



Full wwPDB X-ray Structure Validation Report

Feb 26, 2014 – 05:24 PM GMT

PDB ID : 3OG0
Title : Crystal structure of the E. coli ribosome bound to clindamycin. This file contains the 50S subunit of the second 70S ribosome.
Authors : Dunkle, J.A.; Xiong, L.; Mankin, A.S.; Cate, J.H.D.
Deposited on : 2010-08-16
Resolution : 3.29 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

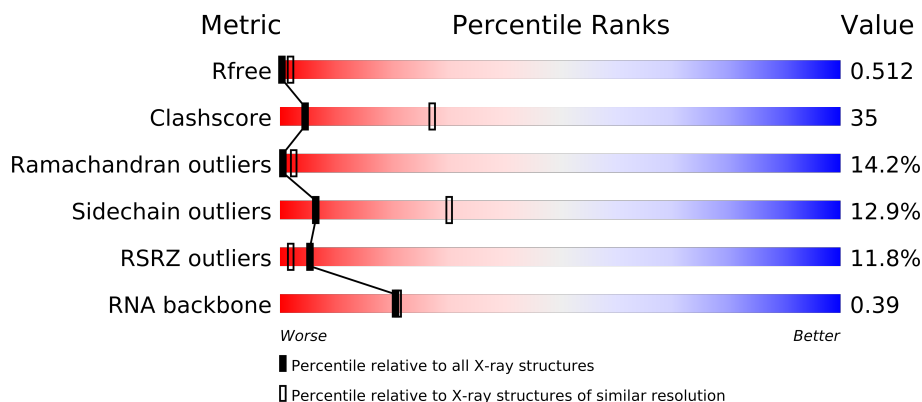
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.15 2013
Xtriage (Phenix)	:	dev-1323
EDS	:	stable22639
Percentile statistics	:	21963
Refmac	:	5.8.0049
CCP4	:	6.3.0 (Settle)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP)	:	stable22683

1 Overall quality at a glance

The reported resolution of this entry is 3.29 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	66092	1151 (3.36-3.20)
Clashscore	79885	1464 (3.36-3.20)
Ramachandran outliers	78287	1435 (3.36-3.20)
Sidechain outliers	78261	1433 (3.36-3.20)
RSRZ outliers	66119	1152 (3.36-3.20)
RNA backbone	1838	1033 (3.86-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	2903	
2	B	117	
3	C	271	
4	D	209	
5	E	201	
6	F	178	
7	G	176	
8	H	149	
9	I	141	
10	J	142	
11	K	122	
12	L	143	

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Mol	Chain	Length	Quality of chain
13	M	136	
14	N	120	
15	O	116	
16	P	114	
17	Q	117	
18	R	103	
19	S	110	
20	T	93	
21	U	102	
22	V	94	
23	W	79	
24	X	77	
25	Y	63	
26	Z	58	
27	0	56	
28	1	50	
29	2	46	
30	3	64	
31	4	38	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
32	MG	A	2905	-	X
32	MG	A	2908	-	X
32	MG	A	2911	-	X
32	MG	A	2914	-	X
32	MG	A	2922	-	X
32	MG	A	2924	-	X
32	MG	A	2928	-	X
32	MG	A	2935	-	X
32	MG	A	2938	-	X
32	MG	A	2959	-	X
32	MG	A	2960	-	X
32	MG	A	2962	-	X
32	MG	A	2964	-	X
32	MG	A	2965	-	X
32	MG	A	2966	-	X
32	MG	A	2971	-	X
32	MG	A	2976	-	X
32	MG	A	2977	-	X

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Mol	Type	Chain	Res	Geometry	Electron density
32	MG	A	2980	-	X
32	MG	A	2983	-	X
32	MG	A	2987	-	X
32	MG	A	2988	-	X
32	MG	A	2993	-	X
32	MG	A	2994	-	X
32	MG	A	2997	-	X
32	MG	A	2999	-	X
32	MG	A	3001	-	X
32	MG	A	3010	-	X
32	MG	A	3011	-	X
32	MG	A	3017	-	X
32	MG	A	3029	-	X
32	MG	A	3032	-	X
32	MG	A	3035	-	X
32	MG	C	722	-	X
32	MG	J	747	-	X

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 90434 atoms, of which 0 are hydrogen and 0 are deuterium.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	178	Total	C	N	O	S	0	0	0
			1420	905	251	258	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	116	Total	C	N	O		0	0	0
			892	552	178	162				

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	117	Total	C	N	O		0	0	0
			947	604	192	151				

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	102	Total	C	N	O			
			780	492	146	142	0	0	0

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	94	Total	C	N	O	S			
			753	479	137	134	3	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	79	Total	C	N	O	S			
			596	367	120	108	1	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	77	Total	C	N	O	S			
			625	388	129	106	2	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	63	Total	C	N	O	S			
			509	313	99	95	2	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	58	Total	C	N	O	S			
			449	281	87	79	2	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	0	56	Total	C	N	O	S			
			444	269	94	80	1	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	1	50	Total	C	N	O	0	0	0
			410	263	75	72			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	B	1	Total	Mg	0	0
			1	1		
32	A	132	Total	Mg	0	0
			132	132		
32	C	2	Total	Mg	0	0
			2	2		
32	J	1	Total	Mg	0	0
			1	1		
32	E	1	Total	Mg	0	0
			1	1		

- Molecule 33 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	4	1	Total	Zn	0	0
			1	1		

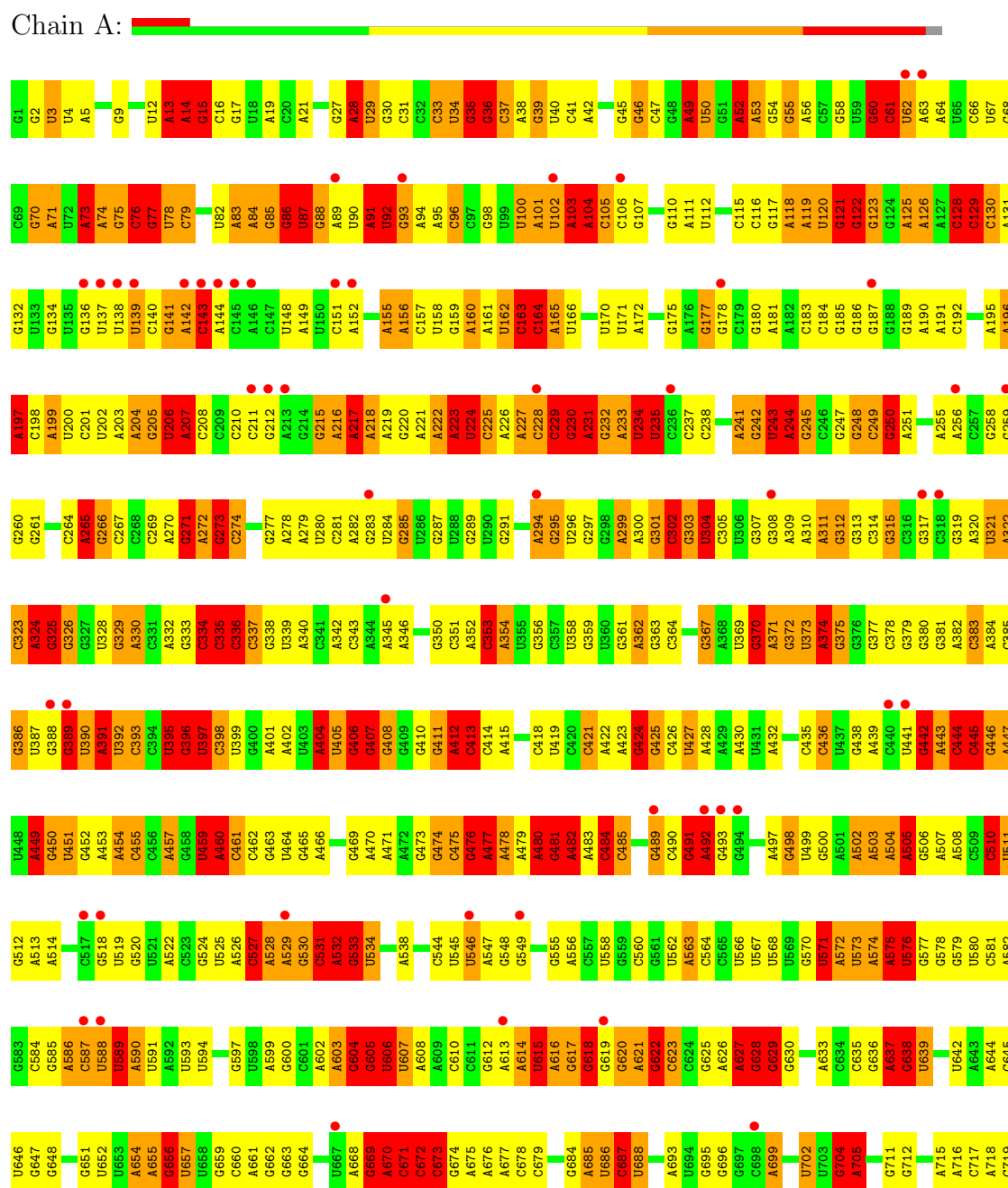
- Molecule 34 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	A	605	Total O 605 605	0	0
34	B	4	Total O 4 4	0	0
34	C	7	Total O 7 7	0	0
34	D	1	Total O 1 1	0	0
34	E	3	Total O 3 3	0	0
34	J	6	Total O 6 6	0	0
34	L	4	Total O 4 4	0	0
34	N	2	Total O 2 2	0	0
34	T	3	Total O 3 3	0	0
34	U	2	Total O 2 2	0	0
34	V	1	Total O 1 1	0	0
34	2	2	Total O 2 2	0	0
34	3	1	Total O 1 1	0	0
34	4	2	Total O 2 2	0	0

