Full wwPDB EM Validation Report ⓘ

Nov 19, 2022 – 09:49 am GMT

PDB ID	:	4V91
EMDB ID	:	EMD-2599
Title	:	Kluyveromyces lactis 80S ribosome in complex with CrPV-IRES
Authors	:	Fernandez, I.S.; Bai, X.; Scheres, S.H.W.; Ramakrishnan, V.
Deposited on	:	2014-03-21
Resolution	:	3.70 Å(reported)
Based on initial model	:	3B31

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

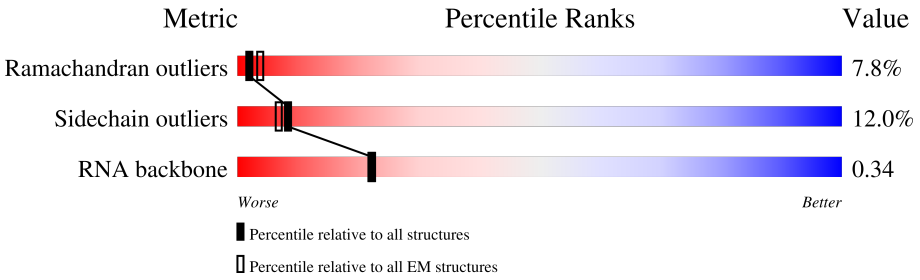
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	3397	14% 44% 34% 16% 6%
2	3	121	7% 51% 35% 14%
3	4	158	51% 31% 18%
4	A	254	20% 85% 11%
5	B	387	31% 80% 17%
6	C	362	59% 83% 14%
7	D	297	42% 84% 13%
8	E	176	63% 76% 11% 11%

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Mol	Chain	Length	Quality of chain
9	F	244	54% 78% 13% 9%
10	G	256	52% 77% 12% 9%
11	H	191	61% 84% 15%
12	I	221	38% 81% 11% 5%
13	J	174	38% 79% 13% 6%
14	L	199	58% 79% 15%
15	M	138	67% 82% 15%
16	N	204	40% 84% 14%
17	O	398	22% 22% 21% 5% 51%
18	P	184	26% 84% 12%
19	Q	186	57% 84% 12%
20	R	189	22% 79% 16%
21	S	172	68% 84% 15%
22	T	160	50% 83% 15%
23	U	121	20% 74% 8% 17%
24	V	137	23% 88% 10%
25	W	155	11% 34% 5% 61%
26	X	142	31% 70% 13% 15%
27	Y	127	53% 80% 18%
28	Z	136	54% 81% 18%
29	a	149	52% 85% 11%
30	b	59	42% 83% 10%
31	c	105	36% 73% 17% 8%
32	d	113	20% 81% 13%
33	e	130	59% 81% 15%

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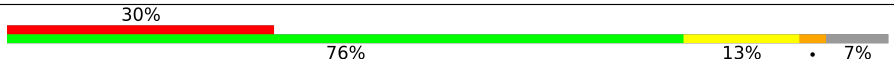
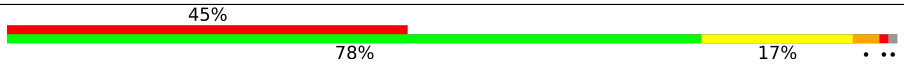
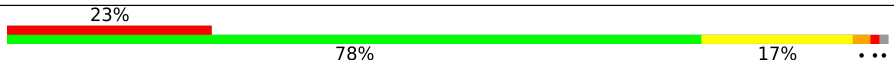
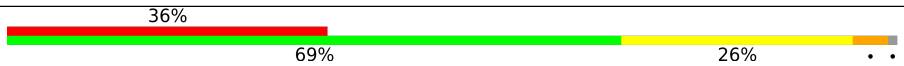
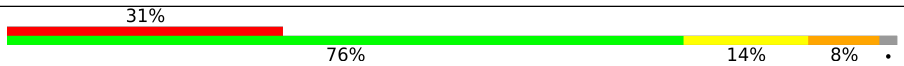
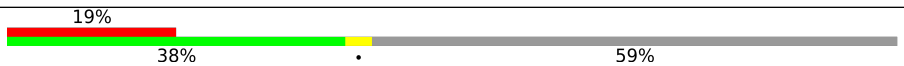
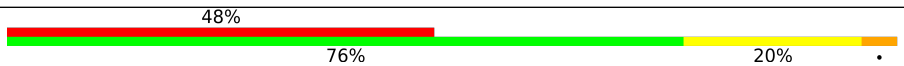
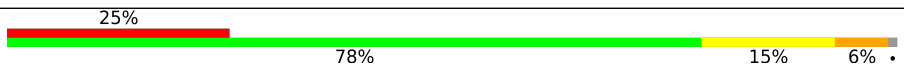
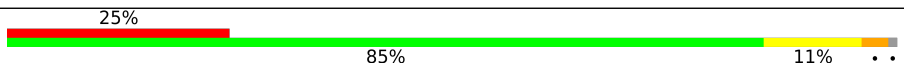
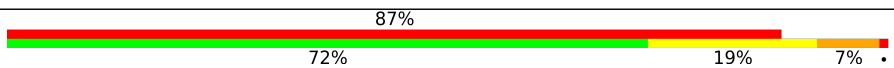
Mol	Chain	Length	Quality of chain
34	f	107	
35	g	121	
36	h	120	
37	i	100	
38	j	88	
39	k	78	
40	l	51	
41	m	128	
42	n	25	
43	o	106	
44	p	92	
45	t	217	

2 Entry composition

There are 45 unique types of molecules in this entry. The entry contains 125665 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 25S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	3203	68514	30602	12358	22351	3203	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	3	121	2579	1152	461	845	121	0	0

- Molecule 3 is a RNA chain called 5.8S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	4	158	3353	1500	586	1109	158	0	0

- Molecule 4 is a protein called UL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	A	252	1914	1191	388	334	1	0	0

- Molecule 5 is a protein called UL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	B	386	3075	1950	584	533	8	0	0

- Molecule 6 is a protein called UL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	361	2748	1729	522	494	3	0	0

- Molecule 7 is a protein called UL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 8 is a protein called EL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 9 is a protein called UL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 10 is a protein called EL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 11 is a protein called UL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 12 is a protein called UL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	211	Total	C	N	O	S	0	0
			1705	1083	322	294	6		

- Molecule 13 is a protein called UL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called EL13.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	193	Total 1543	C 962	N 315	O 266	0	0

- Molecule 15 is a protein called EL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	136	Total 1053	C 675	N 199	O 177	S 2	0	0

- Molecule 16 is a protein called EL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total 1720	C 1077	N 361	O 281	S 1	0	0

- Molecule 17 is a protein called UL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	197	Total 1555	C 1003	N 289	O 262	S 1	0	0

- Molecule 18 is a protein called UL22.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	P	183	Total 1420	C 882	N 281	O 257	0	0

- Molecule 19 is a protein called EL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	185	Total 1441	C 908	N 290	O 241	S 2	0	0

- Molecule 20 is a protein called EL19.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	R	188	Total 1521	C 935	N 326	O 260	0	0

- Molecule 21 is a protein called EL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	172	Total 1445	C 930	N 267	O 244	S 4	0	0

- Molecule 22 is a protein called EL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total 1276	C 805	N 246	O 221	S 4	0	0

- Molecule 23 is a protein called EL22.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	U	100	Total 796	C 516	N 131	O 149	0	0

- Molecule 24 is a protein called UL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	136	Total 1003	C 628	N 189	O 179	S 7	0	0

- Molecule 25 is a protein called EL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	60	Total 500	C 322	N 98	O 79	S 1	0	0

- Molecule 26 is a protein called UL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	121	Total 964	C 620	N 169	O 173	S 2	0	0

- Molecule 27 is a protein called UL24.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	Y	126	Total 993	C 625	N 192	O 176	0	0

- Molecule 28 is a protein called EL27.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Z	135	Total 1092	C 710	N 202	O 180	0	0

- Molecule 29 is a protein called UL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	148	Total 1173	C 749	N 231	O 190	S 3	0	0

- Molecule 30 is a protein called EL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	b	58	Total 462	C 289	N 100	O 73	0	0

- Molecule 31 is a protein called EL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	97	Total 743	C 479	N 124	O 139	S 1	0	0

- Molecule 32 is a protein called EL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	109	Total 876	C 556	N 167	O 152	S 1	0	0

- Molecule 33 is a protein called EL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	127	Total 1020	C 647	N 205	O 167	S 1	0	0

- Molecule 34 is a protein called EL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	106	Total 850	C 540	N 165	O 144	S 1	0	0

- Molecule 35 is a protein called EL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called UL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 37 is a protein called EL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 38 is a protein called EL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 39 is a protein called EL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 40 is a protein called EL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called EL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called EL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 43 is a protein called EL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 44 is a protein called EL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 45 is a protein called UL1.

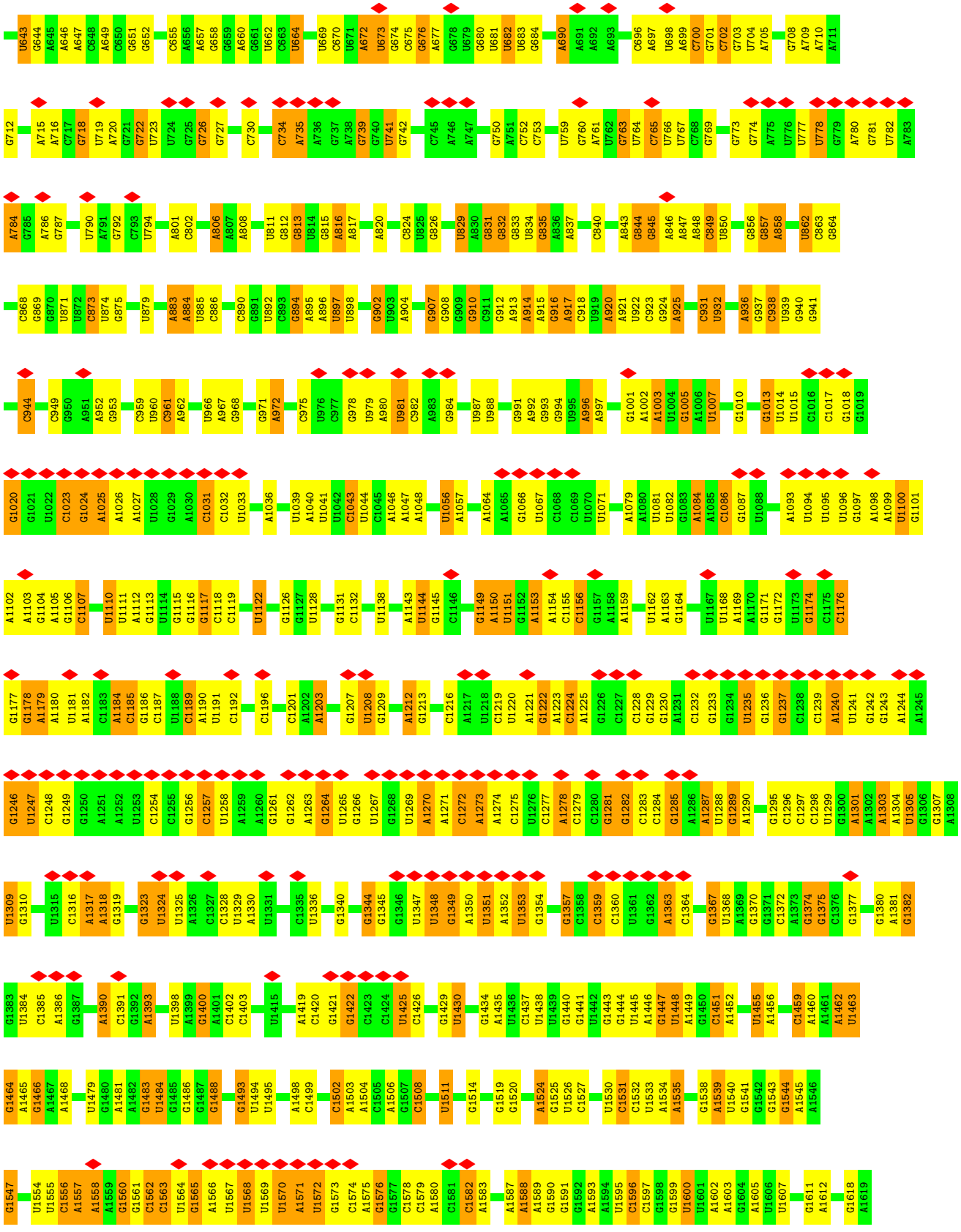
Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	217	Total	C	N	O	S	0	0
			1718	1097	299	312	10		

3 Residue-property plots (i)

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: 25S RRNA

Chain 1: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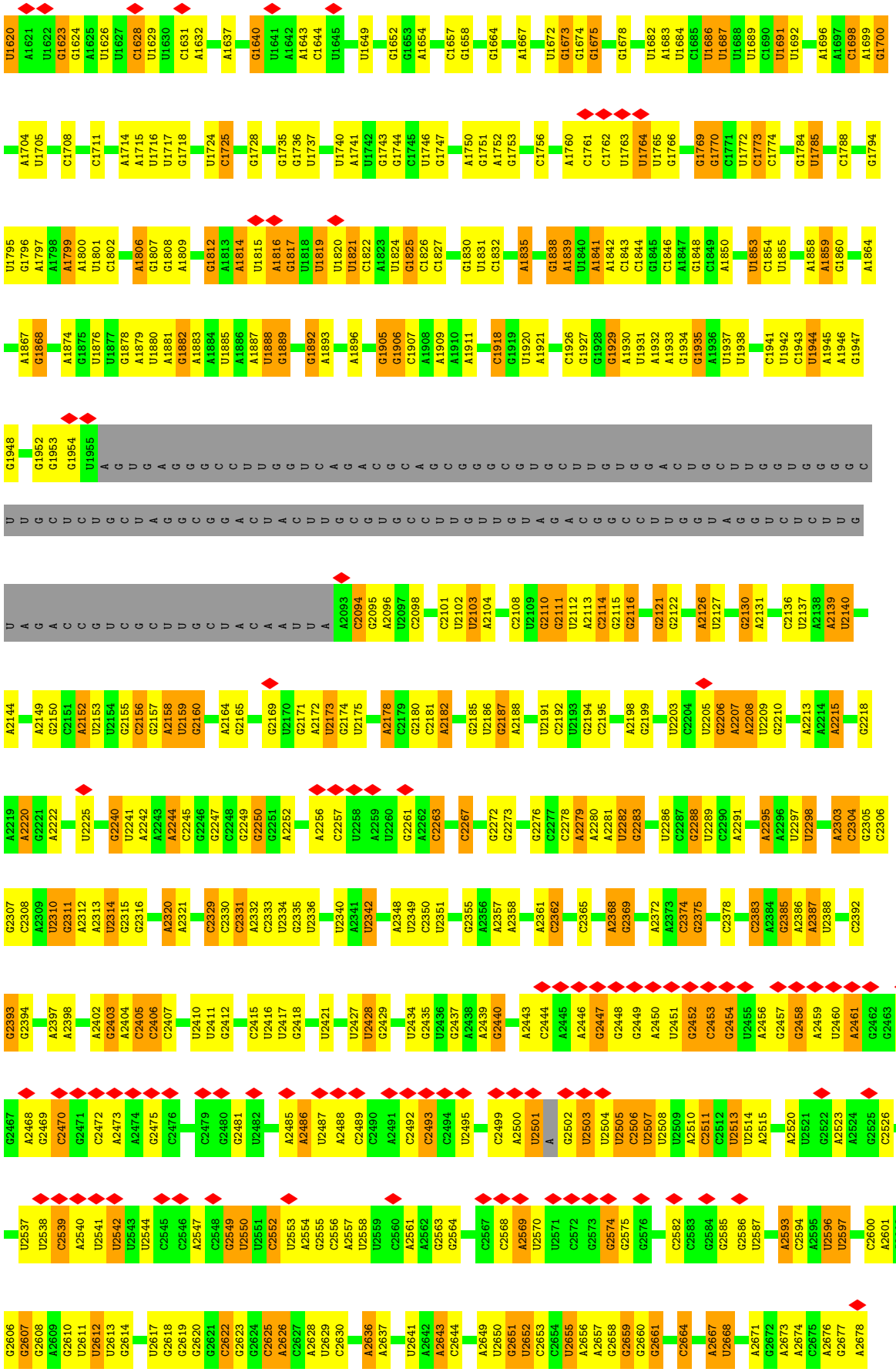
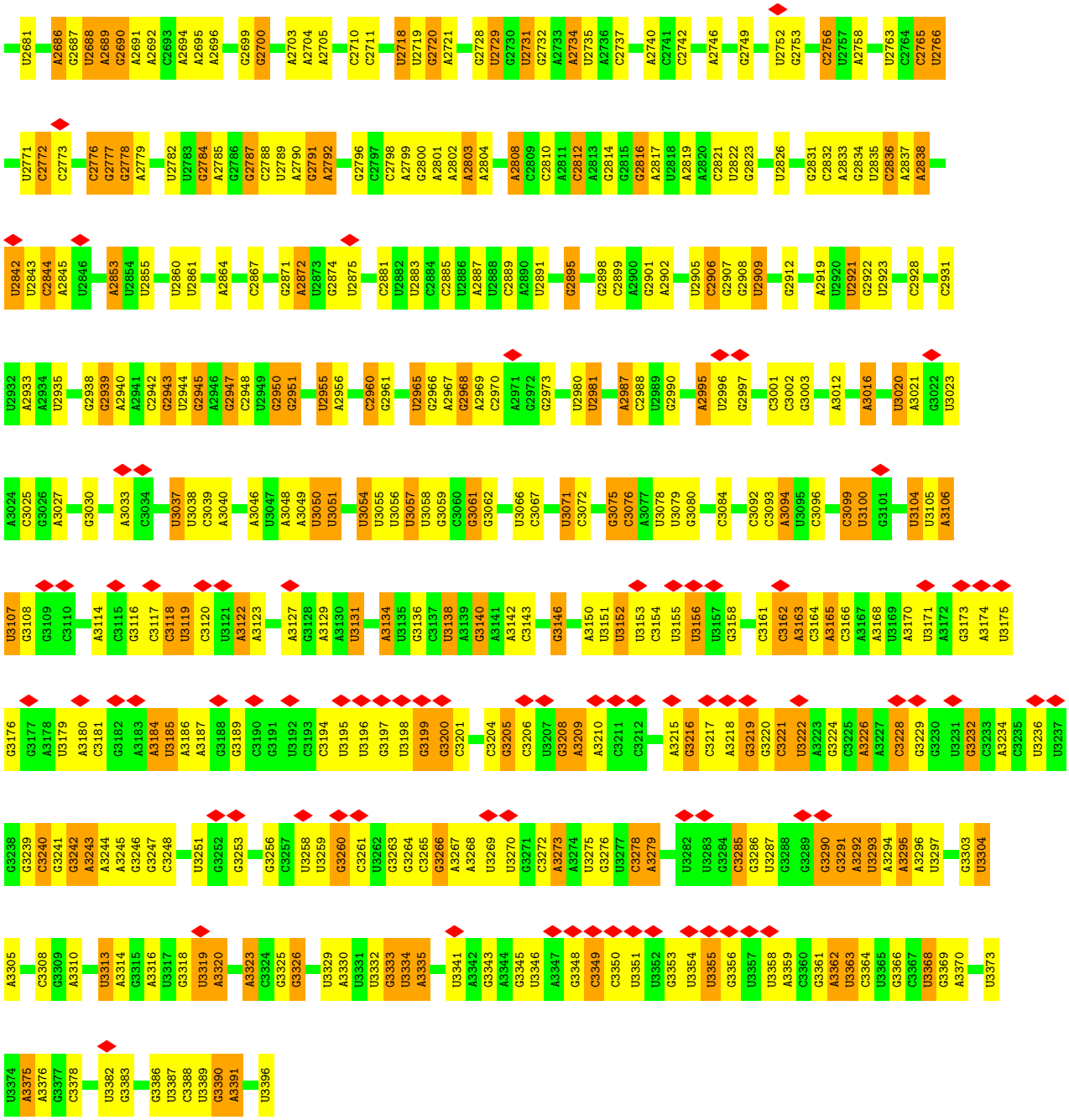
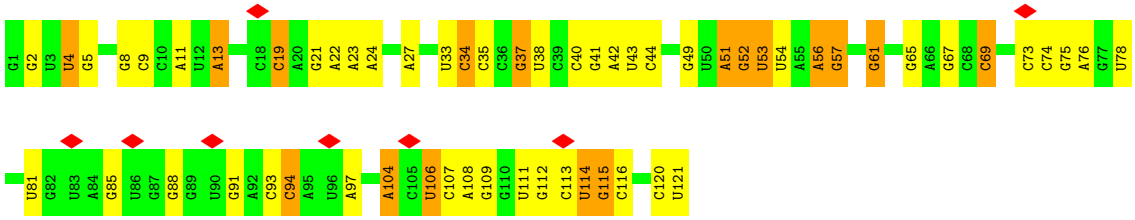
U669 C670 U671 A672 U673 G674 C675 G676 A677 G678 U679 G680 U681 U682 U683 G684
A690 A691 A692 A693
C696 A697 U698 A699 C700 G701 C702 G703 U704 A705 G708 A709 A710 A711
G712 A715 A716 C717 G718 U719 A720 G721 G722 U723 U724 G725 G726 G727 C730 C734 A735 A736 G737 A738 G739 G740 U741 G742 C745 G746 A747 G750 A751 C752 C753 U759 G760 A761 U762 G763 U764 C765 U766 U767 G768 G769 G773 G774 A775 U776 U777 U778 G779 A780 G781 U782 A783
A784 G785 A786 G787 U790 A791 G792 C793 U794 A801 C802 A806 A807 A808 U811 G812 G813 U814 G815 A816 A817 A820 C824 U825 G826 U829 A830 G831 G832 G833 U834 G835 A836 A837 C840 A843 G844 G845 A846 A847 A848 C849 U850 G856 G857 A858 U862 C863 G864
C868 G869 G870 U871 U872 C873 U874 G875 U879 A883 A884 U885 C886 C890 G891 U892 G893 G894 A895 A896 U897 U898 G902 U903 A904 G907 G908 G909 G910 G911 G912 A913 A914 A915 G916 A917 C918 U919 A920 A921 U922 C923 G924 A925 C931 U932 A936 G937 G938 U939 G940 G941
C944 C949 G950 A951 A952 G953 C959 U960 C961 A962 U966 A967 G968 G971 A972 C975 U976 C977 G978 U979 A980 U981 C982 A983 G984 U987 U988 G991 A992 G993 G994 U995 A996 A997 G1001 A1002 A1003 U1004 G1005 A1006 U1007 G1010 G1013 U1014 U1015 C1016 C1017 G1018 G1019
G1020 G1021 U1022 C1023 G1024 A1025 A1026 A1027 U1028 G1029 A1030 C1031 C1032 U1033 A1036 U1039 A1040 U1041 U1042 C1043 U1044 C1045 A1046 A1047 A1048 U1056 A1057 A1064 A1065 G1066 U1067 C1068 C1069 U1070 U1071 A1079 A1080 U1081 U1082 G1083 A1084 A1085 C1086 G1087 U1088 A1093 U1094 U1095 U1096 G1097 A1098 A1099 U1100 G1101
A1102 A1103 G1104 A1105 G1106 C1107 U1110 U1111 A1112 G1113 U1114 G1115 G1116 G1117 C1118 C1119 U1122 G1126 G1127 U1128 G1131 C1132 U1138 A1143 U1144 G1145 C1146 G1149 A1150 U1151 G1152 A1153 A1154 C1155 C1156 G1157 A1158 A1159 U1162 A1163 G1164 U1167 U1168 A1169 A1170 G1171 G1172 U1173 G1174 C1175 C1176
G1177 G1178 A1179 A1180 U1181 A1182 C1183 A1184 C1185 G1186 C1187 U1188 C1189 A1190 U1191 C1192 C1196 C1201 A1202 A1203 G1207 U1208 G1209 A1212 G1213 C1216 A1217 U1218 C1219 U1220 A1221 G1222 A1223 C1224 A1225 G1226 C1227 C1228 G1229 G1230 A1231 C1232 G1233 G1234 U1235 G1236 G1237 C1238 C1239 A1240 U1241 G1242 G1243 A1244 A1245
G1246 U1247 C1248 G1249 G1250 A1251 A1252 U1253 C1254 C1255 G1256 C1257 U1258 A1259 A1260 G1261 G1262 A1263 G1264 U1265 G1266 U1267 G1268 U1269 A1270 A1271 C1272 A1273 A1274 C1275 U1276 C1277 A1278 C1279 C1280 G1281 G1282 C1283 C1284 G1285 A1286 A1287 U1288 G1289 A1290 G1295 C1296 C1297 C1298 U1299 G1300 A1301 A1302 A1303 A1304 U1305 G1306 G1307 A1308
U1309 G1310 U1315 C1316 A1317 A1318 G1319 G1323 U1324 U1325 A1326 C1327 C1328 U1329 A1330 U1331 C1335 U1336 G1340 G1344 G1345 G1346 U1347 U1348 G1349 A1350 U1351 A1352 U1353 C1354 G1357 C1358 C1359 C1360 U1361 C1362 A1363 C1364 G1367 U1368 A1369 G1370 G1371 C1372 A1373 G1374 G1375 C1376 G1377 G1380 A1381 G1382
G1383 U1384 C1385 A1386 G1387 A1390 C1391 G1392 A1393 U1398 A1399 G1400 A1401 C1402 C1403 U1415 A1419 C1420 G1421 G1422 C1423 C1424 U1425 C1426 G1429 U1430 G1434 A1435 U1436 C1437 U1438 U1439 G1440 G1441 U1442 G1443 G1444 U1445 A1446 G1447 U1448 A1449 G1450 C1451 A1452 U1455 A1456 C1459 A1460 A1461 A1462 U1463
G1464 A1465 G1466 A1467 A1468 U1479 G1480 A1481 A1482 G1483 U1484 G1485 G1486 G1487 G1488 G1493 U1494 U1495 A1498 C1499 C1502 A1503 A1504 C1505 A1506 G1507 C1508 U1511 G1514 G1519 G1520 A1524 G1525 U1526 C1527 U1530 C1531 C1532 U1533 A1534 A1535 G1538 A1539 U1540 G1541 G1542 G1543 G1544 A1545 A1546
G1547 U1554 U1555 C1556 A1557 A1558 A1559 G1560 G1561 C1562 C1563 U1564 G1565 A1566 U1567 U1568 U1569 U1570 A1571 U1572 G1573 C1574 A1575 G1576 G1577 C1578 C1579 A1580 C1581 C1582 A1583 A1587 A1588 A1589 G1590 G1591 G1592 A1593 A1594 U1595 C1596 C1597 G1598 G1599 U1600 U1601 A1602 A1603 G1604 A1605 U1606 U1607 G1611 A1612 G1618 A1619





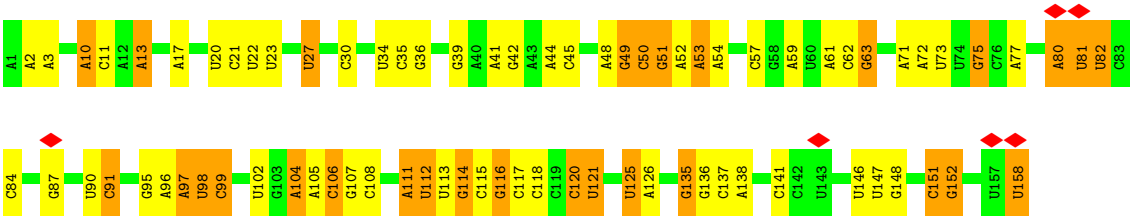
• Molecule 2: 5S RRNA

Chain 3:



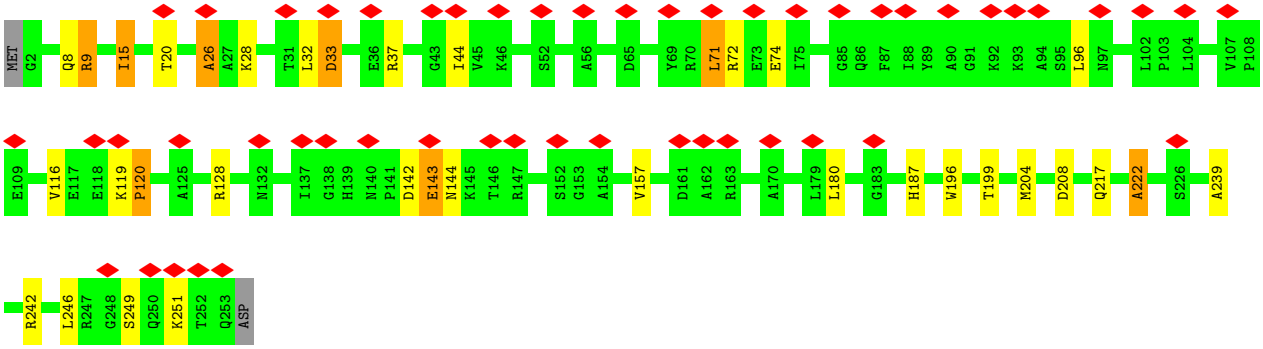
• Molecule 3: 5.8S RRNA

Chain 4:



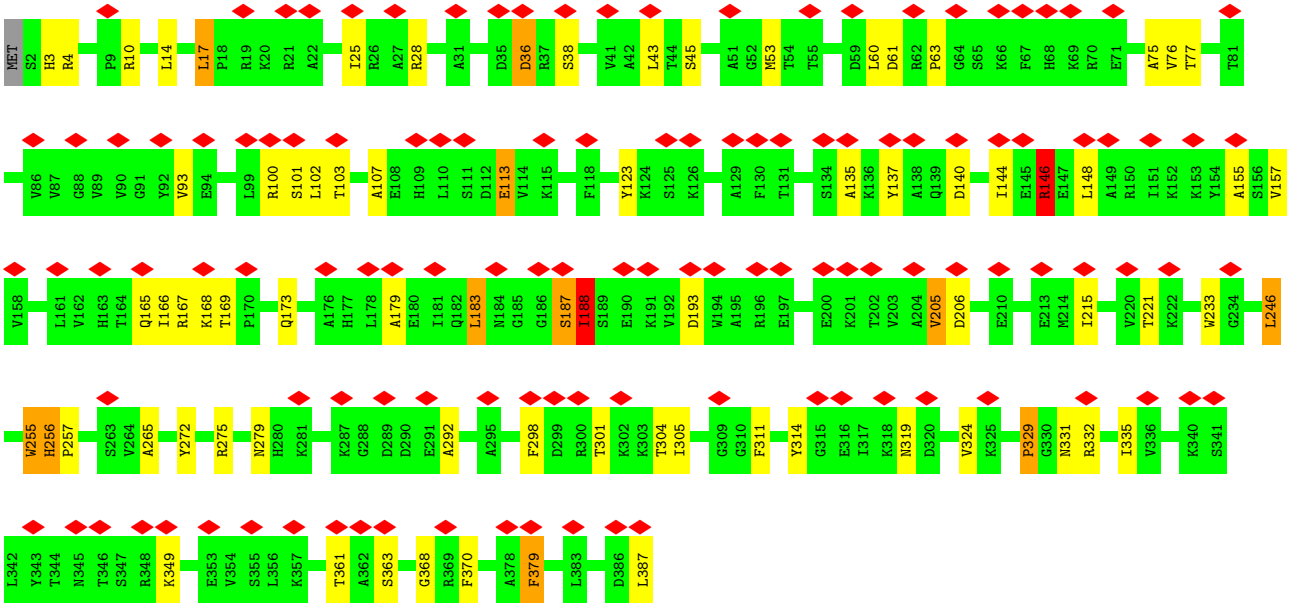
• Molecule 4: UL2

Chain A:



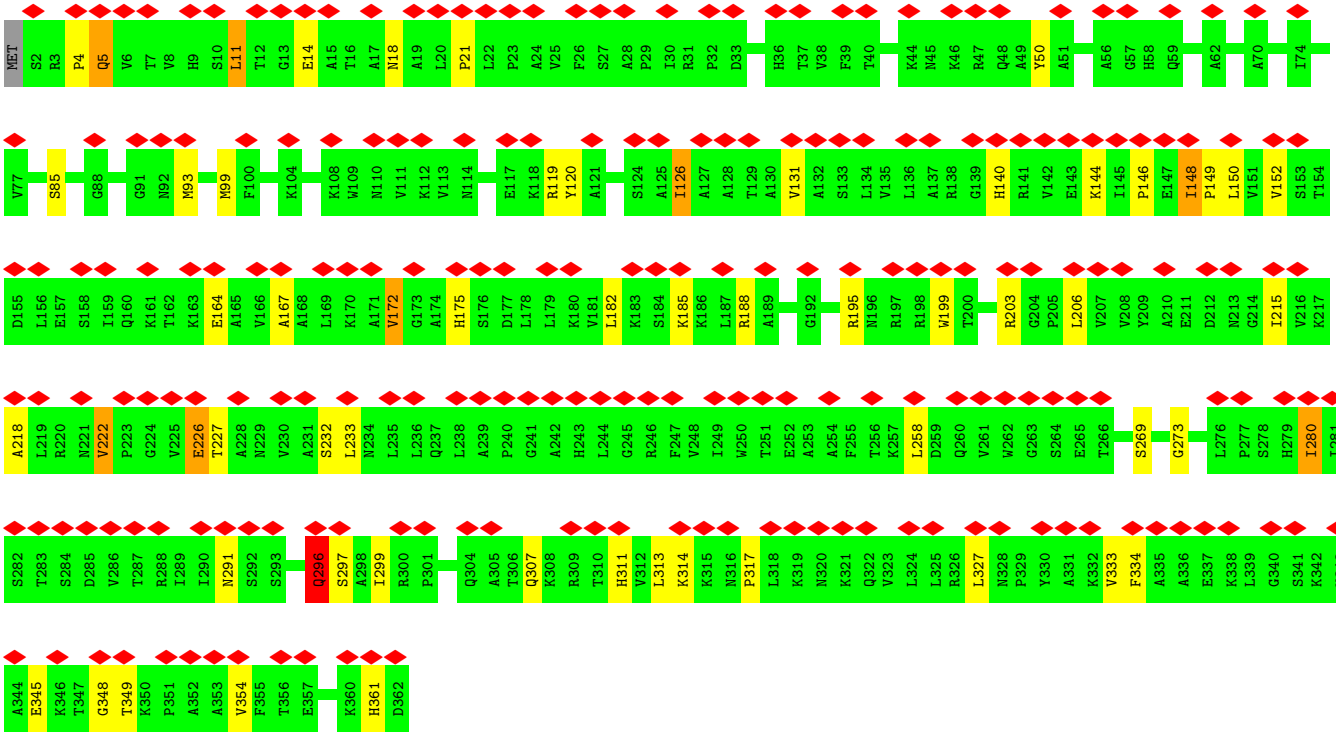
• Molecule 5: UL3

Chain B:



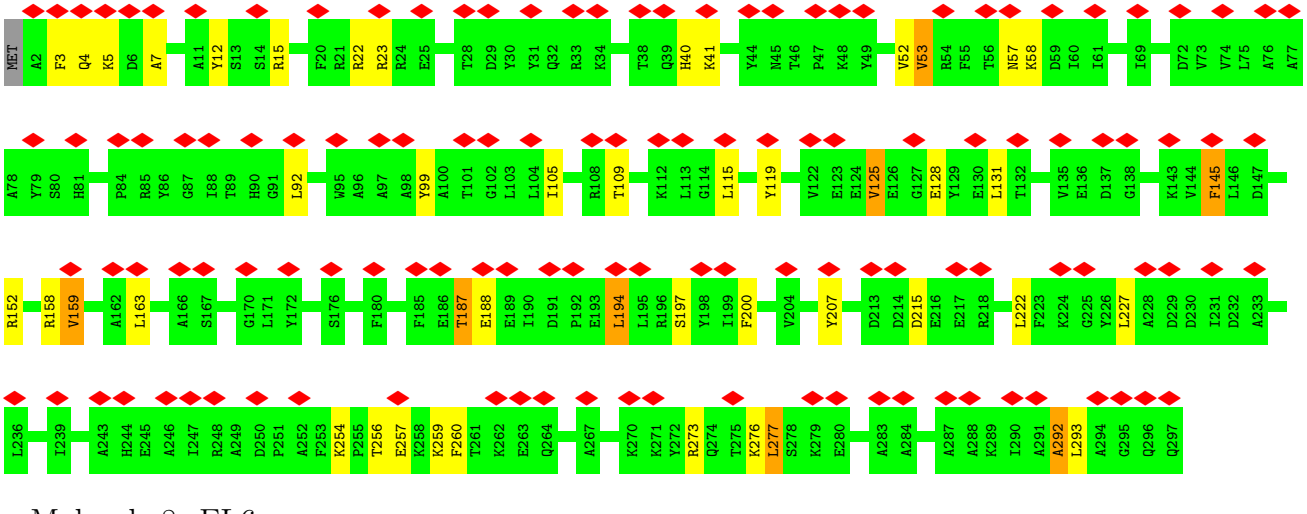
• Molecule 6: UL4

Chain C:



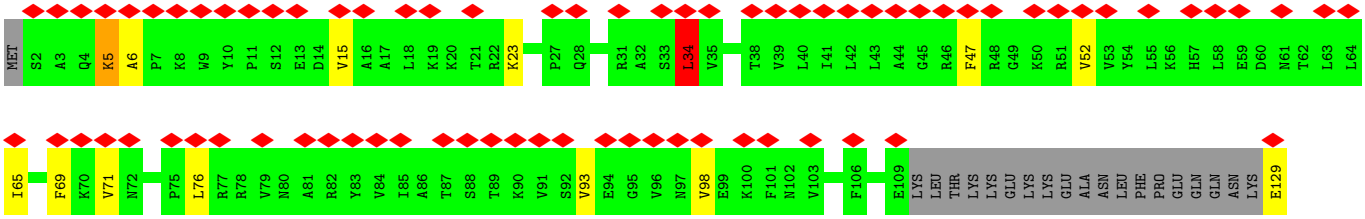
• Molecule 7: UL18

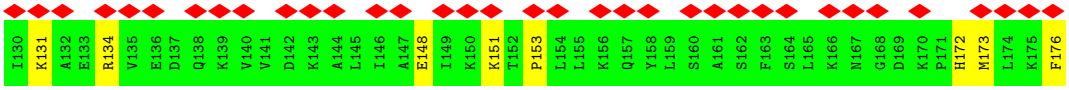
Chain D:



• Molecule 8: EL6

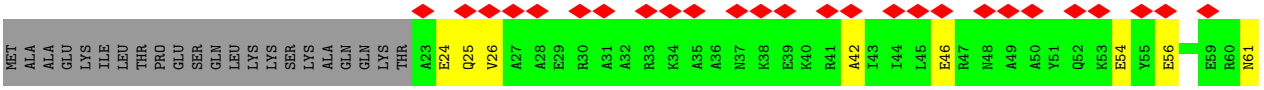
Chain E:

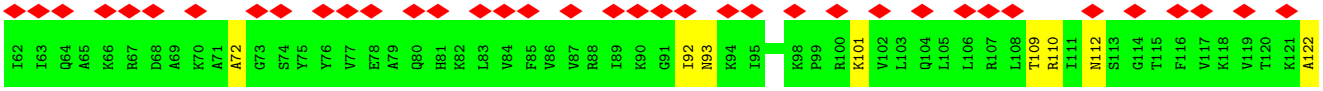


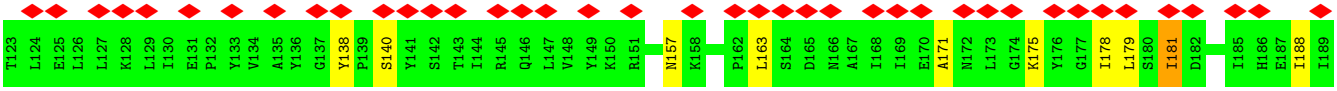


• Molecule 9: UL30

Chain F:

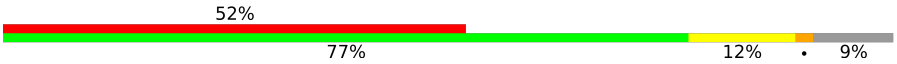


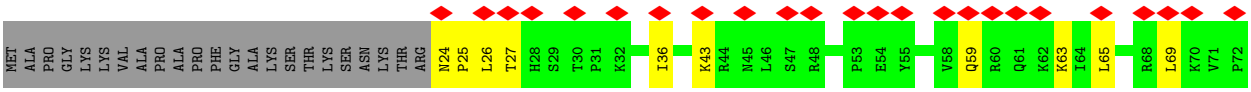


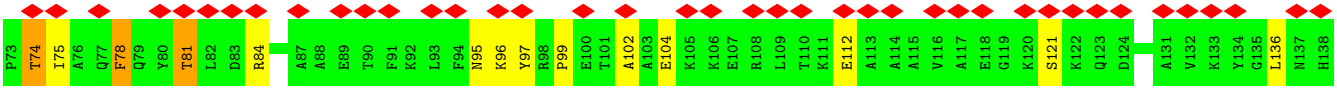


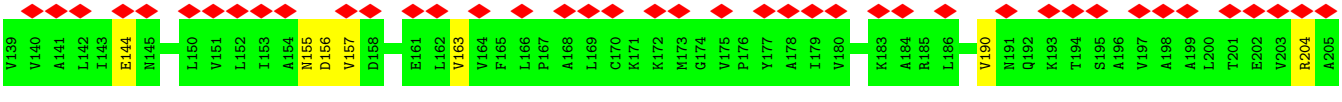
• Molecule 10: EL8

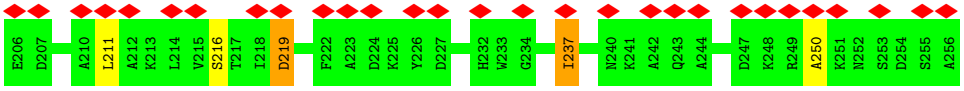
Chain G:





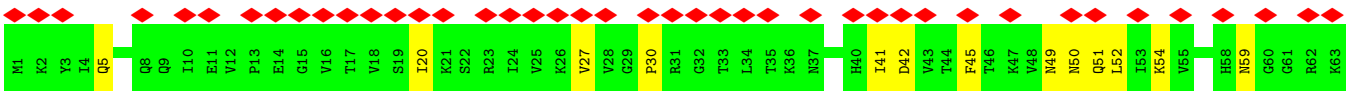


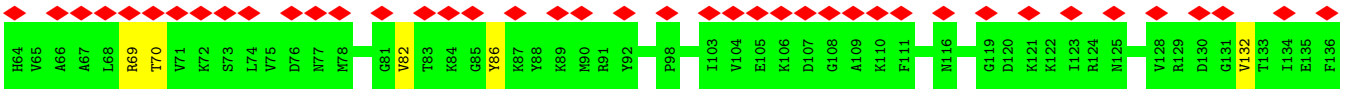


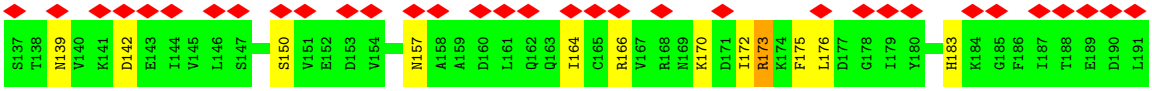


• Molecule 11: UL6

Chain H:

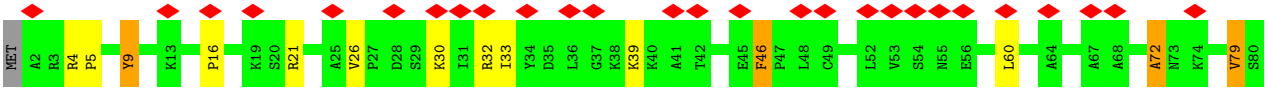


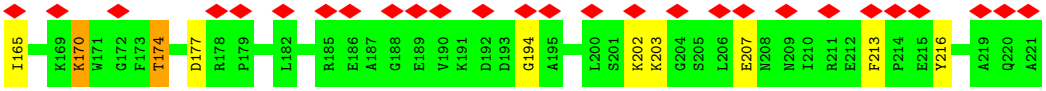




• Molecule 12: UL16

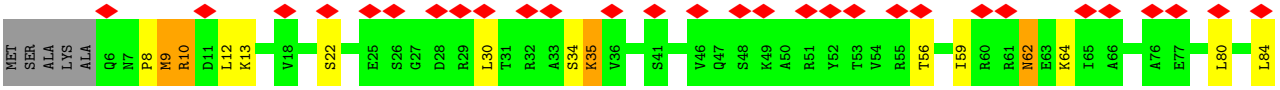
Chain I:

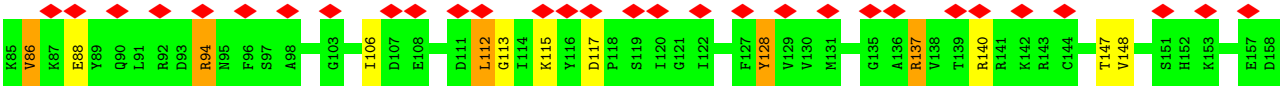


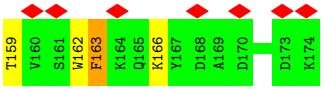


• Molecule 13: UL5

Chain J:

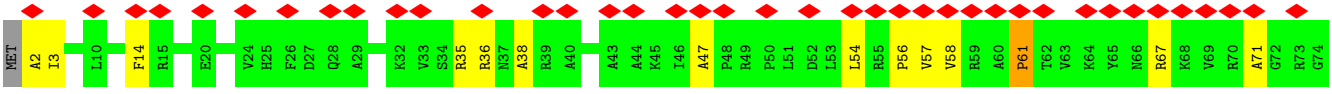


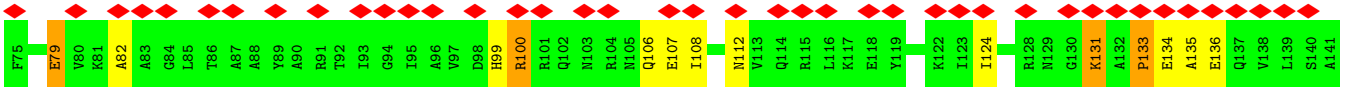


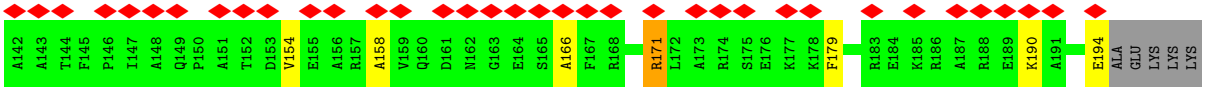


• Molecule 14: EL13

Chain L:

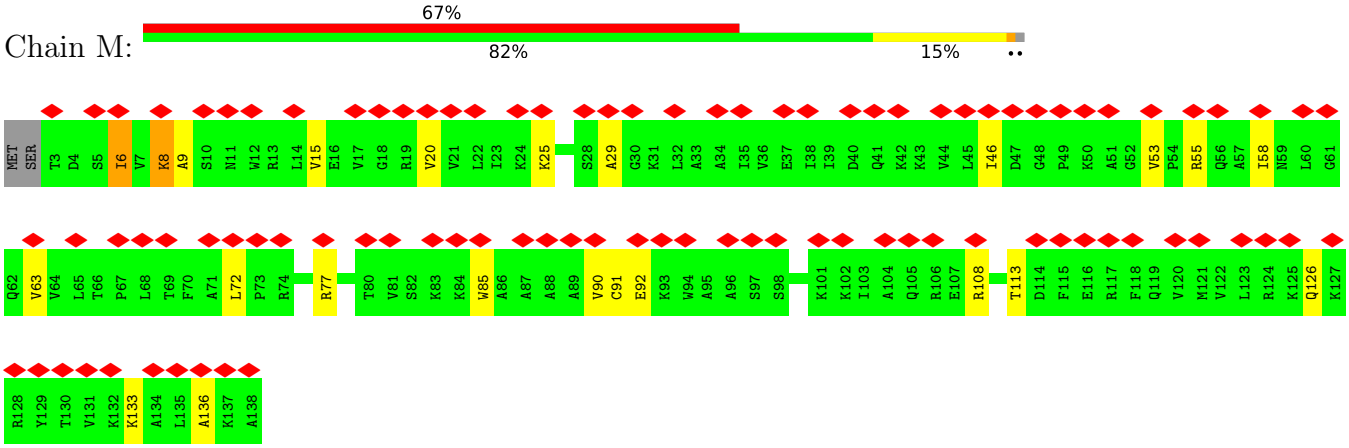






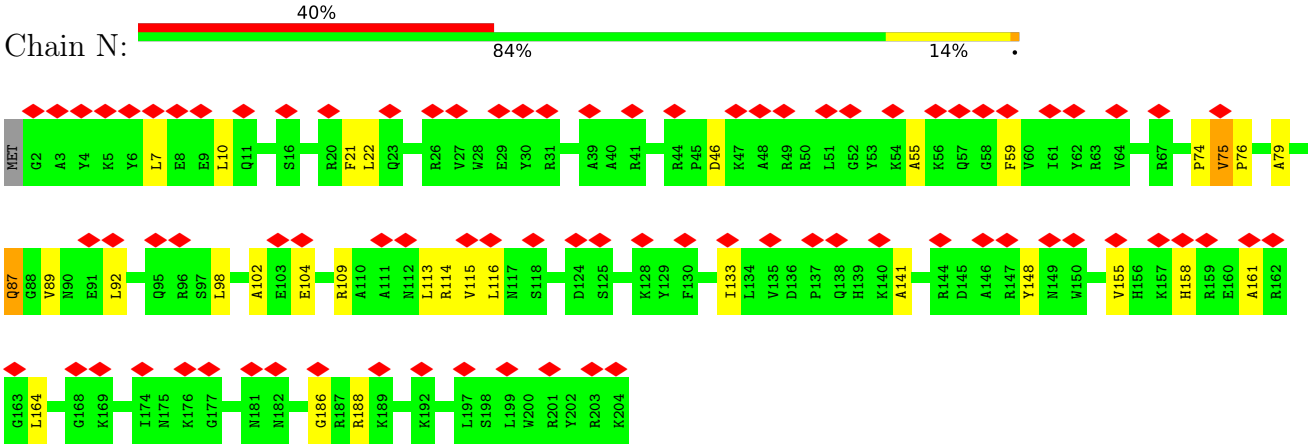
• Molecule 15: EL14

Chain M:



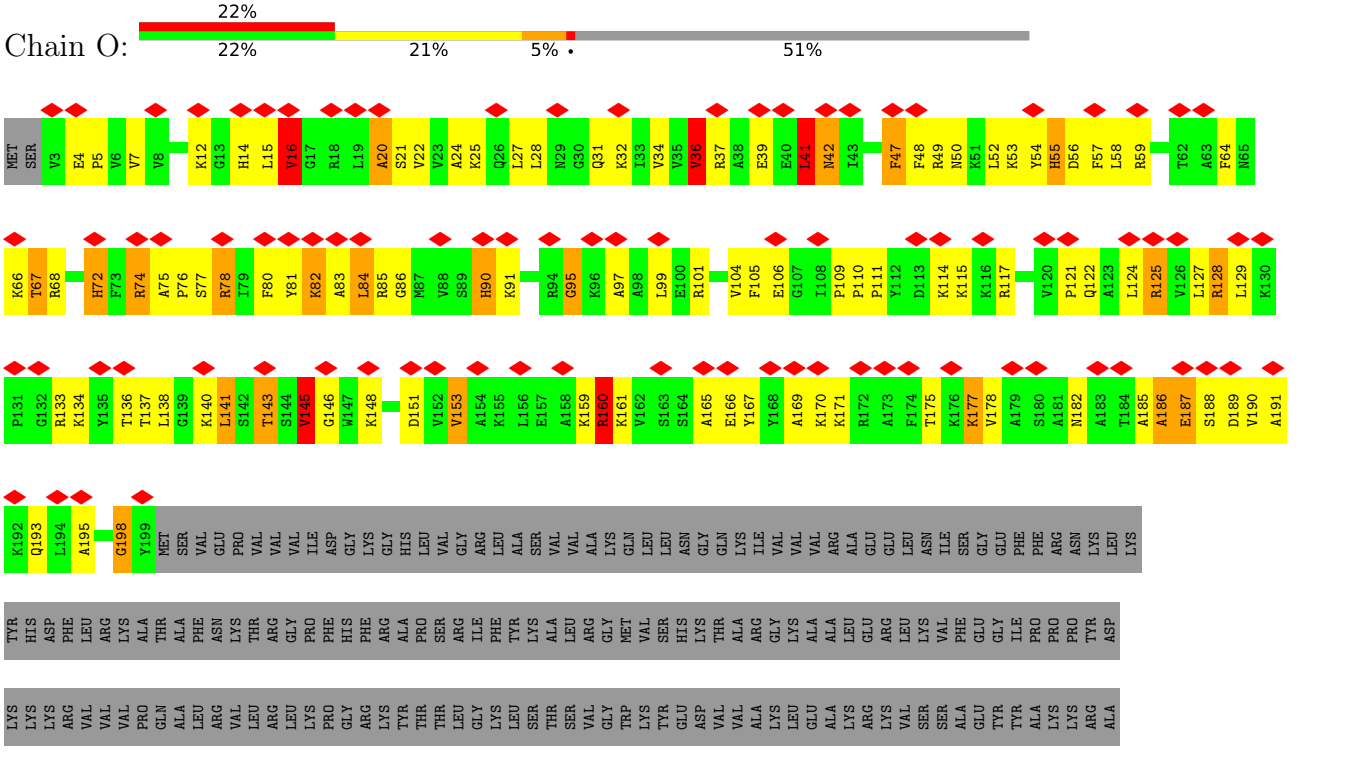
• Molecule 16: EL15

Chain N:



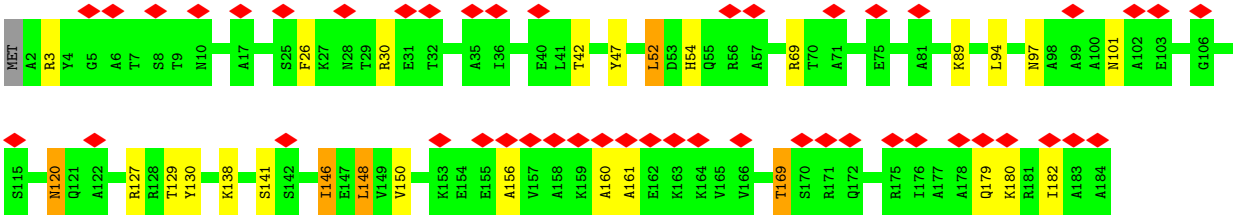
• Molecule 17: UL13

Chain O:



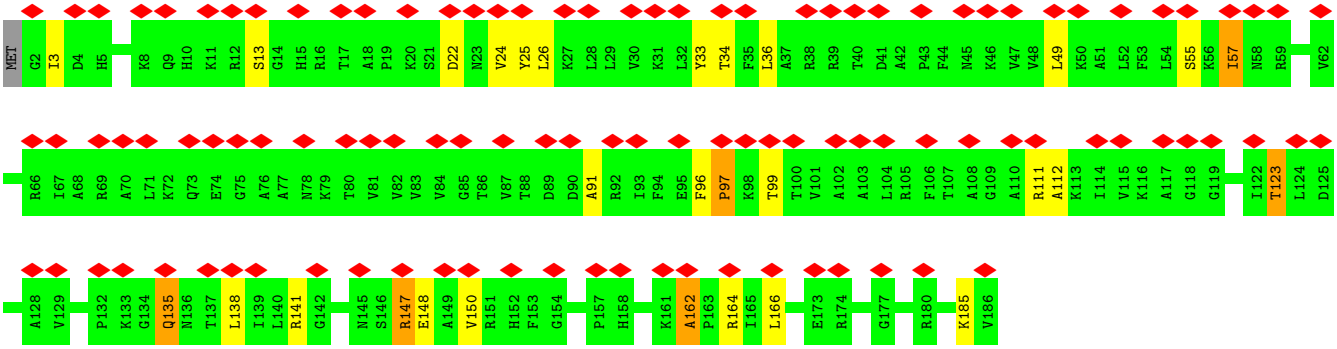
- Molecule 18: UL22

Chain P:



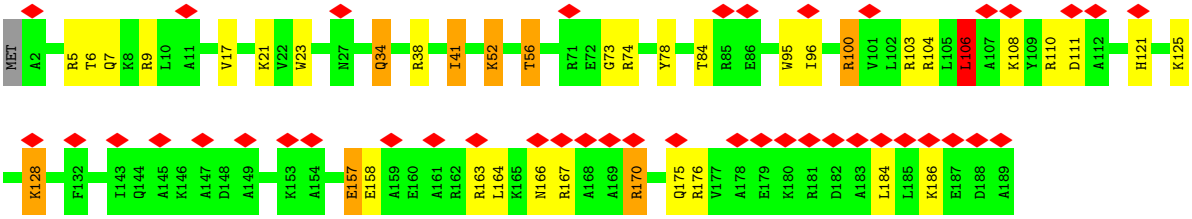
- Molecule 19: EL18

Chain Q:



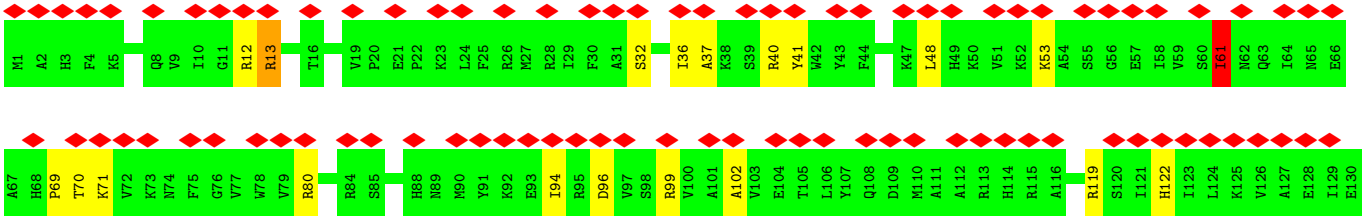
- Molecule 20: EL19

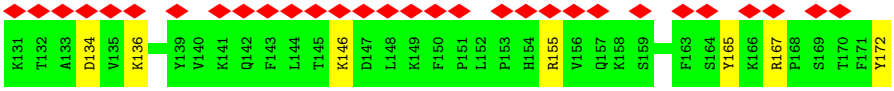
Chain R:



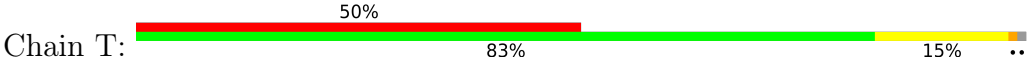
- Molecule 21: EL20

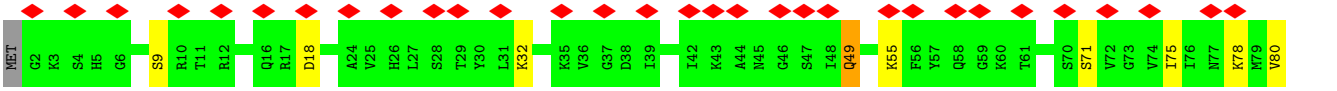
Chain S:

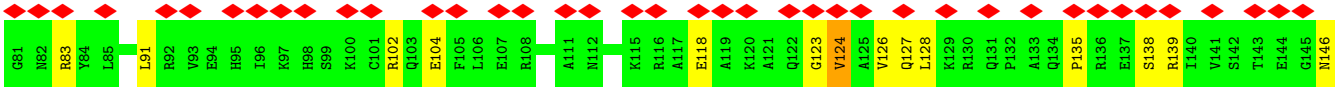


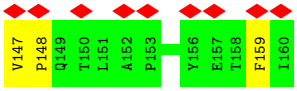


• Molecule 22: EL21

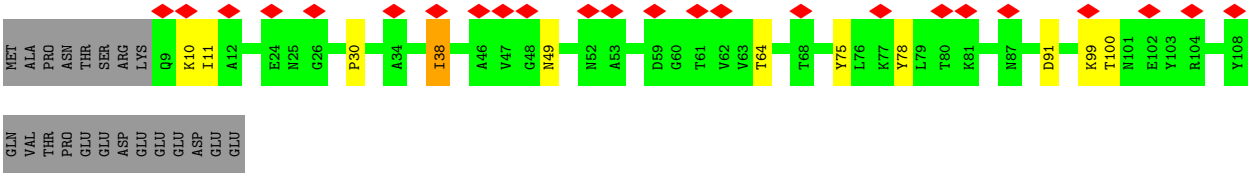




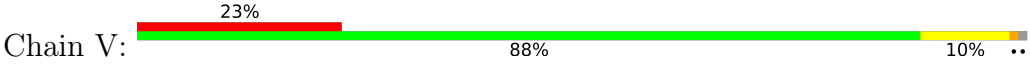


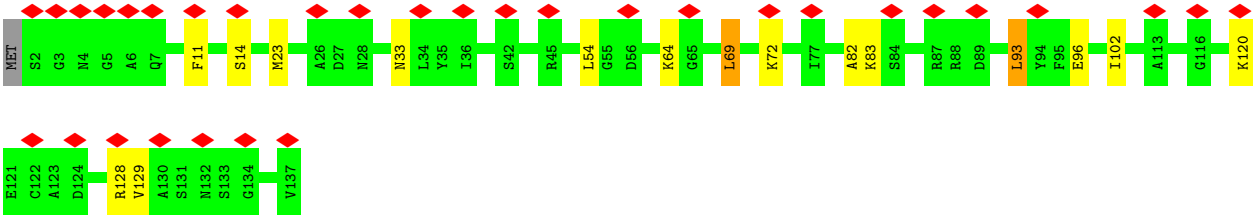


• Molecule 23: EL22

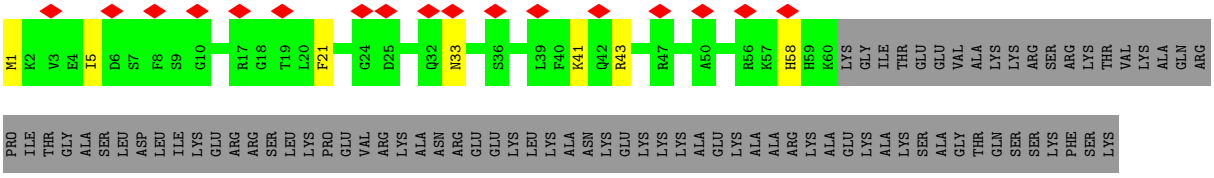


• Molecule 24: UL14



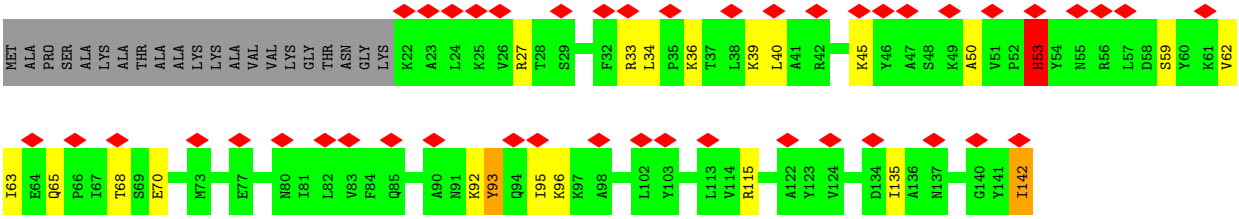


• Molecule 25: EL24



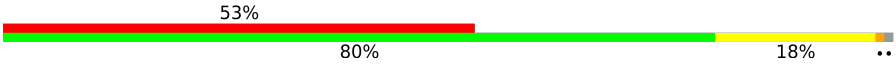
• Molecule 26: UL23

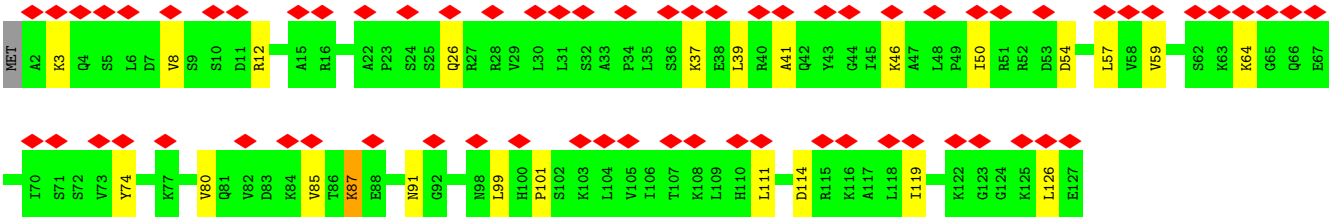
Chain X:



