



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 19, 2024 – 02:10 PM EDT

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](mailto: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>.

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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)  
Xtriage (Phenix) : 1.20.1  
EDS : 2.37.1  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.37.1

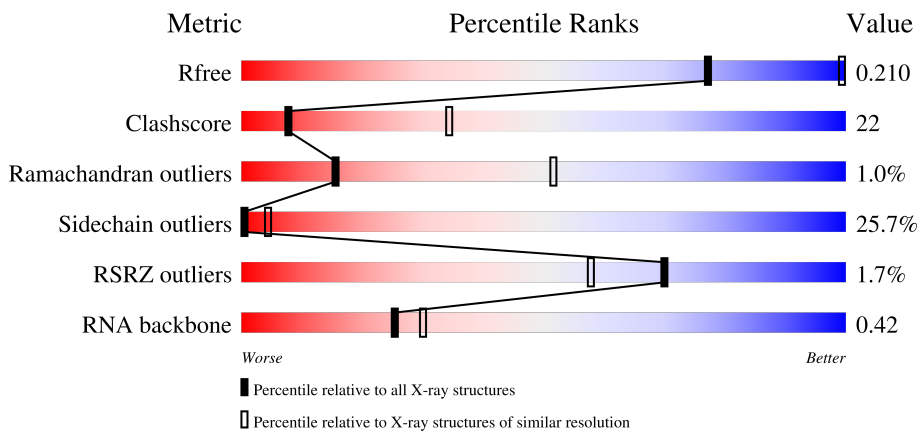
# 1 Overall quality at a glance i

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))
$R_{free}$	130704	1013 (3.84-3.52)
Clashscore	141614	1070 (3.84-3.52)
Ramachandran outliers	138981	1036 (3.84-3.52)
Sidechain outliers	138945	1033 (3.84-3.52)
RSRZ outliers	127900	1471 (3.86-3.50)
RNA backbone	3102	1024 (4.30-3.00)

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

Mol	Chain	Length	Quality of chain
1	A	1522	 15% 41% 30% 13%
2	B	256	 30% 47% 12% 9%
3	C	239	 4% 35% 37% 14% 14%

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Mol	Chain	Length	Quality of chain			
4	D	209	43%	44%	11%	•
5	E	162	38%	39%	14%	• 7%
6	F	101	35%	52%	12%	•
7	G	156	39%	48%	11%	••
8	H	138	40%	46%	14%	
9	I	128	41%	45%	12%	••
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	34%	33%	15%	• 14%
20	T	106	32%	48%	13%	7%
21	U	27	30%	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	-
1	PSU	A	1540	-	-	-	X
23	MG	A	1658	-	-	-	X
23	MG	A	1661	-	-	-	X
23	MG	A	1671	-	-	-	X
23	MG	A	1673	-	-	-	X
23	MG	A	1720	-	-	-	X

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<b>Mol</b>	<b>Type</b>	<b>Chain</b>	<b>Res</b>	<b>Chirality</b>	<b>Geometry</b>	<b>Clashes</b>	<b>Electron density</b>
23	MG	A	1731	-	-	-	X
23	MG	A	1739	-	-	-	X
23	MG	A	1767	-	-	-	X
23	MG	A	1793	-	-	-	X
23	MG	A	1794	-	-	-	X
23	MG	A	1797	-	-	-	X
23	MG	A	1799	-	-	-	X
23	MG	A	1837	-	-	-	X
23	MG	H	204	-	-	-	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

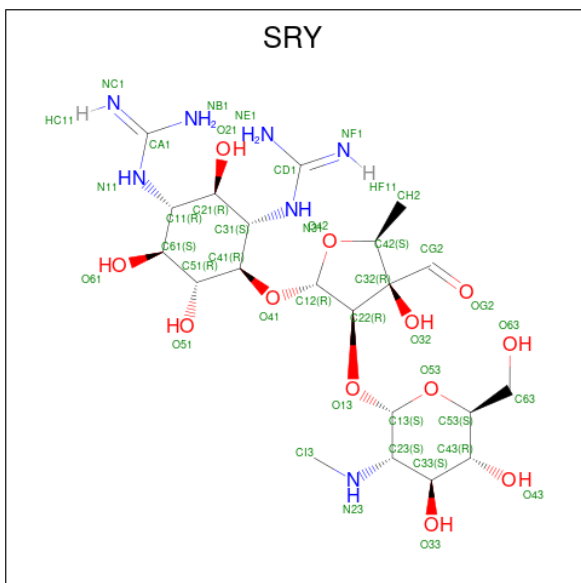
- Molecule 20 is a protein called ribosomal protein S20.

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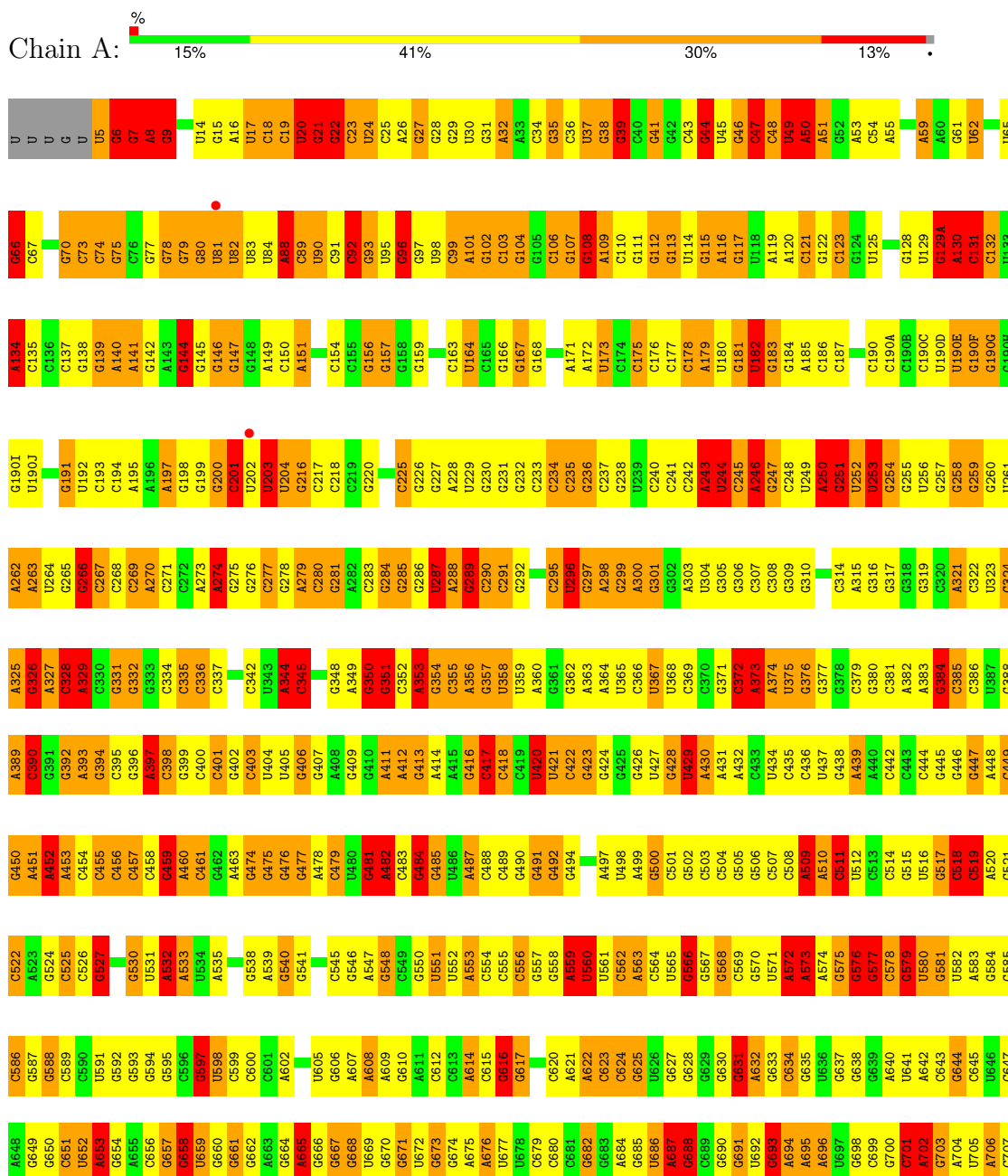
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	E	7	Total O 7 7	0	0
25	L	1	Total O 1 1	0	0
25	N	1	Total O 1 1	0	0
25	P	2	Total O 2 2	0	0
25	T	2	Total O 2 2	0	0