3 Residue-property plots

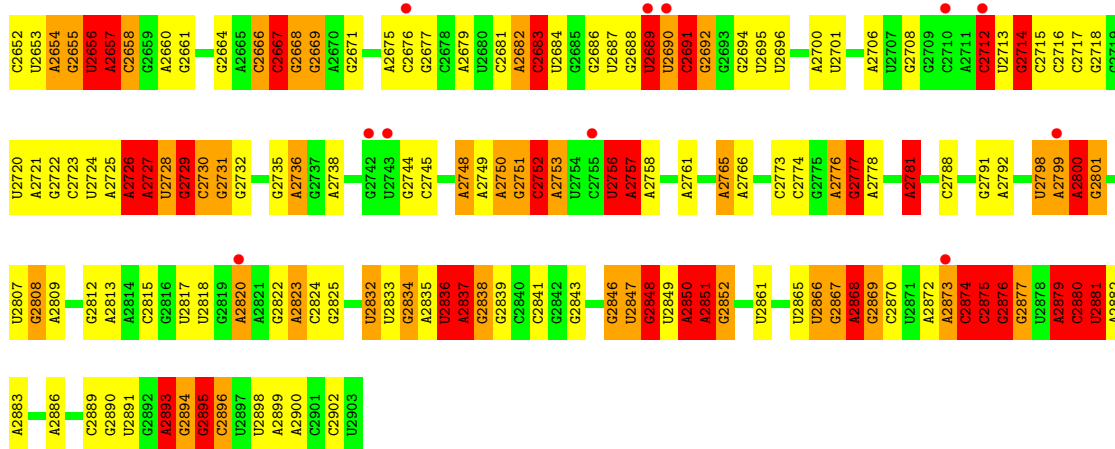
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according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

• Molecule 1: 23S rRNA



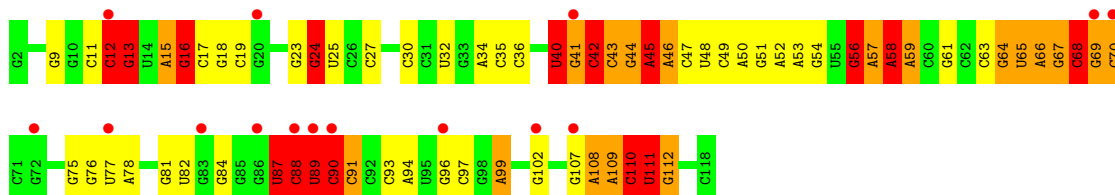
U1602	A1603	C1604	C1605	C1606	C1607	A1608	A1609	A1610	C1611	C1612	C1613	A1614	C1615	C1616	C1617	A1618	C1619	G1622	A1626	G1627	G1628	G1633	A1634	A1635	C1636	A1637	C1638	C1639	A1640	A1641	C1642	C1643	G1644	G1645	C1646	U1647	U1648	C1649	A1650	C1651	A1652	C1653	A1654	A1655	C1656	G1661	U1662	G1663	A1664	A1665	C1666	G1667	A1668	A1669	C1670					
C1536	G1537	U1538	U1539	C1540	C1541	U1542	G1543	A1544	A1545	C1546	C1547	A1548	C1489	A1490	A1491	A1492	C1493	A1494	A1495	A1496	U1497	C1498	C1499	G1500	G1501	A1502	A1503	A1504	A1505	U1506	C1507	A1508	A1509	G1510	G1511	C1512	U1513	G1514	U1515	A1516	G1517	A1583	U1584	C1585	A1586	G1587	C1588	U1589	A1590	A1591	C1592	U1593	G1594	C1595	A1596	C1597	A1598	U1599	A1600	C1601
A1470	G1471	G1475	U1476	U1477	U1478	G1482	U1483	U1484	U1485	C1489	A1490	A1491	A1492	A1493	A1494	A1495	A1496	U1497	C1498	C1499	G1500	G1501	A1502	A1503	A1504	A1505	U1506	C1507	A1508	A1509	G1510	G1511	C1512	U1513	G1514	U1515	A1516	G1517	A1583	U1584	C1585	A1586	G1587	C1588	U1589	A1590	A1591	C1592	U1593	G1594	C1595	A1596	C1597	A1598	U1599	A1600	C1601			
C1399	U1400	G1401	U1402	A1403	C1404	U1405	U1406	G1407	U1412	C1413	C1414	U1415	G1426	U1427	G1428	G1429	A1430	A1431	A1432	G1433	A1434	G1435	G1436	C1437	U1438	A1439	U1440	G1441	U1442	U1443	G1444	G1445	U1446	C1447	C1451	G1452	A1453	C1454	G1455	G1456	U1457	U1458	G1459	U1460	C1461	G1465	U1466	A1469												
A1336	G1337	G1338	G1339	G1340	G1341	A1342	G1343	U1344	G1345	G1346	A1347	C1348	U1352	A1353	A1354	G1355	C1356	C1357	G1358	A1359	G1360	G1361	G1362	C1363	G1364	A1365	A1366	A1367	G1368	G1371	U1372	A1373	U1374	U1375	C1376	G1377	A1378	U1379	G1380	G1381	G1382	A1383	A1384	A1385	C1386	A1387	G1388	U1389	U1390	A1391	A1392	A1393	G1394	A1395	U1396	U1397	A1398			
C1270	G1271	A1272	U1273	A1274	A1275	A1276	G1277	G1281	U1282	A1285	A1286	A1287	A1288	A1289	C1290	C1291	G1292	C1297	U1298	U1299	G1210	C1211	G1212	A1213	A1214	G1215	G1223	G1224	G1225	A1226	G1227	U1231	G1236	A1237	G1238	G1239	U1240	A1241	U1242	A1246	A1247	G1248	U1249	G1250	C1251	G1252	A1253	U1254	U1255	G1256	C1257	A1262	U1263	A1264	U1265	G1266	U1267	G1268	A1269	
G1116	C1117	U1118	U1119	G1120	C1121	G1122	G1125	A1126	U1127	G1128	A1129	U1130	G1131	U1132	A1133	A1134	G1135	G1136	G1137	U1138	G1139	C1140	U1141	A1142	A1143	A1144	C1145	C1146	A1147	U1148	G1149	C1153	G1154	A1155	A1156	G1157	C1158	U1159	G1160	G1168	A1169	C1170	G1171	C1172	U1173	A1174	A1175	U1176	G1177	C1178	G1179	U1180	U1181	G1182	G1185					
C1052	C1053	A1054	G1055	U1056	A1057	U1058	U1059	U1060	U1061	G1062	G1063	U1064	U1065	U1066	A1067	G1068	A1069	A1070	G1071	G1072	A1073	G1074	C1075	C1076	A1077	U1078	C1079	A1080	U1081	U1082	U1083	A1084	A1085	A1086	G1087	A1088	A1089	A1090	G1091	C1092	U1093	U1094	A1095	A1096	U1097	C1100	A1039	A1040	G1041	G1042	C1043	C1044	A1045	A1046	U1047	G1048	A1049	C1051		
C991	C992	G993	C994	G995	A996	G997	C998	U999	U1000	U1001	G1002	G1003	U1004	C1005	A1006	C1007	A1008	A1009	G1010	G1011	C1012	C1013	A1014	U1015	G1016	U1019	A1020	A1021	G1022	U1023	G1024	G1025	G1026	A1027	C963	G969	U970	A971	G972	U1033	G1034	U1035	G1036	G1037	U1038	A1039	A1040	G1041	C1042	C1043	C1044	A1045	A1046	U1047	G1048	A1049	C1051			
G923	A927	C928	U929	G930	U931	A932	U933	A934	C935	A936	C937	G938	C873	C874	C875	C876	A877	A878	G	G	G	U	C	A	U	C	C	C	A	U	A	C	A899	A900	C901	C902	C903	G904	A905	C908	A909	A910	A911	C912	U913	G914	C915	A916	A917	A918	U919	A920	C921	C922						
U720	A721	G726	A727	G728	G729	A730	C731	G732	C733	G736	C737	G738	A739	U740	U741	G745	U746	U747	G748	A749	A750	A751	A752	A753	A756	G757	U762	G763	A764	C765	U766	U767	G768	C772	U773	G774	G775	G776	G777	G778	U779	A780	A781	A782	A783	G784	G785	A788	A789	U790	C791	C792								