• Molecule 27: UL24

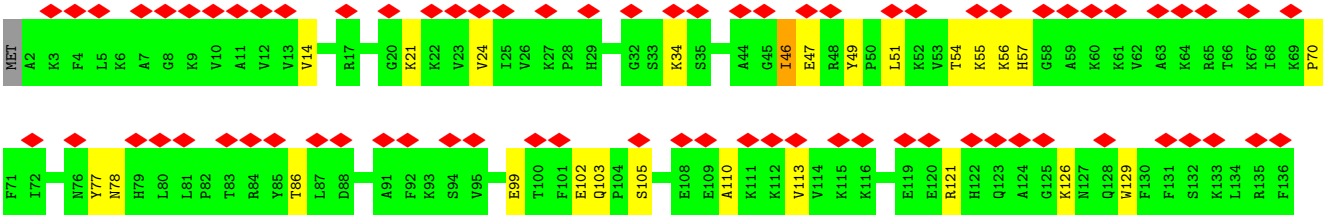
Chain Y:





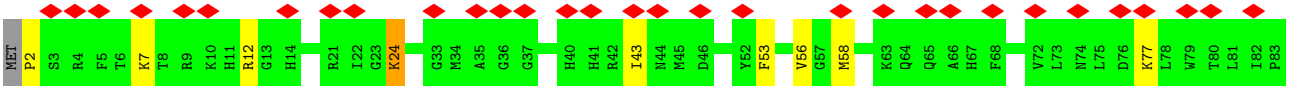
• Molecule 28: EL27

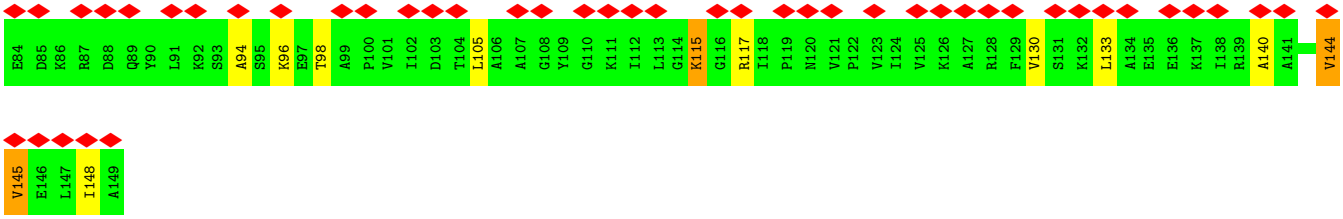
Chain Z:



• Molecule 29: UL15

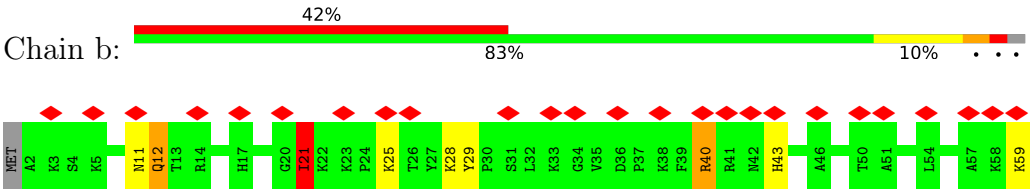
Chain a:





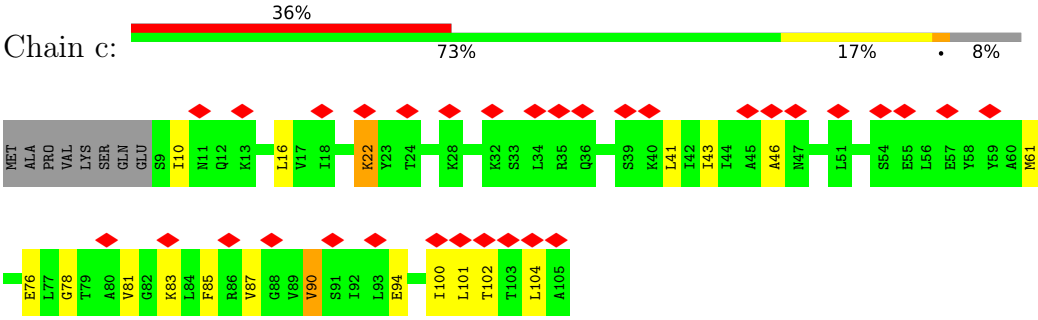
• Molecule 30: EL29

Chain b:



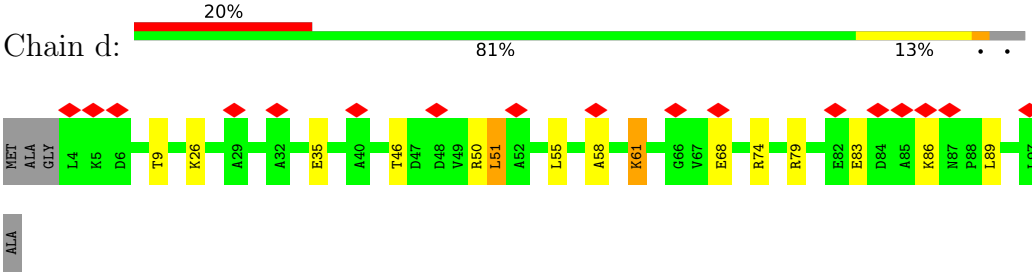
• Molecule 31: EL30

Chain c:



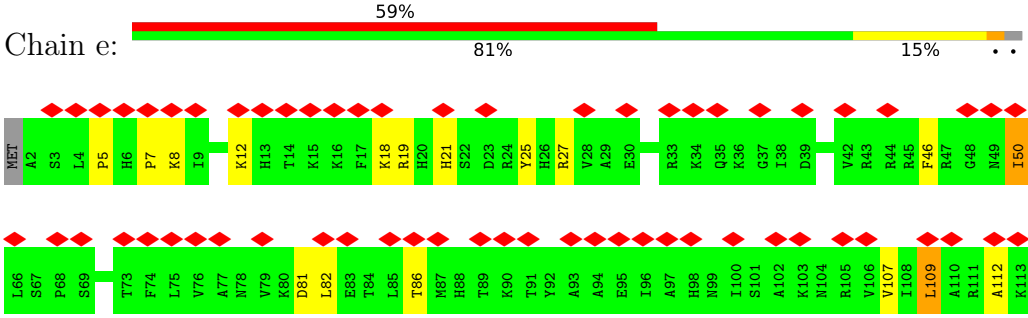
• Molecule 32: EL31

Chain d:



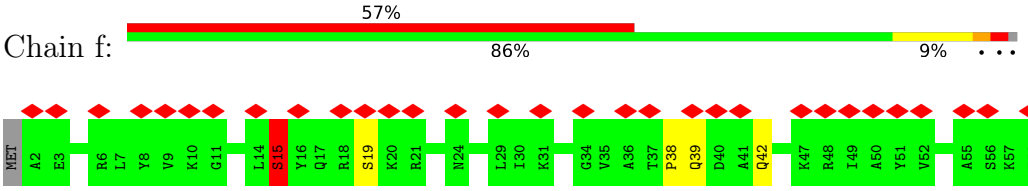
• Molecule 33: EL32

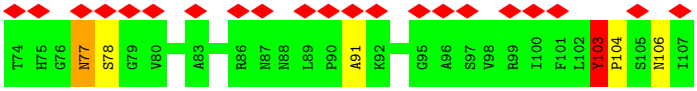
Chain e:



• Molecule 34: EL33

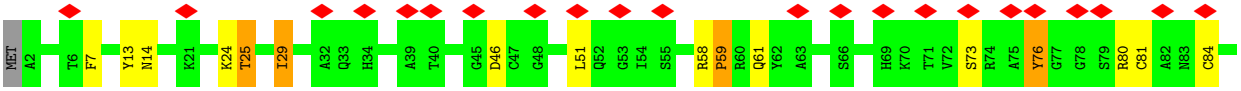
Chain f:

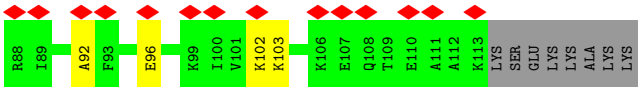




• Molecule 35: EL34

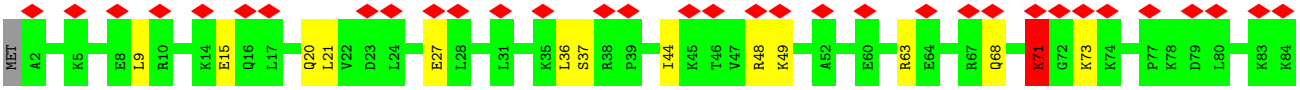
Chain g:

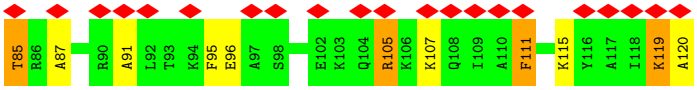




• Molecule 36: UL29

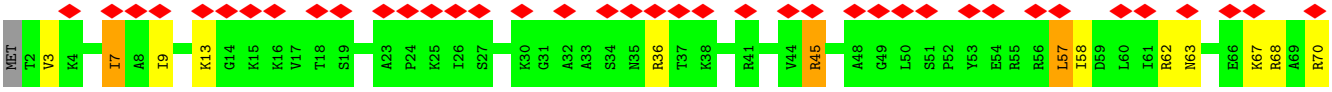
Chain h:

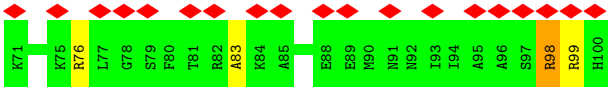




• Molecule 37: EL36

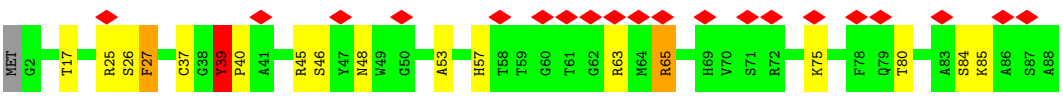
Chain i:





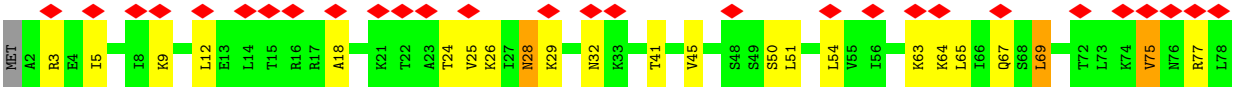
• Molecule 38: EL37

Chain j:

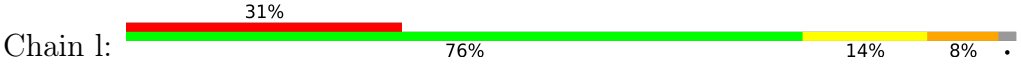


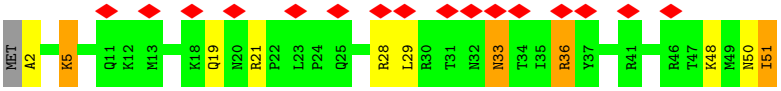
• Molecule 39: EL38

Chain k:

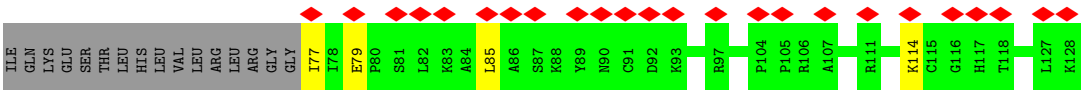


• Molecule 40: EL39

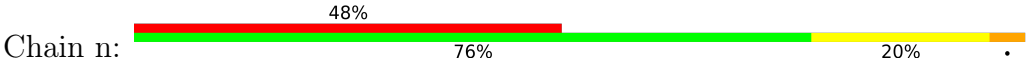


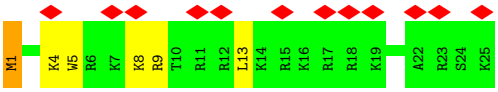


• Molecule 41: EL40

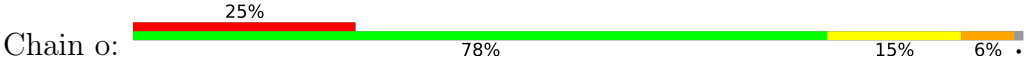


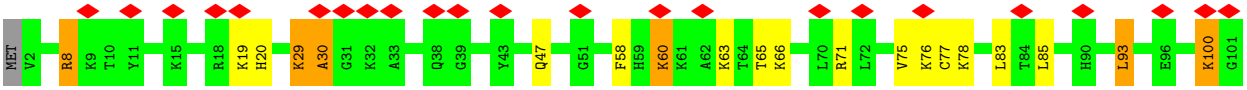
• Molecule 42: EL41

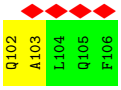




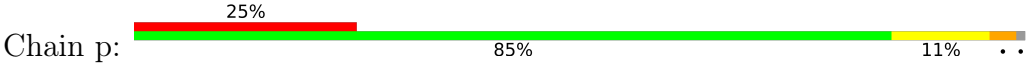
• Molecule 43: EL42

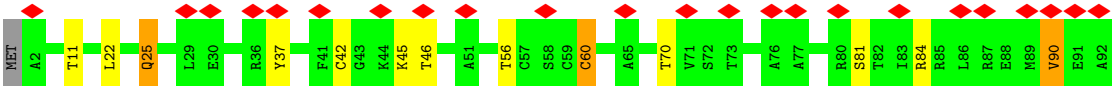




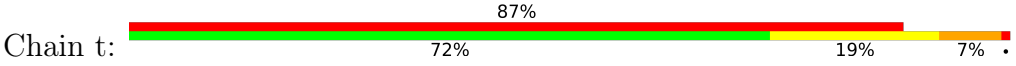


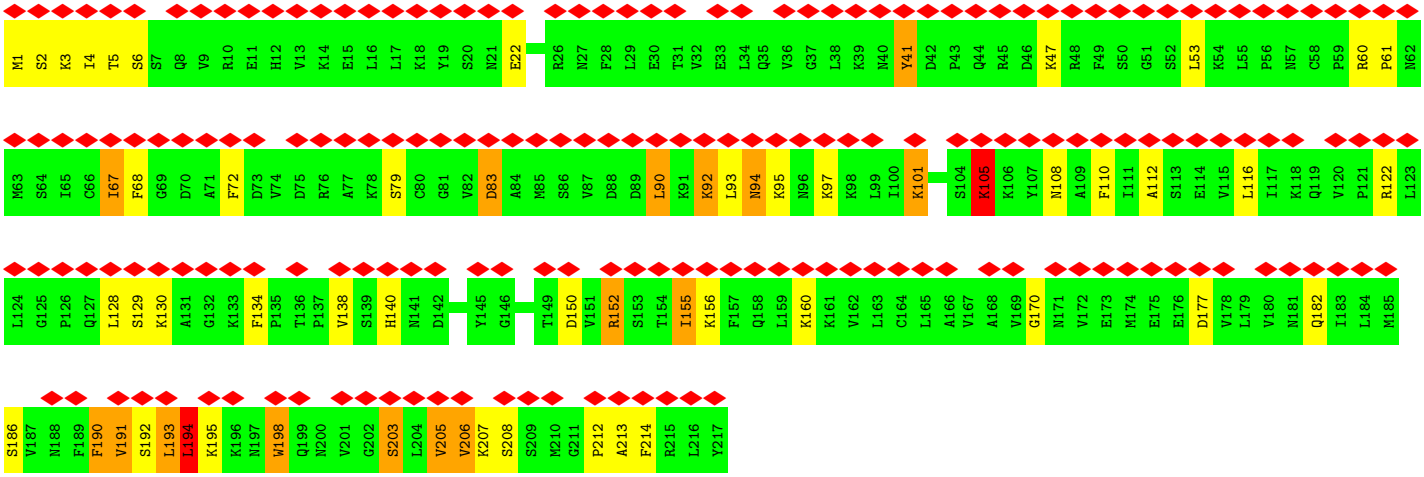
• Molecule 44: EL43





• Molecule 45: UL1




M1 S2 K3 I4 T5 S6 S7 Q8 V9 R10 E11 H12 V13 K14 E15 L16 L17 K18 Y19 S20 N21 E22 R26 N27 F28 L29 E30 T31 V32 E33 L34 Q35 V36 G37 L38 K39 N40 Y41 D42 P43 Q44 R45 D46 K47 R48 F49 S50 G51 S52 L53 K54 L55 P56 N57 C58 P59 R60 P61 N62
M63 S64 I65 C66 I67 F68 G69 D70 A71 F72 D73 V74 D75 R76 A77 K78 S79 C80 G81 V82 D83 A84 M85 S86 V87 D88 D89 L90 K91 K92 L93 N94 K95 N96 K97 K98 L99 I100 K101 S104 K105 K106 Y107 N108 A109 F110 I111 A112 S113 E114 V115 L116 I117 K118 Q119 V120 P121 R122 L123
L124 G125 P126 Q127 L128 S129 K130 A131 G132 K133 F134 P135 T136 P137 V138 S139 H140 N141 D142 Y145 G146 T149 D150 V151 R152 S153 T154 I155 K156 F157 Q158 L159 K160 K161 V162 L163 C164 L165 A166 V167 A168 V169 G170 N171 V172 E173 M174 E175 E176 D177 V178 L179 V180 N181 Q182 I183 L184 M185
S186 V187 N188 F189 F190 V191 S192 L193 L194 K195 K196 N197 W198 Q199 N200 V201 G202 S203 L204 V205 V206 K207 S208 S209 M210 G211 P212 A213 F214 R215 L216 Y217

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	18132	Depositor
Resolution determination method	Not provided	
CTF correction method	EACH PARTICLE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	1.8	Depositor
Maximum defocus (nm)	3	Depositor
Magnification	47000	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	1.275	Depositor
Minimum map value	-0.841	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.050	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	428.80002, 428.80002, 428.80002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.34, 1.34, 1.34	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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	1	0.86	28/76106 (0.0%)	1.13	1805/117228 (1.5%)
2	3	0.27	0/2857	1.10	75/4387 (1.7%)
3	4	1.27	3/3723 (0.1%)	1.19	101/5740 (1.8%)
4	A	0.34	0/1881	0.90	15/2416 (0.6%)
5	B	0.38	0/3064	0.97	35/3982 (0.9%)
6	C	0.36	0/2721	0.90	19/3553 (0.5%)
7	D	0.38	0/2353	0.91	18/3055 (0.6%)
8	E	0.35	0/1233	0.88	9/1613 (0.6%)
9	F	0.35	0/1773	0.90	14/2307 (0.6%)
10	G	0.35	0/1771	0.89	16/2286 (0.7%)
11	H	0.36	0/1493	0.89	12/1935 (0.6%)
12	I	0.75	1/1690 (0.1%)	0.88	12/2182 (0.5%)
13	J	0.35	0/1339	0.92	10/1737 (0.6%)
14	L	0.82	1/1518 (0.1%)	0.98	16/1956 (0.8%)
15	M	0.32	0/1040	0.77	4/1354 (0.3%)
16	N	0.35	0/1706	0.87	12/2201 (0.5%)
17	O	2.16	23/1577 (1.5%)	4.80	87/2104 (4.1%)
18	P	0.35	0/1400	0.91	13/1815 (0.7%)
19	Q	0.33	0/1417	0.96	12/1821 (0.7%)
20	R	0.58	1/1492 (0.1%)	1.10	22/1912 (1.2%)
21	S	0.32	0/1435	0.88	10/1852 (0.5%)
22	T	0.33	0/1266	0.82	4/1641 (0.2%)
23	U	0.38	0/788	0.81	3/1027 (0.3%)
24	V	0.36	0/984	0.86	5/1267 (0.4%)
25	W	0.31	0/496	0.73	2/632 (0.3%)
26	X	0.30	0/957	0.76	5/1255 (0.4%)
27	Y	0.32	0/974	0.95	11/1251 (0.9%)
28	Z	0.38	0/1080	0.97	7/1383 (0.5%)
29	a	0.32	0/1163	0.82	8/1489 (0.5%)
30	b	0.31	0/456	0.94	4/578 (0.7%)
31	c	0.38	0/727	0.96	7/936 (0.7%)
32	d	0.32	0/867	0.81	4/1127 (0.4%)
33	e	0.32	0/1015	0.91	5/1316 (0.4%)
34	f	0.36	0/837	0.95	8/1075 (0.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	g	0.39	0/863	1.12	13/1108 (1.2%)
36	h	0.31	0/948	0.85	9/1211 (0.7%)
37	i	0.33	0/748	0.92	7/944 (0.7%)
38	j	0.37	0/674	0.97	8/857 (0.9%)
39	k	1.22	1/599 (0.2%)	0.93	6/769 (0.8%)
40	l	0.39	0/431	1.01	6/552 (1.1%)
41	m	0.30	0/409	0.64	0/520
42	n	0.66	0/228	1.00	1/282 (0.4%)
43	o	0.37	0/843	0.99	10/1085 (0.9%)
44	p	0.36	0/684	0.86	5/883 (0.6%)
45	t	0.48	0/1692	1.11	24/2183 (1.1%)
All	All	0.77	58/133318 (0.0%)	1.17	2479/192807 (1.3%)

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
1	1	103	0
2	3	1	0
3	4	4	0
4	A	7	0
5	B	11	3
6	C	11	3
7	D	6	0
8	E	3	0
9	F	5	0
10	G	6	0
11	H	5	0
12	I	4	0
13	J	3	0
14	L	6	1
15	M	2	0
16	N	2	0
17	O	3	16
18	P	5	0
19	Q	4	0
20	R	13	0
21	S	5	0
22	T	6	0
24	V	3	0

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Mol	Chain	#Chirality outliers	#Planarity outliers
25	W	2	0
26	X	2	0
27	Y	4	0
28	Z	2	0
29	a	3	0
30	b	2	0
31	c	3	0
32	d	3	0
33	e	2	0
34	f	4	2
35	g	4	0
36	h	4	0
37	i	2	0
38	j	3	1
40	l	3	0
43	o	7	0
44	p	1	0
45	t	8	5
All	All	277	31

All (58) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	41	G	O3'-P	49.28	2.20	1.61
1	1	1708	C	O3'-P	49.19	2.20	1.61
1	1	2361	A	O3'-P	49.04	2.19	1.61
1	1	554	A	O3'-P	48.77	2.19	1.61
1	1	968	G	O3'-P	48.44	2.19	1.61
1	1	1445	U	O3'-P	47.49	2.18	1.61
1	1	920	A	O3'-P	47.13	2.17	1.61
3	4	137	C	O3'-P	47.10	2.17	1.61
1	1	2812	C	O3'-P	46.76	2.17	1.61
1	1	1637	A	O3'-P	45.90	2.16	1.61
1	1	1162	U	O3'-P	45.53	2.15	1.61
1	1	1403	C	O3'-P	45.10	2.15	1.61
1	1	1390	A	O3'-P	44.84	2.15	1.61
1	1	268	A	O3'-P	44.83	2.15	1.61
1	1	2282	U	O3'-P	44.81	2.15	1.61
1	1	952	A	O3'-P	44.64	2.14	1.61
1	1	71	A	O3'-P	44.61	2.14	1.61
3	4	36	G	O3'-P	44.37	2.14	1.61
1	1	1101	G	O3'-P	43.53	2.13	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	1557	A	O3'-P	42.33	2.12	1.61
1	1	913	A	O3'-P	41.07	2.10	1.61
1	1	858	A	O3'-P	40.39	2.09	1.61
1	1	17	G	O3'-P	40.28	2.09	1.61
1	1	2965	U	O3'-P	40.14	2.09	1.61
3	4	41	A	O3'-P	39.01	2.08	1.61
17	O	143	THR	C-N	-38.07	0.46	1.34
1	1	1931	U	O3'-P	37.85	2.06	1.61
1	1	2116	G	O3'-P	36.70	2.05	1.61
1	1	47	C	O3'-P	35.27	2.03	1.61
1	1	2178	A	O3'-P	33.14	2.00	1.61
14	L	57	VAL	C-N	28.76	2.00	1.34
39	k	51	LEU	C-N	28.68	2.00	1.34
1	1	2881	C	O3'-P	28.24	1.95	1.61
12	I	95	HIS	C-N	27.47	1.97	1.34
17	O	171	LYS	C-N	26.25	1.94	1.34
17	O	67	THR	C-N	-25.71	0.74	1.34
17	O	74	ARG	C-N	-23.44	0.80	1.34
17	O	189	ASP	C-N	21.71	1.83	1.34
1	1	2355	G	O3'-P	21.57	1.87	1.61
17	O	80	PHE	C-N	20.90	1.82	1.34
17	O	167	TYR	C-N	19.53	1.78	1.34
17	O	153	VAL	C-N	-19.33	0.89	1.34
17	O	16	VAL	C-N	-17.86	1.00	1.33
17	O	128	ARG	C-N	16.18	1.71	1.34
17	O	193	GLN	C-N	-15.34	0.98	1.34
17	O	190	VAL	C-N	14.57	1.67	1.34
17	O	90	HIS	C-N	13.64	1.65	1.34
17	O	115	LYS	C-N	13.15	1.64	1.34
17	O	72	HIS	C-N	12.73	1.63	1.34
17	O	49	ARG	C-N	11.81	1.61	1.34
17	O	95	GLY	C-N	9.85	1.56	1.34
17	O	198	GLY	C-N	8.26	1.53	1.34
17	O	166	GLU	C-N	8.12	1.52	1.34
17	O	64	PHE	C-N	7.96	1.52	1.34
17	O	186	ALA	C-N	7.46	1.51	1.34
17	O	24	ALA	C-N	7.33	1.50	1.34
17	O	177	LYS	C-N	-6.73	1.18	1.34
20	R	163	ARG	C-O	5.69	1.34	1.23

