1.36	0.88
1:A:1496:C:O2'	1:A:1497:G:O5'	1.91	0.87
1:A:1126:U:H3'	1:A:1127:G:H8	1.36	0.87
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.07	0.86
3:C:188:LEU:HD11	3:C:195:VAL:HG23	1.57	0.86
7:G:69:VAL:HG21	7:G:104:LEU:HD21	1.58	0.86
6:F:36:ARG:HB3	6:F:36:ARG:HH11	1.40	0.86
3:C:58:GLU:O	3:C:59:ARG:NH1	2.09	0.86
3:C:34:LEU:HD13	3:C:38:ARG:HH21	1.40	0.86
7:G:78:ARG:HD2	7:G:156:TRP:HB2	1.58	0.86
1:A:973:G:H3'	1:A:974:A:H5''	1.57	0.85
1:A:1442:G:N2	1:A:1447:G:N7	2.22	0.85
15:O:29:VAL:HG21	15:O:67:LEU:HD23	1.59	0.85
5:E:11:ILE:HG23	5:E:31:LEU:HB3	1.59	0.84
5:E:84:PHE:HB2	5:E:134:ALA:HB2	1.59	0.84
7:G:5:ARG:HH12	7:G:8:GLU:HG3	1.41	0.84
21:U:12:LYS:O	21:U:22:ARG:NH1	2.11	0.83
1:A:235:C:N4	25:A:1963:HOH:O	2.10	0.83
19:S:31:ILE:HG21	19:S:49:ILE:HD13	1.61	0.83
11:K:65:ALA:HB1	11:K:98:LEU:HD13	1.61	0.82
1:A:1366:C:H2'	1:A:1367:C:H6	1.44	0.82
1:A:1221:G:OP2	19:S:37:ARG:NH2	2.11	0.82
3:C:121:ALA:HA	3:C:124:ILE:HD12	1.61	0.82
1:A:1255:G:N2	1:A:1259:C:O2	2.13	0.82
1:A:1357:A:H2'	1:A:1358:U:C6	2.14	0.81
15:O:38:ARG:HB3	15:O:38:ARG:HH11	1.46	0.81
1:A:138:G:O6	1:A:225:C:N4	2.09	0.81
1:A:1238:A:H5'	1:A:1336:C:H41	1.45	0.81
1:A:1510:U:H2'	1:A:1511:G:C8	2.16	0.81
8:H:11:THR:OG1	8:H:14:ARG:NH1	2.11	0.81
17:Q:27:PHE:CE1	17:Q:36:ILE:HD11	2.15	0.81
18:R:53:ARG:HG2	18:R:63:GLN:HE21	1.46	0.81
5:E:126:ARG:HG2	5:E:126:ARG:HH11	1.46	0.81
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.60	0.81
1:A:996:A:N1	1:A:1046:A:O2'	2.13	0.81
1:A:1404:5MC:H1'	1:A:1499:A:C2	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:156:ARG:NH1	3:C:160:ALA:O	2.14	0.80
2:B:12:GLU:HG3	2:B:213:LEU:HD21	1.63	0.80
12:L:47:LYS:HG3	12:L:48:PRO:HD3	1.63	0.80
7:G:17:VAL:HG12	7:G:18:TYR:HD1	1.47	0.80
13:M:75:ALA:HA	13:M:78:ILE:HD12	1.64	0.80
1:A:1009:G:H1	1:A:1020:U:H3	1.27	0.80
7:G:5:ARG:HD3	7:G:7:ALA:H	1.47	0.79
8:H:100:ILE:O	8:H:125:ARG:NH2	2.16	0.79
12:L:59:ARG:HH12	12:L:65:GLU:HG3	1.47	0.79
1:A:989:C:O2	1:A:1216:G:N2	2.13	0.79
8:H:69:ARG:NH1	8:H:75:ARG:O	2.15	0.79
1:A:1047:G:OP1	14:N:4:LYS:NZ	2.13	0.79
3:C:134:ILE:HD11	3:C:153:VAL:HB	1.65	0.79
9:I:79:LEU:HD21	9:I:104:ARG:HA	1.65	0.79
9:I:108:VAL:HG12	9:I:109:VAL:H	1.48	0.79
1:A:1280:A:O2'	25:A:2104:HOH:O	2.01	0.78
16:P:67:THR:HB	16:P:70:ALA:H	1.47	0.78
1:A:1163:C:H2'	1:A:1164:G:H8	1.49	0.78
6:F:14:LEU:HB2	6:F:19:LEU:HD12	1.64	0.78
1:A:1101:A:H4'	1:A:1102:A:O5'	1.84	0.77
20:T:12:ALA:HA	25:T:302:HOH:O	1.82	0.77
1:A:130:A:H5'	17:Q:63:ARG:HE	1.50	0.77
7:G:20:ASP:OD1	7:G:22:LEU:N	2.16	0.77
1:A:992:U:H3	1:A:1044:A:H62	1.30	0.77
1:A:1347:G:H3'	9:I:108:VAL:O	1.85	0.77
3:C:167:TRP:HE3	3:C:168:ALA:H	1.32	0.77
1:A:457:C:O2	1:A:475:G:N2	2.11	0.76
1:A:1246:C:H42	1:A:1291:G:H1	1.32	0.76
1:A:1435:G:H2'	1:A:1436:U:C6	2.21	0.76
22:A:1601:SRY:OG2	12:L:91:LYS:NZ	2.17	0.76
10:J:53:PRO:HB3	14:N:42:ILE:HD11	1.68	0.76
3:C:147:LYS:NZ	3:C:206:GLU:OE2	2.18	0.75
9:I:17:VAL:HG11	9:I:81:ILE:HA	1.68	0.75
15:O:67:LEU:HD13	15:O:78:TYR:HE1	1.51	0.75
1:A:1380:U:O2'	1:A:1381:U:OP2	2.04	0.75
8:H:17:THR:O	8:H:78:GLN:NE2	2.20	0.75
12:L:5:PRO:HB2	12:L:10:LEU:HD23	1.68	0.75
4:D:8:VAL:HG11	4:D:21:LEU:HB2	1.68	0.75
12:L:53:ARG:NH1	12:L:92:0TD:OD2	2.20	0.75
1:A:1242:C:H42	1:A:1295:G:H1	1.34	0.74
1:A:448:A:OP2	1:A:485:G:N2	2.16	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:664:G:H22	1:A:741:G:H1	1.33	0.74
1:A:1356:G:H2'	1:A:1357:A:C8	2.23	0.74
1:A:532:A:O2'	1:A:533:A:OP1	2.06	0.73
4:D:28:SER:O	4:D:30:LYS:N	2.21	0.73
1:A:1118:C:H1'	1:A:1179:A:C4	2.23	0.73
1:A:1125:U:H3	10:J:5:ARG:HH21	1.36	0.73
1:A:617:G:H1	1:A:623:C:H42	1.35	0.73
1:A:975:A:H5'	1:A:975:A:H8	1.52	0.73
7:G:38:LEU:O	7:G:42:ILE:HG13	1.89	0.73
20:T:56:MET:HG3	20:T:88:VAL:HG21	1.69	0.72
8:H:82:HIS:CE1	8:H:138:TRP:NE1	2.57	0.72
17:Q:40:LYS:HD3	17:Q:42:TYR:CZ	2.24	0.72
1:A:869:G:N7	25:A:2218:HOH:O	2.21	0.72
1:A:794:A:H8	1:A:794:A:H3'	1.55	0.72
1:A:1195:C:H3'	1:A:1196:U:H5''	1.71	0.72
1:A:1493:A:H2'	1:A:1494:G:H8	1.53	0.72
1:A:914:G:OP1	22:A:1601:SRY:HI33	1.90	0.72
7:G:111:ARG:HD2	7:G:112:PRO:HD2	1.72	0.72
11:K:79:SER:HB3	11:K:106:LYS:HE2	1.71	0.72
1:A:701:C:H4'	1:A:702:A:H5''	1.72	0.72
3:C:25:GLY:HA2	3:C:28:GLN:H	1.54	0.72
1:A:18:C:H5''	5:E:127:ASN:HD21	1.53	0.72
1:A:113:G:H1'	1:A:354:G:H5'	1.72	0.72
2:B:55:PHE:HA	2:B:58:ILE:HD12	1.71	0.72
7:G:15:ASP:OD2	7:G:44:TYR:OH	2.07	0.72
1:A:794:A:H3'	1:A:794:A:C8	2.25	0.71
1:A:1412:C:H2'	1:A:1413:A:C8	2.24	0.71
2:B:184:VAL:HG23	2:B:198:ASP:H	1.55	0.71
1:A:1125:U:OP2	1:A:1145:C:N4	2.23	0.71
2:B:17:PHE:HA	2:B:44:LEU:HD11	1.72	0.71
5:E:147:ASP:OD1	5:E:147:ASP:N	2.12	0.71
1:A:1357:A:H2'	1:A:1358:U:H6	1.56	0.71
4:D:152:SER:O	4:D:155:LEU:HG	1.90	0.71
1:A:74:C:O2	1:A:96:G:N2	2.20	0.71
1:A:384:G:H2'	1:A:385:C:H6	1.56	0.71
1:A:1368:G:H5''	9:I:112:LYS:HB3	1.73	0.71
13:M:23:TYR:CB	13:M:67:GLU:HA	2.20	0.71
1:A:1411:C:H42	1:A:1489:G:H1	1.38	0.71
1:A:73:C:H2'	1:A:74:C:H6	1.54	0.71
6:F:4:TYR:HE1	6:F:92:LYS:HG2	1.56	0.71
2:B:205:ASP:OD1	2:B:206:ASP:N	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:36:C:OP1	12:L:123:LYS:NZ	2.22	0.70
1:A:980:C:H5''	1:A:981:U:H5	1.56	0.70
4:D:187:ARG:HH22	4:D:188:LEU:HD12	1.56	0.70
1:A:858:G:N7	25:A:2220:HOH:O	2.24	0.70
1:A:1053:G:HO2'	1:A:1199:U:H5	1.39	0.70
1:A:200:G:H1	1:A:217:C:H42	1.38	0.70
1:A:1004:A:O2'	1:A:1005:A:O5'	2.08	0.70
9:I:48:GLU:OE2	9:I:51:ARG:NH1	2.24	0.70
2:B:73:THR:HG21	2:B:96:ARG:HD2	1.74	0.70
8:H:95:VAL:HG23	8:H:99:GLU:HB2	1.73	0.70
15:O:87:ILE:HG22	15:O:88:ARG:H	1.54	0.70
2:B:87:ARG:HH21	2:B:233:SER:HB2	1.57	0.70
1:A:1255:G:O6	1:A:1282:C:N4	2.22	0.70
1:A:1518:MA6:H93	1:A:1519:MA6:N1	2.06	0.70
21:U:10:ARG:HD3	21:U:13:ILE:HD12	1.74	0.69
1:A:1168:A:H2'	1:A:1169:A:C8	2.28	0.69
1:A:1236:A:H4'	1:A:1304:G:H4'	1.74	0.69
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.73	0.69
6:F:4:TYR:HB2	6:F:65:VAL:HG22	1.71	0.69
7:G:92:SER:OG	7:G:95:ARG:N	2.21	0.69
1:A:103:C:P	20:T:17:ARG:HH12	2.15	0.69
1:A:353:A:H5'	1:A:353:A:H8	1.56	0.69
1:A:1358:U:H5''	14:N:35:ARG:HD2	1.73	0.69
1:A:993:G:O6	1:A:1045:C:N4	2.26	0.69
2:B:185:ILE:HA	2:B:199:TYR:O	1.92	0.69
16:P:68:ASP:OD1	16:P:68:ASP:N	2.24	0.69
22:A:1601:SRY:O61	12:L:46:LYS:HD2	1.93	0.69
4:D:63:LYS:NZ	4:D:197:PRO:O	2.26	0.69
4:D:65:ARG:HG3	4:D:75:PHE:CD1	2.27	0.69
6:F:14:LEU:HD21	6:F:84:ASN:HD22	1.57	0.69
10:J:38:ILE:HG22	10:J:39:PRO:HD2	1.74	0.69
13:M:23:TYR:HB3	13:M:67:GLU:HA	1.73	0.69
19:S:22:LEU:HD11	19:S:28:LYS:HB2	1.75	0.69
1:A:36:C:H5''	12:L:123:LYS:HD3	1.75	0.68
1:A:250:A:H4'	1:A:251:G:O5'	1.93	0.68
1:A:827:U:H5''	1:A:828:A:OP2	1.93	0.68
3:C:120:VAL:HG12	3:C:124:ILE:HD11	1.75	0.68
1:A:677:U:H3	1:A:713:G:H22	1.40	0.68
1:A:390:C:H4'	16:P:28:ARG:HH21	1.58	0.68
1:A:1329:A:H5'	13:M:29:ARG:HD2	1.75	0.68
1:A:1290:G:H2'	1:A:1291:G:H8	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:40:ILE:HD11	19:S:62:ILE:HG23	1.75	0.68
1:A:1246:C:N4	1:A:1291:G:H1	1.91	0.68
1:A:1124:G:H2'	1:A:1145:C:H41	1.59	0.68
3:C:14:ILE:HB	3:C:15:THR:HG23	1.75	0.68
1:A:758:G:C8	25:A:2216:HOH:O	2.47	0.68
17:Q:84:LEU:HD12	17:Q:84:LEU:H	1.59	0.68
1:A:452:A:O2'	1:A:453:A:O5'	2.12	0.68
1:A:501:C:H2'	1:A:502:G:C8	2.28	0.68
1:A:1022:G:N2	1:A:1023:G:O6	2.25	0.68
4:D:119:GLN:HG3	4:D:123:HIS:HD2	1.59	0.68
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.75	0.68
1:A:1338:G:H2'	1:A:1339:A:C8	2.28	0.68
10:J:12:ASP:HB3	10:J:15:THR:HG22	1.76	0.68
13:M:11:ARG:HA	13:M:45:VAL:HG11	1.74	0.68
1:A:505:G:H1	1:A:526:C:H42	1.40	0.67
1:A:1058:G:OP1	3:C:199:LYS:NZ	2.27	0.67
14:N:26:ARG:HD2	14:N:47:LEU:HD11	1.76	0.67
1:A:1095:U:OP1	1:A:1108:G:N2	2.20	0.67
6:F:100:ASN:HB2	18:R:23:LYS:HD2	1.74	0.67
1:A:1006:C:H42	1:A:1022:G:H1	1.39	0.67
5:E:145:LYS:O	5:E:148:VAL:HG23	1.94	0.67
10:J:34:VAL:HG13	10:J:74:ILE:HA	1.75	0.67
2:B:7:VAL:HG11	2:B:221:LEU:HD23	1.77	0.67
4:D:68:TYR:OH	4:D:98:GLU:OE1	2.09	0.67
5:E:91:LEU:HB3	5:E:118:ILE:HD11	1.75	0.67
12:L:27:LEU:C	12:L:29:GLY:H	1.97	0.67
9:I:50:LEU:HD23	9:I:85:LEU:HD13	1.76	0.67
2:B:16:HIS:CE1	2:B:210:SER:HB2	2.30	0.67
1:A:1195:C:H3'	1:A:1196:U:C5'	2.25	0.66
11:K:40:ILE:HG23	11:K:75:TYR:CD2	2.30	0.66
3:C:14:ILE:O	3:C:16:ARG:N	2.28	0.66
1:A:35:G:H2'	1:A:36:C:H6	1.60	0.66
1:A:1147:C:O2'	9:I:16:ARG:HD3	1.94	0.66
1:A:1164:G:N2	1:A:1172:C:N3	2.42	0.66
1:A:1305:G:OP1	21:U:2:GLY:N	2.28	0.66
4:D:187:ARG:NH2	4:D:188:LEU:HB2	2.10	0.66
1:A:258:G:H2'	1:A:259:G:H8	1.59	0.66
1:A:758:G:N7	25:A:2216:HOH:O	2.28	0.66
17:Q:58:GLU:HB2	17:Q:74:LEU:HB3	1.75	0.66
4:D:13:ARG:NH2	4:D:36:ARG:HH21	1.93	0.66
15:O:28:GLN:O	15:O:32:LEU:HB2	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.31	0.66
4:D:8:VAL:O	4:D:11:LEU:N	2.28	0.66
11:K:91:ARG:HD2	18:R:88:LYS:NZ	2.09	0.66
7:G:18:TYR:OH	7:G:58:PRO:HB2	1.96	0.66
15:O:4:THR:HG23	15:O:7:GLU:CD	2.15	0.66
1:A:1057:G:H5''	3:C:154:SER:HB2	1.78	0.66
1:A:39:G:N2	1:A:403:C:O2	2.24	0.65
4:D:163:GLU:HG3	4:D:166:LYS:HD2	1.78	0.65
1:A:21:G:N2	1:A:885:G:O3'	2.29	0.65
9:I:114:TYR:HE1	10:J:61:GLU:H	1.44	0.65
2:B:162:ILE:HG22	2:B:164:VAL:HG23	1.78	0.65
21:U:10:ARG:HA	21:U:13:ILE:HB	1.79	0.65
1:A:620:C:H2'	1:A:621:A:O4'	1.97	0.65
1:A:1240:U:OP1	7:G:119:ARG:NH2	2.28	0.65
2:B:19:HIS:HB3	2:B:20:GLU:HG2	1.79	0.65
7:G:18:TYR:HE2	7:G:59:LEU:HA	1.60	0.65
4:D:8:VAL:O	4:D:10:ARG:N	2.29	0.65
5:E:71:LEU:HD21	5:E:115:VAL:HG22	1.78	0.65
11:K:15:ALA:HA	11:K:77:MET:HA	1.79	0.65
18:R:43:PHE:HD2	18:R:56:THR:HG22	1.61	0.65
1:A:532:A:HO2'	1:A:533:A:P	2.20	0.65
4:D:13:ARG:HD2	4:D:38:TYR:O	1.97	0.65
11:K:57:THR:HG23	11:K:60:ALA:H	1.62	0.65
14:N:26:ARG:HB2	14:N:43:CYS:SG	2.37	0.65
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.30	0.65
1:A:1126:U:H3	1:A:1149:C:H1'	1.62	0.65
1:A:1413:A:H2	1:A:1487:G:H22	1.45	0.65
9:I:8:GLY:HA3	9:I:79:LEU:HB3	1.79	0.65
12:L:38:THR:HG22	12:L:39:VAL:HG13	1.78	0.65
8:H:123:GLU:O	8:H:127:LEU:HB2	1.97	0.64
18:R:87:ARG:HD3	18:R:87:ARG:N	2.12	0.64
1:A:1505:G:C8	1:A:1505:G:H3'	2.32	0.64
16:P:21:VAL:HG12	16:P:33:ILE:HD12	1.78	0.64
5:E:143:ARG:HH12	8:H:77:GLU:CD	2.01	0.64
7:G:26:PHE:HD1	7:G:101:LEU:HD22	1.62	0.64
11:K:32:ILE:HD11	11:K:68:ALA:HB1	1.78	0.64
1:A:1255:G:O2'	1:A:1258:G:H1'	1.97	0.64
1:A:673:G:H2'	1:A:674:G:C8	2.33	0.64
9:I:22:GLY:N	9:I:58:HIS:O	2.25	0.64
1:A:1097:C:H2'	1:A:1098:C:C6	2.32	0.64
2:B:97:TRP:HZ2	2:B:102:LEU:HD22	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:4:TYR:CD1	9:I:88:TYR:HB2	2.33	0.64
1:A:691:G:H2'	1:A:692:U:C6	2.33	0.63
6:F:4:TYR:CE1	6:F:92:LYS:HG2	2.33	0.63
8:H:35:ILE:O	8:H:39:LEU:HD22	1.98	0.63
1:A:35:G:H2'	1:A:36:C:C6	2.33	0.63
12:L:113:ARG:HH11	12:L:113:ARG:HG3	1.61	0.63
7:G:91:VAL:HG12	7:G:95:ARG:HB3	1.78	0.63
1:A:1003(A):G:N2	1:A:1038:C:O2'	2.18	0.63
1:A:1305:G:N2	1:A:1331:G:H1'	2.14	0.63
3:C:25:GLY:HA2	3:C:28:GLN:N	2.14	0.63
12:L:27:LEU:C	12:L:29:GLY:N	2.50	0.63
2:B:95:GLN:HG3	2:B:148:TYR:HA	1.79	0.63
15:O:33:THR:HG21	15:O:85:LEU:HD13	1.81	0.63
20:T:71:THR:O	20:T:72:LEU:HD23	1.99	0.63
1:A:384:G:H2'	1:A:385:C:C6	2.33	0.63
1:A:451:A:N6	1:A:481:G:C4	2.67	0.63
5:E:17:ALA:HB2	5:E:26:PHE:HD2	1.64	0.63
4:D:107:ARG:HH21	4:D:194:LEU:HD11	1.63	0.63
13:M:40:ASN:HB3	13:M:43:THR:HG23	1.80	0.63
1:A:62:U:O2'	1:A:379:C:O2	2.15	0.62
1:A:953:G:H5'	1:A:965:A:H61	1.64	0.62
3:C:88:ARG:HE	3:C:100:ALA:HB1	1.63	0.62
9:I:51:ARG:HG2	9:I:56:LEU:HG	1.81	0.62
4:D:173:TRP:CE2	4:D:189:PRO:HB3	2.34	0.62
10:J:61:GLU:OE1	14:N:45:ARG:NH1	2.27	0.62
1:A:691:G:H2'	1:A:692:U:H6	1.65	0.62
1:A:1183:A:O2'	1:A:1184:G:OP1	2.16	0.62
2:B:97:TRP:CZ2	2:B:102:LEU:HD22	2.34	0.62
3:C:148:GLY:HA3	3:C:172:ARG:O	2.00	0.62
5:E:84:PHE:CE1	5:E:133:TYR:HB3	2.35	0.62
8:H:10:LEU:HD22	8:H:83:ILE:HD13	1.82	0.62
10:J:76:ASN:O	10:J:78:ASN:HB2	2.00	0.62
6:F:8:ILE:HD12	6:F:26:ILE:HD13	1.81	0.62
11:K:40:ILE:HG23	11:K:75:TYR:HD2	1.64	0.62
12:L:87:GLY:HA2	12:L:98:TYR:CA	2.26	0.62
12:L:82:VAL:HG12	12:L:106:ASP:OD1	2.00	0.62
1:A:413:G:O2'	1:A:428:G:N2	2.32	0.62
1:A:980:C:H5''	1:A:981:U:C5	2.34	0.62
3:C:120:VAL:O	3:C:124:ILE:HG13	2.00	0.62
7:G:68:ASN:O	7:G:138:LYS:NZ	2.28	0.62
1:A:826:C:O2	8:H:15:ASN:ND2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:202:ILE:HG22	3:C:204:LEU:HD23	1.82	0.61
5:E:118:ILE:C	5:E:119:LEU:HD23	2.21	0.61
19:S:14:HIS:CE1	19:S:35:SER:HB2	2.35	0.61
1:A:328:C:O2	1:A:328:C:H2'	2.00	0.61
1:A:375:U:OP1	16:P:69:THR:HG21	2.00	0.61
1:A:789:U:O2'	1:A:791:G:N7	2.33	0.61
1:A:129:U:O3'	1:A:129(A):G:H3'	2.00	0.61
1:A:191:G:O2'	20:T:101:GLY:O	2.17	0.61
1:A:838:G:H2'	1:A:839:U:H5''	1.82	0.61
1:A:9:G:OP1	5:E:122:GLU:HG3	2.00	0.61
1:A:345:C:OP2	1:A:345:C:H6	1.84	0.61
5:E:80:ILE:HD12	5:E:80:ILE:H	1.65	0.61
13:M:16:ASP:OD1	13:M:16:ASP:N	2.33	0.61
2:B:87:ARG:HB3	2:B:87:ARG:HH11	1.66	0.61
9:I:51:ARG:NH1	9:I:51:ARG:HB2	2.15	0.61
15:O:26:GLU:HA	15:O:81:LEU:HD11	1.83	0.61
1:A:344:A:H5'	1:A:345:C:C5	2.35	0.61
1:A:560:U:H5'	1:A:566:G:N2	2.16	0.61
1:A:682:G:H1	1:A:708:C:H42	1.47	0.61
1:A:1300:G:O2'	1:A:1301:U:OP2	2.10	0.61
3:C:89:GLU:HG3	3:C:93:LYS:NZ	2.15	0.61
6:F:35:ALA:HA	6:F:67:MET:HB3	1.82	0.61
16:P:74:LEU:HD13	16:P:79:VAL:HG21	1.83	0.61
1:A:551:U:O2'	12:L:86:ARG:HD2	2.01	0.61
1:A:975:A:H5'	1:A:975:A:C8	2.34	0.60
1:A:1381:U:H2'	1:A:1382:C:H6	1.66	0.60
1:A:427:U:OP1	4:D:13:ARG:NH2	2.34	0.60
1:A:757:U:H2'	1:A:758:G:O4'	2.01	0.60
8:H:20:TYR:CE1	8:H:76:PRO:HG2	2.36	0.60
12:L:27:LEU:HG	12:L:28:LYS:H	1.66	0.60
18:R:43:PHE:C	18:R:51:LEU:HD12	2.22	0.60
1:A:981:U:H5'	14:N:21:TYR:CZ	2.36	0.60
1:A:695:A:OP2	11:K:53:SER:N	2.32	0.60
1:A:269:C:H2'	1:A:270:A:C8	2.36	0.60
7:G:20:ASP:OD1	7:G:21:VAL:N	2.35	0.60
1:A:21:G:O2'	1:A:22:G:OP1	2.12	0.60
1:A:671:G:H1	1:A:735:C:H42	1.49	0.60
6:F:80:ARG:NH1	6:F:88:VAL:O	2.30	0.60
8:H:9:MET:HG3	8:H:26:VAL:HG21	1.84	0.60
1:A:1238:A:H5'	1:A:1336:C:N4	2.16	0.60
2:B:61:LEU:HD11	2:B:160:ASP:HB3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:87:ARG:NH1	2:B:230:VAL:HG21	2.17	0.60
8:H:82:HIS:HE1	8:H:138:TRP:HE1	1.50	0.60
9:I:53:VAL:HG21	9:I:85:LEU:HD11	1.84	0.60
18:R:56:THR:HB	18:R:58:LEU:HG	1.84	0.60
1:A:1191:A:OP1	3:C:3:ASN:HB2	2.02	0.60
2:B:70:PHE:HE1	2:B:90:MET:HG3	1.67	0.60
18:R:53:ARG:HG2	18:R:63:GLN:NE2	2.13	0.60
6:F:7:ASN:HD21	18:R:34:TYR:HE1	1.49	0.60
7:G:70:LYS:HD3	7:G:96:GLN:HB3	1.84	0.60
13:M:23:TYR:HB2	13:M:67:GLU:HG2	1.82	0.60
1:A:665:A:N3	1:A:732:C:H2'	2.17	0.60
1:A:1182:G:H4'	1:A:1183:A:H5''	1.81	0.60
3:C:153:VAL:HG23	3:C:198:VAL:HG13	1.84	0.60
9:I:114:TYR:HD1	10:J:60:ARG:HB2	1.66	0.60
1:A:73:C:H2'	1:A:74:C:C6	2.35	0.59
1:A:279:A:OP1	1:A:280:C:O2'	2.13	0.59
2:B:117:GLU:O	2:B:120:ALA:HB3	2.01	0.59
3:C:34:LEU:HD13	3:C:38:ARG:NH2	2.15	0.59
5:E:118:ILE:O	5:E:119:LEU:HD23	2.02	0.59
16:P:43:LYS:HA	16:P:48:TRP:HB3	1.84	0.59
1:A:279:A:OP2	17:Q:95:TYR:OH	2.06	0.59
17:Q:27:PHE:CZ	17:Q:36:ILE:HD11	2.36	0.59
8:H:97:VAL:HA	8:H:100:ILE:HD11	1.83	0.59
18:R:39:VAL:HG13	18:R:40:LEU:HD23	1.84	0.59
1:A:349:A:H2'	1:A:350:G:H5''	1.85	0.59
2:B:82:ARG:HG2	2:B:92:TYR:HE1	1.65	0.59
3:C:88:ARG:CG	3:C:101:LEU:HB2	2.32	0.59
9:I:70:LYS:NZ	9:I:73:GLN:OE1	2.36	0.59
1:A:179:A:H2'	1:A:180:U:C6	2.38	0.59
1:A:1150:U:O4	1:A:1151:A:N6	2.35	0.59
15:O:26:GLU:OE1	15:O:77:ARG:HD2	2.01	0.59
20:T:14:LYS:O	20:T:18:GLN:HG2	2.03	0.59
1:A:552:U:H2'	1:A:553:A:C8	2.38	0.59
1:A:1026:G:O2'	1:A:1027:C:OP1	2.18	0.59
1:A:1376:U:OP1	7:G:98:SER:OG	2.16	0.59
2:B:82:ARG:HA	2:B:92:TYR:CE1	2.38	0.59
18:R:26:LEU:HD23	18:R:29:PHE:CE2	2.37	0.59
1:A:200:G:H2'	1:A:201:C:O4'	2.02	0.59
1:A:1121:U:H2'	1:A:1122:U:H6	1.68	0.59
1:A:1180:A:OP1	9:I:103:THR:OG1	2.21	0.59
20:T:75:ASN:N	20:T:75:ASN:OD1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:11:VAL:HG22	17:Q:29:HIS:CD2	2.38	0.59
16:P:69:THR:HA	16:P:72:ARG:HG2	1.83	0.59
1:A:489:C:H2'	1:A:490:G:H8	1.67	0.58
1:A:1255:G:H2'	1:A:1279:A:H61	1.68	0.58
2:B:15:VAL:HG13	2:B:209:ARG:HB3	1.83	0.58
5:E:43:LEU:HD23	5:E:44:GLY:N	2.17	0.58
15:O:55:GLY:HA2	15:O:58:MET:HE2	1.85	0.58
1:A:5:U:H4'	1:A:6:G:O5'	2.02	0.58
1:A:509:A:C8	1:A:509:A:H3'	2.38	0.58
1:A:1004:A:H4'	1:A:1005:A:OP1	2.03	0.58
1:A:1541:PSU:H3'	1:A:1541:PSU:H6	1.68	0.58
4:D:170:VAL:HG22	4:D:174:LEU:HD12	1.85	0.58
9:I:26:VAL:HG12	9:I:61:ALA:HB3	1.85	0.58
11:K:124:LYS:HG3	11:K:125:PHE:CD2	2.39	0.58
18:R:43:PHE:O	18:R:51:LEU:HD12	2.03	0.58
1:A:353:A:H5'	1:A:353:A:C8	2.38	0.58
1:A:526:C:O3'	22:A:1601:SRY:HI31	2.03	0.58
7:G:122:HIS:O	7:G:126:ASP:HB2	2.02	0.58
6:F:48:LEU:HG	6:F:57:GLN:HA	1.84	0.58
12:L:42:THR:HA	12:L:53:ARG:O	2.04	0.58
14:N:39:LEU:HB3	14:N:43:CYS:HB3	1.86	0.58
1:A:89:C:O2'	1:A:90:U:H5'	2.02	0.58
1:A:945:G:O6	1:A:1236:A:N1	2.36	0.58
1:A:1240:U:C2	7:G:32:ARG:HD2	2.37	0.58
7:G:60:LYS:HZ3	7:G:63:LYS:HD2	1.68	0.58
4:D:65:ARG:HD2	4:D:72:GLU:HA	1.86	0.58
7:G:70:LYS:HG2	7:G:100:ALA:HB2	1.84	0.58
12:L:84:LEU:HD23	12:L:101:VAL:HG21	1.86	0.58
1:A:1029:C:N4	1:A:1032:G:H1	2.01	0.58
1:A:1255:G:O2'	1:A:1258:G:O2'	2.21	0.58
1:A:1474:G:H2'	1:A:1475:G:H8	1.67	0.58
4:D:30:LYS:O	4:D:32:ALA:N	2.36	0.58
4:D:55:ALA:O	4:D:59:ARG:HG2	2.04	0.58
17:Q:4:LYS:HG2	17:Q:6:LEU:HD21	1.86	0.58
2:B:18:GLY:HA3	2:B:42:ILE:H	1.69	0.58
9:I:48:GLU:N	9:I:49:PRO:HD2	2.19	0.58
15:O:38:ARG:HB3	15:O:38:ARG:NH1	2.16	0.58
1:A:1225:A:H2'	1:A:1225:A:N3	2.18	0.57
1:A:1242:C:N4	1:A:1295:G:H1	2.01	0.57
5:E:83:GLU:HG2	5:E:88:LYS:HG3	1.86	0.57
8:H:100:ILE:HG23	8:H:112:LEU:HD11	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:45:GLN:HB3	20:T:91:LEU:HD13	1.86	0.57
6:F:15:ASP:HB3	6:F:18:GLN:NE2	2.19	0.57
10:J:12:ASP:OD2	10:J:15:THR:N	2.31	0.57
16:P:28:ARG:HD2	16:P:29:ASP:OD2	2.04	0.57
1:A:616:G:H1	1:A:624:C:H42	1.52	0.57
1:A:859:A:OP2	1:A:869:G:N1	2.33	0.57
1:A:1493:A:H2'	1:A:1494:G:C8	2.37	0.57
7:G:47:CYS:HB3	7:G:58:PRO:HG2	1.85	0.57
11:K:99:GLN:NE2	11:K:105:VAL:HG21	2.19	0.57
18:R:22:VAL:HG23	18:R:56:THR:HA	1.85	0.57
21:U:6:ARG:HG2	21:U:15:ARG:HE	1.69	0.57
1:A:258:G:H2'	1:A:259:G:C8	2.38	0.57
1:A:1223:C:H5''	1:A:1224:G:H5''	1.85	0.57
5:E:15:ARG:HG2	5:E:15:ARG:HH11	1.69	0.57
1:A:939:G:H5''	7:G:102:ARG:HH22	1.69	0.57
1:A:1121:U:H2'	1:A:1122:U:C6	2.40	0.57
2:B:112:VAL:O	2:B:115:LEU:N	2.37	0.57
16:P:53:VAL:O	16:P:55:ARG:N	2.38	0.57
19:S:22:LEU:HG	19:S:28:LYS:HD2	1.85	0.57
1:A:184:G:H2'	1:A:185:A:C8	2.39	0.57
1:A:1347:G:N2	1:A:1374:A:OP2	2.26	0.57
2:B:17:PHE:HD1	2:B:18:GLY:N	2.02	0.57
2:B:189:ASP:HB3	2:B:203:GLY:O	2.05	0.57
4:D:31:CYS:O	4:D:31:CYS:SG	2.62	0.57
1:A:1510:U:H2'	1:A:1511:G:H8	1.67	0.57
2:B:92:TYR:CD2	2:B:151:GLY:HA3	2.40	0.57
11:K:121:PRO:HD2	11:K:126:ARG:HD2	1.85	0.57
16:P:53:VAL:HG23	16:P:54:GLU:H	1.70	0.57
1:A:695:A:OP2	11:K:52:GLY:HA3	2.05	0.57
11:K:82:VAL:O	11:K:109:VAL:HG23	2.04	0.57
1:A:83:U:O2'	1:A:84:U:H5'	2.05	0.57
1:A:416:G:H2'	1:A:417:C:C6	2.40	0.57
1:A:1404:5MC:H1'	1:A:1499:A:H2	1.66	0.57
2:B:29:ALA:HA	2:B:32:ILE:HG13	1.87	0.57
5:E:130:ASN:N	5:E:130:ASN:OD1	2.35	0.57
9:I:15:ALA:HA	9:I:65:VAL:HB	1.85	0.57
1:A:254:G:OP1	17:Q:67:LYS:O	2.23	0.56
1:A:1329:A:P	13:M:28:ALA:HB3	2.45	0.56
7:G:5:ARG:NH1	7:G:8:GLU:H	2.03	0.56
10:J:76:ASN:HB3	10:J:78:ASN:CG	2.26	0.56
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:95:U:H2'	1:A:96:G:C8	2.39	0.56
1:A:401:C:H2'	1:A:402:G:H8	1.71	0.56
13:M:22:ILE:HG22	13:M:23:TYR:N	2.20	0.56
17:Q:29:HIS:CG	17:Q:30:PRO:HD2	2.40	0.56
1:A:1325:C:OP1	21:U:15:ARG:HD3	2.05	0.56
1:A:1427:U:H2'	1:A:1428:A:C8	2.41	0.56
5:E:31:LEU:HD21	5:E:43:LEU:HD21	1.88	0.56
9:I:32:ASP:OD1	9:I:33:PHE:N	2.38	0.56
17:Q:58:GLU:CB	17:Q:74:LEU:HB3	2.34	0.56
21:U:6:ARG:O	21:U:12:LYS:HE3	2.04	0.56
3:C:44:GLU:HA	3:C:52:LEU:HD21	1.87	0.56
1:A:17:U:H2'	1:A:18:C:C6	2.39	0.56
3:C:22:TRP:HB3	3:C:59:ARG:HB2	1.86	0.56
13:M:5:ALA:HB2	13:M:22:ILE:HD13	1.88	0.56
1:A:203:U:P	1:A:203:U:H3'	2.45	0.56
1:A:357:G:C2	1:A:358:U:C5	2.94	0.56
1:A:489:C:H2'	1:A:490:G:C8	2.41	0.56
1:A:837:G:C2	1:A:850:U:O2	2.59	0.56
1:A:1505:G:H3'	1:A:1505:G:H8	1.69	0.56
6:F:50:TYR:CE1	18:R:77:GLY:HA2	2.40	0.56
9:I:97:LYS:N	9:I:98:PRO:HD2	2.20	0.56
14:N:37:PHE:HD1	14:N:44:LEU:HD13	1.71	0.56
1:A:262:A:H5'	20:T:74:LYS:HG3	1.87	0.56
1:A:928:G:O2'	1:A:1533:C:OP1	2.21	0.56
1:A:1141:C:H2'	1:A:1142:G:C8	2.41	0.56
1:A:1234:C:H1'	1:A:1364:U:O2	2.05	0.56
2:B:240:GLN:OE1	2:B:240:GLN:N	2.39	0.56
6:F:11:ASN:HB2	6:F:86:ARG:CZ	2.36	0.56
16:P:57:ARG:HG3	16:P:79:VAL:HG12	1.87	0.56
1:A:54:C:H42	1:A:357:G:H1	1.54	0.56
1:A:939:G:H5''	7:G:102:ARG:NH2	2.20	0.56
4:D:31:CYS:C	4:D:33:MET:H	2.08	0.56