A2577	G2578	G2581	G2582	G2583	G2584	G2585	G2586	G2587	G2588	G2589	G2592	G2593	G2594	G2595	G2599	A2600	G2601	A2602	G2603	G2604	G2608	G2609	G2610	G2611	G2612	G2613	A2614	A2615	G2616	G2617	G2620	G2621	G2622	G2626	G2627	G2628	G2630	G2631	G2632	G2638	A2639	G2642	G2643	G2644	G2645	G2646	G2647	G2650	G2651									
C2507	G2508	A2513	A2516	C2517	A2518	A2519	A2520	C2521	G2525	G2526	A2527	G2528	G2529	A2530	A2531	G2532	G2533	A2534	G2539	A2540	A2541	A2542	G2543	G2544	G2545	A2546	A2547	A2548	A2549	G2550	C2551	G2552	G2553	A2554	G2557	G2558	G2559	A2560	G2561	G2562	A2563	A2564	A2565	A2566	G2567	G2568	G2569	G2570	G2571	A2572	G2573	G2574	G2575	G2576				
G2437	G2438	A2439	C2440	A2441	C2442	C2443	G2444	A2445	A2446	A2447	A2448	A2449	A2450	A2451	G2454	G2455	G2456	G2457	G2468	A2469	G2470	A2474	C2475	A2476	A2477	A2478	G2481	A2482	G2488	A2489	G2490	C2491	A2492	A2493	A2494	G2497	C2498	G2499	A2500	A2501	G2502	A2503	A2504	A2505	A2506	G2507	G2508	G2509	G2510	G2511								
G2303	G2304	U2305	C2306	G2307	G2308	G2309	C2310	A2311	U2312	G2313	A2314	G2315	G2316	G2319	U2320	U2321	A2322	G2323	U2324	G2325	G2330	G2331	G2332	A2333	U2334	A2335	A2336	G2337	G2338	C2339	A2340	U2344	G2345	A2346	C2347	U2348	G2349	C2350	G2353	C2354	G2355	U2356	U2357	A2358	A2359	G2360	G2361	C2364	G2365	A2366	G2370	G2371	U2372					
U2233	G2234	G2235	U2236	G2237	G2238	U2240	U2244	U2245	U2246	U2249	G2250	G2251	G2252	G2253	G2254	C2258	U2259	C2260	C2261	C2264	U2265	A2266	A2267	A2268	G2270	A2271	A2272	A2273	A2274	G2275	G2276	G2277	A2278	G2279	G2280	A2281	G2282	C2283	A2284	C2285	G2286	A2287	A2288	G2289	G2290	U2291	U2292	G2295	U2296	G2297	A2298	U2299	C2300	C2301	U2302			
G	A	A	A	U	U	A	A	C	C	C	U2179	U2180	U2181	U2182	U2183	U2184	U2185	U2186	U2187	G	U2195	C2196	U2197	U2198	U2199	C	U2200	G2201	U2202	U2203	A2204	A2205	C2206	C2207	C2208	G2209	U2210	A2211	U2212	A2213	C2214	G2215	G2216	G2217	G2218	U2219	U2220	G2221	C2222	G2223	G2224	A2225	C2226	A2227	C	C	U	U
A2108	U2109	G2110	U	G	U	A	A	U	A	A	G	G	U	U	A	G	U2190	U2191	U2192	U2193	G2133	A2134	A2135	U2136	U2137	G2138	U2139	G2140	G2141	A2142	C2143	G2144	G2145	C2146	A2147	G2148	U2149	C2150	U2151	G2152	C2153	A2154	G2155	U2156	A2157	A	G	C	C	A	C	U	U					
G2040	U2041	A2042	C2043	C2044	C2045	G2048	G2049	C2050	A2051	G2052	G2053	G2054	G2055	G2056	G2057	A2058	A2059	A2060	G2061	C2062	C2063	C2064	C2065	C2066	C2067	U2068	U2069	G2070	A2071	C2072	U2073	U2074	A2075	A2076	C2077	C2078	U2079	A2082	G2083	C2084	U2085	C2091	U2092	G2093	A2094	A2095	C2096	A2097	U2098	U2099	A2101	C2104	U2105	U2106	G2107			
A1966	C1967	G1968	A1969	A1970	U1971	G1972	G1973	C1974	G1975	G1980	A1981	U1982	G1983	C1984	C1985	U1991	U1992	U1993	U1994	U1995	U1996	C1997	A1998	C1999	C2000	C2001	U2007	C2008	A2009	G2012	A2013	A2014	A2015	U2016	U2017	G2018	A2019	A2020	C2021	U2022	C2023	G2024	C2025	U2026	G2027	A2030	A2031	G2032	G2033	G2034	U2035	G2036	A2037					
G1888	A1889	C1895	G1896	A1899	A1900	A1901	C1902	G1903	G1904	C1905	U1906	G1907	G1910	U1911	A1912	A1913	C1914	U1915	A1916	U1917	U1918	A1919	C1920	G1921	U1922	C1925	U1926	A1927	A1928	G1929	U1930	A1931	A1932	G1935	A1936	A1937	A1938	U1939	U1940	C1941	C1942	U1943	U1944	G1945	U1946	G1954	U1955	U1956	C1961	C1962	U1963	G1964	C1965					
G1814	A1815	C1816	G1817	U1818	A1819	U1820	A1821	C1822	G1823	G1824	U1825	U1826	U1827	G1828	A1829	C1830	C1833	U1834	U1835	C1836	C1837	U1838	A1839	G1840	G1845	U1846	A1847	A1848	A1853	A1854	G1857	G1858	C1859	A1865	U1866	C1867	C1868	G1869	C1870	A1871	A1872	G1873	C1874	G1875	A1876	G1877	G1878	C1881	G1884									
A1744	A1745	A1746	C1747	C1748	G1753	A1754	A1755	G1756	A1757	U1758	U1759	C1760	C1761	A1762	G1763	C1764	A1773	C1774	U1775	G1776	U1777	U1778	U1779	U1780	U1781	U1782	A1783	A1784	A1785	A1786	A1787	C1788	A1789	C1790	A1791	G1792	C1793	A1794	C1795	U1796	G1797	U1798	G1799	C1800	A1801	A1802	A1803	C1804	A1805	C1806	G1807	A1808	A1809	A1810	G1811	U1812	G1813	
U1671	A1672	G1673	U1674	A1675	A1676	A1677	A1678	U1679	U1680	G1681	U1682	G1683	G1684	C1685	C1686	A1689	U1693	C1694	G1695	G1696	G1697	A1698	G1699	A1700	G1701	G1702	G1703	G1704	A1705	C1706	G1707	U1712	U1713	U1714	U1715	U1716	A1717	G1718	A1722	G1723	C1728	U1729	C1730	G1731	C1732	G1733	G1734	A1735	U1736	U1737	G1738	A1739	U1740					