All (2479) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	O	72	HIS	O-C-N	-63.40	21.26	122.70
17	O	186	ALA	O-C-N	-61.98	23.52	122.70
17	O	64	PHE	O-C-N	-60.21	26.36	122.70
17	O	129	LEU	O-C-N	-56.56	32.21	122.70
17	O	153	VAL	O-C-N	-52.15	39.27	122.70
17	O	125	ARG	O-C-N	-51.45	40.37	122.70
17	O	160	ARG	O-C-N	-48.19	45.60	122.70
17	O	67	THR	O-C-N	-46.06	49.00	122.70
17	O	16	VAL	O-C-N	-44.88	46.91	123.20
17	O	198	GLY	O-C-N	-43.77	52.67	122.70
17	O	145	VAL	O-C-N	-43.68	48.94	123.20
17	O	167	TYR	O-C-N	-43.47	53.15	122.70
1	1	554	A	P-O3'-C3'	42.05	170.16	119.70
17	O	177	LYS	O-C-N	-37.32	62.99	122.70
17	O	74	ARG	O-C-N	-30.22	74.35	122.70
17	O	177	LYS	CA-C-N	-27.08	57.63	117.20
17	O	143	THR	O-C-N	-26.41	80.44	122.70
17	O	90	HIS	C-N-CA	-25.84	57.09	121.70
1	1	920	A	P-O3'-C3'	25.05	149.75	119.70
17	O	128	ARG	C-N-CA	-21.26	68.56	121.70
17	O	84	LEU	CA-C-N	-20.25	72.65	117.20
1	1	858	A	P-O3'-C3'	19.89	143.56	119.70
17	O	36	VAL	O-C-N	-19.84	90.95	122.70
17	O	24	ALA	C-N-CA	-19.55	72.83	121.70
1	1	2116	G	P-O3'-C3'	19.35	142.92	119.70
17	O	84	LEU	O-C-N	-19.27	91.86	122.70
1	1	1557	A	P-O3'-C3'	19.20	142.73	119.70
17	O	171	LYS	O-C-N	18.88	152.91	122.70
17	O	16	VAL	CA-C-N	-18.64	78.92	116.20
1	1	2812	C	P-O3'-C3'	-18.13	97.95	119.70
17	O	128	ARG	O-C-N	16.91	149.75	122.70
1	1	1101	G	P-O3'-C3'	-16.63	99.75	119.70
17	O	190	VAL	O-C-N	-16.54	96.23	122.70
17	O	193	GLN	O-C-N	16.54	149.16	122.70
17	O	24	ALA	O-C-N	16.52	149.13	122.70
3	4	137	C	P-O3'-C3'	16.49	139.49	119.70
17	O	171	LYS	C-N-CA	-15.90	81.96	121.70
17	O	95	GLY	CA-C-N	-15.79	82.46	117.20
17	O	145	VAL	CA-C-N	-15.68	84.84	116.20
17	O	198	GLY	CA-C-N	-15.43	83.25	117.20
17	O	190	VAL	C-N-CA	-15.29	83.47	121.70
17	O	171	LYS	CA-C-N	-15.08	84.03	117.20
17	O	24	ALA	CA-C-N	-15.01	84.19	117.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	O	36	VAL	C-N-CA	-14.56	85.29	121.70
1	1	1162	U	P-O3'-C3'	-14.35	102.48	119.70
17	O	153	VAL	C-N-CA	-14.31	85.94	121.70
17	O	190	VAL	CA-C-N	-13.98	86.44	117.20
3	4	137	C	O3'-P-O5'	-13.82	77.73	104.00
17	O	193	GLN	CA-C-N	-13.76	86.92	117.20
17	O	84	LEU	C-N-CA	-13.75	87.31	121.70
17	O	128	ARG	CA-C-N	-13.60	87.28	117.20
17	O	189	ASP	CA-C-N	-13.23	88.09	117.20
17	O	36	VAL	CA-C-N	-13.22	88.11	117.20
17	O	129	LEU	CA-C-N	-13.14	88.30	117.20
17	O	74	ARG	C-N-CA	13.00	154.21	121.70
17	O	167	TYR	CA-C-N	-12.83	88.98	117.20
17	O	16	VAL	C-N-CA	-12.71	95.61	122.30
17	O	129	LEU	C-N-CA	-12.35	90.83	121.70
17	O	95	GLY	O-C-N	-12.32	102.99	122.70
17	O	125	ARG	C-N-CA	-12.00	91.69	121.70
17	O	49	ARG	O-C-N	11.94	141.81	122.70
17	O	125	ARG	CA-C-N	-11.94	90.94	117.20
1	1	2772	C	N1-C1'-C2'	11.49	128.94	114.00
1	1	2178	A	P-O3'-C3'	-11.47	105.94	119.70
1	1	387	A	C2'-C3'-O3'	11.32	134.40	109.50
1	1	2731	U	C2'-C3'-O3'	11.28	134.32	109.50
17	O	74	ARG	CA-C-N	11.20	141.83	117.20
17	O	49	ARG	CA-C-N	-11.19	92.58	117.20
3	4	10	A	C2'-C3'-O3'	11.18	134.10	109.50
1	1	1493	G	C4'-C3'-O3'	11.09	135.18	113.00
1	1	3368	U	N1-C1'-C2'	11.06	128.37	114.00
1	1	3292	A	C2'-C3'-O3'	11.01	133.73	109.50
1	1	2881	C	OP2-P-O3'	11.00	129.41	105.20
17	O	80	PHE	CA-C-N	-10.99	93.03	117.20
17	O	189	ASP	O-C-N	-10.87	105.31	122.70
17	O	80	PHE	O-C-N	-10.80	105.41	122.70
1	1	2659	G	C2'-C3'-O3'	10.75	133.16	109.50
1	1	2655	U	C2'-C3'-O3'	10.75	133.14	109.50
1	1	167	U	C2'-C3'-O3'	10.70	133.03	109.50
1	1	1303	A	C4'-C3'-O3'	10.69	134.38	113.00
1	1	2116	G	O3'-P-O5'	-10.68	83.70	104.00
1	1	549	U	N1-C1'-C2'	10.64	127.83	114.00
44	p	37	TYR	CD1-CE1-CZ	10.60	129.34	119.80
5	B	123	TYR	CD1-CE1-CZ	10.56	129.31	119.80
17	O	160	ARG	CA-C-N	10.53	140.36	117.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2288	G	C2'-C3'-O3'	10.49	132.58	109.50
1	1	763	G	C2'-C3'-O3'	10.46	132.51	109.50
1	1	2965	U	P-O3'-C3'	10.46	132.25	119.70
7	D	12	TYR	CZ-CE2-CD2	10.33	129.09	119.80
17	O	64	PHE	CA-C-N	-10.31	94.52	117.20
5	B	314	TYR	CD1-CE1-CZ	10.31	129.08	119.80
1	1	1524	A	N9-C1'-C2'	10.29	127.38	114.00
10	G	97	TYR	CZ-CE2-CD2	10.29	129.06	119.80
11	H	86	TYR	CD1-CE1-CZ	10.29	129.06	119.80
17	O	186	ALA	CA-C-N	10.29	139.83	117.20
20	R	78	TYR	CZ-CE2-CD2	10.27	129.04	119.80
17	O	143	THR	C-N-CA	10.26	147.36	121.70
18	P	47	TYR	CZ-CE2-CD2	10.25	129.02	119.80
1	1	2355	G	OP2-P-O3'	10.23	127.71	105.20
1	1	1673	G	C2'-C3'-O3'	10.23	132.00	109.50
7	D	99	TYR	CZ-CE2-CD2	10.20	128.98	119.80
1	1	424	G	C2'-C3'-O3'	10.19	131.92	109.50
1	1	3242	G	C2'-C3'-O3'	10.14	131.81	109.50
1	1	3116	G	N9-C1'-C2'	10.14	127.18	114.00
16	N	148	TYR	CZ-CE2-CD2	10.11	128.90	119.80
35	g	13	TYR	CZ-CE2-CD2	10.06	128.85	119.80
1	1	1351	U	C2'-C3'-O3'	10.05	131.61	109.50
1	1	917	A	C2'-C3'-O3'	10.03	131.55	109.50
1	1	2511	C	N1-C1'-C2'	9.97	126.96	114.00
1	1	702	C	C2'-C3'-O3'	9.95	131.38	109.50
1	1	2139	A	C2'-C3'-O3'	9.94	131.37	109.50
1	1	244	G	C2'-C3'-O3'	9.93	131.35	109.50
1	1	2156	C	C4'-C3'-O3'	9.92	132.84	113.00
1	1	1859	A	C2'-C3'-O3'	9.91	131.31	109.50
1	1	3205	G	N9-C1'-C2'	9.91	126.89	114.00
1	1	2298	U	N1-C1'-C2'	9.85	126.80	114.00
17	O	54	TYR	CG-CD2-CE2	9.84	129.17	121.30
1	1	368	G	C2'-C3'-O3'	9.69	130.81	109.50
1	1	1425	U	C2'-C3'-O3'	9.68	130.80	109.50
1	1	1578	C	C2'-C3'-O3'	9.64	130.72	109.50
1	1	2130	G	C2'-C3'-O3'	9.64	130.71	109.50
3	4	121	U	N1-C1'-C2'	9.61	126.50	114.00
1	1	1363	A	C2'-C3'-O3'	9.61	130.63	109.50
1	1	2643	A	C2'-C3'-O3'	9.61	130.63	109.50
17	O	193	GLN	C-N-CA	-9.57	97.78	121.70
1	1	115	A	C2'-C3'-O3'	9.52	130.43	109.50
1	1	2569	A	N9-C1'-C2'	9.50	126.35	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2206	G	N9-C1'-C2'	9.48	126.33	114.00
1	1	2881	C	O3'-P-O5'	-9.47	86.00	104.00
1	1	1906	G	C2'-C3'-O3'	9.46	130.30	109.50
2	3	49	G	N9-C1'-C2'	9.46	126.29	114.00
3	4	137	C	OP2-P-O3'	9.42	125.93	105.20
1	1	1107	C	N1-C1'-C2'	9.41	126.23	114.00
1	1	835	G	C2'-C3'-O3'	9.38	130.14	109.50
1	1	1637	A	O3'-P-O5'	-9.31	86.31	104.00
1	1	2812	C	OP2-P-O3'	9.28	125.62	105.20
1	1	1056	U	C4'-C3'-O3'	9.26	131.53	113.00
1	1	511	G	N9-C1'-C2'	9.26	126.04	114.00
1	1	845	G	C2'-C3'-O3'	9.25	129.84	109.50
17	O	115	LYS	C-N-CA	-9.18	98.76	121.70
1	1	1429	G	N9-C1'-C2'	9.16	125.91	114.00
1	1	1637	A	OP1-P-O3'	9.16	125.35	105.20
1	1	3221	C	C2'-C3'-O3'	9.16	129.65	109.50
1	1	1582	C	C2'-C3'-O3'	9.12	129.56	109.50
28	Z	77	TYR	CG-CD2-CE2	9.06	128.54	121.30
1	1	920	A	OP2-P-O3'	-9.04	85.30	105.20
1	1	1560	G	C2'-C3'-O3'	9.04	129.39	109.50
1	1	677	A	N9-C1'-C2'	9.03	125.74	114.00
1	1	936	A	C2'-C3'-O3'	9.02	129.34	109.50
23	U	75	TYR	CG-CD2-CE2	8.97	128.48	121.30
1	1	1275	C	N1-C1'-C2'	8.95	125.63	114.00
1	1	2152	A	C2'-C3'-O3'	8.94	129.18	109.50
1	1	2696	A	C2'-C3'-O3'	8.94	129.16	109.50
1	1	2955	U	C2'-C3'-O3'	8.94	129.16	109.50
1	1	1270	A	C2'-C3'-O3'	8.93	129.14	109.50
1	1	765	C	C2'-C3'-O3'	8.93	129.14	109.50
1	1	1708	C	P-O3'-C3'	-8.92	109.00	119.70
2	3	4	U	C2'-C3'-O3'	8.90	129.08	109.50
1	1	1184	A	C2'-C3'-O3'	8.89	129.06	109.50
9	F	138	TYR	CG-CD1-CE1	8.89	128.41	121.30
1	1	1117	G	C2'-C3'-O3'	8.88	129.05	109.50
1	1	2939	G	C2'-C3'-O3'	8.84	128.95	109.50
1	1	520	U	N1-C1'-C2'	8.84	125.49	114.00
1	1	844	G	C2'-C3'-O3'	8.83	128.93	109.50
1	1	894	G	C2'-C3'-O3'	8.83	128.92	109.50
28	Z	49	TYR	CG-CD2-CE2	8.82	128.36	121.30
1	1	1323	G	C2'-C3'-O3'	8.82	128.90	109.50
45	t	41	TYR	CG-CD1-CE1	8.82	128.35	121.30
1	1	726	G	C2'-C3'-O3'	8.81	128.88	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2625	C	C4'-C3'-O3'	8.81	130.61	113.00
1	1	1572	U	C2'-C3'-O3'	8.77	128.78	109.50
1	1	1882	G	C2'-C3'-O3'	8.76	128.77	109.50
1	1	3184	A	C2'-C3'-O3'	8.76	128.76	109.50
1	1	132	C	C2'-C3'-O3'	8.75	128.75	109.50
1	1	1464	G	C2'-C3'-O3'	8.75	128.75	109.50
1	1	2798	C	C2'-C3'-O3'	8.74	128.72	109.50
17	O	64	PHE	C-N-CA	-8.74	99.86	121.70
1	1	739	G	C4'-C3'-O3'	8.73	130.47	113.00
35	g	13	TYR	CG-CD1-CE1	8.73	128.28	121.30
1	1	413	U	C2'-C3'-O3'	8.72	128.69	109.50
1	1	3390	G	C2'-C3'-O3'	8.72	128.68	109.50
1	1	1027	A	C2'-C3'-O3'	8.71	128.66	109.50
1	1	1282	G	C2'-C3'-O3'	8.71	128.66	109.50
1	1	1353	U	N1-C1'-C2'	8.71	125.32	114.00
1	1	427	C	C2'-C3'-O3'	8.70	128.64	109.50
1	1	831	G	C2'-C3'-O3'	8.69	128.62	109.50
1	1	2453	C	N1-C1'-C2'	8.67	125.27	114.00
3	4	98	U	C2'-C3'-O3'	8.67	128.57	109.50
1	1	3228	C	N1-C1'-C2'	8.66	125.26	114.00
1	1	542	G	C2'-C3'-O3'	8.66	128.56	109.50
1	1	2096	A	N9-C1'-C2'	8.66	125.26	114.00
17	O	95	GLY	C-N-CA	-8.65	100.07	121.70
1	1	664	U	N1-C1'-C2'	8.64	125.24	114.00
1	1	3389	U	C2'-C3'-O3'	8.64	128.50	109.50
1	1	3071	U	C2'-C3'-O3'	8.62	128.46	109.50
1	1	3266	G	N9-C1'-C2'	8.62	125.20	114.00
1	1	2116	G	OP1-P-O3'	8.62	124.15	105.20
1	1	2505	U	N1-C1'-C2'	8.61	125.19	114.00
1	1	1106	G	C4'-C3'-O3'	8.61	130.22	113.00
1	1	1367	G	N9-C1'-C2'	8.61	125.19	114.00
1	1	2501	U	N1-C1'-C2'	8.59	125.17	114.00
1	1	996	A	C2'-C3'-O3'	8.59	128.39	109.50
5	B	272	TYR	CG-CD2-CE2	8.59	128.17	121.30
17	O	153	VAL	CA-C-N	-8.58	98.32	117.20
1	1	297	G	N9-C1'-C2'	8.58	125.15	114.00
3	4	71	A	N9-C1'-C2'	8.57	125.14	114.00
1	1	320	G	C2'-C3'-O3'	8.56	128.34	109.50
17	O	143	THR	CA-C-N	8.56	136.04	117.20
1	1	2240	G	C2'-C3'-O3'	8.54	128.30	109.50
1	1	3119	U	C2'-C3'-O3'	8.54	128.29	109.50
1	1	920	A	O3'-P-O5'	8.53	120.21	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	832	G	C2'-C3'-O3'	8.53	128.26	109.50
1	1	2178	A	OP2-P-O3'	-8.51	86.47	105.20
1	1	3061	G	C2'-C3'-O3'	8.51	128.23	109.50
1	1	3304	U	C2'-C3'-O3'	8.50	128.21	109.50
1	1	1623	G	C2'-C3'-O3'	8.50	128.20	109.50
1	1	2734	A	C2'-C3'-O3'	8.50	128.19	109.50
1	1	1568	U	N1-C1'-C2'	8.49	125.04	114.00
1	1	1926	C	N1-C1'-C2'	8.49	125.04	114.00
1	1	335	G	C4'-C3'-O3'	8.49	129.98	113.00
1	1	1086	C	C2'-C3'-O3'	8.49	128.18	109.50
1	1	91	G	C5'-C4'-O4'	8.48	119.28	109.10
1	1	981	U	C2'-C3'-O3'	8.48	128.16	109.50
1	1	273	A	C2'-C3'-O3'	8.48	128.15	109.50
1	1	1547	G	C2'-C3'-O3'	8.48	128.15	109.50
1	1	2947	G	C2'-C3'-O3'	8.48	128.15	109.50
3	4	91	C	C2'-C3'-O3'	8.47	128.14	109.50
1	1	932	U	N1-C1'-C2'	8.47	125.02	114.00
1	1	282	G	C2'-C3'-O3'	8.46	128.12	109.50
1	1	181	U	N1-C1'-C2'	8.45	124.98	114.00
1	1	598	A	C2'-C3'-O3'	8.45	128.08	109.50
1	1	2933	A	C2'-C3'-O3'	8.45	128.08	109.50
3	4	120	C	C2'-C3'-O3'	8.44	128.07	109.50
23	U	78	TYR	CG-CD1-CE1	8.44	128.05	121.30
1	1	2158	A	C2'-C3'-O3'	8.44	128.06	109.50
17	O	72	HIS	C-N-CA	-8.44	100.61	121.70
1	1	1367	G	C2'-C3'-O3'	8.43	128.04	109.50
1	1	1463	U	C2'-C3'-O3'	8.43	128.03	109.50
1	1	1203	A	C2'-C3'-O3'	8.42	128.01	109.50
1	1	2450	A	N9-C1'-C2'	8.41	124.93	114.00
1	1	2507	U	C2'-C3'-O3'	8.41	127.99	109.50
1	1	3122	A	C2'-C3'-O3'	8.41	128.00	109.50
2	3	13	A	N9-C1'-C2'	8.40	124.92	114.00
1	1	3291	G	C2'-C3'-O3'	8.40	127.97	109.50
1	1	1289	G	C2'-C3'-O3'	8.39	127.97	109.50
1	1	3241	G	C2'-C3'-O3'	8.39	127.96	109.50
1	1	1652	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	331	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	1838	G	C2'-C3'-O3'	8.38	127.94	109.50
1	1	637	C	C2'-C3'-O3'	8.37	127.91	109.50
1	1	879	U	N1-C1'-C2'	8.36	124.87	114.00
1	1	914	A	C2'-C3'-O3'	8.36	127.88	109.50
1	1	1918	C	N1-C1'-C2'	8.36	124.86	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2501	U	C2'-C3'-O3'	8.35	127.87	109.50
1	1	250	U	C2'-C3'-O3'	8.35	127.87	109.50
1	1	2661	G	C2'-C3'-O3'	8.34	127.85	109.50
17	O	47	PHE	CG-CD1-CE1	8.34	129.97	120.80
1	1	25	U	C2'-C3'-O3'	8.34	127.84	109.50
1	1	2686	A	C2'-C3'-O3'	8.34	127.84	109.50
1	1	3107	U	C2'-C3'-O3'	8.33	127.83	109.50
1	1	3313	U	C2'-C3'-O3'	8.33	127.83	109.50
1	1	1228	C	N1-C1'-C2'	8.32	124.81	114.00
1	1	760	G	N9-C1'-C2'	8.31	124.81	114.00
1	1	2784	G	C2'-C3'-O3'	8.31	127.79	109.50
1	1	1484	U	C2'-C3'-O3'	8.30	127.77	109.50
1	1	1257	C	C2'-C3'-O3'	8.30	127.76	109.50
1	1	276	U	C2'-C3'-O3'	8.30	127.75	109.50
1	1	2342	U	C4'-C3'-O3'	8.29	129.58	113.00
1	1	541	U	C2'-C3'-O3'	8.28	127.71	109.50
1	1	109	A	N9-C1'-C2'	8.27	124.76	114.00
1	1	632	G	N9-C1'-C2'	8.27	124.76	114.00
1	1	225	C	C2'-C3'-O3'	8.27	127.70	109.50
1	1	2758	A	N9-C1'-C2'	8.26	124.74	114.00
1	1	127	G	C2'-C3'-O3'	8.26	127.67	109.50
1	1	1488	G	C5'-C4'-O4'	8.26	119.01	109.10
1	1	1889	G	N9-C1'-C2'	8.26	124.74	114.00
1	1	1020	G	C2'-C3'-O3'	8.25	127.65	109.50
1	1	2650	U	C2'-C3'-O3'	8.25	127.65	109.50
1	1	1156	C	C2'-C3'-O3'	8.24	127.63	109.50
1	1	1462	A	C2'-C3'-O3'	8.24	127.62	109.50
1	1	345	G	C2'-C3'-O3'	8.23	127.61	109.50
1	1	2906	C	C2'-C3'-O3'	8.23	127.61	109.50
1	1	2368	A	C2'-C3'-O3'	8.22	127.59	109.50
1	1	1393	A	C2'-C3'-O3'	8.22	127.58	109.50
1	1	9	U	C2'-C3'-O3'	8.20	127.55	109.50
1	1	218	G	N9-C1'-C2'	8.21	124.67	114.00
1	1	2331	C	C2'-C3'-O3'	8.21	127.55	109.50
1	1	1151	U	N1-C1'-C2'	8.20	124.66	114.00
1	1	1812	G	N9-C1'-C2'	8.20	124.66	114.00
1	1	322	U	C2'-C3'-O3'	8.20	127.53	109.50
1	1	3119	U	C4'-C3'-O3'	8.20	129.39	113.00
1	1	1825	G	C2'-C3'-O3'	8.19	127.52	109.50
1	1	1422	G	C2'-C3'-O3'	8.19	127.51	109.50
1	1	1885	U	N1-C1'-C2'	8.19	124.64	114.00
1	1	2593	A	C2'-C3'-O3'	8.18	127.49	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	551	A	C2'-C3'-O3'	8.18	127.49	109.50
1	1	993	G	C2'-C3'-O3'	8.17	127.48	109.50
1	1	1024	G	C2'-C3'-O3'	8.17	127.48	109.50
1	1	2136	C	C2'-C3'-O3'	8.17	127.48	109.50
1	1	1451	C	C2'-C3'-O3'	8.17	127.47	109.50
17	O	189	ASP	C-N-CA	-8.17	101.28	121.70
1	1	1698	C	C2'-C3'-O3'	8.17	127.47	109.50
1	1	1043	C	C4'-C3'-O3'	8.16	129.32	113.00
1	1	1013	G	C2'-C3'-O3'	8.15	127.43	109.50
1	1	2513	U	C2'-C3'-O3'	8.15	127.42	109.50
1	1	589	A	N9-C1'-C2'	8.14	124.58	114.00
1	1	121	A	N9-C1'-C2'	8.14	124.58	114.00
3	4	41	A	OP1-P-O3'	8.13	123.10	105.20
1	1	2765	C	C2'-C3'-O3'	8.13	127.39	109.50
1	1	850	U	N1-C1'-C2'	8.13	124.57	114.00
1	1	3290	G	C2'-C3'-O3'	8.13	127.39	109.50
2	3	40	C	N1-C1'-C2'	8.12	124.55	114.00
1	1	1773	C	C2'-C3'-O3'	8.12	127.36	109.50
1	1	321	C	N1-C1'-C2'	8.11	124.54	114.00
3	4	53	A	C2'-C3'-O3'	8.11	127.34	109.50
1	1	1459	C	C2'-C3'-O3'	8.11	127.34	109.50
1	1	3200	G	C2'-C3'-O3'	8.11	127.34	109.50
1	1	301	G	C2'-C3'-O3'	8.11	127.33	109.50
1	1	994	G	N9-C1'-C2'	8.11	124.54	114.00
3	4	42	G	C2'-C3'-O3'	8.10	127.33	109.50
1	1	1033	U	N1-C1'-C2'	8.10	124.53	114.00
1	1	1600	U	C2'-C3'-O3'	8.09	127.30	109.50
1	1	1816	A	C2'-C3'-O3'	8.09	127.30	109.50
1	1	1025	A	N9-C1'-C2'	8.09	124.51	114.00
31	c	90	VAL	CG1-CB-CG2	8.08	123.83	110.90
1	1	2921	U	C2'-C3'-O3'	8.08	127.27	109.50
1	1	1686	U	C2'-C3'-O3'	8.08	127.27	109.50
1	1	769	G	N9-C1'-C2'	8.07	124.50	114.00
1	1	1629	U	C2'-C3'-O3'	8.07	127.26	109.50
1	1	2773	C	N1-C1'-C2'	8.07	124.49	114.00
1	1	3163	A	C2'-C3'-O3'	8.07	127.25	109.50
1	1	2406	C	C2'-C3'-O3'	8.06	127.24	109.50
1	1	2505	U	C2'-C3'-O3'	8.06	127.24	109.50
1	1	1349	G	C2'-C3'-O3'	8.06	127.23	109.50
1	1	1817	G	C2'-C3'-O3'	8.06	127.23	109.50
1	1	536	U	N1-C1'-C2'	8.05	124.47	114.00
1	1	722	G	C2'-C3'-O3'	8.06	127.22	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1562	C	C2'-C3'-O3'	8.04	127.19	109.50
1	1	862	U	C2'-C3'-O3'	8.04	127.19	109.50
1	1	3104	U	C2'-C3'-O3'	8.04	127.19	109.50
1	1	3246	G	N9-C1'-C2'	8.04	124.45	114.00
1	1	3216	G	C4'-C3'-O3'	8.02	129.05	113.00
1	1	2195	C	C2'-C3'-O3'	8.02	127.14	109.50
1	1	552	G	C2'-C3'-O3'	8.01	127.12	109.50
3	4	44	A	N9-C1'-C2'	8.01	124.41	114.00
1	1	1375	G	C2'-C3'-O3'	8.01	127.11	109.50
1	1	1153	A	C2'-C3'-O3'	8.00	127.10	109.50
1	1	3349	C	C2'-C3'-O3'	8.00	127.09	109.50
1	1	1640	G	N9-C1'-C2'	7.99	124.39	114.00
1	1	1838	G	C4'-C3'-O3'	7.99	128.99	113.00
1	1	2403	G	N9-C1'-C2'	7.99	124.39	114.00
1	1	2416	U	N1-C1'-C2'	7.98	124.38	114.00
1	1	3162	C	C2'-C3'-O3'	7.98	127.05	109.50
1	1	109	A	C4'-C3'-O3'	7.98	128.95	113.00
1	1	3256	G	N9-C1'-C2'	7.97	124.36	114.00
1	1	673	U	C2'-C3'-O3'	7.96	127.02	109.50
1	1	2304	C	C2'-C3'-O3'	7.96	127.02	109.50
1	1	2667	A	C2'-C3'-O3'	7.95	127.00	109.50
1	1	3066	U	N1-C1'-C2'	7.95	124.34	114.00
1	1	1620	U	C2'-C3'-O3'	7.95	126.99	109.50
1	1	1764	U	N1-C1'-C2'	7.94	124.32	114.00
1	1	3335	A	C2'-C3'-O3'	7.94	126.97	109.50
1	1	2607	G	C2'-C3'-O3'	7.93	126.95	109.50
1	1	920	A	N9-C1'-C2'	7.93	124.31	114.00
1	1	2137	U	N1-C1'-C2'	7.93	124.31	114.00
1	1	3099	C	C2'-C3'-O3'	7.92	126.93	109.50
2	3	44	C	C2'-C3'-O3'	7.92	126.93	109.50
1	1	794	U	N1-C1'-C2'	7.92	124.29	114.00
3	4	158	U	N1-C1'-C2'	7.92	124.29	114.00
1	1	2836	C	C2'-C3'-O3'	7.92	126.91	109.50
1	1	419	G	C2'-C3'-O3'	7.91	126.91	109.50
1	1	778	U	C2'-C3'-O3'	7.90	126.88	109.50
1	1	3285	C	C2'-C3'-O3'	7.90	126.88	109.50
1	1	2465	G	C2'-C3'-O3'	7.89	126.87	109.50
1	1	2960	C	C2'-C3'-O3'	7.89	126.86	109.50
1	1	2361	A	OP1-P-O3'	7.89	122.56	105.20
2	3	53	U	C2'-C3'-O3'	7.89	126.85	109.50
3	4	51	G	N9-C1'-C2'	7.88	124.25	114.00
1	1	2671	A	N9-C1'-C2'	7.88	124.25	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	322	U	C4'-C3'-O3'	7.88	128.75	113.00
1	1	366	A	C2'-C3'-O3'	7.88	126.82	109.50
1	1	913	A	O3'-P-O5'	7.88	118.96	104.00
1	1	2552	C	C2'-C3'-O3'	7.88	126.82	109.50
1	1	806	A	N9-C1'-C2'	7.87	124.24	114.00
1	1	3165	A	C2'-C3'-O3'	7.87	126.82	109.50
3	4	116	G	C2'-C3'-O3'	7.86	126.80	109.50
14	L	112	ASN	N-CA-C	7.86	132.23	111.00
1	1	2220	A	C2'-C3'-O3'	7.86	126.79	109.50
1	1	1691	U	C2'-C3'-O3'	7.86	126.78	109.50
1	1	1799	A	C2'-C3'-O3'	7.86	126.78	109.50
45	t	134	PHE	CD1-CE1-CZ	7.85	129.52	120.10
45	t	68	PHE	CZ-CE2-CD2	7.85	129.52	120.10
1	1	1479	U	N1-C1'-C2'	7.85	124.20	114.00
1	1	2159	U	C4'-C3'-O3'	7.85	128.69	113.00
1	1	65	A	C2'-C3'-O3'	7.85	126.76	109.50
1	1	2511	C	C2'-C3'-O3'	7.84	126.76	109.50
1	1	3084	C	N1-C1'-C2'	7.84	124.20	114.00
1	1	2094	C	N1-C1'-C2'	7.84	124.20	114.00
1	1	873	C	C4'-C3'-O3'	7.84	128.68	113.00
1	1	3326	G	C2'-C3'-O3'	7.84	126.75	109.50
1	1	573	C	C2'-C3'-O3'	7.84	126.75	109.50
1	1	1254	C	N1-C1'-C2'	7.84	124.19	114.00
1	1	902	G	C2'-C3'-O3'	7.83	126.73	109.50
1	1	1554	U	N1-C1'-C2'	7.82	124.17	114.00
1	1	373	A	C2'-C3'-O3'	7.82	126.70	109.50
1	1	1403	C	P-O3'-C3'	-7.82	110.32	119.70
1	1	1466	G	N9-C1'-C2'	7.82	124.16	114.00
19	Q	96	PHE	CZ-CE2-CD2	7.82	129.48	120.10
1	1	1224	C	C2'-C3'-O3'	7.81	126.68	109.50
1	1	190	U	C2'-C3'-O3'	7.81	126.67	109.50
1	1	1112	A	N9-C1'-C2'	7.80	124.14	114.00
1	1	862	U	N1-C1'-C2'	7.79	124.13	114.00
1	1	3362	A	C2'-C3'-O3'	7.79	126.64	109.50
1	1	2468	A	C2'-C3'-O3'	7.78	126.61	109.50
2	3	34	C	C2'-C3'-O3'	7.78	126.61	109.50
12	I	213	PHE	CZ-CE2-CD2	7.78	129.43	120.10
45	t	72	PHE	CD1-CE1-CZ	7.78	129.43	120.10
1	1	2987	A	C2'-C3'-O3'	7.78	126.61	109.50
1	1	1031	C	C2'-C3'-O3'	7.77	126.60	109.50
1	1	169	U	N1-C1'-C2'	7.77	124.10	114.00
1	1	28	C	C2'-C3'-O3'	7.76	126.58	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	G	78	PHE	CD1-CE1-CZ	7.76	129.41	120.10
1	1	2340	U	N1-C1'-C2'	7.76	124.08	114.00
1	1	1430	U	N1-C1'-C2'	7.76	124.08	114.00
1	1	3054	U	C2'-C3'-O3'	7.76	126.56	109.50
1	1	87	U	N1-C1'-C2'	7.75	124.08	114.00
1	1	411	U	C5'-C4'-O4'	7.75	118.40	109.10
1	1	3186	A	N9-C1'-C2'	7.75	124.07	114.00
21	S	61	ILE	CG1-CB-CG2	7.74	128.44	111.40
26	X	142	ILE	CG1-CB-CG2	7.74	128.43	111.40
1	1	2948	C	C2'-C3'-O3'	7.73	126.51	109.50
1	1	3037	U	C2'-C3'-O3'	7.73	126.51	109.50
1	1	583	G	N9-C1'-C2'	7.73	124.05	114.00
1	1	2311	G	C2'-C3'-O3'	7.73	126.50	109.50
1	1	3323	A	C2'-C3'-O3'	7.72	126.49	109.50
1	1	2699	G	C2'-C3'-O3'	7.72	126.48	109.50
11	H	175	PHE	CD1-CE1-CZ	7.72	129.36	120.10
3	4	81	U	C2'-C3'-O3'	7.71	126.47	109.50
1	1	3075	G	C2'-C3'-O3'	7.71	126.46	109.50
1	1	219	A	C2'-C3'-O3'	7.69	126.42	109.50
1	1	1048	A	C2'-C3'-O3'	7.69	126.42	109.50
1	1	3295	A	C2'-C3'-O3'	7.69	126.42	109.50
7	D	145	PHE	CZ-CE2-CD2	7.69	129.32	120.10
1	1	2626	A	C2'-C3'-O3'	7.68	126.40	109.50
1	1	530	G	C2'-C3'-O3'	7.68	126.39	109.50
1	1	1023	C	C2'-C3'-O3'	7.68	126.39	109.50
3	4	158	U	C2'-C3'-O3'	7.68	126.39	109.50
2	3	37	G	C2'-C3'-O3'	7.67	126.38	109.50
3	4	135	G	C2'-C3'-O3'	7.67	126.38	109.50
8	E	176	PHE	CG-CD2-CE2	7.67	129.24	120.80
1	1	2329	C	C2'-C3'-O3'	7.67	126.36	109.50
1	1	1324	U	C2'-C3'-O3'	7.66	126.36	109.50
1	1	3134	A	C2'-C3'-O3'	7.66	126.36	109.50
1	1	2297	U	N1-C1'-C2'	7.66	123.96	114.00
1	1	2734	A	C5'-C4'-O4'	7.66	118.29	109.10
1	1	1770	G	N9-C1'-C2'	7.66	123.95	114.00
1	1	3118	C	C2'-C3'-O3'	7.66	126.34	109.50
1	1	3241	G	C4'-C3'-O3'	7.65	128.30	113.00
1	1	313	A	N9-C1'-C2'	7.65	123.94	114.00
1	1	343	U	N1-C1'-C2'	7.65	123.94	114.00
1	1	3117	C	C2'-C3'-O3'	7.64	126.31	109.50
1	1	2791	G	C2'-C3'-O3'	7.64	126.30	109.50
1	1	2718	U	C2'-C3'-O3'	7.64	126.30	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2980	U	C2'-C3'-O3'	7.63	126.30	109.50
1	1	2310	U	N1-C1'-C2'	7.63	123.92	114.00
1	1	11	A	C2'-C3'-O3'	7.63	126.28	109.50
1	1	834	U	C4'-C3'-O3'	7.62	128.25	113.00
10	G	237	ILE	CG1-CB-CG2	7.62	128.18	111.40
1	1	1531	C	C2'-C3'-O3'	7.62	126.27	109.50
1	1	336	A	C2'-C3'-O3'	7.62	126.27	109.50
1	1	303	G	C2'-C3'-O3'	7.62	126.26	109.50
1	1	2472	C	N1-C1'-C2'	7.62	123.91	114.00
35	g	7	PHE	CD1-CE1-CZ	7.62	129.24	120.10
9	F	181	ILE	CG1-CB-CG2	7.61	128.15	111.40
1	1	1031	C	N1-C1'-C2'	7.61	123.89	114.00
1	1	2207	A	C5'-C4'-O4'	7.61	118.23	109.10
1	1	3020	U	C2'-C3'-O3'	7.60	126.23	109.50
1	1	1149	G	C2'-C3'-O3'	7.60	126.22	109.50
1	1	2165	G	C2'-C3'-O3'	7.59	126.20	109.50
8	E	47	PHE	CD1-CE1-CZ	7.59	129.21	120.10
1	1	690	A	C2'-C3'-O3'	7.59	126.19	109.50
1	1	856	G	N9-C1'-C2'	7.59	123.87	114.00
1	1	1888	U	C4'-C3'-O3'	7.59	128.17	113.00
1	1	2503	U	N1-C1'-C2'	7.59	123.86	114.00
5	B	311	PHE	CG-CD1-CE1	7.59	129.15	120.80
38	j	27	PHE	CG-CD2-CE2	7.59	129.15	120.80
1	1	1539	A	C2'-C3'-O3'	7.58	126.18	109.50
3	4	75	G	C2'-C3'-O3'	7.58	126.17	109.50
1	1	1239	C	N1-C1'-C2'	7.58	123.85	114.00
1	1	1623	G	N9-C1'-C2'	7.57	123.85	114.00
16	N	75	VAL	CG1-CB-CG2	7.57	123.02	110.90
1	1	1794	G	N9-C1'-C2'	7.57	123.84	114.00
1	1	2803	A	C2'-C3'-O3'	7.57	126.15	109.50
1	1	700	C	C2'-C3'-O3'	7.57	126.15	109.50
1	1	1285	G	N9-C1'-C2'	7.57	123.84	114.00
1	1	2506	C	N1-C1'-C2'	7.57	123.84	114.00
39	k	51	LEU	C-N-CA	-7.57	102.79	121.70
1	1	335	G	C2'-C3'-O3'	7.56	126.14	109.50
1	1	1169	A	N9-C1'-C2'	7.56	123.83	114.00
1	1	2452	G	N9-C1'-C2'	7.55	123.82	114.00
1	1	2909	U	C4'-C3'-O3'	7.55	128.11	113.00
3	4	27	U	N1-C1'-C2'	7.55	123.82	114.00
14	L	179	PHE	CG-CD1-CE1	7.54	129.09	120.80
1	1	710	A	N9-C1'-C2'	7.53	123.79	114.00
1	1	2776	C	N1-C1'-C2'	7.53	123.80	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	498	A	C2'-C3'-O3'	7.53	126.06	109.50
1	1	829	U	C2'-C3'-O3'	7.53	126.07	109.50
43	o	58	PHE	CG-CD1-CE1	7.53	129.08	120.80
1	1	3071	U	C4'-C3'-O3'	7.53	128.05	113.00
2	3	106	U	C2'-C3'-O3'	7.53	126.06	109.50
22	T	49	GLN	N-CA-C	7.52	131.31	111.00
1	1	3364	C	N1-C1'-C2'	7.52	123.78	114.00
1	1	3266	G	C2'-C3'-O3'	7.51	126.03	109.50
1	1	3094	A	C2'-C3'-O3'	7.51	126.02	109.50
1	1	2895	G	C2'-C3'-O3'	7.51	126.02	109.50
1	1	3362	A	C4'-C3'-O3'	7.50	128.01	113.00
1	1	1555	U	C2'-C3'-O3'	7.50	126.01	109.50
1	1	3033	A	N9-C1'-C2'	7.50	123.75	114.00
1	1	672	A	C2'-C3'-O3'	7.50	126.00	109.50
1	1	2787	G	C2'-C3'-O3'	7.50	125.99	109.50
1	1	1046	A	N9-C1'-C2'	7.49	123.74	114.00
1	1	538	G	C2'-C3'-O3'	7.49	125.98	109.50
1	1	1189	C	C4'-C3'-O3'	7.49	127.98	113.00
1	1	2222	A	N9-C1'-C2'	7.49	123.74	114.00
29	a	53	PHE	CG-CD1-CE1	7.48	129.03	120.80
1	1	2383	C	N1-C1'-C2'	7.48	123.72	114.00
1	1	546	C	C2'-C3'-O3'	7.48	125.95	109.50
1	1	2689	A	C4'-C3'-O3'	7.48	127.95	113.00
7	D	200	PHE	CG-CD1-CE1	7.48	129.03	120.80
1	1	2250	G	N9-C1'-C2'	7.47	123.72	114.00
1	1	1084	A	C2'-C3'-O3'	7.47	125.94	109.50
1	1	2362	C	C4'-C3'-O3'	7.47	127.94	113.00
1	1	2542	U	N1-C1'-C2'	7.47	123.71	114.00
1	1	200	C	C5'-C4'-O4'	7.47	118.06	109.10
1	1	961	C	N1-C1'-C2'	7.46	123.70	114.00
1	1	561	C	C2'-C3'-O3'	7.46	125.91	109.50
11	H	45	PHE	CG-CD1-CE1	7.46	129.01	120.80
1	1	2808	A	N9-C1'-C2'	7.45	123.69	114.00
1	1	2181	C	N1-C1'-C2'	7.45	123.68	114.00
1	1	3293	U	N1-C1'-C2'	7.45	123.68	114.00
1	1	1287	A	N9-C1'-C2'	7.44	123.67	114.00
1	1	1905	G	C2'-C3'-O3'	7.44	125.87	109.50
1	1	1421	G	C2'-C3'-O3'	7.44	125.86	109.50
1	1	643	U	C2'-C3'-O3'	7.44	125.86	109.50
2	3	115	G	C2'-C3'-O3'	7.44	125.86	109.50
1	1	2939	G	C5'-C4'-O4'	7.43	118.02	109.10
3	4	50	C	C2'-C3'-O3'	7.42	125.82	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	114	U	C5'-C4'-O4'	7.42	118.00	109.10
1	1	2303	A	C5'-C4'-O4'	7.41	118.00	109.10
1	1	2320	A	C2'-C3'-O3'	7.41	125.81	109.50
1	1	2475	G	N9-C1'-C2'	7.41	123.63	114.00
1	1	1264	G	C4'-C3'-O3'	7.40	127.81	113.00
1	1	2803	A	C4'-C3'-O3'	7.40	127.81	113.00
1	1	1534	A	C5'-C4'-O4'	7.40	117.98	109.10
1	1	637	C	C4'-C3'-O3'	7.39	127.78	113.00
1	1	2651	G	C2'-C3'-O3'	7.38	125.75	109.50
1	1	834	U	C2'-C3'-O3'	7.38	125.72	109.50
1	1	2348	A	N9-C1'-C2'	7.37	123.58	114.00
1	1	2652	U	C2'-C3'-O3'	7.37	125.70	109.50
1	1	336	A	C4'-C3'-O3'	7.36	127.72	113.00
1	1	1819	U	N1-C1'-C2'	7.36	123.57	114.00
1	1	1247	U	C2'-C3'-O3'	7.36	125.68	109.50
1	1	820	A	N9-C1'-C2'	7.35	123.56	114.00
1	1	2832	C	N1-C1'-C2'	7.34	123.54	114.00
1	1	647	A	C2'-C3'-O3'	7.34	125.64	109.50
7	D	53	VAL	CG1-CB-CG2	7.34	122.64	110.90
1	1	133	U	C2'-C3'-O3'	7.33	125.63	109.50
1	1	3184	A	N9-C1'-C2'	7.33	123.53	114.00
1	1	1289	G	C5'-C4'-O4'	7.33	117.89	109.10
3	4	114	G	C2'-C3'-O3'	7.33	125.62	109.50
1	1	255	A	N9-C1'-C2'	7.32	123.52	114.00
1	1	613	G	C5'-C4'-O4'	7.32	117.88	109.10
1	1	1451	C	N1-C1'-C2'	7.32	123.51	114.00
1	1	2766	U	N1-C1'-C2'	7.32	123.51	114.00
1	1	291	C	N1-C1'-C2'	7.31	123.51	114.00
1	1	41	G	OP2-P-O3'	7.31	121.28	105.20
1	1	1462	A	N9-C1'-C2'	7.31	123.50	114.00
9	F	26	VAL	CG1-CB-CG2	7.29	122.56	110.90
1	1	2908	G	C5'-C4'-O4'	7.29	117.85	109.10
1	1	3343	G	N9-C1'-C2'	7.29	123.47	114.00
1	1	1448	U	N1-C1'-C2'	7.27	123.45	114.00
1	1	1282	G	N9-C1'-C2'	7.27	123.45	114.00
1	1	1299	U	N1-C1'-C2'	7.27	123.45	114.00
1	1	2173	U	C2'-C3'-O3'	7.27	125.49	109.50
1	1	2523	A	N9-C1'-C2'	7.26	123.43	114.00
1	1	2136	C	C4'-C3'-O3'	7.25	127.51	113.00
1	1	396	A	N9-C1'-C2'	7.25	123.43	114.00
1	1	1841	A	N9-C1'-C2'	7.25	123.42	114.00
1	1	1110	U	C2'-C3'-O3'	7.24	125.44	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	498	A	C4'-C3'-O3'	7.24	127.48	113.00
14	L	14	PHE	CG-CD2-CE2	7.23	128.75	120.80
1	1	3016	A	C5'-C4'-O4'	7.22	117.77	109.10
1	1	1447	G	C4'-C3'-O3'	7.22	127.44	113.00
1	1	2885	C	C2'-C3'-O3'	7.22	125.38	109.50
1	1	1629	U	N1-C1'-C2'	7.20	123.36	114.00
1	1	2651	G	C4'-C3'-O3'	7.19	127.39	113.00
37	i	7	ILE	CG1-CB-CG2	7.19	127.21	111.40
1	1	507	U	N1-C1'-C2'	7.18	123.34	114.00
1	1	2995	A	N9-C1'-C2'	7.18	123.33	114.00
1	1	2387	A	C2'-C3'-O3'	7.18	125.29	109.50
1	1	952	A	OP1-P-O3'	7.17	120.97	105.20
1	1	31	C	C2'-C3'-O3'	7.16	125.26	109.50
1	1	2355	G	OP1-P-O3'	-7.16	89.45	105.20
1	1	179	C	O4'-C1'-N1	7.15	113.92	108.20
1	1	2199	G	C5'-C4'-O4'	7.14	117.67	109.10
1	1	2688	U	N1-C1'-C2'	7.14	123.28	114.00
1	1	2951	G	N9-C1'-C2'	7.13	123.27	114.00
4	A	120	PRO	N-CA-C	7.13	130.64	112.10
1	1	883	A	N9-C1'-C2'	7.13	123.27	114.00
3	4	112	U	C5'-C4'-O4'	7.13	117.65	109.10
1	1	2842	U	N1-C1'-C2'	7.12	123.26	114.00
1	1	625	G	C2'-C3'-O3'	7.12	125.16	109.50
1	1	3264	G	N9-C1'-C2'	7.12	123.25	114.00
20	R	41	ILE	CG1-CB-CG2	7.12	127.06	111.40
1	1	2295	A	C2'-C3'-O3'	7.12	125.16	109.50
33	e	50	ILE	CG1-CB-CG2	7.12	127.05	111.40
1	1	323	A	C2'-C3'-O3'	7.11	125.15	109.50
1	1	119	U	C5'-C4'-O4'	7.11	117.63	109.10
3	4	72	A	N9-C1'-C2'	7.10	123.24	114.00
1	1	2969	A	N9-C1'-C2'	7.10	123.23	114.00
1	1	1544	G	C5'-C4'-O4'	7.09	117.61	109.10
1	1	403	C	N1-C1'-C2'	7.09	123.22	114.00
1	1	701	G	C5'-C4'-O4'	7.08	117.60	109.10
1	1	655	C	N1-C1'-C2'	7.06	123.18	114.00
1	1	2836	C	N1-C1'-C2'	7.06	123.18	114.00
1	1	3368	U	O4'-C1'-N1	7.06	113.85	108.20
1	1	3140	G	C5'-C4'-O4'	7.05	117.57	109.10
1	1	397	A	N9-C1'-C2'	7.05	123.17	114.00
1	1	1187	C	N1-C1'-C2'	7.05	123.16	114.00
1	1	1264	G	C2'-C3'-O3'	7.05	125.00	109.50
1	1	1384	U	N1-C1'-C2'	7.05	123.16	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1596	C	C2'-C3'-O3'	7.04	125.00	109.50
13	J	59	ILE	CG1-CB-CG2	7.04	126.89	111.40
1	1	2362	C	C2'-C3'-O3'	7.03	124.97	109.50
1	1	609	G	N9-C1'-C2'	7.02	123.13	114.00
1	1	2872	A	N9-C1'-C2'	7.02	123.12	114.00
1	1	3387	U	N1-C1'-C2'	7.02	123.12	114.00
3	4	106	C	N1-C1'-C2'	7.02	123.12	114.00
1	1	676	G	N9-C1'-C2'	7.01	123.11	114.00
1	1	1282	G	C5'-C4'-O4'	7.01	117.51	109.10
2	3	57	G	C2'-C3'-O3'	7.00	124.91	109.50
1	1	1007	U	C5'-C4'-O4'	7.00	117.50	109.10
1	1	1229	G	N9-C1'-C2'	7.00	123.10	114.00
1	1	3023	U	C5'-C4'-O4'	7.00	117.50	109.10
1	1	107	A	N9-C1'-C2'	6.99	123.09	114.00
21	S	94	ILE	CG1-CB-CG2	6.99	126.77	111.40
1	1	2612	U	C4'-C3'-O3'	6.99	126.97	113.00
1	1	1390	A	C5'-C4'-O4'	6.97	117.46	109.10
1	1	1672	U	N1-C1'-C2'	6.96	123.06	114.00
6	C	21	PRO	N-CA-C	6.96	130.20	112.10
1	1	753	C	N1-C1'-C2'	6.96	123.05	114.00
1	1	931	C	N1-C1'-C2'	6.96	123.05	114.00
1	1	2140	U	C5'-C4'-O4'	6.95	117.44	109.10
1	1	1806	A	C2'-C3'-O3'	6.95	124.82	113.70
6	C	199	TRP	CG-CD1-NE1	6.95	117.05	110.10
1	1	3204	C	N1-C1'-C2'	6.95	123.03	114.00
19	Q	162	ALA	N-CA-C	6.94	129.74	111.00
35	g	59	PRO	N-CA-C	6.94	130.15	112.10
19	Q	57	ILE	CG1-CB-CG2	6.94	126.66	111.40
1	1	700	C	C4'-C3'-O3'	6.93	126.86	113.00
1	1	2612	U	C2'-C3'-O3'	6.93	124.78	113.70
37	i	83	ALA	N-CA-C	6.92	129.67	111.00
3	4	146	U	N1-C1'-C2'	6.92	122.99	114.00
1	1	91	G	C5'-C4'-C3'	6.91	127.06	116.00
1	1	1184	A	C5'-C4'-O4'	6.90	117.39	109.10
1	1	2792	A	N9-C1'-C2'	6.90	122.97	114.00
1	1	71	A	P-O3'-C3'	-6.90	111.42	119.70
1	1	250	U	C4'-C3'-O3'	6.90	126.80	113.00
1	1	1816	A	C4'-C3'-O3'	6.89	126.78	113.00
40	l	51	ILE	CG1-CB-CG2	6.89	126.55	111.40
1	1	2137	U	O4'-C1'-N1	6.88	113.71	108.20
3	4	53	A	C5'-C4'-O4'	6.88	117.36	109.10
1	1	522	A	N9-C1'-C2'	6.88	122.94	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	543	C	C2'-C3'-O3'	6.88	124.70	113.70
1	1	3094	A	C4'-C3'-O3'	6.87	126.74	113.00
1	1	1596	C	C4'-C3'-O3'	6.87	126.74	113.00
1	1	625	G	C4'-C3'-O3'	6.86	126.73	113.00
1	1	907	G	N9-C1'-C2'	6.86	122.92	114.00
1	1	2906	C	N1-C1'-C2'	6.85	122.91	114.00
1	1	1246	G	C5'-C4'-O4'	6.85	117.32	109.10
1	1	3320	A	N9-C1'-C2'	6.85	122.90	114.00
1	1	3258	U	N1-C1'-C2'	6.84	122.90	114.00
1	1	1013	G	C4'-C3'-O3'	6.84	126.69	113.00
1	1	2182	A	C5'-C4'-O4'	6.84	117.31	109.10
1	1	1451	C	C4'-C3'-O3'	6.84	126.67	113.00
1	1	2279	A	C5'-C4'-C3'	6.83	126.93	116.00
1	1	1931	U	P-O3'-C3'	6.83	127.90	119.70
1	1	3205	G	C2'-C3'-O3'	6.83	124.62	113.70
45	t	105	LYS	N-CA-C	6.82	129.43	111.00
1	1	1106	G	C2'-C3'-O3'	6.82	124.60	113.70
1	1	1769	G	N9-C1'-C2'	6.82	122.86	114.00
3	4	82	U	C5'-C4'-C3'	6.82	126.90	116.00
1	1	2245	C	N1-C1'-C2'	6.80	122.84	114.00
1	1	188	U	C5'-C4'-O4'	6.80	117.26	109.10
1	1	2968	G	C5'-C4'-O4'	6.79	117.25	109.10
1	1	2763	U	N1-C1'-C2'	6.79	122.83	114.00
1	1	1483	G	C5'-C4'-O4'	6.79	117.24	109.10
1	1	1455	U	C4'-C3'-O3'	6.79	126.57	113.00
1	1	1618	G	C5'-C4'-O4'	6.78	117.24	109.10
1	1	109	A	C2'-C3'-O3'	6.78	124.55	113.70
14	L	135	ALA	N-CA-C	6.78	129.30	111.00
2	3	51	A	C2'-C3'-O3'	6.77	124.53	113.70
1	1	1309	U	N1-C1'-C2'	6.76	122.79	114.00
1	1	1905	G	C5'-C4'-O4'	6.76	117.21	109.10
17	O	72	HIS	CA-C-N	-6.75	102.34	117.20
1	1	2901	G	N9-C1'-C2'	6.75	122.78	114.00
3	4	82	U	N1-C1'-C2'	6.75	122.78	114.00
1	1	2844	C	N1-C1'-C2'	6.73	122.75	114.00
1	1	345	G	C5'-C4'-O4'	6.73	117.18	109.10
1	1	3067	C	N1-C1'-C2'	6.73	122.75	114.00
1	1	1944	U	C5'-C4'-O4'	6.72	117.17	109.10
1	1	2746	A	N9-C1'-C2'	6.72	122.74	114.00
1	1	3226	A	C5'-C4'-O4'	6.72	117.17	109.10
1	1	3232	G	C5'-C4'-O4'	6.72	117.16	109.10
1	1	251	G	C5'-C4'-O4'	6.71	117.16	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	81	U	N1-C1'-C2'	6.71	122.73	114.00
21	S	102	ALA	N-CA-C	6.70	129.10	111.00
1	1	2619	G	N9-C1'-C2'	6.70	122.71	114.00
4	A	15	ILE	CG1-CB-CG2	6.70	126.14	111.40
1	1	241	G	N9-C1'-C2'	6.70	122.71	114.00
1	1	619	A	N9-C1'-C2'	6.70	122.71	114.00
1	1	972	A	C5'-C4'-O4'	6.70	117.13	109.10
1	1	2816	G	C5'-C4'-O4'	6.70	117.14	109.10
18	P	89	LYS	N-CA-C	6.70	129.08	111.00
1	1	975	C	N1-C1'-C2'	6.69	122.70	114.00
1	1	1278	A	C1'-C2'-O2'	6.69	130.67	110.60
1	1	1447	G	C2'-C3'-O3'	6.68	124.39	113.70
1	1	3037	U	C4'-C3'-O3'	6.68	126.37	113.00
1	1	1281	G	C5'-C4'-O4'	6.68	117.12	109.10
1	1	1556	C	N1-C1'-C2'	6.68	122.69	114.00
1	1	682	U	C5'-C4'-O4'	6.68	117.12	109.10
1	1	2664	C	N1-C1'-C2'	6.68	122.68	114.00
1	1	726	G	C5'-C4'-O4'	6.67	117.11	109.10
1	1	183	G	C5'-C4'-O4'	6.67	117.11	109.10
1	1	1305	U	C2'-C3'-O3'	6.67	124.37	113.70
1	1	1824	U	C5'-C4'-O4'	6.67	117.10	109.10
1	1	413	U	C5'-C4'-O4'	6.66	117.09	109.10
1	1	2549	G	C5'-C4'-O4'	6.66	117.09	109.10
1	1	2650	U	C4'-C3'-O3'	6.65	126.29	113.00
1	1	2652	U	C4'-C3'-O3'	6.64	126.29	113.00
3	4	50	C	C4'-C3'-O3'	6.64	126.29	113.00
7	D	159	VAL	CG1-CB-CG2	6.64	121.53	110.90
2	3	94	C	C5'-C4'-O4'	6.64	117.07	109.10
43	o	29	LYS	N-CA-C	6.63	128.91	111.00
1	1	1853	U	C5'-C4'-O4'	6.63	117.06	109.10
3	4	118	C	N1-C1'-C2'	6.63	122.62	114.00
1	1	1623	G	C4'-C3'-O3'	6.63	126.25	113.00
2	3	106	U	C4'-C3'-O3'	6.63	126.25	113.00
2	3	56	A	C5'-C4'-O4'	6.62	117.05	109.10
45	t	206	VAL	CG1-CB-CG2	6.62	121.50	110.90
1	1	2909	U	C2'-C3'-O3'	6.62	124.29	113.70
1	1	988	U	N1-C1'-C2'	6.62	122.60	114.00
1	1	1390	A	C5'-C4'-C3'	6.62	126.59	116.00
1	1	993	G	C5'-C4'-O4'	6.61	117.04	109.10
1	1	1744	G	N9-C1'-C2'	6.61	122.60	114.00
1	1	2511	C	C5'-C4'-O4'	6.61	117.03	109.10
1	1	3348	G	N9-C1'-C2'	6.61	122.59	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	Z	46	ILE	CG1-CB-CG2	6.61	125.94	111.40
1	1	2513	U	C4'-C3'-O3'	6.61	126.21	113.00
2	3	113	C	N1-C1'-C2'	6.61	122.59	114.00
1	1	2853	A	N9-C1'-C2'	6.60	122.58	114.00
1	1	2486	A	C5'-C4'-O4'	6.60	117.02	109.10
1	1	718	G	C5'-C4'-O4'	6.60	117.02	109.10
1	1	572	A	C5'-C4'-O4'	6.60	117.02	109.10
1	1	1812	G	C5'-C4'-O4'	6.59	117.01	109.10
1	1	373	A	C5'-C4'-O4'	6.59	117.01	109.10
1	1	311	C	C5'-C4'-C3'	6.58	126.53	116.00
3	4	45	C	C5'-C4'-O4'	6.58	117.00	109.10
1	1	3134	A	C4'-C3'-O3'	6.58	126.15	113.00
16	N	115	VAL	CG1-CB-CG2	6.57	121.42	110.90
1	1	1821	U	C4'-C3'-O3'	6.57	126.14	113.00
1	1	2823	G	C5'-C4'-O4'	6.57	116.99	109.10
1	1	3146	G	N9-C1'-C2'	6.57	122.54	114.00
36	h	111	PHE	N-CA-C	6.57	128.73	111.00
1	1	2822	U	C5'-C4'-O4'	6.57	116.98	109.10
1	1	1351	U	C5'-C4'-O4'	6.56	116.97	109.10
1	1	345	G	C4'-C3'-O3'	6.56	126.11	113.00
1	1	967	A	C5'-C4'-O4'	6.56	116.97	109.10
1	1	32	U	N1-C1'-C2'	6.55	122.52	114.00
1	1	2772	C	O4'-C1'-N1	6.55	113.44	108.20
1	1	2165	G	C4'-C3'-O3'	6.55	126.09	113.00
1	1	2342	U	C2'-C3'-O3'	6.55	124.17	113.70
9	F	122	ALA	N-CA-C	6.54	128.66	111.00
29	a	2	PRO	N-CA-C	6.54	129.11	112.10
1	1	1844	C	C5'-C4'-O4'	6.54	116.94	109.10
1	1	777	U	C5'-C4'-O4'	6.53	116.94	109.10
1	1	150	A	C5'-C4'-O4'	6.53	116.93	109.10
1	1	2208	A	C5'-C4'-O4'	6.53	116.93	109.10
1	1	3046	A	N9-C1'-C2'	6.53	122.48	114.00
1	1	845	G	C4'-C3'-O3'	6.52	126.04	113.00
1	1	1535	A	N9-C1'-C2'	6.52	122.47	114.00
1	1	1113	G	N9-C1'-C2'	6.52	122.47	114.00
13	J	86	VAL	CG1-CB-CG2	6.51	121.32	110.90
1	1	996	A	C4'-C3'-O3'	6.51	126.02	113.00
1	1	2267	C	C5'-C4'-O4'	6.51	116.92	109.10
1	1	2690	G	C5'-C4'-O4'	6.51	116.91	109.10
5	B	144	ILE	CG1-CB-CG2	6.51	125.73	111.40
1	1	387	A	C5'-C4'-O4'	6.51	116.91	109.10
3	4	151	C	N1-C1'-C2'	6.51	122.46	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3152	U	C4'-C3'-O3'	6.50	126.01	113.00
14	L	2	ALA	N-CA-C	6.50	128.56	111.00
1	1	1947	G	N9-C1'-C2'	6.50	122.45	114.00
1	1	702	C	C5'-C4'-O4'	6.49	116.89	109.10
1	1	1520	G	C1'-C2'-O2'	6.49	130.08	110.60
1	1	1799	A	C5'-C4'-O4'	6.49	116.89	109.10
2	3	52	G	C2'-C3'-O3'	6.49	124.08	113.70
1	1	504	A	C5'-C4'-O4'	6.49	116.88	109.10
1	1	1801	U	N1-C1'-C2'	6.49	122.43	114.00
1	1	2604	U	C5'-C4'-O4'	6.48	116.88	109.10
1	1	784	A	C5'-C4'-O4'	6.48	116.88	109.10
1	1	1117	G	C4'-C3'-O3'	6.48	125.96	113.00
1	1	741	U	C5'-C4'-O4'	6.48	116.88	109.10
1	1	2113	A	C5'-C4'-O4'	6.48	116.87	109.10
1	1	790	U	C5'-C4'-O4'	6.48	116.87	109.10
1	1	1178	G	N9-C1'-C2'	6.47	122.41	114.00
1	1	1571	A	N9-C1'-C2'	6.47	122.42	114.00
1	1	1363	A	N9-C1'-C2'	6.47	122.41	114.00
1	1	2454	G	C5'-C4'-O4'	6.47	116.86	109.10
3	4	21	C	N1-C1'-C2'	6.47	122.41	114.00
2	3	75	G	N9-C1'-C2'	6.47	122.41	114.00
1	1	3275	U	N1-C1'-C2'	6.47	122.41	114.00
1	1	3050	U	C2'-C3'-O3'	6.46	124.04	113.70
43	o	30	ALA	N-CA-C	6.46	128.46	111.00
43	o	103	ALA	N-CA-C	6.46	128.45	111.00
3	4	82	U	C5'-C4'-O4'	6.46	116.85	109.10
1	1	1119	C	N1-C1'-C2'	6.45	122.39	114.00
1	1	2103	U	N1-C1'-C2'	6.45	122.39	114.00
1	1	1483	G	C1'-C2'-O2'	6.45	129.95	110.60
1	1	1652	G	C4'-C3'-O3'	6.45	125.89	113.00
1	1	530	G	C4'-C3'-O3'	6.45	125.89	113.00
1	1	3189	G	C5'-C4'-O4'	6.45	116.83	109.10
1	1	408	A	N9-C1'-C2'	6.44	122.38	114.00
1	1	2116	G	N9-C1'-C2'	6.44	122.38	114.00
1	1	541	U	C4'-C3'-O3'	6.44	125.89	113.00
1	1	3290	G	C4'-C3'-O3'	6.44	125.88	113.00
1	1	1444	G	N9-C1'-C2'	6.44	122.37	114.00
1	1	1752	A	C5'-C4'-O4'	6.43	116.82	109.10
1	1	709	A	N9-C1'-C2'	6.42	122.35	114.00
1	1	3107	U	C4'-C3'-O3'	6.42	125.85	113.00
1	1	1538	G	N9-C1'-C2'	6.42	122.34	114.00
1	1	1374	G	C5'-C4'-O4'	6.42	116.80	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	C	280	ILE	CG1-CB-CG2	6.42	125.52	111.40
12	I	95	HIS	C-N-CA	-6.42	105.66	121.70
1	1	280	U	N1-C1'-C2'	6.41	122.34	114.00
1	1	1664	G	N9-C1'-C2'	6.41	122.34	114.00
1	1	1100	U	C5'-C4'-O4'	6.41	116.79	109.10
1	1	1531	C	C5'-C4'-O4'	6.41	116.79	109.10
1	1	189	G	C5'-C4'-C3'	6.41	126.25	116.00
1	1	1814	A	C5'-C4'-O4'	6.41	116.79	109.10
3	4	136	G	N9-C1'-C2'	6.41	122.33	114.00
1	1	2778	G	C5'-C4'-O4'	6.40	116.78	109.10
1	1	191	U	C5'-C4'-O4'	6.40	116.78	109.10
1	1	1282	G	C4'-C3'-O3'	6.40	125.80	113.00
5	B	187	SER	N-CA-C	6.40	128.28	111.00
32	d	58	ALA	N-CA-C	6.40	128.28	111.00
1	1	1520	G	N9-C1'-C2'	6.40	122.31	114.00
1	1	849	C	C5'-C4'-O4'	6.39	116.77	109.10
15	M	6	ILE	CG1-CB-CG2	6.39	125.47	111.40
1	1	2891	U	O4'-C1'-N1	6.39	113.31	108.20
1	1	311	C	C5'-C4'-O4'	6.39	116.76	109.10
1	1	2191	U	N1-C1'-C2'	6.39	122.30	114.00
1	1	2885	C	C4'-C3'-O3'	6.38	125.76	113.00
40	l	2	ALA	N-CA-C	6.38	128.23	111.00
1	1	1578	C	C4'-C3'-O3'	6.38	125.76	113.00
1	1	1654	A	C5'-C4'-O4'	6.38	116.75	109.10
1	1	133	U	C4'-C3'-O3'	6.37	125.74	113.00
18	P	179	GLN	N-CA-C	6.37	128.20	111.00
3	4	61	A	C5'-C4'-O4'	6.37	116.74	109.10
6	C	167	ALA	N-CA-C	6.37	128.19	111.00
1	1	397	A	C5'-C4'-O4'	6.36	116.74	109.10
1	1	3266	G	C4'-C3'-O3'	6.36	125.73	113.00
26	X	95	ILE	CG1-CB-CG2	6.36	125.40	111.40
30	b	21	ILE	CG1-CB-CG2	6.36	125.40	111.40
1	1	219	A	C5'-C4'-O4'	6.36	116.73	109.10
3	4	80	A	C5'-C4'-O4'	6.35	116.72	109.10
1	1	276	U	C5'-C4'-O4'	6.35	116.72	109.10
9	F	72	ALA	N-CA-C	6.35	128.15	111.00
1	1	235	A	C5'-C4'-O4'	6.35	116.72	109.10
1	1	2756	C	N1-C1'-C2'	6.35	122.26	114.00
1	1	1675	G	N9-C1'-C2'	6.35	122.25	114.00
10	G	250	ALA	N-CA-C	6.35	128.14	111.00
1	1	1547	G	C5'-C4'-O4'	6.34	116.71	109.10
5	B	329	PRO	N-CA-C	6.34	128.59	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	a	94	ALA	N-CA-C	6.34	128.13	111.00
1	1	1240	A	C5'-C4'-O4'	6.34	116.71	109.10
1	1	2447	G	C5'-C4'-O4'	6.34	116.71	109.10
1	1	2279	A	C5'-C4'-O4'	6.33	116.70	109.10
1	1	1176	C	C5'-C4'-O4'	6.33	116.70	109.10
1	1	2919	A	N9-C1'-C2'	6.33	122.23	114.00
6	C	215	ILE	CG1-CB-CG2	6.33	125.33	111.40
22	T	135	PRO	N-CA-C	6.33	128.55	112.10
1	1	782	U	N1-C1'-C2'	6.32	122.22	114.00
1	1	1459	C	C4'-C3'-O3'	6.32	125.64	113.00
1	1	635	G	C5'-C4'-O4'	6.32	116.69	109.10
1	1	1906	G	C5'-C4'-O4'	6.32	116.68	109.10
3	4	112	U	C5'-C4'-C3'	6.32	126.11	116.00
1	1	773	G	N9-C1'-C2'	6.32	122.21	114.00
1	1	2333	C	N1-C1'-C2'	6.32	122.21	114.00
1	1	3117	C	C5'-C4'-O4'	6.32	116.68	109.10
1	1	2678	A	C5'-C4'-O4'	6.31	116.67	109.10
1	1	2710	C	N1-C1'-C2'	6.31	122.20	114.00
1	1	2965	U	OP2-P-O3'	6.31	119.08	105.20
1	1	3349	C	C4'-C3'-O3'	6.31	125.62	113.00
1	1	2720	G	N9-C1'-C2'	6.31	122.20	114.00
1	1	1382	G	C5'-C4'-O4'	6.30	116.66	109.10
1	1	1541	G	C5'-C4'-O4'	6.30	116.67	109.10
17	O	80	PHE	C-N-CA	-6.30	105.94	121.70
25	W	21	PHE	N-CA-C	6.30	128.02	111.00
1	1	208	C	N1-C1'-C2'	6.30	122.19	114.00
1	1	1031	C	C4'-C3'-O3'	6.30	125.60	113.00
23	U	30	PRO	N-CA-C	6.30	128.48	112.10
1	1	71	A	OP1-P-O3'	6.30	119.06	105.20
1	1	2790	A	N9-C1'-C2'	6.30	122.19	114.00
2	3	4	U	C5'-C4'-O4'	6.29	116.65	109.10
1	1	925	A	C5'-C4'-O4'	6.29	116.64	109.10
1	1	1558	A	C4'-C3'-O3'	6.28	125.57	113.00
1	1	2304	C	C5'-C4'-O4'	6.28	116.64	109.10
6	C	11	LEU	N-CA-C	6.28	127.97	111.00
1	1	50	U	C5'-C4'-O4'	6.28	116.64	109.10
1	1	2244	A	N9-C1'-C2'	6.28	122.16	114.00
1	1	1504	A	C5'-C4'-O4'	6.28	116.63	109.10
1	1	27	C	N1-C1'-C2'	6.27	122.15	114.00
1	1	1628	C	C5'-C4'-C3'	6.27	126.03	116.00
4	A	222	ALA	N-CA-C	6.27	127.93	111.00
1	1	1527	C	N1-C1'-C2'	6.27	122.15	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	42	A	C5'-C4'-O4'	6.27	116.62	109.10
1	1	1684	U	C5'-C4'-O4'	6.27	116.62	109.10
1	1	2729	U	C5'-C4'-O4'	6.26	116.62	109.10
17	O	136	THR	N-CA-C	6.26	127.91	111.00
1	1	2247	G	N9-C1'-C2'	6.26	122.14	114.00
1	1	3248	C	C5'-C4'-O4'	6.26	116.61	109.10
6	C	119	ARG	N-CA-C	6.26	127.89	111.00
1	1	1372	C	C5'-C4'-O4'	6.25	116.61	109.10
1	1	2451	U	C5'-C4'-O4'	6.25	116.60	109.10
29	a	140	ALA	N-CA-C	6.25	127.89	111.00
1	1	88	A	C5'-C4'-O4'	6.25	116.60	109.10
1	1	914	A	C4'-C3'-O3'	6.25	125.50	113.00
1	1	3363	U	N1-C1'-C2'	6.25	122.12	114.00
22	T	138	SER	N-CA-C	6.25	127.87	111.00
1	1	41	G	P-O3'-C3'	-6.25	112.20	119.70
1	1	1938	U	C1'-C2'-O2'	6.25	129.34	110.60
1	1	1682	U	N1-C1'-C2'	6.25	122.12	114.00
19	Q	25	TYR	N-CA-C	6.24	127.86	111.00
14	L	99	HIS	N-CA-C	6.24	127.85	111.00
36	h	120	ALA	N-CA-C	6.24	127.85	111.00
1	1	844	G	C4'-C3'-O3'	6.24	125.47	113.00
1	1	295	A	C5'-C4'-O4'	6.23	116.58	109.10
1	1	206	G	N9-C1'-C2'	6.23	122.10	114.00
3	4	36	G	P-O3'-C3'	-6.23	112.23	119.70
1	1	1576	G	C5'-C4'-O4'	6.22	116.57	109.10
1	1	2283	G	C1'-C2'-O2'	6.22	129.26	110.60
1	1	1349	G	C4'-C3'-O3'	6.22	125.44	113.00
20	R	56	THR	CA-CB-CG2	6.22	121.10	112.40
1	1	843	A	C5'-C4'-O4'	6.21	116.56	109.10
1	1	2689	A	C5'-C4'-O4'	6.21	116.55	109.10
1	1	1317	A	C5'-C4'-O4'	6.21	116.55	109.10
21	S	40	ARG	N-CA-C	6.21	127.76	111.00
1	1	236	G	N9-C1'-C2'	6.20	122.06	114.00
1	1	2103	U	C5'-C4'-O4'	6.20	116.54	109.10
3	4	20	U	C1'-C2'-O2'	6.20	129.21	110.60
45	t	194	LEU	CB-CG-CD1	6.20	121.55	111.00
1	1	971	G	N9-C1'-C2'	6.20	122.06	114.00
1	1	898	U	C5'-C4'-O4'	6.20	116.54	109.10
1	1	1629	U	O4'-C1'-N1	6.20	113.16	108.20
34	f	39	GLN	N-CA-C	6.20	127.73	111.00
1	1	1816	A	O4'-C1'-N9	6.19	113.16	108.20
1	1	892	U	C5'-C4'-O4'	6.19	116.53	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3152	U	C2'-C3'-O3'	6.19	123.61	113.70
20	R	125	LYS	N-CA-C	6.19	127.72	111.00
1	1	1488	G	C5'-C4'-C3'	6.19	125.90	116.00
7	D	292	ALA	N-CA-C	6.18	127.70	111.00
1	1	3295	A	C5'-C4'-O4'	6.18	116.52	109.10
1	1	2156	C	O4'-C1'-N1	6.18	113.14	108.20
1	1	2643	A	C4'-C3'-O3'	6.18	125.36	113.00
1	1	282	G	C4'-C3'-O3'	6.18	125.36	113.00
1	1	1027	A	C4'-C3'-O3'	6.18	125.36	113.00
18	P	148	LEU	CB-CG-CD1	6.18	121.50	111.00
1	1	2511	C	O4'-C1'-N1	6.17	113.14	108.20
1	1	1043	C	C2'-C3'-O3'	6.17	123.57	113.70
16	N	141	ALA	N-CA-C	6.17	127.66	111.00
1	1	2276	G	N9-C1'-C2'	6.17	122.02	114.00
3	4	22	U	C1'-C2'-O2'	6.17	129.10	110.60
1	1	331	G	C5'-C4'-O4'	6.17	116.50	109.10
1	1	301	G	C5'-C4'-O4'	6.16	116.50	109.10
1	1	702	C	C4'-C3'-O3'	6.16	125.33	113.00
1	1	3099	C	C4'-C3'-O3'	6.16	125.33	113.00
1	1	3106	A	C4'-C3'-O3'	6.16	125.32	113.00
1	1	1506	A	N9-C1'-C2'	6.16	122.01	114.00
1	1	2895	G	C5'-C4'-O4'	6.16	116.49	109.10
1	1	132	C	C4'-C3'-O3'	6.16	125.31	113.00
1	1	3205	G	C4'-C3'-O3'	6.15	125.31	113.00
5	B	265	ALA	N-CA-C	6.15	127.61	111.00
20	R	9	ARG	N-CA-C	6.15	127.61	111.00
1	1	549	U	O4'-C1'-N1	6.15	113.12	108.20
1	1	2943	G	N9-C1'-C2'	6.15	121.99	114.00
1	1	1718	G	C5'-C4'-O4'	6.15	116.48	109.10
1	1	2440	G	C5'-C4'-O4'	6.14	116.47	109.10
1	1	520	U	O4'-C1'-N1	6.14	113.11	108.20
1	1	2596	U	C2'-C3'-O3'	6.14	123.52	113.70
2	3	24	A	C5'-C4'-O4'	6.14	116.47	109.10
1	1	297	G	O4'-C1'-N9	6.14	113.11	108.20
1	1	1179	A	C5'-C4'-O4'	6.14	116.46	109.10
1	1	1240	A	C5'-C4'-C3'	6.14	125.82	116.00
1	1	1827	C	N1-C1'-C2'	6.14	121.98	114.00
1	1	1888	U	C5'-C4'-O4'	6.14	116.46	109.10
2	3	9	C	N1-C1'-C2'	6.14	121.98	114.00
1	1	1462	A	C4'-C3'-O3'	6.13	125.27	113.00
1	1	2948	C	C4'-C3'-O3'	6.13	125.27	113.00
10	G	59	GLN	N-CA-C	6.13	127.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1212	A	C2'-C3'-O3'	6.13	123.51	113.70
3	4	3	A	N9-C1'-C2'	6.13	121.97	114.00
9	F	112	ASN	N-CA-C	6.13	127.54	111.00
1	1	3319	U	C5'-C4'-O4'	6.12	116.45	109.10
1	1	2505	U	C5'-C4'-O4'	6.12	116.45	109.10
1	1	2696	A	C4'-C3'-O3'	6.12	125.24	113.00
1	1	3205	G	O4'-C1'-N9	6.12	113.09	108.20
45	t	208	SER	N-CA-C	6.12	127.52	111.00
3	4	96	A	N9-C1'-C2'	6.12	121.95	114.00
1	1	1825	G	C5'-C4'-O4'	6.12	116.44	109.10
1	1	2787	G	C5'-C4'-O4'	6.12	116.44	109.10
1	1	3100	U	C5'-C4'-O4'	6.12	116.44	109.10
1	1	565	U	N1-C1'-C2'	6.11	121.95	114.00
1	1	2298	U	O4'-C1'-N1	6.11	113.09	108.20
1	1	2465	G	C5'-C4'-O4'	6.11	116.43	109.10
1	1	243	G	C5'-C4'-O4'	6.10	116.42	109.10
1	1	2906	C	C4'-C3'-O3'	6.10	125.20	113.00
1	1	3278	C	C5'-C4'-O4'	6.09	116.41	109.10
1	1	670	C	C5'-C4'-O4'	6.09	116.41	109.10
7	D	194	LEU	CB-CG-CD1	6.09	121.36	111.00
1	1	892	U	C5'-C4'-C3'	6.09	125.75	116.00
1	1	904	A	N9-C1'-C2'	6.09	121.92	114.00
2	3	114	U	C5'-C4'-C3'	6.09	125.74	116.00
14	L	158	ALA	N-CA-C	6.09	127.44	111.00
1	1	3176	G	C3'-C2'-O2'	6.09	130.95	113.30
1	1	873	C	C2'-C3'-O3'	6.08	123.44	113.70
1	1	920	A	C5'-C4'-O4'	6.08	116.40	109.10
1	1	1464	G	C4'-C3'-O3'	6.08	125.17	113.00
10	G	102	ALA	N-CA-C	6.08	127.43	111.00
29	a	58	MET	N-CA-C	6.08	127.42	111.00
1	1	2203	U	C5'-C4'-O4'	6.08	116.40	109.10
1	1	2304	C	C4'-C3'-O3'	6.08	125.16	113.00
1	1	1853	U	C5'-C4'-C3'	6.08	125.73	116.00
1	1	2493	C	C5'-C4'-O4'	6.08	116.39	109.10
1	1	424	G	C4'-C3'-O3'	6.08	125.15	113.00
1	1	3051	U	C5'-C4'-O4'	6.08	116.39	109.10
14	L	61	PRO	N-CA-C	6.08	127.90	112.10
45	t	67	ILE	CG1-CB-CG2	6.08	124.77	111.40
18	P	161	ALA	N-CA-C	6.07	127.40	111.00
1	1	301	G	C4'-C3'-O3'	6.07	125.14	113.00
1	1	815	G	N9-C1'-C2'	6.07	121.89	114.00
12	I	16	PRO	N-CA-C	6.07	127.88	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2291	A	N9-C1'-C2'	6.07	121.89	114.00
21	S	41	TYR	N-CA-C	6.07	127.39	111.00
1	1	1117	G	C5'-C4'-O4'	6.07	116.38	109.10
17	O	14	HIS	N-CA-C	6.06	127.37	111.00
1	1	1425	U	C4'-C3'-O3'	6.06	125.12	113.00
1	1	2427	U	C5'-C4'-O4'	6.06	116.38	109.10
1	1	3057	U	C4'-C3'-O3'	6.06	125.12	113.00
3	4	49	G	C5'-C4'-O4'	6.06	116.38	109.10
3	4	116	G	C4'-C3'-O3'	6.06	125.13	113.00
1	1	2215	A	C5'-C4'-O4'	6.06	116.37	109.10
1	1	2387	A	C4'-C3'-O3'	6.06	125.11	113.00
28	Z	110	ALA	N-CA-C	6.06	127.36	111.00
6	C	222	VAL	CB-CA-C	6.05	122.90	111.40
1	1	1024	G	C4'-C3'-O3'	6.05	125.10	113.00
1	1	521	A	C5'-C4'-O4'	6.05	116.36	109.10
1	1	3332	U	C5'-C4'-O4'	6.05	116.36	109.10
1	1	1257	C	C4'-C3'-O3'	6.04	125.09	113.00
1	1	952	A	O3'-P-O5'	-6.04	92.52	104.00
1	1	1162	U	O3'-P-O5'	-6.04	92.53	104.00
1	1	3075	G	C5'-C4'-O4'	6.04	116.35	109.10
1	1	3368	U	C4'-C3'-O3'	6.04	125.07	113.00
1	1	2661	G	C5'-C4'-O4'	6.04	116.34	109.10
1	1	3279	A	C3'-C2'-O2'	6.04	130.80	113.30
1	1	1773	C	C5'-C4'-O4'	6.03	116.34	109.10
1	1	1673	G	C5'-C4'-O4'	6.03	116.34	109.10
1	1	3333	G	C1'-C2'-O2'	6.03	128.69	110.60
1	1	326	U	C5'-C4'-O4'	6.03	116.33	109.10
1	1	683	U	C5'-C4'-O4'	6.03	116.33	109.10
19	Q	112	ALA	N-CA-C	6.02	127.27	111.00
1	1	1317	A	C5'-C4'-C3'	6.02	125.64	116.00
1	1	2152	A	N9-C1'-C2'	6.02	121.83	114.00
1	1	2668	U	C5'-C4'-O4'	6.02	116.32	109.10
2	3	97	A	N9-C1'-C2'	6.02	121.82	114.00
1	1	1289	G	C5'-C4'-C3'	6.02	125.63	116.00
1	1	1153	A	C4'-C3'-O3'	6.01	125.03	113.00
1	1	2718	U	C4'-C3'-O3'	6.01	125.02	113.00
35	g	92	ALA	N-CA-C	6.01	127.23	111.00
1	1	3349	C	C5'-C4'-O4'	6.01	116.31	109.10
1	1	411	U	C5'-C4'-C3'	6.00	125.61	116.00
17	O	189	ASP	N-CA-C	6.00	127.21	111.00
1	1	1821	U	C2'-C3'-O3'	6.00	123.30	113.70
1	1	1530	U	N1-C1'-C2'	6.00	121.80	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	J	162	TRP	N-CA-C	6.00	127.20	111.00
1	1	1770	G	C5'-C4'-O4'	6.00	116.30	109.10
1	1	2622	C	C1'-C2'-O2'	6.00	128.60	110.60
1	1	268	A	OP2-P-O3'	6.00	118.39	105.20
1	1	2742	C	C5'-C4'-O4'	6.00	116.29	109.10
5	B	183	LEU	CB-CG-CD2	6.00	121.19	111.00
1	1	1484	U	C5'-C4'-O4'	5.99	116.29	109.10
1	1	2574	G	C3'-C2'-O2'	5.99	130.68	113.30
1	1	936	A	C5'-C4'-O4'	5.99	116.29	109.10
13	J	35	LYS	N-CA-C	5.99	127.17	111.00
45	t	194	LEU	CB-CG-CD2	5.99	121.18	111.00
2	3	85	G	C5'-C4'-O4'	5.99	116.29	109.10
5	B	179	ALA	N-CA-C	5.99	127.17	111.00
20	R	6	THR	N-CA-C	5.99	127.17	111.00
40	l	19	GLN	N-CA-C	5.99	127.17	111.00
1	1	1667	A	C5'-C4'-O4'	5.98	116.28	109.10
1	1	2874	G	C3'-C2'-O2'	5.98	130.64	113.30
1	1	1929	G	C5'-C4'-O4'	5.98	116.27	109.10
11	H	51	GLN	N-CA-C	5.98	127.14	111.00
21	S	12	ARG	N-CA-C	5.98	127.14	111.00
1	1	938	C	N1-C1'-C2'	5.97	121.77	114.00
1	1	2734	A	C5'-C4'-C3'	5.97	125.56	116.00
21	S	71	LYS	N-CA-C	5.97	127.13	111.00
1	1	1502	C	C5'-C4'-O4'	5.97	116.27	109.10
1	1	3134	A	C5'-C4'-O4'	5.97	116.27	109.10
35	g	13	TYR	CG-CD2-CE2	-5.97	116.53	121.30
38	j	65	ARG	N-CA-C	5.97	127.12	111.00
1	1	673	U	C4'-C3'-O3'	5.97	124.94	113.00
1	1	701	G	C5'-C4'-C3'	5.97	125.55	116.00
1	1	987	U	C5'-C4'-O4'	5.97	116.26	109.10
1	1	1888	U	C2'-C3'-O3'	5.97	123.25	113.70
1	1	2787	G	C4'-C3'-O3'	5.97	124.93	113.00
1	1	3205	G	C1'-C2'-O2'	5.97	128.50	110.60
1	1	2772	C	C1'-C2'-O2'	5.96	128.49	110.60
17	O	191	ALA	N-CA-C	5.96	127.10	111.00
1	1	368	G	C4'-C3'-O3'	5.96	124.92	113.00
1	1	2782	U	N1-C1'-C2'	5.96	121.75	114.00
27	Y	39	LEU	N-CA-C	5.96	127.09	111.00
17	O	185	ALA	N-CA-C	5.96	127.09	111.00
8	E	153	PRO	N-CA-C	5.96	127.59	112.10
1	1	2950	G	C5'-C4'-O4'	5.96	116.25	109.10
1	1	2320	A	C5'-C4'-O4'	5.95	116.24	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	106	U	C5'-C4'-O4'	5.95	116.24	109.10
1	1	1451	C	C5'-C4'-O4'	5.95	116.24	109.10
11	H	176	LEU	CB-CG-CD2	5.95	121.11	111.00
24	V	14	SER	N-CA-C	5.95	127.07	111.00
3	4	81	U	C4'-C3'-O3'	5.95	124.89	113.00
1	1	3001	C	C1'-C2'-O2'	5.95	128.44	110.60
1	1	98	G	C5'-C4'-O4'	5.94	116.23	109.10
34	f	63	LYS	N-CA-C	5.94	127.04	111.00
1	1	1600	U	C4'-C3'-O3'	5.94	124.88	113.00
1	1	2152	A	C4'-C3'-O3'	5.94	124.88	113.00
16	N	46	ASP	N-CA-C	5.94	127.04	111.00
1	1	527	A	C5'-C4'-O4'	5.94	116.23	109.10
1	1	1176	C	C5'-C4'-C3'	5.94	125.50	116.00
1	1	1844	C	N1-C1'-C2'	5.94	121.72	114.00
1	1	2267	C	C5'-C4'-C3'	5.94	125.50	116.00
1	1	2331	C	C5'-C4'-O4'	5.94	116.23	109.10
1	1	613	G	C5'-C4'-C3'	5.93	125.50	116.00
1	1	635	G	C5'-C4'-C3'	5.93	125.50	116.00
1	1	1835	A	C3'-C2'-O2'	5.93	130.51	113.30
1	1	672	A	C4'-C3'-O3'	5.93	124.85	113.00
1	1	2711	C	C1'-C2'-O2'	5.93	128.38	110.60
34	f	91	ALA	N-CA-C	5.93	127.00	111.00
1	1	1673	G	C5'-C4'-C3'	5.92	125.48	116.00
4	A	8	GLN	N-CA-C	5.92	126.99	111.00
20	R	21	LYS	N-CA-C	5.92	127.00	111.00
3	4	114	G	C5'-C4'-O4'	5.92	116.21	109.10
1	1	722	G	C4'-C3'-O3'	5.92	124.84	113.00
1	1	2637	A	C5'-C4'-O4'	5.92	116.21	109.10
4	A	96	LEU	N-CA-C	5.92	126.99	111.00
1	1	1100	U	C5'-C4'-C3'	5.92	125.47	116.00
1	1	1247	U	C4'-C3'-O3'	5.92	124.84	113.00
1	1	1773	C	C4'-C3'-O3'	5.92	124.83	113.00
1	1	1944	U	N1-C1'-C2'	5.92	121.69	114.00
2	3	56	A	C5'-C4'-C3'	5.92	125.47	116.00
5	B	43	LEU	CB-CG-CD1	5.92	121.06	111.00
1	1	3285	C	C4'-C3'-O3'	5.91	124.83	113.00
1	1	2563	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	31	C	C4'-C3'-O3'	5.91	124.82	113.00
1	1	1110	U	C5'-C4'-O4'	5.91	116.19	109.10
1	1	1543	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	420	G	C5'-C4'-O4'	5.91	116.19	109.10
1	1	682	U	C5'-C4'-C3'	5.91	125.45	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2130	G	C4'-C3'-O3'	5.91	124.81	113.00
1	1	200	C	C5'-C4'-C3'	5.90	125.45	116.00
1	1	1336	U	N1-C1'-C2'	5.90	121.67	114.00
1	1	1832	C	N1-C1'-C2'	5.90	121.67	114.00
1	1	2428	U	C5'-C4'-O4'	5.90	116.18	109.10
1	1	2486	A	C5'-C4'-C3'	5.90	125.44	116.00
1	1	2593	A	C4'-C3'-O3'	5.90	124.80	113.00
1	1	3221	C	C5'-C4'-O4'	5.90	116.18	109.10
1	1	2311	G	C4'-C3'-O3'	5.90	124.80	113.00
1	1	2416	U	C1'-C2'-O2'	5.90	128.29	110.60
1	1	2782	U	C5'-C4'-O4'	5.90	116.17	109.10
1	1	3131	U	C5'-C4'-O4'	5.89	116.17	109.10
1	1	639	G	C1'-C2'-O2'	5.89	128.28	110.60
1	1	992	A	N9-C1'-C2'	5.89	121.66	114.00
1	1	2282	U	C5'-C4'-O4'	5.89	116.17	109.10
1	1	3232	G	C5'-C4'-C3'	5.89	125.42	116.00
1	1	313	A	C5'-C4'-O4'	5.89	116.17	109.10
4	A	26	ALA	N-CA-C	5.89	126.90	111.00
12	I	148	VAL	N-CA-C	5.89	126.90	111.00
1	1	560	G	C5'-C4'-O4'	5.88	116.16	109.10
5	B	173	GLN	N-CA-C	5.88	126.89	111.00
1	1	82	C	N1-C1'-C2'	5.88	121.65	114.00
1	1	2439	A	C1'-C2'-O2'	5.88	128.25	110.60
1	1	2596	U	C4'-C3'-O3'	5.88	124.77	113.00
16	N	7	LEU	N-CA-C	5.88	126.89	111.00
36	h	105	ARG	N-CA-C	5.88	126.88	111.00
1	1	2440	G	C5'-C4'-C3'	5.88	125.41	116.00
1	1	643	U	C4'-C3'-O3'	5.88	124.76	113.00
1	1	739	G	C2'-C3'-O3'	5.88	123.10	113.70
1	1	1911	A	C5'-C4'-O4'	5.88	116.15	109.10
34	f	15	SER	N-CA-C	5.88	126.87	111.00
1	1	981	U	C4'-C3'-O3'	5.88	124.75	113.00
1	1	1189	C	C2'-C3'-O3'	5.88	123.10	113.70
1	1	191	U	C5'-C4'-C3'	5.87	125.40	116.00
1	1	1649	U	C5'-C4'-O4'	5.87	116.14	109.10
1	1	1524	A	C5'-C4'-C3'	5.87	125.39	116.00
1	1	1686	U	C5'-C4'-O4'	5.87	116.14	109.10
39	k	18	ALA	N-CA-C	5.87	126.85	111.00
1	1	981	U	C5'-C4'-C3'	5.87	125.39	116.00
1	1	2511	C	C4'-C3'-O3'	5.87	124.73	113.00
1	1	897	U	C3'-C2'-O2'	5.86	130.31	113.30
1	1	2208	A	C5'-C4'-C3'	5.86	125.38	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	108	A	N9-C1'-C2'	5.86	121.62	114.00
1	1	1246	G	C5'-C4'-C3'	5.86	125.38	116.00
1	1	2960	C	C4'-C3'-O3'	5.86	124.72	113.00
1	1	1511	U	C1'-C2'-O2'	5.86	128.17	110.60
1	1	2511	C	C5'-C4'-C3'	5.85	125.37	116.00
1	1	2320	A	C5'-C4'-C3'	5.85	125.36	116.00
1	1	2451	U	C5'-C4'-C3'	5.85	125.36	116.00
1	1	3020	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	1570	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	2349	U	C5'-C4'-O4'	5.85	116.12	109.10
8	E	172	HIS	N-CA-C	5.85	126.79	111.00
1	1	32	U	C5'-C4'-O4'	5.85	116.12	109.10
1	1	2686	A	C5'-C4'-O4'	5.85	116.12	109.10
1	1	735	A	C5'-C4'-C3'	5.85	125.35	116.00
1	1	1704	A	C1'-C2'-O2'	5.84	128.13	110.60
4	A	32	LEU	N-CA-C	5.84	126.78	111.00
1	1	291	C	C3'-C2'-O2'	5.84	130.24	113.30
1	1	2357	A	N9-C1'-C2'	5.84	121.59	114.00
1	1	3236	U	N1-C1'-C2'	5.84	121.59	114.00
5	B	75	ALA	N-CA-C	5.84	126.76	111.00
14	L	38	ALA	N-CA-C	5.84	126.76	111.00
1	1	1944	U	C5'-C4'-C3'	5.83	125.34	116.00
1	1	1555	U	C4'-C3'-O3'	5.83	124.67	113.00
1	1	2385	G	C5'-C4'-O4'	5.83	116.10	109.10
1	1	2955	U	C5'-C4'-O4'	5.83	116.10	109.10
1	1	1596	C	C5'-C4'-O4'	5.83	116.09	109.10
1	1	2369	G	C5'-C4'-O4'	5.83	116.09	109.10
10	G	216	SER	N-CA-C	5.83	126.74	111.00
1	1	1162	U	OP2-P-O3'	5.82	118.01	105.20
1	1	3057	U	C2'-C3'-O3'	5.82	123.01	113.70
1	1	2393	G	C5'-C4'-O4'	5.82	116.08	109.10
1	1	542	G	C4'-C3'-O3'	5.82	124.63	113.00
43	o	77	CYS	N-CA-C	5.81	126.70	111.00
1	1	646	A	C5'-C4'-O4'	5.81	116.07	109.10
1	1	2597	U	C5'-C4'-O4'	5.81	116.07	109.10
1	1	175	C	C5'-C4'-O4'	5.81	116.07	109.10
31	c	46	ALA	N-CA-C	5.81	126.69	111.00
35	g	84	CYS	N-CA-C	5.81	126.68	111.00
1	1	134	U	C5'-C4'-O4'	5.81	116.07	109.10
9	F	188	ILE	CG1-CB-CG2	5.81	124.17	111.40
1	1	1535	A	C5'-C4'-O4'	5.80	116.06	109.10
13	J	62	ASN	N-CA-C	5.80	126.67	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3127	A	C3'-C2'-O2'	5.80	130.12	113.30
6	C	5	GLN	N-CA-C	5.80	126.67	111.00
20	R	5	ARG	N-CA-C	5.80	126.66	111.00
1	1	912	G	C5'-C4'-O4'	5.80	116.06	109.10
3	4	99	C	C5'-C4'-O4'	5.80	116.06	109.10
5	B	183	LEU	CB-CG-CD1	5.80	120.86	111.00
1	1	196	G	C1'-C2'-O2'	5.80	127.99	110.60
1	1	730	C	C3'-C2'-O2'	5.80	130.11	113.30
21	S	119	ARG	N-CA-C	5.80	126.65	111.00
1	1	2180	G	N9-C1'-C2'	5.79	121.53	114.00
1	1	415	G	C3'-C2'-O2'	5.79	130.09	113.30
1	1	3226	A	C5'-C4'-C3'	5.79	125.27	116.00
1	1	3297	U	C3'-C2'-O2'	5.79	130.09	113.30
3	4	52	A	C3'-C2'-O2'	5.79	130.09	113.30
7	D	109	THR	N-CA-C	5.79	126.64	111.00
1	1	2207	A	C5'-C4'-C3'	5.79	125.26	116.00
1	1	1623	G	C5'-C4'-C3'	5.79	125.26	116.00
16	N	161	ALA	N-CA-C	5.79	126.63	111.00
2	3	115	G	C5'-C4'-O4'	5.79	116.05	109.10
10	G	99	PRO	N-CA-C	5.79	127.15	112.10
1	1	189	G	C5'-C4'-O4'	5.79	116.04	109.10
1	1	1297	C	C5'-C4'-O4'	5.79	116.04	109.10
1	1	2150	G	C3'-C2'-O2'	5.79	130.08	113.30
1	1	2501	U	C4'-C3'-O3'	5.79	124.57	113.00
1	1	2967	A	N9-C1'-C2'	5.78	121.52	114.00
1	1	551	A	C4'-C3'-O3'	5.78	124.56	113.00
1	1	879	U	O4'-C1'-N1	5.78	112.83	108.20
1	1	560	G	C5'-C4'-C3'	5.78	125.25	116.00
1	1	250	U	C5'-C4'-O4'	5.78	116.03	109.10
1	1	2721	A	C3'-C2'-O2'	5.78	130.06	113.30
5	B	43	LEU	CB-CG-CD2	5.78	120.82	111.00
1	1	1422	G	C4'-C3'-O3'	5.77	124.55	113.00
6	C	172	VAL	N-CA-C	5.77	126.59	111.00
1	1	1186	G	C1'-C2'-O2'	5.77	127.91	110.60
3	4	75	G	C4'-C3'-O3'	5.77	124.54	113.00
1	1	538	G	C4'-C3'-O3'	5.76	124.53	113.00
1	1	1208	U	C1'-C2'-O2'	5.76	127.89	110.60
1	1	2454	G	C5'-C4'-C3'	5.76	125.22	116.00
2	3	61	G	C3'-C2'-O2'	5.76	130.02	113.30
3	4	63	G	C3'-C2'-O2'	5.76	130.02	113.30
21	S	70	THR	N-CA-C	5.76	126.56	111.00
31	c	76	GLU	N-CA-C	5.76	126.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1235	U	C5'-C4'-O4'	5.76	116.02	109.10
1	1	1282	G	C5'-C4'-C3'	5.76	125.22	116.00
1	1	1420	C	C3'-C2'-O2'	5.76	130.01	113.30
1	1	2282	U	C5'-C4'-C3'	5.76	125.22	116.00
1	1	3391	A	C3'-C2'-O2'	5.76	130.01	113.30
1	1	3319	U	C5'-C4'-C3'	5.76	125.22	116.00
36	h	63	ARG	N-CA-C	5.76	126.55	111.00
43	o	93	LEU	N-CA-C	5.76	126.56	111.00
1	1	837	A	N9-C1'-C2'	5.76	121.49	114.00
45	t	198	TRP	N-CA-C	5.76	126.55	111.00
1	1	1438	U	C5'-C4'-O4'	5.76	116.01	109.10
1	1	1298	C	C1'-C2'-O2'	5.76	127.87	110.60
3	4	71	A	O4'-C1'-N9	5.76	112.81	108.20
1	1	258	G	C3'-C2'-O2'	5.75	129.98	113.30
1	1	1357	G	N9-C1'-C2'	5.75	121.48	114.00
1	1	3209	A	C3'-C2'-O2'	5.75	129.98	113.30
13	J	112	LEU	N-CA-C	5.75	126.53	111.00
1	1	1711	C	C1'-C2'-O2'	5.75	127.84	110.60
1	1	1885	U	C1'-C2'-O2'	5.75	127.84	110.60
1	1	188	U	C5'-C4'-C3'	5.75	125.19	116.00
1	1	1212	A	C4'-C3'-O3'	5.75	124.49	113.00
1	1	832	G	C4'-C3'-O3'	5.74	124.49	113.00
1	1	759	U	C3'-C2'-O2'	5.74	129.94	113.30
28	Z	105	SER	N-CA-C	5.74	126.49	111.00
45	t	90	LEU	N-CA-C	5.74	126.49	111.00
15	M	46	ILE	N-CA-C	5.74	126.48	111.00
1	1	2956	A	C1'-C2'-O2'	5.73	127.80	110.60
1	1	581	U	C5'-C4'-O4'	5.73	115.98	109.10
1	1	778	U	C4'-C3'-O3'	5.73	124.47	113.00
1	1	2288	G	C4'-C3'-O3'	5.73	124.46	113.00
1	1	777	U	C5'-C4'-C3'	5.73	125.17	116.00
1	1	759	U	N1-C1'-C2'	5.73	121.45	114.00
1	1	3219	G	C1'-C2'-O2'	5.73	127.79	110.60
19	Q	97	PRO	N-CA-C	5.73	126.99	112.10
1	1	1296	C	C1'-C2'-O2'	5.72	127.78	110.60
1	1	2651	G	C5'-C4'-O4'	5.72	115.97	109.10
1	1	1445	U	OP2-P-O3'	5.72	117.79	105.20
1	1	1534	A	C5'-C4'-C3'	5.72	125.16	116.00
1	1	1942	U	C3'-C2'-O2'	5.72	129.89	113.30
1	1	2557	A	C1'-C2'-O2'	5.72	127.77	110.60
1	1	647	A	C4'-C3'-O3'	5.72	124.44	113.00
1	1	677	A	O4'-C1'-N9	5.72	112.78	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1848	G	C1'-C2'-O2'	5.72	127.75	110.60
3	4	82	U	O4'-C1'-N1	5.72	112.77	108.20
1	1	2784	G	C4'-C3'-O3'	5.71	124.43	113.00
35	g	73	SER	N-CA-C	5.71	126.43	111.00
1	1	1222	G	C5'-C4'-O4'	5.71	115.95	109.10
2	3	78	U	C5'-C4'-O4'	5.71	115.95	109.10
3	4	125	U	C2'-C3'-O3'	5.71	122.84	113.70
1	1	1946	A	N9-C1'-C2'	5.71	121.42	114.00
1	1	2156	C	C2'-C3'-O3'	5.71	122.84	113.70
13	J	163	PHE	N-CA-C	5.71	126.42	111.00
1	1	288	C	C1'-C2'-O2'	5.71	127.72	110.60
1	1	2165	G	C5'-C4'-O4'	5.71	115.95	109.10
2	3	49	G	C5'-C4'-O4'	5.71	115.95	109.10
34	f	78	SER	N-CA-C	5.71	126.41	111.00
1	1	3096	C	C5'-C4'-O4'	5.71	115.95	109.10
35	g	29	ILE	CG1-CB-CG2	5.71	123.95	111.40
1	1	884	A	C1'-C2'-O2'	5.71	127.71	110.60
6	C	195	ARG	N-CA-C	5.71	126.40	111.00
1	1	1382	G	C5'-C4'-C3'	5.70	125.12	116.00
25	W	41	LYS	N-CA-C	5.70	126.40	111.00
1	1	1459	C	C5'-C4'-O4'	5.70	115.94	109.10
36	h	73	LYS	N-CA-C	5.70	126.39	111.00
1	1	549	U	C1'-C2'-O2'	5.70	127.70	110.60
1	1	1558	A	C2'-C3'-O3'	5.70	122.82	113.70
1	1	2604	U	N1-C1'-C2'	5.70	121.41	114.00
1	1	1377	G	N9-C1'-C2'	5.70	121.41	114.00
1	1	1179	A	N9-C1'-C2'	5.70	121.40	114.00
1	1	2945	G	C5'-C4'-C3'	5.70	125.11	116.00
1	1	2291	A	C3'-C2'-O2'	5.69	129.81	113.30
3	4	141	C	C5'-C4'-O4'	5.69	115.93	109.10
7	D	293	LEU	N-CA-C	5.69	126.37	111.00
1	1	2789	U	C3'-C2'-O2'	5.69	129.80	113.30
1	1	3171	U	C3'-C2'-O2'	5.69	129.80	113.30
3	4	158	U	C4'-C3'-O3'	5.69	124.38	113.00
24	V	93	LEU	N-CA-C	5.69	126.36	111.00
1	1	2375	G	C5'-C4'-O4'	5.69	115.92	109.10
1	1	1533	U	C3'-C2'-O2'	5.69	129.79	113.30
1	1	3020	U	C4'-C3'-O3'	5.68	124.36	113.00
1	1	418	A	C3'-C2'-O2'	5.68	129.77	113.30
1	1	652	G	C1'-C2'-O2'	5.68	127.64	110.60
1	1	1301	A	C5'-C4'-O4'	5.68	115.92	109.10
1	1	1363	A	C4'-C3'-O3'	5.68	124.36	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2295	A	C4'-C3'-O3'	5.68	124.36	113.00
1	1	2945	G	C3'-C2'-O2'	5.68	129.77	113.30
1	1	86	G	C1'-C2'-O2'	5.68	127.63	110.60
1	1	1348	U	C3'-C2'-O2'	5.68	129.76	113.30
1	1	1524	A	C3'-C2'-O2'	5.68	129.76	113.30
1	1	1400	G	C3'-C2'-O2'	5.67	129.76	113.30
1	1	1372	C	C5'-C4'-C3'	5.67	125.08	116.00
1	1	2470	C	O4'-C1'-N1	5.67	112.74	108.20
3	4	120	C	C4'-C3'-O3'	5.67	124.35	113.00
1	1	84	U	C1'-C2'-O2'	5.67	127.61	110.60
1	1	1588	A	C1'-C2'-O2'	5.67	127.62	110.60
1	1	3165	A	C4'-C3'-O3'	5.67	124.34	113.00
3	4	135	G	C4'-C3'-O3'	5.67	124.34	113.00
5	B	314	TYR	CG-CD1-CE1	-5.67	116.76	121.30
1	1	572	A	C5'-C4'-C3'	5.67	125.07	116.00
43	o	76	LYS	N-CA-C	5.67	126.31	111.00
1	1	1519	G	C3'-C2'-O2'	5.67	129.74	113.30
1	1	3134	A	C5'-C4'-C3'	5.67	125.07	116.00
4	A	239	ALA	N-CA-C	5.67	126.30	111.00
12	I	79	VAL	CB-CA-C	5.67	122.17	111.40
1	1	1698	C	C4'-C3'-O3'	5.67	124.33	113.00
1	1	2511	C	C1'-C2'-O2'	5.67	127.60	110.60
45	t	93	LEU	N-CA-C	5.67	126.30	111.00
1	1	1185	C	C1'-C2'-O2'	5.67	127.59	110.60
1	1	2320	A	C4'-C3'-O3'	5.66	124.33	113.00
12	I	5	PRO	N-CA-C	5.66	126.82	112.10
1	1	1402	C	N1-C1'-C2'	5.66	121.36	114.00
1	1	1565	G	C5'-C4'-O4'	5.66	115.89	109.10
1	1	1466	G	C5'-C4'-O4'	5.66	115.89	109.10
1	1	2149	A	C3'-C2'-O2'	5.66	129.72	113.30
1	1	2955	U	C4'-C3'-O3'	5.66	124.32	113.00
10	G	74	THR	N-CA-C	5.66	126.28	111.00
1	1	514	G	C1'-C2'-O2'	5.66	127.57	110.60
1	1	2351	U	N1-C1'-C2'	5.66	121.35	114.00
1	1	2636	A	C5'-C4'-O4'	5.66	115.89	109.10
1	1	2539	C	C5'-C4'-O4'	5.65	115.88	109.10
9	F	61	ASN	N-CA-C	5.65	126.26	111.00
15	M	85	TRP	N-CA-C	5.65	126.26	111.00
45	t	101	LYS	N-CA-C	5.65	126.26	111.00
36	h	71	LYS	N-CA-C	5.65	126.26	111.00
1	1	323	A	C4'-C3'-O3'	5.65	124.30	113.00
1	1	538	G	C5'-C4'-O4'	5.65	115.88	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3146	G	C5'-C4'-O4'	5.65	115.88	109.10
21	S	99	ARG	N-CA-C	5.65	126.25	111.00
42	n	1	MET	N-CA-C	5.65	126.25	111.00
1	1	379	C	C3'-C2'-O2'	5.65	129.67	113.30
1	1	886	C	C1'-C2'-O2'	5.65	127.54	110.60
1	1	2126	A	C1'-C2'-O2'	5.65	127.54	110.60
1	1	364	G	C1'-C2'-O2'	5.64	127.53	110.60
1	1	1039	U	C3'-C2'-O2'	5.64	129.67	113.30
1	1	2520	A	C3'-C2'-O2'	5.64	129.67	113.30
1	1	3152	U	C5'-C4'-C3'	5.64	125.03	116.00
27	Y	91	ASN	N-CA-C	5.64	126.24	111.00
1	1	1785	U	C3'-C2'-O2'	5.64	129.67	113.30
1	1	3185	U	C5'-C4'-O4'	5.64	115.87	109.10
1	1	2175	U	C1'-C2'-O2'	5.64	127.52	110.60
2	3	11	A	C3'-C2'-O2'	5.64	129.65	113.30
1	1	573	C	C4'-C3'-O3'	5.64	124.28	113.00
1	1	961	C	C1'-C2'-O2'	5.64	127.51	110.60
1	1	2587	U	C1'-C2'-O2'	5.63	127.50	110.60
4	A	187	HIS	N-CA-C	5.63	126.22	111.00
1	1	141	C	C1'-C2'-O2'	5.63	127.50	110.60
1	1	1224	C	C4'-C3'-O3'	5.63	124.26	113.00
1	1	2195	C	C4'-C3'-O3'	5.63	124.26	113.00
1	1	3335	A	C4'-C3'-O3'	5.63	124.26	113.00
5	B	379	PHE	N-CA-C	5.63	126.20	111.00
1	1	2383	C	O4'-C1'-N1	5.63	112.70	108.20
36	h	9	LEU	N-CA-C	5.63	126.20	111.00
1	1	2619	G	C5'-C4'-O4'	5.63	115.85	109.10
20	R	104	ARG	N-CA-C	5.63	126.19	111.00
1	1	2225	U	C1'-C2'-O2'	5.62	127.47	110.60
26	X	53	HIS	N-CA-C	5.62	126.19	111.00
1	1	1735	G	C1'-C2'-O2'	5.62	127.47	110.60
1	1	3253	G	C3'-C2'-O2'	5.62	129.61	113.30
1	1	607	A	C5'-C4'-O4'	5.62	115.85	109.10
1	1	616	G	C1'-C2'-O2'	5.62	127.47	110.60
1	1	1132	C	C3'-C2'-O2'	5.62	129.60	113.30
1	1	1773	C	C5'-C4'-C3'	5.62	125.00	116.00
1	1	394	G	C1'-C2'-O2'	5.62	127.46	110.60
1	1	1769	G	C1'-C2'-O2'	5.62	127.46	110.60
1	1	2108	C	C3'-C2'-O2'	5.62	129.59	113.30
3	4	158	U	C5'-C4'-O4'	5.62	115.84	109.10
1	1	538	G	C5'-C4'-C3'	5.62	124.99	116.00
1	1	2700	G	C5'-C4'-O4'	5.62	115.84	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	387	A	C4'-C3'-O3'	5.62	124.23	113.00
1	1	2191	U	C3'-C2'-O2'	5.62	129.58	113.30
10	G	144	GLU	N-CA-C	5.62	126.16	111.00
1	1	1565	G	C5'-C4'-C3'	5.61	124.98	116.00
45	t	203	SER	N-CA-C	5.61	126.16	111.00
1	1	792	G	N9-C1'-C2'	5.61	121.30	114.00
1	1	1568	U	O4'-C1'-N1	5.61	112.69	108.20
12	I	72	ALA	N-CA-CB	5.61	117.96	110.10
1	1	824	C	N1-C1'-C2'	5.61	121.30	114.00
3	4	98	U	C4'-C3'-O3'	5.61	124.22	113.00
11	H	176	LEU	CB-CG-CD1	5.61	120.54	111.00
1	1	2378	C	N1-C1'-C2'	5.61	121.29	114.00
1	1	2316	G	C1'-C2'-O2'	5.61	127.42	110.60
1	1	2636	A	C5'-C4'-C3'	5.61	124.97	116.00
22	T	78	LYS	N-CA-C	5.61	126.14	111.00
39	k	69	LEU	N-CA-C	5.61	126.14	111.00
2	3	27	A	C1'-C2'-O2'	5.60	127.41	110.60
1	1	1547	G	C4'-C3'-O3'	5.60	124.20	113.00
1	1	2403	G	C1'-C2'-O2'	5.60	127.40	110.60
1	1	1499	C	C3'-C2'-O2'	5.60	129.54	113.30
1	1	527	A	C5'-C4'-C3'	5.60	124.96	116.00
1	1	735	A	C5'-C4'-O4'	5.60	115.82	109.10
1	1	3051	U	C5'-C4'-C3'	5.60	124.95	116.00
1	1	25	U	C4'-C3'-O3'	5.59	124.19	113.00
43	o	63	LYS	N-CA-C	5.59	126.11	111.00
1	1	3285	C	C5'-C4'-O4'	5.59	115.81	109.10
1	1	565	U	C3'-C2'-O2'	5.59	129.52	113.30
5	B	363	SER	N-CA-C	5.59	126.10	111.00
8	E	34	LEU	N-CA-C	5.59	126.10	111.00
3	4	106	C	O4'-C1'-N1	5.59	112.67	108.20
11	H	142	ASP	N-CA-C	5.59	126.09	111.00
18	P	169	THR	N-CA-C	5.59	126.09	111.00
1	1	1336	U	C3'-C2'-O2'	5.59	129.50	113.30
44	p	37	TYR	CG-CD1-CE1	-5.59	116.83	121.30
1	1	3295	A	C4'-C3'-O3'	5.59	124.17	113.00
6	C	50	TYR	N-CA-C	5.59	126.08	111.00
6	C	314	LYS	N-CA-C	5.59	126.08	111.00
1	1	2601	A	C1'-C2'-O2'	5.58	127.36	110.60
1	1	1547	G	C5'-C4'-C3'	5.58	124.93	116.00
1	1	2468	A	C4'-C3'-O3'	5.58	124.17	113.00
27	Y	12	ARG	N-CA-C	5.58	126.08	111.00
1	1	1462	A	C5'-C4'-O4'	5.58	115.80	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1504	A	C5'-C4'-C3'	5.58	124.93	116.00
3	4	53	A	C4'-C3'-O3'	5.58	124.16	113.00
14	L	194	GLU	N-CA-C	5.58	126.06	111.00
1	1	237	G	C1'-C2'-O2'	5.58	127.33	110.60
3	4	107	G	C3'-C2'-O2'	5.58	129.47	113.30
1	1	168	U	C5'-C4'-O4'	5.57	115.79	109.10
1	1	549	U	C3'-C2'-O2'	5.57	129.47	113.30
1	1	1629	U	C4'-C3'-O3'	5.57	124.15	113.00
1	1	3163	A	C4'-C3'-O3'	5.57	124.15	113.00
45	t	2	SER	N-CA-C	5.57	126.04	111.00
1	1	2114	C	C1'-C2'-O2'	5.57	127.31	110.60
1	1	2358	A	C3'-C2'-O2'	5.57	129.45	113.30
1	1	2789	U	N1-C1'-C2'	5.57	121.24	114.00
1	1	2842	U	O4'-C4'-C3'	5.57	110.56	106.10
1	1	1110	U	C4'-C3'-O3'	5.57	124.14	113.00
7	D	12	TYR	CG-CD2-CE2	-5.57	116.84	121.30
1	1	2505	U	C4'-C3'-O3'	5.57	124.14	113.00
1	1	1628	C	C5'-C4'-O4'	5.57	115.78	109.10
1	1	2777	G	C1'-C2'-O2'	5.56	127.29	110.60
20	R	100	ARG	N-CA-C	5.56	126.02	111.00
1	1	2273	G	C1'-C2'-O2'	5.56	127.29	110.60
1	1	2610	G	C1'-C2'-O2'	5.56	127.29	110.60
33	e	55	ILE	N-CA-C	5.56	126.02	111.00
1	1	3222	U	C3'-C2'-O2'	5.56	129.43	113.30
1	1	2838	A	C1'-C2'-O2'	5.56	127.28	110.60
44	p	90	VAL	N-CA-C	5.56	126.01	111.00
1	1	3243	A	C3'-C2'-O2'	5.56	129.42	113.30
1	1	3278	C	C5'-C4'-C3'	5.56	124.89	116.00
18	P	97	ASN	N-CA-C	5.56	126.00	111.00
1	1	32	U	C3'-C2'-O2'	5.56	129.41	113.30
33	e	123	LYS	N-CA-C	5.55	126.00	111.00
1	1	190	U	C4'-C3'-O3'	5.55	124.11	113.00
1	1	2308	C	C1'-C2'-O2'	5.55	127.26	110.60
14	L	133	PRO	N-CA-C	5.55	126.54	112.10
1	1	373	A	C5'-C4'-C3'	5.55	124.88	116.00
1	1	1892	G	C1'-C2'-O2'	5.55	127.26	110.60
1	1	2121	G	C3'-C2'-O2'	5.55	129.40	113.30
1	1	435	C	C3'-C2'-O2'	5.55	129.39	113.30
1	1	1599	G	N9-C1'-C2'	5.55	121.21	114.00
1	1	1673	G	C4'-C3'-O3'	5.55	124.10	113.00
1	1	1705	U	C1'-C2'-O2'	5.55	127.25	110.60
1	1	2667	A	C4'-C3'-O3'	5.55	124.10	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	R	106	LEU	N-CA-C	5.55	125.98	111.00
1	1	2314	U	C3'-C2'-O2'	5.55	129.39	113.30
5	B	301	THR	N-CA-C	5.55	125.98	111.00
17	O	20	ALA	N-CA-C	5.55	125.98	111.00
31	c	87	VAL	N-CA-C	5.55	125.98	111.00
1	1	41	G	OP1-P-O3'	-5.55	93.00	105.20
2	3	53	U	C4'-C3'-O3'	5.55	124.09	113.00
3	4	52	A	C1'-C2'-O2'	5.55	127.24	110.60
24	V	54	LEU	N-CA-C	5.55	125.98	111.00
24	V	69	LEU	N-CA-C	5.55	125.97	111.00
1	1	47	C	OP2-P-O3'	5.54	117.40	105.20
1	1	1448	U	C1'-C2'-O2'	5.54	127.23	110.60
1	1	3313	U	C4'-C3'-O3'	5.54	124.09	113.00
1	1	390	G	C3'-C2'-O2'	5.54	129.38	113.30
1	1	1324	U	C4'-C3'-O3'	5.54	124.08	113.00
1	1	1508	C	C3'-C2'-O2'	5.54	129.37	113.30
1	1	1005	G	C1'-C2'-O2'	5.54	127.22	110.60
5	B	123	TYR	CG-CD1-CE1	-5.54	116.87	121.30
16	N	87	GLN	N-CA-C	5.54	125.96	111.00
1	1	183	G	C5'-C4'-C3'	5.54	124.86	116.00
1	1	2690	G	C5'-C4'-C3'	5.54	124.86	116.00
3	4	106	C	C1'-C2'-O2'	5.54	127.22	110.60
1	1	864	G	C3'-C2'-O2'	5.54	129.36	113.30
1	1	1654	A	C5'-C4'-C3'	5.54	124.86	116.00
1	1	1725	C	C3'-C2'-O2'	5.54	129.35	113.30
1	1	2996	U	C1'-C2'-O2'	5.54	127.21	110.60
1	1	1854	C	N1-C1'-C2'	5.53	121.19	114.00
1	1	2833	A	C3'-C2'-O2'	5.53	129.34	113.30
1	1	1906	G	C5'-C4'-C3'	5.53	124.85	116.00
1	1	2777	G	C3'-C2'-O2'	5.53	129.34	113.30
1	1	547	G	C5'-C4'-C3'	5.53	124.85	116.00
1	1	2955	U	C5'-C4'-C3'	5.53	124.85	116.00
38	j	27	PHE	N-CA-C	5.53	125.93	111.00
1	1	2981	U	C3'-C2'-O2'	5.53	129.33	113.30
1	1	1839	A	C3'-C2'-O2'	5.53	129.33	113.30
3	4	13	A	C1'-C2'-O2'	5.53	127.18	110.60
1	1	741	U	C5'-C4'-C3'	5.53	124.84	116.00
1	1	1149	G	C4'-C3'-O3'	5.53	124.05	113.00
1	1	2199	G	C5'-C4'-C3'	5.53	124.84	116.00
1	1	1451	C	C5'-C4'-C3'	5.52	124.84	116.00
1	1	241	G	C3'-C2'-O2'	5.52	129.31	113.30
17	O	48	PHE	N-CA-C	5.52	125.91	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1498	A	C3'-C2'-O2'	5.52	129.31	113.30
1	1	2731	U	C4'-C3'-O3'	5.52	124.04	113.00
1	1	3116	G	O4'-C1'-N9	5.52	112.62	108.20
1	1	1905	G	C5'-C4'-C3'	5.52	124.83	116.00
1	1	2104	A	C3'-C2'-O2'	5.52	129.31	113.30
1	1	2700	G	N9-C1'-C2'	5.52	121.17	114.00
1	1	232	G	C3'-C2'-O2'	5.52	129.30	113.30
1	1	546	C	C4'-C3'-O3'	5.52	124.04	113.00
14	L	106	GLN	N-CA-C	5.52	125.90	111.00
1	1	584	G	C1'-C2'-O2'	5.52	127.15	110.60
3	4	121	U	C3'-C2'-O2'	5.51	129.29	113.30
8	E	131	LYS	N-CA-C	5.51	125.89	111.00
1	1	3308	C	C1'-C2'-O2'	5.51	127.14	110.60
1	1	1799	A	C5'-C4'-C3'	5.51	124.82	116.00
1	1	2689	A	C5'-C4'-C3'	5.51	124.82	116.00
3	4	111	A	C1'-C2'-O2'	5.51	127.13	110.60
10	G	96	LYS	N-CA-C	5.51	125.88	111.00
1	1	864	G	C1'-C2'-O2'	5.51	127.12	110.60
1	1	1812	G	C5'-C4'-C3'	5.51	124.81	116.00
39	k	28	ASN	N-CA-C	5.50	125.86	111.00
1	1	3016	A	C5'-C4'-C3'	5.50	124.80	116.00
2	3	8	G	C1'-C2'-O2'	5.50	127.11	110.60
1	1	208	C	C1'-C2'-O2'	5.50	127.10	110.60
1	1	250	U	C5'-C4'-C3'	5.50	124.80	116.00
1	1	2182	A	C5'-C4'-C3'	5.50	124.80	116.00
1	1	2965	U	OP1-P-O3'	-5.50	93.10	105.20
1	1	1040	A	N9-C1'-C2'	5.50	121.15	114.00
1	1	2776	C	C5'-C4'-C3'	5.50	124.80	116.00
1	1	3208	G	C1'-C2'-O2'	5.50	127.10	110.60
1	1	938	C	C5'-C4'-O4'	5.50	115.69	109.10
1	1	1099	A	N9-C1'-C2'	5.50	121.15	114.00
12	I	146	ASP	N-CA-C	5.50	125.84	111.00
17	O	41	LEU	N-CA-C	5.50	125.84	111.00
37	i	98	ARG	N-CA-C	5.50	125.84	111.00
1	1	1545	A	N9-C1'-C2'	5.49	121.14	114.00
1	1	1885	U	O4'-C1'-N1	5.49	112.59	108.20
1	1	2427	U	C5'-C4'-C3'	5.49	124.79	116.00
1	1	2968	G	C5'-C4'-C3'	5.49	124.79	116.00
1	1	1935	G	C1'-C2'-O2'	5.49	127.08	110.60
1	1	2374	C	C1'-C2'-O2'	5.49	127.08	110.60
1	1	2826	U	C1'-C2'-O2'	5.49	127.08	110.60
3	4	117	C	C3'-C2'-O2'	5.49	129.23	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1466	G	C3'-C2'-O2'	5.49	129.22	113.30
1	1	1556	C	C1'-C2'-O2'	5.49	127.07	110.60
1	1	2405	C	C3'-C2'-O2'	5.49	129.22	113.30
1	1	2439	A	C3'-C2'-O2'	5.49	129.22	113.30
1	1	2678	A	C5'-C4'-C3'	5.49	124.78	116.00
2	3	57	G	C4'-C3'-O3'	5.49	123.98	113.00
3	4	49	G	C5'-C4'-C3'	5.49	124.78	116.00
1	1	2623	G	C1'-C2'-O2'	5.49	127.07	110.60
35	g	14	ASN	N-CA-C	5.49	125.82	111.00
1	1	1737	U	C3'-C2'-O2'	5.49	129.21	113.30
1	1	2695	A	C5'-C4'-O4'	5.49	115.68	109.10
1	1	371	G	C1'-C2'-O2'	5.49	127.06	110.60
1	1	3050	U	C4'-C3'-O3'	5.49	123.97	113.00
1	1	275	U	C3'-C2'-O2'	5.48	129.20	113.30
1	1	311	C	C3'-C2'-O2'	5.48	129.20	113.30
1	1	1814	A	C5'-C4'-C3'	5.48	124.77	116.00
1	1	1817	G	C4'-C3'-O3'	5.48	123.97	113.00
1	1	1824	U	C5'-C4'-C3'	5.48	124.77	116.00
1	1	2110	G	C1'-C2'-O2'	5.48	127.05	110.60
1	1	2172	A	C3'-C2'-O2'	5.48	129.20	113.30
1	1	2421	U	C1'-C2'-O2'	5.48	127.05	110.60
27	Y	3	LYS	N-CA-C	5.48	125.80	111.00
38	j	45	ARG	N-CA-C	5.48	125.80	111.00
1	1	2505	U	C5'-C4'-C3'	5.48	124.77	116.00
18	P	146	ILE	CG1-CB-CG2	5.48	123.46	111.40
16	N	102	ALA	N-CA-C	5.48	125.79	111.00
2	3	67	G	C1'-C2'-O2'	5.48	127.03	110.60
1	1	358	G	C1'-C2'-O2'	5.47	127.02	110.60
1	1	3349	C	C5'-C4'-C3'	5.47	124.76	116.00
2	3	115	G	C4'-C3'-O3'	5.47	123.95	113.00
3	4	108	C	N1-C1'-C2'	5.47	121.12	114.00
1	1	2215	A	C5'-C4'-C3'	5.47	124.75	116.00
2	3	42	A	C5'-C4'-C3'	5.47	124.76	116.00
1	1	93	C	C3'-C2'-O2'	5.47	129.16	113.30
1	1	2787	G	C5'-C4'-C3'	5.47	124.75	116.00
1	1	1270	A	C4'-C3'-O3'	5.47	123.94	113.00
1	1	2623	G	C3'-C2'-O2'	5.47	129.16	113.30
45	t	22	GLU	N-CA-C	5.47	125.77	111.00
1	1	251	G	C5'-C4'-C3'	5.47	124.75	116.00
1	1	1351	U	C5'-C4'-C3'	5.47	124.75	116.00
1	1	2823	G	C5'-C4'-C3'	5.47	124.75	116.00
45	t	94	ASN	N-CA-C	5.47	125.76	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	H	183	HIS	CB-CA-C	5.46	121.33	110.40
1	1	95	A	C3'-C2'-O2'	5.46	129.14	113.30
1	1	2564	G	C3'-C2'-O2'	5.46	129.14	113.30
1	1	1455	U	C2'-C3'-O3'	5.46	122.44	113.70
1	1	3189	G	C5'-C4'-C3'	5.46	124.74	116.00
1	1	677	A	C1'-C2'-O2'	5.46	126.98	110.60
1	1	1691	U	C4'-C3'-O3'	5.46	123.92	113.00
2	3	69	C	C1'-C2'-O2'	5.46	126.97	110.60
16	N	109	ARG	N-CA-C	5.46	125.73	111.00
1	1	1740	U	C1'-C2'-O2'	5.46	126.97	110.60
3	4	152	G	C1'-C2'-O2'	5.46	126.97	110.60
11	H	54	LYS	N-CA-C	5.46	125.73	111.00
29	a	145	VAL	CB-CA-C	5.46	121.77	111.40
1	1	1048	A	C4'-C3'-O3'	5.46	123.91	113.00
12	I	170	LYS	N-CA-C	5.46	125.73	111.00
1	1	192	C	C3'-C2'-O2'	5.45	129.11	113.30
1	1	680	G	N9-C1'-C2'	5.45	121.09	114.00
1	1	1360	C	C3'-C2'-O2'	5.45	129.12	113.30
1	1	2597	U	C5'-C4'-C3'	5.45	124.72	116.00
3	4	141	C	C5'-C4'-C3'	5.45	124.72	116.00
17	O	114	LYS	N-CA-C	5.45	125.72	111.00
34	f	77	ASN	N-CA-C	5.45	125.73	111.00
17	O	54	TYR	CZ-CE2-CD2	-5.45	114.89	119.80
1	1	3326	G	C4'-C3'-O3'	5.45	123.90	113.00
27	Y	87	LYS	N-CA-C	5.45	125.72	111.00
1	1	840	C	C1'-C2'-O2'	5.45	126.94	110.60
1	1	1086	C	C4'-C3'-O3'	5.45	123.89	113.00
1	1	2218	G	C3'-C2'-O2'	5.45	129.10	113.30
1	1	1105	A	C3'-C2'-O2'	5.45	129.10	113.30
1	1	2558	U	C1'-C2'-O2'	5.45	126.94	110.60
1	1	3152	U	C5'-C4'-O4'	5.45	115.63	109.10
1	1	1929	G	C5'-C4'-C3'	5.44	124.71	116.00
1	1	2242	A	N9-C1'-C2'	5.44	121.07	114.00
1	1	3329	U	C1'-C2'-O2'	5.44	126.93	110.60
3	4	30	C	N1-C1'-C2'	5.44	121.08	114.00
1	1	1235	U	C5'-C4'-C3'	5.44	124.71	116.00
1	1	2742	C	C5'-C4'-C3'	5.44	124.70	116.00
2	3	104	A	C1'-C2'-O2'	5.44	126.92	110.60
1	1	925	A	C5'-C4'-C3'	5.44	124.70	116.00
1	1	1323	G	C4'-C3'-O3'	5.44	123.88	113.00
1	1	1483	G	C5'-C4'-C3'	5.44	124.70	116.00
3	4	30	C	C1'-C2'-O2'	5.44	126.91	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	426	G	C1'-C2'-O2'	5.43	126.90	110.60
1	1	1297	C	C5'-C4'-C3'	5.43	124.69	116.00
3	4	104	A	C3'-C2'-O2'	5.43	129.06	113.30
1	1	1580	A	C1'-C2'-O2'	5.43	126.90	110.60
1	1	2385	G	C5'-C4'-C3'	5.43	124.69	116.00
3	4	104	A	C1'-C2'-O2'	5.43	126.90	110.60
1	1	1797	A	C3'-C2'-O2'	5.43	129.05	113.30
1	1	2470	C	N1-C1'-C2'	5.43	121.06	114.00
32	d	46	THR	N-CA-C	5.43	125.66	111.00
1	1	2139	A	C4'-C3'-O3'	5.43	123.86	113.00
1	1	3222	U	C1'-C2'-O2'	5.43	126.89	110.60
45	t	186	SER	N-CA-C	5.43	125.66	111.00
1	1	175	C	C5'-C4'-C3'	5.43	124.68	116.00
1	1	2944	U	C1'-C2'-O2'	5.43	126.88	110.60
45	t	152	ARG	N-CA-C	5.43	125.65	111.00
1	1	387	A	C5'-C4'-C3'	5.42	124.68	116.00
1	1	2405	C	C1'-C2'-O2'	5.42	126.87	110.60
1	1	2505	U	O4'-C1'-N1	5.42	112.54	108.20
3	4	121	U	C1'-C2'-O2'	5.42	126.88	110.60
39	k	63	LYS	N-CA-C	5.42	125.64	111.00
1	1	69	C	C1'-C2'-O2'	5.42	126.87	110.60
1	1	829	U	C4'-C3'-O3'	5.42	123.84	113.00
1	1	857	G	C1'-C2'-O2'	5.42	126.86	110.60
1	1	3025	C	C3'-C2'-O2'	5.42	129.02	113.30
1	1	3199	G	C3'-C2'-O2'	5.42	129.02	113.30
1	1	1570	U	C5'-C4'-C3'	5.42	124.67	116.00
7	D	3	PHE	N-CA-C	5.42	125.63	111.00
1	1	587	U	C3'-C2'-O2'	5.42	129.01	113.30
1	1	1623	G	C5'-C4'-O4'	5.42	115.60	109.10
1	1	1631	C	C1'-C2'-O2'	5.42	126.85	110.60
1	1	2835	U	C3'-C2'-O2'	5.42	129.00	113.30
3	4	80	A	C5'-C4'-C3'	5.42	124.67	116.00
1	1	3023	U	C5'-C4'-C3'	5.42	124.67	116.00
5	B	331	ASN	N-CA-C	5.42	125.62	111.00
1	1	103	G	N9-C1'-C2'	5.41	121.04	114.00
1	1	167	U	C4'-C3'-O3'	5.41	123.83	113.00
1	1	260	C	C3'-C2'-O2'	5.41	129.00	113.30
1	1	334	A	C3'-C2'-O2'	5.41	129.00	113.30
1	1	1812	G	O4'-C4'-C3'	5.41	110.43	106.10
1	1	2895	G	C5'-C4'-C3'	5.41	124.66	116.00
5	B	233	TRP	N-CA-C	5.41	125.61	111.00
1	1	1806	A	C4'-C3'-O3'	5.41	123.82	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	B	107	ALA	N-CA-C	5.41	125.61	111.00
18	P	47	TYR	CG-CD2-CE2	-5.41	116.97	121.30
20	R	78	TYR	CG-CD2-CE2	-5.41	116.97	121.30
1	1	2729	U	C5'-C4'-C3'	5.41	124.65	116.00
1	1	2883	U	C3'-C2'-O2'	5.41	128.99	113.30
9	F	54	GLU	N-CA-C	5.41	125.60	111.00
31	c	85	PHE	CE1-CZ-CE2	5.41	129.73	120.00
45	t	6	SER	N-CA-C	5.41	125.60	111.00
1	1	1126	G	N9-C1'-C2'	5.41	121.03	114.00
1	1	697	A	C3'-C2'-O2'	5.41	128.97	113.30
1	1	1868	G	C1'-C2'-O2'	5.41	126.82	110.60
1	1	2822	U	C1'-C2'-O2'	5.41	126.81	110.60
1	1	2902	A	C3'-C2'-O2'	5.41	128.97	113.30
14	L	79	GLU	N-CA-C	5.41	125.59	111.00
1	1	1905	G	C4'-C3'-O3'	5.40	123.80	113.00
1	1	868	C	C3'-C2'-O2'	5.40	128.96	113.30
1	1	996	A	C5'-C4'-O4'	5.40	115.58	109.10
1	1	949	C	N1-C1'-C2'	5.40	121.02	114.00
1	1	1138	U	N1-C1'-C2'	5.40	121.02	114.00
1	1	1825	G	C5'-C4'-C3'	5.40	124.64	116.00
1	1	2178	A	C1'-C2'-O2'	5.40	126.79	110.60
1	1	3246	G	C1'-C2'-O2'	5.40	126.79	110.60
1	1	504	A	C5'-C4'-C3'	5.40	124.63	116.00
5	B	146	ARG	N-CA-C	5.40	125.57	111.00
19	Q	34	THR	N-CA-C	5.40	125.57	111.00
1	1	1562	C	C4'-C3'-O3'	5.39	123.79	113.00
1	1	2539	C	C5'-C4'-C3'	5.39	124.63	116.00
1	1	2895	G	C4'-C3'-O3'	5.39	123.79	113.00
1	1	3189	G	C3'-C2'-O2'	5.39	128.94	113.30
5	B	14	LEU	N-CA-C	5.39	125.56	111.00
35	g	76	TYR	N-CA-C	5.39	125.56	111.00
1	1	1007	U	C5'-C4'-C3'	5.39	124.63	116.00
1	1	1384	U	C1'-C2'-O2'	5.39	126.78	110.60
1	1	1933	A	C3'-C2'-O2'	5.39	128.94	113.30
18	P	52	LEU	N-CA-C	5.39	125.56	111.00
1	1	2604	U	C5'-C4'-C3'	5.39	124.63	116.00
1	1	938	C	C5'-C4'-C3'	5.39	124.62	116.00
1	1	266	A	C3'-C2'-O2'	5.39	128.93	113.30
1	1	1179	A	C5'-C4'-C3'	5.39	124.62	116.00
1	1	2569	A	O4'-C1'-N9	5.39	112.51	108.20
1	1	2842	U	C5'-C4'-O4'	5.39	115.56	109.10
1	1	3176	G	N9-C1'-C2'	5.39	121.00	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	3	43	U	C3'-C2'-O2'	5.39	128.92	113.30
1	1	51	A	C1'-C2'-O2'	5.38	126.75	110.60
1	1	1023	C	C4'-C3'-O3'	5.38	123.77	113.00
1	1	2622	C	C3'-C2'-O2'	5.38	128.92	113.30
1	1	3161	C	C3'-C2'-O2'	5.38	128.91	113.30
1	1	3323	A	C4'-C3'-O3'	5.38	123.77	113.00
32	d	112	ASP	N-CA-C	5.38	125.54	111.00
1	1	2329	C	C4'-C3'-O3'	5.38	123.77	113.00
1	1	405	U	C3'-C2'-O2'	5.38	128.91	113.30
1	1	2220	A	C4'-C3'-O3'	5.38	123.77	113.00
7	D	99	TYR	CG-CD2-CE2	-5.38	117.00	121.30
29	a	144	VAL	N-CA-C	5.38	125.53	111.00
1	1	1921	A	C3'-C2'-O2'	5.38	128.90	113.30
1	1	2194	G	C3'-C2'-O2'	5.38	128.90	113.30
3	4	13	A	C3'-C2'-O2'	5.38	128.90	113.30
3	4	30	C	C3'-C2'-O2'	5.38	128.90	113.30
1	1	273	A	C4'-C3'-O3'	5.38	123.76	113.00
1	1	2286	U	C1'-C2'-O2'	5.38	126.74	110.60
1	1	2374	C	C3'-C2'-O2'	5.38	128.90	113.30
2	3	88	G	C1'-C2'-O2'	5.38	126.74	110.60
1	1	552	G	C4'-C3'-O3'	5.38	123.75	113.00
1	1	2778	G	C5'-C4'-C3'	5.38	124.60	116.00
1	1	2812	C	OP1-P-O3'	-5.38	93.37	105.20
3	4	10	A	C3'-C2'-O2'	5.38	128.89	113.30
13	J	34	SER	N-CA-C	5.38	125.52	111.00
29	a	12	ARG	N-CA-C	5.38	125.52	111.00
1	1	1099	A	C1'-C2'-O2'	5.38	126.72	110.60
1	1	1746	U	C1'-C2'-O2'	5.38	126.72	110.60
1	1	816	A	C5'-C4'-O4'	5.37	115.55	109.10
1	1	1272	C	C1'-C2'-O2'	5.37	126.72	110.60
1	1	2789	U	C1'-C2'-O2'	5.37	126.72	110.60
2	3	33	U	C1'-C2'-O2'	5.37	126.72	110.60
2	3	44	C	C4'-C3'-O3'	5.37	123.75	113.00
1	1	497	C	C1'-C2'-O2'	5.37	126.72	110.60
1	1	696	C	C3'-C2'-O2'	5.37	128.88	113.30
1	1	813	G	C3'-C2'-O2'	5.37	128.88	113.30
1	1	916	G	C5'-C4'-O4'	5.37	115.55	109.10
1	1	3171	U	C1'-C2'-O2'	5.37	126.72	110.60
3	4	41	A	P-O3'-C3'	-5.37	113.25	119.70
20	R	186	LYS	N-CA-C	5.37	125.50	111.00
1	1	547	G	C5'-C4'-O4'	5.37	115.54	109.10
30	b	40	ARG	N-CA-C	5.37	125.50	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	595	G	C3'-C2'-O2'	5.37	128.86	113.30
1	1	1705	U	C3'-C2'-O2'	5.37	128.87	113.30
1	1	2187	G	C1'-C2'-O2'	5.37	126.70	110.60
4	A	9	ARG	N-CA-C	5.37	125.49	111.00
1	1	1538	G	C3'-C2'-O2'	5.37	128.86	113.30
1	1	1746	U	C3'-C2'-O2'	5.37	128.86	113.30
1	1	2149	A	C1'-C2'-O2'	5.37	126.70	110.60
1	1	2831	G	N9-C1'-C2'	5.37	120.98	114.00
1	1	2552	C	C4'-C3'-O3'	5.36	123.73	113.00
1	1	967	A	C5'-C4'-C3'	5.36	124.58	116.00
1	1	2461	A	C1'-C2'-O2'	5.36	126.69	110.60
1	1	2836	C	C4'-C3'-O3'	5.36	123.72	113.00
1	1	778	U	C5'-C4'-O4'	5.36	115.53	109.10
1	1	2776	C	C5'-C4'-O4'	5.36	115.53	109.10
20	R	157	GLU	N-CA-C	5.36	125.47	111.00
1	1	334	A	C1'-C2'-O2'	5.36	126.67	110.60
1	1	2103	U	C5'-C4'-C3'	5.36	124.57	116.00
1	1	1770	G	O4'-C4'-C3'	5.36	110.38	106.10
1	1	2331	C	C4'-C3'-O3'	5.36	123.71	113.00
1	1	3375	A	C1'-C2'-O2'	5.36	126.67	110.60
1	1	16	A	C3'-C2'-O2'	5.35	128.83	113.30
1	1	564	G	C1'-C2'-O2'	5.35	126.66	110.60
1	1	419	G	C4'-C3'-O3'	5.35	123.70	113.00
1	1	1099	A	C3'-C2'-O2'	5.35	128.82	113.30
1	1	1816	A	N9-C1'-C2'	5.35	120.96	114.00
4	A	37	ARG	N-CA-C	5.35	125.45	111.00
1	1	1102	A	C3'-C2'-O2'	5.35	128.82	113.30
1	1	813	G	C1'-C2'-O2'	5.35	126.65	110.60
1	1	2094	C	C1'-C2'-O2'	5.35	126.65	110.60
1	1	2297	U	C1'-C2'-O2'	5.35	126.65	110.60
1	1	69	C	C3'-C2'-O2'	5.35	128.81	113.30
1	1	90	C	C1'-C2'-O2'	5.35	126.64	110.60
1	1	1367	G	C5'-C4'-C3'	5.35	124.55	116.00
1	1	2291	A	C1'-C2'-O2'	5.35	126.64	110.60
1	1	1184	A	C4'-C3'-O3'	5.34	123.69	113.00
1	1	2158	A	C4'-C3'-O3'	5.34	123.69	113.00
8	E	151	LYS	N-CA-C	5.34	125.43	111.00
16	N	21	PHE	CE1-CZ-CE2	5.34	129.62	120.00
37	i	63	ASN	N-CA-C	5.34	125.43	111.00
1	1	390	G	C1'-C2'-O2'	5.34	126.62	110.60
1	1	2358	A	C1'-C2'-O2'	5.34	126.62	110.60
1	1	2864	A	N9-C1'-C2'	5.34	120.94	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3375	A	C3'-C2'-O2'	5.34	128.79	113.30
1	1	2094	C	C3'-C2'-O2'	5.34	128.78	113.30
1	1	2173	U	C4'-C3'-O3'	5.34	123.68	113.00
1	1	123	A	C1'-C2'-O2'	5.34	126.61	110.60
1	1	237	G	C3'-C2'-O2'	5.34	128.77	113.30
1	1	260	C	C1'-C2'-O2'	5.34	126.61	110.60
2	3	51	A	C4'-C3'-O3'	5.34	123.67	113.00
1	1	690	A	C4'-C3'-O3'	5.33	123.67	113.00
1	1	1556	C	C3'-C2'-O2'	5.33	128.77	113.30
1	1	2140	U	C5'-C4'-C3'	5.33	124.54	116.00
1	1	2659	G	C4'-C3'-O3'	5.33	123.67	113.00
1	1	200	C	C3'-C2'-O2'	5.33	128.76	113.30
1	1	712	G	C3'-C2'-O2'	5.33	128.77	113.30
1	1	1535	A	C5'-C4'-C3'	5.33	124.53	116.00
1	1	2833	A	C1'-C2'-O2'	5.33	126.60	110.60
1	1	1612	A	N9-C1'-C2'	5.33	120.93	114.00
1	1	2947	G	C4'-C3'-O3'	5.33	123.66	113.00
1	1	3355	U	C1'-C2'-O2'	5.33	126.59	110.60
6	C	185	LYS	N-CA-C	5.33	125.40	111.00
14	L	171	ARG	N-CA-C	5.33	125.40	111.00
1	1	790	U	C5'-C4'-C3'	5.33	124.53	116.00
1	1	1207	G	C1'-C2'-O2'	5.33	126.59	110.60
1	1	1700	G	C1'-C2'-O2'	5.33	126.59	110.60
2	3	40	C	O4'-C1'-N1	5.33	112.46	108.20
1	1	418	A	C1'-C2'-O2'	5.33	126.59	110.60
1	1	3138	U	C3'-C2'-O2'	5.33	128.75	113.30
2	3	37	G	C4'-C3'-O3'	5.32	123.64	113.00
1	1	2657	A	C1'-C2'-O2'	5.32	126.57	110.60
1	1	868	C	C1'-C2'-O2'	5.32	126.56	110.60
1	1	1318	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	3243	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	699	A	C1'-C2'-O2'	5.32	126.56	110.60
1	1	1942	U	C1'-C2'-O2'	5.32	126.56	110.60
1	1	2187	G	C3'-C2'-O2'	5.32	128.72	113.30
1	1	92	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	1359	C	C3'-C2'-O2'	5.32	128.72	113.30
1	1	1934	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	2486	A	C1'-C2'-O2'	5.32	126.55	110.60
1	1	2922	G	C1'-C2'-O2'	5.32	126.55	110.60
1	1	3208	G	C3'-C2'-O2'	5.32	128.72	113.30
1	1	652	G	C3'-C2'-O2'	5.32	128.71	113.30
7	D	197	SER	CB-CA-C	5.32	120.20	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	R	170	ARG	NE-CZ-NH2	-5.32	117.64	120.30
37	i	45	ARG	CB-CA-C	5.32	121.03	110.40
1	1	2263	C	C1'-C2'-O2'	5.31	126.54	110.60
1	1	3253	G	C1'-C2'-O2'	5.31	126.54	110.60
1	1	397	A	C5'-C4'-C3'	5.31	124.50	116.00
1	1	1005	G	C3'-C2'-O2'	5.31	128.71	113.30
1	1	2842	U	O4'-C1'-C2'	5.31	112.38	107.60
1	1	3240	C	C1'-C2'-O2'	5.31	126.54	110.60
1	1	698	U	C1'-C2'-O2'	5.31	126.53	110.60
1	1	2155	G	N9-C1'-C2'	5.31	120.90	114.00
27	Y	41	ALA	N-CA-C	5.31	125.33	111.00
31	c	22	LYS	N-CA-C	5.31	125.34	111.00
1	1	1686	U	C4'-C3'-O3'	5.31	123.61	113.00
20	R	167	ARG	N-CA-C	5.31	125.33	111.00
1	1	3106	A	C2'-C3'-O3'	5.31	122.19	113.70
1	1	1769	G	C3'-C2'-O2'	5.30	128.68	113.30
19	Q	135	GLN	N-CA-C	5.30	125.32	111.00
1	1	655	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	2350	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	2832	C	C1'-C2'-O2'	5.30	126.51	110.60
1	1	3251	U	C3'-C2'-O2'	5.30	128.68	113.30
5	B	76	VAL	N-CA-C	5.30	125.32	111.00
1	1	593	C	C3'-C2'-O2'	5.30	128.68	113.30
11	H	86	TYR	CG-CD1-CE1	-5.30	117.06	121.30
27	Y	26	GLN	N-CA-C	5.30	125.31	111.00
1	1	235	A	C5'-C4'-C3'	5.30	124.48	116.00
1	1	268	A	O3'-P-O5'	-5.30	93.93	104.00
1	1	3226	A	C1'-C2'-O2'	5.30	126.50	110.60
6	C	226	GLU	N-CA-C	5.30	125.31	111.00
6	C	299	ILE	N-CA-C	5.30	125.31	111.00
1	1	181	U	C1'-C2'-O2'	5.30	126.49	110.60
17	O	67	THR	CA-C-N	5.30	128.85	117.20
1	1	95	A	C1'-C2'-O2'	5.30	126.49	110.60
1	1	1239	C	O4'-C1'-N1	5.30	112.44	108.20
1	1	2908	G	C5'-C4'-C3'	5.30	124.47	116.00
1	1	3158	G	C3'-C2'-O2'	5.30	128.66	113.30
1	1	3368	U	C2'-C3'-O3'	5.30	122.17	113.70
1	1	1182	A	C1'-C2'-O2'	5.29	126.48	110.60
1	1	3200	G	C4'-C3'-O3'	5.29	123.59	113.00
37	i	57	LEU	N-CA-C	5.29	125.30	111.00
1	1	331	G	C4'-C3'-O3'	5.29	123.58	113.00
1	1	718	G	C5'-C4'-C3'	5.29	124.47	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	944	C	C1'-C2'-O2'	5.29	126.48	110.60
1	1	2378	C	C1'-C2'-O2'	5.29	126.48	110.60
1	1	2617	U	C1'-C2'-O2'	5.29	126.48	110.60
1	1	432	G	C1'-C2'-O2'	5.29	126.48	110.60
1	1	1658	G	C3'-C2'-O2'	5.29	128.65	113.30
1	1	1704	A	C3'-C2'-O2'	5.29	128.65	113.30
1	1	2657	A	C3'-C2'-O2'	5.29	128.65	113.30
1	1	3334	U	C1'-C2'-O2'	5.29	126.47	110.60
1	1	1937	U	C3'-C2'-O2'	5.29	128.64	113.30
1	1	2619	G	C1'-C2'-O2'	5.29	126.46	110.60
1	1	1484	U	C4'-C3'-O3'	5.29	123.57	113.00
1	1	3260	G	C1'-C2'-O2'	5.29	126.45	110.60
3	4	104	A	N9-C1'-C2'	5.29	120.87	114.00
19	Q	147	ARG	N-CA-C	5.29	125.27	111.00
1	1	266	A	C1'-C2'-O2'	5.28	126.45	110.60
1	1	760	G	O4'-C1'-N9	5.28	112.43	108.20
1	1	862	U	C4'-C3'-O3'	5.28	123.56	113.00
1	1	1797	A	C1'-C2'-O2'	5.28	126.45	110.60
1	1	2378	C	C3'-C2'-O2'	5.28	128.62	113.30
1	1	2677	G	C1'-C2'-O2'	5.28	126.45	110.60
1	1	2782	U	C5'-C4'-C3'	5.28	124.45	116.00
1	1	2303	A	C5'-C4'-C3'	5.28	124.45	116.00
1	1	2765	C	C5'-C4'-O4'	5.28	115.44	109.10
3	4	53	A	C5'-C4'-C3'	5.28	124.45	116.00
5	B	188	ILE	N-CA-C	5.28	125.26	111.00
11	H	173	ARG	N-CA-C	5.28	125.26	111.00
28	Z	113	VAL	N-CA-C	5.28	125.26	111.00
43	o	102	GLN	N-CA-C	5.28	125.26	111.00
1	1	249	U	C1'-C2'-O2'	5.28	126.44	110.60
1	1	1182	A	C3'-C2'-O2'	5.28	128.61	113.30
1	1	1770	G	C5'-C4'-C3'	5.28	124.44	116.00
1	1	3291	G	C4'-C3'-O3'	5.28	123.55	113.00
10	G	97	TYR	CG-CD2-CE2	-5.28	117.08	121.30
1	1	912	G	C5'-C4'-C3'	5.28	124.44	116.00
1	1	1229	G	C3'-C2'-O2'	5.28	128.60	113.30
6	C	164	GLU	N-CA-C	5.28	125.24	111.00
1	1	3046	A	C5'-C4'-O4'	5.27	115.43	109.10
1	1	1284	C	C1'-C2'-O2'	5.27	126.41	110.60
1	1	3358	U	C5'-C4'-O4'	5.27	115.42	109.10
1	1	632	G	C3'-C2'-O2'	5.27	128.58	113.30
1	1	3046	A	C5'-C4'-C3'	5.27	124.43	116.00
34	f	38	PRO	N-CA-C	5.27	125.80	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	94	G	C1'-C2'-O2'	5.27	126.40	110.60
1	1	972	A	C5'-C4'-C3'	5.27	124.43	116.00
1	1	1344	G	C3'-C2'-O2'	5.27	128.57	113.30
1	1	589	A	C1'-C2'-O2'	5.27	126.40	110.60
1	1	1560	G	C4'-C3'-O3'	5.27	123.53	113.00
1	1	2970	C	C3'-C2'-O2'	5.27	128.57	113.30
3	4	51	G	O4'-C1'-N9	5.27	112.41	108.20
1	1	11	A	C4'-C3'-O3'	5.26	123.53	113.00
1	1	1281	G	C5'-C4'-C3'	5.26	124.42	116.00
1	1	1649	U	C5'-C4'-C3'	5.26	124.42	116.00
17	O	4	GLU	N-CA-C	5.26	125.22	111.00
27	Y	46	LYS	N-CA-C	5.26	125.21	111.00
1	1	670	C	C5'-C4'-C3'	5.26	124.42	116.00
2	3	43	U	C1'-C2'-O2'	5.26	126.39	110.60
5	B	255	TRP	N-CA-C	5.26	125.20	111.00
1	1	51	A	C3'-C2'-O2'	5.26	128.56	113.30
1	1	565	U	C1'-C2'-O2'	5.26	126.38	110.60
5	B	38	SER	CB-CA-C	5.26	120.09	110.10
1	1	1216	C	C1'-C2'-O2'	5.26	126.38	110.60
1	1	2838	A	C3'-C2'-O2'	5.26	128.55	113.30
1	1	92	G	C3'-C2'-O2'	5.26	128.54	113.30
1	1	345	G	C5'-C4'-C3'	5.26	124.41	116.00
1	1	362	U	C3'-C2'-O2'	5.26	128.55	113.30
1	1	704	U	C3'-C2'-O2'	5.26	128.54	113.30
1	1	1237	G	C1'-C2'-O2'	5.26	126.37	110.60
1	1	1466	G	C5'-C4'-C3'	5.26	124.41	116.00
12	I	46	PHE	N-CA-C	5.26	125.19	111.00
1	1	1150	A	C3'-C2'-O2'	5.25	128.54	113.30
4	A	20	THR	N-CA-C	5.25	125.19	111.00
1	1	119	U	C5'-C4'-C3'	5.25	124.40	116.00
4	A	143	GLU	N-CA-C	5.25	125.18	111.00
38	j	63	ARG	N-CA-C	5.25	125.18	111.00
1	1	1298	C	C3'-C2'-O2'	5.25	128.53	113.30
1	1	1499	C	C1'-C2'-O2'	5.25	126.36	110.60
1	1	1575	A	C3'-C2'-O2'	5.25	128.53	113.30
1	1	379	C	C1'-C2'-O2'	5.25	126.35	110.60
1	1	1941	C	C5'-C4'-O4'	5.25	115.40	109.10
2	3	27	A	C3'-C2'-O2'	5.25	128.52	113.30
1	1	219	A	C4'-C3'-O3'	5.25	123.49	113.00
1	1	907	G	O4'-C1'-N9	5.25	112.40	108.20
1	1	1867	A	C1'-C2'-O2'	5.25	126.34	110.60
6	C	85	SER	N-CA-C	5.25	125.16	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	I	9	TYR	N-CA-C	5.25	125.16	111.00
1	1	361	A	C1'-C2'-O2'	5.24	126.33	110.60
1	1	373	A	C4'-C3'-O3'	5.24	123.49	113.00
1	1	583	G	C1'-C2'-O2'	5.24	126.33	110.60
1	1	1261	G	C1'-C2'-O2'	5.24	126.33	110.60
1	1	1909	A	N9-C1'-C2'	5.24	120.82	114.00
1	1	3332	U	C5'-C4'-C3'	5.24	124.39	116.00
1	1	3376	A	C3'-C2'-O2'	5.24	128.50	113.30
13	J	137	ARG	N-CA-C	5.24	125.16	111.00
1	1	243	G	C5'-C4'-C3'	5.24	124.39	116.00
1	1	1941	C	C1'-C2'-O2'	5.24	126.33	110.60
24	V	11	PHE	CE1-CZ-CE2	5.24	129.44	120.00
1	1	426	G	C3'-C2'-O2'	5.24	128.50	113.30
1	1	1003	A	C3'-C2'-O2'	5.24	128.50	113.30
1	1	2791	G	C4'-C3'-O3'	5.24	123.48	113.00
1	1	3293	U	O4'-C1'-N1	5.24	112.39	108.20
3	4	152	G	C3'-C2'-O2'	5.24	128.50	113.30
5	B	349	LYS	N-CA-C	5.24	125.15	111.00
9	F	140	SER	N-CA-C	5.24	125.15	111.00
1	1	208	C	C3'-C2'-O2'	5.24	128.49	113.30
1	1	760	G	C1'-C2'-O2'	5.24	126.32	110.60
1	1	1714	A	C3'-C2'-O2'	5.24	128.49	113.30
1	1	1285	G	C5'-C4'-C3'	5.24	124.38	116.00
1	1	1367	G	C4'-C3'-O3'	5.24	123.47	113.00
1	1	192	C	C1'-C2'-O2'	5.24	126.31	110.60
1	1	1328	C	C3'-C2'-O2'	5.24	128.48	113.30
1	1	2240	G	C4'-C3'-O3'	5.24	123.47	113.00
10	G	104	GLU	N-CA-C	5.24	125.14	111.00
1	1	3117	C	C5'-C4'-C3'	5.23	124.38	116.00
1	1	944	C	C3'-C2'-O2'	5.23	128.48	113.30
1	1	966	U	C1'-C2'-O2'	5.23	126.30	110.60
1	1	1212	A	C5'-C4'-O4'	5.23	115.38	109.10
1	1	2826	U	C3'-C2'-O2'	5.23	128.48	113.30
1	1	2956	A	N9-C1'-C2'	5.23	120.80	114.00
1	1	288	C	C3'-C2'-O2'	5.23	128.47	113.30
1	1	1819	U	C3'-C2'-O2'	5.23	128.47	113.30
1	1	2273	G	C3'-C2'-O2'	5.23	128.47	113.30
1	1	497	C	C3'-C2'-O2'	5.23	128.47	113.30
1	1	427	C	C4'-C3'-O3'	5.23	123.45	113.00
1	1	1672	U	O4'-C1'-N1	5.23	112.38	108.20
30	b	43	HIS	N-CA-C	5.23	125.11	111.00
1	1	1359	C	C1'-C2'-O2'	5.22	126.28	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2493	C	C5'-C4'-C3'	5.22	124.36	116.00
2	3	69	C	C3'-C2'-O2'	5.22	128.44	113.30
16	N	148	TYR	CG-CD2-CE2	-5.22	117.12	121.30
1	1	879	U	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2160	G	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2185	G	C3'-C2'-O2'	5.22	128.44	113.30
1	1	2661	G	C5'-C4'-C3'	5.22	124.35	116.00
1	1	276	U	C5'-C4'-C3'	5.22	124.35	116.00
1	1	403	C	O4'-C1'-C2'	5.22	112.30	107.60
1	1	1020	G	C4'-C3'-O3'	5.22	123.43	113.00
1	1	1540	U	C3'-C2'-O2'	5.22	128.43	113.30
1	1	1945	A	C3'-C2'-O2'	5.22	128.43	113.30
1	1	3071	U	C5'-C4'-O4'	5.22	115.36	109.10
3	4	63	G	N9-C1'-C2'	5.22	120.78	114.00
17	O	90	HIS	CA-C-N	-5.22	105.72	117.20
1	1	86	G	C3'-C2'-O2'	5.21	128.42	113.30
1	1	93	C	C1'-C2'-O2'	5.21	126.24	110.60
1	1	1174	G	C3'-C2'-O2'	5.21	128.42	113.30
4	A	33	ASP	N-CA-C	5.21	125.08	111.00
1	1	432	G	C3'-C2'-O2'	5.21	128.42	113.30
1	1	598	A	C4'-C3'-O3'	5.21	123.42	113.00
1	1	981	U	C5'-C4'-O4'	5.21	115.35	109.10
1	1	1102	A	C1'-C2'-O2'	5.21	126.23	110.60
1	1	1122	U	C3'-C2'-O2'	5.21	128.41	113.30
1	1	3104	U	C4'-C3'-O3'	5.21	123.42	113.00
2	3	19	C	C1'-C2'-O2'	5.21	126.23	110.60
5	B	135	ALA	N-CA-C	5.21	125.07	111.00
11	H	150	SER	N-CA-C	5.21	125.07	111.00
1	1	1184	A	C5'-C4'-C3'	5.21	124.33	116.00
1	1	2286	U	C3'-C2'-O2'	5.21	128.40	113.30
1	1	50	U	C5'-C4'-C3'	5.21	124.33	116.00
1	1	1941	C	C3'-C2'-O2'	5.21	128.40	113.30
1	1	1945	A	C1'-C2'-O2'	5.21	126.22	110.60
1	1	3266	G	O4'-C1'-N9	5.21	112.36	108.20
39	k	12	LEU	N-CA-C	5.21	125.06	111.00
1	1	614	C	N1-C1'-C2'	5.21	120.77	114.00
1	1	1938	U	C3'-C2'-O2'	5.20	128.39	113.30
1	1	1538	G	C1'-C2'-O2'	5.20	126.21	110.60
2	3	120	C	C1'-C2'-O2'	5.20	126.20	110.60
1	1	127	G	C4'-C3'-O3'	5.20	123.40	113.00
1	1	704	U	C1'-C2'-O2'	5.20	126.19	110.60
1	1	1229	G	C1'-C2'-O2'	5.20	126.19	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1357	G	O4'-C1'-N9	5.20	112.36	108.20
2	3	85	G	C5'-C4'-C3'	5.20	124.32	116.00
2	3	120	C	C3'-C2'-O2'	5.20	128.38	113.30
1	1	811	U	C1'-C2'-O2'	5.20	126.19	110.60
36	h	37	SER	N-CA-C	5.20	125.03	111.00
1	1	1531	C	C5'-C4'-C3'	5.19	124.31	116.00
1	1	2194	G	C1'-C2'-O2'	5.19	126.18	110.60
1	1	3096	C	C5'-C4'-C3'	5.19	124.31	116.00
1	1	3122	A	C4'-C3'-O3'	5.19	123.39	113.00
1	1	3205	G	C3'-C2'-O2'	5.19	128.36	113.30
33	e	112	ALA	N-CA-CB	5.19	117.37	110.10
1	1	1344	G	C1'-C2'-O2'	5.19	126.17	110.60
1	1	1451	C	C1'-C2'-O2'	5.19	126.17	110.60
1	1	2165	G	C5'-C4'-C3'	5.19	124.30	116.00
1	1	299	G	C3'-C2'-O2'	5.19	128.34	113.30
1	1	511	G	C1'-C2'-O2'	5.19	126.16	110.60
1	1	1421	G	C4'-C3'-O3'	5.19	123.38	113.00
40	l	5	LYS	N-CA-C	5.19	125.00	111.00
1	1	3376	A	C1'-C2'-O2'	5.19	126.16	110.60
1	1	581	U	C5'-C4'-C3'	5.18	124.30	116.00
1	1	1301	A	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1575	A	C1'-C2'-O2'	5.18	126.15	110.60
2	3	78	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1013	G	C3'-C2'-O2'	5.18	128.33	113.30
1	1	2428	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	303	G	C4'-C3'-O3'	5.18	123.36	113.00
1	1	3025	C	C1'-C2'-O2'	5.18	126.14	110.60
2	3	8	G	C3'-C2'-O2'	5.18	128.32	113.30
1	1	561	C	C4'-C3'-O3'	5.18	123.36	113.00
1	1	778	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1212	A	C5'-C4'-C3'	5.18	124.29	116.00
1	1	1799	A	C4'-C3'-O3'	5.18	123.36	113.00
1	1	2314	U	C1'-C2'-O2'	5.18	126.14	110.60
1	1	2461	A	C3'-C2'-O2'	5.18	128.32	113.30
2	3	19	C	C3'-C2'-O2'	5.18	128.32	113.30
3	4	73	U	C1'-C2'-O2'	5.18	126.14	110.60
9	F	101	LYS	N-CA-C	5.18	124.99	111.00
19	Q	123	THR	OG1-CB-CG2	5.18	121.91	110.00
1	1	134	U	C5'-C4'-C3'	5.18	124.28	116.00
3	4	158	U	C5'-C4'-C3'	5.18	124.29	116.00
1	1	311	C	C1'-C2'-O2'	5.18	126.13	110.60
3	4	114	G	C5'-C4'-C3'	5.18	124.28	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1174	G	C1'-C2'-O2'	5.17	126.13	110.60
14	L	57	VAL	C-N-CA	-5.17	108.76	121.70
8	E	71	VAL	N-CA-C	5.17	124.97	111.00
19	Q	99	THR	N-CA-C	5.17	124.97	111.00
1	1	1289	G	C4'-C3'-O3'	5.17	123.34	113.00
1	1	2361	A	O3'-P-O5'	-5.17	94.17	104.00
15	M	126	GLN	N-CA-C	5.17	124.96	111.00
1	1	362	U	C1'-C2'-O2'	5.17	126.11	110.60
1	1	1700	G	C3'-C2'-O2'	5.17	128.29	113.30
2	3	23	A	C1'-C2'-O2'	5.17	126.11	110.60
1	1	219	A	C5'-C4'-C3'	5.17	124.27	116.00
1	1	1948	G	N9-C1'-C2'	5.17	120.72	114.00
1	1	3261	C	C1'-C2'-O2'	5.17	126.11	110.60
1	1	2505	U	O4'-C1'-C2'	5.17	112.25	107.60
20	R	184	LEU	N-CA-C	5.17	124.95	111.00
1	1	320	G	C4'-C3'-O3'	5.17	123.33	113.00
38	j	39	TYR	C-N-CD	-5.17	109.24	120.60
1	1	511	G	C3'-C2'-O2'	5.16	128.28	113.30
1	1	548	G	C1'-C2'-O2'	5.16	126.09	110.60
1	1	2410	U	C1'-C2'-O2'	5.16	126.09	110.60
1	1	3118	C	C4'-C3'-O3'	5.16	123.33	113.00
1	1	426	G	N9-C1'-C2'	5.16	120.71	114.00
1	1	3251	U	C1'-C2'-O2'	5.16	126.08	110.60
20	R	52	LYS	N-CA-C	5.16	124.94	111.00
36	h	85	THR	CA-CB-CG2	5.16	119.62	112.40
1	1	3373	U	O4'-C1'-N1	5.16	112.33	108.20
27	Y	119	ILE	N-CA-C	5.16	124.93	111.00
1	1	639	G	C3'-C2'-O2'	5.16	128.25	113.30
1	1	1531	C	C4'-C3'-O3'	5.16	123.31	113.00
1	1	2178	A	OP1-P-O3'	5.16	116.54	105.20
1	1	2501	U	O4'-C1'-N1	5.16	112.32	108.20
2	3	94	C	C5'-C4'-C3'	5.16	124.25	116.00
1	1	2150	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	2452	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	1400	G	C1'-C2'-O2'	5.15	126.06	110.60
1	1	2816	G	C5'-C4'-C3'	5.15	124.24	116.00
1	1	9	U	C4'-C3'-O3'	5.15	123.30	113.00
1	1	996	A	C5'-C4'-C3'	5.15	124.24	116.00
1	1	2661	G	C4'-C3'-O3'	5.15	123.30	113.00
2	3	61	G	N9-C1'-C2'	5.15	120.69	114.00
40	l	36	ARG	N-CA-C	5.15	124.90	111.00
1	1	857	G	C3'-C2'-O2'	5.15	128.22	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3146	G	C5'-C4'-C3'	5.15	124.24	116.00
18	P	120	ASN	N-CA-C	5.15	124.90	111.00
45	t	83	ASP	N-CA-C	5.15	124.90	111.00
1	1	1484	U	C5'-C4'-C3'	5.15	124.23	116.00
1	1	1618	G	C5'-C4'-C3'	5.15	124.23	116.00
1	1	1580	A	C3'-C2'-O2'	5.14	128.22	113.30
33	e	109	LEU	N-CA-C	5.14	124.89	111.00
1	1	381	U	C1'-C2'-O2'	5.14	126.03	110.60
1	1	1788	C	N1-C1'-C2'	5.14	120.68	114.00
1	1	2452	G	C3'-C2'-O2'	5.14	128.21	113.30
1	1	3236	U	O4'-C1'-N1	5.14	112.31	108.20
20	R	23	TRP	CE3-CZ3-CH2	5.14	126.86	121.20
1	1	1385	C	C1'-C2'-O2'	5.14	126.02	110.60
1	1	3390	G	C4'-C3'-O3'	5.14	123.28	113.00
1	1	2410	U	C3'-C2'-O2'	5.14	128.21	113.30
9	F	214	TRP	CE3-CZ3-CH2	5.14	126.85	121.20
1	1	1429	G	C5'-C4'-C3'	5.14	124.22	116.00
6	C	126	ILE	N-CA-C	5.14	124.87	111.00
8	E	173	MET	N-CA-C	5.14	124.87	111.00
1	1	2996	U	C3'-C2'-O2'	5.14	128.20	113.30
3	4	34	U	C3'-C2'-O2'	5.14	128.20	113.30
19	Q	91	ALA	N-CA-C	5.14	124.87	111.00
28	Z	47	GLU	N-CA-C	5.14	124.87	111.00
38	j	26	SER	N-CA-C	5.14	124.87	111.00
1	1	1686	U	C5'-C4'-C3'	5.13	124.22	116.00
20	R	95	TRP	CE3-CZ3-CH2	5.13	126.85	121.20
1	1	1819	U	C1'-C2'-O2'	5.13	126.00	110.60
1	1	2481	G	C3'-C2'-O2'	5.13	128.19	113.30
1	1	2619	G	C5'-C4'-C3'	5.13	124.21	116.00
1	1	2172	A	C1'-C2'-O2'	5.13	125.99	110.60
1	1	2185	G	C1'-C2'-O2'	5.13	125.99	110.60
1	1	1203	A	C3'-C2'-O2'	5.13	128.17	113.30
1	1	3161	C	C1'-C2'-O2'	5.13	125.99	110.60
14	L	100	ARG	N-CA-C	5.13	124.85	111.00
38	j	37	CYS	N-CA-C	5.13	124.85	111.00
1	1	759	U	C1'-C2'-O2'	5.13	125.98	110.60
1	1	843	A	O4'-C4'-C3'	5.13	110.20	106.10
1	1	1888	U	C5'-C4'-C3'	5.12	124.20	116.00
1	1	2558	U	C3'-C2'-O2'	5.12	128.16	113.30
1	1	1892	G	C3'-C2'-O2'	5.12	128.16	113.30
1	1	2398	A	C3'-C2'-O2'	5.12	128.15	113.30
1	1	3285	C	C5'-C4'-C3'	5.12	124.19	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	811	U	C3'-C2'-O2'	5.12	128.14	113.30
1	1	2883	U	C1'-C2'-O2'	5.12	125.95	110.60
9	F	42	ALA	N-CA-C	5.12	124.82	111.00
1	1	1687	U	C5'-C4'-O4'	5.12	115.24	109.10
2	3	115	G	C5'-C4'-C3'	5.12	124.19	116.00
3	4	45	C	C5'-C4'-C3'	5.12	124.19	116.00
1	1	343	U	O4'-C1'-N1	5.12	112.29	108.20
1	1	422	A	N9-C1'-C2'	5.12	120.65	114.00
1	1	1122	U	C1'-C2'-O2'	5.12	125.94	110.60
1	1	1524	A	O4'-C1'-C2'	5.12	112.20	107.60
27	Y	54	ASP	N-CA-C	5.12	124.81	111.00
44	p	25	GLN	N-CA-C	5.12	124.81	111.00
1	1	1207	G	C3'-C2'-O2'	5.11	128.13	113.30
1	1	1602	A	C1'-C2'-O2'	5.11	125.94	110.60
1	1	2218	G	C1'-C2'-O2'	5.11	125.94	110.60
1	1	3046	A	C1'-C2'-O2'	5.11	125.94	110.60
1	1	2587	U	C3'-C2'-O2'	5.11	128.12	113.30
2	3	4	U	C5'-C4'-C3'	5.11	124.18	116.00
2	3	33	U	C3'-C2'-O2'	5.11	128.12	113.30
1	1	313	A	C5'-C4'-C3'	5.11	124.17	116.00
1	1	1438	U	C5'-C4'-C3'	5.11	124.17	116.00
1	1	2550	U	C1'-C2'-O2'	5.11	125.92	110.60
1	1	2676	A	C1'-C2'-O2'	5.11	125.92	110.60
1	1	10	C	C1'-C2'-O2'	5.11	125.91	110.60
1	1	1841	A	O4'-C1'-C2'	5.11	112.20	107.60
1	1	2350	C	C3'-C2'-O2'	5.11	128.11	113.30
1	1	2403	G	C3'-C2'-O2'	5.11	128.10	113.30
1	1	3131	U	C5'-C4'-C3'	5.11	124.17	116.00
18	P	146	ILE	CB-CA-C	5.11	121.81	111.60
1	1	1261	G	C3'-C2'-O2'	5.10	128.10	113.30
1	1	2668	U	C5'-C4'-C3'	5.10	124.17	116.00
1	1	1448	U	C3'-C2'-O2'	5.10	128.10	113.30
1	1	1533	U	C1'-C2'-O2'	5.10	125.91	110.60
1	1	2772	C	C3'-C2'-O2'	5.10	128.10	113.30
1	1	3138	U	C1'-C2'-O2'	5.10	125.91	110.60
10	G	81	THR	N-CA-C	5.10	124.78	111.00
1	1	249	U	C3'-C2'-O2'	5.10	128.09	113.30
1	1	371	G	C3'-C2'-O2'	5.10	128.09	113.30
1	1	2458	G	C1'-C2'-O2'	5.10	125.90	110.60
2	3	106	U	C5'-C4'-C3'	5.10	124.16	116.00
17	O	55	HIS	N-CA-C	5.10	124.77	111.00
1	1	8	C	C3'-C2'-O2'	5.10	128.09	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1572	U	C4'-C3'-O3'	5.10	123.19	113.00
1	1	299	G	C1'-C2'-O2'	5.10	125.89	110.60
1	1	588	G	C1'-C2'-O2'	5.10	125.89	110.60
1	1	1374	G	C5'-C4'-C3'	5.10	124.15	116.00
1	1	1921	A	C1'-C2'-O2'	5.10	125.89	110.60
1	1	3295	A	C5'-C4'-C3'	5.10	124.15	116.00
9	F	171	ALA	N-CA-C	5.10	124.76	111.00
1	1	734	C	C1'-C2'-O2'	5.09	125.89	110.60
1	1	1544	G	C5'-C4'-C3'	5.09	124.15	116.00
1	1	3358	U	C5'-C4'-C3'	5.09	124.15	116.00
2	3	24	A	C5'-C4'-C3'	5.09	124.15	116.00
10	G	24	ASN	N-CA-C	5.09	124.75	111.00
1	1	1684	U	C5'-C4'-C3'	5.09	124.15	116.00
1	1	1658	G	C1'-C2'-O2'	5.09	125.87	110.60
1	1	784	A	C5'-C4'-C3'	5.09	124.14	116.00
1	1	331	G	C5'-C4'-C3'	5.08	124.14	116.00
1	1	1107	C	O4'-C1'-N1	5.08	112.27	108.20
1	1	1216	C	C3'-C2'-O2'	5.08	128.05	113.30
1	1	3199	G	C1'-C2'-O2'	5.08	125.86	110.60
1	1	2481	G	C1'-C2'-O2'	5.08	125.85	110.60
1	1	1185	C	C3'-C2'-O2'	5.08	128.04	113.30
1	1	2676	A	C3'-C2'-O2'	5.08	128.03	113.30
1	1	3046	A	C3'-C2'-O2'	5.08	128.03	113.30
3	4	106	C	C3'-C2'-O2'	5.08	128.04	113.30
40	l	33	ASN	N-CA-C	5.08	124.72	111.00
1	1	2331	C	C5'-C4'-C3'	5.08	124.12	116.00
2	3	23	A	C3'-C2'-O2'	5.08	128.03	113.30
3	4	114	G	C4'-C3'-O3'	5.08	123.16	113.00
20	R	34	GLN	N-CA-C	5.08	124.71	111.00
1	1	655	C	C3'-C2'-O2'	5.08	128.02	113.30
1	1	1508	C	C1'-C2'-O2'	5.08	125.83	110.60
1	1	1563	C	C1'-C2'-O2'	5.08	125.83	110.60
1	1	2186	U	C3'-C2'-O2'	5.08	128.02	113.30
1	1	2304	C	C5'-C4'-C3'	5.08	124.12	116.00
1	1	413	U	C5'-C4'-C3'	5.08	124.12	116.00
1	1	917	A	C4'-C3'-O3'	5.08	123.15	113.00
1	1	2922	G	C3'-C2'-O2'	5.08	128.02	113.30
26	X	93	TYR	N-CA-CB	5.08	119.74	110.60
30	b	12	GLN	N-CA-C	5.08	124.70	111.00
1	1	291	C	C1'-C2'-O2'	5.07	125.82	110.60
1	1	1367	G	C5'-C4'-O4'	5.07	115.19	109.10
1	1	1540	U	C1'-C2'-O2'	5.07	125.82	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	1541	G	C5'-C4'-C3'	5.07	124.12	116.00
1	1	2375	G	C5'-C4'-C3'	5.07	124.12	116.00
1	1	2617	U	C3'-C2'-O2'	5.07	128.01	113.30
34	f	60	ARG	N-CA-C	5.07	124.70	111.00
1	1	588	G	C3'-C2'-O2'	5.07	128.01	113.30
1	1	1588	A	C3'-C2'-O2'	5.07	128.00	113.30
26	X	59	SER	N-CA-C	5.07	124.69	111.00
1	1	879	U	C1'-C2'-O2'	5.07	125.81	110.60
1	1	1667	A	C5'-C4'-C3'	5.07	124.11	116.00
1	1	1519	G	C1'-C2'-O2'	5.07	125.80	110.60
5	B	144	ILE	N-CA-C	5.07	124.68	111.00
1	1	2096	A	C1'-C2'-O2'	5.06	125.79	110.60
1	1	2607	G	C4'-C3'-O3'	5.06	123.13	113.00
1	1	2686	A	C4'-C3'-O3'	5.06	123.13	113.00
1	1	2803	A	C5'-C4'-O4'	5.06	115.17	109.10
3	4	97	A	N9-C1'-C2'	5.06	120.58	114.00
1	1	1848	G	C3'-C2'-O2'	5.06	127.98	113.30
35	g	96	GLU	N-CA-C	5.06	124.66	111.00
1	1	1110	U	C5'-C4'-C3'	5.06	124.09	116.00
1	1	1305	U	C4'-C3'-O3'	5.06	123.12	113.00
1	1	8	C	C1'-C2'-O2'	5.06	125.77	110.60
1	1	726	G	C5'-C4'-C3'	5.06	124.09	116.00
1	1	1273	A	C2'-C3'-O3'	5.06	121.79	113.70
1	1	2178	A	C3'-C2'-O2'	5.06	127.97	113.30
10	G	211	LEU	N-CA-C	5.06	124.65	111.00
12	I	174	THR	CA-CB-CG2	5.06	119.48	112.40
1	1	1885	U	C3'-C2'-O2'	5.06	127.96	113.30
1	1	2398	A	C1'-C2'-O2'	5.06	125.77	110.60
1	1	94	G	C3'-C2'-O2'	5.05	127.96	113.30
1	1	239	G	C3'-C2'-O2'	5.05	127.96	113.30
1	1	3140	G	C5'-C4'-C3'	5.05	124.09	116.00
1	1	2191	U	C1'-C2'-O2'	5.05	125.76	110.60
1	1	301	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	1718	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	910	G	C3'-C2'-O2'	5.05	127.94	113.30
1	1	1502	C	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2096	A	C3'-C2'-O2'	5.05	127.94	113.30
2	3	61	G	C1'-C2'-O2'	5.05	125.75	110.60
3	4	99	C	C5'-C4'-C3'	5.05	124.08	116.00
5	B	193	ASP	N-CA-C	5.05	124.63	111.00
1	1	1941	C	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2160	G	C1'-C2'-O2'	5.05	125.75	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	2447	G	C5'-C4'-C3'	5.05	124.08	116.00
1	1	2832	C	C3'-C2'-O2'	5.05	127.94	113.30
1	1	1285	G	C5'-C4'-O4'	5.05	115.16	109.10
7	D	159	VAL	CA-CB-CG1	5.05	118.47	110.90
1	1	195	U	C1'-C2'-O2'	5.04	125.73	110.60
1	1	88	A	C5'-C4'-C3'	5.04	124.07	116.00
1	1	1740	U	C3'-C2'-O2'	5.04	127.92	113.30
1	1	2523	A	O4'-C1'-N9	5.04	112.23	108.20
1	1	3333	G	C3'-C2'-O2'	5.04	127.92	113.30
2	3	109	G	C1'-C2'-O2'	5.04	125.72	110.60
3	4	34	U	C1'-C2'-O2'	5.04	125.72	110.60
5	B	246	LEU	CB-CA-C	5.04	119.78	110.20
1	1	587	U	C1'-C2'-O2'	5.04	125.72	110.60
2	3	104	A	C3'-C2'-O2'	5.04	127.92	113.30
1	1	583	G	C3'-C2'-O2'	5.04	127.91	113.30
1	1	1440	G	N9-C1'-C2'	5.04	120.55	114.00
1	1	3329	U	C3'-C2'-O2'	5.04	127.91	113.30
1	1	141	C	C3'-C2'-O2'	5.04	127.91	113.30
1	1	699	A	C3'-C2'-O2'	5.04	127.91	113.30
35	g	25	THR	N-CA-C	5.04	124.60	111.00
1	1	712	G	C1'-C2'-O2'	5.04	125.71	110.60
43	o	8	ARG	N-CA-C	5.04	124.59	111.00
1	1	244	G	C4'-C3'-O3'	5.03	123.07	113.00
1	1	1272	C	C3'-C2'-O2'	5.03	127.89	113.30
1	1	1495	U	C3'-C2'-O2'	5.03	127.89	113.30
1	1	169	U	O4'-C1'-N1	5.03	112.22	108.20
1	1	1435	A	C1'-C2'-O2'	5.03	125.69	110.60
5	B	215	ILE	N-CA-C	5.03	124.58	111.00
31	c	43	ILE	N-CA-C	5.03	124.58	111.00
1	1	886	C	C3'-C2'-O2'	5.03	127.89	113.30
7	D	227	LEU	N-CA-C	5.03	124.58	111.00
1	1	910	G	C1'-C2'-O2'	5.03	125.68	110.60
1	1	1254	C	O4'-C1'-N1	5.03	112.22	108.20
1	1	1495	U	C1'-C2'-O2'	5.03	125.69	110.60
1	1	2970	C	C1'-C2'-O2'	5.03	125.68	110.60
1	1	677	A	C3'-C2'-O2'	5.03	127.87	113.30
1	1	2822	U	O4'-C4'-C3'	5.03	110.12	106.10
7	D	187	THR	OG1-CB-CG2	5.03	121.56	110.00
18	P	148	LEU	CB-CG-CD2	5.03	119.54	111.00
1	1	1563	C	C3'-C2'-O2'	5.02	127.87	113.30
1	1	3076	C	N1-C1'-C2'	5.02	120.53	114.00
1	1	676	G	O4'-C1'-N9	5.02	112.22	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1	3117	C	C4'-C3'-O3'	5.02	123.05	113.00
1	1	3162	C	C4'-C3'-O3'	5.02	123.05	113.00
1	1	1844	C	C5'-C4'-C3'	5.02	124.03	116.00
1	1	3226	A	C3'-C2'-O2'	5.02	127.86	113.30
1	1	3240	C	C3'-C2'-O2'	5.02	127.86	113.30
1	1	3273	A	C1'-C2'-O2'	5.02	125.66	110.60
1	1	966	U	C3'-C2'-O2'	5.02	127.85	113.30
1	1	987	U	C5'-C4'-C3'	5.02	124.03	116.00
1	1	1802	C	C3'-C2'-O2'	5.02	127.85	113.30
1	1	3308	C	C3'-C2'-O2'	5.02	127.85	113.30
20	R	128	LYS	N-CA-C	5.02	124.55	111.00
37	i	67	LYS	N-CA-C	5.02	124.55	111.00
1	1	195	U	C3'-C2'-O2'	5.01	127.84	113.30
1	1	397	A	O4'-C1'-N9	5.01	112.21	108.20
1	1	1468	A	C3'-C2'-O2'	5.01	127.84	113.30
2	3	49	G	C5'-C4'-C3'	5.01	124.02	116.00
1	1	1451	C	C3'-C2'-O2'	5.01	127.83	113.30
13	J	128	TYR	N-CA-C	5.01	124.53	111.00
27	Y	85	VAL	CB-CA-C	5.01	120.92	111.40
44	p	81	SER	N-CA-C	5.01	124.53	111.00
1	1	1144	U	C3'-C2'-O2'	5.01	127.83	113.30
1	1	1926	C	O4'-C1'-N1	5.01	112.21	108.20
1	1	2111	G	C5'-C4'-O4'	5.01	115.11	109.10
1	1	2452	G	O4'-C1'-N9	5.01	112.21	108.20
1	1	2619	G	C3'-C2'-O2'	5.01	127.82	113.30
1	1	3156	U	C1'-C2'-O2'	5.01	125.62	110.60
2	3	11	A	C1'-C2'-O2'	5.01	125.62	110.60
1	1	2950	G	C5'-C4'-C3'	5.01	124.01	116.00
3	4	111	A	C3'-C2'-O2'	5.01	127.82	113.30
45	t	205	VAL	CB-CA-C	5.01	120.91	111.40
4	A	71	LEU	CB-CA-C	5.00	119.71	110.20
7	D	207	TYR	N-CA-C	5.00	124.51	111.00
1	1	32	U	C5'-C4'-C3'	5.00	124.01	116.00
1	1	702	C	C5'-C4'-C3'	5.00	124.01	116.00
1	1	1237	G	C3'-C2'-O2'	5.00	127.81	113.30
32	d	51	LEU	N-CA-C	5.00	124.51	111.00
1	1	168	U	C5'-C4'-C3'	5.00	124.00	116.00
1	1	232	G	C1'-C2'-O2'	5.00	125.61	110.60
1	1	358	G	C3'-C2'-O2'	5.00	127.80	113.30
1	1	1934	G	C3'-C2'-O2'	5.00	127.81	113.30
1	1	2114	C	C3'-C2'-O2'	5.00	127.80	113.30
45	t	4	ILE	N-CA-C	5.00	124.50	111.00