### 3 Residue-property plots

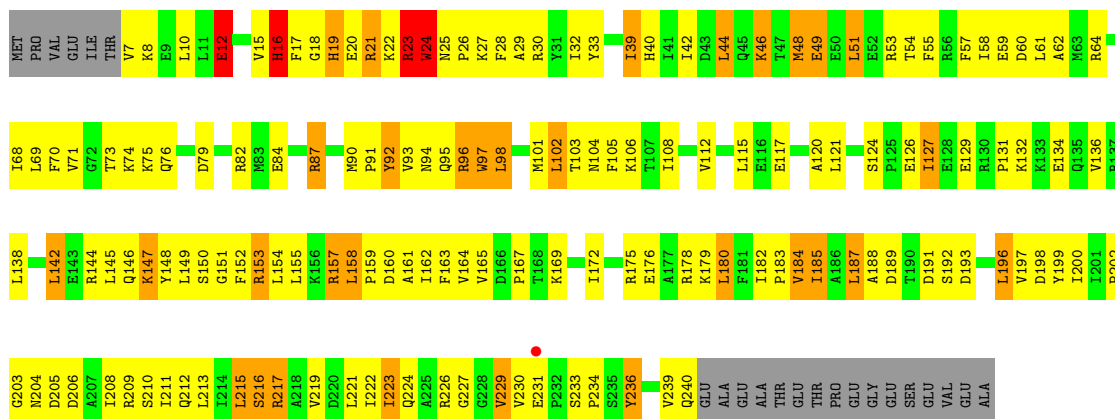
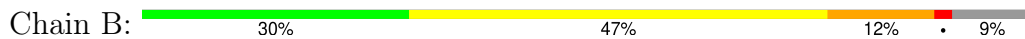
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

- Molecule 1: 16S rRNA

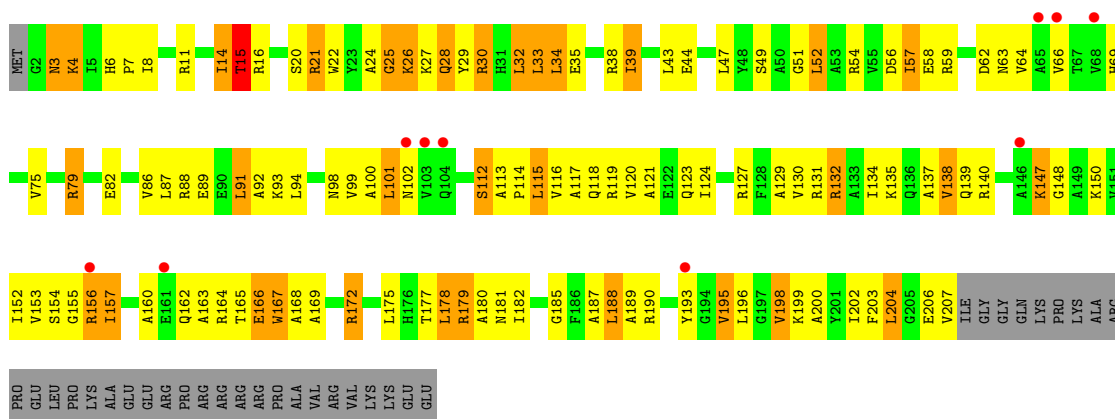


G1517	A1451	U1381	C1322	C1260	U1199	G1138	G1077	C1019	U955	G895	G829	G769	C708
A1518	C1452	C1382	G1323	A1261	C1200	G1139	U1078	U1020	U956	C896	G830	C770	G709
A1519	G1453	A1324	C1325	C1264	A1201	G1140	G1079	G1021	U957	C897	U831	G771	G710
G1520	C1384	C1326	G1326	G1265	C1203	C1141	A1080	G1022		C898	C832	U772	G711
G1521	G1455	G1385	C1327	G1266	G1206	G1142	G1081	G1023	U960	C899	U834	G773	A712
U1522	G1459	G1386	C1327	C1267	G1207	G1143	G1082	G1024		A900	C834	G774	G713
G1523	A1460	G1387	C1328	C1268	G1208	G1144	U1083	U1025	G963	A901	U835	G775	G714
C1524	G1461	C1388	A1329	A1268	C1209	C1145	G1084	G1026	A964	G902	G836	A777	A715
G1525	G1462	U1330	U1330	A1269	C1208	A1146	U1085	G1027	A965	G903	G837	A778	A716
G1526	C1463	G1331	C1270	C1270	C1209	C1147	U1086	C1028	G966	C904	U838	G778	C717
C1527	G1464	A1332	G1332	G1210	C1210	U1148	G1087	C1029	C967	U905	U839	C779	G718
U1528	C1465	A1333	G1333	U1211	C1211	C1149	G1088	G1030	A968	C906	C840	A780	C719
G1529	C1466	G1334	U1212	U1212	U1212	U1150	G1089	G1030A	A969	A907	U841	A781	G720
C1530	G1467	C1335	A1213	A1213	A1213	A1151	G1089	C1030B	C970	A908	C848	A782	G721
A1531	A1468	C1395	G1214	C1214	C1214	A1152	U1091		G971	A909	C849	A783	A722
U1532	G1469	G1337	G1215	C1215	C1215	C1153	A1092	G1031	C972	C910	U850	C784	U723
C1533	G1470	U1397	G1216	G1216	G1216	G1154	A1093	G1032		U911	C851	C785	G724
C	G1471	A1398	C1217	G1217	G1217	G1155	G1094		A974	C912	C852	G786	G725
A		C1399	C1217	G1218	G1218	G1156	U1095	A1035	A975	A913	C853	A787	C726
C	G1474	C1400	U1219	U1219	U1219	A1157	C1096	G1036	G976	G914	C854	U788	G727
U	G1475	C1342	C1282	G1220	G1220	C1158	C1097	G1037	A977	A915	G855	U789	A728
C	G1476	G1343	G1283	U1159	C1221	U1159	C1098	C1038	A978	G916	C856	A790	A729
C1539	C1477	C1344	C1284	G1160	G1222	G1160	G1099	C1039	C979	G917	C857	A791	G730
U1540		U1345	A1285	C1223	C1223	C1161	C1100	U1040	C980	A918	C858	A792	G731
U1541	U1481	G1405	A1286	G1224	C1224	C1162	A1101	A1041	C981	A919	A859	U793	C732
U1542	G1482	U1406	A1287	A1225	A1225	C1163	A1102	U1042	C982	U920	A860	A794	A733
C1543	A1483	C1407	A1288	C1226	C1226	G1164	A1103	G1043	A983	U921	C861	C795	G734
U1544	A1484	A1408	A1289	A1227	C1165	G1104	C1104	A1044	C984	G922	C862	C796	C735
A	U1485	C1409	A1350	C1228	C1228	G1166	A1105	C1045	C985	A923	U863	C797	
C	G1486	G1410	U1291	A1229	A1167	G1166	G1106	A1046	A986	C924	A864	C798	C738
U	G1487	C1411	U1292	C1230	C1230	A1168	C1107	G1047	G987	G925	C865	C799	C739
C	G1488	C1412	C1293	G1231	G1231	A1169	G1108	U1048	G988	G926	C866	G800	U740
U	G1489	C1413	G1294	U1232	U1232	G1171	C1109	U1049	C989	G927	C867	U801	G741
C1549	G1490	U1414	G1295	G1233	C1233	C1172	A1110	C1050	C990	G928	C868	A802	U742
U	G1491	G1415	G1356	C1234	C1234	G1173	A1111	G1051	C991	G929	C869	G803	U743
A1493	A1492	G1416	C1297	U1235	U1235	G1174	G1112	U1052	U992	C930	U870	U804	C744
G1494	U1493	G1417	C1298	U1236	U1236	G1175	G993	G1053	G993	C931	U871	C805	C745
U1495	G1494	A1418	A1299	C1237	C1237	A1176	C1113	C1054	A994	C932	A872	C806	A746
C1496	U1495	G1419	G1300	A1238	A1238	G1177	C1116	A1055	C995	G933	A873	A807	C747
G1497	G1497	G1422	U1301	A1239	A1239	G1178	G1117	U1056	A996	C934	G874	C908	C748
U1498	C1361A	C1423	U1302	U1240	A1179	A1179	C1118	G1057	U997	A935	C875	G809	C749
A1499	C1362	G1423	C1303	G1241	A1180	A1180	C1119	G1058		C936	C876	C810	G750
U1500	A1363	C1424	G1304	C1242	G1181	G1181	G1120	C1059	U1000	A937	C877	C811	U751
C1501	U1364	G1425	G1305	C1243	G1182	G1182	U1121	G1060	A1001	A938	C878	G812	G752
A1502	G1365	C1426	A1306	C1244	A1183	A1183	U1122	G1061	G1002	G939	C879	U813	A753
G1504	C1366	U1307	U1307	A1245	G1184	G1184	A1123	U1062	G1003	C940	C880	A814	C754
G1505	G1368	G1309	G1309	U1247	G1185	G1185	G1124	C1063	G1003A	G941	C881	A815	G755
U1506	C1369	G1310	G1310	A1248	G1186	G1186	U1125	G1064	A1004	G942	C882	A816	C756
A1507	G1370	G1311	C1249	C1249	G1187	G1187	U1126	U1065	A1005	U943	C883	C817	U757
G1508	A1434	G1312	A1250	A1250	A1188	A1188	G1127	C1066	C1006	G944	U884	G818	G758
C1509	G1435	U1313	A1251	A1251	C1189	C1189	C1128	A1067	C1007	G945	C885	A819	A759
U1510	U1314	G1315	U1315	A1252	G1190	G1190	C1129	G1068	C1008	A946	G886	U820	G760
G1511	C1316	U1316	G1316	G1253	A1191	A1191	A1130	C1069	G1009	G947	C887	G821	G761
U1512	G1441	C1317	G1254	C1254	G1192	G1192	G1131	U1070	G1010	C948	G888	C822	C762
A1513	G1442	A1318	G1255	A1256	G1193	G1193	C1132	G1071	U1011	A949	A889	G823	G763
C1514	G1443	A1319	A1257	A1257	U1194	U1194	C1133	U1072	U1012	U950	C890	C824	C764
C1515	G1447	C1320	U1257	U1257	C1195	C1195	G1134	U1073	G1013	G951	B891	G825	G765
U1544		U1380	C1259	C1259	U1196	U1196	U1136	U1074	A1014	U952	A892	C826	A766
					G1197	G1197	U1137	C1075	C1018	G953	C893	U827	A767
					G1198	G1198	C1137	C1076			C894	A828	A768