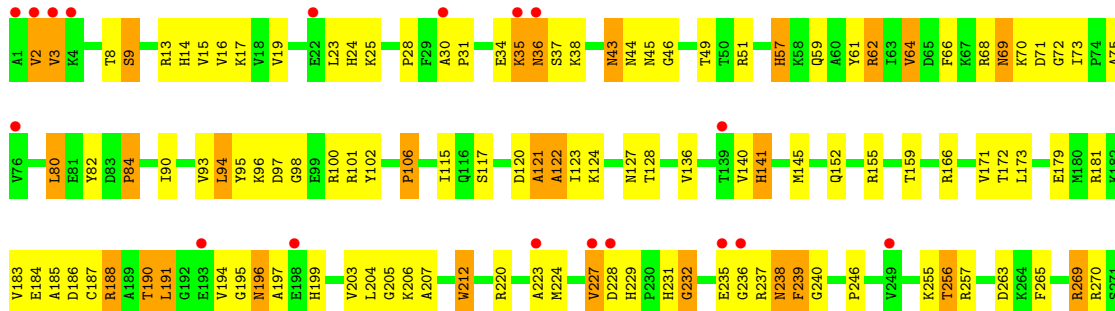
• Molecule 2: 5S rRNA

Chain B:



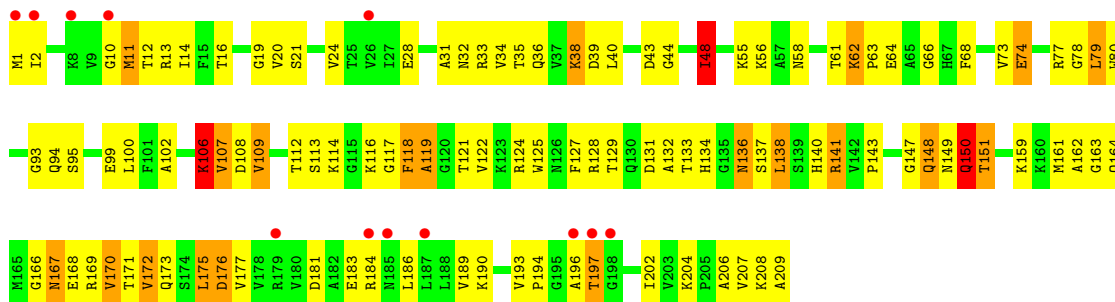
• Molecule 3: 50S ribosomal protein L2

Chain C:

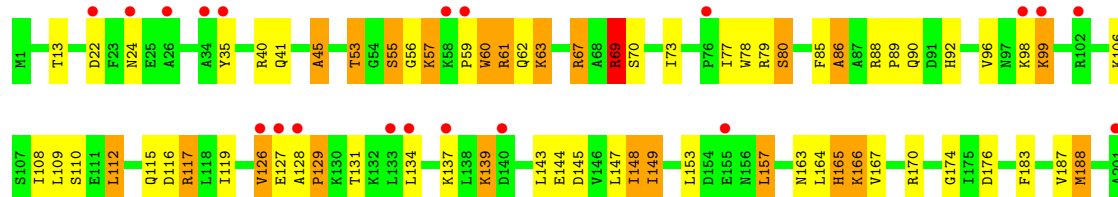


• Molecule 4: 50S ribosomal protein L3

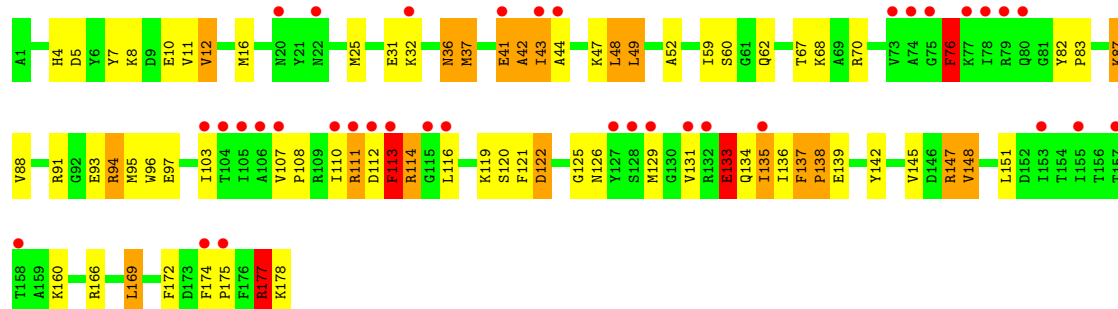
Chain D:



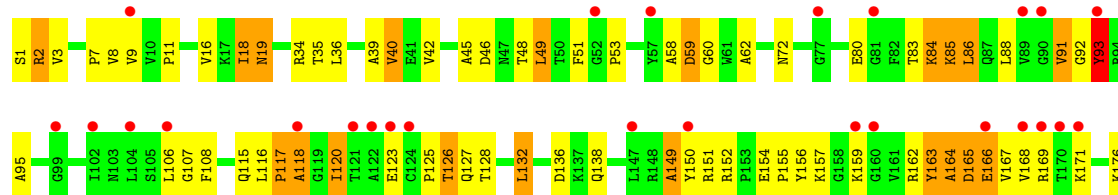
• Molecule 5: 50S ribosomal protein L4

Chain E: 

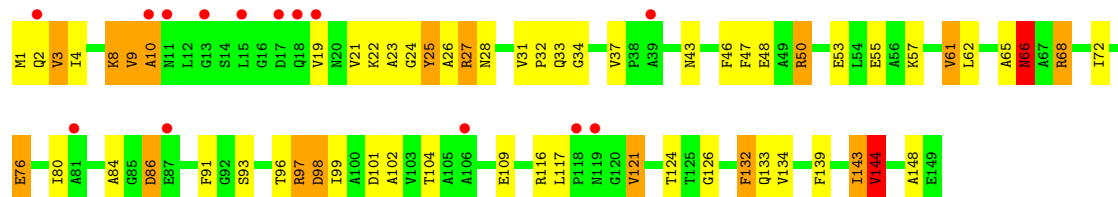
- Molecule 6: 50S ribosomal protein L5

Chain F: 

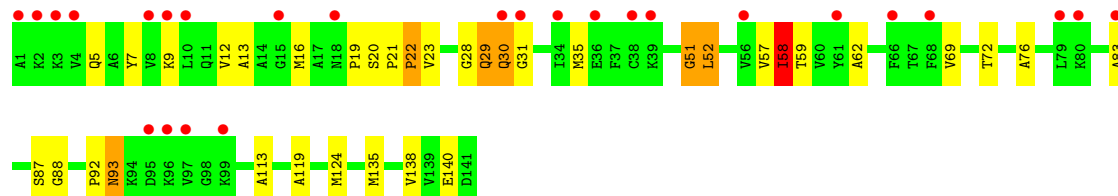
- Molecule 7: 50S ribosomal protein L6

Chain G: 

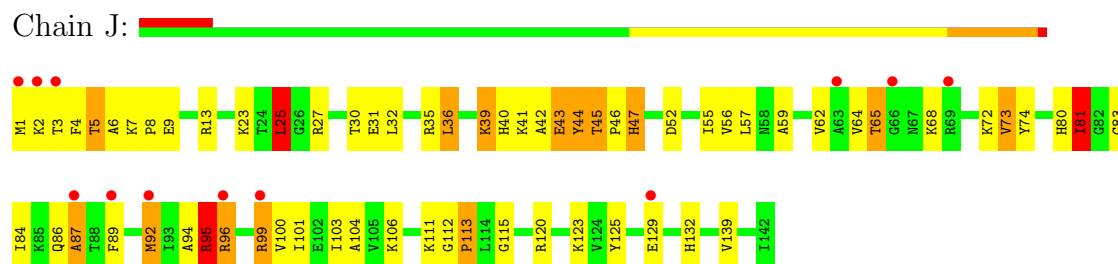
- Molecule 8: 50S ribosomal protein L9

Chain H: 