5:E:146:ALA:O	5:E:149:GLU:HB2	2.05	0.56
10:J:78:ASN:O	10:J:82:ILE:HB	2.06	0.56
13:M:86:CYS:SG	13:M:87:TYR:N	2.78	0.56
19:S:16:LEU:O	19:S:20:LEU:HB2	2.05	0.56
1:A:976:G:H5''	1:A:1358:U:O2	2.06	0.56
1:A:1303:C:C2'	1:A:1304:G:H5'	2.36	0.56
6:F:77:ARG:O	6:F:81:ILE:HG13	2.05	0.56
12:L:60:LEU:N	12:L:64:TYR:O	2.38	0.56
19:S:19:VAL:HA	19:S:22:LEU:HB3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:695:A:C2	1:A:787:A:H1'	2.41	0.56
1:A:1190:G:OP1	3:C:4:LYS:HA	2.06	0.56
1:A:1301:U:O2'	1:A:1302:U:H3'	2.07	0.56
5:E:80:ILE:HD12	5:E:80:ILE:N	2.20	0.56
18:R:43:PHE:CG	18:R:66:LEU:HD21	2.41	0.56
2:B:162:ILE:O	2:B:185:ILE:HG12	2.06	0.55
8:H:82:HIS:HE1	8:H:138:TRP:NE1	2.01	0.55
18:R:60:ALA:O	18:R:64:ARG:HG3	2.06	0.55
1:A:420:U:H3'	1:A:422:C:H41	1.71	0.55
1:A:572:A:H5'	1:A:573:A:OP2	2.06	0.55
1:A:1366:C:H2'	1:A:1367:C:C6	2.34	0.55
2:B:115:LEU:HD23	2:B:145:LEU:CB	2.36	0.55
1:A:1198:G:H2'	1:A:1199:U:C6	2.42	0.55
1:A:1531:A:O5'	1:A:1531:A:H8	1.89	0.55
2:B:54:THR:HG22	2:B:58:ILE:HD11	1.88	0.55
6:F:3:ARG:O	6:F:93:SER:HB2	2.06	0.55
12:L:62:SER:HB2	12:L:64:TYR:HB2	1.87	0.55
15:O:39:LEU:CD2	15:O:56:LEU:HB2	2.32	0.55
17:Q:81:ARG:NE	17:Q:84:LEU:HD11	2.22	0.55
1:A:481:G:O2'	1:A:482:A:H8	1.89	0.55
6:F:4:TYR:HD1	6:F:92:LYS:HA	1.72	0.55
7:G:60:LYS:HA	7:G:63:LYS:HB3	1.88	0.55
9:I:50:LEU:HD11	9:I:81:ILE:HD12	1.87	0.55
9:I:63:ILE:HG21	9:I:77:ILE:HG12	1.88	0.55
1:A:447:G:H2'	1:A:485:G:N2	2.22	0.55
1:A:665:A:C2	1:A:732:C:C2	2.94	0.55
2:B:162:ILE:CG2	2:B:164:VAL:HG23	2.37	0.55
1:A:1001:A:H2'	1:A:1002:G:H8	1.72	0.55
1:A:83:U:C2'	1:A:84:U:H5'	2.36	0.55
5:E:28:PHE:CD1	5:E:51:VAL:HG23	2.42	0.55
7:G:65:ALA:O	7:G:69:VAL:HG23	2.07	0.55
1:A:653:A:OP1	8:H:56:LYS:NZ	2.39	0.55
1:A:1403:C:C6	1:A:1404:5MC:HM52	2.41	0.55
2:B:115:LEU:HD23	2:B:145:LEU:HB3	1.89	0.55
9:I:10:ARG:HD3	9:I:105:ASP:HB3	1.88	0.55
13:M:91:ARG:HB2	13:M:98:VAL:HG22	1.89	0.55
1:A:1255:G:H2'	1:A:1279:A:N6	2.21	0.55
1:A:280:C:H4'	1:A:281:G:OP2	2.07	0.54
1:A:1138:G:O2'	1:A:1140:C:H5'	2.06	0.54
4:D:127:THR:HG23	4:D:147:ALA:O	2.07	0.54
9:I:63:ILE:HD13	9:I:77:ILE:HG23	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:53:ARG:HG2	12:L:69:TYR:HE1	1.72	0.54
16:P:17:TYR:HE1	16:P:41:PRO:HG3	1.72	0.54
1:A:1011:G:H2'	1:A:1012:U:O4'	2.08	0.54
1:A:1127:G:H2'	1:A:1127:G:N3	2.22	0.54
10:J:82:ILE:HG22	10:J:83:GLU:OE1	2.06	0.54
1:A:80:G:H1	1:A:89:C:H42	1.56	0.54
1:A:390:C:O3'	16:P:28:ARG:NH2	2.40	0.54
1:A:457:C:H2'	1:A:458:C:C6	2.42	0.54
1:A:1163:C:C2'	1:A:1164:G:H5'	2.37	0.54
2:B:142:LEU:HD13	2:B:146:GLN:NE2	2.23	0.54
3:C:11:ARG:NH1	3:C:177:THR:O	2.40	0.54
15:O:15:PHE:CZ	15:O:85:LEU:HD21	2.43	0.54
20:T:29:LYS:O	20:T:32:ALA:HB3	2.06	0.54
1:A:525:C:H2'	1:A:526:C:C6	2.42	0.54
1:A:1303:C:H2'	1:A:1304:G:H5'	1.89	0.54
2:B:134:GLU:O	2:B:138:LEU:HG	2.07	0.54
15:O:42:HIS:C	15:O:42:HIS:CD2	2.79	0.54
1:A:1048:G:H2'	1:A:1050:G:C8	2.43	0.54
1:A:1054:C:OP1	1:A:1197:G:OP1	2.25	0.54
6:F:4:TYR:CD1	6:F:92:LYS:HA	2.42	0.54
1:A:858:G:O2'	1:A:859:A:H5''	2.08	0.54
1:A:946:A:H2'	1:A:947:G:C8	2.42	0.54
1:A:1243:C:H2'	1:A:1244:C:C6	2.43	0.54
1:A:1243:C:H2'	1:A:1244:C:H6	1.73	0.54
2:B:20:GLU:OE1	2:B:23:ARG:NH2	2.41	0.54
5:E:81:GLU:HG2	5:E:90:VAL:HG13	1.90	0.54
12:L:82:VAL:O	12:L:106:ASP:HB2	2.08	0.54
15:O:82:ILE:HD12	15:O:87:ILE:HB	1.90	0.54
19:S:28:LYS:HG2	19:S:29:ARG:H	1.73	0.54
19:S:39:THR:HG23	19:S:70:LYS:HE2	1.88	0.54
21:U:5:ASP:HB3	21:U:8:THR:OG1	2.08	0.54
1:A:92:C:O2'	1:A:93:G:H5'	2.07	0.54
1:A:139:G:C2'	1:A:140:A:H5'	2.37	0.54
1:A:269:C:H2'	1:A:270:A:H8	1.71	0.54
1:A:731:G:OP1	1:A:766:A:H1'	2.07	0.54
1:A:955:U:H2'	1:A:956:U:H6	1.73	0.54
2:B:21:ARG:HG3	2:B:22:LYS:H	1.72	0.54
13:M:40:ASN:ND2	13:M:42:ALA:HB3	2.22	0.54
1:A:413:G:N2	1:A:429:U:OP2	2.28	0.54
1:A:1000:U:H3	1:A:1041:A:H61	1.55	0.54
1:A:1179:A:H2'	1:A:1180:A:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:91:VAL:HG21	7:G:96:GLN:HG3	1.90	0.54
17:Q:97:SER:OG	17:Q:98:LEU:N	2.40	0.54
1:A:912:C:O2'	1:A:913:A:H5'	2.08	0.54
2:B:92:TYR:H	2:B:92:TYR:HD2	1.55	0.54
3:C:156:ARG:H	3:C:163:ALA:HA	1.72	0.54
6:F:60:PHE:CZ	18:R:78:LEU:HD21	2.42	0.54
18:R:59:SER:O	18:R:63:GLN:N	2.35	0.54
1:A:411:A:C5	1:A:413:G:H1'	2.43	0.54
1:A:551:U:H2'	1:A:552:U:C6	2.43	0.54
4:D:52:SER:O	4:D:56:VAL:HG23	2.07	0.54
5:E:11:ILE:CG2	5:E:31:LEU:HB3	2.34	0.54
5:E:86:ALA:HB3	5:E:125:SER:HB3	1.90	0.54
1:A:1357:A:H2'	1:A:1358:U:C5	2.43	0.53
2:B:163:PHE:CD1	2:B:185:ILE:HG13	2.43	0.53
18:R:59:SER:H	18:R:62:GLU:HB2	1.72	0.53
19:S:63:THR:HB	19:S:66:MET:HG3	1.90	0.53
1:A:1185:G:C2'	1:A:1186:G:H5'	2.38	0.53
1:A:1191:A:H5''	3:C:4:LYS:HE3	1.90	0.53
1:A:1332:A:H5'	1:A:1332:A:H8	1.72	0.53
5:E:90:VAL:C	5:E:91:LEU:HD23	2.28	0.53
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.90	0.53
10:J:79:ARG:HB2	10:J:80:LYS:HD2	1.89	0.53
14:N:15:LYS:HE3	14:N:16:PHE:CE1	2.43	0.53
16:P:66:PRO:HD2	16:P:71:ARG:HH12	1.73	0.53
1:A:673:G:H5''	6:F:87:ARG:NH1	2.22	0.53
1:A:1403:C:H2'	1:A:1404:5MC:C6	2.43	0.53
9:I:29:ASN:O	9:I:29:ASN:ND2	2.41	0.53
10:J:6:ILE:HB	10:J:72:VAL:HB	1.90	0.53
1:A:1141:C:H2'	1:A:1142:G:H8	1.73	0.53
1:A:1403:C:H3'	1:A:1404:5MC:HM51	1.91	0.53
4:D:107:ARG:HH21	4:D:194:LEU:CD1	2.22	0.53
5:E:15:ARG:HG2	5:E:15:ARG:NH1	2.24	0.53
10:J:45:ARG:HD2	14:N:36:PHE:CE2	2.43	0.53
1:A:172:A:H2'	1:A:173:U:H5'	1.91	0.53
1:A:299:G:C6	1:A:300:A:C6	2.97	0.53
1:A:481:G:HO2'	1:A:482:A:H8	1.54	0.53
1:A:617:G:H1	1:A:623:C:N4	2.04	0.53
2:B:219:VAL:HA	2:B:222:ILE:HD12	1.91	0.53
7:G:151:TYR:O	7:G:154:TYR:HB2	2.09	0.53
12:L:25:PRO:HB3	12:L:27:LEU:HD13	1.91	0.53
12:L:58:VAL:O	12:L:65:GLU:HA	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:27:VAL:O	15:O:31:LEU:HB2	2.08	0.53
18:R:43:PHE:CD2	18:R:56:THR:HG22	2.43	0.53
1:A:476:G:H2'	1:A:477:G:C8	2.44	0.53
1:A:1145:C:O2'	1:A:1146:A:O5'	2.22	0.53
1:A:1212:U:O2'	1:A:1213:A:O5'	2.21	0.53
1:A:1270:C:OP2	21:U:24:ARG:NH2	2.42	0.53
3:C:43:LEU:HA	3:C:47:LEU:HD13	1.90	0.53
3:C:121:ALA:HB2	3:C:198:VAL:HG21	1.91	0.53
15:O:36:ILE:HG13	15:O:59:MET:HE2	1.90	0.53
1:A:130:A:OP2	1:A:190(E):U:O2'	2.13	0.53
1:A:981:U:H5'	14:N:21:TYR:OH	2.09	0.53
4:D:92:VAL:O	4:D:96:LEU:HD13	2.09	0.53
12:L:93:LEU:O	12:L:96:VAL:HG23	2.09	0.53
12:L:113:ARG:HG3	12:L:113:ARG:NH1	2.23	0.53
1:A:328:C:O2'	1:A:329:A:OP2	2.13	0.53
1:A:1229:A:OP1	13:M:114:ARG:HD3	2.08	0.53
5:E:126:ARG:HH11	5:E:126:ARG:CG	2.18	0.53
9:I:126:SER:OG	9:I:127:LYS:HD2	2.09	0.53
14:N:39:LEU:HB3	14:N:43:CYS:CB	2.39	0.53
1:A:79:G:H1	1:A:90:U:H3	1.57	0.52
1:A:299:G:H2'	1:A:300:A:C8	2.44	0.52
1:A:434:U:H2'	1:A:435:C:C6	2.44	0.52
1:A:902:G:H2'	1:A:903:G:H8	1.74	0.52
1:A:922:G:C6	1:A:923:A:C6	2.97	0.52
1:A:1287:A:H2	1:A:1353:G:N3	2.06	0.52
3:C:26:LYS:NZ	10:J:45:ARG:HH22	2.06	0.52
4:D:35:ARG:O	4:D:36:ARG:HG3	2.09	0.52
13:M:2:ALA:O	13:M:10:PRO:HD2	2.09	0.52
16:P:3:LYS:HD3	16:P:24:ALA:HB2	1.90	0.52
1:A:977:A:N6	25:A:2230:HOH:O	2.42	0.52
1:A:1066:C:H2'	1:A:1067:A:H5'	1.91	0.52
1:A:1250:A:H4'	9:I:68:GLY:N	2.24	0.52
1:A:1426:C:H42	1:A:1474:G:H1	1.56	0.52
3:C:89:GLU:HG3	3:C:93:LYS:HZ3	1.73	0.52
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.90	0.52
8:H:58:TYR:O	8:H:59:LEU:HD23	2.08	0.52
10:J:22:LYS:O	10:J:25:GLU:HB2	2.09	0.52
17:Q:90:ILE:O	17:Q:93:GLN:HB2	2.09	0.52
1:A:144:G:H1	1:A:178:C:H42	1.57	0.52
1:A:390:C:H4'	16:P:28:ARG:NH2	2.23	0.52
1:A:788:U:H5''	1:A:789:U:OP2	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1228:C:OP1	13:M:115:LYS:HG3	2.09	0.52
4:D:36:ARG:HG2	4:D:38:TYR:OH	2.09	0.52
16:P:38:TYR:O	16:P:49:LEU:HD12	2.10	0.52
16:P:78:GLY:C	16:P:80:PHE:N	2.59	0.52
17:Q:27:PHE:O	17:Q:36:ILE:HD13	2.09	0.52
20:T:21:LYS:O	20:T:24:LEU:HB3	2.09	0.52
1:A:804:U:H5''	1:A:805:C:OP2	2.10	0.52
1:A:818:G:H3'	1:A:819:A:H5''	1.91	0.52
1:A:1403:C:C5	1:A:1404:5MC:HM52	2.43	0.52
2:B:25:ASN:OD1	2:B:27:LYS:N	2.38	0.52
10:J:37:PRO:HA	10:J:72:VAL:H	1.74	0.52
1:A:765:G:H5''	1:A:766:A:OP1	2.08	0.52
1:A:794:A:C8	1:A:794:A:C3'	2.90	0.52
1:A:112:G:C2'	1:A:113:G:H5'	2.39	0.52
1:A:1358:U:H5''	14:N:35:ARG:CD	2.40	0.52
1:A:1502:A:H2	1:A:1505:G:H1	1.57	0.52
2:B:158:LEU:HD23	2:B:159:PRO:CD	2.40	0.52
6:F:2:ARG:O	6:F:66:GLU:HA	2.08	0.52
12:L:27:LEU:CG	12:L:28:LYS:H	2.21	0.52
12:L:28:LYS:HE2	12:L:33:ARG:NH1	2.25	0.52
15:O:87:ILE:HG22	15:O:88:ARG:N	2.23	0.52
1:A:788:U:H3'	1:A:789:U:O4'	2.09	0.52
1:A:835:U:OP1	18:R:64:ARG:NH2	2.43	0.52
1:A:1488:G:C2'	1:A:1489:G:H5'	2.39	0.52
4:D:20:TYR:CD1	4:D:27:TYR:HE2	2.28	0.52
12:L:28:LYS:HE2	12:L:33:ARG:HH12	1.74	0.52
1:A:552:U:H2'	1:A:553:A:H8	1.74	0.52
1:A:1070:U:H2'	1:A:1071:C:H6	1.73	0.52
5:E:143:ARG:NH1	8:H:77:GLU:OE1	2.37	0.52
7:G:57:GLU:O	7:G:59:LEU:N	2.43	0.52
19:S:15:LEU:O	19:S:18:LYS:HG3	2.09	0.52
1:A:909:A:H2'	1:A:910:C:O4'	2.10	0.52
7:G:26:PHE:CD1	7:G:101:LEU:HD22	2.43	0.52
1:A:335:C:O2'	1:A:1433:A:N3	2.36	0.52
1:A:539:A:H2'	1:A:540:G:C8	2.45	0.52
2:B:62:ALA:HB1	2:B:222:ILE:HG23	1.92	0.52
4:D:128:VAL:HG12	4:D:129:ASN:ND2	2.24	0.52
7:G:26:PHE:CE2	7:G:124:LEU:HD11	2.45	0.52
12:L:39:VAL:HG22	12:L:57:LYS:HB2	1.92	0.52
13:M:23:TYR:CE2	13:M:71:ARG:HB3	2.45	0.52
1:A:22:G:H2'	1:A:23:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:A:H2'	1:A:449:C:C6	2.45	0.51
1:A:653:A:P	8:H:56:LYS:HZ1	2.32	0.51
1:A:1095:U:H2'	1:A:1096:C:O4'	2.10	0.51
1:A:1112:C:O2	3:C:179:ARG:HG3	2.09	0.51
1:A:1202:G:C4	14:N:42:ILE:HD13	2.46	0.51
1:A:1225:A:H5'	1:A:1226:C:OP2	2.10	0.51
2:B:161:ALA:O	2:B:162:ILE:HD13	2.10	0.51
10:J:22:LYS:HA	10:J:25:GLU:HG3	1.91	0.51
19:S:5:LEU:O	19:S:6:LYS:HE3	2.10	0.51
1:A:1152:A:H5'	10:J:13:HIS:HB2	1.92	0.51
3:C:157:ILE:HD13	3:C:157:ILE:H	1.75	0.51
14:N:21:TYR:N	14:N:21:TYR:CD1	2.77	0.51
1:A:373:A:H1'	1:A:481:G:N3	2.25	0.51
1:A:1126:U:H4'	25:A:2105:HOH:O	2.09	0.51
1:A:1229:A:H2'	1:A:1230:C:C6	2.44	0.51
2:B:24:TRP:HA	2:B:191:ASP:HA	1.91	0.51
12:L:41:ARG:HH21	12:L:43:VAL:HG13	1.74	0.51
20:T:56:MET:HE2	20:T:85:MET:HA	1.93	0.51
1:A:1314:C:O2'	1:A:1315:U:H5'	2.09	0.51
1:A:1342:C:O2'	9:I:124:GLN:HB2	2.11	0.51
4:D:68:TYR:HB3	4:D:70:ILE:HG12	1.90	0.51
7:G:108:ALA:HB2	7:G:123:GLU:HG2	1.91	0.51
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.45	0.51
9:I:50:LEU:O	9:I:53:VAL:HG23	2.11	0.51
12:L:113:ARG:HH12	12:L:116:SER:H	1.59	0.51
13:M:8:GLU:CD	13:M:22:ILE:HA	2.31	0.51
16:P:10:GLY:HA3	16:P:14:ASN:O	2.09	0.51
18:R:70:ILE:O	18:R:73:ALA:N	2.44	0.51
1:A:262:A:H2'	1:A:263:A:C8	2.46	0.51
1:A:1348:U:O2	1:A:1348:U:H2'	2.10	0.51
7:G:76:ARG:O	7:G:87:VAL:HG23	2.11	0.51
8:H:86:ILE:HG21	8:H:133:LEU:HD13	1.93	0.51
1:A:379:C:H42	1:A:384:G:H1	1.59	0.51
1:A:1278:U:H5'	1:A:1279:A:C8	2.45	0.51
3:C:25:GLY:O	3:C:29:TYR:HB2	2.10	0.51
4:D:110:PHE:HE2	4:D:146:ILE:HG22	1.76	0.51
9:I:53:VAL:HG11	9:I:92:TYR:CE1	2.46	0.51
21:U:10:ARG:HD3	21:U:13:ILE:CD1	2.41	0.51
1:A:502:G:H2'	1:A:503:C:O4'	2.09	0.51
1:A:921:U:O2'	5:E:18:ARG:HG3	2.11	0.51
2:B:24:TRP:CG	2:B:25:ASN:N	2.78	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:71:VAL:HG22	2:B:93:VAL:HB	1.92	0.51
1:A:157:G:H1	1:A:164:U:H3	1.58	0.51
1:A:1026:G:HO2'	1:A:1027:C:P	2.33	0.51
1:A:1337:G:H5''	1:A:1338:G:OP1	2.10	0.51
9:I:5:TYR:CD2	9:I:6:GLY:N	2.79	0.51
13:M:92:HIS:HA	13:M:110:ARG:HH22	1.75	0.51
16:P:53:VAL:O	16:P:56:ALA:N	2.44	0.51
1:A:253:U:OP1	17:Q:67:LYS:HD3	2.11	0.51
1:A:974:A:OP2	14:N:41:ARG:NH1	2.42	0.51
1:A:1145:C:HO2'	1:A:1146:A:P	2.34	0.51
1:A:1229:A:H2'	1:A:1230:C:H6	1.76	0.51
1:A:1241:G:H2'	1:A:1242:C:C6	2.46	0.51
1:A:1291:G:H2'	1:A:1292:U:C6	2.46	0.51
2:B:16:HIS:NE2	2:B:204:ASN:N	2.58	0.51
2:B:62:ALA:CB	2:B:222:ILE:HG23	2.41	0.51
4:D:76:ARG:HD2	4:D:207:TYR:CE2	2.46	0.51
4:D:187:ARG:CZ	4:D:188:LEU:H	2.24	0.51
9:I:25:LYS:HG2	9:I:60:ASP:OD1	2.11	0.51
15:O:30:ALA:HA	15:O:85:LEU:HD11	1.93	0.51
16:P:26:ARG:HD3	16:P:31:LYS:O	2.11	0.51
1:A:77:G:C2	1:A:93:G:C2	2.99	0.51
1:A:718:G:H5'	11:K:117:ASN:HB2	1.92	0.51
1:A:803:G:C6	1:A:804:U:C4	2.99	0.51
3:C:29:TYR:OH	14:N:54:PRO:HD2	2.10	0.51
5:E:46:GLY:H	5:E:58:ALA:HB2	1.76	0.51
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.11	0.51
1:A:263:A:OP2	20:T:79:ARG:NH1	2.44	0.50
1:A:373:A:C2	1:A:374:A:C8	3.00	0.50
1:A:933:G:OP2	7:G:3:ARG:HB3	2.11	0.50
1:A:1179:A:OP2	9:I:93:ARG:NH2	2.44	0.50
1:A:1290:G:H2'	1:A:1291:G:C8	2.43	0.50
7:G:42:ILE:HG22	7:G:120:ILE:HD12	1.93	0.50
8:H:84:ARG:O	8:H:135:CYS:HB2	2.12	0.50
10:J:45:ARG:HD2	14:N:36:PHE:HE2	1.75	0.50
1:A:22:G:C5	1:A:23:C:C5	2.99	0.50
1:A:113:G:C1'	1:A:354:G:H5'	2.40	0.50
1:A:730:G:C5	1:A:731:G:H1'	2.46	0.50
1:A:1127:G:N2	1:A:1147:C:C4	2.79	0.50
6:F:14:LEU:HD21	6:F:84:ASN:ND2	2.26	0.50
8:H:70:GLN:OE1	8:H:70:GLN:HA	2.11	0.50
9:I:105:ASP:OD2	9:I:107:ARG:HG3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:53:ARG:HG2	12:L:69:TYR:CE1	2.46	0.50
20:T:43:LEU:HD12	20:T:52:ALA:HA	1.94	0.50
1:A:1465:C:H2'	1:A:1466:C:O4'	2.10	0.50
1:A:1518:MA6:H102	1:A:1519:MA6:H103	1.92	0.50
16:P:3:LYS:CA	16:P:64:ALA:HB1	2.41	0.50
1:A:7:G:O6	5:E:92:LYS:NZ	2.35	0.50
1:A:18:C:H5''	5:E:127:ASN:ND2	2.25	0.50
1:A:580:U:H2'	1:A:581:G:O4'	2.12	0.50
1:A:858:G:O6	1:A:869:G:H3'	2.10	0.50
1:A:1521:G:H2'	1:A:1522:U:C6	2.47	0.50
5:E:147:ASP:HA	5:E:150:ARG:HG2	1.94	0.50
1:A:193:C:H4'	20:T:61:SER:HB2	1.93	0.50
1:A:953:G:H2'	1:A:954:G:O4'	2.11	0.50
6:F:4:TYR:HB2	6:F:65:VAL:CG2	2.42	0.50
10:J:69:ASN:O	10:J:70:ARG:HD3	2.12	0.50
1:A:236:G:H2'	1:A:237:C:O4'	2.11	0.50
1:A:243:A:H4'	1:A:244:U:O5'	2.12	0.50
1:A:692:U:H1'	1:A:695:A:N7	2.27	0.50
1:A:882:C:O2'	1:A:883:C:H5'	2.12	0.50
1:A:1281:U:H4'	1:A:1282:C:OP2	2.11	0.50
4:D:108:LEU:HD23	4:D:174:LEU:HD13	1.94	0.50
3:C:167:TRP:HE3	3:C:168:ALA:N	2.06	0.50
1:A:109:A:C6	1:A:327:A:C6	3.00	0.50
1:A:1249:C:HO2'	9:I:73:GLN:NE2	2.08	0.50
3:C:166:GLU:HA	3:C:166:GLU:OE2	2.12	0.50
8:H:104:ARG:HG3	8:H:138:TRP:CD2	2.47	0.50
15:O:30:ALA:O	15:O:33:THR:N	2.45	0.50
1:A:812:C:OP1	1:A:903:G:H1'	2.12	0.50
1:A:1218:C:H2'	1:A:1219:U:C6	2.47	0.50
4:D:173:TRP:HE3	4:D:173:TRP:H	1.58	0.50
4:D:173:TRP:NE1	4:D:189:PRO:HB3	2.27	0.50
5:E:118:ILE:HG12	5:E:119:LEU:H	1.77	0.50
12:L:47:LYS:HG3	12:L:48:PRO:CD	2.40	0.50
1:A:414:A:OP2	1:A:428:G:N2	2.38	0.49
1:A:657:G:C2'	1:A:658:G:H5'	2.42	0.49
1:A:1061:G:H1'	10:J:56:HIS:CE1	2.47	0.49
1:A:1351:U:H4'	7:G:33:ASP:CG	2.32	0.49
1:A:1403:C:H2'	1:A:1404:5MC:H6	1.77	0.49
5:E:11:ILE:HD11	5:E:105:VAL:HG13	1.93	0.49
7:G:87:VAL:HG12	7:G:88:PRO:HD2	1.93	0.49
8:H:4:ASP:OD1	8:H:85:ARG:NH1	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:112:LEU:HD23	8:H:133:LEU:HA	1.93	0.49
9:I:111:ARG:O	9:I:119:ALA:HB2	2.12	0.49
1:A:665:A:H3'	1:A:725:G:H21	1.76	0.49
1:A:1004:A:HO2'	1:A:1005:A:P	2.34	0.49
1:A:1025:U:OP1	1:A:1025:U:H4'	2.11	0.49
10:J:16:LEU:HD13	10:J:70:ARG:HG2	1.93	0.49
18:R:36:ASN:O	18:R:40:LEU:HG	2.12	0.49
20:T:30:LYS:HG2	20:T:34:LYS:HE2	1.93	0.49
20:T:100:ILE:H	20:T:100:ILE:HD12	1.76	0.49
1:A:426:G:H4'	4:D:41:GLY:O	2.11	0.49
1:A:1317:C:OP2	14:N:17:LYS:NZ	2.23	0.49
2:B:108:ILE:HG22	2:B:152:PHE:CE2	2.47	0.49
10:J:64:GLU:HG2	14:N:59:ALA:HB2	1.94	0.49
17:Q:58:GLU:O	17:Q:59:ILE:HD13	2.12	0.49
1:A:66:G:N7	1:A:104:G:N2	2.59	0.49
1:A:66:G:N3	1:A:66:G:H2'	2.27	0.49
1:A:980:C:H3'	1:A:981:U:H6	1.76	0.49
1:A:980:C:H5'	1:A:981:U:OP2	2.12	0.49
1:A:1314:C:N4	19:S:4:SER:OG	2.43	0.49
7:G:77:SER:HA	7:G:86:GLN:HA	1.94	0.49
9:I:126:SER:CB	9:I:127:LYS:HD2	2.43	0.49
14:N:12:ARG:HB3	14:N:14:PRO:HD3	1.94	0.49
1:A:690:G:C6	1:A:691:G:C6	3.01	0.49
2:B:153:ARG:HH11	2:B:153:ARG:HB2	1.78	0.49
7:G:32:ARG:O	7:G:34:GLY:N	2.45	0.49
1:A:1029:C:N4	1:A:1032:G:H22	2.09	0.49
2:B:112:VAL:HG23	2:B:149:LEU:HD13	1.94	0.49
2:B:212:GLN:O	2:B:216:SER:HB3	2.13	0.49
4:D:9:CYS:O	4:D:12:CYS:HB2	2.13	0.49
5:E:40:ARG:HG2	5:E:40:ARG:HH11	1.77	0.49
7:G:17:VAL:HB	7:G:44:TYR:OH	2.11	0.49
10:J:27:ALA:O	10:J:30:SER:OG	2.22	0.49
11:K:11:LYS:N	11:K:11:LYS:HE3	2.28	0.49
21:U:5:ASP:O	21:U:8:THR:OG1	2.30	0.49
1:A:1005:A:H5''	1:A:1006:C:C5	2.48	0.49
1:A:1067:A:HO2'	1:A:1094:G:H5'	1.77	0.49
4:D:173:TRP:CD1	4:D:189:PRO:HB3	2.46	0.49
1:A:177:C:OP2	20:T:65:LYS:NZ	2.46	0.49
1:A:748:C:H4'	1:A:749:C:O5'	2.13	0.49
1:A:1148:U:H2'	1:A:1149:C:O4'	2.13	0.49
1:A:1241:G:H2'	1:A:1242:C:H6	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1280:A:H3'	1:A:1281:U:H5''	1.93	0.49
3:C:79:ARG:NH1	3:C:82:GLU:HB3	2.26	0.49
3:C:120:VAL:O	3:C:123:GLN:HB2	2.13	0.49
4:D:102:ASP:OD1	4:D:103:ASN:N	2.44	0.49
11:K:91:ARG:HH11	18:R:88:LYS:NZ	2.11	0.49
13:M:108:ARG:HD3	13:M:114:ARG:NH1	2.28	0.49
14:N:21:TYR:N	14:N:21:TYR:HD1	2.11	0.49
15:O:4:THR:OG1	15:O:5:LYS:N	2.46	0.49
21:U:15:ARG:HH11	21:U:15:ARG:HG3	1.77	0.49
1:A:59:A:H3'	1:A:331:G:H22	1.77	0.49
1:A:448:A:H2'	1:A:449:C:H6	1.78	0.49
1:A:676:A:H1'	11:K:115:PRO:HB3	1.95	0.49
13:M:84:ILE:HB	19:S:74:PHE:HE2	1.77	0.49
15:O:34:LEU:O	15:O:38:ARG:HG2	2.12	0.49
1:A:273:A:N6	1:A:274:A:C6	2.81	0.49
1:A:328:C:HO2'	1:A:329:A:P	2.32	0.49
1:A:376:G:OP2	16:P:67:THR:HG21	2.13	0.49
1:A:420:U:H3'	1:A:422:C:N4	2.27	0.49
1:A:1370:G:C2	1:A:1371:G:N7	2.80	0.49
1:A:1474:G:H2'	1:A:1475:G:C8	2.46	0.49
2:B:185:ILE:HG22	2:B:199:TYR:HB2	1.95	0.49
5:E:118:ILE:HG12	5:E:119:LEU:N	2.28	0.49
8:H:86:ILE:HG22	8:H:87:SER:N	2.27	0.49
12:L:78:GLN:O	12:L:81:SER:HB2	2.13	0.49
20:T:39:LYS:HD3	20:T:55:ILE:HD12	1.95	0.49
1:A:44:G:H2'	1:A:45:U:O4'	2.14	0.48
1:A:1372:U:C2'	1:A:1373:G:H5'	2.43	0.48
1:A:1419:G:H1	1:A:1481:U:H3	1.61	0.48
1:A:1505:G:C8	1:A:1505:G:C3'	2.93	0.48
7:G:9:VAL:HG12	7:G:10:ARG:O	2.13	0.48
7:G:17:VAL:HG12	7:G:18:TYR:CD1	2.37	0.48
7:G:92:SER:HG	7:G:95:ARG:H	1.55	0.48
9:I:33:PHE:CE2	9:I:43:ALA:HB1	2.48	0.48
10:J:65:LEU:HB2	14:N:56:VAL:HG22	1.95	0.48
11:K:31:THR:C	11:K:32:ILE:HD13	2.33	0.48
13:M:54:VAL:HA	13:M:57:ARG:HD3	1.94	0.48
17:Q:100:LYS:HE2	17:Q:100:LYS:HA	1.95	0.48
1:A:107:G:N2	1:A:108:G:H1'	2.28	0.48
1:A:355:C:H5'	1:A:389:A:OP2	2.12	0.48
1:A:518:C:H5''	1:A:519:C:C6	2.49	0.48
1:A:1029:C:H2'	1:A:1030:C:H5'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1451:A:H5''	1:A:1452:C:H5	1.78	0.48
4:D:21:LEU:HD21	4:D:66:ARG:O	2.13	0.48
5:E:137:GLU:HG3	5:E:141:GLN:HE21	1.78	0.48
13:M:11:ARG:HD2	13:M:45:VAL:CG1	2.43	0.48
16:P:20:VAL:HG13	16:P:32:TYR:CD2	2.47	0.48
16:P:26:ARG:HG2	16:P:26:ARG:HH11	1.78	0.48
17:Q:63:ARG:HG2	17:Q:64:PRO:HD2	1.94	0.48
20:T:60:GLU:HA	20:T:63:ILE:HD12	1.95	0.48
1:A:216:G:C2	1:A:217:C:C4	3.01	0.48
1:A:1126:U:H3'	1:A:1127:G:C8	2.29	0.48
1:A:1326:C:OP1	21:U:12:LYS:HE2	2.13	0.48
1:A:1470:G:C2'	1:A:1471:G:H5'	2.43	0.48
1:A:1504:G:H5''	1:A:1504:G:H8	1.79	0.48
3:C:91:LEU:HD21	3:C:99:VAL:HG22	1.95	0.48
9:I:5:TYR:HD2	9:I:6:GLY:N	2.11	0.48
16:P:78:GLY:C	16:P:80:PHE:H	2.12	0.48
1:A:184:G:H2'	1:A:185:A:H8	1.77	0.48
1:A:277:C:H5'	17:Q:68:ARG:NH1	2.28	0.48
1:A:491:G:C4	1:A:492:G:C8	3.01	0.48
1:A:778:G:H8	1:A:778:G:O5'	1.96	0.48
1:A:1065:U:C5	1:A:1190:G:H1'	2.49	0.48
1:A:1329:A:C5'	13:M:29:ARG:HD2	2.43	0.48
1:A:1426:C:H2'	1:A:1427:U:C6	2.48	0.48
2:B:32:ILE:CG2	2:B:40:HIS:HB3	2.44	0.48
2:B:92:TYR:CD2	2:B:92:TYR:N	2.81	0.48
3:C:112:SER:O	3:C:112:SER:OG	2.26	0.48
8:H:31:PHE:O	8:H:35:ILE:HG12	2.14	0.48
8:H:96:GLY:HA2	8:H:130:GLY:HA3	1.95	0.48
16:P:53:VAL:O	16:P:54:GLU:C	2.51	0.48
1:A:102:G:H2'	1:A:103:C:H6	1.79	0.48
1:A:935:A:H61	7:G:3:ARG:HG3	1.79	0.48
13:M:57:ARG:O	13:M:61:GLU:HB2	2.14	0.48
19:S:18:LYS:HD3	19:S:19:VAL:HB	1.95	0.48
1:A:1128:C:O2'	1:A:1130:A:OP2	2.23	0.48
1:A:1132:C:H2'	1:A:1133:G:H8	1.79	0.48
1:A:1196:U:H3'	1:A:1197:G:H5'	1.94	0.48
1:A:1285:A:H8	1:A:1285:A:O5'	1.97	0.48
4:D:60:GLU:OE1	4:D:60:GLU:HA	2.13	0.48
1:A:37:U:H2'	1:A:38:G:O4'	2.14	0.48
1:A:93:G:C2	1:A:95:U:C2	3.02	0.48
1:A:481:G:O2'	1:A:482:A:O5'	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1026:G:O2'	1:A:1027:C:P	2.71	0.48
1:A:1029:C:H42	1:A:1032:G:H1	1.61	0.48
1:A:1496:C:HO2'	1:A:1497:G:P	2.31	0.48
2:B:60:ASP:O	2:B:64:ARG:HB2	2.13	0.48
4:D:15:GLU:HG3	4:D:63:LYS:HD3	1.95	0.48
4:D:38:TYR:CE1	4:D:45:GLN:HG2	2.48	0.48
11:K:40:ILE:HD13	11:K:40:ILE:HA	1.69	0.48
15:O:38:ARG:O	15:O:41:GLU:HB3	2.13	0.48
15:O:56:LEU:O	15:O:60:VAL:HG23	2.13	0.48
17:Q:29:HIS:ND1	17:Q:30:PRO:HD2	2.29	0.48
20:T:81:LYS:O	20:T:85:MET:HG3	2.13	0.48
1:A:438:G:H4'	4:D:123:HIS:ND1	2.28	0.48
1:A:597:G:H1'	1:A:644:G:N2	2.29	0.48
1:A:706:A:H1'	11:K:29:ILE:HD11	1.96	0.48
1:A:953:G:C6	1:A:954:G:C4	3.01	0.48
1:A:1068:G:OP2	1:A:1068:G:H8	1.97	0.48
1:A:1542:U:H2'	1:A:1543:C:C6	2.49	0.48
2:B:17:PHE:CD1	2:B:18:GLY:N	2.81	0.48
7:G:26:PHE:O	7:G:30:ILE:HD12	2.12	0.48