All (277) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	1	69	C	C2'
1	1	92	G	C2'
1	1	95	A	C2'
1	1	109	A	C3'
1	1	167	U	C3'
1	1	244	G	C3'
1	1	250	U	C3'
1	1	258	G	C2'
1	1	282	G	C3'
1	1	322	U	C3'
1	1	335	G	C3'
1	1	336	A	C3'
1	1	345	G	C3'
1	1	368	G	C3'
1	1	379	C	C2'
1	1	387	A	C3'
1	1	418	A	C2'
1	1	424	G	C3'
1	1	498	A	C3'
1	1	549	U	C2'
1	1	637	C	C3'
1	1	652	G	C2'
1	1	702	C	C3'
1	1	739	G	C3'
1	1	763	G	C3'
1	1	813	G	C2'
1	1	834	U	C3'
1	1	845	G	C3'
1	1	864	G	C2'
1	1	884	A	C2'
1	1	917	A	C3'
1	1	996	A	C3'
1	1	1013	G	C3'
1	1	1024	G	C3'
1	1	1043	C	C3'
1	1	1056	U	C3'
1	1	1106	G	C3'
1	1	1117	G	C3'
1	1	1122	U	C2'
1	1	1264	G	C3'
1	1	1278	A	C2'
1	1	1282	G	C3'