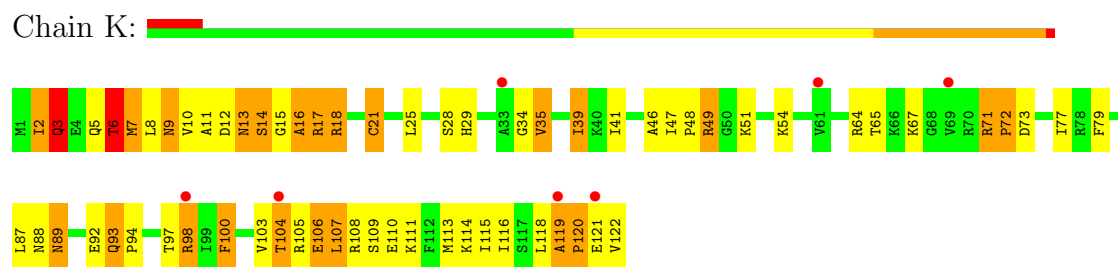
- Molecule 9: 50S ribosomal protein L11

Chain I: 

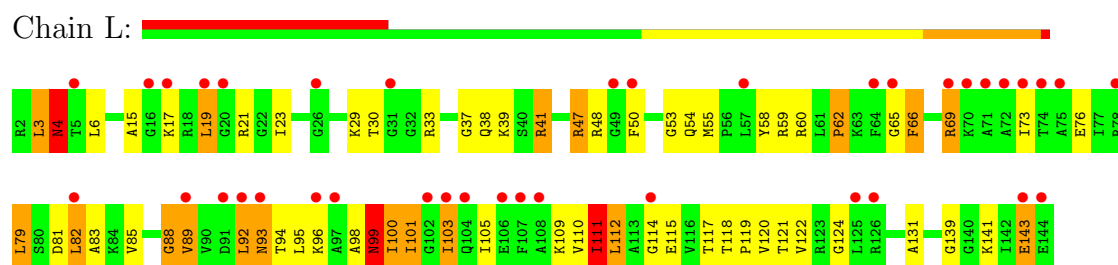
- Molecule 10: 50S ribosomal protein L13



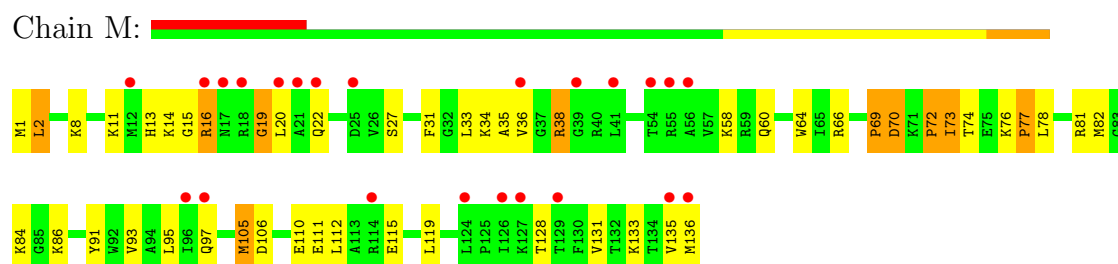
- Molecule 11: 50S ribosomal protein L14



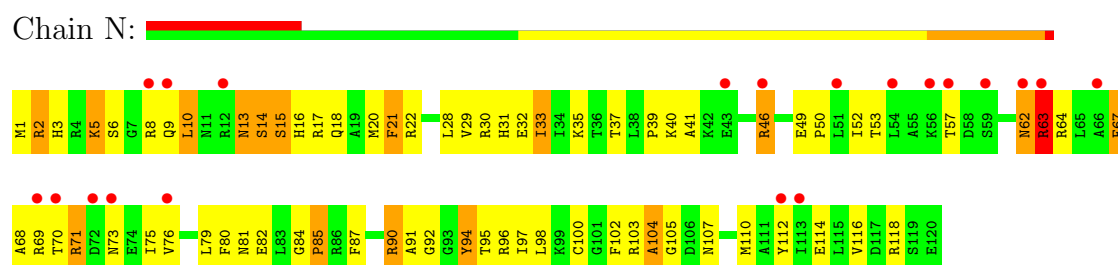
- Molecule 12: 50S ribosomal protein L15



- Molecule 13: 50S ribosomal protein L16

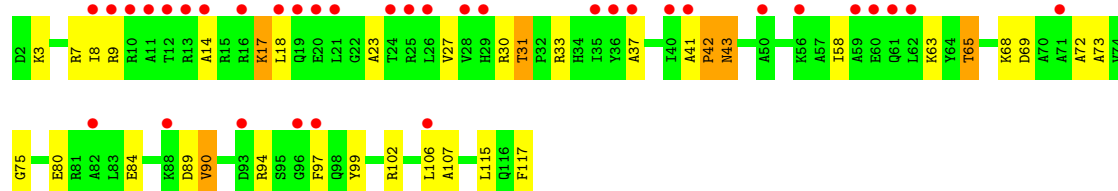


- Molecule 14: 50S ribosomal protein L17



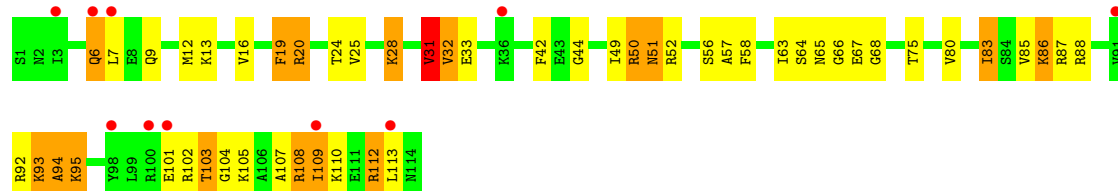
- Molecule 15: 50S ribosomal protein L18

Chain O: 



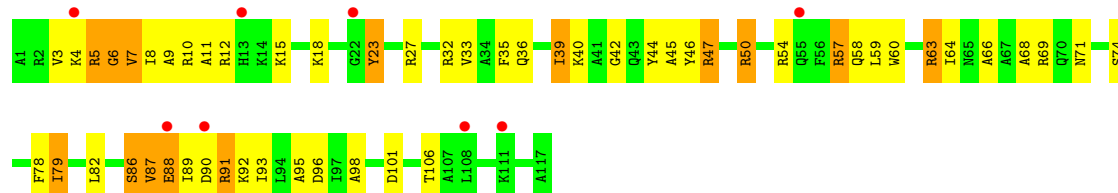
- Molecule 16: 50S ribosomal protein L19

Chain P: 



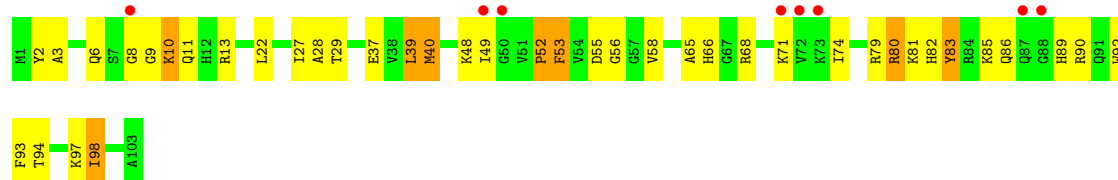
- Molecule 17: 50S ribosomal protein L20

Chain Q: 



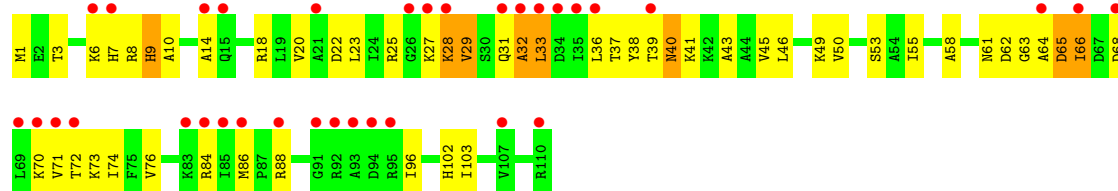
- Molecule 18: 50S ribosomal protein L21

Chain R: 