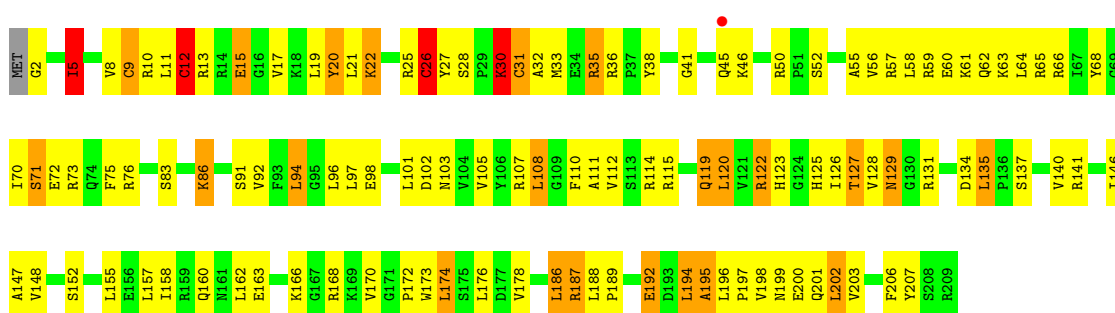
• Molecule 2: ribosomal protein S2



• Molecule 3: ribosomal protein S3

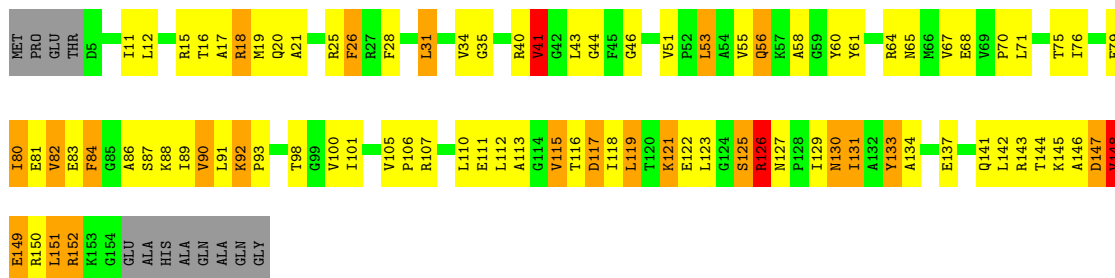


• Molecule 4: ribosomal protein S4



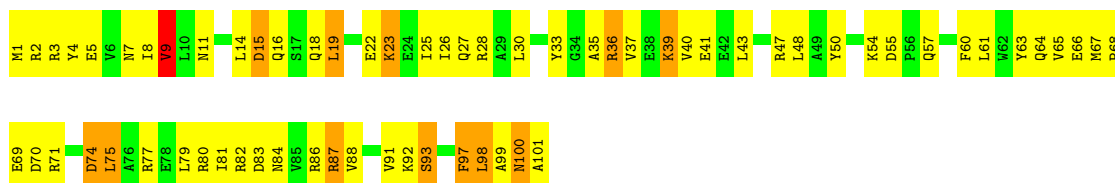
• Molecule 5: ribosomal protein S5





- Molecule 6: ribosomal protein S6

Chain F: 35% 52% 12%



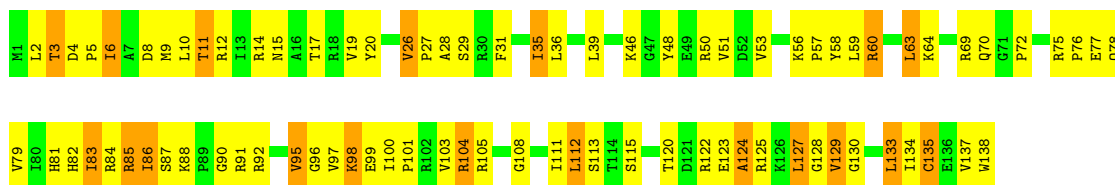
- Molecule 7: ribosomal protein S7

Chain G: 3% 39% 48% 11%



- Molecule 8: ribosomal protein S8

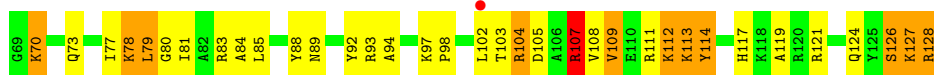
Chain H: 40% 46% 14%



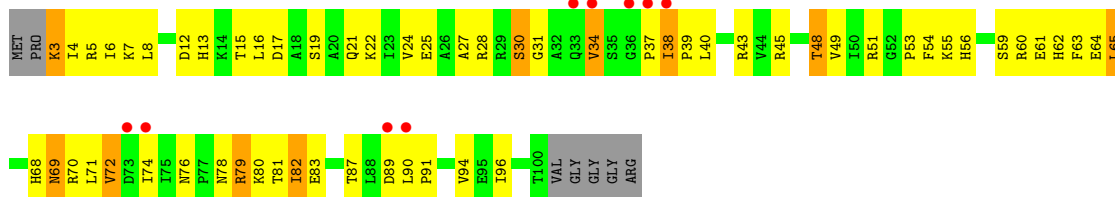
- Molecule 9: ribosomal protein S9

Chain I: 2% 41% 45% 12%

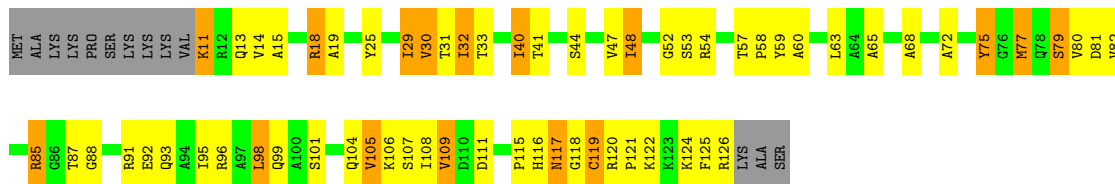




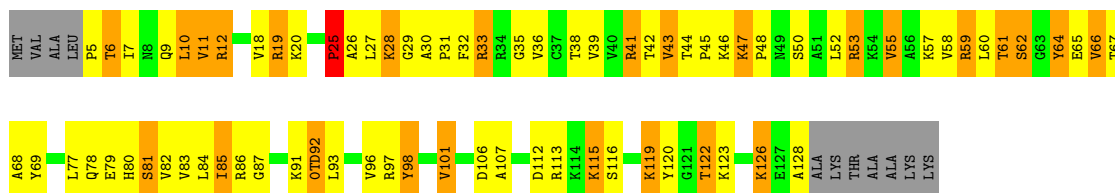
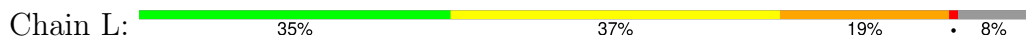
• Molecule 10: ribosomal protein S10