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Mol	Chain	Res	Type	Atom
1	1	1351	U	C3’
1	1	1363	A	C3’
1	1	1425	U	C3’
1	1	1451	C	C3’
1	1	1459	C	C3’
1	1	1464	G	C3’
1	1	1533	U	C2’
1	1	1578	C	C3’
1	1	1623	G	C3’
1	1	1652	G	C3’
1	1	1673	G	C3’
1	1	1704	A	C2’
1	1	1705	U	C2’
1	1	1816	A	C3’
1	1	1835	A	C2’
1	1	1838	G	C3’
1	1	1839	A	C2’
1	1	1888	U	C3’
1	1	1906	G	C3’
1	1	1938	U	C2’
1	1	1942	U	C2’
1	1	2130	G	C3’
1	1	2136	C	C3’
1	1	2139	A	C3’
1	1	2149	A	C2’
1	1	2152	A	C3’
1	1	2156	C	C3’
1	1	2273	G	C2’
1	1	2288	G	C3’
1	1	2342	U	C3’
1	1	2362	C	C3’
1	1	2374	C	C2’
1	1	2403	G	C2’
1	1	2405	C	C2’
1	1	2439	A	C2’
1	1	2612	U	C3’
1	1	2622	C	C2’
1	1	2643	A	C3’
1	1	2650	U	C3’
1	1	2659	G	C3’
1	1	2696	A	C3’
1	1	2731	U	C3’

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Mol	Chain	Res	Type	Atom
1	1	2777	G	C2'
1	1	2826	U	C2'
1	1	2835	U	C2'
1	1	2874	G	C2'
1	1	2885	C	C3'
1	1	2909	U	C3'
1	1	3037	U	C3'
1	1	3071	U	C3'
1	1	3094	A	C3'
1	1	3099	C	C3'
1	1	3107	U	C3'
1	1	3119	U	C3'
1	1	3171	U	C2'
1	1	3241	G	C3'
1	1	3243	A	C2'
1	1	3292	A	C3'
1	1	3333	G	C2'
1	1	3362	A	C3'
1	1	3391	A	C2'
2	3	11	A	C2'
3	4	10	A	C3'
3	4	34	U	C2'
3	4	50	C	C3'
3	4	52	A	C2'
4	A	9	ARG	CA
4	A	32	LEU	CA
4	A	33	ASP	CA
4	A	37	ARG	CA
4	A	96	LEU	CA
4	A	143	GLU	CA
4	A	196	TRP	CA
5	B	38	SER	CA
5	B	61	ASP	CA
5	B	79	VAL	CA
5	B	104	THR	CA
5	B	144	ILE	CA
5	B	173	GLN	CA
5	B	246	LEU	CA
5	B	265	ALA	CA
5	B	285	VAL	CA
5	B	331	ASN	CA
5	B	349	LYS	CA

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Mol	Chain	Res	Type	Atom
6	C	11	LEU	CA
6	C	21	PRO	CA
6	C	27	SER	CA
6	C	85	SER	CA
6	C	172	VAL	CA
6	C	195	ARG	CA
6	C	222	VAL	CA
6	C	226	GLU	CA
6	C	296	GLN	CA
6	C	299	ILE	CA
6	C	314	LYS	CA
7	D	57	ASN	CA
7	D	109	THR	CA
7	D	125	VAL	CA
7	D	197	SER	CA
7	D	273	ARG	CA
7	D	293	LEU	CA
8	E	34	LEU	CA
8	E	169	ASP	CA
8	E	172	HIS	CA
9	F	92	ILE	CA
9	F	101	LYS	CA
9	F	106	LEU	CA
9	F	112	ASN	CA
9	F	122	ALA	CA
10	G	27	THR	CA
10	G	59	GLN	CA
10	G	74	THR	CA
10	G	96	LYS	CA
10	G	155	ASN	CA
10	G	211	LEU	CA
11	H	27	VAL	CA
11	H	51	GLN	CA
11	H	142	ASP	CA
11	H	150	SER	CA
11	H	172	ILE	CA
12	I	33	ILE	CA
12	I	75	TYR	CA
12	I	79	VAL	CA
12	I	146	ASP	CA
13	J	35	LYS	CA
13	J	62	ASN	CA

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Mol	Chain	Res	Type	Atom
13	J	163	PHE	CA
14	L	6	ASN	CA
14	L	71	ALA	CA
14	L	112	ASN	CA
14	L	135	ALA	CA
14	L	171	ARG	CA
14	L	194	GLU	CA
15	M	53	VAL	CA
15	M	90	VAL	CA
16	N	46	ASP	CA
16	N	109	ARG	CA
17	O	48	PHE	CA
17	O	114	LYS	CA
17	O	136	THR	CA
18	P	52	LEU	CA
18	P	89	LYS	CA
18	P	101	ASN	CA
18	P	120	ASN	CA
18	P	179	GLN	CA
19	Q	25	TYR	CA
19	Q	112	ALA	CA
19	Q	148	GLU	CA
19	Q	150	VAL	CA
20	R	5	ARG	CA
20	R	21	LYS	CA
20	R	34	GLN	CA
20	R	41	ILE	CB,CA
20	R	84	THR	CA
20	R	104	ARG	CA
20	R	106	LEU	CA
20	R	125	LYS	CA
20	R	128	LYS	CA
20	R	135	LYS	CA
20	R	175	GLN	CA
20	R	186	LYS	CA
21	S	12	ARG	CA
21	S	36	ILE	CA
21	S	61	ILE	CB
21	S	99	ARG	CA
21	S	119	ARG	CA
22	T	25	VAL	CA
22	T	49	GLN	CA

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Mol	Chain	Res	Type	Atom
22	T	78	LYS	CA
22	T	118	GLU	CA
22	T	138	SER	CA
22	T	147	VAL	CA
24	V	14	SER	CA
24	V	102	ILE	CA
24	V	128	ARG	CA
25	W	21	PHE	CA
25	W	41	LYS	CA
26	X	59	SER	CA
26	X	142	ILE	CB
27	Y	26	GLN	CA
27	Y	87	LYS	CA
27	Y	91	ASN	CA
27	Y	119	ILE	CA
28	Z	31	GLU	CA
28	Z	47	GLU	CA
29	a	88	ASP	CA
29	a	145	VAL	CA
29	a	148	ILE	CA
30	b	12	GLN	CA
30	b	41	ARG	CA
31	c	46	ALA	CA
31	c	64	LYS	CA
31	c	76	GLU	CA
32	d	46	THR	CA
32	d	47	ASP	CA
32	d	58	ALA	CA
33	e	25	TYR	CA
33	e	55	ILE	CA
34	f	15	SER	CA
34	f	39	GLN	CA
34	f	60	ARG	CA
34	f	77	ASN	CA
35	g	73	SER	CA
35	g	76	TYR	CA
35	g	84	CYS	CA
35	g	96	GLU	CA
36	h	71	LYS	CA
36	h	73	LYS	CA
36	h	105	ARG	CA
36	h	111	PHE	CA

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Mol	Chain	Res	Type	Atom
37	i	45	ARG	CA
37	i	83	ALA	CA
38	j	26	SER	CA
38	j	45	ARG	CA
38	j	65	ARG	CA
40	l	19	GLN	CA
40	l	28	ARG	CA
40	l	33	ASN	CA
43	o	29	LYS	CA
43	o	30	ALA	CA
43	o	76	LYS	CA
43	o	77	CYS	CA
43	o	93	LEU	CA
43	o	102	GLN	CA
43	o	103	ALA	CA
44	p	90	VAL	CA
45	t	4	ILE	CA
45	t	83	ASP	CA
45	t	93	LEU	CA
45	t	105	LYS	CA
45	t	138	VAL	CA
45	t	151	VAL	CA
45	t	152	ARG	CA
45	t	198	TRP	CA

All (31) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	B	17	LEU	Peptide
5	B	256	HIS	Peptide
5	B	36	ASP	Peptide
6	C	148	ILE	Peptide
6	C	226	GLU	Peptide
6	C	296	GLN	Peptide
14	L	56	PRO	Peptide
17	O	125	ARG	Mainchain
17	O	143	THR	Mainchain
17	O	145	VAL	Mainchain
17	O	153	VAL	Mainchain
17	O	16	VAL	Mainchain
17	O	160	ARG	Mainchain
17	O	186	ALA	Mainchain

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Mol	Chain	Res	Type	Group
17	O	198	GLY	Mainchain,Peptide
17	O	36	VAL	Mainchain
17	O	67	THR	Mainchain
17	O	72	HIS	Mainchain
17	O	74	ARG	Mainchain
17	O	84	LEU	Mainchain
17	O	90	HIS	Mainchain
17	O	95	GLY	Mainchain
34	f	103	TYR	Peptide
34	f	15	SER	Peptide
38	j	39	TYR	Peptide
45	t	150	ASP	Peptide
45	t	190	PHE	Peptide
45	t	191	VAL	Peptide
45	t	193	LEU	Peptide
45	t	92	LYS	Peptide

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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 PDB entries followed by that with respect to all EM entries.

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
4	A	135/254 (53%)	107 (79%)	21 (16%)	7 (5%)	2 21
5	B	240/387 (62%)	198 (82%)	25 (10%)	17 (7%)	1 15
6	C	215/362 (59%)	168 (78%)	26 (12%)	21 (10%)	0 8
7	D	164/297 (55%)	128 (78%)	25 (15%)	11 (7%)	1 16
8	E	103/176 (58%)	91 (88%)	7 (7%)	5 (5%)	2 22
9	F	136/244 (56%)	121 (89%)	10 (7%)	5 (4%)	3 28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
10	G	122/256 (48%)	100 (82%)	13 (11%)	9 (7%)	1 13
11	H	106/191 (56%)	84 (79%)	18 (17%)	4 (4%)	3 27
12	I	119/221 (54%)	102 (86%)	12 (10%)	5 (4%)	3 25
13	J	103/174 (59%)	85 (82%)	10 (10%)	8 (8%)	1 12
14	L	103/199 (52%)	79 (77%)	14 (14%)	10 (10%)	0 8
15	M	84/138 (61%)	68 (81%)	10 (12%)	6 (7%)	1 15
16	N	114/204 (56%)	94 (82%)	11 (10%)	9 (8%)	1 12
17	O	181/398 (46%)	69 (38%)	53 (29%)	59 (33%)	0 0
18	P	106/184 (58%)	96 (91%)	7 (7%)	3 (3%)	5 33
19	Q	100/186 (54%)	81 (81%)	13 (13%)	6 (6%)	1 18
20	R	105/189 (56%)	74 (70%)	26 (25%)	5 (5%)	2 22
21	S	87/172 (51%)	63 (72%)	17 (20%)	7 (8%)	1 12
22	T	93/160 (58%)	69 (74%)	19 (20%)	5 (5%)	2 20
23	U	58/121 (48%)	50 (86%)	5 (9%)	3 (5%)	2 21
24	V	73/137 (53%)	65 (89%)	6 (8%)	2 (3%)	5 33
25	W	33/155 (21%)	29 (88%)	4 (12%)	0	100 100
26	X	76/142 (54%)	63 (83%)	8 (10%)	5 (7%)	1 16
27	Y	71/127 (56%)	50 (70%)	17 (24%)	4 (6%)	2 19
28	Z	66/136 (48%)	48 (73%)	13 (20%)	5 (8%)	1 13
29	a	75/149 (50%)	56 (75%)	13 (17%)	6 (8%)	1 12
30	b	27/59 (46%)	19 (70%)	5 (18%)	3 (11%)	0 5
31	c	56/105 (53%)	44 (79%)	8 (14%)	4 (7%)	1 15
32	d	68/113 (60%)	59 (87%)	6 (9%)	3 (4%)	2 24
33	e	82/130 (63%)	68 (83%)	8 (10%)	6 (7%)	1 14
34	f	52/107 (49%)	42 (81%)	7 (14%)	3 (6%)	1 19
35	g	65/121 (54%)	57 (88%)	6 (9%)	2 (3%)	4 32
36	h	66/120 (55%)	52 (79%)	8 (12%)	6 (9%)	1 9
37	i	47/100 (47%)	33 (70%)	10 (21%)	4 (8%)	1 10
38	j	48/88 (54%)	35 (73%)	7 (15%)	6 (12%)	0 4
39	k	43/78 (55%)	32 (74%)	9 (21%)	2 (5%)	2 23
40	l	27/51 (53%)	20 (74%)	5 (18%)	2 (7%)	1 13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
41	m	26/128 (20%)	22 (85%)	3 (12%)	1 (4%)	3 27
42	n	14/25 (56%)	9 (64%)	4 (29%)	1 (7%)	1 15
43	o	71/106 (67%)	58 (82%)	10 (14%)	3 (4%)	3 25
44	p	59/92 (64%)	53 (90%)	4 (7%)	2 (3%)	3 30
45	t	121/217 (56%)	82 (68%)	24 (20%)	15 (12%)	0 4
All	All	3740/6999 (53%)	2923 (78%)	527 (14%)	290 (8%)	2 12

All (290) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	A	33	ASP
4	A	120	PRO
5	B	61	ASP
5	B	113	GLU
5	B	146	ARG
5	B	165	GLN
5	B	188	ILE
5	B	205	VAL
5	B	256	HIS
5	B	257	PRO
5	B	292	ALA
6	C	5	GLN
6	C	140	HIS
6	C	149	PRO
6	C	175	HIS
6	C	269	SER
7	D	57	ASN
7	D	58	LYS
7	D	119	TYR
7	D	215	ASP
7	D	256	THR
10	G	81	THR
10	G	219	ASP
12	I	72	ALA
12	I	79	VAL
12	I	194	GLY
13	J	10	ARG
13	J	88	GLU
14	L	47	ALA
14	L	82	ALA

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Mol	Chain	Res	Type
14	L	131	LYS
15	M	8	LYS
15	M	9	ALA
16	N	74	PRO
16	N	79	ALA
17	O	7	VAL
17	O	12	LYS
17	O	15	LEU
17	O	21	SER
17	O	22	VAL
17	O	27	LEU
17	O	28	LEU
17	O	37	ARG
17	O	39	GLU
17	O	41	LEU
17	O	42	ASN
17	O	50	ASN
17	O	57	PHE
17	O	66	LYS
17	O	68	ARG
17	O	77	SER
17	O	78	ARG
17	O	81	TYR
17	O	82	LYS
17	O	86	GLY
17	O	97	ALA
17	O	104	VAL
17	O	109	PRO
17	O	110	PRO
17	O	111	PRO
17	O	121	PRO
17	O	122	GLN
17	O	137	THR
17	O	138	LEU
17	O	148	LYS
17	O	159	LYS
17	O	160	ARG
17	O	161	LYS
17	O	165	ALA
17	O	169	ALA
17	O	187	GLU
17	O	188	SER

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Mol	Chain	Res	Type
19	Q	162	ALA
20	R	157	GLU
21	S	37	ALA
21	S	53	LYS
22	T	118	GLU
22	T	124	VAL
23	U	38	ILE
23	U	91	ASP
26	X	53	HIS
27	Y	87	LYS
27	Y	101	PRO
28	Z	129	TRP
29	a	117	ARG
30	b	21	ILE
31	c	10	ILE
31	c	81	VAL
33	e	7	PRO
33	e	127	ALA
34	f	42	GLN
34	f	104	PRO
35	g	59	PRO
37	i	13	LYS
37	i	70	ARG
38	j	39	TYR
38	j	40	PRO
38	j	85	LYS
39	k	50	SER
39	k	75	VAL
40	l	28	ARG
40	l	50	ASN
43	o	30	ALA
43	o	60	LYS
44	p	25	GLN
45	t	90	LEU
45	t	105	LYS
45	t	160	LYS
45	t	170	GLY
45	t	193	LEU
45	t	194	LEU
45	t	195	LYS
45	t	213	ALA
4	A	144	ASN

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Mol	Chain	Res	Type
4	A	217	GLN
4	A	251	LYS
5	B	17	LEU
5	B	187	SER
5	B	368	GLY
6	C	4	PRO
6	C	146	PRO
6	C	182	LEU
6	C	233	LEU
6	C	273	GLY
6	C	296	GLN
6	C	348	GLY
7	D	276	LYS
8	E	69	PHE
9	F	24	GLU
9	F	163	LEU
9	F	178	ILE
9	F	222	HIS
10	G	25	PRO
10	G	121	SER
11	H	27	VAL
13	J	8	PRO
13	J	94	ARG
13	J	113	GLY
14	L	71	ALA
14	L	166	ALA
15	M	136	ALA
16	N	55	ALA
16	N	87	GLN
17	O	55	HIS
17	O	76	PRO
17	O	83	ALA
17	O	175	THR
20	R	121	HIS
24	V	82	ALA
26	X	50	ALA
26	X	62	VAL
29	a	24	LYS
29	a	145	VAL
31	c	78	GLY
31	c	100	ILE
33	e	86	THR

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Mol	Chain	Res	Type
38	j	48	ASN
42	n	4	LYS
45	t	79	SER
45	t	108	ASN
45	t	155	ILE
5	B	63	PRO
5	B	155	ALA
6	C	232	SER
6	C	291	ASN
7	D	7	ALA
7	D	40	HIS
8	E	5	LYS
8	E	34	LEU
13	J	64	LYS
14	L	108	ILE
15	M	133	LYS
16	N	76	PRO
17	O	20	ALA
17	O	128	ARG
17	O	141	LEU
17	O	178	VAL
18	P	160	ALA
19	Q	13	SER
19	Q	33	TYR
19	Q	147	ARG
20	R	106	LEU
27	Y	64	LYS
29	a	115	LYS
30	b	11	ASN
32	d	61	LYS
33	e	12	LYS
33	e	21	HIS
34	f	103	TYR
36	h	87	ALA
36	h	119	LYS
38	j	53	ALA
38	j	84	SER
44	p	60	CYS
4	A	26	ALA
5	B	60	LEU
5	B	304	THR
6	C	218	ALA

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Mol	Chain	Res	Type
6	C	317	PRO
6	C	334	PHE
6	C	361	HIS
7	D	277	LEU
10	G	36	ILE
10	G	65	LEU
10	G	157	VAL
11	H	50	ASN
14	L	133	PRO
14	L	134	GLU
15	M	29	ALA
16	N	75	VAL
17	O	75	ALA
17	O	101	ARG
17	O	145	VAL
17	O	177	LYS
17	O	195	ALA
18	P	156	ALA
20	R	100	ARG
21	S	13	ARG
21	S	146	LYS
21	S	167	ARG
26	X	70	GLU
26	X	96	LYS
28	Z	102	GLU
33	e	5	PRO
35	g	46	ASP
36	h	71	LYS
36	h	95	PHE
37	i	3	VAL
41	m	79	GLU
43	o	100	LYS
4	A	222	ALA
6	C	131	VAL
6	C	148	ILE
7	D	125	VAL
7	D	292	ALA
8	E	98	VAL
10	G	75	ILE
10	G	78	PHE
13	J	9	MET
13	J	117	ASP

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Mol	Chain	Res	Type
14	L	61	PRO
14	L	171	ARG
15	M	6	ILE
16	N	158	HIS
17	O	32	LYS
17	O	53	LYS
17	O	56	ASP
17	O	140	LYS
18	P	182	ILE
19	Q	166	LEU
20	R	73	GLY
22	T	123	GLY
22	T	146	ASN
23	U	11	ILE
28	Z	78	ASN
29	a	77	LYS
32	d	83	GLU
37	i	45	ARG
45	t	112	ALA
45	t	212	PRO
6	C	14	GLU
9	F	216	VAL
11	H	59	ASN
17	O	5	PRO
17	O	16	VAL
19	Q	97	PRO
21	S	61	ILE
21	S	69	PRO
27	Y	8	VAL
28	Z	103	GLN
29	a	148	ILE
32	d	9	THR
36	h	91	ALA
45	t	61	PRO
5	B	329	PRO
8	E	6	ALA
12	I	122	PRO
17	O	34	VAL
22	T	148	PRO
28	Z	70	PRO
36	h	111	PHE
11	H	30	PRO

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Mol	Chain	Res	Type
16	N	89	VAL
16	N	186	GLY
17	O	36	VAL
24	V	129	VAL
17	O	146	GLY
30	b	29	TYR
45	t	191	VAL
12	I	46	PHE

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 PDB entries followed by that with respect to all EM entries.

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
4	A	193/196 (98%)	172 (89%)	21 (11%)	6 29
5	B	320/323 (99%)	277 (87%)	43 (13%)	4 21
6	C	288/289 (100%)	261 (91%)	27 (9%)	8 35
7	D	244/245 (100%)	215 (88%)	29 (12%)	5 25
8	E	134/153 (88%)	123 (92%)	11 (8%)	11 41
9	F	186/205 (91%)	172 (92%)	14 (8%)	13 43
10	G	187/208 (90%)	170 (91%)	17 (9%)	9 36
11	H	171/171 (100%)	154 (90%)	17 (10%)	8 32
12	I	177/187 (95%)	156 (88%)	21 (12%)	5 25
13	J	147/150 (98%)	123 (84%)	24 (16%)	2 15
14	L	154/159 (97%)	140 (91%)	14 (9%)	9 36
15	M	107/109 (98%)	92 (86%)	15 (14%)	3 20
16	N	175/176 (99%)	162 (93%)	13 (7%)	13 44
17	O	160/324 (49%)	134 (84%)	26 (16%)	2 15
18	P	140/146 (96%)	120 (86%)	20 (14%)	3 19
19	Q	150/151 (99%)	133 (89%)	17 (11%)	6 28
20	R	153/154 (99%)	132 (86%)	21 (14%)	3 21

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
21	S	156/156 (100%)	143 (92%)	13 (8%)	11 40
22	T	136/137 (99%)	117 (86%)	19 (14%)	3 20
23	U	87/107 (81%)	81 (93%)	6 (7%)	15 46
24	V	104/105 (99%)	93 (89%)	11 (11%)	6 30
25	W	53/129 (41%)	48 (91%)	5 (9%)	8 35
26	X	104/118 (88%)	88 (85%)	16 (15%)	2 17
27	Y	109/110 (99%)	99 (91%)	10 (9%)	9 36
28	Z	115/116 (99%)	101 (88%)	14 (12%)	5 24
29	a	118/119 (99%)	107 (91%)	11 (9%)	9 35
30	b	46/47 (98%)	40 (87%)	6 (13%)	4 22
31	c	81/88 (92%)	70 (86%)	11 (14%)	3 21
32	d	92/97 (95%)	80 (87%)	12 (13%)	4 22
33	e	109/111 (98%)	96 (88%)	13 (12%)	5 25
34	f	90/91 (99%)	83 (92%)	7 (8%)	12 42
35	g	95/103 (92%)	84 (88%)	11 (12%)	5 27
36	h	104/105 (99%)	88 (85%)	16 (15%)	2 17
37	i	81/82 (99%)	71 (88%)	10 (12%)	4 24
38	j	70/71 (99%)	62 (89%)	8 (11%)	5 27
39	k	68/69 (99%)	50 (74%)	18 (26%)	0 3
40	l	45/46 (98%)	38 (84%)	7 (16%)	2 17
41	m	47/116 (40%)	44 (94%)	3 (6%)	17 48
42	n	23/23 (100%)	18 (78%)	5 (22%)	1 7
43	o	90/91 (99%)	75 (83%)	15 (17%)	2 14
44	p	71/72 (99%)	61 (86%)	10 (14%)	3 20
45	t	198/198 (100%)	161 (81%)	37 (19%)	1 10
All	All	5378/5853 (92%)	4734 (88%)	644 (12%)	8 25

All (644) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	9	ARG
4	A	15	ILE
4	A	28	LYS

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Mol	Chain	Res	Type
4	A	44	ILE
4	A	71	LEU
4	A	72	ARG
4	A	74	GLU
4	A	116	VAL
4	A	119	LYS
4	A	128	ARG
4	A	142	ASP
4	A	143	GLU
4	A	157	VAL
4	A	180	LEU
4	A	196	TRP
4	A	199	THR
4	A	204	MET
4	A	208	ASP
4	A	242	ARG
4	A	246	LEU
4	A	249	SER
5	B	3	HIS
5	B	4	ARG
5	B	10	ARG
5	B	25	ILE
5	B	28	ARG
5	B	36	ASP
5	B	45	SER
5	B	53	MET
5	B	77	THR
5	B	93	VAL
5	B	100	ARG
5	B	101	SER
5	B	102	LEU
5	B	103	THR
5	B	113	GLU
5	B	137	TYR
5	B	140	ASP
5	B	146	ARG
5	B	148	LEU
5	B	157	VAL
5	B	166	ILE
5	B	167	ARG
5	B	168	LYS
5	B	169	THR

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Mol	Chain	Res	Type
5	B	183	LEU
5	B	188	ILE
5	B	205	VAL
5	B	206	ASP
5	B	221	THR
5	B	246	LEU
5	B	255	TRP
5	B	275	ARG
5	B	279	ASN
5	B	298	PHE
5	B	305	ILE
5	B	319	ASN
5	B	324	VAL
5	B	332	ARG
5	B	335	ILE
5	B	361	THR
5	B	370	PHE
5	B	379	PHE
5	B	387	LEU
6	C	11	LEU
6	C	18	ASN
6	C	93	MET
6	C	99	MET
6	C	120	TYR
6	C	126	ILE
6	C	144	LYS
6	C	150	LEU
6	C	152	VAL
6	C	172	VAL
6	C	188	ARG
6	C	203	ARG
6	C	206	LEU
6	C	222	VAL
6	C	227	THR
6	C	258	LEU
6	C	280	ILE
6	C	296	GLN
6	C	297	SER
6	C	307	GLN
6	C	311	HIS
6	C	313	LEU
6	C	327	LEU

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Mol	Chain	Res	Type
6	C	333	VAL
6	C	345	GLU
6	C	349	THR
6	C	354	VAL
7	D	4	GLN
7	D	5	LYS
7	D	15	ARG
7	D	22	ARG
7	D	23	ARG
7	D	41	LYS
7	D	52	VAL
7	D	53	VAL
7	D	92	LEU
7	D	105	ILE
7	D	115	LEU
7	D	125	VAL
7	D	128	GLU
7	D	131	LEU
7	D	145	PHE
7	D	152	ARG
7	D	158	ARG
7	D	159	VAL
7	D	163	LEU
7	D	187	THR
7	D	188	GLU
7	D	194	LEU
7	D	222	LEU
7	D	254	LYS
7	D	257	GLU
7	D	259	LYS
7	D	260	PHE
7	D	273	ARG
7	D	277	LEU
8	E	5	LYS
8	E	15	VAL
8	E	23	LYS
8	E	34	LEU
8	E	52	VAL
8	E	65	ILE
8	E	76	LEU
8	E	93	VAL
8	E	129	GLU

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Mol	Chain	Res	Type
8	E	134	ARG
8	E	148	GLU
9	F	25	GLN
9	F	46	GLU
9	F	56	GLU
9	F	92	ILE
9	F	93	ASN
9	F	109	THR
9	F	110	ARG
9	F	157	ASN
9	F	175	LYS
9	F	179	LEU
9	F	181	ILE
9	F	205	PHE
9	F	229	PHE
9	F	239	LEU
10	G	26	LEU
10	G	27	THR
10	G	43	LYS
10	G	63	LYS
10	G	69	LEU
10	G	74	THR
10	G	84	ARG
10	G	95	ASN
10	G	112	GLU
10	G	136	LEU
10	G	155	ASN
10	G	156	ASP
10	G	163	VAL
10	G	190	VAL
10	G	204	ARG
10	G	219	ASP
10	G	237	ILE
11	H	5	GLN
11	H	20	ILE
11	H	41	ILE
11	H	42	ASP
11	H	49	ASN
11	H	52	LEU
11	H	69	ARG
11	H	70	THR
11	H	82	VAL

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Mol	Chain	Res	Type
11	H	132	VAL
11	H	139	ASN
11	H	157	ASN
11	H	164	ILE
11	H	166	ARG
11	H	170	LYS
11	H	172	ILE
11	H	173	ARG
12	I	4	ARG
12	I	9	TYR
12	I	21	ARG
12	I	26	VAL
12	I	30	LYS
12	I	32	ARG
12	I	33	ILE
12	I	39	LYS
12	I	60	LEU
12	I	87	LEU
12	I	90	ARG
12	I	146	ASP
12	I	163	GLN
12	I	165	ILE
12	I	170	LYS
12	I	174	THR
12	I	177	ASP
12	I	202	LYS
12	I	203	LYS
12	I	207	GLU
12	I	216	TYR
13	J	9	MET
13	J	10	ARG
13	J	12	LEU
13	J	13	LYS
13	J	22	SER
13	J	30	LEU
13	J	35	LYS
13	J	56	THR
13	J	62	ASN
13	J	80	LEU
13	J	84	LEU
13	J	86	VAL
13	J	94	ARG

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Mol	Chain	Res	Type
13	J	106	ILE
13	J	112	LEU
13	J	115	LYS
13	J	128	TYR
13	J	137	ARG
13	J	140	ARG
13	J	147	THR
13	J	148	VAL
13	J	159	THR
13	J	163	PHE
13	J	166	LYS
14	L	3	ILE
14	L	35	ARG
14	L	36	ARG
14	L	54	LEU
14	L	58	VAL
14	L	67	ARG
14	L	79	GLU
14	L	100	ARG
14	L	107	GLU
14	L	124	ILE
14	L	131	LYS
14	L	136	GLU
14	L	154	VAL
14	L	190	LYS
15	M	8	LYS
15	M	15	VAL
15	M	20	VAL
15	M	25	LYS
15	M	53	VAL
15	M	55	ARG
15	M	58	ILE
15	M	63	VAL
15	M	72	LEU
15	M	77	ARG
15	M	90	VAL
15	M	91	CYS
15	M	92	GLU
15	M	108	ARG
15	M	113	THR
16	N	10	LEU
16	N	22	LEU

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Mol	Chain	Res	Type
16	N	59	PHE
16	N	92	LEU
16	N	98	LEU
16	N	104	GLU
16	N	113	LEU
16	N	114	ARG
16	N	116	LEU
16	N	133	ILE
16	N	155	VAL
16	N	164	LEU
16	N	188	ARG
17	O	25	LYS
17	O	31	GLN
17	O	41	LEU
17	O	42	ASN
17	O	47	PHE
17	O	52	LEU
17	O	58	LEU
17	O	59	ARG
17	O	78	ARG
17	O	82	LYS
17	O	85	ARG
17	O	91	LYS
17	O	99	LEU
17	O	105	PHE
17	O	106	GLU
17	O	117	ARG
17	O	124	LEU
17	O	127	LEU
17	O	133	ARG
17	O	134	LYS
17	O	141	LEU
17	O	151	ASP
17	O	160	ARG
17	O	170	LYS
17	O	182	ASN
17	O	187	GLU
18	P	3	ARG
18	P	26	PHE
18	P	30	ARG
18	P	42	THR
18	P	52	LEU

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Mol	Chain	Res	Type
18	P	54	HIS
18	P	69	ARG
18	P	94	LEU
18	P	101	ASN
18	P	120	ASN
18	P	127	ARG
18	P	129	THR
18	P	130	TYR
18	P	138	LYS
18	P	141	SER
18	P	146	ILE
18	P	148	LEU
18	P	150	VAL
18	P	169	THR
18	P	180	LYS
19	Q	3	ILE
19	Q	22	ASP
19	Q	24	VAL
19	Q	26	LEU
19	Q	36	LEU
19	Q	49	LEU
19	Q	55	SER
19	Q	57	ILE
19	Q	111	ARG
19	Q	123	THR
19	Q	135	GLN
19	Q	138	LEU
19	Q	141	ARG
19	Q	148	GLU
19	Q	150	VAL
19	Q	164	ARG
19	Q	185	LYS
20	R	7	GLN
20	R	17	VAL
20	R	34	GLN
20	R	38	ARG
20	R	52	LYS
20	R	56	THR
20	R	74	ARG
20	R	84	THR
20	R	96	ILE
20	R	103	ARG

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Mol	Chain	Res	Type
20	R	106	LEU
20	R	108	LYS
20	R	110	ARG
20	R	111	ASP
20	R	128	LYS
20	R	158	GLU
20	R	164	LEU
20	R	166	ASN
20	R	170	ARG
20	R	175	GLN
20	R	176	ARG
21	S	13	ARG
21	S	32	SER
21	S	36	ILE
21	S	48	LEU
21	S	61	ILE
21	S	80	ARG
21	S	96	ASP
21	S	122	HIS
21	S	134	ASP
21	S	136	LYS
21	S	155	ARG
21	S	165	TYR
21	S	172	TYR
22	T	9	SER
22	T	18	ASP
22	T	32	LYS
22	T	49	GLN
22	T	55	LYS
22	T	71	SER
22	T	75	ILE
22	T	80	VAL
22	T	83	ARG
22	T	91	LEU
22	T	102	ARG
22	T	104	GLU
22	T	124	VAL
22	T	126	VAL
22	T	127	GLN
22	T	128	LEU
22	T	139	ARG
22	T	147	VAL

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Mol	Chain	Res	Type
22	T	159	PHE
23	U	10	LYS
23	U	38	ILE
23	U	49	ASN
23	U	64	THR
23	U	99	LYS
23	U	100	THR
24	V	23	MET
24	V	33	ASN
24	V	64	LYS
24	V	69	LEU
24	V	72	LYS
24	V	83	LYS
24	V	93	LEU
24	V	96	GLU
24	V	102	ILE
24	V	120	LYS
24	V	128	ARG
25	W	1	MET
25	W	5	ILE
25	W	33	ASN
25	W	43	ARG
25	W	58	HIS
26	X	27	ARG
26	X	33	ARG
26	X	34	LEU
26	X	36	LYS
26	X	39	LYS
26	X	40	LEU
26	X	45	LYS
26	X	53	HIS
26	X	63	ILE
26	X	65	GLN
26	X	68	THR
26	X	92	LYS
26	X	93	TYR
26	X	115	ARG
26	X	135	ILE
26	X	142	ILE
27	Y	37	LYS
27	Y	50	ILE
27	Y	57	LEU

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Mol	Chain	Res	Type
27	Y	59	VAL
27	Y	74	TYR
27	Y	80	VAL
27	Y	99	LEU
27	Y	111	LEU
27	Y	114	ASP
27	Y	126	LEU
28	Z	14	VAL
28	Z	21	LYS
28	Z	24	VAL
28	Z	34	LYS
28	Z	46	ILE
28	Z	51	LEU
28	Z	54	THR
28	Z	55	LYS
28	Z	56	LYS
28	Z	57	HIS
28	Z	86	THR
28	Z	99	GLU
28	Z	121	ARG
28	Z	126	LYS
29	a	7	LYS
29	a	24	LYS
29	a	43	ILE
29	a	56	VAL
29	a	96	LYS
29	a	98	THR
29	a	105	LEU
29	a	115	LYS
29	a	130	VAL
29	a	133	LEU
29	a	144	VAL
30	b	12	GLN
30	b	21	ILE
30	b	25	LYS
30	b	28	LYS
30	b	40	ARG
30	b	59	LYS
31	c	16	LEU
31	c	22	LYS
31	c	41	LEU
31	c	61	MET

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Mol	Chain	Res	Type
31	c	62	LEU
31	c	83	LYS
31	c	90	VAL
31	c	94	GLU
31	c	101	LEU
31	c	102	THR
31	c	104	LEU
32	d	26	LYS
32	d	35	GLU
32	d	50	ARG
32	d	51	LEU
32	d	55	LEU
32	d	61	LYS
32	d	68	GLU
32	d	74	ARG
32	d	79	ARG
32	d	86	LYS
32	d	89	LEU
32	d	110	GLU
33	e	8	LYS
33	e	18	LYS
33	e	19	ARG
33	e	25	TYR
33	e	27	ARG
33	e	46	PHE
33	e	50	ILE
33	e	61	LYS
33	e	81	ASP
33	e	82	LEU
33	e	107	VAL
33	e	109	LEU
33	e	128	LEU
34	f	15	SER
34	f	19	SER
34	f	60	ARG
34	f	70	LYS
34	f	77	ASN
34	f	103	TYR
34	f	106	ASN
35	g	24	LYS
35	g	25	THR
35	g	29	ILE

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Mol	Chain	Res	Type
35	g	51	LEU
35	g	58	ARG
35	g	61	GLN
35	g	76	TYR
35	g	80	ARG
35	g	81	CYS
35	g	102	LYS
35	g	103	LYS
36	h	15	GLU
36	h	20	GLN
36	h	21	LEU
36	h	27	GLU
36	h	36	LEU
36	h	44	ILE
36	h	48	ARG
36	h	49	LYS
36	h	68	GLN
36	h	71	LYS
36	h	85	THR
36	h	96	GLU
36	h	105	ARG
36	h	107	LYS
36	h	115	LYS
36	h	119	LYS
37	i	7	ILE
37	i	9	ILE
37	i	36	ARG
37	i	57	LEU
37	i	58	ILE
37	i	62	ARG
37	i	68	ARG
37	i	76	ARG
37	i	98	ARG
37	i	99	ARG
38	j	17	THR
38	j	25	ARG
38	j	27	PHE
38	j	46	SER
38	j	57	HIS
38	j	65	ARG
38	j	75	LYS
38	j	80	THR