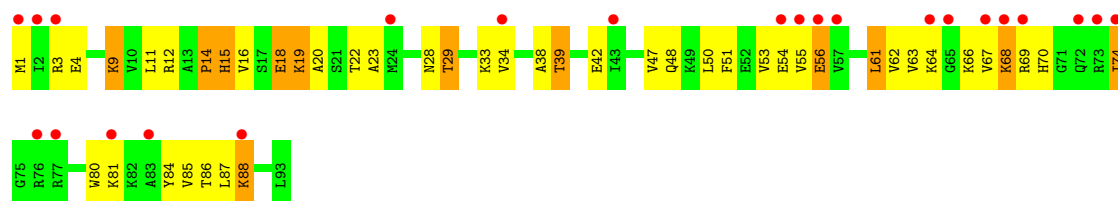
- Molecule 19: 50S ribosomal protein L22

Chain S: 



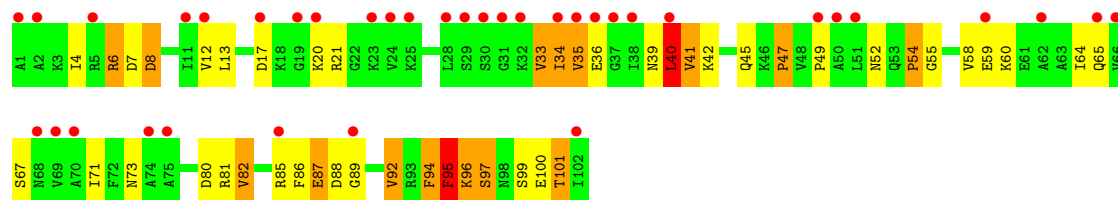
- Molecule 20: 50S ribosomal protein L23

Chain T: 



- Molecule 21: 50S ribosomal protein L24

Chain U:



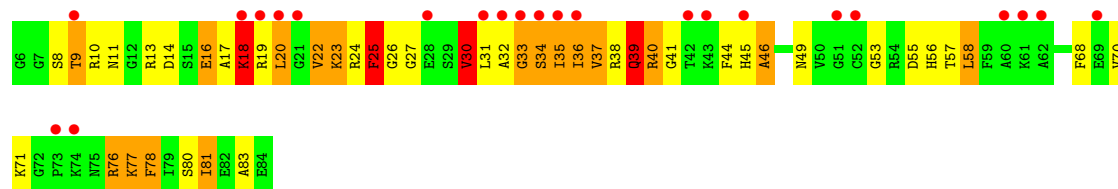
- Molecule 22: 50S ribosomal protein L25

Chain V:



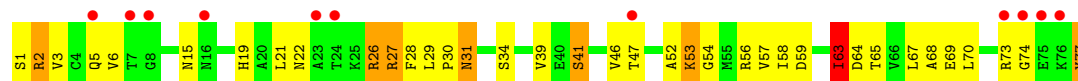
- Molecule 23: 50S ribosomal protein L27

Chain W:



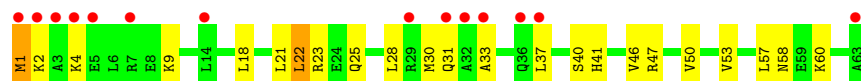
- Molecule 24: 50S ribosomal protein L28

Chain X:



- Molecule 25: 50S ribosomal protein L29

Chain Y:



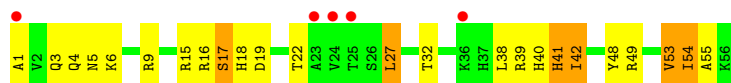
- Molecule 26: 50S ribosomal protein L30

Chain Z:



- Molecule 27: 50S ribosomal protein L32

Chain 0:



- Molecule 28: 50S ribosomal protein L33

Chain 1:



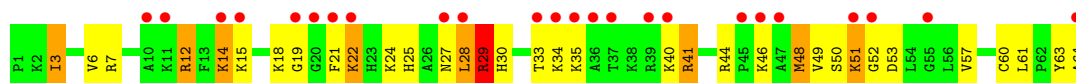
- Molecule 29: 50S ribosomal protein L34

Chain 2:



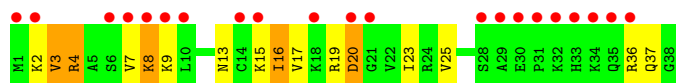
- Molecule 30: 50S ribosomal protein L35

Chain 3:



- Molecule 31: 50S ribosomal protein L36

Chain 4:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.08Å 434.46Å 618.92Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	76.35 – 3.29 76.35 – 3.29	Depositor EDS
% Data completeness (in resolution range)	77.5 (76.35-3.29) 77.5 (76.35-3.29)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.65 (at 3.26Å)	Xtriage
Refinement program	PHENIX (phenix.refine)	Depositor
R, R_{free}	0.189 , 0.241 0.508 , 0.512	Depositor DCC
R_{free} test set	10670 reflections (1.61%)	DCC
Wilson B-factor (Å ²)	66.6	Xtriage
Anisotropy	0.324	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.21 , 55.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	1 of 700316 reflections (0.000%)	Xtriage
F_o, F_c correlation	0.47	EDS
Total number of atoms	90434	wwPDB-VP
Average B, all atoms (Å ²)	144.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.60% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.45	2/68314 (0.0%)	1.23	934/106569 (0.9%)
2	B	0.43	1/2803 (0.0%)	1.07	30/4371 (0.7%)
3	C	0.29	0/2122	0.51	0/2852
4	D	0.28	0/1586	0.54	0/2134
5	E	0.24	0/1571	0.46	0/2113
6	F	0.22	0/1444	0.45	0/1937
7	G	0.22	0/1343	0.44	0/1816
8	H	0.25	0/1122	0.51	2/1515 (0.1%)
9	I	0.20	0/1046	0.42	0/1410
10	J	0.26	0/1152	0.55	1/1551 (0.1%)
11	K	0.29	0/948	0.52	0/1268
12	L	0.25	0/1054	0.50	0/1403
13	M	0.27	0/1093	0.46	0/1460
14	N	0.26	0/974	0.48	0/1301
15	O	0.21	0/902	0.40	0/1209
16	P	0.27	0/929	0.47	0/1242
17	Q	0.27	0/960	0.44	0/1278
18	R	0.26	0/829	0.49	0/1107
19	S	0.26	0/864	0.50	0/1156
20	T	0.22	0/745	0.45	0/994
21	U	0.22	0/788	0.45	0/1051
22	V	0.23	0/766	0.42	0/1025
23	W	0.25	0/603	0.46	0/797
24	X	0.26	0/635	0.52	0/848
25	Y	0.21	0/510	0.42	0/677
26	Z	0.25	0/453	0.50	0/605
27	0	0.26	0/450	0.48	0/599
28	1	0.24	0/417	0.44	0/554
29	2	0.25	0/380	0.47	0/498
30	3	0.25	0/513	0.49	0/676
31	4	0.32	0/303	0.45	0/397
All	All	0.40	3/97619 (0.0%)	1.09	967/146413 (0.7%)

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
6	F	0	1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	107	G	O3'-P	-8.40	1.51	1.61
1	A	1929	G	O3'-P	6.36	1.68	1.61
1	A	901	C	O3'-P	5.98	1.68	1.61