1:A:518:C:OP2	1:A:530:G:H1'	2.14	0.48
1:A:575:G:HO2'	1:A:821:G:H5'	1.79	0.48
1:A:686:U:O2'	1:A:687:A:C8	2.60	0.48
1:A:744:C:H4'	1:A:852:G:O2'	2.14	0.48
1:A:767:A:H2'	1:A:768:A:O4'	2.14	0.48
1:A:1361(A):C:O2	1:A:1362:C:H5	1.97	0.48
2:B:16:HIS:CD2	2:B:204:ASN:H	2.32	0.48
4:D:15:GLU:CG	4:D:63:LYS:HD3	2.43	0.48
4:D:32:ALA:O	4:D:36:ARG:N	2.47	0.48
12:L:77:LEU:HD21	12:L:107:ALA:HB2	1.96	0.48
17:Q:40:LYS:HD3	17:Q:42:TYR:OH	2.13	0.48
1:A:436:C:H2'	1:A:437:U:H6	1.78	0.48
1:A:1157:A:H4'	1:A:1158:C:O5'	2.14	0.48
1:A:1202:G:O2'	14:N:27:CYS:SG	2.66	0.48
1:A:1265:G:H2'	1:A:1266:G:O4'	2.14	0.48
4:D:200:GLU:HG2	4:D:201:GLN:H	1.78	0.48
5:E:107:ARG:O	5:E:111:GLU:HB2	2.14	0.48
10:J:54:PHE:O	10:J:55:LYS:HG3	2.14	0.48
11:K:19:ALA:HB2	11:K:80:VAL:HG11	1.96	0.48
1:A:34:C:H2'	1:A:35:G:C8	2.49	0.47
1:A:818:G:C3'	1:A:819:A:H5''	2.44	0.47
2:B:185:ILE:HG22	2:B:199:TYR:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:48:TYR:HA	8:H:60:ARG:O	2.14	0.47
17:Q:22:LEU:HD12	17:Q:22:LEU:HA	1.53	0.47
1:A:576:G:H3'	1:A:577:G:H5''	1.96	0.47
1:A:914:G:P	22:A:1601:SRY:HI33	2.53	0.47
1:A:943:U:H2'	1:A:944:G:H5'	1.97	0.47
2:B:196:LEU:HD22	2:B:196:LEU:HA	1.56	0.47
6:F:22:GLU:HA	6:F:25:ILE:HD12	1.96	0.47
6:F:99:ALA:HB1	18:R:62:GLU:OE2	2.14	0.47
8:H:96:GLY:O	8:H:97:VAL:C	2.52	0.47
9:I:19:LEU:HD12	9:I:84:ALA:HB3	1.97	0.47
9:I:111:ARG:O	9:I:113:LYS:HD2	2.14	0.47
12:L:11:VAL:HG12	12:L:12:ARG:N	2.29	0.47
12:L:84:LEU:HB3	12:L:101:VAL:HG23	1.96	0.47
20:T:92:LEU:O	20:T:96:GLY:HA2	2.13	0.47
1:A:106:C:C2'	1:A:107:G:H5'	2.43	0.47
1:A:1244:C:OP1	21:U:9:ARG:HB2	2.14	0.47
1:A:1304:G:C6	1:A:1305:G:N1	2.82	0.47
1:A:1505:G:H4'	1:A:1506:U:H5''	1.95	0.47
2:B:179:LYS:HA	8:H:72:PRO:HD3	1.96	0.47
4:D:194:LEU:HD12	4:D:195:ALA:H	1.77	0.47
7:G:5:ARG:NH1	7:G:8:GLU:HG3	2.20	0.47
9:I:17:VAL:HG13	9:I:63:ILE:HG12	1.95	0.47
11:K:18:ARG:HB2	11:K:33:THR:CG2	2.45	0.47
16:P:66:PRO:HD2	16:P:71:ARG:NH1	2.29	0.47
20:T:57:ARG:HD3	20:T:102:GLY:HA3	1.96	0.47
1:A:559:A:O2'	1:A:560:U:OP2	2.24	0.47
1:A:949:A:C2	1:A:1233:G:N3	2.82	0.47
2:B:32:ILE:HG21	2:B:40:HIS:HB3	1.95	0.47
7:G:140:ASP:O	7:G:144:MET:HG3	2.13	0.47
8:H:2:LEU:HD23	8:H:2:LEU:HA	1.68	0.47
11:K:32:ILE:HD13	11:K:32:ILE:N	2.29	0.47
20:T:53:LEU:HA	20:T:56:MET:HB3	1.96	0.47
1:A:49:U:O2'	1:A:50:A:H2'	2.15	0.47
1:A:234:C:H2'	1:A:235:C:C6	2.49	0.47
1:A:250:A:O5'	1:A:250:A:H8	1.96	0.47
1:A:405:U:O4	4:D:2:GLY:HA2	2.15	0.47
1:A:781:A:C5	1:A:802:A:C2	3.02	0.47
1:A:1411:C:N4	1:A:1489:G:H1	2.10	0.47
2:B:97:TRP:CH2	2:B:101:MET:HB2	2.50	0.47
2:B:236:TYR:HD2	2:B:239:VAL:HG21	1.79	0.47
3:C:88:ARG:HG2	3:C:101:LEU:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:114:ARG:HH11	4:D:114:ARG:HG3	1.79	0.47
5:E:143:ARG:NH1	8:H:77:GLU:OE2	2.48	0.47
14:N:4:LYS:HB3	14:N:4:LYS:HE2	1.58	0.47
17:Q:53:LEU:HD12	17:Q:85:VAL:HG21	1.96	0.47
1:A:452:A:H2'	1:A:453:A:C8	2.50	0.47
1:A:500:G:H2'	1:A:501:C:C6	2.49	0.47
1:A:835:U:H3	1:A:851:G:H1	1.62	0.47
1:A:1004:A:H5''	1:A:1025:U:N3	2.28	0.47
1:A:1210:C:HO2'	1:A:1213:A:HO2'	1.60	0.47
1:A:1460:A:OP2	20:T:27:LYS:NZ	2.47	0.47
4:D:9:CYS:SG	4:D:31:CYS:O	2.73	0.47
5:E:82:VAL:O	5:E:88:LYS:HA	2.14	0.47
7:G:116:ALA:O	7:G:120:ILE:HG13	2.15	0.47
7:G:134:ALA:O	7:G:137:LYS:N	2.47	0.47
10:J:49:VAL:HG21	14:N:44:LEU:HD23	1.96	0.47
12:L:41:ARG:NH2	12:L:43:VAL:HG13	2.28	0.47
17:Q:31:LEU:HA	17:Q:31:LEU:HD12	1.49	0.47
17:Q:38:ARG:HD3	17:Q:38:ARG:HA	1.48	0.47
1:A:146:G:C2	1:A:147:G:C4	3.03	0.47
1:A:455:C:O5'	1:A:455:C:H6	1.98	0.47
1:A:765:G:H8	1:A:765:G:O5'	1.98	0.47
1:A:766:A:P	25:A:2188:HOH:O	2.72	0.47
1:A:935:A:N6	7:G:3:ARG:HG3	2.29	0.47
1:A:954:G:C6	1:A:955:U:N3	2.83	0.47
1:A:1228:C:N4	13:M:104:ARG:O	2.42	0.47
1:A:1237:C:C4	1:A:1336:C:O2	2.68	0.47
1:A:1293:G:H2'	1:A:1294:G:O4'	2.14	0.47
2:B:96:ARG:O	2:B:98:LEU:HD23	2.15	0.47
2:B:189:ASP:N	2:B:189:ASP:OD1	2.47	0.47
3:C:88:ARG:HA	3:C:91:LEU:HD22	1.97	0.47
4:D:70:ILE:HG22	4:D:71:SER:O	2.14	0.47
8:H:104:ARG:HG2	8:H:104:ARG:HH11	1.79	0.47
18:R:26:LEU:HD12	18:R:42:ARG:HH11	1.79	0.47
18:R:37:VAL:CG2	18:R:78:LEU:HB3	2.45	0.47
1:A:19:C:P	5:E:127:ASN:HD22	2.37	0.47
1:A:286:G:H2'	1:A:287:U:H6	1.80	0.47
1:A:289:G:P	25:A:1908:HOH:O	2.73	0.47
1:A:509:A:H4'	1:A:510:A:OP1	2.15	0.47
1:A:751:U:H4'	15:O:24:SER:HB3	1.97	0.47
1:A:1147:C:H2'	1:A:1148:U:C6	2.49	0.47
1:A:1239:A:C4	1:A:1298:C:N4	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:33:LEU:HD21	14:N:53:LEU:HD22	1.96	0.47
4:D:10:ARG:O	4:D:13:ARG:HB2	2.15	0.47
9:I:89:ASN:O	9:I:92:TYR:HB2	2.15	0.47
12:L:19:ARG:H	12:L:19:ARG:HG2	1.21	0.47
1:A:355:C:C4	1:A:356:A:N7	2.83	0.47
1:A:500:G:C6	1:A:501:C:C4	3.03	0.47
1:A:724:G:O2'	1:A:725:G:H5'	2.14	0.47
1:A:975:A:HO2'	1:A:976:G:P	2.37	0.47
1:A:1055:A:H1'	3:C:156:ARG:NH2	2.30	0.47
5:E:98:THR:HB	5:E:117:ASP:HB3	1.96	0.47
8:H:20:TYR:CE2	8:H:75:ARG:HD2	2.50	0.47
1:A:285:G:O2'	1:A:286:G:H5'	2.15	0.47
1:A:667:G:H4'	15:O:51:HIS:ND1	2.30	0.47
1:A:1298:C:OP2	7:G:114:ARG:NH2	2.48	0.47
1:A:1332:A:H2'	1:A:1333:A:H8	1.80	0.47
1:A:1347:G:O2'	1:A:1348:U:P	2.73	0.47
1:A:1518:MA6:C10	1:A:1519:MA6:H103	2.44	0.47
4:D:158:ILE:HA	4:D:158:ILE:HD13	1.76	0.47
4:D:176:LEU:HD21	4:D:178:VAL:HB	1.96	0.47
5:E:71:LEU:CD2	5:E:115:VAL:HG22	2.43	0.47
8:H:36:LEU:HD23	8:H:39:LEU:HD23	1.97	0.47
1:A:701:C:H4'	1:A:702:A:C5'	2.43	0.46
1:A:996:A:C8	1:A:997:U:C5	3.03	0.46
1:A:1225:A:H5''	1:A:1226:C:H5	1.80	0.46
1:A:1498:UR3:O5'	1:A:1498:UR3:H6	2.14	0.46
8:H:10:LEU:HD23	8:H:10:LEU:HA	1.57	0.46
13:M:96:LEU:HD23	13:M:96:LEU:HA	1.69	0.46
15:O:49:ASP:OD2	15:O:52:SER:OG	2.26	0.46
16:P:18:ARG:HD3	16:P:35:LYS:HD2	1.97	0.46
19:S:31:ILE:CG2	19:S:49:ILE:HD13	2.39	0.46
1:A:34:C:H2'	1:A:35:G:H8	1.80	0.46
1:A:102:G:H2'	1:A:103:C:C6	2.51	0.46
1:A:519:C:OP2	12:L:50:SER:OG	2.29	0.46
1:A:833:U:H2'	1:A:834:C:C6	2.51	0.46
1:A:954:G:H5''	1:A:955:U:OP2	2.15	0.46
3:C:39:ILE:CG2	3:C:91:LEU:HD12	2.45	0.46
3:C:155:GLY:HA2	3:C:164:ARG:H	1.80	0.46
5:E:123:LEU:HA	5:E:123:LEU:HD23	1.53	0.46
10:J:19:SER:HB2	10:J:91:PRO:HB3	1.97	0.46
11:K:19:ALA:HB3	11:K:82:VAL:HG22	1.96	0.46
1:A:6:G:O2'	1:A:7:G:H5''	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:622:A:H5''	1:A:623:C:OP2	2.15	0.46
1:A:1280:A:H5'	10:J:40:LEU:HD22	1.96	0.46
1:A:1293:G:C2	1:A:1294:G:C4	3.03	0.46
2:B:91:PRO:HG3	2:B:155:LEU:CD2	2.45	0.46
2:B:158:LEU:HD23	2:B:159:PRO:HD2	1.97	0.46
3:C:153:VAL:CG1	3:C:166:GLU:HB2	2.38	0.46
4:D:65:ARG:HG3	4:D:75:PHE:CG	2.50	0.46
7:G:75:VAL:HG11	7:G:86:GLN:HB3	1.97	0.46
10:J:31:GLY:HA3	10:J:81:THR:OG1	2.15	0.46
13:M:12:ASN:H	13:M:45:VAL:CG1	2.27	0.46
15:O:67:LEU:HD13	15:O:78:TYR:CE1	2.40	0.46
17:Q:56:VAL:O	17:Q:77:VAL:N	2.41	0.46
1:A:451:A:N7	1:A:481:G:C2	2.84	0.46
1:A:579:G:H2'	1:A:580:U:C6	2.50	0.46
1:A:668:G:O4'	15:O:49:ASP:HB2	2.16	0.46
1:A:1305:G:C8	1:A:1305:G:OP2	2.69	0.46
12:L:31:PRO:O	12:L:32:PHE:CG	2.68	0.46
12:L:126:LYS:HG2	12:L:128:ALA:HB2	1.97	0.46
1:A:392:G:C2	1:A:393:A:C4	3.03	0.46
1:A:838:G:C2'	1:A:839:U:H5''	2.45	0.46
1:A:976:G:OP1	14:N:32:SER:HA	2.15	0.46
1:A:1311:G:H5''	1:A:1312:G:OP2	2.16	0.46
1:A:1470:G:H2'	1:A:1471:G:H5'	1.98	0.46
4:D:131:ARG:HB2	4:D:131:ARG:NH1	2.30	0.46
4:D:186:LEU:N	4:D:186:LEU:HD23	2.31	0.46
11:K:82:VAL:HG11	11:K:95:ILE:HD11	1.97	0.46
20:T:63:ILE:O	20:T:66:ALA:HB3	2.15	0.46
1:A:89:C:C2'	1:A:90:U:H5'	2.46	0.46
1:A:448:A:C2	1:A:449:C:C4	3.04	0.46
1:A:463:A:H2'	1:A:474:G:C8	2.51	0.46
1:A:614:A:P	4:D:86:LYS:HZ1	2.39	0.46
1:A:686:U:O2'	1:A:687:A:O5'	2.34	0.46
1:A:927:G:H4'	1:A:1503:A:N7	2.30	0.46
1:A:954:G:N2	1:A:1227:A:H62	2.13	0.46
1:A:1014:A:C2	19:S:34:TRP:CD1	3.04	0.46
1:A:1174:G:H2'	1:A:1175:G:C8	2.51	0.46
8:H:113:SER:HB2	8:H:134:ILE:HD11	1.97	0.46
19:S:6:LYS:HB3	19:S:7:LYS:H	1.33	0.46
1:A:1067:A:H8	1:A:1067:A:O5'	1.98	0.46
1:A:1495:U:O2'	1:A:1496:C:H5'	2.16	0.46
2:B:132:LYS:O	2:B:136:VAL:HG23	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:155:GLY:HA2	3:C:164:ARG:O	2.15	0.46
6:F:33:TYR:HE2	6:F:74:ASP:CB	2.29	0.46
12:L:120:TYR:O	12:L:122:THR:HG22	2.16	0.46
13:M:23:TYR:CZ	13:M:71:ARG:HB3	2.50	0.46
15:O:29:VAL:HG11	15:O:81:LEU:HD13	1.97	0.46
1:A:1152:A:H2'	1:A:1153:C:O4'	2.16	0.46
7:G:108:ALA:O	7:G:119:ARG:HB3	2.16	0.46
8:H:101:PRO:HG3	8:H:133:LEU:HD11	1.97	0.46
9:I:80:GLY:HA2	9:I:83:ARG:HG3	1.97	0.46
11:K:99:GLN:HE21	11:K:105:VAL:HG21	1.80	0.46
1:A:78:G:N1	1:A:92:C:C4	2.84	0.46
1:A:216:G:O2'	1:A:217:C:O5'	2.34	0.46
1:A:279:A:H5'	1:A:279:A:H8	1.81	0.46
1:A:1228:C:H6	1:A:1228:C:H5''	1.81	0.46
1:A:1447:G:C6	1:A:1460:A:C2	3.04	0.46
1:A:1542:U:H2'	1:A:1543:C:C5	2.50	0.46
2:B:24:TRP:HB3	2:B:40:HIS:CE1	2.51	0.46
8:H:20:TYR:HE2	8:H:75:ARG:HD2	1.80	0.46
10:J:62:HIS:HB2	14:N:59:ALA:HB3	1.97	0.46
11:K:18:ARG:HB2	11:K:33:THR:HG23	1.98	0.46
11:K:29:ILE:C	11:K:29:ILE:HD12	2.37	0.46
11:K:85:ARG:CD	11:K:111:ASP:HB3	2.46	0.46
13:M:67:GLU:O	13:M:71:ARG:HG2	2.16	0.46
13:M:67:GLU:HB3	13:M:68:GLY:H	1.55	0.46
13:M:82:MET:HA	13:M:89:GLY:HA3	1.97	0.46
17:Q:81:ARG:HB2	17:Q:84:LEU:CD1	2.46	0.46
19:S:26:GLY:O	19:S:27:GLU:HG2	2.16	0.46
1:A:369:C:OP2	1:A:388:G:N2	2.45	0.46
1:A:616:G:H1'	1:A:625:G:N2	2.31	0.46
1:A:1097:C:C4	1:A:1098:C:N4	2.84	0.46
1:A:1392:G:N2	1:A:1502:A:H8	2.12	0.46
1:A:1399:C:O2	1:A:1401:G:C5	2.69	0.46
6:F:47:ARG:HA	6:F:57:GLN:HB3	1.98	0.46
6:F:79:LEU:HA	6:F:79:LEU:HD23	1.50	0.46
8:H:36:LEU:HD23	8:H:36:LEU:HA	1.63	0.46
10:J:6:ILE:HG22	10:J:7:LYS:N	2.31	0.46
11:K:65:ALA:HB1	11:K:98:LEU:CD1	2.38	0.46
1:A:324:G:OP1	20:T:22:ARG:HD2	2.15	0.45
1:A:344:A:H4'	1:A:345:C:OP2	2.15	0.45
1:A:475:G:C4	1:A:476:G:C8	3.04	0.45
1:A:657:G:H2'	1:A:658:G:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:661:G:H1	1:A:744:C:H42	1.63	0.45
1:A:1323:G:N7	19:S:3:ARG:HD2	2.31	0.45
3:C:21:ARG:NH2	3:C:56:ASP:HB3	2.31	0.45
3:C:22:TRP:CH2	3:C:32:LEU:HB2	2.51	0.45
3:C:202:ILE:CG2	3:C:204:LEU:HD23	2.45	0.45
8:H:28:ALA:HB3	8:H:57:PRO:HB2	1.98	0.45
17:Q:8:GLY:O	17:Q:56:VAL:HG13	2.16	0.45
1:A:446:G:H2'	1:A:447:G:H5'	1.98	0.45
1:A:1081:G:H5''	1:A:1081:G:H8	1.81	0.45
1:A:1221:G:H2'	1:A:1222:G:O4'	2.16	0.45
1:A:1277:C:O2'	1:A:1279:A:H1'	2.16	0.45
1:A:1374:A:OP1	7:G:36:LYS:NZ	2.49	0.45
2:B:223:ILE:O	2:B:227:GLY:N	2.50	0.45
4:D:110:PHE:HD1	4:D:162:LEU:HD21	1.80	0.45
5:E:151:LEU:HA	5:E:151:LEU:HD23	1.64	0.45
11:K:85:ARG:HD3	11:K:111:ASP:HB3	1.97	0.45
15:O:14:GLU:HB3	15:O:15:PHE:CD1	2.51	0.45
15:O:34:LEU:HD23	15:O:35:ARG:N	2.31	0.45
20:T:53:LEU:HB2	20:T:100:ILE:HD13	1.97	0.45
1:A:397:A:H5'	1:A:398:C:OP1	2.15	0.45
1:A:474:G:H4'	16:P:81:ARG:NH2	2.31	0.45
1:A:532:A:O2'	1:A:533:A:P	2.72	0.45
1:A:653:A:P	8:H:56:LYS:NZ	2.89	0.45
1:A:974:A:C8	14:N:31:ARG:HG2	2.50	0.45
1:A:1358:U:H5'	14:N:35:ARG:H	1.81	0.45
2:B:44:LEU:HA	2:B:44:LEU:HD23	1.64	0.45
3:C:87:LEU:O	3:C:91:LEU:HB3	2.17	0.45
7:G:45:ASP:O	7:G:49:ILE:HG13	2.15	0.45
8:H:124:ALA:O	8:H:128:GLY:N	2.49	0.45
9:I:63:ILE:CG2	9:I:77:ILE:HG12	2.46	0.45
16:P:60:LEU:HA	16:P:60:LEU:HD23	1.40	0.45
1:A:721:G:C6	1:A:733:A:C2	3.05	0.45
1:A:858:G:C5	25:A:2220:HOH:O	2.68	0.45
4:D:172:PRO:HD2	4:D:173:TRP:CZ3	2.52	0.45
7:G:3:ARG:HG2	7:G:3:ARG:HH11	1.81	0.45
7:G:40:ALA:CB	9:I:41:VAL:HG21	2.47	0.45
10:J:12:ASP:HB3	10:J:15:THR:CG2	2.46	0.45
15:O:18:PHE:CZ	15:O:21:ASP:HB2	2.51	0.45
16:P:40:ASP:HA	16:P:41:PRO:HD3	1.84	0.45
17:Q:43:LEU:HD23	17:Q:43:LEU:HA	1.51	0.45
21:U:18:TYR:CG	21:U:24:ARG:HG2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:284:G:H2'	1:A:285:G:H8	1.81	0.45
1:A:350:G:C5'	1:A:350:G:H8	2.29	0.45
1:A:690:G:H2'	1:A:691:G:O4'	2.16	0.45
1:A:837:G:N2	1:A:850:U:O2	2.49	0.45
1:A:983:A:P	14:N:3:ARG:HH22	2.40	0.45
1:A:1174:G:C2	1:A:1175:G:C5	3.05	0.45
1:A:1372:U:O2'	1:A:1373:G:H5'	2.17	0.45
1:A:1442:G:N1	1:A:1446:A:N7	2.64	0.45
1:A:1527:C:O2'	1:A:1528:U:H5'	2.16	0.45
3:C:35:GLU:O	3:C:39:ILE:HG13	2.16	0.45
16:P:53:VAL:HG23	16:P:54:GLU:N	2.31	0.45
20:T:10:LEU:HD13	20:T:11:SER:N	2.30	0.45
1:A:82:U:O2'	1:A:83:U:H5'	2.16	0.45
1:A:192:U:H2'	1:A:193:C:H6	1.81	0.45
1:A:757:U:H5''	1:A:822:C:O2	2.17	0.45
1:A:991:U:O4	1:A:1212:U:H1'	2.16	0.45
1:A:1021:G:H2'	1:A:1021:G:N3	2.32	0.45
2:B:92:TYR:CD1	2:B:94:ASN:HB2	2.52	0.45
4:D:194:LEU:HA	4:D:194:LEU:HD13	1.47	0.45
6:F:14:LEU:HB3	6:F:18:GLN:HB2	1.97	0.45
6:F:40:VAL:HG23	6:F:63:TYR:CD1	2.51	0.45
8:H:86:ILE:HD13	8:H:86:ILE:HA	1.59	0.45
14:N:53:LEU:O	14:N:56:VAL:HB	2.17	0.45
15:O:45:VAL:HB	15:O:46:HIS:ND1	2.32	0.45
15:O:70:LEU:HD12	15:O:78:TYR:HA	1.97	0.45
15:O:70:LEU:HD22	15:O:70:LEU:HA	1.58	0.45
1:A:74:C:H2'	1:A:75:G:C8	2.52	0.45
1:A:200:G:H1	1:A:217:C:N4	2.10	0.45
1:A:243:A:C2	1:A:246:A:C8	3.04	0.45
1:A:830:G:C6	1:A:831:U:C4	3.05	0.45
1:A:1300:G:O5'	1:A:1335:C:N4	2.50	0.45
1:A:1418:A:H2'	1:A:1419:G:O4'	2.17	0.45
3:C:150:LYS:HB2	3:C:169:ALA:HB2	1.99	0.45
17:Q:10:VAL:O	17:Q:53:LEU:HD13	2.17	0.45
1:A:35:G:C4	1:A:36:C:C5	3.05	0.45
1:A:451:A:N6	1:A:481:G:C5	2.85	0.45
1:A:778:G:H2'	1:A:779:C:O4'	2.16	0.45
1:A:1036:G:N7	1:A:1037:C:C4	2.85	0.45
1:A:1070:U:H2'	1:A:1071:C:C6	2.52	0.45
1:A:1323:G:H2'	1:A:1324:A:C8	2.51	0.45
22:A:1601:SRY:HB11	22:A:1601:SRY:H11	1.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:15:VAL:HG22	2:B:209:ARG:NH1	2.32	0.45
2:B:217:ARG:HA	2:B:217:ARG:HD3	1.55	0.45
3:C:119:ARG:O	3:C:123:GLN:HG3	2.16	0.45
4:D:15:GLU:O	4:D:17:VAL:HG23	2.17	0.45
4:D:186:LEU:HD23	4:D:186:LEU:H	1.81	0.45
6:F:26:ILE:HG21	6:F:63:TYR:HE2	1.80	0.45
8:H:10:LEU:HD12	8:H:85:ARG:HB2	1.98	0.45
14:N:25:VAL:HG23	14:N:38:GLY:O	2.17	0.45
17:Q:36:ILE:HD13	17:Q:36:ILE:H	1.82	0.45
19:S:71:LEU:C	19:S:73:GLU:H	2.18	0.45
1:A:89:C:H2'	1:A:90:U:O4'	2.17	0.45
1:A:372:C:H4'	1:A:373:A:O5'	2.16	0.45
1:A:597:G:H5''	1:A:598:U:OP2	2.17	0.45
1:A:625:G:H4'	16:P:16:HIS:ND1	2.32	0.45
1:A:1091:U:H2'	1:A:1092:A:H5''	1.97	0.45
1:A:1112:C:C4	3:C:178:LEU:HD12	2.52	0.45
1:A:1342:C:H2'	1:A:1343:G:C8	2.52	0.45
2:B:68:ILE:HG12	2:B:161:ALA:HB3	1.99	0.45
3:C:88:ARG:HG3	3:C:101:LEU:HB2	1.97	0.45
3:C:152:ILE:HG22	3:C:153:VAL:N	2.32	0.45
4:D:125:HIS:O	4:D:126:ILE:HD13	2.17	0.45
6:F:9:VAL:HG13	6:F:60:PHE:CD2	2.52	0.45
10:J:24:VAL:HG21	10:J:37:PRO:HD3	1.98	0.45
1:A:139:G:H2'	1:A:140:A:H5'	1.99	0.45
1:A:1191:A:H2'	1:A:1192:C:C6	2.52	0.45
1:A:1320:C:OP1	19:S:70:LYS:NZ	2.49	0.45
2:B:219:VAL:O	2:B:223:ILE:HG12	2.17	0.45
3:C:117:ALA:HB2	3:C:200:ALA:HB2	1.99	0.45
9:I:111:ARG:HH12	9:I:113:LYS:HA	1.81	0.45
1:A:38:G:N2	1:A:397:A:C4	2.85	0.44
1:A:350:G:O2'	1:A:351:G:H5'	2.17	0.44
1:A:353:A:H8	1:A:353:A:C5'	2.27	0.44
1:A:444:C:H2'	1:A:445:G:C8	2.52	0.44
4:D:20:TYR:CE1	4:D:27:TYR:HE2	2.34	0.44
14:N:24:CYS:HB2	14:N:39:LEU:HA	1.99	0.44
18:R:50:ILE:HG12	18:R:70:ILE:HD13	1.97	0.44
20:T:39:LYS:O	20:T:43:LEU:HG	2.17	0.44
1:A:89:C:C2	1:A:90:U:C6	3.05	0.44
1:A:344:A:H5'	1:A:345:C:H5	1.82	0.44
1:A:687:A:O2'	1:A:688:G:OP2	2.26	0.44
1:A:821:G:H2'	1:A:822:C:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:836:G:OP1	18:R:61:LYS:NZ	2.48	0.44
1:A:1509:C:H42	1:A:1526:G:H1	1.66	0.44
2:B:147:LYS:HD2	2:B:148:TYR:CE2	2.52	0.44
3:C:134:ILE:O	3:C:138:VAL:HG23	2.17	0.44
5:E:11:ILE:HD11	5:E:105:VAL:HA	1.99	0.44
8:H:129:VAL:HG23	8:H:130:GLY:O	2.17	0.44
10:J:51:ARG:CZ	10:J:61:GLU:HB2	2.46	0.44
10:J:63:PHE:HE1	14:N:45:ARG:HA	1.82	0.44
11:K:30:VAL:HG21	11:K:65:ALA:HA	1.99	0.44
1:A:357:G:H2'	1:A:358:U:H6	1.82	0.44
1:A:475:G:H2'	1:A:476:G:H8	1.82	0.44
1:A:620:C:C1'	4:D:135:LEU:HD13	2.47	0.44
1:A:695:A:H2'	1:A:696:A:C8	2.52	0.44
1:A:1163:C:H2'	1:A:1164:G:C8	2.40	0.44
1:A:1275:A:H2'	1:A:1276:G:O4'	2.16	0.44
1:A:1314:C:H2'	1:A:1315:U:C6	2.52	0.44
1:A:1498:UR3:O2'	1:A:1499:A:OP2	2.31	0.44
2:B:57:PHE:CG	2:B:199:TYR:CE1	3.05	0.44
3:C:112:SER:O	3:C:116:VAL:HG23	2.18	0.44
3:C:188:LEU:HD13	3:C:189:ALA:N	2.32	0.44
5:E:89:ILE:HG13	5:E:90:VAL:N	2.33	0.44
5:E:92:LYS:HA	5:E:93:PRO:HD3	1.78	0.44
6:F:11:ASN:HB2	6:F:86:ARG:NH2	2.33	0.44
7:G:48:LYS:O	7:G:52:GLU:HB2	2.17	0.44
8:H:46:LYS:HG3	8:H:64:LYS:HB3	2.00	0.44
9:I:47:LEU:O	9:I:50:LEU:N	2.46	0.44
9:I:108:VAL:HG12	9:I:109:VAL:N	2.24	0.44
13:M:22:ILE:HG21	13:M:66:LEU:HD23	1.98	0.44
13:M:59:TYR:CE1	13:M:63:THR:HG21	2.52	0.44
1:A:279:A:H5'	1:A:279:A:C8	2.51	0.44
1:A:303:A:H2'	1:A:304:U:O4'	2.17	0.44
1:A:1000:U:H2'	1:A:1001:A:C8	2.52	0.44
1:A:1048:G:O3'	1:A:1049:U:H3'	2.17	0.44
1:A:1213:A:C6	1:A:1215:G:C4	3.05	0.44
1:A:1500:A:OP2	1:A:1505:G:OP1	2.35	0.44
1:A:1504:G:H5''	1:A:1504:G:C8	2.52	0.44
2:B:91:PRO:HG3	2:B:155:LEU:HD21	2.00	0.44
3:C:88:ARG:HE	3:C:100:ALA:CB	2.28	0.44
5:E:131:ILE:HA	5:E:131:ILE:HD13	1.50	0.44
9:I:65:VAL:HG11	9:I:77:ILE:HD11	1.99	0.44
12:L:46:LYS:N	12:L:92:OTD:O	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:60:LEU:HA	12:L:60:LEU:HD13	1.59	0.44
16:P:3:LYS:HA	16:P:64:ALA:HB1	2.00	0.44
17:Q:8:GLY:O	17:Q:56:VAL:HA	2.18	0.44
17:Q:51:TYR:CD1	17:Q:73:VAL:HG11	2.51	0.44
18:R:50:ILE:CG1	18:R:70:ILE:HD13	2.48	0.44
1:A:90:U:C4	1:A:91:C:N4	2.86	0.44
1:A:791:G:H2'	1:A:792:A:H5''	1.99	0.44
1:A:864:A:H2'	1:A:865:A:C8	2.52	0.44
1:A:1250:A:C6	1:A:1251:A:N1	2.86	0.44
3:C:157:ILE:HD11	3:C:164:ARG:HB2	1.98	0.44
5:E:110:LEU:N	5:E:110:LEU:HD23	2.32	0.44
6:F:15:ASP:OD1	6:F:16:GLN:N	2.51	0.44
6:F:97:PHE:HE1	18:R:61:LYS:HE3	1.82	0.44
13:M:11:ARG:HD2	13:M:45:VAL:HG11	1.98	0.44
1:A:91:C:C5	1:A:92:C:H5	2.35	0.44
1:A:451:A:O5'	1:A:451:A:H8	2.00	0.44
1:A:1251:A:H4'	9:I:12:GLU:OE2	2.18	0.44
2:B:97:TRP:HZ3	2:B:176:GLU:OE2	2.00	0.44
5:E:80:ILE:CD1	5:E:91:LEU:HB2	2.48	0.44
8:H:111:ILE:O	8:H:134:ILE:HD12	2.18	0.44
8:H:113:SER:CB	8:H:134:ILE:HD11	2.48	0.44
10:J:48:THR:HG23	10:J:60:ARG:HB3	1.98	0.44
10:J:48:THR:OG1	10:J:62:HIS:CD2	2.71	0.44
14:N:3:ARG:HB3	14:N:6:LEU:HG	1.98	0.44
18:R:58:LEU:HD13	18:R:62:GLU:HB3	1.99	0.44
20:T:10:LEU:HD22	20:T:10:LEU:HA	1.66	0.44
20:T:30:LYS:O	20:T:34:LYS:HG2	2.17	0.44
1:A:1148:U:O3'	9:I:14:VAL:HG11	2.18	0.44
3:C:187:ALA:O	3:C:198:VAL:HG23	2.17	0.44
8:H:63:LEU:HD13	8:H:63:LEU:N	2.33	0.44
10:J:24:VAL:O	10:J:28:ARG:HB2	2.18	0.44
11:K:72:ALA:HB1	11:K:77:MET:CB	2.47	0.44
18:R:43:PHE:C	18:R:44:LEU:HD23	2.38	0.44
19:S:34:TRP:CH2	19:S:57:HIS:NE2	2.86	0.44
20:T:36:LEU:O	20:T:39:LYS:HB3	2.18	0.44
1:A:234:C:H2'	1:A:235:C:H6	1.81	0.44
1:A:671:G:H5'	6:F:77:ARG:HH21	1.83	0.44
1:A:679:C:H2'	1:A:680:C:C6	2.53	0.44
1:A:728:A:C8	15:O:54:ARG:NH1	2.86	0.44
1:A:766:A:OP2	25:A:2188:HOH:O	2.21	0.44
2:B:87:ARG:HH12	2:B:230:VAL:HG21	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:21:ASP:OD2	15:O:21:ASP:C	2.56	0.44
1:A:131:C:OP1	1:A:190(F):G:N2	2.44	0.44
1:A:179:A:H2'	1:A:180:U:H6	1.81	0.44
1:A:200:G:H3'	1:A:201:C:H5''	1.99	0.44
1:A:481:G:O2'	1:A:482:A:C8	2.69	0.44
1:A:695:A:N3	1:A:787:A:H1'	2.33	0.44
1:A:902:G:H2'	1:A:903:G:C8	2.53	0.44
1:A:1372:U:H2'	1:A:1373:G:O4'	2.18	0.44
2:B:101:MET:O	2:B:105:PHE:HD1	2.00	0.44
4:D:122:ARG:HA	4:D:134:ASP:O	2.17	0.44
4:D:187:ARG:NH2	4:D:188:LEU:HD12	2.29	0.44
5:E:110:LEU:CD1	5:E:118:ILE:HG21	2.48	0.44
7:G:71:PRO:O	7:G:91:VAL:HG21	2.18	0.44
17:Q:50:LYS:HG3	17:Q:51:TYR:CE2	2.53	0.44
20:T:104:LEU:H	20:T:104:LEU:HG	1.51	0.44
1:A:442:C:H42	1:A:492:G:H1	1.65	0.43
1:A:1442:G:C6	1:A:1446:A:N7	2.86	0.43
4:D:30:LYS:C	4:D:32:ALA:H	2.22	0.43
6:F:100:ASN:O	18:R:28:GLU:HG3	2.18	0.43
8:H:112:LEU:CD2	8:H:133:LEU:HA	2.47	0.43
9:I:7:THR:HG22	9:I:8:GLY:N	2.33	0.43
11:K:81:ASP:OD2	11:K:106:LYS:HE3	2.18	0.43
12:L:113:ARG:HH21	12:L:120:TYR:HE1	1.66	0.43
20:T:73:HIS:HB3	20:T:74:LYS:H	1.49	0.43
1:A:92:C:O2	1:A:93:G:C8	2.71	0.43
1:A:1279:A:H5''	1:A:1280:A:OP1	2.18	0.43
2:B:17:PHE:HD1	2:B:18:GLY:H	1.66	0.43
4:D:131:ARG:HB2	4:D:131:ARG:HH11	1.83	0.43
5:E:106:PRO:O	5:E:107:ARG:C	2.55	0.43
5:E:122:GLU:OE1	5:E:131:ILE:HG13	2.17	0.43
5:E:142:LEU:HA	5:E:142:LEU:HD23	1.68	0.43
6:F:74:ASP:OD1	6:F:74:ASP:N	2.51	0.43
13:M:5:ALA:CB	13:M:22:ILE:HD13	2.48	0.43
13:M:108:ARG:NH2	13:M:112:GLY:O	2.51	0.43
18:R:33:ASP:OD1	18:R:36:ASN:N	2.51	0.43
1:A:738:C:OP2	6:F:92:LYS:HE3	2.18	0.43
1:A:828:A:H4'	1:A:828:A:OP1	2.17	0.43
1:A:1022:G:C6	1:A:1024:G:C2	3.06	0.43
1:A:1054:C:H3'	1:A:1054:C:H6	1.83	0.43
1:A:1074:G:O3'	2:B:103:THR:HG21	2.18	0.43
1:A:1127:G:N2	1:A:1146:A:N6	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1223:C:H5'	1:A:1224:G:C5'	2.47	0.43
1:A:1407:5MC:O2'	1:A:1408:A:H5'	2.18	0.43
1:A:1426:C:H2'	1:A:1427:U:H6	1.81	0.43
2:B:233:SER:HA	2:B:234:PRO:HD3	1.82	0.43
4:D:94:LEU:HD23	4:D:94:LEU:HA	1.83	0.43
11:K:54:ARG:O	11:K:57:THR:HG22	2.19	0.43