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Mol	Chain	Res	Type
39	k	3	ARG
39	k	5	ILE
39	k	9	LYS
39	k	24	THR
39	k	25	VAL
39	k	26	LYS
39	k	28	ASN
39	k	29	LYS
39	k	32	ASN
39	k	41	THR
39	k	45	VAL
39	k	54	LEU
39	k	64	LYS
39	k	65	LEU
39	k	67	GLN
39	k	69	LEU
39	k	75	VAL
39	k	77	ARG
40	l	5	LYS
40	l	21	ARG
40	l	29	LEU
40	l	33	ASN
40	l	36	ARG
40	l	48	LYS
40	l	51	ILE
41	m	77	ILE
41	m	85	LEU
41	m	114	LYS
42	n	1	MET
42	n	5	TRP
42	n	8	LYS
42	n	9	ARG
42	n	13	LEU
43	o	8	ARG
43	o	19	LYS
43	o	20	HIS
43	o	29	LYS
43	o	47	GLN
43	o	60	LYS
43	o	65	THR
43	o	66	LYS
43	o	71	ARG

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Mol	Chain	Res	Type
43	o	75	VAL
43	o	78	LYS
43	o	83	LEU
43	o	85	LEU
43	o	93	LEU
43	o	100	LYS
44	p	11	THR
44	p	22	LEU
44	p	42	CYS
44	p	45	LYS
44	p	46	THR
44	p	56	THR
44	p	60	CYS
44	p	70	THR
44	p	84	ARG
44	p	90	VAL
45	t	1	MET
45	t	3	LYS
45	t	5	THR
45	t	41	TYR
45	t	47	LYS
45	t	53	LEU
45	t	60	ARG
45	t	67	ILE
45	t	83	ASP
45	t	92	LYS
45	t	94	ASN
45	t	95	LYS
45	t	97	LYS
45	t	101	LYS
45	t	105	LYS
45	t	110	PHE
45	t	116	LEU
45	t	122	ARG
45	t	128	LEU
45	t	129	SER
45	t	130	LYS
45	t	138	VAL
45	t	140	HIS
45	t	152	ARG
45	t	155	ILE
45	t	156	LYS

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Mol	Chain	Res	Type
45	t	177	ASP
45	t	182	GLN
45	t	190	PHE
45	t	192	SER
45	t	194	LEU
45	t	198	TRP
45	t	203	SER
45	t	205	VAL
45	t	206	VAL
45	t	207	LYS
45	t	214	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	140	ASN
4	A	194	ASN
4	A	209	HIS
4	A	216	HIS
4	A	250	GLN
5	B	279	ASN
5	B	293	ASN
6	C	114	ASN
6	C	221	ASN
6	C	296	GLN
6	C	307	GLN
7	D	32	GLN
7	D	63	GLN
7	D	264	GLN
8	E	72	ASN
8	E	167	ASN
9	F	157	ASN
9	F	231	ASN
11	H	37	ASN
11	H	49	ASN
11	H	163	GLN
12	I	12	GLN
12	I	14	ASN
12	I	100	ASN
12	I	163	GLN
13	J	6	GLN
13	J	101	ASN

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Mol	Chain	Res	Type
13	J	132	ASN
14	L	137	GLN
16	N	37	HIS
16	N	87	GLN
16	N	139	HIS
16	N	175	ASN
16	N	182	ASN
17	O	31	GLN
17	O	42	ASN
17	O	72	HIS
18	P	55	GLN
18	P	96	GLN
19	Q	73	GLN
20	R	166	ASN
21	S	63	GLN
21	S	138	GLN
22	T	146	ASN
23	U	101	ASN
24	V	132	ASN
25	W	42	GLN
26	X	111	ASN
28	Z	106	GLN
30	b	6	ASN
33	e	88	HIS
33	e	104	ASN
35	g	52	GLN
35	g	61	GLN
36	h	62	GLN
38	j	13	ASN
39	k	32	ASN
40	l	4	GLN
40	l	32	ASN
40	l	50	ASN
43	o	82	GLN
44	p	25	GLN
45	t	27	ASN
45	t	127	GLN
45	t	188	ASN
45	t	199	GLN
45	t	200	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2683/3397 (78%)	1145 (42%)	379 (14%)
2	3	97/121 (80%)	31 (31%)	10 (10%)
3	4	135/158 (85%)	52 (38%)	14 (10%)
All	All	2915/3676 (79%)	1228 (42%)	403 (13%)

All (1228) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	6	A
1	1	9	U
1	1	10	C
1	1	11	A
1	1	15	C
1	1	18	G
1	1	25	U
1	1	26	A
1	1	32	U
1	1	40	A
1	1	41	G
1	1	43	A
1	1	48	A
1	1	49	A
1	1	59	G
1	1	60	A
1	1	73	C
1	1	74	G
1	1	75	G
1	1	77	A
1	1	83	U
1	1	84	U
1	1	85	A
1	1	89	A
1	1	92	G
1	1	96	G
1	1	105	C
1	1	109	A
1	1	110	G
1	1	115	A
1	1	116	A
1	1	119	U
1	1	122	A
1	1	127	G
1	1	128	G

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Mol	Chain	Res	Type
1	1	132	C
1	1	134	U
1	1	135	C
1	1	136	G
1	1	141	C
1	1	142	C
1	1	154	U
1	1	155	G
1	1	156	G
1	1	160	G
1	1	161	G
1	1	165	A
1	1	166	C
1	1	168	U
1	1	169	U
1	1	172	G
1	1	173	G
1	1	175	C
1	1	177	U
1	1	181	U
1	1	189	G
1	1	190	U
1	1	191	U
1	1	192	C
1	1	205	C
1	1	210	U
1	1	219	A
1	1	220	G
1	1	222	A
1	1	223	U
1	1	225	C
1	1	226	C
1	1	231	G
1	1	234	G
1	1	237	G
1	1	238	A
1	1	239	G
1	1	240	U
1	1	242	C
1	1	245	U
1	1	249	U
1	1	250	U

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Mol	Chain	Res	Type
1	1	251	G
1	1	252	U
1	1	255	A
1	1	257	U
1	1	259	C
1	1	260	C
1	1	263	C
1	1	269	G
1	1	273	A
1	1	274	G
1	1	277	G
1	1	282	G
1	1	283	G
1	1	284	A
1	1	286	U
1	1	294	U
1	1	295	A
1	1	297	G
1	1	298	U
1	1	302	U
1	1	303	G
1	1	304	G
1	1	305	U
1	1	306	A
1	1	307	A
1	1	315	C
1	1	320	G
1	1	321	C
1	1	323	A
1	1	324	A
1	1	331	G
1	1	332	C
1	1	334	A
1	1	335	G
1	1	336	A
1	1	338	A
1	1	339	C
1	1	346	C
1	1	347	G
1	1	355	A
1	1	362	U
1	1	368	G

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Mol	Chain	Res	Type
1	1	369	A
1	1	370	U
1	1	376	G
1	1	385	A
1	1	387	A
1	1	388	G
1	1	394	G
1	1	399	A
1	1	401	U
1	1	402	A
1	1	403	C
1	1	407	A
1	1	411	U
1	1	412	G
1	1	413	U
1	1	419	G
1	1	420	G
1	1	421	G
1	1	422	A
1	1	424	G
1	1	425	G
1	1	427	C
1	1	428	A
1	1	429	U
1	1	498	A
1	1	499	G
1	1	503	C
1	1	510	G
1	1	511	G
1	1	518	G
1	1	520	U
1	1	521	A
1	1	523	A
1	1	525	C
1	1	529	A
1	1	530	G
1	1	531	G
1	1	532	A
1	1	534	U
1	1	538	G
1	1	539	C
1	1	541	U

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Mol	Chain	Res	Type
1	1	542	G
1	1	543	C
1	1	544	C
1	1	545	U
1	1	546	C
1	1	547	G
1	1	550	A
1	1	551	A
1	1	552	G
1	1	555	U
1	1	556	U
1	1	557	A
1	1	559	A
1	1	569	A
1	1	570	A
1	1	572	A
1	1	573	C
1	1	574	U
1	1	579	G
1	1	583	G
1	1	587	U
1	1	592	A
1	1	594	U
1	1	595	G
1	1	597	G
1	1	598	A
1	1	599	C
1	1	600	G
1	1	604	G
1	1	611	A
1	1	612	U
1	1	615	U
1	1	621	A
1	1	625	G
1	1	626	U
1	1	632	G
1	1	634	C
1	1	636	C
1	1	637	C
1	1	638	C
1	1	643	U
1	1	644	G

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Mol	Chain	Res	Type
1	1	649	A
1	1	651	G
1	1	657	A
1	1	658	G
1	1	660	A
1	1	662	U
1	1	664	U
1	1	669	U
1	1	673	U
1	1	674	G
1	1	675	C
1	1	676	G
1	1	681	U
1	1	682	U
1	1	684	G
1	1	690	A
1	1	700	C
1	1	702	C
1	1	703	G
1	1	705	A
1	1	708	G
1	1	715	A
1	1	716	A
1	1	718	G
1	1	719	U
1	1	720	A
1	1	722	G
1	1	723	U
1	1	726	G
1	1	727	G
1	1	734	C
1	1	735	A
1	1	739	G
1	1	742	G
1	1	750	G
1	1	752	C
1	1	761	A
1	1	763	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	767	U

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Mol	Chain	Res	Type
1	1	774	G
1	1	778	U
1	1	780	A
1	1	781	G
1	1	784	A
1	1	786	A
1	1	787	G
1	1	801	A
1	1	802	C
1	1	806	A
1	1	808	A
1	1	812	G
1	1	813	G
1	1	817	A
1	1	826	G
1	1	829	U
1	1	831	G
1	1	832	G
1	1	833	G
1	1	835	G
1	1	845	G
1	1	846	A
1	1	847	A
1	1	848	A
1	1	849	C
1	1	857	G
1	1	858	A
1	1	862	U
1	1	863	C
1	1	869	G
1	1	871	U
1	1	874	U
1	1	875	G
1	1	883	A
1	1	885	U
1	1	890	C
1	1	894	G
1	1	895	A
1	1	896	A
1	1	897	U
1	1	907	G
1	1	908	G

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Mol	Chain	Res	Type
1	1	910	G
1	1	914	A
1	1	915	A
1	1	916	G
1	1	917	A
1	1	918	C
1	1	920	A
1	1	921	A
1	1	922	U
1	1	923	C
1	1	924	G
1	1	925	A
1	1	931	C
1	1	932	U
1	1	937	G
1	1	938	C
1	1	939	U
1	1	940	G
1	1	941	G
1	1	944	C
1	1	953	G
1	1	959	C
1	1	961	C
1	1	962	A
1	1	979	U
1	1	980	A
1	1	981	U
1	1	982	C
1	1	984	G
1	1	991	G
1	1	996	A
1	1	997	A
1	1	1001	G
1	1	1002	A
1	1	1003	A
1	1	1005	G
1	1	1010	G
1	1	1013	G
1	1	1014	U
1	1	1015	U
1	1	1017	C
1	1	1018	G

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Mol	Chain	Res	Type
1	1	1020	G
1	1	1023	C
1	1	1024	G
1	1	1025	A
1	1	1026	A
1	1	1032	C
1	1	1036	A
1	1	1041	U
1	1	1043	C
1	1	1044	U
1	1	1047	A
1	1	1056	U
1	1	1057	A
1	1	1064	A
1	1	1066	G
1	1	1067	U
1	1	1071	U
1	1	1079	A
1	1	1081	U
1	1	1082	U
1	1	1086	C
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1096	U
1	1	1098	A
1	1	1100	U
1	1	1103	A
1	1	1104	G
1	1	1107	C
1	1	1110	U
1	1	1111	U
1	1	1115	G
1	1	1116	G
1	1	1117	G
1	1	1118	C
1	1	1122	U
1	1	1128	U
1	1	1131	G
1	1	1143	A
1	1	1144	U

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Mol	Chain	Res	Type
1	1	1145	G
1	1	1149	G
1	1	1150	A
1	1	1151	U
1	1	1153	A
1	1	1155	C
1	1	1159	A
1	1	1163	A
1	1	1164	G
1	1	1168	U
1	1	1171	G
1	1	1172	G
1	1	1174	G
1	1	1176	C
1	1	1177	G
1	1	1178	G
1	1	1179	A
1	1	1180	A
1	1	1181	U
1	1	1184	A
1	1	1185	C
1	1	1189	C
1	1	1190	A
1	1	1192	C
1	1	1196	C
1	1	1201	C
1	1	1208	U
1	1	1209	G
1	1	1212	A
1	1	1213	G
1	1	1219	C
1	1	1220	U
1	1	1221	A
1	1	1222	G
1	1	1223	A
1	1	1225	A
1	1	1230	G
1	1	1232	C
1	1	1233	G
1	1	1236	G
1	1	1237	G
1	1	1240	A

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Mol	Chain	Res	Type
1	1	1241	U
1	1	1242	G
1	1	1243	G
1	1	1244	A
1	1	1246	G
1	1	1247	U
1	1	1248	C
1	1	1249	G
1	1	1256	G
1	1	1257	C
1	1	1258	U
1	1	1262	G
1	1	1263	A
1	1	1264	G
1	1	1265	U
1	1	1266	G
1	1	1267	U
1	1	1269	U
1	1	1271	A
1	1	1272	C
1	1	1274	A
1	1	1277	C
1	1	1278	A
1	1	1279	C
1	1	1281	G
1	1	1282	G
1	1	1283	C
1	1	1285	G
1	1	1287	A
1	1	1288	U
1	1	1290	A
1	1	1295	G
1	1	1303	A
1	1	1304	A
1	1	1305	U
1	1	1307	G
1	1	1309	U
1	1	1310	G
1	1	1316	C
1	1	1318	A
1	1	1319	G
1	1	1324	U

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Mol	Chain	Res	Type
1	1	1325	U
1	1	1329	U
1	1	1330	A
1	1	1340	G
1	1	1344	G
1	1	1345	G
1	1	1347	U
1	1	1349	G
1	1	1350	A
1	1	1351	U
1	1	1352	A
1	1	1353	U
1	1	1354	G
1	1	1357	G
1	1	1359	C
1	1	1363	A
1	1	1364	C
1	1	1367	G
1	1	1368	U
1	1	1370	G
1	1	1374	G
1	1	1375	G
1	1	1380	G
1	1	1381	A
1	1	1386	A
1	1	1390	A
1	1	1391	C
1	1	1398	U
1	1	1400	G
1	1	1419	A
1	1	1422	G
1	1	1426	C
1	1	1430	U
1	1	1434	G
1	1	1437	C
1	1	1441	G
1	1	1443	G
1	1	1446	A
1	1	1447	G
1	1	1448	U
1	1	1449	A
1	1	1451	C

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Mol	Chain	Res	Type
1	1	1452	A
1	1	1455	U
1	1	1456	A
1	1	1459	C
1	1	1460	A
1	1	1463	U
1	1	1464	G
1	1	1465	A
1	1	1466	G
1	1	1481	A
1	1	1483	G
1	1	1484	U
1	1	1486	G
1	1	1488	G
1	1	1494	U
1	1	1503	A
1	1	1508	C
1	1	1511	U
1	1	1514	G
1	1	1524	A
1	1	1525	G
1	1	1526	U
1	1	1531	C
1	1	1532	C
1	1	1535	A
1	1	1544	G
1	1	1547	G
1	1	1556	C
1	1	1557	A
1	1	1558	A
1	1	1560	G
1	1	1561	G
1	1	1562	C
1	1	1563	C
1	1	1564	U
1	1	1565	G
1	1	1566	A
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A

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Mol	Chain	Res	Type
1	1	1572	U
1	1	1573	G
1	1	1574	C
1	1	1576	G
1	1	1579	C
1	1	1583	A
1	1	1587	A
1	1	1589	A
1	1	1590	G
1	1	1591	G
1	1	1593	A
1	1	1595	U
1	1	1596	C
1	1	1597	C
1	1	1600	U
1	1	1603	A
1	1	1605	A
1	1	1607	U
1	1	1611	G
1	1	1620	U
1	1	1623	G
1	1	1624	G
1	1	1626	U
1	1	1628	C
1	1	1632	A
1	1	1640	G
1	1	1643	A
1	1	1644	C
1	1	1657	C
1	1	1673	G
1	1	1674	G
1	1	1675	G
1	1	1678	G
1	1	1683	A
1	1	1686	U
1	1	1687	U
1	1	1689	U
1	1	1691	U
1	1	1692	U
1	1	1696	A
1	1	1698	C
1	1	1699	A

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Mol	Chain	Res	Type
1	1	1700	G
1	1	1715	A
1	1	1716	U
1	1	1717	U
1	1	1724	U
1	1	1725	C
1	1	1728	G
1	1	1736	G
1	1	1741	A
1	1	1743	G
1	1	1747	G
1	1	1750	A
1	1	1751	G
1	1	1753	G
1	1	1756	C
1	1	1760	A
1	1	1761	C
1	1	1762	C
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1769	G
1	1	1770	G
1	1	1772	U
1	1	1773	C
1	1	1774	C
1	1	1784	G
1	1	1785	U
1	1	1795	U
1	1	1796	G
1	1	1799	A
1	1	1800	A
1	1	1806	A
1	1	1807	G
1	1	1808	G
1	1	1809	A
1	1	1812	G
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1817	G
1	1	1819	U

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Mol	Chain	Res	Type
1	1	1820	U
1	1	1821	U
1	1	1822	C
1	1	1825	G
1	1	1826	C
1	1	1830	G
1	1	1831	U
1	1	1835	A
1	1	1838	G
1	1	1839	A
1	1	1841	A
1	1	1842	A
1	1	1843	C
1	1	1846	C
1	1	1850	A
1	1	1855	U
1	1	1859	A
1	1	1860	G
1	1	1864	A
1	1	1868	G
1	1	1874	A
1	1	1876	U
1	1	1880	U
1	1	1881	A
1	1	1883	A
1	1	1887	A
1	1	1888	U
1	1	1889	G
1	1	1892	G
1	1	1893	A
1	1	1896	A
1	1	1905	G
1	1	1906	G
1	1	1907	C
1	1	1918	C
1	1	1920	U
1	1	1927	G
1	1	1929	G
1	1	1930	A
1	1	1932	A
1	1	1935	G
1	1	1943	C

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Mol	Chain	Res	Type
1	1	1944	U
1	1	1952	G
1	1	1953	G
1	1	1954	G
1	1	2094	C
1	1	2095	G
1	1	2098	C
1	1	2101	C
1	1	2102	U
1	1	2103	U
1	1	2111	G
1	1	2112	U
1	1	2114	C
1	1	2115	G
1	1	2116	G
1	1	2121	G
1	1	2122	G
1	1	2126	A
1	1	2127	U
1	1	2130	G
1	1	2131	A
1	1	2140	U
1	1	2144	A
1	1	2152	A
1	1	2153	U
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U
1	1	2160	G
1	1	2164	A
1	1	2169	G
1	1	2171	G
1	1	2173	U
1	1	2174	G
1	1	2178	A
1	1	2187	G
1	1	2188	A
1	1	2192	C
1	1	2198	A
1	1	2205	U
1	1	2206	G

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Mol	Chain	Res	Type
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2210	G
1	1	2213	A
1	1	2215	A
1	1	2240	G
1	1	2241	U
1	1	2244	A
1	1	2249	G
1	1	2250	G
1	1	2252	A
1	1	2256	A
1	1	2257	C
1	1	2261	G
1	1	2263	C
1	1	2272	G
1	1	2278	C
1	1	2279	A
1	1	2280	A
1	1	2281	A
1	1	2282	U
1	1	2283	G
1	1	2288	G
1	1	2289	U
1	1	2295	A
1	1	2298	U
1	1	2304	C
1	1	2305	G
1	1	2306	C
1	1	2307	G
1	1	2310	U
1	1	2312	A
1	1	2313	A
1	1	2314	U
1	1	2315	G
1	1	2320	A
1	1	2321	A
1	1	2329	C
1	1	2330	C
1	1	2331	C
1	1	2332	A

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Mol	Chain	Res	Type
1	1	2334	U
1	1	2335	G
1	1	2336	U
1	1	2365	C
1	1	2368	A
1	1	2369	G
1	1	2372	A
1	1	2374	C
1	1	2375	G
1	1	2383	C
1	1	2385	G
1	1	2386	A
1	1	2388	U
1	1	2392	C
1	1	2394	G
1	1	2397	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2405	C
1	1	2406	C
1	1	2407	C
1	1	2411	U
1	1	2412	G
1	1	2415	C
1	1	2417	U
1	1	2418	G
1	1	2429	G
1	1	2434	U
1	1	2435	G
1	1	2437	G
1	1	2440	G
1	1	2443	A
1	1	2444	C
1	1	2446	A
1	1	2447	G
1	1	2449	G
1	1	2452	G
1	1	2453	C
1	1	2454	G
1	1	2456	A
1	1	2457	G

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Mol	Chain	Res	Type
1	1	2458	G
1	1	2459	A
1	1	2460	U
1	1	2461	A
1	1	2464	U
1	1	2465	G
1	1	2466	G
1	1	2470	C
1	1	2473	A
1	1	2485	A
1	1	2487	U
1	1	2488	A
1	1	2489	C
1	1	2492	C
1	1	2493	C
1	1	2495	U
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2502	G
1	1	2503	U
1	1	2504	U
1	1	2506	C
1	1	2507	U
1	1	2508	U
1	1	2510	A
1	1	2511	C
1	1	2513	U
1	1	2515	A
1	1	2526	C
1	1	2529	A
1	1	2531	C
1	1	2533	G
1	1	2537	U
1	1	2538	U
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2544	U
1	1	2547	A
1	1	2549	G
1	1	2550	U

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Mol	Chain	Res	Type
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2556	C
1	1	2561	A
1	1	2568	C
1	1	2569	A
1	1	2570	U
1	1	2574	G
1	1	2575	G
1	1	2582	C
1	1	2585	G
1	1	2586	G
1	1	2594	C
1	1	2596	U
1	1	2597	U
1	1	2600	C
1	1	2603	G
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2608	G
1	1	2611	U
1	1	2613	U
1	1	2614	G
1	1	2618	G
1	1	2620	G
1	1	2622	C
1	1	2625	C
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2630	C
1	1	2636	A
1	1	2641	U
1	1	2643	A
1	1	2644	C
1	1	2649	A
1	1	2651	G
1	1	2653	C
1	1	2655	U

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Mol	Chain	Res	Type
1	1	2656	A
1	1	2658	G
1	1	2660	G
1	1	2661	G
1	1	2664	C
1	1	2667	A
1	1	2668	U
1	1	2673	A
1	1	2674	A
1	1	2681	U
1	1	2686	A
1	1	2687	G
1	1	2688	U
1	1	2690	G
1	1	2691	A
1	1	2692	A
1	1	2694	A
1	1	2700	G
1	1	2703	A
1	1	2704	A
1	1	2705	A
1	1	2719	U
1	1	2720	G
1	1	2728	G
1	1	2729	U
1	1	2731	U
1	1	2732	G
1	1	2734	A
1	1	2735	U
1	1	2737	C
1	1	2740	A
1	1	2749	G
1	1	2752	U
1	1	2753	G
1	1	2756	C
1	1	2766	U
1	1	2772	C
1	1	2776	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2784	G

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Mol	Chain	Res	Type
1	1	2785	A
1	1	2788	C
1	1	2791	G
1	1	2792	A
1	1	2796	G
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2803	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2812	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2819	A
1	1	2821	C
1	1	2834	G
1	1	2837	A
1	1	2838	A
1	1	2842	U
1	1	2843	U
1	1	2844	C
1	1	2845	A
1	1	2853	A
1	1	2855	U
1	1	2860	U
1	1	2861	U
1	1	2867	C
1	1	2871	G
1	1	2872	A
1	1	2875	U
1	1	2887	A
1	1	2889	C
1	1	2895	G
1	1	2898	G
1	1	2899	C
1	1	2905	U
1	1	2906	C
1	1	2907	G

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Mol	Chain	Res	Type
1	1	2912	G
1	1	2923	U
1	1	2928	C
1	1	2931	C
1	1	2935	U
1	1	2938	G
1	1	2939	G
1	1	2940	A
1	1	2942	C
1	1	2943	G
1	1	2945	G
1	1	2947	G
1	1	2951	G
1	1	2955	U
1	1	2960	C
1	1	2961	G
1	1	2965	U
1	1	2966	G
1	1	2973	G
1	1	2981	U
1	1	2988	C
1	1	2990	G
1	1	2995	A
1	1	2997	G
1	1	3002	C
1	1	3003	G
1	1	3012	A
1	1	3016	A
1	1	3020	U
1	1	3021	A
1	1	3027	A
1	1	3030	G
1	1	3037	U
1	1	3038	U
1	1	3039	C
1	1	3040	A
1	1	3049	A
1	1	3051	U
1	1	3055	U
1	1	3056	U
1	1	3057	U
1	1	3058	U

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Mol	Chain	Res	Type
1	1	3059	G
1	1	3061	G
1	1	3062	G
1	1	3071	U
1	1	3072	C
1	1	3075	G
1	1	3076	C
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3092	C
1	1	3094	A
1	1	3100	U
1	1	3104	U
1	1	3105	U
1	1	3106	A
1	1	3107	U
1	1	3108	G
1	1	3114	A
1	1	3119	U
1	1	3120	C
1	1	3123	A
1	1	3129	A
1	1	3131	U
1	1	3134	A
1	1	3136	G
1	1	3138	U
1	1	3140	G
1	1	3142	A
1	1	3143	C
1	1	3146	G
1	1	3150	A
1	1	3151	U
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3162	C
1	1	3164	C
1	1	3165	A
1	1	3166	C
1	1	3168	A

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Mol	Chain	Res	Type
1	1	3170	A
1	1	3173	G
1	1	3174	A
1	1	3175	U
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3184	A
1	1	3185	U
1	1	3187	A
1	1	3194	C
1	1	3196	U
1	1	3197	G
1	1	3198	U
1	1	3199	G
1	1	3200	G
1	1	3201	C
1	1	3205	G
1	1	3206	C
1	1	3208	G
1	1	3209	A
1	1	3210	A
1	1	3215	A
1	1	3216	G
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3220	G
1	1	3221	C
1	1	3222	U
1	1	3224	G
1	1	3229	G
1	1	3234	A
1	1	3239	G
1	1	3240	C
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3247	G
1	1	3259	U
1	1	3260	G

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Mol	Chain	Res	Type
1	1	3263	G
1	1	3265	C
1	1	3266	G
1	1	3267	A
1	1	3268	A
1	1	3269	U
1	1	3270	U
1	1	3272	C
1	1	3273	A
1	1	3276	G
1	1	3278	C
1	1	3279	A
1	1	3285	C
1	1	3286	G
1	1	3287	U
1	1	3291	G
1	1	3292	A
1	1	3293	U
1	1	3294	A
1	1	3296	A
1	1	3304	U
1	1	3305	A
1	1	3310	A
1	1	3313	U
1	1	3314	A
1	1	3316	A
1	1	3318	G
1	1	3319	U
1	1	3320	A
1	1	3325	G
1	1	3326	G
1	1	3330	A
1	1	3333	G
1	1	3334	U
1	1	3335	A
1	1	3341	U
1	1	3345	G
1	1	3346	U
1	1	3349	C
1	1	3350	C
1	1	3351	U
1	1	3354	U

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Mol	Chain	Res	Type
1	1	3355	U
1	1	3356	G
1	1	3359	A
1	1	3361	G
1	1	3362	A
1	1	3363	U
1	1	3366	G
1	1	3369	G
1	1	3370	A
1	1	3375	A
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3388	C
1	1	3390	G
1	1	3391	A
1	1	3396	U
2	3	2	G
2	3	4	U
2	3	5	G
2	3	13	A
2	3	19	C
2	3	21	G
2	3	22	A
2	3	35	C
2	3	38	U
2	3	41	G
2	3	51	A
2	3	53	U
2	3	54	U
2	3	56	A
2	3	61	G
2	3	65	G
2	3	69	C
2	3	73	C
2	3	74	C
2	3	76	A
2	3	91	G
2	3	93	C
2	3	94	C
2	3	104	A

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Mol	Chain	Res	Type
2	3	107	C
2	3	111	U
2	3	112	G
2	3	114	U
2	3	115	G
2	3	116	C
2	3	121	U
3	4	2	A
3	4	10	A
3	4	11	C
3	4	13	A
3	4	17	A
3	4	23	U
3	4	27	U
3	4	35	C
3	4	39	G
3	4	48	A
3	4	49	G
3	4	50	C
3	4	51	G
3	4	53	A
3	4	54	A
3	4	57	C
3	4	59	A
3	4	62	C
3	4	63	G
3	4	75	G
3	4	77	A
3	4	81	U
3	4	82	U
3	4	84	C
3	4	87	G
3	4	90	U
3	4	91	C
3	4	95	G
3	4	97	A
3	4	98	U
3	4	99	C
3	4	102	U
3	4	104	A
3	4	105	A
3	4	106	C

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Mol	Chain	Res	Type
3	4	111	A
3	4	112	U
3	4	113	U
3	4	114	G
3	4	115	C
3	4	116	G
3	4	120	C
3	4	121	U
3	4	125	U
3	4	126	A
3	4	135	G
3	4	138	A
3	4	147	U
3	4	148	G
3	4	151	C
3	4	152	G
3	4	158	U

All (403) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	9	U
1	1	25	U
1	1	28	C
1	1	31	C
1	1	32	U
1	1	40	A
1	1	66	A
1	1	91	G
1	1	109	A
1	1	115	A
1	1	127	G
1	1	133	U
1	1	134	U
1	1	147	U
1	1	155	G
1	1	167	U
1	1	189	G
1	1	219	A
1	1	220	G
1	1	225	C
1	1	239	G

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Mol	Chain	Res	Type
1	1	244	G
1	1	251	G
1	1	273	A
1	1	276	U
1	1	282	G
1	1	283	G
1	1	285	A
1	1	301	G
1	1	303	G
1	1	311	C
1	1	320	G
1	1	323	A
1	1	331	G
1	1	335	G
1	1	345	G
1	1	368	G
1	1	373	A
1	1	387	A
1	1	402	A
1	1	406	G
1	1	411	U
1	1	419	G
1	1	420	G
1	1	424	G
1	1	427	C
1	1	498	A
1	1	517	G
1	1	530	G
1	1	538	G
1	1	541	U
1	1	542	G
1	1	551	A
1	1	552	G
1	1	573	C
1	1	594	U
1	1	598	A
1	1	625	G
1	1	635	G
1	1	637	C
1	1	643	U
1	1	672	A
1	1	673	U

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Mol	Chain	Res	Type
1	1	702	C
1	1	718	G
1	1	722	G
1	1	726	G
1	1	739	G
1	1	741	U
1	1	763	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	806	A
1	1	816	A
1	1	831	G
1	1	832	G
1	1	835	G
1	1	844	G
1	1	862	U
1	1	873	C
1	1	884	A
1	1	894	G
1	1	902	G
1	1	914	A
1	1	916	G
1	1	917	A
1	1	923	C
1	1	925	A
1	1	936	A
1	1	938	C
1	1	960	U
1	1	961	C
1	1	972	A
1	1	978	G
1	1	979	U
1	1	981	U
1	1	996	A
1	1	1007	U
1	1	1013	G
1	1	1017	C
1	1	1023	C
1	1	1024	G
1	1	1031	C
1	1	1043	C

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Mol	Chain	Res	Type
1	1	1056	U
1	1	1081	U
1	1	1084	A
1	1	1086	C
1	1	1094	U
1	1	1097	G
1	1	1103	A
1	1	1110	U
1	1	1116	G
1	1	1117	G
1	1	1144	U
1	1	1149	G
1	1	1154	A
1	1	1156	C
1	1	1177	G
1	1	1184	A
1	1	1189	C
1	1	1191	U
1	1	1196	C
1	1	1203	A
1	1	1208	U
1	1	1212	A
1	1	1220	U
1	1	1222	G
1	1	1224	C
1	1	1235	U
1	1	1240	A
1	1	1241	U
1	1	1247	U
1	1	1257	C
1	1	1262	G
1	1	1264	G
1	1	1270	A
1	1	1273	A
1	1	1277	C
1	1	1282	G
1	1	1289	G
1	1	1301	A
1	1	1303	A
1	1	1305	U
1	1	1317	A
1	1	1323	G

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Mol	Chain	Res	Type
1	1	1324	U
1	1	1329	U
1	1	1348	U
1	1	1349	G
1	1	1351	U
1	1	1352	A
1	1	1363	A
1	1	1367	G
1	1	1382	G
1	1	1393	A
1	1	1425	U
1	1	1447	G
1	1	1451	C
1	1	1455	U
1	1	1459	C
1	1	1462	A
1	1	1463	U
1	1	1464	G
1	1	1483	G
1	1	1488	G
1	1	1493	G
1	1	1502	C
1	1	1524	A
1	1	1531	C
1	1	1539	A
1	1	1556	C
1	1	1560	G
1	1	1562	C
1	1	1568	U
1	1	1570	U
1	1	1572	U
1	1	1582	C
1	1	1588	A
1	1	1589	A
1	1	1596	C
1	1	1605	A
1	1	1620	U
1	1	1623	G
1	1	1673	G
1	1	1686	U
1	1	1691	U
1	1	1698	C

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Mol	Chain	Res	Type
1	1	1716	U
1	1	1724	U
1	1	1761	C
1	1	1763	U
1	1	1773	C
1	1	1795	U
1	1	1799	A
1	1	1806	A
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1820	U
1	1	1821	U
1	1	1825	G
1	1	1838	G
1	1	1839	A
1	1	1841	A
1	1	1846	C
1	1	1853	U
1	1	1858	A
1	1	1859	A
1	1	1878	G
1	1	1879	A
1	1	1882	G
1	1	1888	U
1	1	1905	G
1	1	1906	G
1	1	1944	U
1	1	2101	C
1	1	2103	U
1	1	2110	G
1	1	2111	G
1	1	2130	G
1	1	2139	A
1	1	2144	A
1	1	2152	A
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U
1	1	2173	U
1	1	2182	A

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Mol	Chain	Res	Type
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2220	A
1	1	2240	G
1	1	2256	A
1	1	2267	C
1	1	2279	A
1	1	2281	A
1	1	2288	G
1	1	2303	A
1	1	2304	C
1	1	2311	G
1	1	2313	A
1	1	2320	A
1	1	2329	C
1	1	2331	C
1	1	2342	U
1	1	2362	C
1	1	2368	A
1	1	2385	G
1	1	2387	A
1	1	2393	G
1	1	2403	G
1	1	2406	C
1	1	2428	U
1	1	2448	G
1	1	2453	C
1	1	2458	G
1	1	2460	U
1	1	2465	G
1	1	2469	G
1	1	2486	A
1	1	2487	U
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2505	U
1	1	2507	U
1	1	2510	A
1	1	2514	U

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Mol	Chain	Res	Type
1	1	2537	U
1	1	2539	C
1	1	2541	U
1	1	2549	G
1	1	2554	A
1	1	2568	C
1	1	2585	G
1	1	2593	A
1	1	2596	U
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2612	U
1	1	2622	C
1	1	2625	C
1	1	2643	A
1	1	2652	U
1	1	2655	U
1	1	2659	G
1	1	2667	A
1	1	2686	A
1	1	2689	A
1	1	2704	A
1	1	2718	U
1	1	2728	G
1	1	2731	U
1	1	2734	A
1	1	2765	C
1	1	2771	U
1	1	2784	G
1	1	2787	G
1	1	2791	G
1	1	2802	A
1	1	2803	A
1	1	2816	G
1	1	2836	C
1	1	2842	U
1	1	2898	G
1	1	2906	C
1	1	2909	U
1	1	2921	U
1	1	2939	G

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Mol	Chain	Res	Type
1	1	2950	G
1	1	2960	C
1	1	2968	G
1	1	2987	A
1	1	3020	U
1	1	3037	U
1	1	3048	A
1	1	3050	U
1	1	3054	U
1	1	3055	U
1	1	3056	U
1	1	3057	U
1	1	3061	G
1	1	3071	U
1	1	3075	G
1	1	3078	U
1	1	3093	C
1	1	3094	A
1	1	3099	C
1	1	3104	U
1	1	3106	A
1	1	3107	U
1	1	3118	C
1	1	3119	U
1	1	3122	A
1	1	3143	C
1	1	3152	U
1	1	3163	A
1	1	3164	C
1	1	3165	A
1	1	3184	A
1	1	3185	U
1	1	3195	U
1	1	3196	U
1	1	3200	G
1	1	3205	G
1	1	3216	G
1	1	3218	A
1	1	3221	C
1	1	3226	A
1	1	3228	C
1	1	3232	G

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Mol	Chain	Res	Type
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3266	G
1	1	3267	A
1	1	3269	U
1	1	3278	C
1	1	3285	C
1	1	3290	G
1	1	3291	G
1	1	3292	A
1	1	3295	A
1	1	3303	G
1	1	3304	U
1	1	3313	U
1	1	3323	A
1	1	3334	U
1	1	3349	C
1	1	3350	C
1	1	3353	G
1	1	3368	U
1	1	3390	G
2	3	4	U
2	3	34	C
2	3	37	G
2	3	52	G
2	3	53	U
2	3	57	G
2	3	106	U
2	3	111	U
2	3	114	U
2	3	115	G
3	4	10	A
3	4	48	A
3	4	50	C
3	4	53	A
3	4	75	G
3	4	80	A
3	4	81	U
3	4	82	U
3	4	98	U
3	4	105	A

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Mol	Chain	Res	Type
3	4	112	U
3	4	114	G
3	4	120	C
3	4	125	U

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	614
5	B	82
6	C	79
7	D	72
4	A	67
10	G	65
45	t	53
12	I	52
14	L	51
16	N	51
19	Q	48
9	F	48

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Mol	Chain	Number of breaks
20	R	46
11	H	46
21	S	46
18	P	43
29	a	41
28	Z	38
13	J	35
24	V	34
22	T	34
34	f	31
37	i	30
27	Y	30
36	h	30
15	M	28
8	E	27
35	g	27
33	e	26
2	3	26
3	4	26
17	O	25
23	U	24
31	c	24
32	d	23
38	j	22
26	X	22
39	k	20
43	o	17
30	b	17
44	p	17
25	W	16
41	m	14
40	l	12
42	n	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	171:ASP	C	172:ARG	N	8.98
1	t	52:SER	C	53:LEU	N	8.07
1	1	2511:C	O3'	2512:C	P	7.92
1	R	170:ARG	C	171:ASP	N	7.88
1	1	2468:A	O3'	2469:G	P	6.79
1	1	2454:G	O3'	2455:U	P	6.22

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	e	2:ALA	C	3:SER	N	6.18
1	1	1234:G	O3'	1235:U	P	6.14
1	t	80:CYS	C	81:GLY	N	6.07
1	1	1230:G	O3'	1231:A	P	5.83
1	1	1269:U	O3'	1270:A	P	5.78
1	o	102:GLN	C	103:ALA	N	5.77
1	1	2461:A	O3'	2462:G	P	5.70
1	t	69:GLY	C	70:ASP	N	5.70
1	t	198:TRP	C	199:GLN	N	5.68
1	1	1628:C	O3'	1629:U	P	5.42
1	1	2570:U	O3'	2571:U	P	5.35
1	1	3287:U	O3'	3288:G	P	5.33
1	1	2440:G	O3'	2441:A	P	5.27
1	1	2441:A	O3'	2442:G	P	5.27
1	D	295:GLY	C	296:GLN	N	5.27
1	t	201:VAL	C	202:GLY	N	5.25
1	t	93:LEU	C	94:ASN	N	5.24
1	G	249:ARG	C	250:ALA	N	5.20
1	R	163:ARG	C	164:LEU	N	5.19
1	R	186:LYS	C	187:GLU	N	5.19
1	1	1237:G	O3'	1238:C	P	5.14
1	1	1228:C	O3'	1229:G	P	5.09
1	1	1272:C	O3'	1273:A	P	5.02
1	t	22:GLU	C	23:THR	N	5.00
1	1	1032:C	O3'	1033:U	P	4.93
1	1	1770:G	O3'	1771:C	P	4.92
1	V	3:GLY	C	4:ASN	N	4.91
1	B	35:ASP	C	36:ASP	N	4.82
1	1	1238:C	O3'	1239:C	P	4.81
1	1	1227:C	O3'	1228:C	P	4.80
1	t	28:PHE	C	29:LEU	N	4.80
1	1	1817:G	O3'	1818:U	P	4.76
1	1	1233:G	O3'	1234:G	P	4.70
1	1	1100:U	O3'	1101:G	P	4.68
1	o	103:ALA	C	104:LEU	N	4.66
1	1	1812:G	O3'	1813:A	P	4.63
1	b	57:ALA	C	58:LYS	N	4.61
1	A	252:THR	C	253:GLN	N	4.59
1	P	162:GLU	C	163:LYS	N	4.59
1	i	18:THR	C	19:SER	N	4.54
1	1	613:G	O3'	614:C	P	4.53
1	J	23:VAL	C	24:GLY	N	4.52

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	d	84:ASP	C	85:ALA	N	4.52
1	J	6:GLN	C	7:ASN	N	4.50
1	t	197:ASN	C	198:TRP	N	4.50
1	t	208:SER	C	209:SER	N	4.45
1	t	214:PHE	C	215:ARG	N	4.44
1	1	2485:A	O3'	2486:A	P	4.43
1	1	3288:G	O3'	3289:G	P	4.41
1	b	41:ARG	C	42:ASN	N	4.41
1	C	2:SER	C	3:ARG	N	4.38
1	t	124:LEU	C	125:GLY	N	4.38
1	1	547:G	O3'	548:G	P	4.37
1	1	2538:U	O3'	2539:C	P	4.33
1	t	57:ASN	C	58:CYS	N	4.33
1	1	2257:C	O3'	2258:U	P	4.32
1	1	1267:U	O3'	1268:G	P	4.29
1	A	248:GLY	C	249:SER	N	4.29
1	p	90:VAL	C	91:GLU	N	4.28
1	1	1762:C	O3'	1763:U	P	4.26
1	t	40:ASN	C	41:TYR	N	4.26
1	t	62:ASN	C	63:MET	N	4.25
1	1	181:U	O3'	182:U	P	4.24
1	E	12:SER	C	13:GLU	N	4.22
1	P	183:ALA	C	184:ALA	N	4.22
1	P	161:ALA	C	162:GLU	N	4.20
1	1	1954:G	O3'	1955:U	P	4.19
1	L	135:ALA	C	136:GLU	N	4.19
1	R	187:GLU	C	188:ASP	N	4.18
1	1	612:U	O3'	613:G	P	4.17
1	1	1107:C	O3'	1108:U	P	4.16
1	1	2547:A	O3'	2548:C	P	4.16
1	1	3252:G	O3'	3253:G	P	4.16
1	G	220:ALA	C	221:ASN	N	4.16
1	t	122:ARG	C	123:LEU	N	4.15
1	C	21:PRO	C	22:LEU	N	4.13
1	1	245:U	O3'	246:U	P	4.12
1	U	59:ASP	C	60:GLY	N	4.12
1	1	3280:U	O3'	3281:U	P	4.11
1	G	155:ASN	C	156:ASP	N	4.10
1	J	27:GLY	C	28:ASP	N	4.10
1	B	38:SER	C	39:LYS	N	4.09
1	P	89:LYS	C	90:PHE	N	4.09
1	D	132:THR	C	133:GLU	N	4.08

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	293:LEU	C	294:ALA	N	4.08
1	R	173:ARG	C	174:ALA	N	4.08
1	1	2480:G	O3'	2481:G	P	4.06
1	d	109:VAL	C	110:GLU	N	4.06
1	1	2572:C	O3'	2573:G	P	4.04
1	b	25:LYS	C	26:THR	N	4.04
1	1	3289:G	O3'	3290:G	P	4.03
1	J	48:SER	C	49:LYS	N	4.03
1	t	199:GLN	C	200:ASN	N	4.03
1	Y	88:GLU	C	89:LYS	N	4.01
1	G	247:ASP	C	248:LYS	N	3.99
1	1	1355:A	O3'	1356:U	P	3.98
1	1	2450:A	O3'	2451:U	P	3.95
1	1	511:G	O3'	512:U	P	3.94
1	1	536:U	O3'	537:A	P	3.94
1	1	2096:A	O3'	2097:U	P	3.93
1	1	2521:U	O3'	2522:G	P	3.93
1	C	172:VAL	C	173:GLY	N	3.93
1	t	6:SER	C	7:SER	N	3.93
1	1	1253:U	O3'	1254:C	P	3.92
1	e	123:LYS	C	124:GLY	N	3.92
1	R	166:ASN	C	167:ARG	N	3.91
1	V	2:SER	C	3:GLY	N	3.91
1	R	4:LEU	C	5:ARG	N	3.90
1	n	1:MET	C	2:ARG	N	3.89
1	P	157:VAL	C	158:ALA	N	3.85
1	1	439:C	O3'	440:A	P	3.84
1	1	583:G	O3'	584:G	P	3.83
1	1	2493:C	O3'	2494:C	P	3.83
1	1	3357:U	O3'	3358:U	P	3.83
1	C	271:LYS	C	272:VAL	N	3.83
1	1	1274:A	O3'	1275:C	P	3.82
1	M	27:GLN	C	28:SER	N	3.82
1	R	104:ARG	C	105:LEU	N	3.82
1	1	1285:G	O3'	1286:A	P	3.81
1	1	3027:A	O3'	3028:G	P	3.80
1	O	48:PHE	C	49:ARG	N	3.80
1	Q	5:HIS	C	6:THR	N	3.80
1	R	185:LEU	C	186:LYS	N	3.80
1	d	4:LEU	C	5:LYS	N	3.79
1	V	43:GLY	C	44:SER	N	3.78
1	3	2:G	O3'	3:U	P	3.77

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	d	58:ALA	C	59:ILE	N	3.77
1	f	39:GLN	C	40:ASP	N	3.77
1	t	3:LYS	C	4:ILE	N	3.77
1	1	2495:U	O3'	2496:U	P	3.76
1	1	700:C	O3'	701:G	P	3.75
1	1	3:U	O3'	4:U	P	3.74
1	E	172:HIS	C	173:MET	N	3.73
1	R	183:ALA	C	184:LEU	N	3.73
1	t	106:LYS	C	107:TYR	N	3.73
1	1	1096:U	O3'	1097:G	P	3.72
1	E	71:VAL	C	72:ASN	N	3.72
1	E	2:SER	C	3:ALA	N	3.71
1	H	149:ASN	C	150:SER	N	3.71
1	1	3326:G	O3'	3327:G	P	3.70
1	1	2955:U	O3'	2956:A	P	3.69
1	4	116:G	O3'	117:C	P	3.69
1	1	1028:U	O3'	1029:G	P	3.68
1	D	129:TYR	C	130:GLU	N	3.68
1	D	131:LEU	C	132:THR	N	3.68
1	i	16:LYS	C	17:VAL	N	3.68
1	1	532:A	O3'	533:A	P	3.67
1	P	52:LEU	C	53:ASP	N	3.67
1	g	74:ARG	C	75:ALA	N	3.67
1	1	736:A	O3'	737:G	P	3.66
1	t	168:ALA	C	169:VAL	N	3.66
1	1	2418:G	O3'	2419:A	P	3.65
1	1	4:U	O3'	5:G	P	3.64
1	1	2479:C	O3'	2480:G	P	3.64
1	C	225:VAL	C	226:GLU	N	3.64
1	B	111:SER	C	112:ASP	N	3.63
1	1	1283:C	O3'	1284:C	P	3.61
1	1	2504:U	O3'	2505:U	P	3.61
1	1	850:U	O3'	851:C	P	3.60
1	3	36:C	O3'	37:G	P	3.60
1	J	102:PHE	C	103:GLY	N	3.60
1	t	1:MET	C	2:SER	N	3.59
1	t	100:ILE	C	101:LYS	N	3.59
1	G	79:GLN	C	80:TYR	N	3.58
1	J	163:PHE	C	164:LYS	N	3.58
1	M	25:LYS	C	26:GLY	N	3.58
1	E	16:ALA	C	17:ALA	N	3.57
1	S	3:HIS	C	4:PHE	N	3.57

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1037:C	O3'	1038:C	P	3.56
1	1	3156:U	O3'	3157:U	P	3.56
1	1	3157:U	O3'	3158:G	P	3.56
1	B	138:ALA	C	139:GLN	N	3.56
1	G	100:GLU	C	101:THR	N	3.56
1	1	731:U	O3'	732:C	P	3.55
1	D	181:PRO	C	182:GLY	N	3.55
1	G	246:MET	C	247:ASP	N	3.55
1	I	100:ASN	C	101:LYS	N	3.55
1	Q	163:PRO	C	164:ARG	N	3.55
1	b	55:ALA	C	56:ALA	N	3.55
1	1	1030:A	O3'	1031:C	P	3.54
1	1	1600:U	O3'	1601:U	P	3.54
1	1	2839:G	O3'	2840:C	P	3.54
1	H	90:MET	C	91:ARG	N	3.54
1	1	163:C	O3'	164:A	P	3.53
1	1	2263:C	O3'	2264:U	P	3.53
1	1	2447:G	O3'	2448:G	P	3.53
1	I	35:ASP	C	36:LEU	N	3.53
1	a	140:ALA	C	141:ALA	N	3.53
1	t	206:VAL	C	207:LYS	N	3.53
1	1	1574:C	O3'	1575:A	P	3.52
1	C	17:ALA	C	18:ASN	N	3.52
1	G	59:GLN	C	60:ARG	N	3.52
1	G	104:GLU	C	105:LYS	N	3.52
1	1	1501:U	O3'	1502:C	P	3.51
1	1	3346:U	O3'	3347:A	P	3.51
1	A	142:ASP	C	143:GLU	N	3.51
1	R	177:VAL	C	178:ALA	N	3.51
1	a	55:LYS	C	56:VAL	N	3.51
1	t	196:LYS	C	197:ASN	N	3.50
1	1	632:G	O3'	633:C	P	3.49
1	3	41:G	O3'	42:A	P	3.48
1	C	12:THR	C	13:GLY	N	3.48
1	D	88:ILE	C	89:THR	N	3.48
1	Q	41:ASP	C	42:ALA	N	3.48
1	1	535:G	O3'	536:U	P	3.47
1	1	2661:G	O3'	2662:G	P	3.47
1	U	58:GLU	C	59:ASP	N	3.47
1	1	2165:G	O3'	2166:A	P	3.46
1	Q	98:LYS	C	99:THR	N	3.46
1	b	12:GLN	C	13:THR	N	3.46

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	t	109:ALA	C	110:PHE	N	3.46
1	L	8:PRO	C	9:ILE	N	3.45
1	B	288:GLY	C	289:ASP	N	3.44
1	N	66:VAL	C	67:ARG	N	3.44
1	k	63:LYS	C	64:LYS	N	3.44
1	I	219:ALA	C	220:GLN	N	3.43
1	1	1226:G	O3'	1227:C	P	3.41
1	1	2832:C	O3'	2833:A	P	3.41
1	L	76:THR	C	77:LEU	N	3.41
1	1	242:C	O3'	243:G	P	3.40
1	B	135:ALA	C	136:LYS	N	3.40
1	N	92:LEU	C	93:LYS	N	3.40
1	1	843:A	O3'	844:G	P	3.39
1	M	26:GLY	C	27:GLN	N	3.39
1	d	102:LYS	C	103:GLY	N	3.39
1	j	79:GLN	C	80:THR	N	3.39
1	1	438:A	O3'	439:C	P	3.38
1	1	1216:C	O3'	1217:A	P	3.38
1	1	2195:C	O3'	2196:C	P	3.38
1	T	49:GLN	C	50:LYS	N	3.38
1	1	548:G	O3'	549:U	P	3.37
1	1	753:C	O3'	754:G	P	3.37
1	1	1626:U	O3'	1627:U	P	3.37
1	1	2535:A	O3'	2536:A	P	3.37
1	1	3134:A	O3'	3135:U	P	3.37
1	3	19:C	O3'	20:A	P	3.37
1	1	255:A	O3'	256:G	P	3.36
1	D	137:ASP	C	138:GLY	N	3.36
1	1	324:A	O3'	325:A	P	3.35
1	1	2508:U	O3'	2509:U	P	3.35
1	1	2533:G	O3'	2534:G	P	3.35
1	4	135:G	O3'	136:G	P	3.35
1	T	70:SER	C	71:SER	N	3.35
1	U	47:VAL	C	48:GLY	N	3.35
1	c	76:GLU	C	77:LEU	N	3.35
1	g	51:LEU	C	52:GLN	N	3.35
1	m	107:ALA	C	108:THR	N	3.35
1	1	2438:A	O3'	2439:A	P	3.34
1	B	315:GLY	C	316:GLU	N	3.34
1	I	197:VAL	C	198:LYS	N	3.34
1	J	172:LEU	C	173:ASP	N	3.34
1	t	131:ALA	C	132:GLY	N	3.34

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	4	79:A	O3'	80:A	P	3.33
1	C	194:TYR	C	195:ARG	N	3.33
1	T	99:SER	C	100:LYS	N	3.33
1	V	87:ARG	C	88:ARG	N	3.33
1	t	98:LYS	C	99:LEU	N	3.33
1	1	690:A	O3'	691:A	P	3.32
1	J	130:VAL	C	131:MET	N	3.32
1	S	143:PHE	C	144:LEU	N	3.32
1	i	78:GLY	C	79:SER	N	3.32
1	o	96:GLU	C	97:LYS	N	3.32
1	1	132:C	O3'	133:U	P	3.31
1	1	794:U	O3'	795:G	P	3.31
1	1	2258:U	O3'	2259:A	P	3.31
1	S	168:PRO	C	169:SER	N	3.31
1	a	97:GLU	C	98:THR	N	3.31
1	1	182:U	O3'	183:G	P	3.30
1	1	195:U	O3'	196:G	P	3.30
1	1	1307:G	O3'	1308:A	P	3.30
1	1	1422:G	O3'	1423:C	P	3.30
1	3	109:G	O3'	110:G	P	3.30
1	E	93:VAL	C	94:GLU	N	3.30
1	N	46:ASP	C	47:LYS	N	3.30
1	a	42:ARG	C	43:ILE	N	3.30
1	f	33:GLU	C	34:GLY	N	3.30
1	1	257:U	O3'	258:G	P	3.29
1	D	193:GLU	C	194:LEU	N	3.29
1	E	131:LYS	C	132:ALA	N	3.29
1	H	159:ALA	C	160:ASP	N	3.29
1	J	173:ASP	C	174:LYS	N	3.29
1	Y	68:GLY	C	69:LYS	N	3.29
1	i	22:PRO	C	23:ALA	N	3.29
1	E	151:LYS	C	152:THR	N	3.28
1	G	27:THR	C	28:HIS	N	3.28
1	N	166:ALA	C	167:THR	N	3.28
1	S	144:LEU	C	145:THR	N	3.28
1	T	76:ILE	C	77:ASN	N	3.28
1	n	17:ARG	C	18:ARG	N	3.28
1	o	98:LYS	C	99:GLN	N	3.28
1	1	1112:A	O3'	1113:G	P	3.27
1	F	54:GLU	C	55:TYR	N	3.27
1	R	52:LYS	C	53:LYS	N	3.27
1	1	396:A	O3'	397:A	P	3.26

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2482:U	O3'	2483:G	P	3.26
1	L	193:ALA	C	194:GLU	N	3.26
1	Q	34:THR	C	35:PHE	N	3.26
1	Z	47:GLU	C	48:ARG	N	3.26
1	t	5:THR	C	6:SER	N	3.26
1	t	174:MET	C	175:GLU	N	3.26
1	1	142:C	O3'	143:G	P	3.25
1	1	775:A	O3'	776:U	P	3.25
1	1	1618:G	O3'	1619:A	P	3.25
1	1	1785:U	O3'	1786:G	P	3.25
1	1	3359:A	O3'	3360:C	P	3.25
1	D	68:THR	C	69:ILE	N	3.25
1	D	133:GLU	C	134:ALA	N	3.25
1	F	42:ALA	C	43:ILE	N	3.25
1	F	157:ASN	C	158:LYS	N	3.25
1	t	97:LYS	C	98:LYS	N	3.25
1	1	1244:A	O3'	1245:A	P	3.24
1	1	2095:G	O3'	2096:A	P	3.24
1	1	3175:U	O3'	3176:G	P	3.24
1	B	327:CYS	C	328:ILE	N	3.24
1	B	349:LYS	C	350:ALA	N	3.24
1	C	297:SER	C	298:ALA	N	3.24
1	H	122:LYS	C	123:ILE	N	3.24
1	L	9:ILE	C	10:LEU	N	3.24
1	P	154:GLU	C	155:GLU	N	3.24
1	X	139:ILE	C	140:GLY	N	3.24
1	c	41:LEU	C	42:ILE	N	3.24
1	i	60:LEU	C	61:ILE	N	3.24
1	o	95:GLY	C	96:GLU	N	3.24
1	t	85:MET	C	86:SER	N	3.24
1	1	11:A	O3'	12:A	P	3.23
1	1	166:C	O3'	167:U	P	3.23
1	1	849:C	O3'	850:U	P	3.23
1	1	2252:A	O3'	2253:G	P	3.23
1	1	2478:C	O3'	2479:C	P	3.23
1	B	85:VAL	C	86:VAL	N	3.23
1	B	302:LYS	C	303:LYS	N	3.23
1	E	153:PRO	C	154:LEU	N	3.23
1	E	173:MET	C	174:LEU	N	3.23
1	t	48:ARG	C	49:PHE	N	3.23
1	1	560:G	O3'	561:C	P	3.22
1	1	3254:G	O3'	3255:U	P	3.22

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	F	43:ILE	C	44:ILE	N	3.22
1	G	113:ALA	C	114:ALA	N	3.22
1	a	93:SER	C	94:ALA	N	3.22
1	t	183:ILE	C	184:LEU	N	3.22
1	1	243:G	O3'	244:G	P	3.21
1	1	1918:C	O3'	1919:G	P	3.21
1	G	115:ALA	C	116:VAL	N	3.21
1	G	250:ALA	C	251:LYS	N	3.21
1	I	114:GLY	C	115:MET	N	3.21
1	J	49:LYS	C	50:ALA	N	3.21
1	J	136:ALA	C	137:ARG	N	3.21
1	L	110:ASP	C	111:ALA	N	3.21
1	Q	84:VAL	C	85:GLY	N	3.21
1	U	26:GLY	C	27:VAL	N	3.21
1	i	62:ARG	C	63:ASN	N	3.21
1	j	77:GLY	C	78:PHE	N	3.21
1	k	34:ALA	C	35:GLY	N	3.21
1	t	18:LYS	C	19:TYR	N	3.21
1	1	1526:U	O3'	1527:C	P	3.20
1	1	1607:U	O3'	1608:C	P	3.20
1	1	3261:C	O3'	3262:U	P	3.20
1	B	139:GLN	C	140:ASP	N	3.20
1	D	126:GLU	C	127:GLY	N	3.20
1	D	187:THR	C	188:GLU	N	3.20
1	G	99:PRO	C	100:GLU	N	3.20
1	d	7:VAL	C	8:VAL	N	3.20
1	m	127:LEU	C	128:LYS	N	3.20
1	1	193:C	O3'	194:U	P	3.19
1	1	2302:G	O3'	2303:A	P	3.19
1	1	2995:A	O3'	2996:U	P	3.19
1	D	228:ALA	C	229:ASP	N	3.19
1	F	29:GLU	C	30:ARG	N	3.19
1	V	30:GLY	C	31:ALA	N	3.19
1	h	114:ARG	C	115:LYS	N	3.19
1	k	5:ILE	C	6:THR	N	3.19
1	k	68:SER	C	69:LEU	N	3.19
1	p	91:GLU	C	92:ALA	N	3.19
1	1	1322:U	O3'	1323:G	P	3.18
1	B	352:GLU	C	353:GLU	N	3.18
1	F	61:ASN	C	62:ILE	N	3.18
1	G	168:ALA	C	169:LEU	N	3.18
1	V	134:GLY	C	135:VAL	N	3.18

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	X	42:ARG	C	43:ALA	N	3.18
1	Z	2:ALA	C	3:LYS	N	3.18
1	i	29:LYS	C	30:LYS	N	3.18
1	i	32:ALA	C	33:ALA	N	3.18
1	k	29:LYS	C	30:LYS	N	3.18
1	k	30:LYS	C	31:LEU	N	3.18
1	k	72:THR	C	73:LEU	N	3.18
1	p	58:SER	C	59:CYS	N	3.18
1	1	92:G	O3'	93:C	P	3.17
1	1	647:A	O3'	648:C	P	3.17
1	1	1260:A	O3'	1261:G	P	3.17
1	1	2290:C	O3'	2291:A	P	3.17
1	1	2340:U	O3'	2341:A	P	3.17
1	1	3046:A	O3'	3047:U	P	3.17
1	D	278:SER	C	279:LYS	N	3.17
1	N	91:GLU	C	92:LEU	N	3.17
1	N	184:LYS	C	185:ALA	N	3.17
1	R	182:ASP	C	183:ALA	N	3.17
1	S	156:VAL	C	157:GLN	N	3.17
1	b	2:ALA	C	3:LYS	N	3.17
1	h	29:ALA	C	30:GLU	N	3.17
1	t	182:GLN	C	183:ILE	N	3.17
1	1	55:G	O3'	56:G	P	3.16
1	1	776:U	O3'	777:U	P	3.16
1	1	778:U	O3'	779:G	P	3.16
1	1	1225:A	O3'	1226:G	P	3.16
1	1	2725:U	O3'	2726:C	P	3.16
1	1	2895:G	O3'	2896:A	P	3.16
1	1	3121:U	O3'	3122:A	P	3.16
1	1	3162:C	O3'	3163:A	P	3.16
1	1	3237:U	O3'	3238:G	P	3.16
1	B	41:VAL	C	42:ALA	N	3.16
1	E	96:VAL	C	97:ASN	N	3.16
1	J	104:PHE	C	105:GLY	N	3.16
1	L	102:GLN	C	103:ASN	N	3.16
1	M	10:SER	C	11:ASN	N	3.16
1	m	85:LEU	C	86:ALA	N	3.16
1	t	143:ASP	C	144:LEU	N	3.16
1	1	205:C	O3'	206:G	P	3.15
1	1	711:A	O3'	712:G	P	3.15
1	1	1409:G	O3'	1410:U	P	3.15
1	1	1516:C	O3'	1517:G	P	3.15