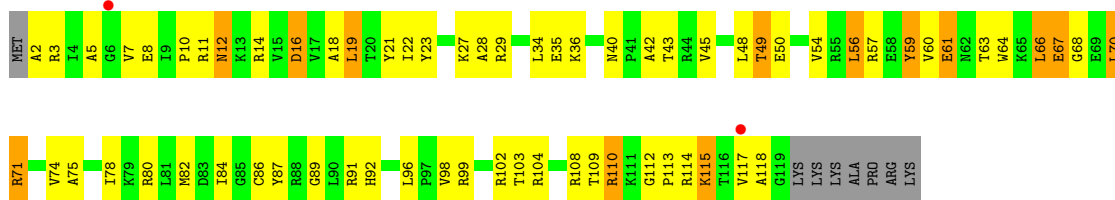
• Molecule 11: ribosomal protein S11



• Molecule 12: ribosomal protein S12



• Molecule 13: ribosomal protein S13

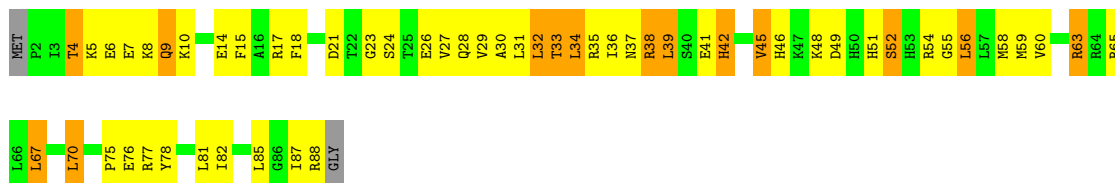
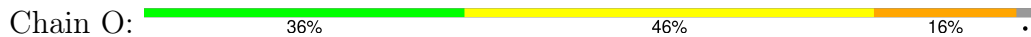


• Molecule 14: ribosomal protein S14

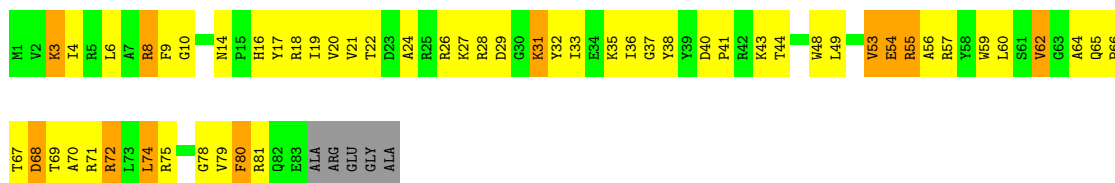
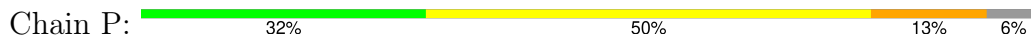




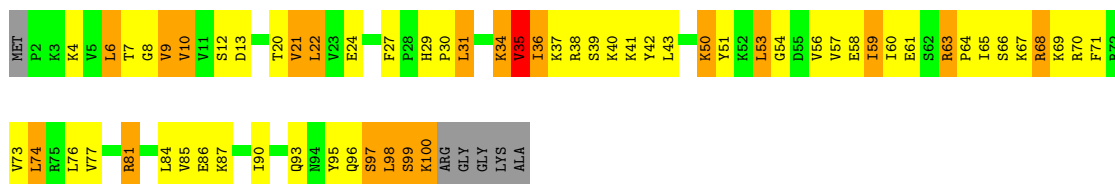
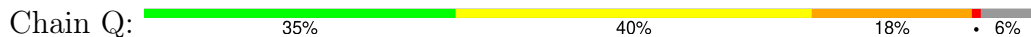
- Molecule 15: ribosomal protein S15



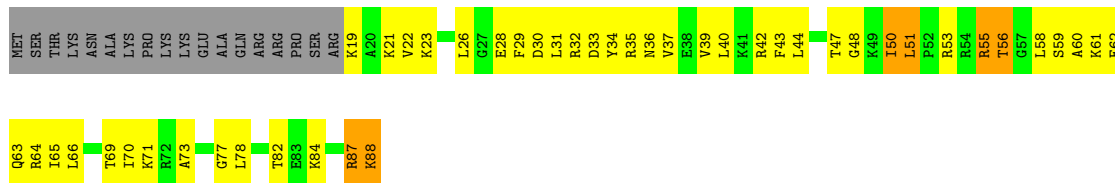
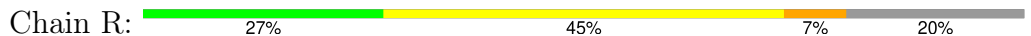
- Molecule 16: ribosomal protein S16



- Molecule 17: ribosomal protein S17



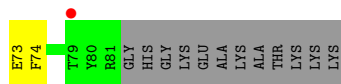
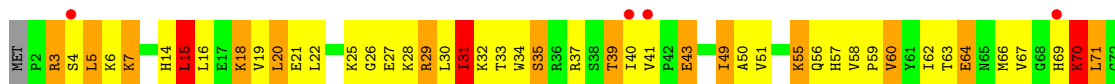
- Molecule 18: ribosomal protein S18



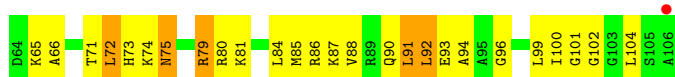
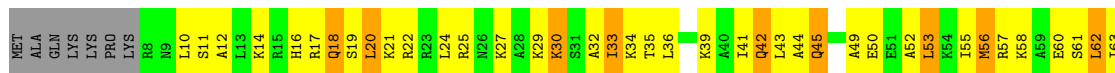
- Molecule 19: ribosomal protein S19







- 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, $\alpha$ , $\beta$ , $\gamma$	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) 97.9 (34.55-3.68)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	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 <sup>2</sup> )	122.3	Xtrriage
Anisotropy	0.371	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.23 , 118.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.29$	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 <sup>2</sup> )	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.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: 7MG, SRY, M2G, 5MC, 4OC, 0TD, MA6, MG, PSU, 2MG, ZN, UR3

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%)	12	47
3	C	204/239 (85%)	172 (84%)	30 (15%)	2 (1%)	15	51
4	D	206/209 (99%)	186 (90%)	17 (8%)	3 (2%)	10	44
5	E	148/162 (91%)	137 (93%)	9 (6%)	2 (1%)	11	45
6	F	99/101 (98%)	96 (97%)	3 (3%)	0	100	100
7	G	153/156 (98%)	137 (90%)	15 (10%)	1 (1%)	22	59
8	H	136/138 (99%)	129 (95%)	7 (5%)	0	100	100
9	I	125/128 (98%)	112 (90%)	12 (10%)	1 (1%)	19	56
10	J	96/105 (91%)	74 (77%)	20 (21%)	2 (2%)	7	38
11	K	114/129 (88%)	98 (86%)	16 (14%)	0	100	100
12	L	121/135 (90%)	105 (87%)	14 (12%)	2 (2%)	9	42
13	M	116/126 (92%)	103 (89%)	10 (9%)	3 (3%)	5	33
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%)	13	49
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%)	3	27
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%)	15	51

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	3
3	C	160/188 (85%)	107 (67%)	53 (33%)	0	1
4	D	180/181 (99%)	141 (78%)	39 (22%)	1	7
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	7
10	J	87/92 (95%)	71 (82%)	16 (18%)	1	10
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	5
14	N	49/50 (98%)	41 (84%)	8 (16%)	2	15
15	O	79/80 (99%)	61 (77%)	18 (23%)	1	6
16	P	72/74 (97%)	60 (83%)	12 (17%)	2	14
17	Q	94/97 (97%)	71 (76%)	23 (24%)	0	5
18	R	61/77 (79%)	45 (74%)	16 (26%)	0	4
19	S	71/80 (89%)	50 (70%)	21 (30%)	0	2
20	T	76/82 (93%)	54 (71%)	22 (29%)	0	2
21	U	19/22 (86%)	15 (79%)	4 (21%)	1	7
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	5MC	A	1400	1	19,22,23	1.55	3 (15%)	26,32,35	1.17	1 (3%)
1	5MC	A	1407	1	19,22,23	1.33	2 (10%)	26,32,35	1.40	4 (15%)
1	MA6	A	1518	1	19,26,27	1.16	1 (5%)	18,38,41	1.05	2 (11%)
1	UR3	A	1498	23,1	19,22,23	1.29	4 (21%)	26,32,35	1.14	2 (7%)
1	MA6	A	1519	1	19,26,27	1.90	5 (26%)	18,38,41	0.81	1 (5%)
1	PSU	A	1540	1	18,21,22	1.27	1 (5%)	21,30,33	1.99	4 (19%)
1	5MC	A	967	1	19,22,23	1.38	2 (10%)	26,32,35	0.68	0
12	0TD	L	92	12	8,9,10	1.67	3 (37%)	6,11,13	3.95	4 (66%)
1	PSU	A	516	23,1	18,21,22	1.70	2 (11%)	21,30,33	1.31	4 (19%)
1	7MG	A	527	1	23,26,27	4.20	4 (17%)	27,39,42	2.38	9 (33%)
1	2MG	A	1207	1	18,26,27	2.04	4 (22%)	16,38,41	1.49	3 (18%)
1	M2G	A	966	1	20,27,28	0.69	0	19,40,43	1.70	2 (10%)
1	5MC	A	1404	1	19,22,23	1.47	4 (21%)	26,32,35	1.18	4 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	PSU	A	1541	1	18,21,22	1.53	2 (11%)	21,30,33	2.20	6 (28%)
1	4OC	A	1402	1	20,23,24	1.42	5 (25%)	25,32,35	0.85	2 (8%)