12:L:25:PRO:HB3	12:L:27:LEU:HB2	1.99	0.43
13:M:49:THR:HG22	13:M:50:GLU:H	1.83	0.43
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.99	0.43
1:A:979:C:C5	1:A:980:C:C5	3.07	0.43
1:A:1003:G:N2	1:A:1039:C:C2	2.86	0.43
1:A:1152:A:C5'	10:J:13:HIS:HB2	2.48	0.43
1:A:1181:G:C2	1:A:1182:G:N2	2.86	0.43
1:A:1253:G:C5	1:A:1254:C:C4	3.06	0.43
1:A:1360:A:OP2	14:N:35:ARG:NH2	2.51	0.43
2:B:92:TYR:HD2	2:B:92:TYR:N	2.14	0.43
2:B:157:ARG:HG2	2:B:158:LEU:N	2.32	0.43
2:B:187:LEU:HA	2:B:187:LEU:HD22	1.42	0.43
1:A:204:U:H4'	1:A:216:G:O5'	2.16	0.43
1:A:413:G:N2	1:A:428:G:H1'	2.33	0.43
1:A:491:G:C6	1:A:492:G:N7	2.86	0.43
1:A:659:U:OP2	15:O:8:LYS:NZ	2.38	0.43
1:A:939:G:H2'	1:A:940:C:C6	2.54	0.43
4:D:192:GLU:C	4:D:194:LEU:H	2.22	0.43
5:E:35:GLY:HA2	5:E:40:ARG:O	2.18	0.43
5:E:90:VAL:HG23	5:E:121:LYS:O	2.18	0.43
6:F:11:ASN:O	6:F:14:LEU:HD12	2.19	0.43
6:F:87:ARG:HG3	6:F:87:ARG:NH1	2.15	0.43
7:G:99:LEU:HA	7:G:99:LEU:HD23	1.54	0.43
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.54	0.43
10:J:4:ILE:HD13	10:J:4:ILE:HA	1.85	0.43
10:J:40:LEU:HG	10:J:71:LEU:HD21	2.00	0.43
13:M:11:ARG:HG3	13:M:12:ASN:HB2	1.99	0.43
1:A:177:C:P	20:T:65:LYS:HZ1	2.41	0.43
1:A:456:C:C2	1:A:477:G:N2	2.87	0.43
1:A:475:G:H2'	1:A:476:G:C8	2.54	0.43
1:A:538:G:OP2	12:L:115:LYS:HB2	2.19	0.43
1:A:792:A:N7	1:A:794:A:C6	2.87	0.43
1:A:1008:C:O5'	1:A:1008:C:H6	2.01	0.43
1:A:1120:G:C6	1:A:1121:U:C4	3.06	0.43
1:A:1163:C:O2'	1:A:1164:G:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1222:G:OP2	1:A:1322:C:N4	2.51	0.43
1:A:1358:U:H5''	14:N:35:ARG:CG	2.48	0.43
1:A:1494:G:C2	1:A:1495:U:C6	3.07	0.43
6:F:97:PHE:C	6:F:97:PHE:CD2	2.92	0.43
14:N:53:LEU:HA	14:N:54:PRO:HD3	1.64	0.43
15:O:6:GLU:HA	15:O:9:GLN:HB2	2.00	0.43
15:O:76:GLU:HA	15:O:76:GLU:OE2	2.18	0.43
16:P:71:ARG:O	16:P:74:LEU:HB2	2.18	0.43
17:Q:50:LYS:HG3	17:Q:51:TYR:CD2	2.54	0.43
18:R:39:VAL:HG13	18:R:40:LEU:CD2	2.47	0.43
1:A:106:C:H2'	1:A:107:G:O4'	2.19	0.43
1:A:117:G:O5'	1:A:117:G:H8	2.01	0.43
1:A:1064:G:H1'	1:A:1190:G:N2	2.34	0.43
1:A:1065:U:H5''	1:A:1190:G:N2	2.34	0.43
1:A:1202:G:C2	14:N:42:ILE:HG21	2.54	0.43
1:A:1427:U:H2'	1:A:1428:A:H8	1.83	0.43
3:C:6:HIS:HA	3:C:7:PRO:HD2	1.71	0.43
7:G:32:ARG:C	7:G:34:GLY:H	2.21	0.43
9:I:17:VAL:HG11	9:I:81:ILE:CA	2.45	0.43
1:A:451:A:N7	1:A:481:G:N1	2.67	0.43
1:A:518:C:H4'	1:A:519:C:O5'	2.19	0.43
1:A:877:C:O2'	8:H:3:THR:HG23	2.18	0.43
2:B:142:LEU:HD13	2:B:146:GLN:HE22	1.83	0.43
2:B:167:PRO:HG2	2:B:192:SER:CB	2.48	0.43
4:D:72:GLU:O	4:D:75:PHE:HB3	2.19	0.43
8:H:27:PRO:HA	8:H:58:TYR:CD2	2.54	0.43
19:S:49:ILE:O	19:S:60:VAL:HG23	2.18	0.43
19:S:50:ALA:HA	19:S:59:PRO:HA	2.00	0.43
1:A:279:A:C4	17:Q:98:LEU:HD23	2.53	0.43
1:A:527:7MG:OP2	22:A:1601:SRY:O32	2.25	0.43
1:A:1071:C:C2'	1:A:1072:G:H5'	2.49	0.43
1:A:1225:A:OP1	13:M:102:ARG:HA	2.18	0.43
4:D:200:GLU:HG2	4:D:201:GLN:N	2.33	0.43
8:H:112:LEU:HD23	8:H:112:LEU:HA	1.30	0.43
12:L:27:LEU:O	12:L:29:GLY:N	2.52	0.43
18:R:50:ILE:HD11	18:R:70:ILE:HG21	2.01	0.43
20:T:16:HIS:CE1	20:T:20:LEU:HD23	2.54	0.43
1:A:384:G:C4	1:A:385:C:C5	3.07	0.43
1:A:457:C:C2	1:A:476:G:C2	3.07	0.43
1:A:500:G:C5	1:A:501:C:C4	3.07	0.43
1:A:923:A:OP1	5:E:21:ALA:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1067:A:O2'	1:A:1094:G:H5'	2.18	0.43
1:A:1219:U:C4	1:A:1220:G:N7	2.87	0.43
1:A:1505:G:H5''	25:A:1919:HOH:O	2.18	0.43
3:C:157:ILE:HD13	3:C:157:ILE:N	2.33	0.43
11:K:107:SER:O	11:K:108:ILE:HD13	2.19	0.43
13:M:19:LEU:HD11	13:M:56:LEU:HD11	2.01	0.43
16:P:19:ILE:HD12	16:P:37:GLY:C	2.40	0.43
17:Q:9:VAL:HG23	17:Q:56:VAL:HG22	2.00	0.43
1:A:109:A:C4	1:A:327:A:C2	3.07	0.42
1:A:295:C:H2'	1:A:296:U:O4'	2.19	0.42
1:A:392:G:C6	1:A:393:A:C6	3.07	0.42
1:A:852:G:C3'	1:A:853:G:H5''	2.49	0.42
1:A:858:G:O6	1:A:869:G:C8	2.72	0.42
1:A:1332:A:H2'	1:A:1333:A:C8	2.54	0.42
1:A:1506:U:O2'	1:A:1507:A:H5'	2.18	0.42
2:B:73:THR:O	2:B:73:THR:HG22	2.19	0.42
2:B:115:LEU:HD23	2:B:145:LEU:HB2	2.00	0.42
4:D:22:LYS:HA	4:D:22:LYS:HD2	1.59	0.42
6:F:1:MET:HA	6:F:67:MET:O	2.18	0.42
7:G:60:LYS:NZ	7:G:63:LYS:HD2	2.34	0.42
9:I:63:ILE:HD11	9:I:81:ILE:HD11	2.01	0.42
10:J:78:ASN:ND2	10:J:79:ARG:HE	2.17	0.42
11:K:92:GLU:O	11:K:96:ARG:HD3	2.19	0.42
11:K:95:ILE:HD13	11:K:95:ILE:HA	1.85	0.42
12:L:42:THR:CG2	12:L:52:LEU:HB3	2.49	0.42
19:S:43:GLU:OE1	19:S:43:GLU:N	2.51	0.42
1:A:109:A:C6	1:A:326:G:C6	3.07	0.42
1:A:946:A:H2'	1:A:947:G:H8	1.83	0.42
1:A:1056:U:O2'	1:A:1057:G:H5'	2.19	0.42
1:A:1313:U:O4	19:S:4:SER:OG	2.28	0.42
1:A:1374:A:H2'	1:A:1375:A:H8	1.84	0.42
8:H:95:VAL:HG11	8:H:133:LEU:HG	2.01	0.42
9:I:113:LYS:H	9:I:119:ALA:HA	1.83	0.42
17:Q:61:GLU:HA	17:Q:71:PHE:CD1	2.53	0.42
18:R:48:GLY:HA3	18:R:82:THR:HA	2.01	0.42
21:U:10:ARG:O	21:U:13:ILE:HB	2.19	0.42
1:A:267:C:OP2	17:Q:67:LYS:HE3	2.19	0.42
1:A:861:G:C5	1:A:862:C:C5	3.07	0.42
1:A:1125:U:O2'	1:A:1126:U:H5'	2.20	0.42
1:A:1308:U:OP2	13:M:99:ARG:HG2	2.19	0.42
1:A:1342:C:H2'	1:A:1343:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1352:C:H2'	1:A:1353:G:C8	2.54	0.42
3:C:92:ALA:HB2	3:C:99:VAL:O	2.20	0.42
4:D:101:LEU:O	4:D:105:VAL:HG23	2.19	0.42
6:F:25:ILE:HA	6:F:28:ARG:HD3	2.00	0.42
9:I:4:TYR:CG	9:I:88:TYR:HB2	2.53	0.42
9:I:45:ALA:HB1	9:I:78:LYS:NZ	2.34	0.42
1:A:512:U:P	4:D:46:LYS:HZ3	2.40	0.42
1:A:913:A:OP1	12:L:91:LYS:HE2	2.19	0.42
1:A:1064:G:H1'	1:A:1190:G:H21	1.84	0.42
1:A:1366:C:C2	1:A:1367:C:C5	3.07	0.42
1:A:1374:A:N3	1:A:1375:A:C8	2.87	0.42
2:B:74:LYS:NZ	2:B:206:ASP:HB2	2.34	0.42
2:B:131:PRO:O	2:B:134:GLU:HG2	2.20	0.42
4:D:11:LEU:HD23	4:D:11:LEU:HA	1.68	0.42
5:E:64:ARG:O	5:E:65:ASN:HB3	2.19	0.42
7:G:17:VAL:HB	7:G:44:TYR:CZ	2.54	0.42
7:G:85:TYR:O	7:G:87:VAL:HG22	2.19	0.42
18:R:36:ASN:OD1	18:R:39:VAL:HG12	2.19	0.42
1:A:47:C:C6	1:A:365:U:H2'	2.55	0.42
1:A:243:A:C2	1:A:245:C:C2	3.07	0.42
1:A:336:C:O2'	1:A:337:C:H5'	2.19	0.42
1:A:429:U:H1'	1:A:430:A:H5''	2.00	0.42
1:A:1185:G:H2'	1:A:1186:G:H5'	2.00	0.42
1:A:1274:G:H2'	1:A:1275:A:C8	2.54	0.42
1:A:1525:G:OP1	11:K:120:ARG:NH2	2.53	0.42
4:D:110:PHE:HA	4:D:162:LEU:HD21	2.01	0.42
5:E:119:LEU:HD23	5:E:119:LEU:N	2.35	0.42
6:F:39:LYS:NZ	6:F:64:GLN:OE1	2.51	0.42
12:L:67:THR:O	12:L:67:THR:OG1	2.34	0.42
21:U:18:TYR:CD1	21:U:24:ARG:HG2	2.53	0.42
1:A:59:A:C2	1:A:354:G:C4	3.07	0.42
1:A:397:A:H3'	1:A:397:A:N3	2.34	0.42
1:A:721:G:H4'	1:A:722:A:O4'	2.20	0.42
1:A:727:G:N2	1:A:730:G:OP2	2.47	0.42
1:A:829:G:C6	1:A:858:G:N2	2.87	0.42
1:A:836:G:C6	1:A:851:G:C6	3.08	0.42
1:A:1113:C:H4'	3:C:14:ILE:HD11	2.00	0.42
1:A:1309:G:C6	1:A:1310:G:C5	3.07	0.42
2:B:21:ARG:HA	2:B:39:ILE:HA	2.01	0.42
2:B:172:ILE:H	2:B:172:ILE:HG12	1.46	0.42
3:C:188:LEU:HA	3:C:188:LEU:HD22	1.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:15:THR:HG23	10:J:94:VAL:HG22	2.01	0.42
11:K:91:ARG:NH1	18:R:88:LYS:HZ1	2.18	0.42
12:L:44:THR:HA	12:L:45:PRO:HD3	1.82	0.42
17:Q:34:LYS:HG3	17:Q:35:VAL:N	2.35	0.42
1:A:123:C:O2'	1:A:290:C:O2	2.33	0.42
1:A:454:C:N4	1:A:479:C:N3	2.67	0.42
1:A:1123:A:H61	1:A:1149:C:H42	1.66	0.42
1:A:1544:U:O5'	1:A:1544:U:H6	2.02	0.42
3:C:180:ALA:O	3:C:181:ASN:HB3	2.20	0.42
5:E:41:VAL:HG13	5:E:113:ALA:HB2	2.01	0.42
8:H:97:VAL:HG12	8:H:98:LYS:N	2.35	0.42
10:J:62:HIS:CB	14:N:59:ALA:HB3	2.50	0.42
16:P:31:LYS:HG3	16:P:32:TYR:N	2.35	0.42
16:P:67:THR:HG22	16:P:68:ASP:N	2.35	0.42
18:R:33:ASP:O	18:R:40:LEU:HD11	2.20	0.42
19:S:55:LYS:HD3	19:S:56:GLN:HG2	2.02	0.42
1:A:45:U:H2'	1:A:46:G:C8	2.55	0.42
1:A:448:A:C4	1:A:487:A:C2	3.07	0.42
1:A:1071:C:O2'	1:A:1072:G:H5'	2.19	0.42
1:A:1193:G:O2'	1:A:1194:U:H5'	2.20	0.42
3:C:32:LEU:O	3:C:35:GLU:HB3	2.20	0.42
3:C:39:ILE:HD12	3:C:57:ILE:HD11	2.02	0.42
8:H:57:PRO:HG2	8:H:57:PRO:O	2.19	0.42
8:H:127:LEU:HD22	8:H:127:LEU:HA	1.74	0.42
8:H:137:VAL:HG12	8:H:138:TRP:N	2.33	0.42
9:I:111:ARG:NH1	9:I:113:LYS:HA	2.35	0.42
12:L:26:ALA:O	12:L:33:ARG:HD2	2.19	0.42
13:M:117:VAL:HG12	13:M:118:ALA:N	2.34	0.42
14:N:39:LEU:HD22	14:N:43:CYS:HB3	2.01	0.42
15:O:36:ILE:HG22	15:O:37:ASN:N	2.32	0.42
19:S:31:ILE:HD12	19:S:32:LYS:H	1.85	0.42
1:A:22:G:C5	1:A:914:G:C6	3.08	0.42
1:A:511:C:H42	1:A:540:G:H1	1.68	0.42
1:A:945:G:N1	1:A:1337:G:C2	2.88	0.42
1:A:1284:C:OP2	1:A:1285:A:O2'	2.34	0.42
1:A:1347:G:C2'	1:A:1348:U:OP2	2.67	0.42
2:B:127:ILE:H	2:B:127:ILE:HG13	1.59	0.42
2:B:224:GLN:HG3	2:B:229:VAL:HG22	2.02	0.42
3:C:54:ARG:HB3	3:C:69:HIS:HB2	2.02	0.42
8:H:104:ARG:HG3	8:H:138:TRP:CG	2.55	0.42
11:K:40:ILE:HG22	11:K:41:THR:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:59:TYR:O	11:K:63:LEU:HG	2.20	0.42
12:L:35:GLY:O	12:L:83:VAL:HG12	2.20	0.42
13:M:23:TYR:CE2	13:M:70:LEU:HD13	2.55	0.42
19:S:20:LEU:HD12	19:S:20:LEU:HA	1.87	0.42
19:S:40:ILE:HD11	19:S:62:ILE:HD12	2.01	0.42
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.50	0.42
20:T:87:LYS:O	20:T:91:LEU:HG	2.20	0.42
1:A:358:U:H2'	1:A:359:U:H6	1.84	0.42
1:A:474:G:H2'	1:A:475:G:O4'	2.20	0.42
1:A:484:G:O2'	1:A:485:G:OP2	2.26	0.42
1:A:509:A:C8	1:A:509:A:C3'	3.03	0.42
1:A:585:G:C6	1:A:586:C:C4	3.08	0.42
1:A:693:G:C6	1:A:694:A:C5	3.07	0.42
1:A:1120:G:O6	1:A:1153:C:N4	2.53	0.42
1:A:1250:A:N1	1:A:1251:A:C2	2.88	0.42
1:A:1320:C:O2'	19:S:73:GLU:OE1	2.35	0.42
1:A:1504:G:H4'	1:A:1505:G:H5'	2.02	0.42
3:C:6:HIS:HD2	3:C:8:ILE:H	1.67	0.42
4:D:187:ARG:HD2	4:D:187:ARG:HA	1.15	0.42
6:F:30:LEU:HD23	6:F:75:LEU:HD21	2.01	0.42
6:F:98:LEU:HB2	6:F:101:ALA:HB2	2.02	0.42
7:G:104:LEU:N	7:G:104:LEU:HD23	2.34	0.42
7:G:124:LEU:HD23	7:G:124:LEU:HA	1.60	0.42
17:Q:4:LYS:HG2	17:Q:6:LEU:CD2	2.49	0.42
20:T:42:GLN:OE1	20:T:42:GLN:HA	2.13	0.42
1:A:284:G:H2'	1:A:285:G:C8	2.54	0.41
1:A:527:7MG:O2'	1:A:535:A:N1	2.37	0.41
1:A:578:C:H2'	1:A:579:G:O4'	2.20	0.41
1:A:1112:C:H1'	3:C:179:ARG:NH1	2.35	0.41
1:A:1134:G:C6	1:A:1141:C:C4	3.07	0.41
1:A:1197:G:H5''	1:A:1198:G:OP2	2.20	0.41
4:D:187:ARG:NH1	4:D:188:LEU:H	2.18	0.41
5:E:53:LEU:HD23	5:E:53:LEU:HA	1.66	0.41
5:E:80:ILE:HD12	5:E:91:LEU:HB2	2.00	0.41
6:F:23:LYS:O	6:F:27:GLN:HG2	2.20	0.41
6:F:41:GLU:OE1	18:R:35:ARG:NH2	2.53	0.41
8:H:4:ASP:OD2	8:H:85:ARG:NH1	2.53	0.41
18:R:53:ARG:HA	18:R:56:THR:OG1	2.19	0.41
1:A:134:A:H2'	1:A:135:C:O4'	2.19	0.41
1:A:940:C:H2'	1:A:941:G:O4'	2.20	0.41
1:A:1144:G:N2	1:A:1146:A:H62	2.17	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1243:C:H5''	21:U:8:THR:HG22	2.02	0.41
1:A:1250:A:H4'	9:I:68:GLY:CA	2.50	0.41
1:A:1399:C:H4'	1:A:1400:5MC:H5''	2.02	0.41
1:A:1435:G:H2'	1:A:1436:U:H6	1.79	0.41
2:B:124:SER:HB2	2:B:126:GLU:OE1	2.20	0.41
11:K:44:SER:H	11:K:47:VAL:HB	1.85	0.41
12:L:55:VAL:HG12	12:L:69:TYR:HA	2.02	0.41
18:R:22:VAL:HG23	18:R:55:ARG:O	2.20	0.41
20:T:33:ILE:O	20:T:34:LYS:C	2.58	0.41
1:A:27:G:H1	1:A:556:C:N4	2.18	0.41
1:A:109:A:H2'	1:A:326:G:N2	2.35	0.41
1:A:831:U:O2'	1:A:832:C:H5'	2.21	0.41
1:A:1070:U:O2	1:A:1106:G:C2	2.73	0.41
1:A:1171:G:C6	1:A:1172:C:N4	2.88	0.41
1:A:1296:C:H4'	1:A:1302:U:C5	2.54	0.41
1:A:1541:PSU:H3'	1:A:1541:PSU:C6	2.53	0.41
2:B:28:PHE:O	2:B:28:PHE:CD2	2.74	0.41
2:B:102:LEU:HB3	2:B:180:LEU:HD11	2.02	0.41
4:D:38:TYR:CD1	4:D:45:GLN:HG2	2.55	0.41
4:D:57:ARG:HG3	4:D:202:LEU:HD13	2.03	0.41
8:H:6:ILE:HG23	8:H:6:ILE:HD12	1.66	0.41
9:I:126:SER:O	9:I:128:ARG:N	2.53	0.41
20:T:41:ILE:O	20:T:44:ALA:HB3	2.21	0.41
1:A:141:A:H1'	1:A:182:U:O2	2.20	0.41
1:A:431:A:H2'	1:A:432:A:O4'	2.20	0.41
1:A:922:G:N2	1:A:1396:A:C5	2.89	0.41
1:A:1118:C:H1'	1:A:1179:A:C5	2.54	0.41
1:A:1118:C:H5'	9:I:104:ARG:HG3	2.02	0.41
1:A:1226:C:C5	13:M:104:ARG:HA	2.54	0.41
2:B:158:LEU:HD23	2:B:158:LEU:HA	1.70	0.41
4:D:120:LEU:HD23	4:D:120:LEU:HA	1.72	0.41
7:G:58:PRO:HA	7:G:61:VAL:HB	2.03	0.41
11:K:18:ARG:O	11:K:33:THR:HG22	2.21	0.41
13:M:23:TYR:HB3	13:M:67:GLU:CA	2.48	0.41
16:P:22:THR:HA	16:P:33:ILE:HG13	2.02	0.41
17:Q:10:VAL:HG23	17:Q:54:GLY:H	1.85	0.41
1:A:88:A:H2'	1:A:89:C:H6	1.85	0.41
1:A:1053:G:O2'	1:A:1199:U:H5	2.01	0.41
1:A:1172:C:O2'	1:A:1173:G:H5'	2.20	0.41
1:A:1250:A:C2	1:A:1287:A:C2	3.09	0.41
1:A:1255:G:C2'	1:A:1279:A:H61	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:79:ASP:O	2:B:82:ARG:N	2.54	0.41
2:B:182:ILE:HA	2:B:183:PRO:HD3	1.78	0.41
4:D:27:TYR:HE1	4:D:168:ARG:HH22	1.68	0.41
8:H:104:ARG:CZ	8:H:138:TRP:CZ2	3.04	0.41
12:L:30:ALA:HA	12:L:31:PRO:HD3	1.68	0.41
14:N:12:ARG:HB2	14:N:13:THR:H	1.61	0.41
21:U:3:LYS:HB2	21:U:3:LYS:HE3	1.75	0.41
1:A:379:C:N4	1:A:384:G:H1	2.18	0.41
1:A:491:G:C2	1:A:492:G:C8	3.07	0.41
1:A:824:C:H2'	1:A:825:G:C8	2.56	0.41
1:A:1130:A:OP1	1:A:1131:G:N7	2.53	0.41
1:A:1351:U:H4'	7:G:33:ASP:OD2	2.20	0.41
2:B:76:GLN:O	2:B:208:ILE:HD12	2.20	0.41
3:C:32:LEU:H	3:C:32:LEU:HG	1.58	0.41
4:D:62:GLN:NE2	4:D:66:ARG:HD2	2.35	0.41
5:E:148:VAL:O	5:E:152:ARG:HG3	2.20	0.41
6:F:36:ARG:HB3	6:F:36:ARG:NH1	2.21	0.41
9:I:49:PRO:HB2	9:I:81:ILE:HG22	2.02	0.41
13:M:18:ALA:O	13:M:21:TYR:HB2	2.19	0.41
16:P:8:ARG:HB3	16:P:28:ARG:NH1	2.35	0.41
19:S:21:GLU:O	19:S:25:LYS:HB2	2.21	0.41
20:T:49:ALA:O	20:T:52:ALA:HB3	2.20	0.41
1:A:147:G:H1	1:A:175:C:H42	1.69	0.41
1:A:966:M2G:N7	1:A:967:5MC:HM52	2.35	0.41
1:A:1073:U:O2	2:B:104:ASN:ND2	2.54	0.41
1:A:1119:C:OP1	9:I:83:ARG:NH1	2.53	0.41
1:A:1249:C:H5'	1:A:1250:A:OP2	2.21	0.41
4:D:120:LEU:HD23	4:D:125:HIS:CD2	2.56	0.41
9:I:94:ALA:O	9:I:98:PRO:HG3	2.21	0.41
12:L:33:ARG:HG3	12:L:61:THR:OG1	2.20	0.41
12:L:85:ILE:CG2	12:L:98:TYR:HB3	2.49	0.41
13:M:22:ILE:HG22	13:M:23:TYR:H	1.86	0.41
13:M:40:ASN:HD21	13:M:42:ALA:HB3	1.86	0.41
14:N:36:PHE:HD1	14:N:36:PHE:C	2.24	0.41
17:Q:65:ILE:HB	17:Q:69:LYS:HB3	2.03	0.41
1:A:268:C:H2'	1:A:269:C:H6	1.85	0.41
1:A:372:C:H1'	1:A:373:A:OP2	2.21	0.41
1:A:854:G:C2	1:A:855:G:C8	3.08	0.41
1:A:1226:C:N4	13:M:104:ARG:HG3	2.36	0.41
2:B:211:ILE:O	2:B:215:LEU:HB2	2.20	0.41
3:C:25:GLY:HA3	3:C:29:TYR:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:22:LYS:CB	4:D:26:CYS:HB2	2.51	0.41
4:D:203:VAL:O	4:D:206:PHE:HB3	2.21	0.41
5:E:91:LEU:HD23	5:E:91:LEU:N	2.35	0.41
7:G:58:PRO:HA	7:G:61:VAL:CG2	2.51	0.41
12:L:84:LEU:HD12	12:L:84:LEU:HA	1.91	0.41
16:P:19:ILE:HD12	16:P:38:TYR:N	2.36	0.41
17:Q:12:SER:HB3	17:Q:20:THR:HB	2.02	0.41
17:Q:20:THR:CG2	17:Q:41:LYS:HG2	2.51	0.41
17:Q:24:GLU:HG3	17:Q:39:SER:HB3	2.03	0.41
18:R:37:VAL:O	18:R:40:LEU:N	2.54	0.41
20:T:58:LYS:O	20:T:58:LYS:HG3	2.19	0.41
1:A:8:A:H5'	5:E:101:ILE:HG23	2.02	0.41
1:A:458:C:H2'	1:A:459:G:O4'	2.21	0.41
1:A:519:C:H2'	1:A:520:A:C8	2.55	0.41
1:A:738:C:OP1	6:F:92:LYS:HD3	2.21	0.41
1:A:861:G:C6	1:A:862:C:C4	3.08	0.41
1:A:922:G:C2	1:A:1396:A:C6	3.09	0.41
1:A:965:A:OP1	1:A:1198:G:H5''	2.20	0.41
1:A:976:G:C8	1:A:1358:U:O2	2.74	0.41
1:A:1133:G:C2	1:A:1134:G:C8	3.08	0.41
1:A:1164:G:C2	1:A:1165:C:C2	3.09	0.41
1:A:1285:A:H5'	1:A:1286:A:C5	2.56	0.41
1:A:1295:G:C6	1:A:1296:C:C4	3.08	0.41
1:A:1375:A:N1	1:A:1376:U:C2	2.89	0.41
2:B:46:LYS:HA	2:B:49:GLU:OE2	2.20	0.41
2:B:155:LEU:HD23	2:B:155:LEU:HA	1.64	0.41
3:C:113:ALA:HB3	3:C:114:PRO:HD3	2.03	0.41
3:C:182:ILE:HA	3:C:202:ILE:O	2.20	0.41
4:D:20:TYR:CD2	4:D:20:TYR:N	2.88	0.41
4:D:192:GLU:O	4:D:194:LEU:N	2.54	0.41
6:F:91:VAL:HG12	6:F:92:LYS:O	2.21	0.41
7:G:42:ILE:HD13	7:G:42:ILE:HG21	1.88	0.41
8:H:86:ILE:HG21	8:H:133:LEU:HB3	2.02	0.41
9:I:111:ARG:HG2	9:I:112:LYS:N	2.36	0.41
10:J:24:VAL:O	10:J:24:VAL:HG12	2.21	0.41
12:L:7:ILE:HG23	17:Q:34:LYS:HE2	2.02	0.41
12:L:98:TYR:CD1	12:L:98:TYR:N	2.89	0.41
13:M:54:VAL:HA	13:M:57:ARG:CD	2.50	0.41
15:O:21:ASP:OD2	15:O:23:GLY:N	2.54	0.41
16:P:4:ILE:O	16:P:66:PRO:HA	2.21	0.41
1:A:24:U:H2'	1:A:25:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:70:G:C6	1:A:73:C:C4	3.09	0.41
1:A:95:U:H2'	1:A:96:G:H8	1.85	0.41
1:A:686:U:HO2'	1:A:687:A:H8	1.59	0.41
1:A:974:A:H4'	1:A:975:A:H3'	2.03	0.41
1:A:976:G:OP2	1:A:1358:U:H1'	2.21	0.41
2:B:236:TYR:HD2	2:B:236:TYR:HA	1.78	0.41
3:C:137:ALA:HA	3:C:140:ARG:CZ	2.51	0.41
4:D:196:LEU:HA	4:D:197:PRO:HD3	1.65	0.41
9:I:5:TYR:CE1	9:I:18:PHE:HE2	2.39	0.41
11:K:25:TYR:CZ	11:K:88:GLY:HA2	2.56	0.41
17:Q:67:LYS:O	17:Q:68:ARG:HB3	2.21	0.41
1:A:132:C:O3'	20:T:74:LYS:NZ	2.50	0.40
1:A:349:A:H2'	1:A:350:G:C5'	2.50	0.40
1:A:1150:U:H2'	1:A:1151:A:H5'	2.03	0.40
1:A:1172:C:H2'	1:A:1173:G:C8	2.55	0.40
1:A:1182:G:H4'	1:A:1183:A:C5'	2.49	0.40
1:A:1368:G:OP2	9:I:112:LYS:HD3	2.21	0.40
2:B:188:ALA:O	2:B:202:PRO:HA	2.21	0.40
4:D:199:ASN:HD22	4:D:202:LEU:HG	1.86	0.40
5:E:55:VAL:HG12	5:E:56:GLN:N	2.35	0.40
7:G:37:ASN:HB3	7:G:38:LEU:HD12	2.03	0.40
11:K:58:PRO:HB2	11:K:93:GLN:HG3	2.02	0.40
11:K:120:ARG:HA	11:K:121:PRO:HD3	1.86	0.40
15:O:36:ILE:HA	15:O:59:MET:HE2	2.03	0.40
19:S:18:LYS:HD2	19:S:31:ILE:HG12	2.03	0.40
1:A:245:C:O2	1:A:283:C:N3	2.55	0.40
1:A:266:G:P	25:A:2234:HOH:O	2.79	0.40
1:A:393:A:O2'	1:A:394:G:H5'	2.21	0.40
1:A:575:G:O2'	1:A:821:G:H5'	2.21	0.40
1:A:782:A:H2'	1:A:783:C:O4'	2.21	0.40
1:A:830:G:C5	1:A:831:U:C5	3.10	0.40
1:A:981:U:O4	1:A:1222:G:O6	2.40	0.40
1:A:1112:C:O2'	3:C:179:ARG:NH1	2.54	0.40
1:A:1126:U:C5'	1:A:1126:U:H6	2.35	0.40
1:A:1213:A:N1	1:A:1215:G:H1'	2.36	0.40
1:A:1513:A:H2'	1:A:1514:C:C6	2.55	0.40
1:A:1528:U:H6	1:A:1528:U:H2'	1.65	0.40
2:B:97:TRP:CZ2	2:B:101:MET:HB2	2.57	0.40
3:C:114:PRO:HG3	3:C:185:GLY:HA3	2.04	0.40
5:E:86:ALA:CB	5:E:125:SER:HB3	2.50	0.40
5:E:105:VAL:HG11	5:E:131:ILE:HG22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:151:TYR:CD1	7:G:151:TYR:N	2.89	0.40
8:H:103:VAL:HG12	8:H:108:GLY:HA3	2.03	0.40
9:I:51:ARG:HB2	9:I:51:ARG:HH11	1.86	0.40
9:I:53:VAL:C	9:I:55:ALA:H	2.24	0.40
13:M:36:LYS:HD2	13:M:59:TYR:OH	2.21	0.40
16:P:3:LYS:HG3	16:P:65:GLN:O	2.21	0.40
20:T:74:LYS:HA	20:T:74:LYS:HD3	1.72	0.40
1:A:88:A:C4	1:A:89:C:C6	3.09	0.40
1:A:287:U:C2'	1:A:288:A:H5'	2.52	0.40
1:A:325:A:N6	1:A:326:G:C2	2.90	0.40
1:A:631:G:H2'	1:A:632:A:C8	2.57	0.40
1:A:779:C:H5''	11:K:122:LYS:HB3	2.02	0.40
1:A:943:U:H1'	9:I:124:GLN:HE22	1.86	0.40
1:A:1003:G:C2	1:A:1003(A):G:C5	3.09	0.40
1:A:1066:C:C2'	1:A:1067:A:H5'	2.50	0.40
1:A:1402:4OC:O2	1:A:1500:A:N1	2.55	0.40
1:A:1476:G:H2'	1:A:1477:C:C6	2.57	0.40
1:A:1527:C:C2'	1:A:1528:U:H5'	2.52	0.40
2:B:23:ARG:O	2:B:24:TRP:HD1	2.05	0.40
4:D:30:LYS:C	4:D:32:ALA:N	2.73	0.40
8:H:6:ILE:HG13	8:H:31:PHE:HE2	1.86	0.40
14:N:23:ARG:HD3	14:N:28:GLY:O	2.20	0.40
15:O:21:ASP:OD1	15:O:24:SER:OG	2.25	0.40
15:O:39:LEU:HD12	15:O:39:LEU:HA	1.77	0.40
16:P:9:PHE:HD1	16:P:9:PHE:HA	1.64	0.40
17:Q:22:LEU:HD12	17:Q:40:LYS:O	2.21	0.40
1:A:428:G:C6	1:A:430:A:C6	3.09	0.40
1:A:820:U:H4'	1:A:821:G:OP2	2.22	0.40
1:A:1081:G:H5''	1:A:1081:G:C8	2.57	0.40
1:A:1422:G:C2	1:A:1423:G:C8	3.10	0.40
1:A:1540:PSU:C6	1:A:1540:PSU:H3'	2.57	0.40
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.56	0.40
4:D:152:SER:HA	4:D:155:LEU:HD21	2.03	0.40
10:J:22:LYS:NZ	10:J:90:LEU:HD12	2.37	0.40
13:M:54:VAL:HG23	13:M:57:ARG:HH11	1.87	0.40
19:S:50:ALA:HA	19:S:58:VAL:O	2.20	0.40
20:T:62:LEU:O	20:T:62:LEU:HD22	2.21	0.40
20:T:80:ARG:HG3	20:T:80:ARG:NH1	2.37	0.40
1:A:20:U:C6	1:A:20:U:H3'	2.56	0.40
1:A:227:G:H21	16:P:62:VAL:HG12	1.86	0.40
1:A:418:C:H1'	1:A:540:G:O2'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:943:U:C2'	1:A:944:G:H5'	2.51	0.40
1:A:987:G:N2	1:A:1219:U:O2	2.54	0.40
1:A:990:C:H42	1:A:1215:G:H1	1.68	0.40
1:A:1164:G:C8	1:A:1164:G:OP2	2.74	0.40
1:A:1321:C:C5	1:A:1322:C:C2	3.08	0.40
1:A:1539:C:C4	1:A:1540:PSU:C2	3.09	0.40
3:C:51:GLY:O	3:C:115:LEU:HG	2.21	0.40
12:L:10:LEU:HD22	12:L:10:LEU:HA	1.75	0.40
19:S:64:GLU:O	19:S:67:VAL:HG23	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	232/256 (91%)	199 (86%)	30 (13%)	3 (1%)	10	39
3	C	204/239 (85%)	172 (84%)	30 (15%)	2 (1%)	13	44
4	D	206/209 (99%)	186 (90%)	17 (8%)	3 (2%)	8	37
5	E	148/162 (91%)	137 (93%)	9 (6%)	2 (1%)	9	38
6	F	99/101 (98%)	96 (97%)	3 (3%)	0	100	100
7	G	153/156 (98%)	137 (90%)	15 (10%)	1 (1%)	19	51
8	H	136/138 (99%)	129 (95%)	7 (5%)	0	100	100
9	I	125/128 (98%)	112 (90%)	12 (10%)	1 (1%)	16	48
10	J	96/105 (91%)	74 (77%)	20 (21%)	2 (2%)	5	32
11	K	114/129 (88%)	98 (86%)	16 (14%)	0	100	100
12	L	121/135 (90%)	105 (87%)	14 (12%)	2 (2%)	7	35
13	M	116/126 (92%)	103 (89%)	10 (9%)	3 (3%)	4	28
14	N	58/61 (95%)	48 (83%)	10 (17%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	O	85/89 (96%)	75 (88%)	10 (12%)	0	100	100
16	P	81/88 (92%)	74 (91%)	6 (7%)	1 (1%)	11	41
17	Q	97/105 (92%)	90 (93%)	7 (7%)	0	100	100
18	R	68/88 (77%)	60 (88%)	8 (12%)	0	100	100
19	S	78/93 (84%)	70 (90%)	5 (6%)	3 (4%)	2	22
20	T	97/106 (92%)	81 (84%)	16 (16%)	0	100	100
21	U	22/27 (82%)	20 (91%)	2 (9%)	0	100	100
All	All	2336/2541 (92%)	2066 (88%)	247 (11%)	23 (1%)	13	44