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1652:G	O3'	1653:G	P	3.15
1	1	2773:C	O3'	2774:C	P	3.15
1	3	22:A	O3'	23:A	P	3.15
1	B	6:TYR	C	7:GLU	N	3.15
1	D	143:LYS	C	144:VAL	N	3.15
1	H	151:VAL	C	152:GLU	N	3.15
1	S	99:ARG	C	100:VAL	N	3.15
1	T	159:PHE	C	160:ILE	N	3.15
1	b	54:LEU	C	55:ALA	N	3.15
1	m	83:LYS	C	84:ALA	N	3.15
1	1	403:C	O3'	404:G	P	3.14
1	1	2545:C	O3'	2546:C	P	3.14
1	1	2671:A	O3'	2672:G	P	3.14
1	1	3168:A	O3'	3169:U	P	3.14
1	C	267:VAL	C	268:ALA	N	3.14
1	D	287:ALA	C	288:ALA	N	3.14
1	P	111:LYS	C	112:LEU	N	3.14
1	Q	180:ARG	C	181:SER	N	3.14
1	Z	7:ALA	C	8:GLY	N	3.14
1	Z	105:SER	C	106:GLN	N	3.14
1	c	32:LYS	C	33:SER	N	3.14
1	h	3:GLY	C	4:VAL	N	3.14
1	h	28:LEU	C	29:ALA	N	3.14
1	k	67:GLN	C	68:SER	N	3.14
1	t	70:ASP	C	71:ALA	N	3.14
1	1	389:A	O3'	390:G	P	3.13
1	1	626:U	O3'	627:U	P	3.13
1	1	1083:G	O3'	1084:A	P	3.13
1	1	3281:U	O3'	3282:U	P	3.13
1	B	382:THR	C	383:LEU	N	3.13
1	G	96:LYS	C	97:TYR	N	3.13
1	J	90:GLN	C	91:LEU	N	3.13
1	O	163:SER	C	164:SER	N	3.13
1	P	53:ASP	C	54:HIS	N	3.13
1	S	163:PHE	C	164:SER	N	3.13
1	j	65:ARG	C	66:TYR	N	3.13
1	p	29:LEU	C	30:GLU	N	3.13
1	1	588:G	O3'	589:A	P	3.12
1	1	723:U	O3'	724:U	P	3.12
1	1	1779:C	O3'	1780:G	P	3.12
1	1	1836:C	O3'	1837:U	P	3.12
1	1	3388:C	O3'	3389:U	P	3.12

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	8:GLN	C	9:ARG	N	3.12
1	B	385:LYS	C	386:ASP	N	3.12
1	C	311:HIS	C	312:VAL	N	3.12
1	E	60:ASP	C	61:ASN	N	3.12
1	F	26:VAL	C	27:ALA	N	3.12
1	G	101:THR	C	102:ALA	N	3.12
1	G	144:GLU	C	145:ASN	N	3.12
1	H	132:VAL	C	133:THR	N	3.12
1	Q	4:ASP	C	5:HIS	N	3.12
1	S	127:ALA	C	128:GLU	N	3.12
1	U	46:ALA	C	47:VAL	N	3.12
1	a	98:THR	C	99:ALA	N	3.12
1	c	39:SER	C	40:LYS	N	3.12
1	j	86:ALA	C	87:SER	N	3.12
1	k	31:LEU	C	32:ASN	N	3.12
1	1	557:A	O3'	558:U	P	3.11
1	1	2299:A	O3'	2300:G	P	3.11
1	3	49:G	O3'	50:U	P	3.11
1	B	298:PHE	C	299:ASP	N	3.11
1	D	266:ALA	C	267:ALA	N	3.11
1	G	131:ALA	C	132:VAL	N	3.11
1	T	44:ALA	C	45:ASN	N	3.11
1	U	83:TYR	C	84:LEU	N	3.11
1	Z	117:ALA	C	118:PHE	N	3.11
1	a	37:GLY	C	38:GLN	N	3.11
1	c	97:ASP	C	98:SER	N	3.11
1	f	91:ALA	C	92:LYS	N	3.11
1	1	2531:C	O3'	2532:U	P	3.10
1	C	164:GLU	C	165:ALA	N	3.10
1	D	188:GLU	C	189:GLU	N	3.10
1	E	8:LYS	C	9:TRP	N	3.10
1	E	21:THR	C	22:ARG	N	3.10
1	E	72:ASN	C	73:GLY	N	3.10
1	E	147:ALA	C	148:GLU	N	3.10
1	F	121:LYS	C	122:ALA	N	3.10
1	G	248:LYS	C	249:ARG	N	3.10
1	H	14:GLU	C	15:GLY	N	3.10
1	L	188:ARG	C	189:GLU	N	3.10
1	S	54:ALA	C	55:SER	N	3.10
1	V	94:TYR	C	95:PHE	N	3.10
1	Z	17:ARG	C	18:TYR	N	3.10
1	b	34:GLY	C	35:VAL	N	3.10

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	g	29:ILE	C	30:LEU	N	3.10
1	h	27:GLU	C	28:LEU	N	3.10
1	t	21:ASN	C	22:GLU	N	3.10
1	1	13:A	O3'	14:U	P	3.09
1	1	3171:U	O3'	3172:A	P	3.09
1	C	104:LYS	C	105:THR	N	3.09
1	C	346:LYS	C	347:THR	N	3.09
1	G	106:LYS	C	107:GLU	N	3.09
1	H	13:PRO	C	14:GLU	N	3.09
1	I	217:PHE	C	218:ALA	N	3.09
1	V	70:ARG	C	71:LYS	N	3.09
1	X	38:LEU	C	39:LYS	N	3.09
1	X	105:VAL	C	106:ASP	N	3.09
1	a	95:SER	C	96:LYS	N	3.09
1	i	31:GLY	C	32:ALA	N	3.09
1	t	76:ARG	C	77:ALA	N	3.09
1	1	1288:U	O3'	1289:G	P	3.08
1	1	1430:U	O3'	1431:G	P	3.08
1	1	1581:C	O3'	1582:C	P	3.08
1	1	2164:A	O3'	2165:G	P	3.08
1	1	2808:A	O3'	2809:C	P	3.08
1	B	307:PRO	C	308:MET	N	3.08
1	C	341:SER	C	342:LYS	N	3.08
1	E	107:ALA	C	108:LYS	N	3.08
1	F	65:ALA	C	66:LYS	N	3.08
1	F	91:GLY	C	92:ILE	N	3.08
1	N	197:LEU	C	198:SER	N	3.08
1	Q	108:ALA	C	109:GLY	N	3.08
1	e	114:ALA	C	115:LEU	N	3.08
1	l	24:PRO	C	25:GLN	N	3.08
1	t	17:LEU	C	18:LYS	N	3.08
1	1	1648:A	O3'	1649:U	P	3.07
1	D	55:PHE	C	56:THR	N	3.07
1	D	249:ALA	C	250:ASP	N	3.07
1	I	31:ILE	C	32:ARG	N	3.07
1	I	166:ILE	C	167:LEU	N	3.07
1	U	56:VAL	C	57:THR	N	3.07
1	W	59:HIS	C	60:LYS	N	3.07
1	1	561:C	O3'	562:C	P	3.06
1	1	842:G	O3'	843:A	P	3.06
1	1	1617:G	O3'	1618:G	P	3.06
1	1	2662:G	O3'	2663:G	P	3.06

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2822:U	O3'	2823:G	P	3.06
1	3	56:A	O3'	57:G	P	3.06
1	B	182:GLN	C	183:LEU	N	3.06
1	H	71:VAL	C	72:LYS	N	3.06
1	I	99:ILE	C	100:ASN	N	3.06
1	U	106:ALA	C	107:PHE	N	3.06
1	c	102:THR	C	103:THR	N	3.06
1	h	100:VAL	C	101:THR	N	3.06
1	l	29:LEU	C	30:ARG	N	3.06
1	m	120:GLN	C	121:LEU	N	3.06
1	t	31:THR	C	32:VAL	N	3.06
1	t	202:GLY	C	203:SER	N	3.06
1	1	1165:A	O3'	1166:G	P	3.05
1	A	152:SER	C	153:GLY	N	3.05
1	C	153:SER	C	154:THR	N	3.05
1	I	207:GLU	C	208:ASN	N	3.05
1	X	24:LEU	C	25:LYS	N	3.05
1	t	34:LEU	C	35:GLN	N	3.05
1	1	1291:A	O3'	1292:C	P	3.04
1	1	1461:A	O3'	1462:A	P	3.04
1	1	2254:U	O3'	2255:A	P	3.04
1	1	3250:U	O3'	3251:U	P	3.04
1	B	7:GLU	C	8:ALA	N	3.04
1	B	314:TYR	C	315:GLY	N	3.04
1	B	386:ASP	C	387:LEU	N	3.04
1	D	48:LYS	C	49:TYR	N	3.04
1	D	62:CYS	C	63:GLN	N	3.04
1	D	274:GLN	C	275:THR	N	3.04
1	I	25:ALA	C	26:VAL	N	3.04
1	J	30:LEU	C	31:THR	N	3.04
1	U	80:THR	C	81:LYS	N	3.04
1	Z	110:ALA	C	111:LYS	N	3.04
1	a	135:GLU	C	136:GLU	N	3.04
1	b	31:SER	C	32:LEU	N	3.04
1	d	85:ALA	C	86:LYS	N	3.04
1	p	74:ALA	C	75:ALA	N	3.04
1	1	615:U	O3'	616:G	P	3.03
1	1	1547:G	O3'	1548:C	P	3.03
1	1	2398:A	O3'	2399:A	P	3.03
1	1	3014:U	O3'	3015:G	P	3.03
1	A	154:ALA	C	155:LYS	N	3.03
1	A	195:SER	C	196:TRP	N	3.03

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	369:ARG	C	370:PHE	N	3.03
1	I	162:GLN	C	163:GLN	N	3.03
1	I	186:GLU	C	187:ALA	N	3.03
1	J	61:ARG	C	62:ASN	N	3.03
1	M	54:PRO	C	55:ARG	N	3.03
1	T	33:VAL	C	34:TYR	N	3.03
1	e	115:LEU	C	116:GLY	N	3.03
1	l	19:GLN	C	20:ASN	N	3.03
1	o	46:LYS	C	47:GLN	N	3.03
1	t	33:GLU	C	34:LEU	N	3.03
1	t	185:MET	C	186:SER	N	3.03
1	1	1683:A	O3'	1684:U	P	3.02
1	1	2230:C	O3'	2231:C	P	3.02
1	1	3084:C	O3'	3085:G	P	3.02
1	D	77:ALA	C	78:ALA	N	3.02
1	D	145:PHE	C	146:LEU	N	3.02
1	D	161:GLY	C	162:ALA	N	3.02
1	D	213:ASP	C	214:ASP	N	3.02
1	F	30:ARG	C	31:ALA	N	3.02
1	G	76:ALA	C	77:GLN	N	3.02
1	H	134:ILE	C	135:GLU	N	3.02
1	S	119:ARG	C	120:SER	N	3.02
1	U	105:LEU	C	106:ALA	N	3.02
1	Y	67:GLU	C	68:GLY	N	3.02
1	a	146:GLU	C	147:LEU	N	3.02
1	1	1048:A	O3'	1049:C	P	3.01
1	1	1073:U	O3'	1074:U	P	3.01
1	1	2729:U	O3'	2730:G	P	3.01
1	1	3351:U	O3'	3352:U	P	3.01
1	3	17:A	O3'	18:C	P	3.01
1	3	58:C	O3'	59:U	P	3.01
1	C	188:ARG	C	189:ALA	N	3.01
1	D	66:SER	C	67:SER	N	3.01
1	R	60:LYS	C	61:SER	N	3.01
1	R	128:LYS	C	129:GLY	N	3.01
1	V	119:GLY	C	120:LYS	N	3.01
1	W	57:LYS	C	58:HIS	N	3.01
1	g	39:ALA	C	40:THR	N	3.01
1	i	37:THR	C	38:LYS	N	3.01
1	i	52:PRO	C	53:TYR	N	3.01
1	i	83:ALA	C	84:LYS	N	3.01
1	1	186:U	O3'	187:A	P	3.00

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	692:A	O3'	693:A	P	3.00
1	1	1357:G	O3'	1358:C	P	3.00
1	1	2413:A	O3'	2414:G	P	3.00
1	1	2527:G	O3'	2528:G	P	3.00
1	3	105:C	O3'	106:U	P	3.00
1	E	88:SER	C	89:THR	N	3.00
1	G	109:LEU	C	110:THR	N	3.00
1	L	189:GLU	C	190:LYS	N	3.00
1	Q	36:LEU	C	37:ALA	N	3.00
1	g	38:LEU	C	39:ALA	N	3.00
1	1	1164:G	O3'	1165:A	P	2.99
1	1	2234:G	O3'	2235:C	P	2.99
1	1	3016:A	O3'	3017:A	P	2.99
1	1	3085:G	O3'	3086:A	P	2.99
1	4	73:U	O3'	74:U	P	2.99
1	D	259:LYS	C	260:PHE	N	2.99
1	F	72:ALA	C	73:GLY	N	2.99
1	G	117:ALA	C	118:GLU	N	2.99
1	J	78:GLU	C	79:ILE	N	2.99
1	L	186:ARG	C	187:ALA	N	2.99
1	M	70:PHE	C	71:ALA	N	2.99
1	S	169:SER	C	170:THR	N	2.99
1	Y	83:ASP	C	84:LYS	N	2.99
1	a	119:PRO	C	120:ASN	N	2.99
1	d	101:ALA	C	102:LYS	N	2.99
1	e	46:PHE	C	47:ARG	N	2.99
1	j	14:LYS	C	15:SER	N	2.99
1	j	49:TRP	C	50:GLY	N	2.99
1	k	19:ASP	C	20:VAL	N	2.99
1	o	31:GLY	C	32:LYS	N	2.99
1	1	316:U	O3'	317:A	P	2.98
1	1	1345:G	O3'	1346:G	P	2.98
1	1	1470:U	O3'	1471:U	P	2.98
1	1	2542:U	O3'	2543:U	P	2.98
1	A	70:ARG	C	71:LEU	N	2.98
1	A	139:HIS	C	140:ASN	N	2.98
1	A	184:ARG	C	185:ALA	N	2.98
1	A	194:ASN	C	195:SER	N	2.98
1	B	297:SER	C	298:PHE	N	2.98
1	B	379:PHE	C	380:MET	N	2.98
1	D	26:GLY	C	27:LYS	N	2.98
1	F	205:PHE	C	206:LYS	N	2.98

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	24:LEU	C	25:ASP	N	2.98
1	T	23:GLY	C	24:ALA	N	2.98
1	X	35:PRO	C	36:LYS	N	2.98
1	Z	113:VAL	C	114:VAL	N	2.98
1	c	98:SER	C	99:ASP	N	2.98
1	d	103:GLY	C	104:LEU	N	2.98
1	p	87:ARG	C	88:GLU	N	2.98
1	t	114:GLU	C	115:VAL	N	2.98
1	1	290:G	O3'	291:C	P	2.97
1	1	312:C	O3'	313:A	P	2.97
1	1	1640:G	O3'	1641:U	P	2.97
1	1	2137:U	O3'	2138:A	P	2.97
1	1	3117:C	O3'	3118:C	P	2.97
1	4	154:C	O3'	155:A	P	2.97
1	A	182:ALA	C	183:GLY	N	2.97
1	F	196:LYS	C	197:GLN	N	2.97
1	H	69:ARG	C	70:THR	N	2.97
1	M	67:PRO	C	68:LEU	N	2.97
1	Q	116:LYS	C	117:ALA	N	2.97
1	Q	151:ARG	C	152:HIS	N	2.97
1	R	56:THR	C	57:VAL	N	2.97
1	W	7:SER	C	8:PHE	N	2.97
1	Z	93:LYS	C	94:SER	N	2.97
1	j	44:THR	C	45:ARG	N	2.97
1	j	87:SER	C	88:ALA	N	2.97
1	l	32:ASN	C	33:ASN	N	2.97
1	1	564:G	O3'	565:U	P	2.96
1	1	1067:U	O3'	1068:C	P	2.96
1	C	11:LEU	C	12:THR	N	2.96
1	C	133:SER	C	134:LEU	N	2.96
1	E	150:LYS	C	151:LYS	N	2.96
1	G	210:ALA	C	211:LEU	N	2.96
1	I	215:GLU	C	216:TYR	N	2.96
1	L	99:HIS	C	100:ARG	N	2.96
1	L	112:ASN	C	113:VAL	N	2.96
1	N	198:SER	C	199:LEU	N	2.96
1	Q	62:VAL	C	63:SER	N	2.96
1	S	85:SER	C	86:GLY	N	2.96
1	T	5:HIS	C	6:GLY	N	2.96
1	T	139:ARG	C	140:ILE	N	2.96
1	Y	71:SER	C	72:SER	N	2.96
1	Y	92:GLY	C	93:ALA	N	2.96

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Z	82:PRO	C	83:THR	N	2.96
1	Z	83:THR	C	84:ARG	N	2.96
1	e	28:VAL	C	29:ALA	N	2.96
1	g	76:TYR	C	77:GLY	N	2.96
1	g	102:LYS	C	103:LYS	N	2.96
1	l	25:GLN	C	26:TRP	N	2.96
1	1	196:G	O3'	197:G	P	2.95
1	1	275:U	O3'	276:U	P	2.95
1	1	1415:U	O3'	1416:C	P	2.95
1	1	1902:G	O3'	1903:U	P	2.95
1	1	2112:U	O3'	2113:A	P	2.95
1	1	2181:C	O3'	2182:A	P	2.95
1	1	2315:G	O3'	2316:G	P	2.95
1	1	2386:A	O3'	2387:A	P	2.95
1	1	3110:C	O3'	3111:U	P	2.95
1	3	44:C	O3'	45:A	P	2.95
1	4	14:C	O3'	15:G	P	2.95
1	A	35:ALA	C	36:GLU	N	2.95
1	Q	101:VAL	C	102:ALA	N	2.95
1	R	96:ILE	C	97:ARG	N	2.95
1	S	160:THR	C	161:LYS	N	2.95
1	a	85:ASP	C	86:LYS	N	2.95
1	1	1597:C	O3'	1598:G	P	2.94
1	1	1933:A	O3'	1934:G	P	2.94
1	1	2565:U	O3'	2566:C	P	2.94
1	1	3386:G	O3'	3387:U	P	2.94
1	3	24:A	O3'	25:G	P	2.94
1	B	144:ILE	C	145:GLU	N	2.94
1	J	37:LEU	C	38:GLU	N	2.94
1	N	109:ARG	C	110:ALA	N	2.94
1	P	68:GLY	C	69:ARG	N	2.94
1	V	28:ASN	C	29:SER	N	2.94
1	V	133:SER	C	134:GLY	N	2.94
1	Z	67:LYS	C	68:ILE	N	2.94
1	b	14:ARG	C	15:LYS	N	2.94
1	b	26:THR	C	27:TYR	N	2.94
1	1	518:G	O3'	519:A	P	2.93
1	1	563:U	O3'	564:G	P	2.93
1	1	1045:C	O3'	1046:A	P	2.93
1	1	1884:A	O3'	1885:U	P	2.93
1	1	1889:G	O3'	1890:U	P	2.93
1	1	2786:G	O3'	2787:G	P	2.93

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2948:C	O3'	2949:U	P	2.93
1	3	88:G	O3'	89:G	P	2.93
1	3	112:G	O3'	113:C	P	2.93
1	B	313:HIS	C	314:TYR	N	2.93
1	D	47:PRO	C	48:LYS	N	2.93
1	D	263:GLU	C	264:GLN	N	2.93
1	F	28:ALA	C	29:GLU	N	2.93
1	G	245:LYS	C	246:MET	N	2.93
1	I	204:GLY	C	205:SER	N	2.93
1	P	16:SER	C	17:ALA	N	2.93
1	P	103:GLU	C	104:ALA	N	2.93
1	R	150:GLN	C	151:ARG	N	2.93
1	S	70:THR	C	71:LYS	N	2.93
1	U	42:LYS	C	43:VAL	N	2.93
1	h	63:ARG	C	64:GLU	N	2.93
1	i	77:LEU	C	78:GLY	N	2.93
1	1	194:U	O3'	195:U	P	2.92
1	1	300:G	O3'	301:G	P	2.92
1	1	2261:G	O3'	2262:A	P	2.92
1	1	2383:C	O3'	2384:A	P	2.92
1	1	2649:A	O3'	2650:U	P	2.92
1	1	2749:G	O3'	2750:U	P	2.92
1	A	69:TYR	C	70:ARG	N	2.92
1	C	289:ILE	C	290:ILE	N	2.92
1	C	315:LYS	C	316:ASN	N	2.92
1	G	182:GLY	C	183:LYS	N	2.92
1	H	28:VAL	C	29:GLY	N	2.92
1	I	13:LYS	C	14:ASN	N	2.92
1	I	171:TRP	C	172:GLY	N	2.92
1	L	152:THR	C	153:ASP	N	2.92
1	Q	68:ALA	C	69:ARG	N	2.92
1	T	116:ARG	C	117:ALA	N	2.92
1	Y	5:SER	C	6:LEU	N	2.92
1	Z	3:LYS	C	4:PHE	N	2.92
1	f	59:VAL	C	60:ARG	N	2.92
1	h	106:LYS	C	107:LYS	N	2.92
1	n	2:ARG	C	3:ALA	N	2.92
1	1	169:U	O3'	170:G	P	2.91
1	1	679:U	O3'	680:G	P	2.91
1	1	742:G	O3'	743:C	P	2.91
1	1	1412:G	O3'	1413:G	P	2.91
1	1	2231:C	O3'	2232:A	P	2.91

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2235:C	O3'	2236:G	P	2.91
1	1	2513:U	O3'	2514:U	P	2.91
1	1	2645:G	O3'	2646:C	P	2.91
1	3	30:G	O3'	31:U	P	2.91
1	B	18:PRO	C	19:ARG	N	2.91
1	D	207:TYR	C	208:MET	N	2.91
1	F	40:LYS	C	41:ARG	N	2.91
1	F	112:ASN	C	113:SER	N	2.91
1	H	91:ARG	C	92:TYR	N	2.91
1	H	119:GLY	C	120:ASP	N	2.91
1	I	38:LYS	C	39:LYS	N	2.91
1	Q	99:THR	C	100:THR	N	2.91
1	U	13:LYS	C	14:THR	N	2.91
1	U	44:GLU	C	45:GLY	N	2.91
1	U	66:VAL	C	67:SER	N	2.91
1	W	58:HIS	C	59:HIS	N	2.91
1	b	42:ASN	C	43:HIS	N	2.91
1	k	62:ALA	C	63:LYS	N	2.91
1	t	129:SER	C	130:LYS	N	2.91
1	1	101:G	O3'	102:C	P	2.90
1	1	277:G	O3'	278:U	P	2.90
1	1	1361:U	O3'	1362:G	P	2.90
1	1	2131:A	O3'	2132:C	P	2.90
1	1	2273:G	O3'	2274:U	P	2.90
1	1	2929:C	O3'	2930:A	P	2.90
1	1	3260:G	O3'	3261:C	P	2.90
1	4	39:G	O3'	40:A	P	2.90
1	4	148:G	O3'	149:A	P	2.90
1	A	17:THR	C	18:SER	N	2.90
1	A	132:ASN	C	133:TYR	N	2.90
1	A	230:VAL	C	231:SER	N	2.90
1	C	102:PRO	C	103:THR	N	2.90
1	C	167:ALA	C	168:ALA	N	2.90
1	I	185:ARG	C	186:GLU	N	2.90
1	R	80:LYS	C	81:ARG	N	2.90
1	R	125:LYS	C	126:GLU	N	2.90
1	Z	55:LYS	C	56:LYS	N	2.90
1	a	143:GLY	C	144:VAL	N	2.90
1	j	75:LYS	C	76:ASN	N	2.90
1	1	413:U	O3'	414:U	P	2.89
1	1	724:U	O3'	725:G	P	2.89
1	1	1153:A	O3'	1154:A	P	2.89

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1481:A	O3'	1482:A	P	2.89
1	1	1661:G	O3'	1662:G	P	2.89
1	1	1712:G	O3'	1713:G	P	2.89
1	1	2211:U	O3'	2212:C	P	2.89
1	1	2611:U	O3'	2612:U	P	2.89
1	1	2924:U	O3'	2925:C	P	2.89
1	1	3032:A	O3'	3033:A	P	2.89
1	1	3100:U	O3'	3101:G	P	2.89
1	1	3335:A	O3'	3336:A	P	2.89
1	B	22:ALA	C	23:ALA	N	2.89
1	B	310:GLY	C	311:PHE	N	2.89
1	F	120:THR	C	121:LYS	N	2.89
1	G	84:ARG	C	85:ASN	N	2.89
1	I	24:ARG	C	25:ALA	N	2.89
1	I	29:SER	C	30:LYS	N	2.89
1	I	54:SER	C	55:ASN	N	2.89
1	L	106:GLN	C	107:GLU	N	2.89
1	L	155:GLU	C	156:ALA	N	2.89
1	L	163:GLY	C	164:GLU	N	2.89
1	M	36:VAL	C	37:GLU	N	2.89
1	N	160:GLU	C	161:ALA	N	2.89
1	Q	85:GLY	C	86:THR	N	2.89
1	R	111:ASP	C	112:ALA	N	2.89
1	T	141:VAL	C	142:SER	N	2.89
1	V	15:LEU	C	16:GLY	N	2.89
1	d	95:PRO	C	96:VAL	N	2.89
1	h	16:GLN	C	17:LEU	N	2.89
1	n	12:ARG	C	13:LEU	N	2.89
1	1	504:A	O3'	505:G	P	2.88
1	1	1398:U	O3'	1399:A	P	2.88
1	1	1649:U	O3'	1650:G	P	2.88
1	1	2272:G	O3'	2273:G	P	2.88
1	3	102:A	O3'	103:A	P	2.88
1	A	199:THR	C	200:ARG	N	2.88
1	A	228:GLY	C	229:ALA	N	2.88
1	D	31:TYR	C	32:GLN	N	2.88
1	H	152:GLU	C	153:ASP	N	2.88
1	I	140:THR	C	141:LYS	N	2.88
1	J	21:ILE	C	22:SER	N	2.88
1	L	3:ILE	C	4:SER	N	2.88
1	L	104:ARG	C	105:ASN	N	2.88
1	P	54:HIS	C	55:GLN	N	2.88

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Q	6:THR	C	7:SER	N	2.88
1	S	148:LEU	C	149:LYS	N	2.88
1	V	85:TRP	C	86:ARG	N	2.88
1	Z	95:VAL	C	96:VAL	N	2.88
1	f	63:LYS	C	64:ILE	N	2.88
1	h	83:LYS	C	84:LYS	N	2.88
1	i	57:LEU	C	58:ILE	N	2.88
1	m	88:LYS	C	89:TYR	N	2.88
1	t	14:LYS	C	15:GLU	N	2.88
1	t	210:MET	C	211:GLY	N	2.88
1	1	328:U	O3'	329:U	P	2.87
1	1	685:G	O3'	686:G	P	2.87
1	1	1137:C	O3'	1138:U	P	2.87
1	1	1657:C	O3'	1658:G	P	2.87
1	1	1704:A	O3'	1705:U	P	2.87
1	1	1866:C	O3'	1867:A	P	2.87
1	1	1907:C	O3'	1908:A	P	2.87
1	1	3031:G	O3'	3032:A	P	2.87
1	3	101:G	O3'	102:A	P	2.87
1	B	157:VAL	C	158:VAL	N	2.87
1	B	208:VAL	C	209:PHE	N	2.87
1	D	44:TYR	C	45:ASN	N	2.87
1	D	69:ILE	C	70:THR	N	2.87
1	D	201:GLY	C	202:GLY	N	2.87
1	J	85:LYS	C	86:VAL	N	2.87
1	P	137:ASN	C	138:LYS	N	2.87
1	Q	81:VAL	C	82:VAL	N	2.87
1	Q	153:PHE	C	154:GLY	N	2.87
1	T	111:ALA	C	112:ASN	N	2.87
1	V	25:CYS	C	26:ALA	N	2.87
1	Y	30:LEU	C	31:LEU	N	2.87
1	Z	19:ALA	C	20:GLY	N	2.87
1	f	43:PHE	C	44:TYR	N	2.87
1	h	6:ALA	C	7:TYR	N	2.87
1	h	30:GLU	C	31:LEU	N	2.87
1	n	7:LYS	C	8:LYS	N	2.87
1	1	44:U	O3'	45:A	P	2.86
1	1	750:G	O3'	751:A	P	2.86
1	1	1608:C	O3'	1609:C	P	2.86
1	1	1741:A	O3'	1742:U	P	2.86
1	1	2369:G	O3'	2370:G	P	2.86
1	1	2392:C	O3'	2393:G	P	2.86

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2835:U	O3'	2836:C	P	2.86
1	1	2846:U	O3'	2847:A	P	2.86
1	4	19:C	O3'	20:U	P	2.86
1	A	54:ARG	C	55:GLY	N	2.86
1	B	2:SER	C	3:HIS	N	2.86
1	B	109:HIS	C	110:LEU	N	2.86
1	C	48:GLN	C	49:ALA	N	2.86
1	C	125:ALA	C	126:ILE	N	2.86
1	H	77:ASN	C	78:MET	N	2.86
1	I	30:LYS	C	31:ILE	N	2.86
1	J	41:SER	C	42:GLY	N	2.86
1	L	140:SER	C	141:ALA	N	2.86
1	P	74:LYS	C	75:GLU	N	2.86
1	R	7:GLN	C	8:LYS	N	2.86
1	a	123:VAL	C	124:ILE	N	2.86
1	e	66:LEU	C	67:SER	N	2.86
1	j	51:ALA	C	52:LYS	N	2.86
1	p	55:TRP	C	56:THR	N	2.86
1	1	506:U	O3'	507:U	P	2.85
1	1	605:U	O3'	606:C	P	2.85
1	1	804:C	O3'	805:G	P	2.85
1	1	1427:U	O3'	1428:A	P	2.85
1	1	2522:G	O3'	2523:A	P	2.85
1	4	44:A	O3'	45:C	P	2.85
1	G	216:SER	C	217:THR	N	2.85
1	H	108:GLY	C	109:ALA	N	2.85
1	H	140:VAL	C	141:LYS	N	2.85
1	I	36:LEU	C	37:GLY	N	2.85
1	J	35:LYS	C	36:VAL	N	2.85
1	J	114:ILE	C	115:LYS	N	2.85
1	L	95:ILE	C	96:ALA	N	2.85
1	L	167:PHE	C	168:ARG	N	2.85
1	N	38:ARG	C	39:ALA	N	2.85
1	Z	99:GLU	C	100:THR	N	2.85
1	a	67:HIS	C	68:PHE	N	2.85
1	a	126:LYS	C	127:ALA	N	2.85
1	c	42:ILE	C	43:ILE	N	2.85
1	g	91:ARG	C	92:ALA	N	2.85
1	h	31:LEU	C	32:LYS	N	2.85
1	o	61:LYS	C	62:ALA	N	2.85
1	1	120:G	O3'	121:A	P	2.84
1	1	682:U	O3'	683:U	P	2.84

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	758:C	O3'	759:U	P	2.84
1	1	2900:A	O3'	2901:G	P	2.84
1	1	3108:G	O3'	3109:G	P	2.84
1	1	3364:C	O3'	3365:U	P	2.84
1	I	34:TYR	C	35:ASP	N	2.84
1	L	10:LEU	C	11:LYS	N	2.84
1	Q	173:GLU	C	174:ARG	N	2.84
1	S	73:LYS	C	74:ASN	N	2.84
1	U	41:ILE	C	42:LYS	N	2.84
1	Z	125:GLY	C	126:LYS	N	2.84
1	a	92:LYS	C	93:SER	N	2.84
1	c	30:THR	C	31:VAL	N	2.84
1	e	29:ALA	C	30:GLU	N	2.84
1	e	47:ARG	C	48:GLY	N	2.84
1	f	75:HIS	C	76:GLY	N	2.84
1	k	73:LEU	C	74:LYS	N	2.84
1	m	113:ARG	C	114:LYS	N	2.84
1	o	50:PHE	C	51:GLY	N	2.84
1	o	89:LYS	C	90:HIS	N	2.84
1	1	1486:G	O3'	1487:G	P	2.83
1	1	2444:C	O3'	2445:A	P	2.83
1	1	2912:G	O3'	2913:C	P	2.83
1	1	3073:A	O3'	3074:G	P	2.83
1	1	3140:G	O3'	3141:A	P	2.83
1	1	3206:C	O3'	3207:U	P	2.83
1	A	101:VAL	C	102:LEU	N	2.83
1	A	145:LYS	C	146:THR	N	2.83
1	C	223:PRO	C	224:GLY	N	2.83
1	C	318:LEU	C	319:LYS	N	2.83
1	I	42:THR	C	43:VAL	N	2.83
1	I	84:ALA	C	85:PHE	N	2.83
1	S	100:VAL	C	101:ALA	N	2.83
1	S	133:ALA	C	134:ASP	N	2.83
1	X	138:ARG	C	139:ILE	N	2.83
1	Y	120:GLN	C	121:ARG	N	2.83
1	Z	75:VAL	C	76:ASN	N	2.83
1	a	84:GLU	C	85:ASP	N	2.83
1	f	68:TRP	C	69:GLY	N	2.83
1	g	6:THR	C	7:PHE	N	2.83
1	i	68:ARG	C	69:ALA	N	2.83
1	o	76:LYS	C	77:CYS	N	2.83
1	1	200:C	O3'	201:A	P	2.82

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1896:A	O3'	1897:G	P	2.82
1	1	3322:A	O3'	3323:A	P	2.82
1	4	6:U	O3'	7:U	P	2.82
1	A	178:PRO	C	179:LEU	N	2.82
1	C	59:GLN	C	60:THR	N	2.82
1	C	159:ILE	C	160:GLN	N	2.82
1	D	16:PHE	C	17:GLN	N	2.82
1	D	206:GLN	C	207:TYR	N	2.82
1	G	252:ASN	C	253:SER	N	2.82
1	H	2:LYS	C	3:TYR	N	2.82
1	L	51:LEU	C	52:ASP	N	2.82
1	L	137:GLN	C	138:VAL	N	2.82
1	M	85:TRP	C	86:ALA	N	2.82
1	N	53:TYR	C	54:LYS	N	2.82
1	Q	89:ASP	C	90:ASP	N	2.82
1	U	18:ASP	C	19:VAL	N	2.82
1	V	19:VAL	C	20:GLY	N	2.82
1	X	28:THR	C	29:SER	N	2.82
1	Y	117:ALA	C	118:LEU	N	2.82
1	Z	85:TYR	C	86:THR	N	2.82
1	c	21:GLY	C	22:LYS	N	2.82
1	g	79:SER	C	80:ARG	N	2.82
1	h	105:ARG	C	106:LYS	N	2.82
1	i	6:GLY	C	7:ILE	N	2.82
1	p	49:ARG	C	50:GLY	N	2.82
1	1	1190:A	O3'	1191:U	P	2.81
1	1	1603:A	O3'	1604:G	P	2.81
1	1	2245:C	O3'	2246:G	P	2.81
1	1	2658:G	O3'	2659:G	P	2.81
1	1	3245:A	O3'	3246:G	P	2.81
1	1	3367:C	O3'	3368:U	P	2.81
1	A	226:SER	C	227:ARG	N	2.81
1	B	278:ILE	C	279:ASN	N	2.81
1	B	347:SER	C	348:ARG	N	2.81
1	G	214:LEU	C	215:VAL	N	2.81
1	I	148:VAL	C	149:VAL	N	2.81
1	I	177:ASP	C	178:ARG	N	2.81
1	L	109:PHE	C	110:ASP	N	2.81
1	M	99:TRP	C	100:ALA	N	2.81
1	N	107:GLY	C	108:ARG	N	2.81
1	P	73:GLY	C	74:LYS	N	2.81
1	R	172:ARG	C	173:ARG	N	2.81

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W	22:VAL	C	23:ARG	N	2.81
1	W	23:ARG	C	24:GLY	N	2.81
1	X	68:THR	C	69:SER	N	2.81
1	Y	2:ALA	C	3:LYS	N	2.81
1	Y	19:TYR	C	20:PHE	N	2.81
1	Z	66:THR	C	67:LYS	N	2.81
1	c	35:ARG	C	36:GLN	N	2.81
1	e	44:ARG	C	45:ARG	N	2.81
1	f	7:LEU	C	8:TYR	N	2.81
1	g	26:PRO	C	27:GLY	N	2.81
1	p	66:GLY	C	67:GLY	N	2.81
1	1	694:C	O3'	695:C	P	2.80
1	1	878:G	O3'	879:U	P	2.80
1	1	2588:U	O3'	2589:G	P	2.80
1	B	273:HIS	C	274:SER	N	2.80
1	C	80:GLY	C	81:GLY	N	2.80
1	D	22:ARG	C	23:ARG	N	2.80
1	D	72:ASP	C	73:VAL	N	2.80
1	E	48:ARG	C	49:GLY	N	2.80
1	G	97:TYR	C	98:ARG	N	2.80
1	H	32:GLY	C	33:THR	N	2.80
1	H	110:LYS	C	111:PHE	N	2.80
1	J	108:GLU	C	109:HIS	N	2.80
1	M	18:GLY	C	19:ARG	N	2.80
1	Q	167:SER	C	168:THR	N	2.80
1	Q	171:LYS	C	172:PHE	N	2.80
1	S	35:VAL	C	36:ILE	N	2.80
1	T	29:THR	C	30:TYR	N	2.80
1	U	101:ASN	C	102:GLU	N	2.80
1	X	71:THR	C	72:ALA	N	2.80
1	Z	43:VAL	C	44:ALA	N	2.80
1	i	7:ILE	C	8:ALA	N	2.80
1	o	81:ALA	C	82:GLN	N	2.80
1	1	65:A	O3'	66:A	P	2.79
1	1	68:C	O3'	69:C	P	2.79
1	1	1320:C	O3'	1321:G	P	2.79
1	1	2682:C	O3'	2683:U	P	2.79
1	1	3049:A	O3'	3050:U	P	2.79
1	1	3190:C	O3'	3191:G	P	2.79
1	1	3394:U	O3'	3395:G	P	2.79
1	3	80:G	O3'	81:U	P	2.79
1	4	95:G	O3'	96:A	P	2.79

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	73:PRO	C	74:THR	N	2.79
1	G	203:VAL	C	204:ARG	N	2.79
1	H	55:VAL	C	56:ALA	N	2.79
1	H	80:THR	C	81:GLY	N	2.79
1	H	111:PHE	C	112:ILE	N	2.79
1	J	91:LEU	C	92:ARG	N	2.79
1	J	131:MET	C	132:ASN	N	2.79
1	L	2:ALA	C	3:ILE	N	2.79
1	T	14:MET	C	15:PHE	N	2.79
1	U	65:VAL	C	66:VAL	N	2.79
1	Y	24:SER	C	25:SER	N	2.79
1	n	8:LYS	C	9:ARG	N	2.79
1	t	161:LYS	C	162:VAL	N	2.79
1	1	80:G	O3'	81:C	P	2.78
1	1	87:U	O3'	88:A	P	2.78
1	1	355:A	O3'	356:C	P	2.78
1	1	676:G	O3'	677:A	P	2.78
1	1	1316:C	O3'	1317:A	P	2.78
1	1	1535:A	O3'	1536:G	P	2.78
1	1	1843:C	O3'	1844:C	P	2.78
1	C	288:ARG	C	289:ILE	N	2.78
1	D	54:ARG	C	55:PHE	N	2.78
1	D	155:THR	C	156:GLY	N	2.78
1	D	289:LYS	C	290:ILE	N	2.78
1	G	129:PRO	C	130:TYR	N	2.78
1	G	181:LYS	C	182:GLY	N	2.78
1	H	147:SER	C	148:GLY	N	2.78
1	L	50:PRO	C	51:LEU	N	2.78
1	P	71:ALA	C	72:GLN	N	2.78
1	Q	110:ALA	C	111:ARG	N	2.78
1	R	71:ARG	C	72:GLU	N	2.78
1	S	128:GLU	C	129:ILE	N	2.78
1	U	102:GLU	C	103:TYR	N	2.78
1	d	17:HIS	C	18:LYS	N	2.78
1	e	50:ILE	C	51:SER	N	2.78
1	i	15:LYS	C	16:LYS	N	2.78
1	i	25:LYS	C	26:ILE	N	2.78
1	1	589:A	O3'	590:G	P	2.77
1	1	829:U	O3'	830:A	P	2.77
1	1	1529:A	O3'	1530:U	P	2.77
1	1	1646:G	O3'	1647:A	P	2.77
1	1	1938:U	O3'	1939:G	P	2.77

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	3	119:U	O3'	120:C	P	2.77
1	4	72:A	O3'	73:U	P	2.77
1	A	94:ALA	C	95:SER	N	2.77
1	B	289:ASP	C	290:ASP	N	2.77
1	C	266:THR	C	267:VAL	N	2.77
1	G	130:TYR	C	131:ALA	N	2.77
1	H	103:ILE	C	104:VAL	N	2.77
1	L	87:ALA	C	88:ALA	N	2.77
1	R	107:ALA	C	108:LYS	N	2.77
1	S	98:SER	C	99:ARG	N	2.77
1	V	31:ALA	C	32:ARG	N	2.77
1	b	50:THR	C	51:ALA	N	2.77
1	e	59:SER	C	60:ASN	N	2.77
1	j	23:GLY	C	24:ARG	N	2.77
1	j	58:THR	C	59:THR	N	2.77
1	1	1003:A	O3'	1004:U	P	2.76
1	1	1223:A	O3'	1224:C	P	2.76
1	1	2571:U	O3'	2572:C	P	2.76
1	1	3023:U	O3'	3024:A	P	2.76
1	1	3042:U	O3'	3043:C	P	2.76
1	3	95:A	O3'	96:U	P	2.76
1	B	9:PRO	C	10:ARG	N	2.76
1	B	152:LYS	C	153:LYS	N	2.76
1	C	353:ALA	C	354:VAL	N	2.76
1	D	141:PRO	C	142:PHE	N	2.76
1	F	158:LYS	C	159:GLN	N	2.76
1	G	85:ASN	C	86:THR	N	2.76
1	H	131:GLY	C	132:VAL	N	2.76
1	J	128:TYR	C	129:VAL	N	2.76
1	J	167:TYR	C	168:ASP	N	2.76
1	L	85:LEU	C	86:THR	N	2.76
1	N	68:ARG	C	69:GLY	N	2.76
1	Z	97:SER	C	98:THR	N	2.76
1	g	101:VAL	C	102:LYS	N	2.76
1	h	35:LYS	C	36:LEU	N	2.76
1	h	109:ILE	C	110:ALA	N	2.76
1	t	87:VAL	C	88:ASP	N	2.76
1	1	787:G	O3'	788:C	P	2.75
1	1	802:C	O3'	803:C	P	2.75
1	1	819:U	O3'	820:A	P	2.75
1	1	2140:U	O3'	2141:U	P	2.75
1	1	2620:G	O3'	2621:G	P	2.75

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2770:G	O3'	2771:U	P	2.75
1	1	2821:C	O3'	2822:U	P	2.75
1	4	85:G	O3'	86:U	P	2.75
1	A	15:ILE	C	16:PHE	N	2.75
1	B	323:MET	C	324:VAL	N	2.75
1	D	53:VAL	C	54:ARG	N	2.75
1	G	213:LYS	C	214:LEU	N	2.75
1	H	120:ASP	C	121:LYS	N	2.75
1	I	12:GLN	C	13:LYS	N	2.75
1	M	125:LYS	C	126:GLN	N	2.75
1	P	72:GLN	C	73:GLY	N	2.75
1	P	106:GLY	C	107:LEU	N	2.75
1	Y	111:LEU	C	112:ASP	N	2.75
1	Z	132:SER	C	133:LYS	N	2.75
1	a	12:ARG	C	13:GLY	N	2.75
1	1	119:U	O3'	120:G	P	2.74
1	1	534:U	O3'	535:G	P	2.74
1	1	587:U	O3'	588:G	P	2.74
1	1	1616:U	O3'	1617:G	P	2.74
1	1	2118:C	O3'	2119:A	P	2.74
1	1	2219:A	O3'	2220:A	P	2.74
1	1	2321:A	O3'	2322:C	P	2.74
1	1	2633:U	O3'	2634:U	P	2.74
1	B	201:LYS	C	202:THR	N	2.74
1	B	295:ALA	C	296:THR	N	2.74
1	C	240:PRO	C	241:GLY	N	2.74
1	D	169:GLY	C	170:GLY	N	2.74
1	G	29:SER	C	30:THR	N	2.74
1	G	178:ALA	C	179:ILE	N	2.74
1	H	114:VAL	C	115:ARG	N	2.74
1	J	159:THR	C	160:VAL	N	2.74
1	M	68:LEU	C	69:THR	N	2.74
1	N	113:LEU	C	114:ARG	N	2.74
1	S	81:TYR	C	82:ASP	N	2.74
1	V	122:CYS	C	123:ALA	N	2.74
1	W	36:SER	C	37:ALA	N	2.74
1	a	66:ALA	C	67:HIS	N	2.74
1	d	55:LEU	C	56:ASN	N	2.74
1	k	14:LEU	C	15:THR	N	2.74
1	1	2176:U	O3'	2177:G	P	2.73
1	1	2653:C	O3'	2654:C	P	2.73
1	1	2861:U	O3'	2862:U	P	2.73

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	3379:C	O3'	3380:U	P	2.73
1	A	31:THR	C	32:LEU	N	2.73
1	D	109:THR	C	110:LEU	N	2.73
1	D	171:LEU	C	172:TYR	N	2.73
1	F	56:GLU	C	57:THR	N	2.73
1	I	198:LYS	C	199:PHE	N	2.73
1	L	142:ALA	C	143:ALA	N	2.73
1	P	75:GLU	C	76:PHE	N	2.73
1	P	177:ALA	C	178:ALA	N	2.73
1	Q	52:LEU	C	53:PHE	N	2.73
1	Q	102:ALA	C	103:ALA	N	2.73
1	V	120:LYS	C	121:GLU	N	2.73
1	W	6:ASP	C	7:SER	N	2.73
1	a	20:GLY	C	21:ARG	N	2.73
1	c	23:TYR	C	24:THR	N	2.73
1	g	93:PHE	C	94:LEU	N	2.73
1	1	197:G	O3'	198:A	P	2.72
1	1	404:G	O3'	405:U	P	2.72
1	1	619:A	O3'	620:U	P	2.72
1	1	2634:U	O3'	2635:A	P	2.72
1	1	2792:A	O3'	2793:G	P	2.72
1	1	2793:G	O3'	2794:G	P	2.72
1	1	3301:U	O3'	3302:U	P	2.72
1	A	19:HIS	C	20:THR	N	2.72
1	B	3:HIS	C	4:ARG	N	2.72
1	B	217:ALA	C	218:ILE	N	2.72
1	C	45:ASN	C	46:LYS	N	2.72
1	C	190:GLY	C	191:LYS	N	2.72
1	C	219:LEU	C	220:ARG	N	2.72
1	F	202:LEU	C	203:TRP	N	2.72
1	G	107:GLU	C	108:ARG	N	2.72
1	I	82:ARG	C	83:ASP	N	2.72
1	J	43:GLN	C	44:THR	N	2.72
1	L	53:LEU	C	54:LEU	N	2.72
1	L	89:TYR	C	90:ALA	N	2.72
1	N	7:LEU	C	8:GLU	N	2.72
1	N	39:ALA	C	40:ALA	N	2.72
1	P	70:THR	C	71:ALA	N	2.72
1	R	44:LEU	C	45:VAL	N	2.72
1	S	67:ALA	C	68:HIS	N	2.72
1	V	68:GLU	C	69:LEU	N	2.72
1	Z	8:GLY	C	9:LYS	N	2.72

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	a	14:HIS	C	15:VAL	N	2.72
1	f	16:TYR	C	17:GLN	N	2.72
1	k	13:GLU	C	14:LEU	N	2.72
1	m	89:TYR	C	90:ASN	N	2.72
1	1	634:C	O3'	635:G	P	2.71
1	1	1122:U	O3'	1123:U	P	2.71
1	1	1204:A	O3'	1205:A	P	2.71
1	1	1745:C	O3'	1746:U	P	2.71
1	1	1881:A	O3'	1882:G	P	2.71
1	1	2709:C	O3'	2710:C	P	2.71
1	1	2935:U	O3'	2936:A	P	2.71
1	1	2970:C	O3'	2971:A	P	2.71
1	4	27:U	O3'	28:C	P	2.71
1	A	34:TYR	C	35:ALA	N	2.71
1	A	47:GLN	C	48:ILE	N	2.71
1	B	244:ARG	C	245:GLY	N	2.71
1	C	119:ARG	C	120:TYR	N	2.71
1	C	256:THR	C	257:LYS	N	2.71
1	D	76:ALA	C	77:ALA	N	2.71
1	M	107:GLU	C	108:ARG	N	2.71
1	N	67:ARG	C	68:ARG	N	2.71
1	N	181:ASN	C	182:ASN	N	2.71
1	S	111:ALA	C	112:ALA	N	2.71
1	T	114:ALA	C	115:LYS	N	2.71
1	Y	11:ASP	C	12:ARG	N	2.71
1	Y	50:ILE	C	51:ARG	N	2.71
1	Z	116:LYS	C	117:ALA	N	2.71
1	a	54:GLY	C	55:LYS	N	2.71
1	f	64:ILE	C	65:ARG	N	2.71
1	i	59:ASP	C	60:LEU	N	2.71
1	p	76:ALA	C	77:ALA	N	2.71
1	1	321:C	O3'	322:U	P	2.70
1	1	768:C	O3'	769:G	P	2.70
1	1	836:A	O3'	837:A	P	2.70
1	1	1051:U	O3'	1052:U	P	2.70
1	1	1072:G	O3'	1073:U	P	2.70
1	1	1426:C	O3'	1427:U	P	2.70
1	4	33:A	O3'	34:U	P	2.70
1	A	211:HIS	C	212:GLY	N	2.70
1	A	218:HIS	C	219:ILE	N	2.70
1	C	274:TYR	C	275:THR	N	2.70
1	E	140:VAL	C	141:VAL	N	2.70

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	165:LEU	C	166:LYS	N	2.70
1	F	190:THR	C	191:VAL	N	2.70
1	J	52:TYR	C	53:THR	N	2.70
1	J	165:GLN	C	166:LYS	N	2.70
1	S	10:ILE	C	11:GLY	N	2.70
1	S	16:THR	C	17:GLU	N	2.70
1	Y	18:ALA	C	19:TYR	N	2.70
1	a	63:LYS	C	64:GLN	N	2.70
1	c	24:THR	C	25:LEU	N	2.70
1	c	73:GLY	C	74:ASN	N	2.70
1	h	74:LYS	C	75:TYR	N	2.70
1	p	23:ARG	C	24:ARG	N	2.70
1	1	826:G	O3'	827:A	P	2.69
1	1	1159:A	O3'	1160:C	P	2.69
1	4	91:C	O3'	92:A	P	2.69
1	A	13:GLY	C	14:SER	N	2.69
1	D	34:LYS	C	35:ARG	N	2.69
1	D	236:LEU	C	237:GLU	N	2.69
1	J	110:ILE	C	111:ASP	N	2.69
1	R	76:SER	C	77:GLY	N	2.69
1	R	84:THR	C	85:ARG	N	2.69
1	S	75:PHE	C	76:GLY	N	2.69
1	S	102:ALA	C	103:VAL	N	2.69
1	V	125:LEU	C	126:TRP	N	2.69
1	Z	45:GLY	C	46:ILE	N	2.69
1	Z	68:ILE	C	69:LYS	N	2.69
1	a	45:MET	C	46:ASP	N	2.69
1	i	55:ARG	C	56:ARG	N	2.69
1	p	64:VAL	C	65:ALA	N	2.69
1	1	36:C	O3'	37:U	P	2.68
1	1	2184:U	O3'	2185:G	P	2.68
1	1	2372:A	O3'	2373:A	P	2.68
1	1	2419:A	O3'	2420:C	P	2.68
1	1	2609:A	O3'	2610:G	P	2.68
1	1	2676:A	O3'	2677:G	P	2.68
1	1	2853:A	O3'	2854:U	P	2.68
1	1	3314:A	O3'	3315:G	P	2.68
1	A	37:ARG	C	38:HIS	N	2.68
1	A	197:PRO	C	198:LYS	N	2.68
1	B	4:ARG	C	5:LYS	N	2.68
1	B	178:LEU	C	179:ALA	N	2.68
1	B	206:ASP	C	207:SER	N	2.68

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	166:VAL	C	167:ALA	N	2.68
1	F	186:HIS	C	187:GLU	N	2.68
1	I	64:ALA	C	65:LEU	N	2.68
1	I	65:LEU	C	66:GLU	N	2.68
1	N	170:LYS	C	171:SER	N	2.68
1	R	51:VAL	C	52:LYS	N	2.68
1	S	62:ASN	C	63:GLN	N	2.68
1	S	65:ASN	C	66:GLU	N	2.68
1	T	156:TYR	C	157:GLU	N	2.68
1	V	36:ILE	C	37:ILE	N	2.68
1	V	51:ALA	C	52:ALA	N	2.68
1	X	99:VAL	C	100:LYS	N	2.68
1	b	3:LYS	C	4:SER	N	2.68
1	c	31:VAL	C	32:LYS	N	2.68
1	f	82:ARG	C	83:ALA	N	2.68
1	1	280:U	O3'	281:G	P	2.67
1	1	318:A	O3'	319:A	P	2.67
1	1	974:G	O3'	975:C	P	2.67
1	1	982:C	O3'	983:A	P	2.67
1	1	1197:A	O3'	1198:C	P	2.67
1	1	1804:A	O3'	1805:C	P	2.67
1	1	3274:A	O3'	3275:U	P	2.67
1	B	207:SER	C	208:VAL	N	2.67
1	C	196:ASN	C	197:ARG	N	2.67
1	C	237:GLN	C	238:LEU	N	2.67
1	D	244:HIS	C	245:GLU	N	2.67
1	F	113:SER	C	114:GLY	N	2.67
1	G	187:GLY	C	188:THR	N	2.67
1	I	19:LYS	C	20:SER	N	2.67
1	I	125:LEU	C	126:ALA	N	2.67
1	L	4:SER	C	5:LYS	N	2.67
1	M	83:LYS	C	84:LYS	N	2.67
1	T	109:VAL	C	110:LYS	N	2.67
1	g	53:GLY	C	54:ILE	N	2.67
1	h	46:THR	C	47:VAL	N	2.67
1	t	12:HIS	C	13:VAL	N	2.67
1	1	1629:U	O3'	1630:U	P	2.66
1	1	2952:G	O3'	2953:U	P	2.66
1	1	3327:G	O3'	3328:G	P	2.66
1	G	225:LYS	C	226:TYR	N	2.66
1	L	113:VAL	C	114:GLN	N	2.66
1	M	120:VAL	C	121:MET	N	2.66

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	63:ARG	C	64:VAL	N	2.66
1	P	102:ALA	C	103:GLU	N	2.66
1	T	39:ILE	C	40:VAL	N	2.66
1	V	72:LYS	C	73:VAL	N	2.66
1	b	8:THR	C	9:ALA	N	2.66
1	f	83:ALA	C	84:THR	N	2.66
1	i	19:SER	C	20:MET	N	2.66
1	o	5:PRO	C	6:LYS	N	2.66
1	1	34:A	O3'	35:A	P	2.65
1	1	326:U	O3'	327:A	P	2.65
1	1	394:G	O3'	395:A	P	2.65
1	1	1484:U	O3'	1485:G	P	2.65
1	1	1743:G	O3'	1744:G	P	2.65
1	1	1935:G	O3'	1936:A	P	2.65
1	1	2397:A	O3'	2398:A	P	2.65
1	1	2524:A	O3'	2525:G	P	2.65
1	1	2684:C	O3'	2685:C	P	2.65
1	1	3051:U	O3'	3052:G	P	2.65
1	1	3307:A	O3'	3308:C	P	2.65
1	A	20:THR	C	21:ARG	N	2.65
1	A	77:ILE	C	78:ALA	N	2.65
1	D	25:GLU	C	26:GLY	N	2.65
1	D	36:LEU	C	37:VAL	N	2.65
1	F	232:ARG	C	233:GLU	N	2.65
1	G	88:ALA	C	89:GLU	N	2.65
1	H	23:ARG	C	24:ILE	N	2.65
1	L	181:GLY	C	182:ILE	N	2.65
1	M	60:LEU	C	61:GLY	N	2.65
1	N	94:TYR	C	95:GLN	N	2.65
1	P	56:ARG	C	57:ALA	N	2.65
1	R	115:ILE	C	116:ASP	N	2.65
1	Y	60:ARG	C	61:GLY	N	2.65
1	d	27:LYS	C	28:ARG	N	2.65
1	f	51:TYR	C	52:VAL	N	2.65
1	h	14:LYS	C	15:GLU	N	2.65
1	m	80:PRO	C	81:SER	N	2.65
1	1	199:A	O3'	200:C	P	2.64
1	1	1598:G	O3'	1599:G	P	2.64
1	1	2923:U	O3'	2924:U	P	2.64
1	A	36:GLU	C	37:ARG	N	2.64
1	A	244:GLY	C	245:LEU	N	2.64
1	C	63:GLU	C	64:SER	N	2.64

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	177:GLU	C	178:ASN	N	2.64
1	E	163:PHE	C	164:SER	N	2.64
1	H	174:LYS	C	175:PHE	N	2.64
1	L	22:VAL	C	23:LYS	N	2.64
1	Q	23:ASN	C	24:VAL	N	2.64
1	S	30:PHE	C	31:ALA	N	2.64
1	U	33:TYR	C	34:ALA	N	2.64
1	c	34:LEU	C	35:ARG	N	2.64
1	g	86:LYS	C	87:GLU	N	2.64
1	i	47:ILE	C	48:ALA	N	2.64
1	m	82:LEU	C	83:LYS	N	2.64
1	1	607:A	O3'	608:A	P	2.63
1	1	932:U	O3'	933:A	P	2.63
1	1	1297:C	O3'	1298:C	P	2.63
1	1	1687:U	O3'	1688:U	P	2.63
1	1	1871:U	O3'	1872:C	P	2.63
1	1	1930:A	O3'	1931:U	P	2.63
1	1	2238:G	O3'	2239:G	P	2.63
1	1	2430:A	O3'	2431:C	P	2.63
1	1	2991:A	O3'	2992:U	P	2.63
1	3	94:C	O3'	95:A	P	2.63
1	A	95:SER	C	96:LEU	N	2.63
1	F	230:GLY	C	231:ASN	N	2.63
1	G	192:GLN	C	193:LYS	N	2.63
1	P	141:SER	C	142:SER	N	2.63
1	Q	106:PHE	C	107:THR	N	2.63
1	S	40:ARG	C	41:TYR	N	2.63
1	V	10:LYS	C	11:PHE	N	2.63
1	X	45:LYS	C	46:TYR	N	2.63
1	X	135:ILE	C	136:ALA	N	2.63
1	f	88:ASN	C	89:LEU	N	2.63
1	g	31:ARG	C	32:ALA	N	2.63
1	g	56:THR	C	57:LEU	N	2.63
1	k	55:VAL	C	56:ILE	N	2.63
1	1	2840:C	O3'	2841:G	P	2.62
1	1	3181:C	O3'	3182:G	P	2.62
1	B	282:ILE	C	283:TYR	N	2.62
1	G	60:ARG	C	61:GLN	N	2.62
1	I	33:ILE	C	34:TYR	N	2.62
1	N	85:THR	C	86:ASN	N	2.62
1	P	21:TYR	C	22:LEU	N	2.62
1	P	84:PRO	C	85:ALA	N	2.62

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	174:GLY	C	175:ARG	N	2.62
1	Q	184:PHE	C	185:LYS	N	2.62
1	T	96:ILE	C	97:LYS	N	2.62
1	U	79:LEU	C	80:THR	N	2.62
1	Z	114:VAL	C	115:LYS	N	2.62
1	b	19:ASN	C	20:GLY	N	2.62
1	k	40:GLN	C	41:THR	N	2.62
1	1	96:G	O3'	97:U	P	2.61
1	1	516:A	O3'	517:G	P	2.61
1	1	1049:C	O3'	1050:U	P	2.61
1	1	1492:G	O3'	1493:G	P	2.61
1	1	1644:C	O3'	1645:U	P	2.61
1	1	2224:A	O3'	2225:U	P	2.61
1	B	209:PHE	C	210:GLU	N	2.61
1	E	61:ASN	C	62:THR	N	2.61
1	E	90:LYS	C	91:VAL	N	2.61
1	G	32:LYS	C	33:ASN	N	2.61
1	L	93:ILE	C	94:GLY	N	2.61
1	M	130:THR	C	131:VAL	N	2.61
1	P	97:ASN	C	98:ALA	N	2.61
1	R	61:SER	C	62:ARG	N	2.61
1	T	129:LYS	C	130:ARG	N	2.61
1	X	31:THR	C	32:PHE	N	2.61
1	d	76:SER	C	77:ARG	N	2.61
1	f	6:ARG	C	7:LEU	N	2.61
1	k	42:LYS	C	43:PHE	N	2.61
1	1	770:G	O3'	771:A	P	2.60
1	1	2109:U	O3'	2110:G	P	2.60
1	B	75:ALA	C	76:VAL	N	2.60
1	C	51:ALA	C	52:VAL	N	2.60
1	C	163:LYS	C	164:GLU	N	2.60
1	D	260:PHE	C	261:THR	N	2.60
1	G	143:ILE	C	144:GLU	N	2.60
1	I	48:LEU	C	49:CYS	N	2.60
1	L	78:ALA	C	79:GLU	N	2.60
1	S	56:GLY	C	57:GLU	N	2.60
1	Y	21:THR	C	22:ALA	N	2.60
1	Y	103:LYS	C	104:LEU	N	2.60
1	a	32:ARG	C	33:GLY	N	2.60
1	f	40:ASP	C	41:ALA	N	2.60
1	f	99:ARG	C	100:ILE	N	2.60
1	g	48:GLY	C	49:SER	N	2.60

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	g	72:VAL	C	73:SER	N	2.60
1	g	103:LYS	C	104:VAL	N	2.60
1	l	4:GLN	C	5:LYS	N	2.60
1	1	664:U	O3'	665:A	P	2.59
1	1	2166:A	O3'	2167:A	P	2.59
1	1	2175:U	O3'	2176:U	P	2.59
1	3	54:U	O3'	55:A	P	2.59
1	A	45:VAL	C	46:LYS	N	2.59
1	D	78:ALA	C	79:TYR	N	2.59
1	H	85:GLY	C	86:TYR	N	2.59
1	I	66:GLU	C	67:ALA	N	2.59
1	M	75:GLY	C	76:ALA	N	2.59
1	M	94:TRP	C	95:ALA	N	2.59
1	N	84:PRO	C	85:THR	N	2.59
1	P	18:ARG	C	19:GLY	N	2.59
1	R	8:LYS	C	9:ARG	N	2.59
1	T	153:PRO	C	154:VAL	N	2.59
1	Y	37:LYS	C	38:GLU	N	2.59
1	e	68:PRO	C	69:SER	N	2.59
1	g	50:ALA	C	51:LEU	N	2.59
1	i	61:ILE	C	62:ARG	N	2.59
1	1	110:G	O3'	111:C	P	2.58
1	1	948:C	O3'	949:C	P	2.58
1	1	985:U	O3'	986:U	P	2.58
1	1	1054:A	O3'	1055:A	P	2.58
1	1	1347:U	O3'	1348:U	P	2.58
1	1	1710:C	O3'	1711:C	P	2.58
1	1	1868:G	O3'	1869:C	P	2.58
1	1	2817:A	O3'	2818:U	P	2.58
1	1	2947:G	O3'	2948:C	P	2.58
1	1	3240:C	O3'	3241:G	P	2.58
1	3	79:A	O3'	80:G	P	2.58
1	A	24:GLN	C	25:GLY	N	2.58
1	A	57:PRO	C	58:LEU	N	2.58
1	F	219:LYS	C	220:PHE	N	2.58
1	F	227:GLY	C	228:SER	N	2.58
1	H	18:VAL	C	19:SER	N	2.58
1	H	89:LYS	C	90:MET	N	2.58
1	M	55:ARG	C	56:GLN	N	2.58
1	M	78:THR	C	79:ALA	N	2.58
1	N	35:VAL	C	36:ILE	N	2.58
1	N	71:ARG	C	72:LYS	N	2.58