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides 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

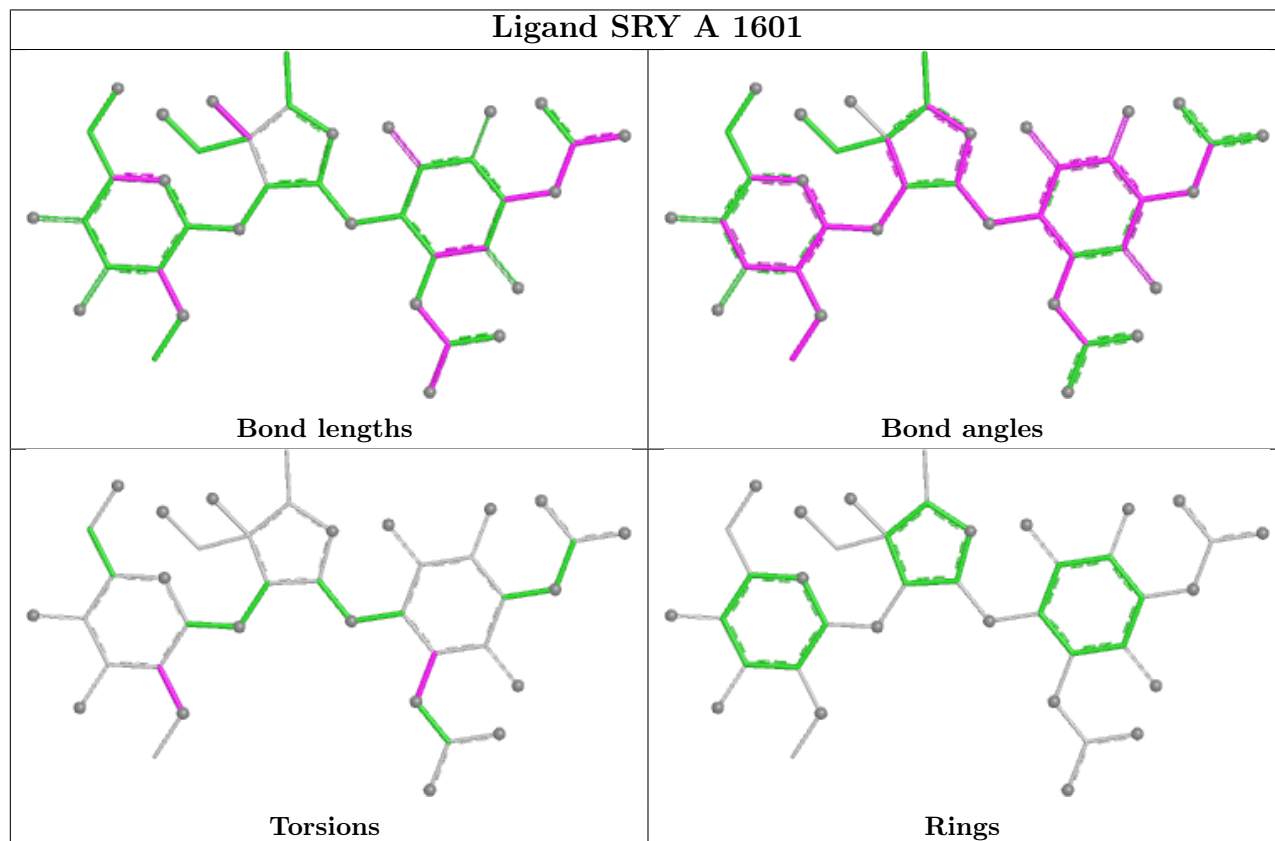
There are no ring outliers.

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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	1498/1522 (98%)	-0.45	18 (1%) 79 68	74, 131, 262, 364	0
2	B	234/256 (91%)	-0.63	1 (0%) 92 88	82, 143, 231, 264	0
3	C	206/239 (86%)	-0.20	10 (4%) 29 21	123, 191, 239, 272	0
4	D	208/209 (99%)	-0.50	1 (0%) 91 85	85, 134, 177, 200	0
5	E	150/162 (92%)	-0.61	0 100 100	73, 106, 144, 182	0
6	F	101/101 (100%)	-0.75	0 100 100	106, 153, 181, 203	0
7	G	155/156 (99%)	-0.38	5 (3%) 47 34	128, 180, 226, 251	0
8	H	138/138 (100%)	-0.70	0 100 100	68, 96, 145, 159	0
9	I	127/128 (99%)	-0.31	2 (1%) 72 60	126, 199, 236, 258	0
10	J	98/105 (93%)	0.28	9 (9%) 9 6	165, 229, 278, 305	0
11	K	116/129 (89%)	-0.62	0 100 100	94, 131, 177, 219	0
12	L	123/135 (91%)	-0.51	0 100 100	71, 124, 172, 206	0
13	M	118/126 (93%)	-0.37	2 (1%) 70 58	122, 164, 204, 231	0
14	N	60/61 (98%)	0.29	5 (8%) 11 8	133, 189, 234, 267	0
15	O	87/89 (97%)	-0.54	0 100 100	74, 122, 165, 180	0
16	P	83/88 (94%)	-0.60	0 100 100	92, 125, 166, 203	0
17	Q	99/105 (94%)	-0.67	0 100 100	84, 107, 140, 168	0
18	R	70/88 (79%)	-0.71	0 100 100	92, 129, 180, 220	0
19	S	80/93 (86%)	0.17	5 (6%) 20 13	174, 217, 268, 283	0
20	T	99/106 (93%)	-0.64	1 (1%) 82 72	95, 130, 179, 210	0
21	U	24/27 (88%)	1.40	8 (33%) 0 0	151, 187, 219, 221	0
All	All	3874/4063 (95%)	-0.44	67 (1%) 70 58	68, 141, 239, 364	0