All (23) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
19	S	31	ILE
19	S	70	LYS
2	B	21	ARG
2	B	24	TRP
3	C	15	THR
12	L	28	LYS
19	S	30	LEU
4	D	35	ARG
7	G	59	LEU
9	I	117	HIS
2	B	229	VAL
4	D	160	GLN
13	M	59	TYR
13	M	61	GLU
5	E	129	ILE
10	J	34	VAL
3	C	66	VAL
4	D	5	ILE
13	M	7	VAL
16	P	53	VAL
5	E	70	PRO
10	J	72	VAL
12	L	25	PRO

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%)	146 (72%)	56 (28%)	0	2
3	C	160/188 (85%)	107 (67%)	53 (33%)	0	1
4	D	180/181 (99%)	141 (78%)	39 (22%)	1	6
5	E	115/123 (94%)	78 (68%)	37 (32%)	0	1
6	F	90/90 (100%)	66 (73%)	24 (27%)	0	3
7	G	126/127 (99%)	92 (73%)	34 (27%)	0	3
8	H	119/119 (100%)	89 (75%)	30 (25%)	0	4
9	I	98/99 (99%)	77 (79%)	21 (21%)	1	6
10	J	87/92 (95%)	71 (82%)	16 (18%)	1	8
11	K	88/99 (89%)	66 (75%)	22 (25%)	0	4
12	L	103/110 (94%)	73 (71%)	30 (29%)	0	2
13	M	94/101 (93%)	71 (76%)	23 (24%)	0	4
14	N	49/50 (98%)	41 (84%)	8 (16%)	2	12
15	O	79/80 (99%)	61 (77%)	18 (23%)	0	5
16	P	72/74 (97%)	60 (83%)	12 (17%)	2	11
17	Q	94/97 (97%)	71 (76%)	23 (24%)	0	4
18	R	61/77 (79%)	45 (74%)	16 (26%)	0	3
19	S	71/80 (89%)	50 (70%)	21 (30%)	0	2
20	T	76/82 (93%)	54 (71%)	22 (29%)	0	2
21	U	19/22 (86%)	15 (79%)	4 (21%)	1	6
All	All	1983/2111 (94%)	1474 (74%)	509 (26%)	0	4