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	80:LYS	C	81:ALA	N	2.58
1	Q	3:ILE	C	4:ASP	N	2.58
1	T	93:VAL	C	94:GLU	N	2.58
1	X	60:TYR	C	61:LYS	N	2.58
1	e	57:TYR	C	58:GLY	N	2.58
1	j	46:SER	C	47:TYR	N	2.58
1	1	372:A	O3'	373:A	P	2.57
1	1	1057:A	O3'	1058:U	P	2.57
1	1	1424:C	O3'	1425:U	P	2.57
1	1	1444:G	O3'	1445:U	P	2.57
1	1	1468:A	O3'	1469:C	P	2.57
1	1	2365:C	O3'	2366:C	P	2.57
1	1	2902:A	O3'	2903:A	P	2.57
1	A	46:LYS	C	47:GLN	N	2.57
1	B	254:ALA	C	255:TRP	N	2.57
1	D	272:TYR	C	273:ARG	N	2.57
1	H	68:LEU	C	69:ARG	N	2.57
1	I	118:ALA	C	119:TRP	N	2.57
1	J	140:ARG	C	141:ARG	N	2.57
1	L	169:THR	C	170:LEU	N	2.57
1	M	24:LYS	C	25:LYS	N	2.57
1	Q	14:GLY	C	15:HIS	N	2.57
1	R	38:ARG	C	39:ASN	N	2.57
1	Y	31:LEU	C	32:SER	N	2.57
1	f	50:ALA	C	51:TYR	N	2.57
1	h	66:VAL	C	67:ARG	N	2.57
1	h	85:THR	C	86:ARG	N	2.57
1	1	356:C	O3'	357:A	P	2.56
1	1	1157:G	O3'	1158:A	P	2.56
1	1	1601:U	O3'	1602:A	P	2.56
1	1	1885:U	O3'	1886:A	P	2.56
1	1	2982:A	O3'	2983:C	P	2.56
1	1	3098:G	O3'	3099:C	P	2.56
1	A	137:ILE	C	138:GLY	N	2.56
1	B	98:GLY	C	99:LEU	N	2.56
1	C	57:GLY	C	58:HIS	N	2.56
1	C	184:SER	C	185:LYS	N	2.56
1	D	8:LYS	C	9:SER	N	2.56
1	H	154:VAL	C	155:SER	N	2.56
1	L	13:HIS	C	14:PHE	N	2.56
1	N	96:ARG	C	97:SER	N	2.56
1	Q	35:PHE	C	36:LEU	N	2.56

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S	18:SER	C	19:VAL	N	2.56
1	S	105:THR	C	106:LEU	N	2.56
1	V	33:ASN	C	34:LEU	N	2.56
1	Z	12:VAL	C	13:VAL	N	2.56
1	e	100:ILE	C	101:SER	N	2.56
1	f	29:LEU	C	30:ILE	N	2.56
1	h	45:LYS	C	46:THR	N	2.56
1	1	124:U	O3'	125:C	P	2.55
1	1	706:A	O3'	707:U	P	2.55
1	1	790:U	O3'	791:A	P	2.55
1	1	859:G	O3'	860:G	P	2.55
1	1	1614:C	O3'	1615:C	P	2.55
1	1	2768:U	O3'	2769:A	P	2.55
1	A	169:ILE	C	170:ALA	N	2.55
1	B	196:ARG	C	197:GLU	N	2.55
1	C	33:ASP	C	34:ILE	N	2.55
1	C	105:THR	C	106:TRP	N	2.55
1	D	284:ALA	C	285:ARG	N	2.55
1	F	104:GLN	C	105:LEU	N	2.55
1	M	32:LEU	C	33:ALA	N	2.55
1	P	139:TYR	C	140:GLU	N	2.55
1	R	41:ILE	C	42:ARG	N	2.55
1	R	78:TYR	C	79:GLY	N	2.55
1	R	90:PRO	C	91:SER	N	2.55
1	T	63:VAL	C	64:VAL	N	2.55
1	T	119:ALA	C	120:LYS	N	2.55
1	Y	51:ARG	C	52:ARG	N	2.55
1	p	53:GLY	C	54:ILE	N	2.55
1	1	212:G	O3'	213:A	P	2.54
1	1	395:A	O3'	396:A	P	2.54
1	1	901:G	O3'	902:G	P	2.54
1	1	946:U	O3'	947:G	P	2.54
1	1	1554:U	O3'	1555:U	P	2.54
1	1	1870:C	O3'	1871:U	P	2.54
1	4	88:A	O3'	89:A	P	2.54
1	4	139:U	O3'	140:G	P	2.54
1	A	18:SER	C	19:HIS	N	2.54
1	A	64:ARG	C	65:ASP	N	2.54
1	B	331:ASN	C	332:ARG	N	2.54
1	D	252:ALA	C	253:PHE	N	2.54
1	G	167:PRO	C	168:ALA	N	2.54
1	I	119:TRP	C	120:GLY	N	2.54

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	184:GLU	C	185:LYS	N	2.54
1	N	28:TRP	C	29:GLU	N	2.54
1	Y	34:PRO	C	35:LEU	N	2.54
1	e	17:PHE	C	18:LYS	N	2.54
1	1	1125:U	O3'	1126:G	P	2.53
1	1	2949:U	O3'	2950:G	P	2.53
1	C	86:GLY	C	87:GLN	N	2.53
1	D	247:ILE	C	248:ARG	N	2.53
1	I	40:LYS	C	41:ALA	N	2.53
1	Q	10:HIS	C	11:LYS	N	2.53
1	Q	82:VAL	C	83:VAL	N	2.53
1	T	46:GLY	C	47:SER	N	2.53
1	T	69:LYS	C	70:SER	N	2.53
1	W	49:ILE	C	50:ALA	N	2.53
1	Y	77:LYS	C	78:PHE	N	2.53
1	a	72:VAL	C	73:LEU	N	2.53
1	c	40:LYS	C	41:LEU	N	2.53
1	g	60:ARG	C	61:GLN	N	2.53
1	g	84:CYS	C	85:VAL	N	2.53
1	1	79:U	O3'	80:G	P	2.52
1	1	621:A	O3'	622:A	P	2.52
1	B	19:ARG	C	20:LYS	N	2.52
1	B	21:ARG	C	22:ALA	N	2.52
1	C	54:GLU	C	55:LYS	N	2.52
1	D	105:ILE	C	106:ALA	N	2.52
1	N	146:ALA	C	147:ARG	N	2.52
1	Q	179:ARG	C	180:ARG	N	2.52
1	S	83:SER	C	84:ARG	N	2.52
1	U	95:PHE	C	96:VAL	N	2.52
1	X	114:VAL	C	115:ARG	N	2.52
1	f	90:PRO	C	91:ALA	N	2.52
1	1	2389:C	O3'	2390:A	P	2.51
1	1	2651:G	O3'	2652:U	P	2.51
1	C	144:LYS	C	145:ILE	N	2.51
1	D	96:ALA	C	97:ALA	N	2.51
1	E	38:THR	C	39:VAL	N	2.51
1	G	92:LYS	C	93:LEU	N	2.51
1	G	138:HIS	C	139:VAL	N	2.51
1	H	78:MET	C	79:ILE	N	2.51
1	I	189:GLU	C	190:VAL	N	2.51
1	L	117:LYS	C	118:GLU	N	2.51
1	N	140:LYS	C	141:ALA	N	2.51

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	156:HIS	C	157:LYS	N	2.51
1	P	113:TYR	C	114:VAL	N	2.51
1	a	100:PRO	C	101:VAL	N	2.51
1	e	48:GLY	C	49:ASN	N	2.51
1	f	72:THR	C	73:ARG	N	2.51
1	h	79:ASP	C	80:LEU	N	2.51
1	i	49:GLY	C	50:LEU	N	2.51
1	1	2764:C	O3'	2765:C	P	2.50
1	1	2918:G	O3'	2919:A	P	2.50
1	A	44:ILE	C	45:VAL	N	2.50
1	A	58:LEU	C	59:ALA	N	2.50
1	A	121:GLY	C	122:ASP	N	2.50
1	C	215:ILE	C	216:VAL	N	2.50
1	D	63:GLN	C	64:ILE	N	2.50
1	G	171:LYS	C	172:LYS	N	2.50
1	L	97:VAL	C	98:ASP	N	2.50
1	N	159:ARG	C	160:GLU	N	2.50
1	e	43:ARG	C	44:ARG	N	2.50
1	e	99:ASN	C	100:ILE	N	2.50
1	f	79:GLY	C	80:VAL	N	2.50
1	g	10:ARG	C	11:ASN	N	2.50
1	i	76:ARG	C	77:LEU	N	2.50
1	o	70:LEU	C	71:ARG	N	2.50
1	1	350:C	O3'	351:A	P	2.49
1	1	364:G	O3'	365:A	P	2.49
1	1	883:A	O3'	884:A	P	2.49
1	1	1098:A	O3'	1099:A	P	2.49
1	1	1146:C	O3'	1147:G	P	2.49
1	1	1205:A	O3'	1206:G	P	2.49
1	1	1371:G	O3'	1372:C	P	2.49
1	1	1718:G	O3'	1719:G	P	2.49
1	1	1937:U	O3'	1938:U	P	2.49
1	B	13:HIS	C	14:LEU	N	2.49
1	B	130:PHE	C	131:THR	N	2.49
1	B	362:ALA	C	363:SER	N	2.49
1	Q	105:ARG	C	106:PHE	N	2.49
1	T	106:LEU	C	107:GLU	N	2.49
1	Y	55:GLU	C	56:VAL	N	2.49
1	a	39:HIS	C	40:HIS	N	2.49
1	e	45:ARG	C	46:PHE	N	2.49
1	f	69:GLY	C	70:LYS	N	2.49
1	j	26:SER	C	27:PHE	N	2.49

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	j	74:PHE	C	75:LYS	N	2.49
1	1	347:G	O3'	348:A	P	2.48
1	1	1449:A	O3'	1450:G	P	2.48
1	1	3270:U	O3'	3271:G	P	2.48
1	B	250:ALA	C	251:CYS	N	2.48
1	B	370:PHE	C	371:GLN	N	2.48
1	C	338:LYS	C	339:LEU	N	2.48
1	F	179:LEU	C	180:SER	N	2.48
1	H	51:GLN	C	52:LEU	N	2.48
1	I	174:THR	C	175:ASN	N	2.48
1	J	161:SER	C	162:TRP	N	2.48
1	M	106:ARG	C	107:GLU	N	2.48
1	N	187:ARG	C	188:ARG	N	2.48
1	P	20:SER	C	21:TYR	N	2.48
1	P	123:PRO	C	124:LYS	N	2.48
1	V	23:MET	C	24:ASN	N	2.48
1	W	41:LYS	C	42:GLN	N	2.48
1	d	77:ARG	C	78:LYS	N	2.48
1	p	26:VAL	C	27:LYS	N	2.48
1	1	265:A	O3'	266:A	P	2.47
1	1	1585:C	O3'	1586:G	P	2.47
1	1	2123:G	O3'	2124:G	P	2.47
1	1	2160:G	O3'	2161:G	P	2.47
1	1	2872:A	O3'	2873:U	P	2.47
1	1	3009:G	O3'	3010:U	P	2.47
1	1	3294:A	O3'	3295:A	P	2.47
1	B	223:GLY	C	224:HIS	N	2.47
1	B	280:HIS	C	281:LYS	N	2.47
1	C	82:THR	C	83:GLY	N	2.47
1	C	124:SER	C	125:ALA	N	2.47
1	C	299:ILE	C	300:ARG	N	2.47
1	F	210:PRO	C	211:SER	N	2.47
1	H	83:THR	C	84:LYS	N	2.47
1	H	142:ASP	C	143:GLU	N	2.47
1	O	197:LEU	C	198:GLY	N	2.47
1	P	99:ALA	C	100:ALA	N	2.47
1	S	9:VAL	C	10:ILE	N	2.47
1	W	35:LYS	C	36:SER	N	2.47
1	i	42:SER	C	43:LEU	N	2.47
1	1	1419:A	O3'	1420:C	P	2.46
1	1	2556:C	O3'	2557:A	P	2.46
1	1	2869:U	O3'	2870:C	P	2.46

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	139:VAL	C	140:VAL	N	2.46
1	I	132:GLY	C	133:GLN	N	2.46
1	U	32:SER	C	33:TYR	N	2.46
1	Y	35:LEU	C	36:SER	N	2.46
1	k	45:VAL	C	46:ARG	N	2.46
1	1	90:C	O3'	91:G	P	2.45
1	1	315:C	O3'	316:U	P	2.45
1	1	691:A	O3'	692:A	P	2.45
1	1	1312:C	O3'	1313:G	P	2.45
1	C	71:VAL	C	72:ALA	N	2.45
1	C	151:VAL	C	152:VAL	N	2.45
1	D	84:PRO	C	85:ARG	N	2.45
1	E	101:PHE	C	102:ASN	N	2.45
1	F	180:SER	C	181:ILE	N	2.45
1	L	174:ARG	C	175:SER	N	2.45
1	N	90:ASN	C	91:GLU	N	2.45
1	P	66:SER	C	67:ILE	N	2.45
1	Q	25:TYR	C	26:LEU	N	2.45
1	T	4:SER	C	5:HIS	N	2.45
1	T	11:THR	C	12:ARG	N	2.45
1	W	56:ARG	C	57:LYS	N	2.45
1	X	56:ARG	C	57:LEU	N	2.45
1	c	91:SER	C	92:ILE	N	2.45
1	d	30:PRO	C	31:ARG	N	2.45
1	m	105:PRO	C	106:ARG	N	2.45
1	m	115:CYS	C	116:GLY	N	2.45
1	m	121:LEU	C	122:ARG	N	2.45
1	1	818:C	O3'	819:U	P	2.44
1	1	2713:U	O3'	2714:G	P	2.44
1	1	2824:G	O3'	2825:C	P	2.44
1	1	3144:G	O3'	3145:C	P	2.44
1	4	23:U	O3'	24:G	P	2.44
1	B	317:ILE	C	318:LYS	N	2.44
1	L	172:LEU	C	173:ALA	N	2.44
1	P	91:VAL	C	92:GLN	N	2.44
1	Q	22:ASP	C	23:ASN	N	2.44
1	Z	25:ILE	C	26:VAL	N	2.44
1	a	131:SER	C	132:LYS	N	2.44
1	f	44:TYR	C	45:LEU	N	2.44
1	h	93:THR	C	94:LYS	N	2.44
1	1	399:A	O3'	400:G	P	2.43
1	1	595:G	O3'	596:C	P	2.43

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	3187:A	O3'	3188:G	P	2.43
1	3	48:U	O3'	49:G	P	2.43
1	B	267:ALA	C	268:GLY	N	2.43
1	C	120:TYR	C	121:ALA	N	2.43
1	C	286:VAL	C	287:THR	N	2.43
1	I	146:ASP	C	147:VAL	N	2.43
1	N	112:ASN	C	113:LEU	N	2.43
1	N	118:SER	C	119:TYR	N	2.43
1	R	40:ALA	C	41:ILE	N	2.43
1	R	93:VAL	C	94:VAL	N	2.43
1	a	122:PRO	C	123:VAL	N	2.43
1	e	22:SER	C	23:ASP	N	2.43
1	e	55:ILE	C	56:GLY	N	2.43
1	g	52:GLN	C	53:GLY	N	2.43
1	l	8:ARG	C	9:ILE	N	2.43
1	p	17:ARG	C	18:TYR	N	2.43
1	1	2162:U	O3'	2163:C	P	2.42
1	1	2336:U	O3'	2337:C	P	2.42
1	A	231:SER	C	232:GLY	N	2.42
1	C	116:ASN	C	117:GLU	N	2.42
1	C	359:LEU	C	360:LYS	N	2.42
1	F	93:ASN	C	94:LYS	N	2.42
1	F	184:LEU	C	185:ILE	N	2.42
1	T	79:MET	C	80:VAL	N	2.42
1	V	106:LYS	C	107:GLY	N	2.42
1	i	79:SER	C	80:PHE	N	2.42
1	1	156:G	O3'	157:A	P	2.41
1	1	729:C	O3'	730:C	P	2.41
1	1	2298:U	O3'	2299:A	P	2.41
1	1	3392:U	O3'	3393:U	P	2.41
1	A	181:LYS	C	182:ALA	N	2.41
1	J	151:SER	C	152:HIS	N	2.41
1	N	65:ARG	C	66:VAL	N	2.41
1	R	117:LYS	C	118:HIS	N	2.41
1	T	30:TYR	C	31:LEU	N	2.41
1	a	30:GLY	C	31:GLY	N	2.41
1	i	88:GLU	C	89:GLU	N	2.41
1	1	1676:A	O3'	1677:G	P	2.40
1	1	2757:U	O3'	2758:A	P	2.40
1	D	216:GLU	C	217:GLU	N	2.40
1	F	134:VAL	C	135:ALA	N	2.40
1	G	152:LEU	C	153:ILE	N	2.40

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	I	135:ILE	C	136:PHE	N	2.40
1	I	196:PHE	C	197:VAL	N	2.40
1	L	69:VAL	C	70:ARG	N	2.40
1	L	72:GLY	C	73:ARG	N	2.40
1	Q	43:PRO	C	44:PHE	N	2.40
1	a	17:ALA	C	18:GLY	N	2.40
1	d	23:VAL	C	24:SER	N	2.40
1	d	74:ARG	C	75:ILE	N	2.40
1	l	11:GLN	C	12:LYS	N	2.40
1	p	67:GLY	C	68:ALA	N	2.40
1	1	720:A	O3'	721:G	P	2.39
1	1	993:G	O3'	994:G	P	2.39
1	1	1584:U	O3'	1585:C	P	2.39
1	1	2376:G	O3'	2377:G	P	2.39
1	F	62:ILE	C	63:ILE	N	2.39
1	H	45:PHE	C	46:THR	N	2.39
1	b	17:HIS	C	18:ARG	N	2.39
1	1	30:G	O3'	31:C	P	2.38
1	1	344:A	O3'	345:G	P	2.38
1	1	959:C	O3'	960:U	P	2.38
1	1	1313:G	O3'	1314:C	P	2.38
1	A	225:ILE	C	226:SER	N	2.38
1	C	330:TYR	C	331:ALA	N	2.38
1	F	85:PHE	C	86:VAL	N	2.38
1	G	160:ILE	C	161:GLU	N	2.38
1	L	123:ILE	C	124:ILE	N	2.38
1	N	31:ARG	C	32:GLN	N	2.38
1	N	127:TYR	C	128:LYS	N	2.38
1	N	182:ASN	C	183:THR	N	2.38
1	O	162:VAL	C	163:SER	N	2.38
1	Q	54:LEU	C	55:SER	N	2.38
1	Q	124:LEU	C	125:ASP	N	2.38
1	S	5:LYS	C	6:GLU	N	2.38
1	h	69:LEU	C	70:TYR	N	2.38
1	j	66:TYR	C	67:LEU	N	2.38
1	p	28:LYS	C	29:LEU	N	2.38
1	1	1437:C	O3'	1438:U	P	2.37
1	1	3136:G	O3'	3137:C	P	2.37
1	B	102:LEU	C	103:THR	N	2.37
1	B	212:ASN	C	213:GLU	N	2.37
1	G	67:ILE	C	68:ARG	N	2.37
1	I	90:ARG	C	91:VAL	N	2.37

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	120:ASN	C	121:GLN	N	2.37
1	R	10:LEU	C	11:ALA	N	2.37
1	S	80:ARG	C	81:TYR	N	2.37
1	W	13:ILE	C	14:TYR	N	2.37
1	W	52:THR	C	53:VAL	N	2.37
1	Z	79:HIS	C	80:LEU	N	2.37
1	a	9:ARG	C	10:LYS	N	2.37
1	a	40:HIS	C	41:HIS	N	2.37
1	g	32:ALA	C	33:GLN	N	2.37
1	l	41:ARG	C	42:ARG	N	2.37
1	1	606:C	O3'	607:A	P	2.36
1	1	3129:A	O3'	3130:A	P	2.36
1	4	45:C	O3'	46:G	P	2.36
1	B	333:LYS	C	334:ARG	N	2.36
1	C	44:LYS	C	45:ASN	N	2.36
1	D	37:VAL	C	38:THR	N	2.36
1	F	89:ILE	C	90:LYS	N	2.36
1	N	135:VAL	C	136:ASP	N	2.36
1	S	77:VAL	C	78:TRP	N	2.36
1	Y	70:ILE	C	71:SER	N	2.36
1	Z	127:ASN	C	128:GLN	N	2.36
1	a	78:LEU	C	79:TRP	N	2.36
1	d	28:ARG	C	29:ALA	N	2.36
1	e	26:HIS	C	27:ARG	N	2.36
1	h	44:ILE	C	45:LYS	N	2.36
1	m	94:SER	C	95:VAL	N	2.36
1	1	210:U	O3'	211:A	P	2.35
1	1	2641:U	O3'	2642:A	P	2.35
1	A	97:ASN	C	98:VAL	N	2.35
1	C	30:ILE	C	31:ARG	N	2.35
1	G	58:VAL	C	59:GLN	N	2.35
1	G	169:LEU	C	170:CYS	N	2.35
1	H	65:VAL	C	66:ALA	N	2.35
1	N	174:ILE	C	175:ASN	N	2.35
1	Q	67:ILE	C	68:ALA	N	2.35
1	R	81:ARG	C	82:LYS	N	2.35
1	T	87:LYS	C	88:ARG	N	2.35
1	W	38:SER	C	39:LEU	N	2.35
1	Z	37:PRO	C	38:PHE	N	2.35
1	a	104:THR	C	105:LEU	N	2.35
1	j	34:CYS	C	35:SER	N	2.35
1	o	54:THR	C	55:LYS	N	2.35

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	341:G	O3'	342:A	P	2.34
1	1	1111:U	O3'	1112:A	P	2.34
1	1	1913:A	O3'	1914:G	P	2.34
1	1	2325:G	O3'	2326:A	P	2.34
1	C	127:ALA	C	128:ALA	N	2.34
1	F	153:PHE	C	154:GLY	N	2.34
1	G	38:GLN	C	39:ALA	N	2.34
1	H	39:LYS	C	40:HIS	N	2.34
1	N	196:THR	C	197:LEU	N	2.34
1	Q	93:ILE	C	94:PHE	N	2.34
1	S	34:GLU	C	35:VAL	N	2.34
1	c	60:ALA	C	61:MET	N	2.34
1	d	21:HIS	C	22:GLY	N	2.34
1	d	57:GLN	C	58:ALA	N	2.34
1	e	108:ILE	C	109:LEU	N	2.34
1	i	73:ALA	C	74:LYS	N	2.34
1	1	1553:U	O3'	1554:U	P	2.33
1	1	1908:A	O3'	1909:A	P	2.33
1	1	2169:G	O3'	2170:U	P	2.33
1	1	2174:G	O3'	2175:U	P	2.33
1	1	2656:A	O3'	2657:A	P	2.33
1	C	121:ALA	C	122:THR	N	2.33
1	D	94:ASN	C	95:TRP	N	2.33
1	N	201:ARG	C	202:TYR	N	2.33
1	V	64:LYS	C	65:GLY	N	2.33
1	V	92:PHE	C	93:LEU	N	2.33
1	X	54:TYR	C	55:ASN	N	2.33
1	a	41:HIS	C	42:ARG	N	2.33
1	h	96:GLU	C	97:ALA	N	2.33
1	1	407:A	O3'	408:A	P	2.32
1	1	860:G	O3'	861:C	P	2.32
1	1	1747:G	O3'	1748:G	P	2.32
1	C	162:THR	C	163:LYS	N	2.32
1	H	163:GLN	C	164:ILE	N	2.32
1	P	49:GLU	C	50:GLN	N	2.32
1	X	64:GLU	C	65:GLN	N	2.32
1	d	32:ALA	C	33:VAL	N	2.32
1	d	70:ARG	C	71:LEU	N	2.32
1	f	31:LYS	C	32:ILE	N	2.32
1	f	85:PHE	C	86:ARG	N	2.32
1	C	89:ALA	C	90:PHE	N	2.31
1	N	114:ARG	C	115:VAL	N	2.31

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	59:PRO	C	60:PHE	N	2.31
1	Q	175:ALA	C	176:ARG	N	2.31
1	U	77:LYS	C	78:TYR	N	2.31
1	Z	130:PHE	C	131:PHE	N	2.31
1	1	29:C	O3'	30:G	P	2.30
1	1	934:G	O3'	935:U	P	2.30
1	1	3151:U	O3'	3152:U	P	2.30
1	B	86:VAL	C	87:VAL	N	2.30
1	C	49:ALA	C	50:TYR	N	2.30
1	G	165:PHE	C	166:LEU	N	2.30
1	M	45:LEU	C	46:ILE	N	2.30
1	V	53:SER	C	54:LEU	N	2.30
1	c	27:TYR	C	28:LYS	N	2.30
1	l	30:ARG	C	31:THR	N	2.30
1	4	37:A	O3'	38:U	P	2.29
1	4	60:U	O3'	61:A	P	2.29
1	A	215:ASN	C	216:HIS	N	2.29
1	F	135:ALA	C	136:TYR	N	2.29
1	g	85:VAL	C	86:LYS	N	2.29
1	j	64:MET	C	65:ARG	N	2.29
1	1	145:G	O3'	146:U	P	2.28
1	1	397:A	O3'	398:A	P	2.28
1	1	608:A	O3'	609:G	P	2.28
1	1	963:G	O3'	964:G	P	2.28
1	B	48:GLY	C	49:TYR	N	2.28
1	N	6:TYR	C	7:LEU	N	2.28
1	a	128:ARG	C	129:PHE	N	2.28
1	e	79:VAL	C	80:LYS	N	2.28
1	f	17:GLN	C	18:ARG	N	2.28
1	f	53:TYR	C	54:ARG	N	2.28
1	1	863:C	O3'	864:G	P	2.27
1	A	146:THR	C	147:ARG	N	2.27
1	A	180:LEU	C	181:LYS	N	2.27
1	B	89:VAL	C	90:VAL	N	2.27
1	F	133:TYR	C	134:VAL	N	2.27
1	G	42:PRO	C	43:LYS	N	2.27
1	G	54:GLU	C	55:TYR	N	2.27
1	O	3:VAL	C	4:GLU	N	2.27
1	S	141:LYS	C	142:GLN	N	2.27
1	V	46:LEU	C	47:ASN	N	2.27
1	e	32:TRP	C	33:ARG	N	2.27
1	h	115:LYS	C	116:TYR	N	2.27

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	j	22:CYS	C	23:GLY	N	2.27
1	1	1428:A	O3'	1429:G	P	2.26
1	1	3147:G	O3'	3148:U	P	2.26
1	A	60:LYS	C	61:VAL	N	2.26
1	C	113:VAL	C	114:ASN	N	2.26
1	Q	132:PRO	C	133:LYS	N	2.26
1	c	29:SER	C	30:THR	N	2.26
1	c	58:TYR	C	59:TYR	N	2.26
1	h	51:ILE	C	52:ALA	N	2.26
1	1	1796:G	O3'	1797:A	P	2.25
1	1	2717:U	O3'	2718:U	P	2.25
1	A	51:ASP	C	52:SER	N	2.25
1	A	99:GLY	C	100:ASN	N	2.25
1	B	191:LYS	C	192:VAL	N	2.25
1	B	336:VAL	C	337:THR	N	2.25
1	F	201:PHE	C	202:LEU	N	2.25
1	H	93:VAL	C	94:TYR	N	2.25
1	L	5:LYS	C	6:ASN	N	2.25
1	N	48:ALA	C	49:ARG	N	2.25
1	N	154:PRO	C	155:VAL	N	2.25
1	S	23:LYS	C	24:LEU	N	2.25
1	X	73:MET	C	74:LYS	N	2.25
1	X	101:GLU	C	102:LEU	N	2.25
1	1	85:A	O3'	86:G	P	2.24
1	1	376:G	O3'	377:A	P	2.24
1	1	2865:U	O3'	2866:U	P	2.24
1	1	3298:C	O3'	3299:A	P	2.24
1	B	77:THR	C	78:VAL	N	2.24
1	Z	74:VAL	C	75:VAL	N	2.24
1	1	12:A	O3'	13:A	P	2.23
1	1	362:U	O3'	363:G	P	2.23
1	1	1793:C	O3'	1794:G	P	2.23
1	1	2785:A	O3'	2786:G	P	2.23
1	1	2986:U	O3'	2987:A	P	2.23
1	A	189:TYR	C	190:ARG	N	2.23
1	C	235:LEU	C	236:LEU	N	2.23
1	C	254:ALA	C	255:PHE	N	2.23
1	F	208:SER	C	209:ASN	N	2.23
1	F	239:LEU	C	240:VAL	N	2.23
1	R	145:ALA	C	146:LYS	N	2.23
1	1	872:U	O3'	873:C	P	2.22
1	1	1376:C	O3'	1377:G	P	2.22

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	132:VAL	C	133:LYS	N	2.22
1	a	71:PRO	C	72:VAL	N	2.22
1	c	47:ASN	C	48:THR	N	2.22
1	o	42:ARG	C	43:TYR	N	2.22
1	1	217:U	O3'	218:G	P	2.21
1	1	1940:G	O3'	1941:C	P	2.21
1	3	10:C	O3'	11:A	P	2.21
1	F	204:PRO	C	205:PHE	N	2.21
1	W	46:PRO	C	47:ARG	N	2.21
1	a	43:ILE	C	44:ASN	N	2.21
1	f	71:VAL	C	72:THR	N	2.21
1	1	41:G	O3'	42:C	P	2.20
1	1	784:A	O3'	785:G	P	2.20
1	1	1469:C	O3'	1470:U	P	2.20
1	1	1708:C	O3'	1709:C	P	2.20
1	1	2361:A	O3'	2362:C	P	2.20
1	A	207:VAL	C	208:ASP	N	2.20
1	M	127:LYS	C	128:ARG	N	2.20
1	Q	47:VAL	C	48:VAL	N	2.20
1	Z	119:GLU	C	120:GLU	N	2.20
1	c	84:LEU	C	85:PHE	N	2.20
1	1	554:A	O3'	555:U	P	2.19
1	1	968:G	O3'	969:C	P	2.19
1	A	187:HIS	C	188:LYS	N	2.19
1	C	35:VAL	C	36:HIS	N	2.19
1	F	125:GLU	C	126:LEU	N	2.19
1	G	197:VAL	C	198:ALA	N	2.19
1	H	25:VAL	C	26:LYS	N	2.19
1	h	104:GLN	C	105:ARG	N	2.19
1	k	23:ALA	C	24:THR	N	2.19
1	1	1445:U	O3'	1446:A	P	2.18
1	C	208:VAL	C	209:TYR	N	2.18
1	Y	27:ARG	C	28:ARG	N	2.18
1	Y	58:VAL	C	59:VAL	N	2.18
1	l	7:PHE	C	8:ARG	N	2.18
1	1	920:A	O3'	921:A	P	2.17
1	1	2812:C	O3'	2813:A	P	2.17
1	4	137:C	O3'	138:A	P	2.17
1	V	100:GLY	C	101:VAL	N	2.17
1	1	1637:A	O3'	1638:A	P	2.16
1	L	21:ARG	C	22:VAL	N	2.16
1	N	37:HIS	C	38:ARG	N	2.16

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	132:VAL	C	133:ILE	N	2.16
1	P	146:ILE	C	147:GLU	N	2.16
1	Z	14:VAL	C	15:ARG	N	2.16
1	1	1162:U	O3'	1163:A	P	2.15
1	1	1390:A	O3'	1391:C	P	2.15
1	1	1403:C	O3'	1404:G	P	2.15
1	O	25:LYS	C	26:GLN	N	2.15
1	P	29:THR	C	30:ARG	N	2.15
1	V	14:SER	C	15:LEU	N	2.15
1	V	34:LEU	C	35:TYR	N	2.15
1	f	11:GLY	C	12:LYS	N	2.15
1	l	43:ASN	C	44:TRP	N	2.15
1	1	71:A	O3'	72:C	P	2.14
1	1	268:A	O3'	269:G	P	2.14
1	1	952:A	O3'	953:G	P	2.14
1	1	2282:U	O3'	2283:G	P	2.14
1	4	36:G	O3'	37:A	P	2.14
1	N	9:GLU	C	10:LEU	N	2.14
1	S	135:VAL	C	136:LYS	N	2.14
1	1	1101:G	O3'	1102:A	P	2.13
1	M	21:VAL	C	22:LEU	N	2.13
1	Q	140:LEU	C	141:ARG	N	2.13
1	R	98:ARG	C	99:LEU	N	2.13
1	S	123:ILE	C	124:LEU	N	2.13
1	T	84:TYR	C	85:LEU	N	2.13
1	j	8:PHE	C	9:GLY	N	2.13
1	A	10:LYS	C	11:GLY	N	2.12
1	C	112:LYS	C	113:VAL	N	2.12
1	C	261:VAL	C	262:TRP	N	2.12
1	D	19:PRO	C	20:PHE	N	2.12
1	1	1557:A	O3'	1558:A	P	2.11
1	B	84:VAL	C	85:VAL	N	2.11
1	B	249:VAL	C	250:ALA	N	2.11
1	B	275:ARG	C	276:THR	N	2.11
1	I	87:LEU	C	88:ARG	N	2.11
1	1	913:A	O3'	914:A	P	2.10
1	B	54:THR	C	55:THR	N	2.10
1	F	146:GLN	C	147:LEU	N	2.10
1	O	63:ALA	C	64:PHE	N	2.10
1	1	17:G	O3'	18:G	P	2.09
1	1	858:A	O3'	859:G	P	2.09
1	1	2965:U	O3'	2966:G	P	2.09

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	O	114:LYS	C	115:LYS	N	2.09
1	4	41:A	O3'	42:G	P	2.08
1	A	88:ILE	C	89:TYR	N	2.08
1	j	59:THR	C	60:GLY	N	2.08
1	o	40:LYS	C	41:ARG	N	2.07
1	1	1931:U	O3'	1932:A	P	2.06
1	1	2116:G	O3'	2117:A	P	2.05
1	j	54:LYS	C	55:ARG	N	2.05
1	F	144:ILE	C	145:ARG	N	2.04
1	1	47:C	O3'	48:A	P	2.03
1	A	40:TYR	C	41:ILE	N	2.03
1	R	132:PHE	C	133:LYS	N	2.03
1	S	64:ILE	C	65:ASN	N	2.03
1	X	94:GLN	C	95:ILE	N	2.03
1	1	2178:A	O3'	2179:C	P	2.00
1	L	57:VAL	C	58:VAL	N	2.00
1	k	51:LEU	C	52:TYR	N	2.00
1	I	95:HIS	C	96:VAL	N	1.97
1	1	2881:C	O3'	2882:U	P	1.95
1	O	171:LYS	C	172:ARG	N	1.94
1	1	2355:G	O3'	2356:A	P	1.87
1	O	189:ASP	C	190:VAL	N	1.84
1	O	80:PHE	C	81:TYR	N	1.82
1	O	167:TYR	C	168:TYR	N	1.79
1	O	128:ARG	C	129:LEU	N	1.71
1	O	190:VAL	C	191:ALA	N	1.67
1	O	90:HIS	C	91:LYS	N	1.65
1	O	115:LYS	C	116:LYS	N	1.64
1	O	72:HIS	C	73:PHE	N	1.63
1	O	49:ARG	C	50:ASN	N	1.61
1	O	177:LYS	C	178:VAL	N	1.18
1	O	16:VAL	C	17:GLY	N	1.00
1	O	193:GLN	C	194:LEU	N	0.98
1	O	153:VAL	C	154:ALA	N	0.89
1	O	74:ARG	C	75:ALA	N	0.80
1	O	67:THR	C	68:ARG	N	0.74
1	O	143:THR	C	144:SER	N	0.46

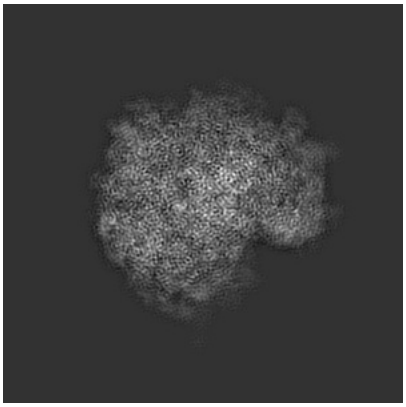
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-2599. These allow visual inspection of the internal detail of the map and identification of artifacts.

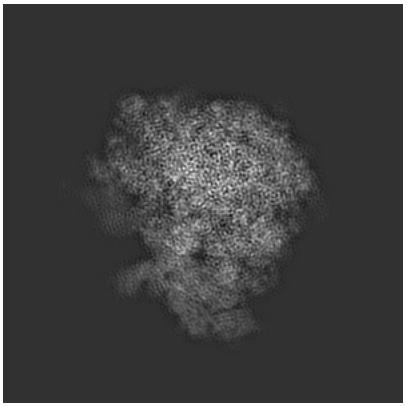
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

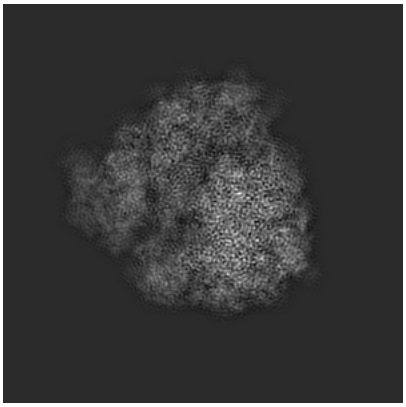
6.1.1 Primary map



X



Y

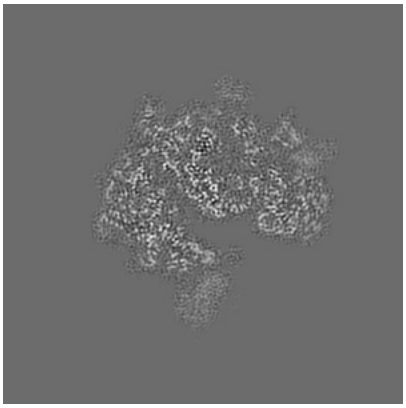


Z

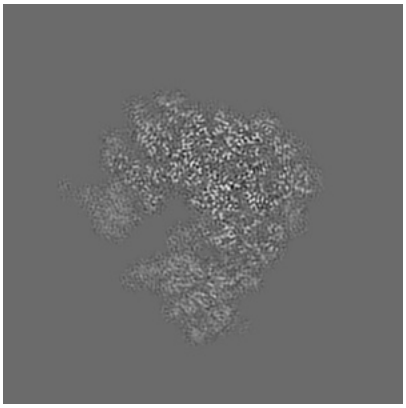
The images above show the map projected in three orthogonal directions.

6.2 Central slices

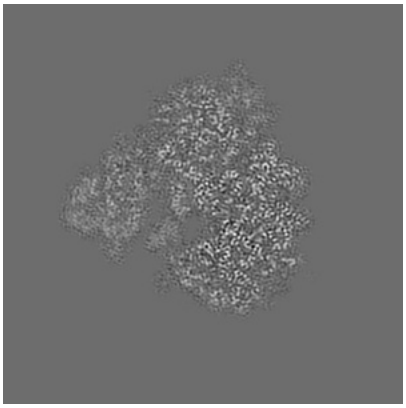
6.2.1 Primary map



X Index: 160



Y Index: 160

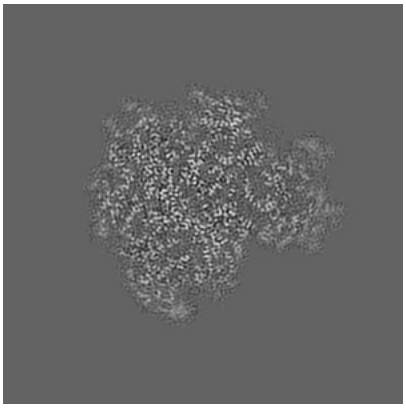


Z Index: 160

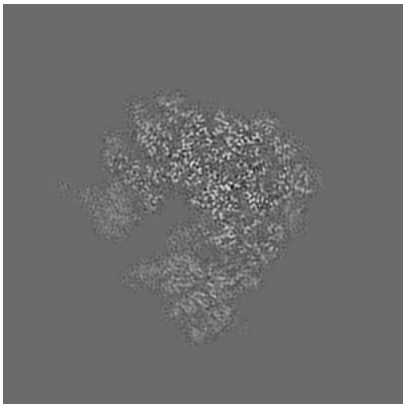
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

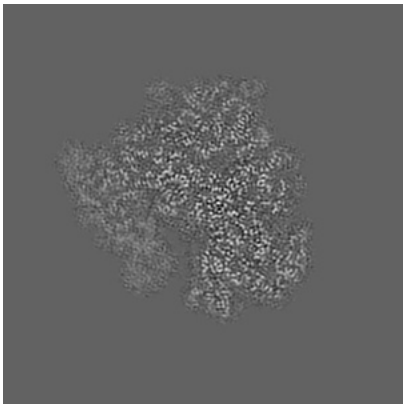
6.3.1 Primary map



X Index: 184



Y Index: 160

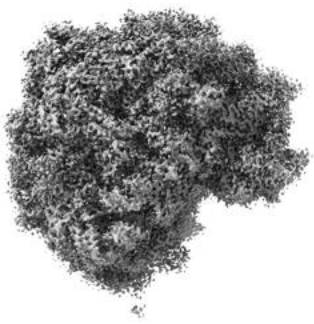


Z Index: 180

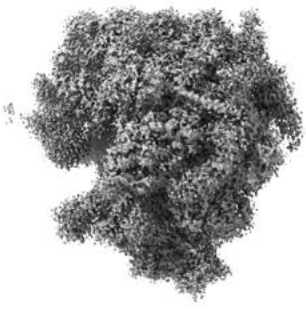
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

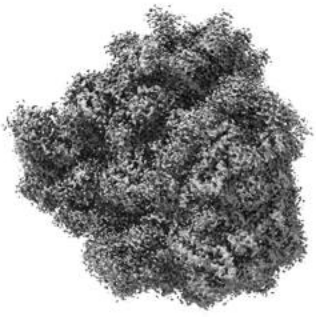
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

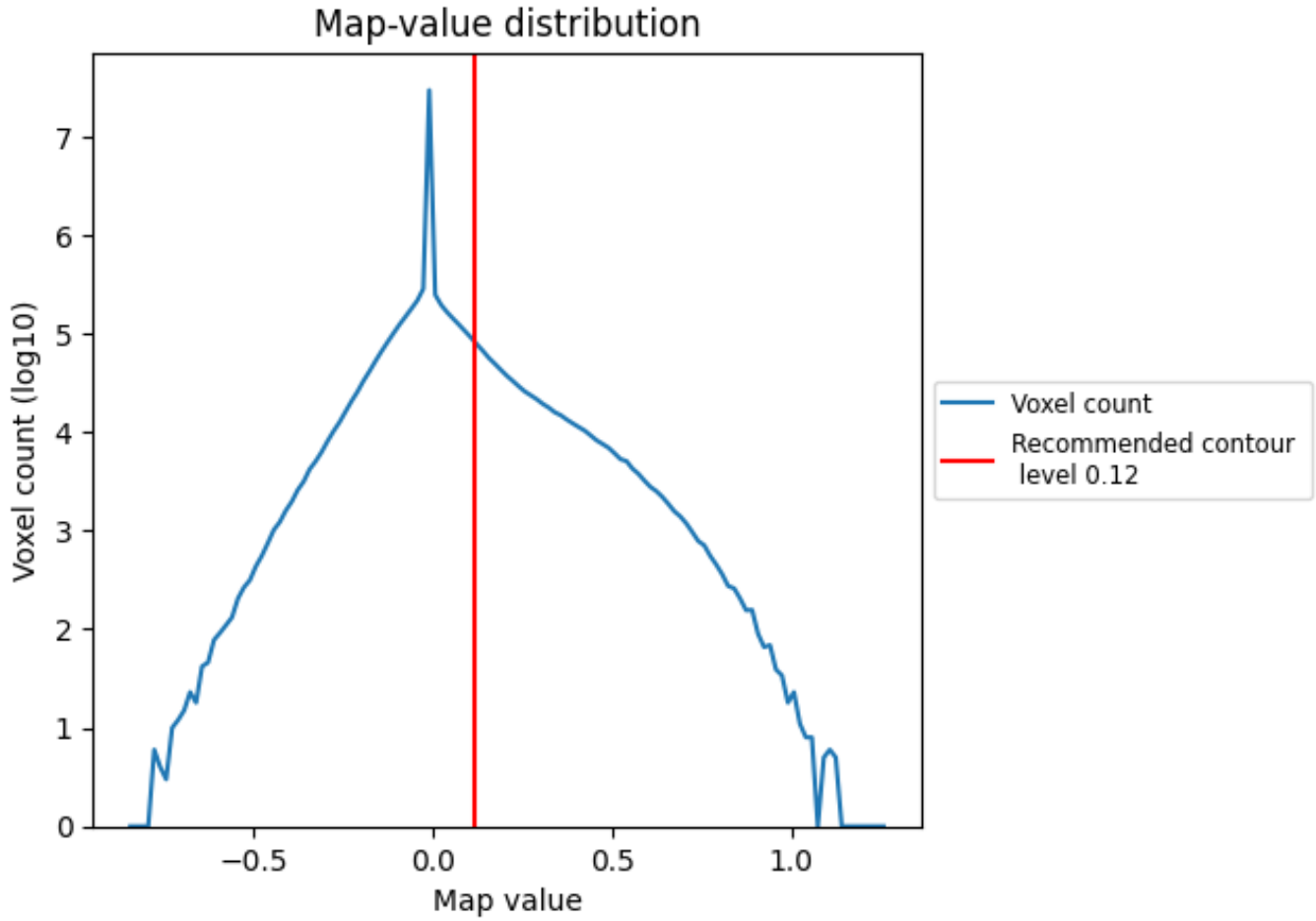
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

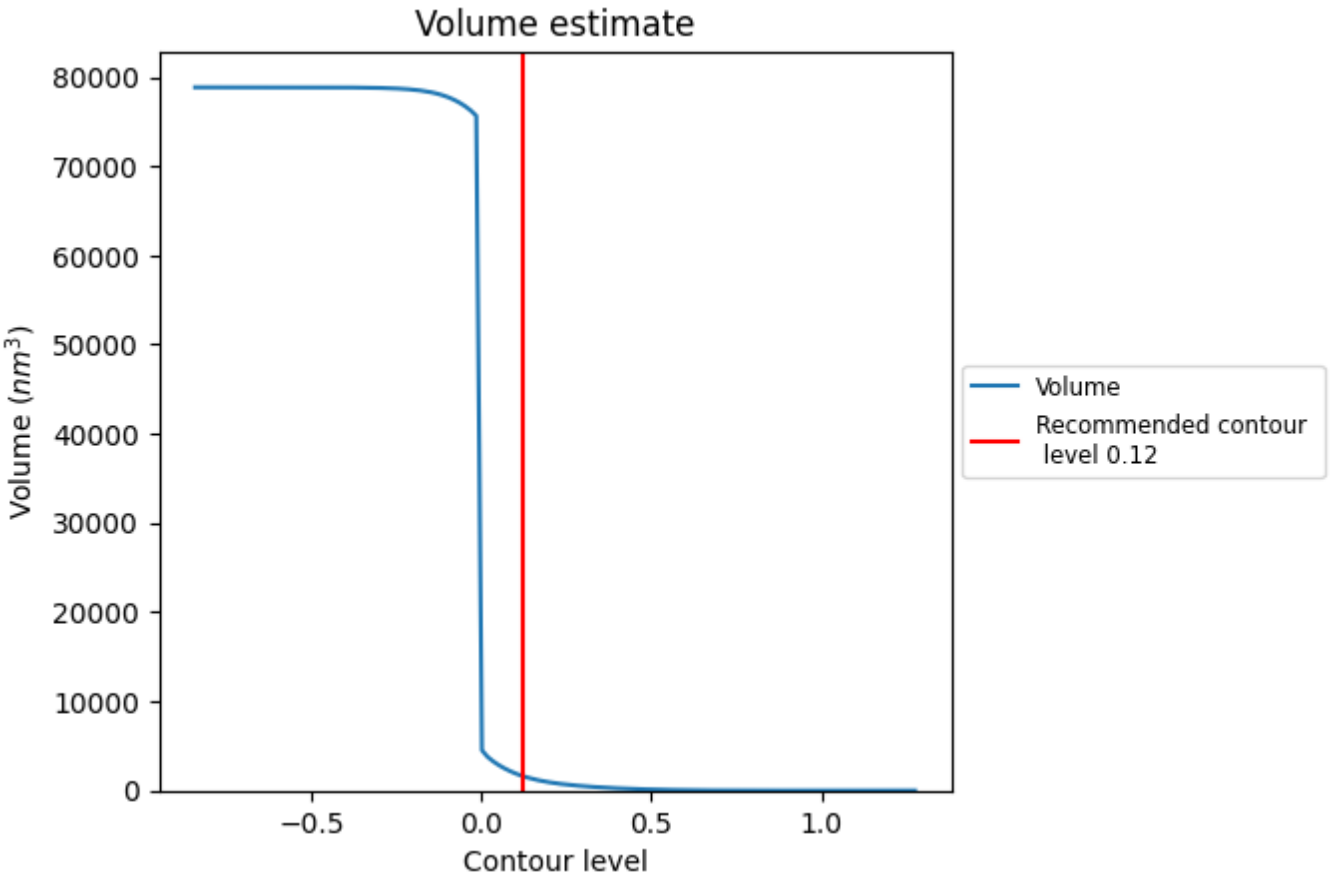
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

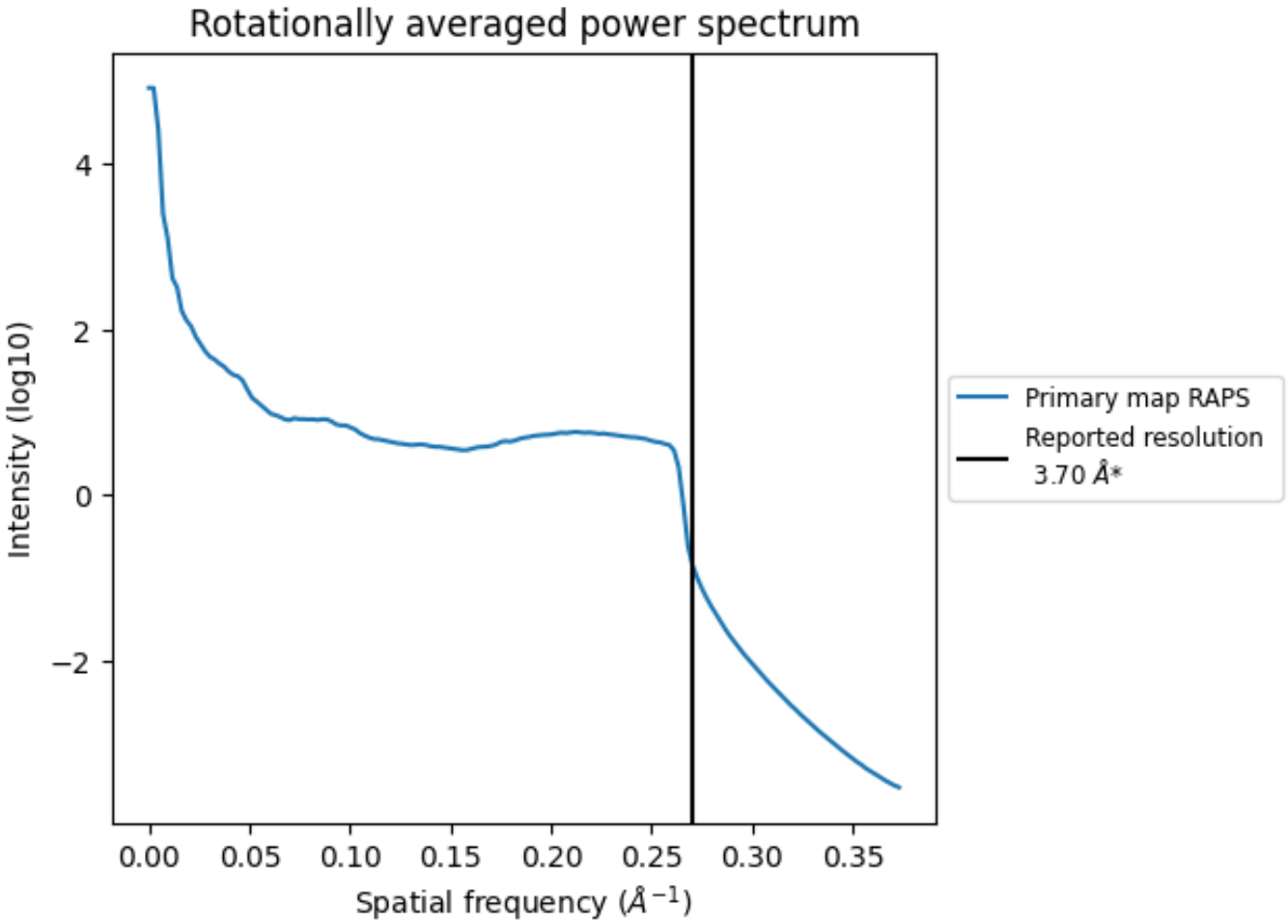
7.2 Volume estimate



The volume at the recommended contour level is 1648 nm^3; this corresponds to an approximate mass of 1489 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

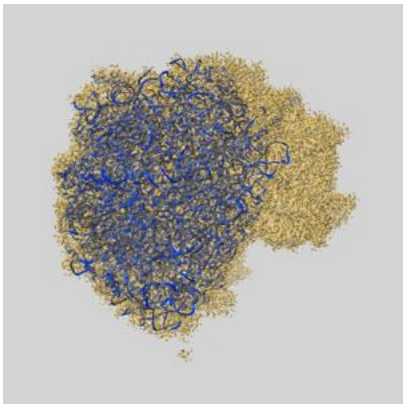
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

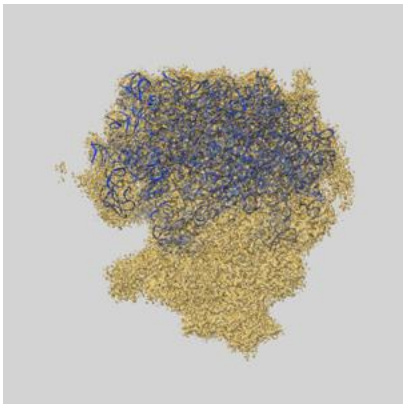
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-2599 and PDB model 4V91. Per-residue inclusion information can be found in section 3 on page 12.

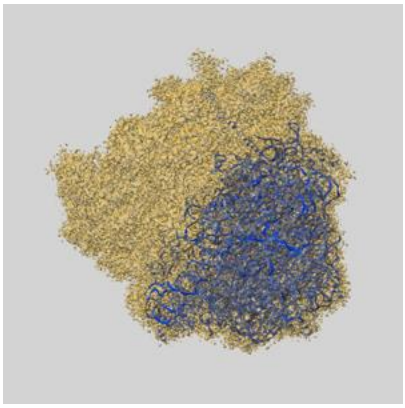
9.1 Map-model overlay



X



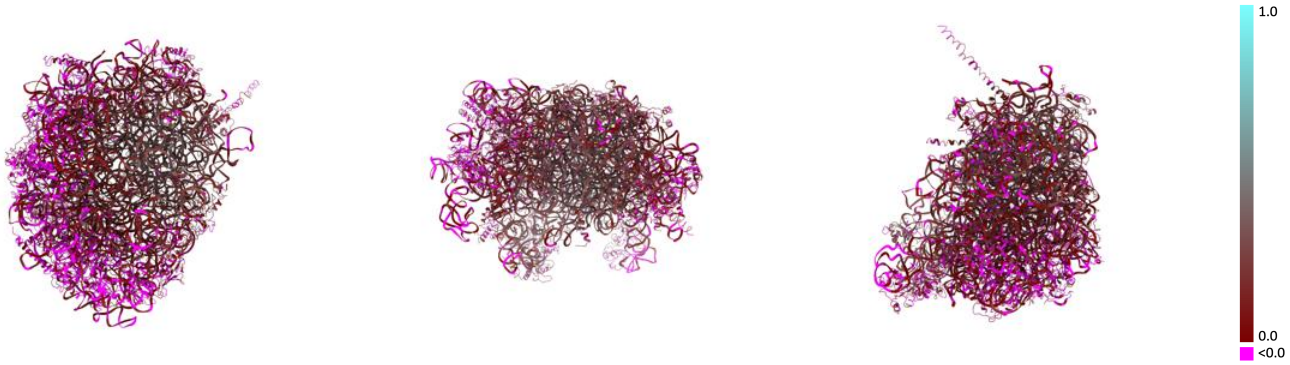
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

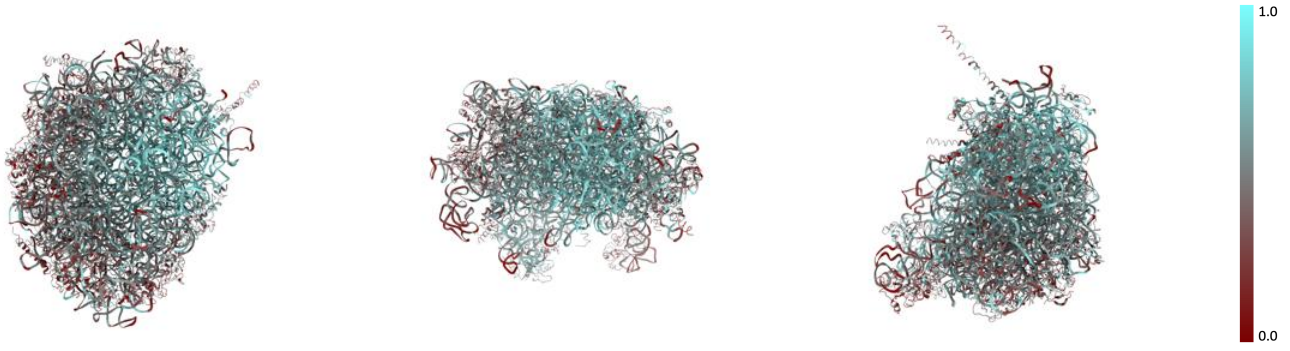
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

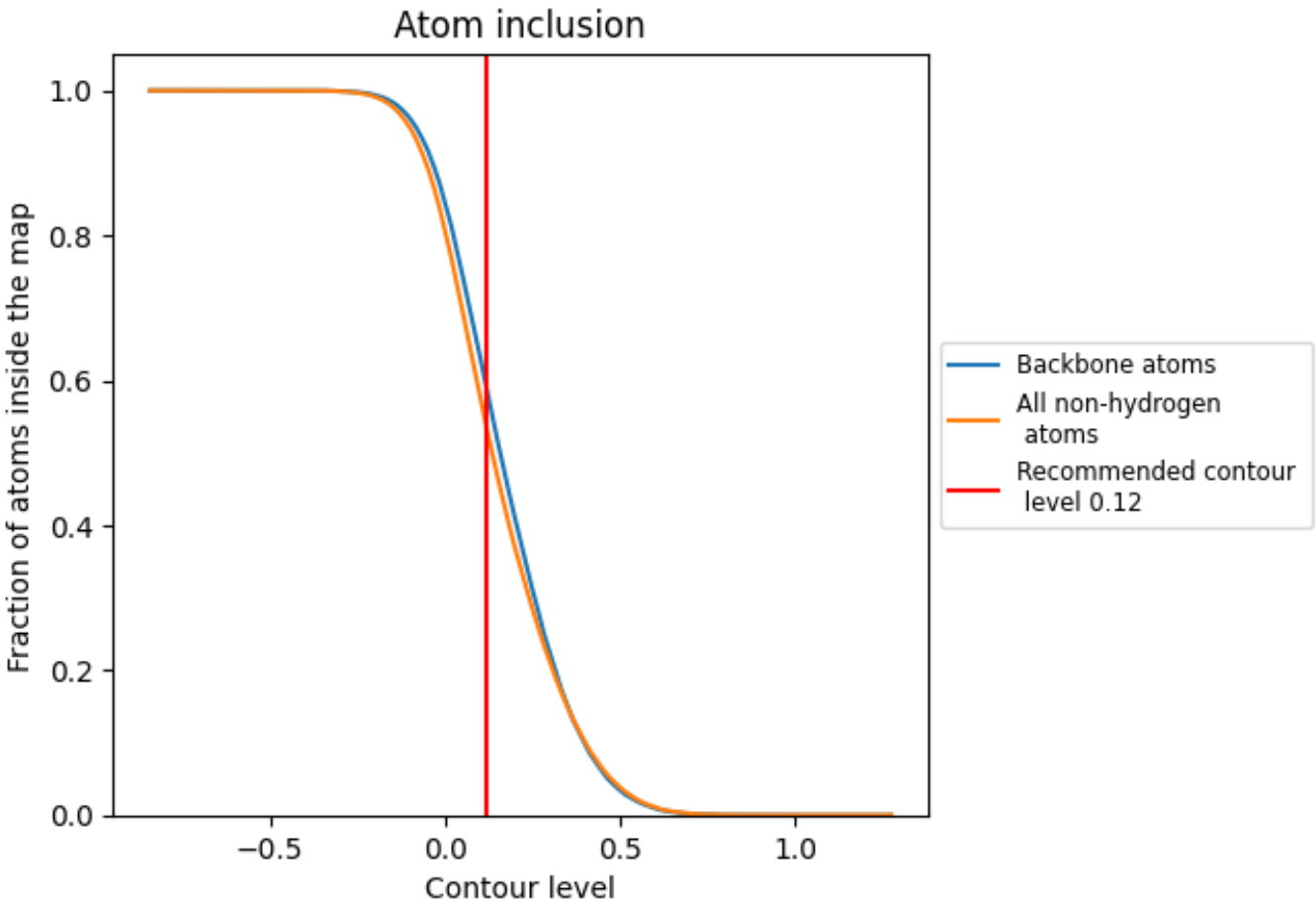
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.12).

9.4 Atom inclusion (i)



At the recommended contour level, 59% of all backbone atoms, 53% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5335	0.1340
1	0.5927	0.1600
3	0.5979	0.1370
4	0.5950	0.1370
A	0.5944	0.2230
B	0.5264	0.1570
C	0.3675	0.0180
D	0.4589	0.1080
E	0.2869	-0.0390
F	0.3605	0.0040
G	0.3871	0.0320
H	0.3658	0.0180
I	0.4837	0.1280
J	0.5125	0.1870
L	0.3726	0.0280
M	0.3109	-0.0470
N	0.4643	0.1000
O	0.4379	0.0820
P	0.5647	0.1900
Q	0.3857	0.0350
R	0.5888	0.2100
S	0.3267	-0.0120
T	0.4315	0.0910
U	0.5754	0.2370
V	0.5587	0.2220
W	0.5248	0.1610
X	0.5053	0.1530
Y	0.4079	0.0450
Z	0.3996	0.0490
a	0.4054	0.0640
b	0.4381	0.1040
c	0.4501	0.1090
d	0.6471	0.2700
e	0.3702	0.0600
f	0.3654	0.0310

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Chain	Atom inclusion	Q-score
g	0.5452	0.1720
h	0.4380	0.0830
i	0.3852	0.0410
j	0.5878	0.2040
k	0.5008	0.1560
l	0.5398	0.2220
m	0.4367	0.0880
n	0.4623	0.1890
o	0.5278	0.1710
p	0.5800	0.2120
t	0.2019	0.0280