All (67) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	C	103	VAL	6.2
3	C	193	TYR	5.9
10	J	37	PRO	4.6
10	J	34	VAL	4.5
1	A	793	U	4.4
1	A	994	A	4.3
3	C	102	ASN	4.2
10	J	33	GLN	4.2
19	S	40	ILE	4.2
21	U	18	TYR	4.1
1	A	1129	C	3.9
1	A	1037	C	3.9
21	U	17	THR	3.9
20	T	106	ALA	3.8
14	N	11	LYS	3.8
1	A	993	G	3.7
10	J	90	LEU	3.7
21	U	24	ARG	3.7
21	U	25	LYS	3.6
1	A	81	U	3.5
19	S	41	VAL	3.4
1	A	1539	C	3.4
7	G	7	ALA	3.3
10	J	36	GLY	3.3
2	B	231	GLU	3.3
14	N	18	VAL	3.3
3	C	65	ALA	3.2
7	G	2	ALA	3.1
10	J	74	ILE	3.1
1	A	995	C	3.1
3	C	156	ARG	3.0
3	C	66	VAL	3.0
14	N	3	ARG	3.0
19	S	4	SER	3.0
3	C	68	VAL	2.9
7	G	8	GLU	2.9
9	I	8	GLY	2.8
1	A	1036	G	2.7
13	M	117	VAL	2.7
4	D	45	GLN	2.7
10	J	38	ILE	2.7
1	A	1018	C	2.7
7	G	5	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
7	G	79	ARG	2.7
21	U	11	GLY	2.6
1	A	792	A	2.6
21	U	8	THR	2.6
14	N	4	LYS	2.6
1	A	1020	U	2.6
21	U	5	ASP	2.5
3	C	146	ALA	2.5
13	M	6	GLY	2.5
14	N	2	ALA	2.4
1	A	202	U	2.4
1	A	1019	C	2.4
3	C	161	GLU	2.3
10	J	89	ASP	2.3
9	I	102	LEU	2.3
10	J	73	ASP	2.2
19	S	69	HIS	2.2
1	A	1007	C	2.2
19	S	79	THR	2.1
3	C	104	GLN	2.1
1	A	1257	U	2.1
21	U	9	ARG	2.1
1	A	1124	G	2.0
1	A	1144	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	PSU	A	1540	20/21	0.79	0.74	207,241,323,324	0
1	PSU	A	1541	20/21	0.81	0.44	159,231,317,318	0
1	2MG	A	1207	24/25	0.91	0.28	175,210,229,233	0
1	M2G	A	966	25/26	0.94	0.20	123,141,169,173	0
1	5MC	A	1407	21/22	0.95	0.16	136,148,157,159	0
1	PSU	A	516	20/21	0.95	0.12	110,141,152,153	0
1	5MC	A	1400	21/22	0.95	0.19	95,124,131,135	0
1	UR3	A	1498	21/22	0.96	0.18	112,123,141,146	0
1	MA6	A	1519	24/25	0.96	0.19	105,122,132,134	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
1	5MC	A	1404	21/22	0.96	0.19	114,124,129,132	0
1	5MC	A	967	21/22	0.96	0.17	129,133,145,149	0
1	4OC	A	1402	22/23	0.97	0.18	108,117,120,127	0
12	0TD	L	92	10/11	0.97	0.37	87,120,138,251	0
1	7MG	A	527	24/25	0.98	0.13	103,112,124,131	0
1	MA6	A	1518	24/25	0.98	0.10	121,127,148,148	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
23	MG	A	1767	1/1	0.37	0.47	93,93,93,93	0
23	MG	A	1661	1/1	0.43	0.60	89,89,89,89	0
23	MG	A	1837	1/1	0.47	0.50	103,103,103,103	0
23	MG	A	1684	1/1	0.50	0.39	133,133,133,133	0
23	MG	A	1709	1/1	0.55	0.32	117,117,117,117	0
23	MG	A	1731	1/1	0.59	0.55	95,95,95,95	0
23	MG	A	1794	1/1	0.67	0.53	127,127,127,127	0
23	MG	A	1748	1/1	0.67	0.16	143,143,143,143	0
23	MG	H	204	1/1	0.67	0.65	105,105,105,105	0
23	MG	A	1673	1/1	0.69	0.51	73,73,73,73	0
23	MG	P	103	1/1	0.70	0.23	102,102,102,102	0
23	MG	A	1671	1/1	0.71	1.24	125,125,125,125	0
23	MG	A	1797	1/1	0.72	0.79	127,127,127,127	0
23	MG	Q	201	1/1	0.73	0.12	115,115,115,115	0
23	MG	A	1761	1/1	0.74	0.23	97,97,97,97	0
23	MG	A	1729	1/1	0.74	0.36	102,102,102,102	0
23	MG	S	101	1/1	0.74	0.19	93,93,93,93	0
23	MG	A	1793	1/1	0.75	1.41	105,105,105,105	0
23	MG	A	1658	1/1	0.75	0.63	120,120,120,120	0
23	MG	A	1720	1/1	0.76	0.56	112,112,112,112	0
23	MG	A	1663	1/1	0.76	0.11	109,109,109,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
23	MG	A	1737	1/1	0.77	0.30	128,128,128,128	0
23	MG	D	302	1/1	0.77	0.16	123,123,123,123	0
23	MG	A	1739	1/1	0.78	0.44	92,92,92,92	0
23	MG	A	1713	1/1	0.79	0.38	96,96,96,96	0
23	MG	A	1695	1/1	0.79	0.32	121,121,121,121	0
23	MG	A	1667	1/1	0.80	0.23	100,100,100,100	0
23	MG	A	1799	1/1	0.80	0.50	109,109,109,109	0
23	MG	A	1802	1/1	0.80	0.34	86,86,86,86	0
23	MG	A	1758	1/1	0.81	1.09	98,98,98,98	0
23	MG	A	1769	1/1	0.81	0.24	112,112,112,112	0
23	MG	N	102	1/1	0.81	0.35	112,112,112,112	0
23	MG	A	1710	1/1	0.82	0.53	73,73,73,73	0
23	MG	A	1841	1/1	0.82	0.47	392,392,392,392	0
23	MG	A	1796	1/1	0.82	0.49	107,107,107,107	0
23	MG	A	1760	1/1	0.82	0.29	105,105,105,105	0
23	MG	A	1798	1/1	0.82	0.65	122,122,122,122	0
23	MG	A	1779	1/1	0.82	0.34	91,91,91,91	0
23	MG	A	1719	1/1	0.82	0.20	113,113,113,113	0
23	MG	A	1832	1/1	0.82	0.26	109,109,109,109	0
23	MG	A	1804	1/1	0.83	0.55	77,77,77,77	0
23	MG	A	1741	1/1	0.83	0.27	113,113,113,113	0
23	MG	A	1747	1/1	0.83	0.35	111,111,111,111	0
23	MG	A	1613	1/1	0.83	0.45	98,98,98,98	0
23	MG	A	1659	1/1	0.83	0.20	108,108,108,108	0
23	MG	A	1782	1/1	0.84	0.18	108,108,108,108	0
23	MG	A	1733	1/1	0.84	0.28	111,111,111,111	0
23	MG	A	1753	1/1	0.84	0.18	168,168,168,168	0
23	MG	A	1693	1/1	0.85	0.18	104,104,104,104	0
23	MG	A	1632	1/1	0.85	0.24	105,105,105,105	0
23	MG	A	1823	1/1	0.85	0.23	317,317,317,317	0
23	MG	A	1700	1/1	0.85	0.32	107,107,107,107	0
23	MG	B	302	1/1	0.86	0.25	89,89,89,89	0
23	MG	A	1607	1/1	0.86	0.12	156,156,156,156	0
23	MG	A	1726	1/1	0.86	0.29	91,91,91,91	0
23	MG	M	201	1/1	0.86	0.55	101,101,101,101	0
23	MG	A	1691	1/1	0.86	0.28	163,163,163,163	0
23	MG	A	1624	1/1	0.86	0.34	97,97,97,97	0
23	MG	A	1743	1/1	0.86	0.24	113,113,113,113	0
23	MG	A	1784	1/1	0.86	0.79	93,93,93,93	0
23	MG	A	1854	1/1	0.87	0.23	103,103,103,103	0
23	MG	B	301	1/1	0.87	0.34	110,110,110,110	0
23	MG	A	1744	1/1	0.87	0.27	99,99,99,99	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
23	MG	A	1685	1/1	0.87	0.16	269,269,269,269	0
23	MG	A	1715	1/1	0.87	0.08	120,120,120,120	0
23	MG	A	1817	1/1	0.88	0.99	312,312,312,312	0
23	MG	A	1740	1/1	0.88	0.33	123,123,123,123	0
23	MG	A	1786	1/1	0.88	0.22	78,78,78,78	0
23	MG	J	201	1/1	0.88	0.37	107,107,107,107	0
23	MG	A	1664	1/1	0.88	0.24	133,133,133,133	0
23	MG	A	1725	1/1	0.88	0.38	91,91,91,91	0
23	MG	A	1853	1/1	0.88	0.32	338,338,338,338	0
23	MG	A	1750	1/1	0.88	0.41	115,115,115,115	0
23	MG	A	1810	1/1	0.88	0.26	85,85,85,85	0
23	MG	A	1680	1/1	0.89	0.43	104,104,104,104	0
23	MG	A	1833	1/1	0.89	0.12	98,98,98,98	0
23	MG	A	1745	1/1	0.90	0.38	85,85,85,85	0
23	MG	A	1787	1/1	0.90	0.17	81,81,81,81	0
23	MG	A	1815	1/1	0.90	0.26	355,355,355,355	0
23	MG	A	1768	1/1	0.90	0.22	112,112,112,112	0
23	MG	A	1738	1/1	0.90	0.26	89,89,89,89	0
23	MG	A	1772	1/1	0.90	0.50	117,117,117,117	0
23	MG	A	1759	1/1	0.90	0.37	96,96,96,96	0
23	MG	A	1835	1/1	0.90	0.56	128,128,128,128	0
23	MG	A	1781	1/1	0.90	0.48	101,101,101,101	0
23	MG	A	1677	1/1	0.90	0.32	97,97,97,97	0
23	MG	A	1718	1/1	0.90	0.17	95,95,95,95	0
23	MG	A	1783	1/1	0.91	0.13	133,133,133,133	0
23	MG	A	1728	1/1	0.91	0.28	82,82,82,82	0
23	MG	H	201	1/1	0.91	0.35	83,83,83,83	0
23	MG	A	1655	1/1	0.91	0.32	137,137,137,137	0
23	MG	A	1746	1/1	0.91	0.23	123,123,123,123	0
23	MG	A	1765	1/1	0.92	0.52	124,124,124,124	0
23	MG	A	1766	1/1	0.92	0.43	146,146,146,146	0