All (967) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2586	U	N1-C1'-C2'	-16.52	92.53	114.00
1	A	2283	C	N1-C1'-C2'	-14.98	94.52	114.00
1	A	2197	U	P-O3'-C3'	14.29	136.85	119.70
1	A	2137	U	N1-C1'-C2'	-14.24	95.49	114.00
1	A	2504	U	N1-C1'-C2'	-14.02	95.77	114.00
1	A	946	C	N1-C1'-C2'	-13.92	95.90	114.00
1	A	2646	C	N1-C1'-C2'	-13.69	96.20	114.00
1	A	740	C	N1-C1'-C2'	-13.50	96.45	114.00
1	A	304	U	N1-C1'-C2'	-12.82	97.33	114.00
1	A	672	C	N1-C1'-C2'	-12.75	97.42	114.00
1	A	1675	C	N1-C1'-C2'	-12.56	97.67	114.00
1	A	2880	C	N1-C1'-C2'	-12.34	97.95	114.00
1	A	992	C	N1-C1'-C2'	-12.04	98.35	114.00
1	A	673	C	N1-C1'-C2'	-11.99	98.41	114.00
2	B	110	C	N1-C1'-C2'	-11.99	98.42	114.00
1	A	2881	U	N1-C1'-C2'	-11.94	98.48	114.00
1	A	87	U	N1-C1'-C2'	-11.93	98.49	114.00
1	A	2339	C	N1-C1'-C2'	-11.90	98.52	114.00
1	A	2226	C	N1-C1'-C2'	-11.87	98.57	114.00
1	A	1997	C	N1-C1'-C2'	-11.86	98.58	114.00
1	A	2095	A	P-O3'-C3'	-11.81	105.53	119.70
1	A	2137	U	P-O3'-C3'	-11.80	105.54	119.70
1	A	1013	C	N1-C1'-C2'	-11.76	98.72	114.00
1	A	860	U	N1-C1'-C2'	-11.75	98.73	114.00
1	A	235	U	N1-C1'-C2'	-11.73	98.76	114.00
1	A	1023	U	N1-C1'-C2'	-11.72	98.76	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1782	U	N1-C1'-C2'	-11.69	98.80	114.00
1	A	2440	C	N1-C1'-C2'	-11.69	98.81	114.00
1	A	1972	G	P-O3'-C3'	-11.68	105.68	119.70
1	A	2615	U	N1-C1'-C2'	-11.67	98.83	114.00
1	A	61	C	N1-C1'-C2'	-11.59	98.94	114.00
1	A	991	C	N1-C1'-C2'	-11.57	98.95	114.00
1	A	1782	U	P-O3'-C3'	-11.55	105.84	119.70
1	A	961	C	P-O3'-C3'	11.46	133.45	119.70
1	A	2611	C	N1-C1'-C2'	-11.46	99.11	114.00
1	A	765	C	N1-C1'-C2'	-11.38	99.21	114.00
1	A	1822	C	P-O3'-C3'	-11.33	106.11	119.70
1	A	1064	C	N1-C1'-C2'	-11.23	99.41	114.00
1	A	2691	C	N1-C1'-C2'	-11.21	99.43	114.00
1	A	234	U	N1-C1'-C2'	-11.19	99.45	114.00
1	A	2520	C	N1-C1'-C2'	-11.19	99.46	114.00
1	A	336	C	N1-C1'-C2'	-11.15	99.50	114.00
2	B	90	C	N1-C1'-C2'	-11.09	99.58	114.00
1	A	2348	U	N1-C1'-C2'	-11.09	99.59	114.00
1	A	1648	U	N1-C1'-C2'	-11.06	99.62	114.00
1	A	1683	U	N1-C1'-C2'	-11.04	99.65	114.00
1	A	2586	U	P-O3'-C3'	-11.02	106.48	119.70
1	A	1932	A	P-O3'-C3'	-10.98	106.52	119.70
1	A	2616	C	N1-C1'-C2'	-10.93	99.79	114.00
1	A	2492	U	N1-C1'-C2'	-10.88	99.86	114.00
1	A	1931	U	P-O3'-C3'	-10.88	106.65	119.70
1	A	2068	U	N1-C1'-C2'	-10.87	99.87	114.00
1	A	164	C	N1-C1'-C2'	-10.87	99.87	114.00
1	A	2876	G	P-O3'-C3'	-10.85	106.68	119.70
1	A	1417	C	N1-C1'-C2'	-10.83	99.92	114.00
1	A	1249	U	N1-C1'-C2'	-10.73	100.05	114.00
1	A	2063	C	N1-C1'-C2'	-10.69	100.10	114.00
1	A	576	U	N1-C1'-C2'	-10.69	100.10	114.00
1	A	2037	A	P-O3'-C3'	-10.69	106.88	119.70
1	A	1682	G	P-O3'-C3'	-10.61	106.97	119.70
1	A	859	G	P-O3'-C3'	10.57	132.38	119.70
1	A	1291	C	N1-C1'-C2'	-10.46	100.40	114.00
1	A	206	U	N1-C1'-C2'	-10.39	100.49	114.00
1	A	224	U	N1-C1'-C2'	-10.36	100.53	114.00
1	A	2214	C	N1-C1'-C2'	-10.32	100.58	114.00
1	A	933	A	P-O3'-C3'	-10.30	107.34	119.70
1	A	588	U	N1-C1'-C2'	-10.15	100.81	114.00
1	A	484	C	N1-C1'-C2'	-10.14	100.81	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	915	C	N1-C1'-C2'	-10.12	100.84	114.00
1	A	1289	C	N1-C1'-C2'	-10.09	100.88	114.00
1	A	1498	C	N1-C1'-C2'	-10.04	100.95	114.00
1	A	459	U	N1-C1'-C2'	-10.02	100.97	114.00
1	A	1418	G	P-O3'-C3'	-10.00	107.70	119.70
2	B	68	C	N1-C1'-C2'	-10.00	101.00	114.00
1	A	2498	C	N1-C1'-C2'	-9.98	101.03	112.00
1	A	1982	U	N1-C1'-C2'	-9.97	101.03	112.00
1	A	2249	U	P-O3'-C3'	9.96	131.65	119.70
1	A	2645	G	P-O3'-C3'	9.95	131.63	119.70
1	A	1967	C	N1-C1'-C2'	-9.93	101.08	112.00
1	A	2283	C	P-O3'-C3'	-9.92	107.79	119.70
1	A	250	G	P-O3'-C3'	-9.87	107.85	119.70
1	A	2299	U	N1-C1'-C2'	-9.79	101.23	112.00
1	A	1956	U	N1-C1'-C2'	-9.77	101.26	112.00
1	A	1267	U	N1-C1'-C2'	-9.75	101.27	112.00
1	A	2347	C	N1-C1'-C2'	-9.66	101.38	112.00
1	A	1276	A	P-O3'-C3'	-9.62	108.16	119.70
1	A	445	C	N1-C1'-C2'	-9.44	101.62	112.00
1	A	991	C	P-O3'-C3'	-9.38	108.45	119.70
1	A	2458	G	O4'-C1'-N9	9.37	115.70	108.20
1	A	606	U	N1-C1'-C2'	-9.35	101.71	112.00
1	A	673	C	O4'-C1'-N1	9.34	115.67	108.20
1	A	2875	C	N1-C1'-C2'	-9.34	101.73	112.00
1	A	1556	C	N1-C1'-C2'	-9.24	101.84	112.00
1	A	1991	U	O4'-C1'-N1	-9.22	100.82	108.20
1	A	831	G	P-O3'-C3'	-9.22	108.64	119.70
1	A	86	G	P-O3'-C3'	-9.16	108.71	119.70
1	A	829	A	P-O3'-C3'	9.15	130.68	119.70
1	A	868	U	N1-C1'-C2'	-9.13	101.96	112.00
1	A	2043	C	O4'-C1'-N1	-9.12	100.90	108.20
1	A	2573	C	N1-C1'-C2'	-9.07	102.02	112.00
1	A	1539	U	N1-C1'-C2'	-9.06	102.03	112.00
1	A	1779	U	O4'-C1'-N1	9.06	115.45	108.20
1	A	1838	C	O4'-C1'-N1	9.03	115.43	108.20
1	A	60	G	P-O3'-C3'	9.01	130.51	119.70
1	A	2458	G	P-O3'-C3'	9.00	130.50	119.70
1	A	2429	G	P-O3'-C3'	-8.99	108.92	119.70
1	A	2225	A	P-O3'-C3'	8.97	130.46	119.70
1	A	1565	C	P-O3'-C3'	8.96	130.46	119.70
1	A	1776	G	P-O3'-C3'	-8.96	108.95	119.70
1	A	451	U	O4'-C1'-N1	8.94	115.35	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	128	C	N1-C1'-C2'	-8.91	102.19	112.00
1	A	862	G	P-O3'-C3'	-8.88	109.05	119.70