All (509) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	8	LYS
2	B	10	LEU
2	B	12	GLU

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Mol	Chain	Res	Type
2	B	16	HIS
2	B	19	HIS
2	B	23	ARG
2	B	24	TRP
2	B	26	PRO
2	B	30	ARG
2	B	33	TYR
2	B	39	ILE
2	B	46	LYS
2	B	48	MET
2	B	49	GLU
2	B	51	LEU
2	B	53	ARG
2	B	59	GLU
2	B	69	LEU
2	B	75	LYS
2	B	84	GLU
2	B	87	ARG
2	B	92	TYR
2	B	96	ARG
2	B	97	TRP
2	B	98	LEU
2	B	102	LEU
2	B	106	LYS
2	B	121	LEU
2	B	127	ILE
2	B	129	GLU
2	B	142	LEU
2	B	144	ARG
2	B	147	LYS
2	B	150	SER
2	B	153	ARG
2	B	154	LEU
2	B	157	ARG
2	B	165	VAL
2	B	169	LYS
2	B	175	ARG
2	B	178	ARG
2	B	180	LEU
2	B	184	VAL
2	B	185	ILE
2	B	187	LEU

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Mol	Chain	Res	Type
2	B	193	ASP
2	B	196	LEU
2	B	197	VAL
2	B	200	ILE
2	B	215	LEU
2	B	216	SER
2	B	217	ARG
2	B	223	ILE
2	B	226	ARG
2	B	231	GLU
2	B	236	TYR
3	C	3	ASN
3	C	4	LYS
3	C	14	ILE
3	C	15	THR
3	C	20	SER
3	C	21	ARG
3	C	26	LYS
3	C	28	GLN
3	C	30	ARG
3	C	32	LEU
3	C	33	LEU
3	C	34	LEU
3	C	39	ILE
3	C	49	SER
3	C	57	ILE
3	C	62	ASP
3	C	63	ASN
3	C	64	VAL
3	C	75	VAL
3	C	79	ARG
3	C	86	VAL
3	C	91	LEU
3	C	94	LEU
3	C	98	ASN
3	C	101	LEU
3	C	102	ASN
3	C	112	SER
3	C	115	LEU
3	C	118	GLN
3	C	127	ARG
3	C	130	VAL

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Mol	Chain	Res	Type
3	C	131	ARG
3	C	132	ARG
3	C	135	LYS
3	C	139	GLN
3	C	147	LYS
3	C	156	ARG
3	C	157	ILE
3	C	162	GLN
3	C	165	THR
3	C	167	TRP
3	C	172	ARG
3	C	175	LEU
3	C	178	LEU
3	C	188	LEU
3	C	190	ARG
3	C	193	TYR
3	C	195	VAL
3	C	196	LEU
3	C	198	VAL
3	C	203	PHE
3	C	204	LEU
3	C	207	VAL
4	D	5	ILE
4	D	9	CYS
4	D	12	CYS
4	D	15	GLU
4	D	19	LEU
4	D	20	TYR
4	D	22	LYS
4	D	25	ARG
4	D	26	CYS
4	D	30	LYS
4	D	50	ARG
4	D	58	LEU
4	D	61	LYS
4	D	64	LEU
4	D	71	SER
4	D	73	ARG
4	D	83	SER
4	D	86	LYS
4	D	91	SER
4	D	108	LEU

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Mol	Chain	Res	Type
4	D	112	VAL
4	D	115	ARG
4	D	119	GLN
4	D	120	LEU
4	D	122	ARG
4	D	127	THR
4	D	129	ASN
4	D	137	SER
4	D	140	VAL
4	D	141	ARG
4	D	148	VAL
4	D	157	LEU
4	D	174	LEU
4	D	186	LEU
4	D	187	ARG
4	D	192	GLU
4	D	194	LEU
4	D	198	VAL
4	D	202	LEU
5	E	12	LEU
5	E	16	THR
5	E	18	ARG
5	E	19	MET
5	E	20	GLN
5	E	25	ARG
5	E	26	PHE
5	E	31	LEU
5	E	34	VAL
5	E	41	VAL
5	E	53	LEU
5	E	56	GLN
5	E	60	TYR
5	E	61	TYR
5	E	67	VAL
5	E	68	GLU
5	E	75	THR
5	E	76	ILE
5	E	79	GLU
5	E	80	ILE
5	E	84	PHE
5	E	87	SER
5	E	92	LYS

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Mol	Chain	Res	Type
5	E	100	VAL
5	E	112	LEU
5	E	116	THR
5	E	117	ASP
5	E	121	LYS
5	E	125	SER
5	E	126	ARG
5	E	130	ASN
5	E	131	ILE
5	E	144	THR
5	E	147	ASP
5	E	148	VAL
5	E	151	LEU
5	E	152	ARG
6	F	5	GLU
6	F	9	VAL
6	F	15	ASP
6	F	19	LEU
6	F	23	LYS
6	F	36	ARG
6	F	37	VAL
6	F	39	LYS
6	F	43	LEU
6	F	54	LYS
6	F	55	ASP
6	F	61	LEU
6	F	69	GLU
6	F	70	ASP
6	F	71	ARG
6	F	74	ASP
6	F	75	LEU
6	F	82	ARG
6	F	83	ASP
6	F	87	ARG
6	F	93	SER
6	F	97	PHE
6	F	98	LEU
6	F	100	ASN
7	G	3	ARG
7	G	5	ARG
7	G	6	ARG
7	G	8	GLU

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Mol	Chain	Res	Type
7	G	15	ASP
7	G	22	LEU
7	G	24	THR
7	G	30	ILE
7	G	31	MET
7	G	32	ARG
7	G	49	ILE
7	G	50	ILE
7	G	52	GLU
7	G	53	LYS
7	G	54	THR
7	G	57	GLU
7	G	67	GLU
7	G	72	ARG
7	G	80	VAL
7	G	86	GLN
7	G	87	VAL
7	G	89	MET
7	G	91	VAL
7	G	95	ARG
7	G	106	GLN
7	G	110	GLN
7	G	111	ARG
7	G	113	GLU
7	G	115	ARG
7	G	125	MET
7	G	126	ASP
7	G	129	GLU
7	G	146	GLU
7	G	155	ARG
8	H	3	THR
8	H	5	PRO
8	H	6	ILE
8	H	8	ASP
8	H	11	THR
8	H	19	VAL
8	H	26	VAL
8	H	29	SER
8	H	35	ILE
8	H	50	ARG
8	H	51	VAL
8	H	63	LEU

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Mol	Chain	Res	Type
8	H	79	VAL
8	H	81	HIS
8	H	83	ILE
8	H	85	ARG
8	H	86	ILE
8	H	88	LYS
8	H	91	ARG
8	H	92	ARG
8	H	95	VAL
8	H	98	LYS
8	H	104	ARG
8	H	105	ARG
8	H	115	SER
8	H	120	THR
8	H	122	ARG
8	H	127	LEU
8	H	129	VAL
8	H	133	LEU
9	I	4	TYR
9	I	5	TYR
9	I	20	ARG
9	I	26	VAL
9	I	27	THR
9	I	53	VAL
9	I	65	VAL
9	I	66	ARG
9	I	70	LYS
9	I	78	LYS
9	I	79	LEU
9	I	102	LEU
9	I	104	ARG
9	I	107	ARG
9	I	109	VAL
9	I	112	LYS
9	I	113	LYS
9	I	114	TYR
9	I	121	ARG
9	I	127	LYS
9	I	128	ARG
10	J	3	LYS
10	J	8	LEU
10	J	17	ASP

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Mol	Chain	Res	Type
10	J	21	GLN
10	J	30	SER
10	J	38	ILE
10	J	43	ARG
10	J	48	THR
10	J	59	SER
10	J	65	LEU
10	J	68	HIS
10	J	69	ASN
10	J	79	ARG
10	J	82	ILE
10	J	89	ASP
10	J	96	ILE
11	K	11	LYS
11	K	13	GLN
11	K	14	VAL
11	K	18	ARG
11	K	29	ILE
11	K	30	VAL
11	K	32	ILE
11	K	40	ILE
11	K	48	ILE
11	K	75	TYR
11	K	77	MET
11	K	79	SER
11	K	85	ARG
11	K	87	THR
11	K	98	LEU
11	K	101	SER
11	K	104	GLN
11	K	105	VAL
11	K	109	VAL
11	K	116	HIS
11	K	117	ASN
11	K	119	CYS
12	L	6	THR
12	L	10	LEU
12	L	11	VAL
12	L	12	ARG
12	L	18	VAL
12	L	19	ARG
12	L	20	LYS

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Mol	Chain	Res	Type
12	L	33	ARG
12	L	36	VAL
12	L	41	ARG
12	L	43	VAL
12	L	47	LYS
12	L	53	ARG
12	L	55	VAL
12	L	59	ARG
12	L	61	THR
12	L	62	SER
12	L	64	TYR
12	L	66	VAL
12	L	79	GLU
12	L	80	HIS
12	L	81	SER
12	L	97	ARG
12	L	98	TYR
12	L	101	VAL
12	L	112	ASP
12	L	115	LYS
12	L	119	LYS
12	L	122	THR
12	L	126	LYS
13	M	3	ARG
13	M	12	ASN
13	M	14	ARG
13	M	16	ASP
13	M	19	LEU
13	M	27	LYS
13	M	34	LEU
13	M	35	GLU
13	M	48	LEU
13	M	49	THR
13	M	56	LEU
13	M	60	VAL
13	M	66	LEU
13	M	67	GLU
13	M	70	LEU
13	M	71	ARG
13	M	74	VAL
13	M	80	ARG
13	M	103	THR

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Mol	Chain	Res	Type
13	M	109	THR
13	M	110	ARG
13	M	113	PRO
13	M	115	LYS
14	N	21	TYR
14	N	24	CYS
14	N	31	ARG
14	N	36	PHE
14	N	41	ARG
14	N	45	ARG
14	N	58	LYS
14	N	60	SER
15	O	4	THR
15	O	9	GLN
15	O	10	LYS
15	O	17	ARG
15	O	32	LEU
15	O	33	THR
15	O	34	LEU
15	O	38	ARG
15	O	42	HIS
15	O	45	VAL
15	O	48	LYS
15	O	52	SER
15	O	56	LEU
15	O	63	ARG
15	O	65	ARG
15	O	67	LEU
15	O	70	LEU
15	O	75	PRO
16	P	3	LYS
16	P	8	ARG
16	P	27	LYS
16	P	31	LYS
16	P	44	THR
16	P	54	GLU
16	P	55	ARG
16	P	62	VAL
16	P	68	ASP
16	P	72	ARG
16	P	74	LEU
16	P	75	ARG

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Mol	Chain	Res	Type
17	Q	6	LEU
17	Q	7	THR
17	Q	9	VAL
17	Q	10	VAL
17	Q	21	VAL
17	Q	34	LYS
17	Q	35	VAL
17	Q	36	ILE
17	Q	37	LYS
17	Q	50	LYS
17	Q	53	LEU
17	Q	57	VAL
17	Q	59	ILE
17	Q	60	ILE
17	Q	68	ARG
17	Q	74	LEU
17	Q	76	LEU
17	Q	81	ARG
17	Q	86	GLU
17	Q	87	LYS
17	Q	96	GLN
17	Q	97	SER
17	Q	99	SER
18	R	19	LYS
18	R	21	LYS
18	R	30	ASP
18	R	31	LEU
18	R	32	ARG
18	R	47	THR
18	R	50	ILE
18	R	51	LEU
18	R	55	ARG
18	R	56	THR
18	R	65	ILE
18	R	69	THR
18	R	71	LYS
18	R	84	LYS
18	R	87	ARG
18	R	88	LYS
19	S	3	ARG
19	S	5	LEU
19	S	7	LYS