23	MG	A	1849	1/1	0.92	0.17	296,296,296,296	0
23	MG	A	1615	1/1	0.92	0.43	94,94,94,94	0
23	MG	A	1702	1/1	0.92	0.16	106,106,106,106	0
23	MG	A	1705	1/1	0.92	0.20	97,97,97,97	0
23	MG	A	1656	1/1	0.92	0.23	152,152,152,152	0
23	MG	A	1616	1/1	0.92	0.46	90,90,90,90	0
23	MG	A	1603	1/1	0.92	0.23	126,126,126,126	0
23	MG	H	203	1/1	0.92	0.41	124,124,124,124	0
23	MG	A	1626	1/1	0.92	0.25	146,146,146,146	0
23	MG	A	1754	1/1	0.92	0.22	177,177,177,177	0
23	MG	A	1614	1/1	0.92	0.25	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
23	MG	A	1830	1/1	0.92	0.33	322,322,322,322	0
23	MG	A	1645	1/1	0.92	0.13	138,138,138,138	0
23	MG	A	1647	1/1	0.92	0.20	115,115,115,115	0
23	MG	A	1668	1/1	0.92	0.35	149,149,149,149	0
23	MG	T	201	1/1	0.92	0.22	92,92,92,92	0
23	MG	A	1819	1/1	0.93	0.11	286,286,286,286	0
23	MG	A	1699	1/1	0.93	0.30	221,221,221,221	0
23	MG	A	1650	1/1	0.93	0.32	127,127,127,127	0
23	MG	A	1785	1/1	0.93	0.28	74,74,74,74	0
23	MG	A	1627	1/1	0.93	0.39	97,97,97,97	0
23	MG	A	1801	1/1	0.93	0.40	111,111,111,111	0
23	MG	A	1723	1/1	0.93	0.35	92,92,92,92	0
23	MG	A	1790	1/1	0.93	0.17	129,129,129,129	0
23	MG	A	1755	1/1	0.93	0.11	159,159,159,159	0
23	MG	A	1686	1/1	0.93	0.12	130,130,130,130	0
23	MG	A	1795	1/1	0.93	0.74	107,107,107,107	0
23	MG	A	1818	1/1	0.93	0.08	266,266,266,266	0
23	MG	A	1639	1/1	0.94	0.14	116,116,116,116	0
23	MG	A	1674	1/1	0.94	0.27	94,94,94,94	0
23	MG	A	1848	1/1	0.94	0.24	336,336,336,336	0
23	MG	A	1732	1/1	0.94	0.12	114,114,114,114	0
23	MG	A	1676	1/1	0.94	0.23	81,81,81,81	0
23	MG	A	1811	1/1	0.94	0.12	87,87,87,87	0
23	MG	A	1812	1/1	0.94	0.28	183,183,183,183	0
23	MG	A	1813	1/1	0.94	0.28	228,228,228,228	0
23	MG	A	1735	1/1	0.94	0.25	95,95,95,95	0
23	MG	E	201	1/1	0.94	0.06	228,228,228,228	0
23	MG	A	1792	1/1	0.94	0.13	111,111,111,111	0
23	MG	H	202	1/1	0.94	0.15	83,83,83,83	0
23	MG	A	1634	1/1	0.94	0.37	82,82,82,82	0
23	MG	A	1752	1/1	0.94	0.10	110,110,110,110	0
23	MG	A	1721	1/1	0.94	0.23	115,115,115,115	0
23	MG	A	1827	1/1	0.94	0.18	200,200,200,200	0
23	MG	A	1828	1/1	0.94	0.61	289,289,289,289	0
23	MG	P	101	1/1	0.94	0.30	77,77,77,77	0
23	MG	A	1660	1/1	0.94	0.13	173,173,173,173	0
23	MG	A	1682	1/1	0.94	0.13	171,171,171,171	0
23	MG	A	1712	1/1	0.94	0.23	91,91,91,91	0
23	MG	A	1697	1/1	0.94	0.24	145,145,145,145	0
23	MG	A	1724	1/1	0.95	0.18	71,71,71,71	0
23	MG	A	1836	1/1	0.95	0.10	175,175,175,175	0
23	MG	A	1637	1/1	0.95	0.28	127,127,127,127	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
23	MG	A	1839	1/1	0.95	0.11	137,137,137,137	0
23	MG	A	1770	1/1	0.95	0.21	108,108,108,108	0
23	MG	A	1771	1/1	0.95	0.22	77,77,77,77	0
23	MG	A	1742	1/1	0.95	0.12	77,77,77,77	0
23	MG	A	1850	1/1	0.95	0.17	270,270,270,270	0
23	MG	A	1775	1/1	0.95	0.10	235,235,235,235	0
23	MG	A	1622	1/1	0.95	0.13	86,86,86,86	0
23	MG	A	1653	1/1	0.95	0.20	145,145,145,145	0
23	MG	A	1714	1/1	0.95	0.15	130,130,130,130	0
23	MG	A	1602	1/1	0.95	0.15	144,144,144,144	0
23	MG	T	202	1/1	0.95	0.32	267,267,267,267	0
23	MG	A	1623	1/1	0.96	0.09	146,146,146,146	0
23	MG	A	1665	1/1	0.96	0.13	176,176,176,176	0
23	MG	A	1681	1/1	0.96	0.07	208,208,208,208	0
23	MG	A	1814	1/1	0.96	0.27	360,360,360,360	0
23	MG	A	1762	1/1	0.96	0.27	122,122,122,122	0
23	MG	A	1666	1/1	0.96	0.18	136,136,136,136	0
23	MG	A	1704	1/1	0.96	0.18	105,105,105,105	0
23	MG	A	1657	1/1	0.96	0.22	116,116,116,116	0
23	MG	A	1706	1/1	0.96	0.32	97,97,97,97	0
23	MG	A	1633	1/1	0.96	0.15	88,88,88,88	0
23	MG	A	1611	1/1	0.96	0.05	127,127,127,127	0
23	MG	A	1730	1/1	0.96	0.20	91,91,91,91	0
23	MG	A	1711	1/1	0.96	0.23	93,93,93,93	0
23	MG	A	1651	1/1	0.96	0.56	108,108,108,108	0
23	MG	A	1834	1/1	0.96	0.28	130,130,130,130	0
23	MG	A	1800	1/1	0.96	0.27	108,108,108,108	0
23	MG	A	1692	1/1	0.96	0.17	170,170,170,170	0
23	MG	P	102	1/1	0.96	0.25	100,100,100,100	0
23	MG	A	1604	1/1	0.96	0.30	92,92,92,92	0
23	MG	A	1694	1/1	0.96	0.06	95,95,95,95	0
23	MG	A	1840	1/1	0.96	0.27	386,386,386,386	0
22	SRY	A	1601	40/40	0.96	0.22	85,115,145,148	0
23	MG	A	1844	1/1	0.96	0.13	383,383,383,383	0
23	MG	A	1774	1/1	0.97	0.21	272,272,272,272	0
23	MG	A	1662	1/1	0.97	0.12	141,141,141,141	0
23	MG	A	1777	1/1	0.97	0.07	485,485,485,485	0
23	MG	A	1778	1/1	0.97	0.14	129,129,129,129	0
23	MG	A	1670	1/1	0.97	0.27	113,113,113,113	0
23	MG	A	1780	1/1	0.97	0.15	107,107,107,107	0
23	MG	A	1845	1/1	0.97	0.21	159,159,159,159	0
23	MG	A	1847	1/1	0.97	0.15	296,296,296,296	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
23	MG	A	1805	1/1	0.97	0.06	93,93,93,93	0
23	MG	A	1809	1/1	0.97	0.18	96,96,96,96	0
23	MG	A	1621	1/1	0.97	0.19	87,87,87,87	0
23	MG	A	1852	1/1	0.97	0.14	404,404,404,404	0
23	MG	A	1727	1/1	0.97	0.24	95,95,95,95	0
23	MG	A	1644	1/1	0.97	0.26	117,117,117,117	0
23	MG	A	1619	1/1	0.97	0.20	141,141,141,141	0
23	MG	A	1764	1/1	0.97	0.09	118,118,118,118	0
23	MG	A	1638	1/1	0.97	0.18	96,96,96,96	0
23	MG	A	1689	1/1	0.97	0.10	75,75,75,75	0
23	MG	A	1788	1/1	0.97	0.88	99,99,99,99	0
23	MG	A	1789	1/1	0.97	0.06	118,118,118,118	0
23	MG	A	1820	1/1	0.97	0.10	313,313,313,313	0
23	MG	A	1822	1/1	0.97	0.04	157,157,157,157	0
23	MG	A	1690	1/1	0.97	0.32	324,324,324,324	0
23	MG	A	1826	1/1	0.97	0.10	304,304,304,304	0
23	MG	M	202	1/1	0.97	0.53	111,111,111,111	0
23	MG	A	1791	1/1	0.97	0.10	74,74,74,74	0
23	MG	A	1648	1/1	0.97	0.09	227,227,227,227	0
23	MG	A	1734	1/1	0.97	0.30	108,108,108,108	0
23	MG	A	1831	1/1	0.97	0.13	168,168,168,168	0
23	MG	A	1678	1/1	0.97	0.24	149,149,149,149	0
23	MG	A	1707	1/1	0.97	0.14	113,113,113,113	0
23	MG	A	1708	1/1	0.97	0.19	135,135,135,135	0
23	MG	A	1773	1/1	0.97	0.15	135,135,135,135	0
23	MG	A	1806	1/1	0.98	0.23	88,88,88,88	0
23	MG	A	1756	1/1	0.98	0.07	203,203,203,203	0
23	MG	A	1612	1/1	0.98	0.13	75,75,75,75	0
23	MG	A	1617	1/1	0.98	0.15	75,75,75,75	0
23	MG	A	1736	1/1	0.98	0.13	84,84,84,84	0
23	MG	A	1652	1/1	0.98	0.11	114,114,114,114	0
23	MG	A	1716	1/1	0.98	0.15	86,86,86,86	0
23	MG	A	1763	1/1	0.98	0.14	93,93,93,93	0
23	MG	A	1851	1/1	0.98	0.16	208,208,208,208	0
23	MG	A	1679	1/1	0.98	0.08	116,116,116,116	0
23	MG	A	1698	1/1	0.98	0.05	170,170,170,170	0
23	MG	A	1628	1/1	0.98	0.16	171,171,171,171	0
23	MG	A	1640	1/1	0.98	0.19	96,96,96,96	0
23	MG	A	1821	1/1	0.98	0.16	338,338,338,338	0
23	MG	A	1701	1/1	0.98	0.25	87,87,87,87	0
23	MG	A	1641	1/1	0.98	0.15	87,87,87,87	0
23	MG	A	1824	1/1	0.98	0.13	168,168,168,168	0