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Mol	Chain	Res	Type
19	S	15	LEU
19	S	18	LYS
19	S	20	LEU
19	S	29	ARG
19	S	31	ILE
19	S	33	THR
19	S	35	SER
19	S	39	THR
19	S	41	VAL
19	S	43	GLU
19	S	49	ILE
19	S	51	VAL
19	S	55	LYS
19	S	60	VAL
19	S	64	GLU
19	S	69	HIS
19	S	70	LYS
19	S	71	LEU
20	T	18	GLN
20	T	19	SER
20	T	20	LEU
20	T	25	ARG
20	T	30	LYS
20	T	33	ILE
20	T	35	THR
20	T	42	GLN
20	T	45	GLN
20	T	50	GLU
20	T	53	LEU
20	T	56	MET
20	T	62	LEU
20	T	72	LEU
20	T	75	ASN
20	T	79	ARG
20	T	84	LEU
20	T	86	ARG
20	T	90	GLN
20	T	91	LEU
20	T	92	LEU
20	T	99	LEU
21	U	8	THR
21	U	10	ARG

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Mol	Chain	Res	Type
21	U	12	LYS
21	U	13	ILE

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

Mol	Chain	Res	Type
4	D	119	GLN
4	D	123	HIS
4	D	129	ASN
6	F	84	ASN
8	H	82	HIS
9	I	124	GLN
10	J	56	HIS
10	J	62	HIS
17	Q	16	GLN
18	R	63	GLN
19	S	14	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1508/1522 (99%)	422 (27%)	62 (4%)

All (422) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	7	G
1	A	8	A
1	A	9	G
1	A	21	G
1	A	22	G
1	A	31	G
1	A	32	A
1	A	39	G
1	A	41	G
1	A	44	G
1	A	47	C
1	A	48	C
1	A	49	U

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Mol	Chain	Res	Type
1	A	50	A
1	A	51	A
1	A	66	G
1	A	70	G
1	A	73	C
1	A	81	U
1	A	82	U
1	A	88	A
1	A	92	C
1	A	96	G
1	A	99	C
1	A	101	A
1	A	108	G
1	A	116	A
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	134	A
1	A	144	G
1	A	149	A
1	A	151	A
1	A	156	G
1	A	159	G
1	A	163	C
1	A	167	G
1	A	173	U
1	A	181	G
1	A	182	U
1	A	183	G
1	A	187	C
1	A	190(E)	U
1	A	190(G)	G
1	A	195	A
1	A	197	A
1	A	201	C
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	220	G
1	A	231	G

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Mol	Chain	Res	Type
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
1	A	274	A
1	A	287	U
1	A	289	G
1	A	291	C
1	A	296	U
1	A	297	G
1	A	298	A
1	A	301	G
1	A	321	A
1	A	326	G
1	A	328	C
1	A	329	A
1	A	332	G
1	A	344	A
1	A	345	C
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	371	G
1	A	373	A
1	A	374	A
1	A	384	G
1	A	390	C
1	A	392	G
1	A	397	A
1	A	398	C
1	A	406	G
1	A	409	G
1	A	411	A
1	A	412	A

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Mol	Chain	Res	Type
1	A	413	G
1	A	417	C
1	A	420	U
1	A	421	U
1	A	422	C
1	A	423	G
1	A	424	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	450	G
1	A	453	A
1	A	455	C
1	A	459	G
1	A	460	A
1	A	461	C
1	A	475	G
1	A	476	G
1	A	478	A
1	A	479	C
1	A	481	G
1	A	482	A
1	A	484	G
1	A	485	G
1	A	497	A
1	A	498	U
1	A	504	C
1	A	509	A
1	A	510	A
1	A	511	C
1	A	517	G
1	A	518	C
1	A	519	C
1	A	522	C
1	A	527	7MG
1	A	530	G
1	A	531	U
1	A	532	A
1	A	533	A
1	A	547	A
1	A	548	G
1	A	559	A

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Mol	Chain	Res	Type
1	A	560	U
1	A	562	C
1	A	563	A
1	A	566	G
1	A	568	G
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	579	G
1	A	588	G
1	A	597	G
1	A	608	A
1	A	616	G
1	A	622	A
1	A	631	G
1	A	634	C
1	A	641	U
1	A	651	C
1	A	652	U
1	A	653	A
1	A	658	G
1	A	665	A
1	A	670	G
1	A	684	A
1	A	686	U
1	A	687	A
1	A	688	G
1	A	693	G
1	A	695	A
1	A	701	C
1	A	702	A
1	A	703	G
1	A	714	G
1	A	722	A
1	A	723	U
1	A	724	G
1	A	731	G
1	A	733	A
1	A	734	G
1	A	741	G
1	A	749	C

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Mol	Chain	Res	Type
1	A	755	G
1	A	759	A
1	A	761	G
1	A	773	G
1	A	774	G
1	A	777	A
1	A	781	A
1	A	787	A
1	A	788	U
1	A	789	U
1	A	791	G
1	A	792	A
1	A	793	U
1	A	794	A
1	A	795	C
1	A	813	U
1	A	815	A
1	A	817	C
1	A	819	A
1	A	821	G
1	A	827	U
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	852	G
1	A	853	G
1	A	855	G
1	A	859	A
1	A	869	G
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	876	G
1	A	885	G
1	A	895	G
1	A	902	G
1	A	907	A
1	A	910	C
1	A	914	G

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Mol	Chain	Res	Type
1	A	917	G
1	A	922	G
1	A	926	G
1	A	927	G
1	A	932	C
1	A	934	C
1	A	935	A
1	A	938	A
1	A	940	C
1	A	950	U
1	A	954	G
1	A	960	U
1	A	966	M2G
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	982	U
1	A	984	C
1	A	986	A
1	A	987	G
1	A	989	C
1	A	990	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	996	A
1	A	1004	A
1	A	1005	A
1	A	1007	C
1	A	1008	C
1	A	1010	G
1	A	1023	G
1	A	1024	G
1	A	1026	G
1	A	1027	C
1	A	1030(B)	C
1	A	1031	G
1	A	1037	C
1	A	1045	C

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Mol	Chain	Res	Type
1	A	1046	A
1	A	1049	U
1	A	1050	G
1	A	1051	C
1	A	1054	C
1	A	1060	C
1	A	1064	G
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1072	G
1	A	1085	U
1	A	1092	A
1	A	1093	A
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1104	G
1	A	1126	U
1	A	1127	G
1	A	1128	C
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1137	C
1	A	1139	G
1	A	1140	C
1	A	1141	C
1	A	1142	G
1	A	1145	C
1	A	1146	A
1	A	1149	C
1	A	1152	A
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1162	C
1	A	1164	G
1	A	1165	C
1	A	1168	A
1	A	1171	G
1	A	1172	C

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Mol	Chain	Res	Type
1	A	1176	A
1	A	1183	A
1	A	1184	G
1	A	1190	G
1	A	1194	U
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	1210	C
1	A	1211	U
1	A	1212	U
1	A	1214	C
1	A	1223	C
1	A	1224	G
1	A	1225	A
1	A	1226	C
1	A	1228	C
1	A	1229	A
1	A	1233	G
1	A	1238	A
1	A	1241	G
1	A	1242	C
1	A	1243	C
1	A	1245	A
1	A	1249	C
1	A	1253	G
1	A	1257	U
1	A	1258	G
1	A	1260	C
1	A	1261	A
1	A	1270	C
1	A	1273	G
1	A	1277	C
1	A	1278	U
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C

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Mol	Chain	Res	Type
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1289	A
1	A	1297	C
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1304	G
1	A	1305	G
1	A	1306	A
1	A	1311	G
1	A	1312	G
1	A	1315	U
1	A	1319	A
1	A	1320	C
1	A	1322	C
1	A	1332	A
1	A	1335	C
1	A	1336	C
1	A	1338	G
1	A	1340	A
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1353	G
1	A	1358	U
1	A	1359	C
1	A	1364	U
1	A	1370	G
1	A	1376	U
1	A	1378	C
1	A	1379	G
1	A	1380	U
1	A	1381	U
1	A	1394	A
1	A	1398	A
1	A	1399	C
1	A	1403	C
1	A	1411	C
1	A	1442	G
1	A	1443	G

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Mol	Chain	Res	Type
1	A	1446	A
1	A	1447	G
1	A	1451	A
1	A	1452	C
1	A	1454	G
1	A	1463	C
1	A	1464	G
1	A	1476	G
1	A	1483	A
1	A	1487	G
1	A	1489	G
1	A	1493	A
1	A	1494	G
1	A	1497	G
1	A	1498	UR3
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1520	G
1	A	1522	U
1	A	1529	G
1	A	1530	G
1	A	1531	A
1	A	1533	C
1	A	1540	PSU
1	A	1541	PSU
1	A	1542	U

All (62) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	20	U
1	A	21	G
1	A	49	U
1	A	108	G
1	A	115	G
1	A	129(A)	G
1	A	181	G

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Mol	Chain	Res	Type
1	A	204	U
1	A	243	A
1	A	246	A
1	A	250	A
1	A	251	G
1	A	328	C
1	A	344	A
1	A	350	G
1	A	353	A
1	A	372	C
1	A	412	A
1	A	413	G
1	A	428	G
1	A	429	U
1	A	452	A
1	A	460	A
1	A	484	G
1	A	509	A
1	A	532	A
1	A	559	A
1	A	687	A
1	A	701	C
1	A	748	C
1	A	793	U
1	A	812	C
1	A	870	U
1	A	913	A
1	A	975	A
1	A	992	U
1	A	1004	A
1	A	1026	G
1	A	1049	U
1	A	1065	U
1	A	1067	A
1	A	1139	G
1	A	1145	C
1	A	1182	G
1	A	1183	A
1	A	1190	G
1	A	1201	A
1	A	1224	G
1	A	1257	U

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Mol	Chain	Res	Type
1	A	1281	U
1	A	1285	A
1	A	1300	G
1	A	1301	U
1	A	1335	C
1	A	1346	A
1	A	1347	G
1	A	1380	U
1	A	1442	G
1	A	1504	G
1	A	1505	G
1	A	1541	PSU

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

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	7MG	A	527	1	23,26,27	4.20	4 (17%)	27,39,42	2.38	9 (33%)
1	PSU	A	516	1,23	18,21,22	1.70	2 (11%)	21,30,33	1.31	4 (19%)
1	5MC	A	1404	1	19,22,23	1.47	4 (21%)	26,32,35	1.18	4 (15%)
1	5MC	A	967	1	19,22,23	1.38	2 (10%)	26,32,35	0.68	0
1	2MG	A	1207	1	18,26,27	2.04	4 (22%)	16,38,41	1.49	3 (18%)
1	4OC	A	1402	1	20,23,24	1.42	5 (25%)	25,32,35	0.85	2 (8%)
1	5MC	A	1407	1	19,22,23	1.33	2 (10%)	26,32,35	1.40	4 (15%)
1	PSU	A	1540	1	18,21,22	1.27	1 (5%)	21,30,33	1.99	4 (19%)
1	5MC	A	1400	1	19,22,23	1.55	3 (15%)	26,32,35	1.17	1 (3%)
1	M2G	A	966	1	20,27,28	0.69	0	19,40,43	1.70	2 (10%)
1	UR3	A	1498	1,23	19,22,23	1.29	4 (21%)	26,32,35	1.14	2 (7%)
12	0TD	L	92	12	8,9,10	1.67	3 (37%)	6,11,13	3.95	4 (66%)
1	PSU	A	1541	1	18,21,22	1.53	2 (11%)	21,30,33	2.20	6 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	MA6	A	1519	1	19,26,27	1.90	5 (26%)	18,38,41	0.81	1 (5%)
1	MA6	A	1518	1	19,26,27	1.16	1 (5%)	18,38,41	1.05	2 (11%)

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

All (42) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	527	7MG	C8-N9	-18.09	1.34	1.45
1	A	516	PSU	C6-C5	5.58	1.41	1.35
1	A	1207	2MG	C2-N1	5.45	1.45	1.36
1	A	527	7MG	C5-N7	5.44	1.42	1.35
1	A	1541	PSU	C6-C5	4.99	1.40	1.35
1	A	1519	MA6	C9-N6	4.68	1.56	1.45
1	A	1540	PSU	C6-C5	4.54	1.40	1.35
1	A	1207	2MG	C2-N2	4.42	1.42	1.33
1	A	1400	5MC	C5-C4	-4.31	1.40	1.44
1	A	967	5MC	C5-C4	-4.29	1.40	1.44
1	A	527	7MG	C2-N2	4.28	1.44	1.34
1	A	1207	2MG	C6-N1	4.03	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1519	MA6	C2-N1	3.84	1.40	1.33
1	A	1407	5MC	O2-C2	-3.72	1.16	1.23
1	A	1519	MA6	C6-N1	3.66	1.37	1.32
1	A	1402	4OC	CM4-N4	3.46	1.51	1.45
1	A	1404	5MC	C1'-N1	-3.19	1.38	1.47
1	A	1400	5MC	C2-N1	3.14	1.46	1.40
1	A	1404	5MC	C2-N3	3.10	1.42	1.36
1	A	967	5MC	C2-N3	2.99	1.42	1.36
1	A	1404	5MC	C6-N1	-2.89	1.33	1.38
1	A	1402	4OC	O2-C2	-2.89	1.18	1.23
1	A	1404	5MC	C5-C4	-2.79	1.42	1.44
1	A	1407	5MC	C2-N1	2.79	1.45	1.40
1	A	1541	PSU	C1'-C5	2.73	1.56	1.50
1	A	1498	UR3	C4-N3	-2.69	1.35	1.40
1	A	1519	MA6	C2-N3	2.65	1.36	1.32
1	A	1518	MA6	C2-N1	2.64	1.38	1.33
1	A	1498	UR3	C6-N1	-2.62	1.31	1.38
12	L	92	0TD	CB-CG	2.51	1.56	1.52
1	A	516	PSU	C2-N1	2.46	1.39	1.36
1	A	1402	4OC	C6-N1	-2.45	1.32	1.38
1	A	1402	4OC	C4-N3	-2.42	1.28	1.32
1	A	1498	UR3	C2-N1	2.37	1.41	1.38
1	A	1207	2MG	C5-C6	-2.29	1.42	1.47
1	A	1400	5MC	C2-N3	2.28	1.40	1.36
1	A	1498	UR3	O3'-C3'	2.26	1.48	1.43
1	A	1519	MA6	C4-N3	2.23	1.38	1.35
12	L	92	0TD	CB-CA	-2.20	1.54	1.54
12	L	92	0TD	O-C	2.15	1.28	1.20
1	A	527	7MG	C8-N7	-2.10	1.32	1.42
1	A	1402	4OC	C2-N3	2.01	1.40	1.36

All (48) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	92	0TD	CSB-SB-CB	-6.96	89.85	102.36
1	A	1541	PSU	C6-C5-C4	-6.84	113.56	118.17
12	L	92	0TD	CB-CA-N	-6.03	96.88	109.10
1	A	527	7MG	C5-C6-N1	5.37	120.39	110.94
1	A	1540	PSU	O2-C2-N1	-4.98	117.65	122.79
1	A	527	7MG	C2-N3-C4	4.93	120.80	112.30
1	A	966	M2G	O6-C6-N1	-4.84	114.88	120.62
1	A	966	M2G	O6-C6-C5	4.46	133.17	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	527	7MG	N9-C4-N3	4.12	131.50	125.46
1	A	527	7MG	C5-C4-N3	-4.10	120.44	128.13
1	A	527	7MG	C6-C5-N7	3.99	138.11	131.93
1	A	1540	PSU	N1-C2-N3	3.97	119.35	115.17
1	A	1207	2MG	O6-C6-C5	3.80	131.86	124.32
1	A	1407	5MC	C4-N3-C2	-3.78	115.57	120.81
1	A	1540	PSU	C4-N3-C2	-3.77	121.18	126.37
1	A	527	7MG	N9-C8-N7	3.66	108.56	103.37
1	A	1541	PSU	O2-C2-N1	-3.61	119.06	122.79
1	A	527	7MG	C6-C5-C4	-3.40	116.42	122.40
1	A	1207	2MG	O6-C6-N1	-3.39	116.60	120.62
1	A	1540	PSU	C6-N1-C2	-3.36	119.58	122.69
1	A	527	7MG	C2-N1-C6	-3.29	119.14	125.11
1	A	516	PSU	C4-N3-C2	-3.09	122.11	126.37
1	A	1518	MA6	C1'-N9-C4	-2.78	121.76	126.64
1	A	1400	5MC	C5-C4-N3	2.73	124.56	121.75
1	A	1541	PSU	C3'-C2'-C1'	-2.70	98.51	101.69
1	A	1407	5MC	C5-C6-N1	-2.64	120.44	123.31
1	A	1404	5MC	C5-C4-N3	2.64	124.47	121.75
1	A	1404	5MC	C4-N3-C2	-2.61	117.19	120.81
1	A	1407	5MC	C5-C4-N3	2.60	124.42	121.75
1	A	1541	PSU	C5-C6-N1	2.54	125.67	122.14
1	A	1518	MA6	N1-C6-N6	-2.46	113.99	116.83
1	A	1407	5MC	O2-C2-N3	-2.39	118.56	122.33
1	A	1519	MA6	N1-C6-N6	2.25	119.43	116.83
1	A	527	7MG	O6-C6-N1	-2.20	115.97	120.11
1	A	1541	PSU	O4'-C4'-C3'	-2.19	100.80	105.15
1	A	1207	2MG	N2-C2-N3	-2.17	117.75	120.51
1	A	516	PSU	O4-C4-C5	-2.15	118.66	124.01
1	A	1498	UR3	C6-N1-C2	-2.11	120.07	121.80
12	L	92	0TD	OD1-CG-CB	-2.09	118.06	122.44
1	A	1402	4OC	C4-N3-C2	-2.08	117.36	120.11
1	A	516	PSU	N1-C2-N3	2.06	117.34	115.17
1	A	1498	UR3	C2'-C3'-C4'	2.06	106.59	102.61
1	A	1402	4OC	C5-C4-N4	-2.05	117.89	122.40
1	A	1541	PSU	O2-C2-N3	2.04	125.49	121.86
1	A	1404	5MC	C6-N1-C2	2.03	123.66	120.95
1	A	1404	5MC	C5-C6-N1	-2.01	121.13	123.31
12	L	92	0TD	OD2-CG-CB	2.01	117.50	113.15
1	A	516	PSU	C6-N1-C2	-2.00	120.83	122.69

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1402	4OC	O4'-C4'-C5'-O5'
1	A	1518	MA6	C5-C6-N6-C10
1	A	1519	MA6	C5-C6-N6-C10
1	A	1519	MA6	N1-C6-N6-C9
1	A	1541	PSU	O4'-C4'-C5'-O5'
1	A	527	7MG	C3'-C4'-C5'-O5'
1	A	1400	5MC	O4'-C4'-C5'-O5'
1	A	1518	MA6	O4'-C4'-C5'-O5'
1	A	527	7MG	O4'-C4'-C5'-O5'
1	A	1540	PSU	O4'-C4'-C5'-O5'
1	A	1402	4OC	C3'-C4'-C5'-O5'
1	A	1541	PSU	C3'-C4'-C5'-O5'
1	A	1400	5MC	C3'-C4'-C5'-O5'
1	A	1518	MA6	C3'-C4'-C5'-O5'
1	A	1519	MA6	N1-C6-N6-C10
1	A	1540	PSU	C3'-C4'-C5'-O5'
12	L	92	0TD	CG-CB-SB-CSB
1	A	1519	MA6	C5-C6-N6-C9
12	L	92	0TD	SB-CB-CG-OD1
1	A	1540	PSU	O4'-C1'-C5-C6
1	A	1541	PSU	O4'-C1'-C5-C6

There are no ring outliers.

13 monomers are involved in 24 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	527	7MG	2	0
1	A	1404	5MC	7	0
1	A	967	5MC	1	0
1	A	1402	4OC	1	0
1	A	1407	5MC	1	0
1	A	1540	PSU	2	0
1	A	1400	5MC	1	0
1	A	966	M2G	1	0
1	A	1498	UR3	2	0
12	L	92	0TD	2	0
1	A	1541	PSU	2	0
1	A	1519	MA6	3	0
1	A	1518	MA6	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 276 ligands modelled in this entry, 275 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	2.44	10 (25%)	49,63,63	2.78	22 (44%)

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	-	-	2/20/87/87	0/3/3/3

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1601	SRY	CD1-N31	9.88	1.50	1.33
22	A	1601	SRY	CA1-N11	6.03	1.43	1.33
22	A	1601	SRY	O53-C53	-4.20	1.34	1.44
22	A	1601	SRY	CA1-NB1	3.36	1.46	1.34
22	A	1601	SRY	C11-N11	-3.34	1.40	1.45
22	A	1601	SRY	CD1-NE1	3.07	1.45	1.34
22	A	1601	SRY	C21-C31	-2.57	1.48	1.53
22	A	1601	SRY	O51-C51	-2.46	1.36	1.43
22	A	1601	SRY	C23-N23	-2.33	1.43	1.47
22	A	1601	SRY	O32-C32	-2.19	1.40	1.44

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1601	SRY	O13-C13-C23	7.13	119.64	108.07
22	A	1601	SRY	C13-O13-C22	-6.53	105.15	116.26
22	A	1601	SRY	C11-N11-CA1	-6.09	111.33	123.39
22	A	1601	SRY	C12-O42-C42	-5.59	99.45	108.48
22	A	1601	SRY	CI3-N23-C23	-5.12	107.62	114.23
22	A	1601	SRY	C41-C31-N31	4.69	118.39	110.91
22	A	1601	SRY	O41-C12-O42	-4.47	106.80	111.37
22	A	1601	SRY	C31-N31-CD1	-3.86	115.75	123.39
22	A	1601	SRY	O51-C51-C61	-3.70	101.65	110.38
22	A	1601	SRY	O61-C61-C11	3.66	116.86	109.58
22	A	1601	SRY	O13-C22-C32	3.25	118.98	111.79
22	A	1601	SRY	C13-O53-C53	-3.08	107.70	113.72
22	A	1601	SRY	O21-C21-C11	3.06	115.67	109.58
22	A	1601	SRY	C13-C23-N23	3.05	116.23	110.92
22	A	1601	SRY	C12-O41-C41	-2.60	111.82	117.98
22	A	1601	SRY	O51-C51-C41	2.47	116.26	109.94
22	A	1601	SRY	C43-C33-C23	-2.37	106.95	110.40
22	A	1601	SRY	O41-C41-C51	2.31	113.11	107.23
22	A	1601	SRY	C61-C11-N11	-2.30	106.38	110.62
22	A	1601	SRY	O61-C61-C51	-2.21	105.17	110.38
22	A	1601	SRY	C51-C61-C11	-2.16	107.25	110.40
22	A	1601	SRY	O13-C13-O53	-2.05	105.29	110.69

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
22	A	1601	SRY	C13-C23-N23-CI3
22	A	1601	SRY	C21-C31-N31-CD1

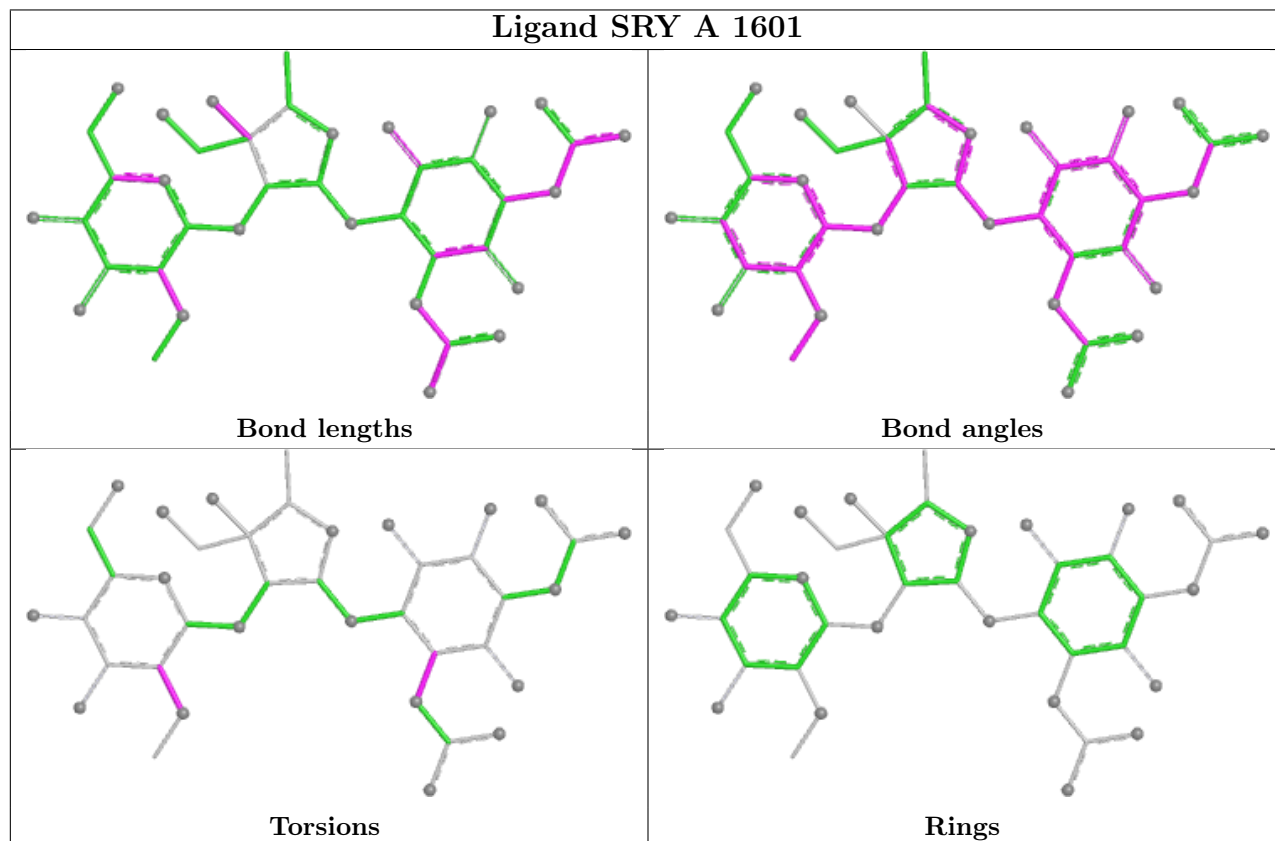
There are no ring outliers.