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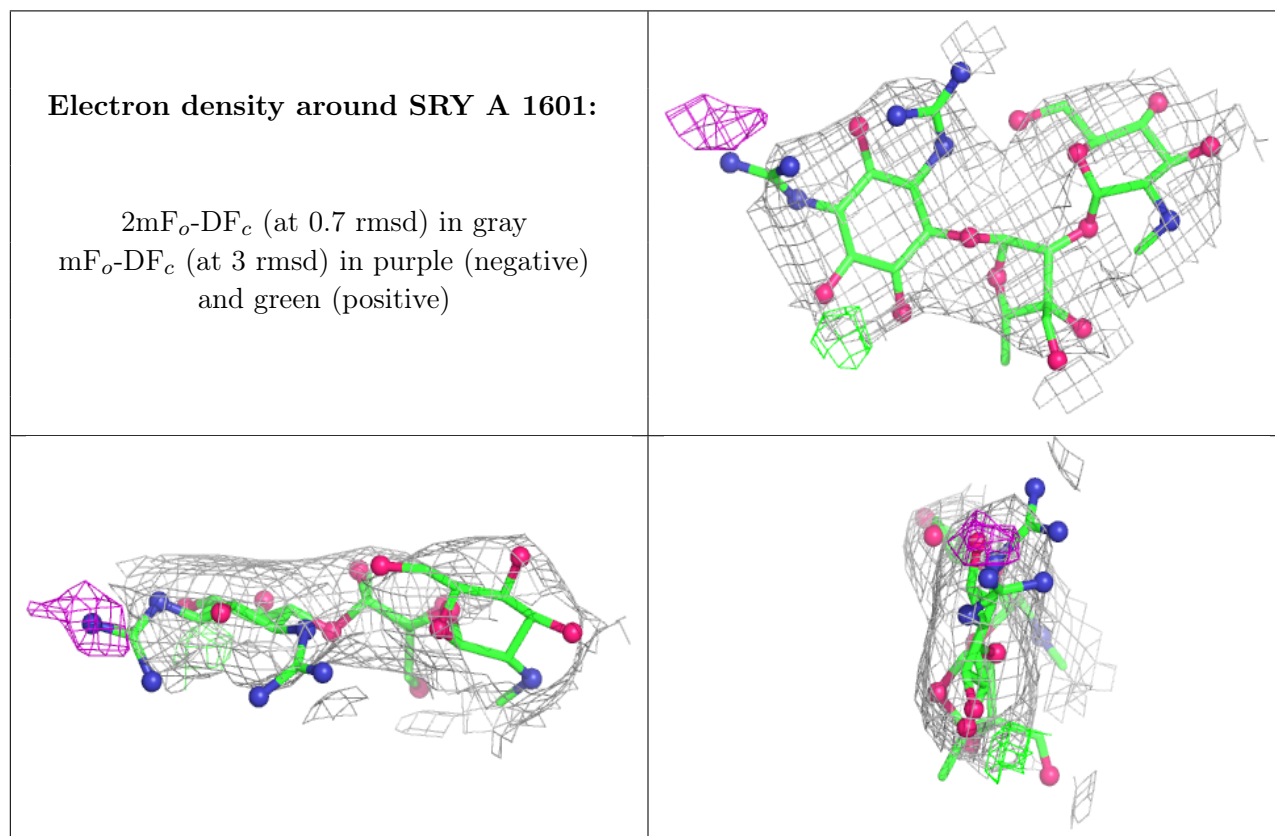
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
23	MG	A	1825	1/1	0.98	0.15	272,272,272,272	0
23	MG	A	1683	1/1	0.98	0.22	159,159,159,159	0
23	MG	A	1642	1/1	0.98	0.15	105,105,105,105	0
23	MG	A	1669	1/1	0.98	0.39	102,102,102,102	0
23	MG	J	202	1/1	0.98	0.17	105,105,105,105	0
23	MG	A	1610	1/1	0.98	0.18	129,129,129,129	0
23	MG	A	1749	1/1	0.98	0.10	99,99,99,99	0
23	MG	A	1687	1/1	0.98	0.07	210,210,210,210	0
23	MG	A	1776	1/1	0.98	0.13	299,299,299,299	0
23	MG	A	1620	1/1	0.98	0.32	128,128,128,128	0
23	MG	A	1625	1/1	0.98	0.12	179,179,179,179	0
23	MG	A	1803	1/1	0.98	0.24	123,123,123,123	0
23	MG	A	1636	1/1	0.98	0.34	176,176,176,176	0
23	MG	A	1838	1/1	0.98	0.23	126,126,126,126	0
23	MG	A	1675	1/1	0.98	0.18	79,79,79,79	0
23	MG	A	1722	1/1	0.99	0.13	71,71,71,71	0
23	MG	A	1630	1/1	0.99	0.21	145,145,145,145	0
23	MG	A	1606	1/1	0.99	0.29	96,96,96,96	0
23	MG	A	1605	1/1	0.99	0.09	123,123,123,123	0
23	MG	A	1608	1/1	0.99	0.28	80,80,80,80	0
23	MG	A	1654	1/1	0.99	0.14	143,143,143,143	0
23	MG	A	1829	1/1	0.99	0.14	93,93,93,93	0
23	MG	A	1643	1/1	0.99	0.10	90,90,90,90	0
23	MG	A	1807	1/1	0.99	0.06	111,111,111,111	0
23	MG	A	1808	1/1	0.99	0.19	107,107,107,107	0
23	MG	A	1635	1/1	0.99	0.04	62,62,62,62	0
23	MG	A	1696	1/1	0.99	0.10	141,141,141,141	0
23	MG	A	1609	1/1	0.99	0.22	108,108,108,108	0
23	MG	A	1646	1/1	0.99	0.10	99,99,99,99	0
23	MG	A	1751	1/1	0.99	0.11	108,108,108,108	0
23	MG	A	1618	1/1	0.99	0.22	108,108,108,108	0
23	MG	A	1672	1/1	0.99	0.10	123,123,123,123	0
23	MG	A	1816	1/1	0.99	0.10	282,282,282,282	0
23	MG	A	1717	1/1	0.99	0.20	106,106,106,106	0
23	MG	A	1629	1/1	0.99	0.32	138,138,138,138	0
23	MG	A	1649	1/1	0.99	0.12	162,162,162,162	0
23	MG	A	1846	1/1	0.99	0.29	399,399,399,399	0
23	MG	A	1757	1/1	0.99	0.16	106,106,106,106	0
23	MG	A	1703	1/1	0.99	0.05	109,109,109,109	0
23	MG	A	1688	1/1	0.99	0.12	99,99,99,99	0
24	ZN	N	101	1/1	0.99	0.15	168,168,168,168	0
23	MG	A	1843	1/1	1.00	0.10	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
23	MG	A	1631	1/1	1.00	0.10	71,71,71,71	0
24	ZN	D	301	1/1	1.00	0.32	127,127,127,127	0
23	MG	A	1842	1/1	1.00	0.15	73,73,73,73	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.