1 monomer is involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	1601	SRY	7	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%)	-0.59	11 (0%) 84 68	74, 131, 262, 364	0
2	B	234/256 (91%)	-0.65	1 (0%) 89 76	82, 143, 231, 264	0
3	C	206/239 (86%)	-0.41	2 (0%) 79 61	123, 191, 239, 272	0
4	D	208/209 (99%)	-0.33	8 (3%) 44 32	85, 134, 177, 200	0
5	E	150/162 (92%)	-0.88	0 100 100	73, 106, 144, 182	0
6	F	101/101 (100%)	-0.79	0 100 100	106, 153, 181, 203	0
7	G	155/156 (99%)	-0.48	1 (0%) 85 70	128, 180, 226, 251	0
8	H	138/138 (100%)	-0.88	0 100 100	68, 96, 145, 159	0
9	I	127/128 (99%)	-0.31	3 (2%) 59 42	126, 199, 236, 258	0
10	J	98/105 (93%)	-0.13	1 (1%) 79 61	165, 229, 278, 305	0
11	K	116/129 (89%)	-0.52	0 100 100	94, 131, 177, 219	0
12	L	123/135 (91%)	-0.49	2 (1%) 70 51	71, 124, 172, 206	0
13	M	118/126 (93%)	-0.39	1 (0%) 82 66	122, 164, 204, 231	0
14	N	60/61 (98%)	-0.20	0 100 100	133, 189, 234, 267	0
15	O	87/89 (97%)	-0.79	0 100 100	74, 122, 165, 180	0
16	P	83/88 (94%)	-0.59	0 100 100	92, 125, 166, 203	0
17	Q	99/105 (94%)	-0.73	0 100 100	84, 107, 140, 168	0
18	R	70/88 (79%)	-0.84	0 100 100	92, 129, 180, 220	0
19	S	80/93 (86%)	0.14	9 (11%) 11 12	174, 217, 268, 283	0
20	T	99/106 (93%)	-0.55	1 (1%) 79 61	95, 130, 179, 210	0
21	U	24/27 (88%)	0.48	1 (4%) 41 30	151, 187, 219, 221	0
All	All	3874/4063 (95%)	-0.54	41 (1%) 77 59	68, 141, 239, 364	0

All (41) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
10	J	37	PRO	6.0
1	A	1129	C	5.7
20	T	106	ALA	4.9
12	L	73	GLU	4.8
19	S	2	PRO	4.3
19	S	77	THR	3.9
1	A	793	U	3.7
13	M	8	GLU	3.6
4	D	5	ILE	3.4
21	U	16	GLY	3.4
19	S	35	SER	3.4
19	S	44	MET	3.3
1	A	81	U	3.0
4	D	2	GLY	3.0
1	A	532	A	2.9
19	S	3	ARG	2.9
12	L	47	LYS	2.8
9	I	8	GLY	2.8
3	C	2	GLY	2.8
4	D	4	TYR	2.8
4	D	6	GLY	2.8
2	B	203	GLY	2.7
7	G	33	ASP	2.7
4	D	26	CYS	2.7
4	D	22	LYS	2.5
1	A	1201	A	2.5
19	S	40	ILE	2.5
1	A	993	G	2.4
3	C	178	LEU	2.4
1	A	1052	U	2.4
9	I	9	ARG	2.4
9	I	109	VAL	2.3
19	S	78	ARG	2.3
1	A	221	C	2.3
1	A	1539	C	2.3
1	A	1147	C	2.2
4	D	31	CYS	2.2
4	D	9	CYS	2.1
19	S	79	THR	2.1
19	S	37	ARG	2.0
1	A	6	G	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	0.78	0.18	159,231,317,318	0
1	PSU	A	1540	20/21	0.80	0.21	207,241,323,324	0
1	MA6	A	1519	24/25	0.95	0.09	105,122,132,134	0
1	UR3	A	1498	21/22	0.96	0.10	112,123,141,146	0
1	PSU	A	516	20/21	0.96	0.08	110,141,152,153	0
1	2MG	A	1207	24/25	0.96	0.15	175,210,229,233	0
1	5MC	A	1404	21/22	0.96	0.13	114,124,129,132	0
1	MA6	A	1518	24/25	0.97	0.08	121,127,148,148	0
1	M2G	A	966	25/26	0.97	0.08	123,141,169,173	0
1	5MC	A	1407	21/22	0.97	0.07	136,148,157,159	0
1	7MG	A	527	24/25	0.97	0.07	103,112,124,131	0
1	5MC	A	1400	21/22	0.98	0.06	95,124,131,135	0
1	4OC	A	1402	22/23	0.98	0.07	108,117,120,127	0
1	5MC	A	967	21/22	0.98	0.07	129,133,145,149	0
12	0TD	L	92	10/11	0.99	0.07	87,120,138,251	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(Å ²)	Q<0.9
23	MG	A	1853	1/1	-0.12	0.13	338,338,338,338	0
23	MG	A	1837	1/1	0.65	0.27	103,103,103,103	0
23	MG	A	1731	1/1	0.66	0.18	95,95,95,95	0
23	MG	A	1783	1/1	0.69	0.27	133,133,133,133	0
23	MG	A	1800	1/1	0.71	0.13	108,108,108,108	0
23	MG	A	1661	1/1	0.74	0.29	89,89,89,89	0
23	MG	H	204	1/1	0.74	0.31	105,105,105,105	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1761	1/1	0.75	0.24	97,97,97,97	0
23	MG	A	1765	1/1	0.76	0.26	124,124,124,124	0
23	MG	A	1737	1/1	0.76	0.18	128,128,128,128	0
23	MG	A	1748	1/1	0.77	0.08	143,143,143,143	0
23	MG	A	1755	1/1	0.77	0.10	159,159,159,159	0
23	MG	A	1715	1/1	0.77	0.33	120,120,120,120	0
23	MG	A	1788	1/1	0.79	0.29	99,99,99,99	0
23	MG	A	1767	1/1	0.80	0.13	93,93,93,93	0
23	MG	A	1713	1/1	0.80	0.46	96,96,96,96	0
23	MG	A	1702	1/1	0.80	0.21	106,106,106,106	0
23	MG	A	1796	1/1	0.80	0.55	107,107,107,107	0
23	MG	A	1718	1/1	0.81	0.13	95,95,95,95	0
23	MG	A	1821	1/1	0.82	0.15	338,338,338,338	0
23	MG	Q	201	1/1	0.82	0.11	115,115,115,115	0
23	MG	A	1624	1/1	0.83	0.20	97,97,97,97	0
23	MG	A	1794	1/1	0.83	0.20	127,127,127,127	0
23	MG	A	1698	1/1	0.83	0.19	170,170,170,170	0
23	MG	A	1782	1/1	0.84	0.11	108,108,108,108	0
23	MG	A	1671	1/1	0.84	0.47	125,125,125,125	0
23	MG	A	1801	1/1	0.84	0.21	111,111,111,111	0
23	MG	A	1795	1/1	0.84	0.13	107,107,107,107	0
23	MG	A	1730	1/1	0.85	0.23	91,91,91,91	0
23	MG	A	1699	1/1	0.85	0.12	221,221,221,221	0
23	MG	A	1798	1/1	0.85	0.16	122,122,122,122	0
23	MG	A	1792	1/1	0.85	0.12	111,111,111,111	0
23	MG	A	1720	1/1	0.85	0.16	112,112,112,112	0
23	MG	A	1741	1/1	0.86	0.41	113,113,113,113	0
23	MG	A	1727	1/1	0.86	0.18	95,95,95,95	0
23	MG	A	1832	1/1	0.86	0.37	109,109,109,109	0
23	MG	A	1682	1/1	0.86	0.07	171,171,171,171	0
23	MG	A	1847	1/1	0.86	0.19	296,296,296,296	0
23	MG	A	1797	1/1	0.86	0.23	127,127,127,127	0
23	MG	A	1709	1/1	0.86	0.73	117,117,117,117	0
23	MG	P	102	1/1	0.86	0.12	100,100,100,100	0
23	MG	P	103	1/1	0.86	0.10	102,102,102,102	0
23	MG	A	1685	1/1	0.86	0.08	269,269,269,269	0
23	MG	A	1760	1/1	0.87	0.41	105,105,105,105	0
23	MG	A	1739	1/1	0.87	0.68	92,92,92,92	0
23	MG	A	1667	1/1	0.87	0.16	100,100,100,100	0
23	MG	A	1623	1/1	0.88	0.16	146,146,146,146	0
23	MG	A	1726	1/1	0.88	0.23	91,91,91,91	0
23	MG	B	301	1/1	0.88	0.13	110,110,110,110	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	D	302	1/1	0.88	0.16	123,123,123,123	0
23	MG	A	1665	1/1	0.88	0.11	176,176,176,176	0
23	MG	N	102	1/1	0.88	0.08	112,112,112,112	0
23	MG	A	1696	1/1	0.88	0.18	141,141,141,141	0
23	MG	A	1753	1/1	0.88	0.09	168,168,168,168	0
23	MG	A	1706	1/1	0.88	0.22	97,97,97,97	0
23	MG	A	1768	1/1	0.89	0.17	112,112,112,112	0
23	MG	A	1781	1/1	0.89	0.23	101,101,101,101	0
23	MG	A	1659	1/1	0.89	0.25	108,108,108,108	0
23	MG	A	1745	1/1	0.89	0.29	85,85,85,85	0
23	MG	A	1836	1/1	0.89	0.10	175,175,175,175	0
23	MG	A	1784	1/1	0.89	0.32	93,93,93,93	0
23	MG	A	1841	1/1	0.89	0.17	392,392,392,392	0
23	MG	A	1732	1/1	0.89	0.20	114,114,114,114	0
23	MG	A	1774	1/1	0.90	0.12	272,272,272,272	0
23	MG	A	1778	1/1	0.90	0.17	129,129,129,129	0
23	MG	A	1779	1/1	0.90	0.32	91,91,91,91	0
23	MG	A	1849	1/1	0.90	0.08	296,296,296,296	0
23	MG	A	1627	1/1	0.90	0.33	97,97,97,97	0
23	MG	A	1747	1/1	0.90	0.35	111,111,111,111	0
23	MG	A	1604	1/1	0.90	0.16	92,92,92,92	0
23	MG	A	1719	1/1	0.90	0.30	113,113,113,113	0
23	MG	J	201	1/1	0.90	0.18	107,107,107,107	0
23	MG	A	1804	1/1	0.90	0.23	77,77,77,77	0
23	MG	A	1626	1/1	0.90	0.39	146,146,146,146	0
23	MG	A	1772	1/1	0.90	0.22	117,117,117,117	0
23	MG	A	1793	1/1	0.90	0.23	105,105,105,105	0
23	MG	S	101	1/1	0.90	0.22	93,93,93,93	0
23	MG	A	1712	1/1	0.91	0.13	91,91,91,91	0
23	MG	A	1668	1/1	0.91	0.24	149,149,149,149	0
23	MG	A	1664	1/1	0.91	0.17	133,133,133,133	0
23	MG	A	1852	1/1	0.91	0.08	404,404,404,404	0
23	MG	A	1835	1/1	0.91	0.29	128,128,128,128	0
23	MG	A	1695	1/1	0.91	0.31	121,121,121,121	0
23	MG	A	1738	1/1	0.91	0.29	89,89,89,89	0
23	MG	A	1684	1/1	0.92	0.07	133,133,133,133	0
23	MG	A	1656	1/1	0.92	0.08	152,152,152,152	0
23	MG	A	1750	1/1	0.92	0.37	115,115,115,115	0
23	MG	A	1693	1/1	0.92	0.10	104,104,104,104	0
23	MG	A	1799	1/1	0.92	0.35	109,109,109,109	0
23	MG	A	1663	1/1	0.92	0.10	109,109,109,109	0
23	MG	A	1758	1/1	0.92	0.16	98,98,98,98	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1723	1/1	0.92	0.23	92,92,92,92	0
23	MG	A	1725	1/1	0.92	0.14	91,91,91,91	0
23	MG	M	201	1/1	0.92	0.16	101,101,101,101	0
23	MG	A	1645	1/1	0.92	0.13	138,138,138,138	0
23	MG	A	1834	1/1	0.92	0.36	130,130,130,130	0
23	MG	A	1660	1/1	0.92	0.09	173,173,173,173	0
23	MG	A	1746	1/1	0.92	0.18	123,123,123,123	0
23	MG	A	1769	1/1	0.92	0.12	112,112,112,112	0
23	MG	A	1603	1/1	0.93	0.13	126,126,126,126	0
23	MG	A	1634	1/1	0.93	0.10	82,82,82,82	0
23	MG	A	1848	1/1	0.93	0.12	336,336,336,336	0
23	MG	A	1762	1/1	0.93	0.18	122,122,122,122	0
23	MG	A	1644	1/1	0.93	0.09	117,117,117,117	0
23	MG	A	1608	1/1	0.93	0.12	80,80,80,80	0
23	MG	A	1802	1/1	0.93	0.26	86,86,86,86	0
23	MG	A	1787	1/1	0.93	0.20	81,81,81,81	0
23	MG	H	202	1/1	0.93	0.10	83,83,83,83	0
23	MG	A	1650	1/1	0.93	0.22	127,127,127,127	0
23	MG	A	1823	1/1	0.93	0.20	317,317,317,317	0
23	MG	A	1721	1/1	0.93	0.22	115,115,115,115	0
23	MG	A	1833	1/1	0.93	0.34	98,98,98,98	0
23	MG	A	1654	1/1	0.93	0.50	143,143,143,143	0
23	MG	A	1616	1/1	0.93	0.44	90,90,90,90	0
23	MG	A	1775	1/1	0.93	0.06	235,235,235,235	0
23	MG	A	1740	1/1	0.93	0.09	123,123,123,123	0
23	MG	T	201	1/1	0.93	0.11	92,92,92,92	0
23	MG	A	1810	1/1	0.94	0.21	85,85,85,85	0
23	MG	A	1815	1/1	0.94	0.15	355,355,355,355	0
23	MG	A	1744	1/1	0.94	0.20	99,99,99,99	0
23	MG	A	1651	1/1	0.94	0.30	108,108,108,108	0
23	MG	E	201	1/1	0.94	0.05	228,228,228,228	0
23	MG	A	1735	1/1	0.94	0.19	95,95,95,95	0
23	MG	A	1632	1/1	0.94	0.35	105,105,105,105	0
23	MG	A	1637	1/1	0.94	0.15	127,127,127,127	0
23	MG	A	1638	1/1	0.94	0.22	96,96,96,96	0
23	MG	A	1673	1/1	0.94	0.19	73,73,73,73	0
23	MG	A	1785	1/1	0.94	0.08	74,74,74,74	0
23	MG	A	1678	1/1	0.94	0.19	149,149,149,149	0
23	MG	A	1743	1/1	0.94	0.22	113,113,113,113	0
23	MG	A	1789	1/1	0.94	0.09	118,118,118,118	0
23	MG	A	1790	1/1	0.94	0.54	129,129,129,129	0
23	MG	A	1749	1/1	0.95	0.25	99,99,99,99	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1614	1/1	0.95	0.14	83,83,83,83	0
23	MG	A	1751	1/1	0.95	0.07	108,108,108,108	0
23	MG	A	1703	1/1	0.95	0.09	109,109,109,109	0
23	MG	A	1754	1/1	0.95	0.18	177,177,177,177	0
23	MG	A	1657	1/1	0.95	0.17	116,116,116,116	0
23	MG	A	1708	1/1	0.95	0.20	135,135,135,135	0
23	MG	A	1846	1/1	0.95	0.12	399,399,399,399	0
23	MG	A	1658	1/1	0.95	0.09	120,120,120,120	0
23	MG	A	1680	1/1	0.95	0.34	104,104,104,104	0
23	MG	A	1643	1/1	0.95	0.08	90,90,90,90	0
23	MG	A	1764	1/1	0.95	0.17	118,118,118,118	0
23	MG	A	1629	1/1	0.95	0.12	138,138,138,138	0
23	MG	A	1766	1/1	0.95	0.11	146,146,146,146	0
23	MG	A	1716	1/1	0.95	0.17	86,86,86,86	0
23	MG	A	1602	1/1	0.95	0.07	144,144,144,144	0
23	MG	A	1742	1/1	0.95	0.10	77,77,77,77	0
23	MG	H	203	1/1	0.95	0.07	124,124,124,124	0
23	MG	A	1686	1/1	0.95	0.13	130,130,130,130	0
23	MG	A	1633	1/1	0.95	0.11	88,88,88,88	0
23	MG	A	1625	1/1	0.95	0.11	179,179,179,179	0
23	MG	M	202	1/1	0.95	0.18	111,111,111,111	0
23	MG	A	1777	1/1	0.95	0.06	485,485,485,485	0
23	MG	A	1652	1/1	0.95	0.08	114,114,114,114	0
23	MG	A	1814	1/1	0.95	0.16	360,360,360,360	0
23	MG	A	1618	1/1	0.95	0.08	108,108,108,108	0
23	MG	A	1780	1/1	0.95	0.11	107,107,107,107	0
23	MG	A	1655	1/1	0.95	0.26	137,137,137,137	0
23	MG	A	1646	1/1	0.96	0.08	99,99,99,99	0
23	MG	A	1647	1/1	0.96	0.07	115,115,115,115	0
23	MG	A	1826	1/1	0.96	0.18	304,304,304,304	0
23	MG	A	1828	1/1	0.96	0.21	289,289,289,289	0
23	MG	A	1733	1/1	0.96	0.11	111,111,111,111	0
23	MG	A	1757	1/1	0.96	0.07	106,106,106,106	0
23	MG	A	1648	1/1	0.96	0.07	227,227,227,227	0
23	MG	A	1736	1/1	0.96	0.10	84,84,84,84	0
23	MG	A	1710	1/1	0.96	0.23	73,73,73,73	0
23	MG	A	1619	1/1	0.96	0.08	141,141,141,141	0
23	MG	A	1838	1/1	0.96	0.08	126,126,126,126	0
23	MG	A	1839	1/1	0.96	0.09	137,137,137,137	0
23	MG	A	1840	1/1	0.96	0.34	386,386,386,386	0
23	MG	A	1763	1/1	0.96	0.14	93,93,93,93	0
23	MG	A	1791	1/1	0.96	0.10	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1607	1/1	0.96	0.08	156,156,156,156	0
23	MG	A	1639	1/1	0.96	0.14	116,116,116,116	0
23	MG	A	1687	1/1	0.96	0.08	210,210,210,210	0
23	MG	A	1691	1/1	0.96	0.37	163,163,163,163	0
23	MG	A	1653	1/1	0.96	0.10	145,145,145,145	0
23	MG	A	1854	1/1	0.96	0.24	103,103,103,103	0
23	MG	A	1666	1/1	0.96	0.19	136,136,136,136	0
23	MG	A	1770	1/1	0.96	0.15	108,108,108,108	0
23	MG	A	1641	1/1	0.96	0.07	87,87,87,87	0
23	MG	A	1773	1/1	0.96	0.06	135,135,135,135	0
23	MG	A	1606	1/1	0.96	0.36	96,96,96,96	0
23	MG	A	1617	1/1	0.96	0.07	75,75,75,75	0
23	MG	A	1803	1/1	0.96	0.07	123,123,123,123	0
23	MG	A	1609	1/1	0.96	0.15	108,108,108,108	0
23	MG	A	1807	1/1	0.96	0.21	111,111,111,111	0
23	MG	A	1808	1/1	0.96	0.10	107,107,107,107	0
23	MG	P	101	1/1	0.96	0.17	77,77,77,77	0
23	MG	A	1809	1/1	0.96	0.03	96,96,96,96	0
23	MG	A	1677	1/1	0.96	0.20	97,97,97,97	0
23	MG	A	1813	1/1	0.96	0.08	228,228,228,228	0
23	MG	A	1729	1/1	0.96	0.23	102,102,102,102	0
23	MG	A	1704	1/1	0.96	0.04	105,105,105,105	0
23	MG	A	1812	1/1	0.97	0.10	183,183,183,183	0
23	MG	A	1622	1/1	0.97	0.06	86,86,86,86	0
23	MG	A	1759	1/1	0.97	0.16	96,96,96,96	0
23	MG	A	1851	1/1	0.97	0.06	208,208,208,208	0
23	MG	A	1714	1/1	0.97	0.11	130,130,130,130	0
23	MG	A	1816	1/1	0.97	0.07	282,282,282,282	0
22	SRY	A	1601	40/40	0.97	0.08	85,115,145,148	0
23	MG	A	1615	1/1	0.97	0.09	94,94,94,94	0
23	MG	B	302	1/1	0.97	0.05	89,89,89,89	0
23	MG	A	1824	1/1	0.97	0.10	168,168,168,168	0
23	MG	A	1670	1/1	0.97	0.10	113,113,113,113	0
23	MG	H	201	1/1	0.97	0.09	83,83,83,83	0
23	MG	A	1705	1/1	0.97	0.06	97,97,97,97	0
23	MG	A	1694	1/1	0.97	0.05	95,95,95,95	0
23	MG	A	1707	1/1	0.97	0.14	113,113,113,113	0
23	MG	A	1683	1/1	0.97	0.10	159,159,159,159	0
23	MG	A	1752	1/1	0.97	0.06	110,110,110,110	0
23	MG	A	1786	1/1	0.97	0.14	78,78,78,78	0
23	MG	A	1724	1/1	0.97	0.10	71,71,71,71	0
23	MG	A	1611	1/1	0.97	0.05	127,127,127,127	0

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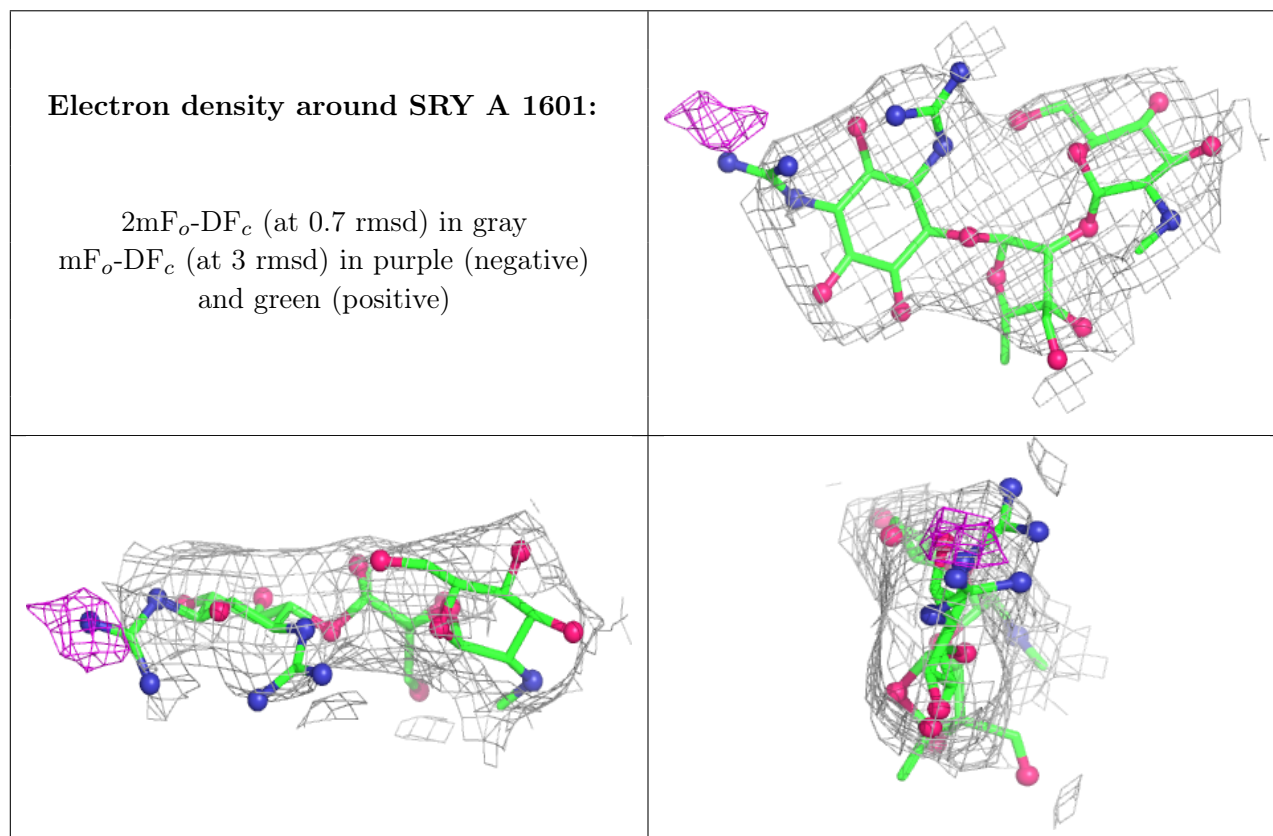
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1771	1/1	0.97	0.05	77,77,77,77	0
23	MG	A	1697	1/1	0.97	0.17	145,145,145,145	0
23	MG	A	1621	1/1	0.97	0.15	87,87,87,87	0
23	MG	A	1844	1/1	0.97	0.21	383,383,383,383	0
23	MG	A	1811	1/1	0.97	0.09	87,87,87,87	0
24	ZN	D	301	1/1	0.97	0.18	127,127,127,127	0
23	MG	A	1805	1/1	0.98	0.03	93,93,93,93	0
23	MG	A	1806	1/1	0.98	0.05	88,88,88,88	0
23	MG	A	1675	1/1	0.98	0.09	79,79,79,79	0
23	MG	A	1676	1/1	0.98	0.11	81,81,81,81	0
23	MG	A	1649	1/1	0.98	0.09	162,162,162,162	0
23	MG	A	1636	1/1	0.98	0.12	176,176,176,176	0
23	MG	A	1679	1/1	0.98	0.07	116,116,116,116	0
23	MG	A	1717	1/1	0.98	0.04	106,106,106,106	0
23	MG	A	1613	1/1	0.98	0.13	98,98,98,98	0
23	MG	A	1681	1/1	0.98	0.09	208,208,208,208	0
23	MG	A	1700	1/1	0.98	0.15	107,107,107,107	0
23	MG	A	1701	1/1	0.98	0.28	87,87,87,87	0
23	MG	A	1817	1/1	0.98	0.18	312,312,312,312	0
23	MG	A	1818	1/1	0.98	0.07	266,266,266,266	0
23	MG	A	1620	1/1	0.98	0.09	128,128,128,128	0
23	MG	A	1822	1/1	0.98	0.05	157,157,157,157	0
23	MG	A	1610	1/1	0.98	0.16	129,129,129,129	0
23	MG	A	1669	1/1	0.98	0.07	102,102,102,102	0
23	MG	A	1640	1/1	0.98	0.06	96,96,96,96	0
23	MG	A	1827	1/1	0.98	0.11	200,200,200,200	0
23	MG	J	202	1/1	0.98	0.07	105,105,105,105	0
23	MG	A	1662	1/1	0.98	0.13	141,141,141,141	0
23	MG	A	1830	1/1	0.98	0.12	322,322,322,322	0
23	MG	A	1728	1/1	0.98	0.10	82,82,82,82	0
23	MG	A	1628	1/1	0.98	0.14	171,171,171,171	0
23	MG	A	1689	1/1	0.98	0.04	75,75,75,75	0
23	MG	A	1674	1/1	0.98	0.15	94,94,94,94	0
23	MG	A	1692	1/1	0.98	0.11	170,170,170,170	0
23	MG	A	1711	1/1	0.98	0.12	93,93,93,93	0
23	MG	A	1756	1/1	0.98	0.07	203,203,203,203	0
23	MG	T	202	1/1	0.98	0.17	267,267,267,267	0
23	MG	A	1734	1/1	0.98	0.30	108,108,108,108	0
23	MG	A	1825	1/1	0.99	0.10	272,272,272,272	0
23	MG	A	1630	1/1	0.99	0.08	145,145,145,145	0
23	MG	A	1688	1/1	0.99	0.04	99,99,99,99	0
23	MG	A	1845	1/1	0.99	0.06	159,159,159,159	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1631	1/1	0.99	0.09	71,71,71,71	0
23	MG	A	1829	1/1	0.99	0.03	93,93,93,93	0
23	MG	A	1776	1/1	0.99	0.08	299,299,299,299	0
23	MG	A	1831	1/1	0.99	0.08	168,168,168,168	0
23	MG	A	1850	1/1	0.99	0.12	270,270,270,270	0
23	MG	A	1722	1/1	0.99	0.07	71,71,71,71	0
23	MG	A	1690	1/1	0.99	0.13	324,324,324,324	0
23	MG	A	1819	1/1	0.99	0.06	286,286,286,286	0
23	MG	A	1820	1/1	0.99	0.19	313,313,313,313	0
23	MG	A	1612	1/1	0.99	0.04	75,75,75,75	0
23	MG	A	1672	1/1	0.99	0.09	123,123,123,123	0
23	MG	A	1642	1/1	0.99	0.15	105,105,105,105	0
23	MG	A	1605	1/1	0.99	0.04	123,123,123,123	0
23	MG	A	1843	1/1	1.00	0.06	55,55,55,55	0
23	MG	A	1635	1/1	1.00	0.02	62,62,62,62	0
23	MG	A	1842	1/1	1.00	0.04	73,73,73,73	0
24	ZN	N	101	1/1	1.00	0.03	168,168,168,168	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.