1	A	1667	G	P-O3'-C3'	8.87	130.34	119.70
1	A	1963	U	N1-C1'-C2'	-8.84	102.28	112.00
1	A	606	U	O4'-C1'-N1	8.83	115.27	108.20
1	A	1119	U	O4'-C1'-N1	8.83	115.26	108.20
1	A	224	U	P-O3'-C3'	-8.82	109.12	119.70
1	A	444	C	O4'-C1'-N1	8.81	115.25	108.20
1	A	533	G	P-O3'-C3'	-8.74	109.22	119.70
1	A	1536	C	P-O3'-C3'	8.73	130.18	119.70
1	A	2404	U	N1-C1'-C2'	-8.72	102.40	112.00
1	A	1386	C	N1-C1'-C2'	-8.70	102.43	112.00
1	A	1613	G	P-O3'-C3'	-8.66	109.31	119.70
1	A	1780	A	P-O3'-C3'	8.64	130.06	119.70
1	A	1983	G	P-O3'-C3'	-8.63	109.35	119.70
1	A	413	C	N1-C1'-C2'	-8.63	102.51	112.00
1	A	957	C	P-O3'-C3'	8.62	130.05	119.70
1	A	1817	G	P-O3'-C3'	-8.62	109.36	119.70
1	A	1816	C	O4'-C1'-N1	8.60	115.08	108.20
1	A	531	C	P-O3'-C3'	8.60	130.02	119.70
1	A	413	C	P-O3'-C3'	-8.57	109.41	119.70
2	B	88	C	P-O3'-C3'	8.53	129.93	119.70
1	A	335	C	N1-C1'-C2'	-8.52	102.63	112.00
1	A	687	C	N1-C1'-C2'	-8.48	102.67	112.00
1	A	2024	G	P-O3'-C3'	-8.48	109.53	119.70
1	A	1428	C	O4'-C1'-N1	8.45	114.96	108.20
1	A	2683	C	N1-C1'-C2'	-8.42	102.73	112.00
1	A	805	G	P-O3'-C3'	8.42	129.80	119.70
1	A	1965	C	N1-C1'-C2'	-8.40	102.76	112.00
1	A	2023	C	P-O3'-C3'	-8.40	109.62	119.70
1	A	1758	U	N1-C1'-C2'	8.38	124.89	114.00
2	B	87	U	P-O3'-C3'	8.38	129.75	119.70
1	A	1396	U	P-O3'-C3'	8.35	129.72	119.70
1	A	867	C	N1-C1'-C2'	-8.35	102.82	112.00
1	A	976	G	P-O3'-C3'	-8.32	109.71	119.70
1	A	2036	C	N1-C1'-C2'	-8.29	102.88	112.00
1	A	235	U	P-O3'-C3'	-8.27	109.78	119.70
1	A	92	U	N1-C1'-C2'	-8.25	102.93	112.00
1	A	1557	C	N1-C1'-C2'	-8.25	102.93	112.00
1	A	1207	C	N1-C1'-C2'	-8.24	102.94	112.00
1	A	2501	C	O4'-C1'-N1	8.23	114.79	108.20
1	A	1931	U	N1-C1'-C2'	-8.22	102.95	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1822	C	N1-C1'-C2'	-8.21	102.97	112.00
2	B	68	C	O4'-C1'-N1	8.20	114.76	108.20
1	A	217	A	P-O3'-C3'	-8.18	109.88	119.70
1	A	2848	G	P-O3'-C3'	8.10	129.43	119.70
1	A	2497	A	P-O3'-C3'	8.10	129.42	119.70
1	A	2581	G	P-O3'-C3'	8.06	129.37	119.70
1	A	243	U	N1-C1'-C2'	-8.05	103.15	112.00
1	A	1560	G	P-O3'-C3'	-8.04	110.05	119.70
1	A	763	G	P-O3'-C3'	-8.03	110.07	119.70
1	A	2063	C	P-O3'-C3'	-8.02	110.07	119.70
1	A	1816	C	N1-C1'-C2'	-8.02	103.18	112.00
1	A	162	U	P-O3'-C3'	8.01	129.31	119.70
1	A	726	G	P-O3'-C3'	8.00	129.30	119.70
1	A	2712	C	O4'-C1'-N1	8.00	114.60	108.20
1	A	1400	U	N1-C1'-C2'	-7.99	103.21	112.00
1	A	2061	G	P-O3'-C3'	7.98	129.28	119.70
1	A	984	A	P-O3'-C3'	7.98	129.27	119.70
1	A	1785	A	P-O3'-C3'	-7.97	110.13	119.70
1	A	1558	C	P-O3'-C3'	7.97	129.26	119.70
1	A	527	C	P-O3'-C3'	7.95	129.24	119.70
1	A	1945	G	P-O3'-C3'	-7.92	110.19	119.70
1	A	1818	U	O4'-C1'-N1	7.90	114.52	108.20
1	A	2629	U	P-O3'-C3'	7.86	129.13	119.70
1	A	1963	U	P-O3'-C3'	-7.85	110.28	119.70
1	A	1603	A	P-O3'-C3'	-7.84	110.29	119.70
1	A	1626	A	P-O3'-C3'	7.84	129.11	119.70
1	A	2493	U	P-O3'-C3'	-7.84	110.29	119.70
1	A	222	A	P-O3'-C3'	7.82	129.08	119.70
1	A	2259	U	N1-C1'-C2'	-7.80	103.42	112.00
1	A	1829	A	P-O3'-C3'	-7.80	110.34	119.70
1	A	622	G	P-O3'-C3'	-7.79	110.35	119.70
1	A	397	U	N1-C1'-C2'	-7.79	103.44	112.00
1	A	2052	A	P-O3'-C3'	-7.78	110.37	119.70
1	A	1013	C	P-O3'-C3'	-7.77	110.38	119.70
1	A	304	U	P-O3'-C3'	-7.76	110.39	119.70
1	A	2349	G	P-O3'-C3'	-7.75	110.39	119.70
1	A	2150	C	N1-C1'-C2'	-7.75	103.47	112.00
1	A	705	A	P-O3'-C3'	-7.73	110.42	119.70
1	A	2314	A	P-O3'-C3'	-7.72	110.44	119.70
1	A	36	G	P-O3'-C3'	-7.71	110.45	119.70
1	A	1612	C	N1-C1'-C2'	-7.71	103.52	112.00
1	A	2023	C	N1-C1'-C2'	-7.68	103.55	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	860	U	P-O3'-C3'	-7.68	110.49	119.70
1	A	784	G	O4'-C1'-N9	7.66	114.33	108.20
1	A	1993	U	N1-C1'-C2'	-7.66	103.57	112.00
1	A	964	C	N1-C1'-C2'	-7.65	103.58	112.00
1	A	1954	G	P-O3'-C3'	7.65	128.88	119.70
1	A	122	G	P-O3'-C3'	-7.63	110.55	119.70
1	A	121	G	P-O3'-C3'	-7.60	110.58	119.70
1	A	15	G	P-O3'-C3'	-7.58	110.61	119.70
1	A	2712	C	P-O3'-C3'	7.57	128.79	119.70
1	A	2249	U	N1-C1'-C2'	7.57	123.84	114.00
1	A	2286	G	P-O3'-C3'	7.56	128.78	119.70
1	A	1135	C	N1-C1'-C2'	-7.56	103.68	112.00
1	A	2428	G	P-O3'-C3'	-7.56	110.63	119.70
1	A	1655	A	P-O3'-C3'	-7.55	110.64	119.70
1	A	1839	G	P-O3'-C3'	-7.54	110.66	119.70
1	A	2656	U	N1-C1'-C2'	-7.53	103.72	112.00
1	A	1980	G	P-O3'-C3'	7.53	128.73	119.70
1	A	2459	A	P-O3'-C3'	-7.53	110.67	119.70
1	A	1256	G	P-O3'-C3'	-7.52	110.68	119.70
1	A	2493	U	N1-C1'-C2'	-7.51	103.74	112.00
2	B	40	U	P-O3'-C3'	7.51	128.71	119.70
1	A	1267	U	O4'-C1'-N1	7.50	114.20	108.20
1	A	1700	A	P-O3'-C3'	-7.50	110.70	119.70
1	A	2284	A	P-O3'-C3'	-7.50	110.70	119.70
1	A	990	A	P-O3'-C3'	-7.49	110.71	119.70
1	A	1915	U	N1-C1'-C2'	-7.48	103.77	112.00
1	A	2251	G	P-O3'-C3'	-7.48	110.73	119.70
1	A	1522	A	P-O3'-C3'	7.46	128.66	119.70
1	A	2837	A	P-O3'-C3'	-7.46	110.74	119.70
1	A	2406	A	P-O3'-C3'	7.46	128.66	119.70
1	A	656	G	P-O3'-C3'	-7.46	110.75	119.70
1	A	778	G	P-O3'-C3'	-7.46	110.75	119.70
1	A	2382	G	P-O3'-C3'	7.44	128.63	119.70
1	A	1918	A	P-O3'-C3'	7.44	128.62	119.70
1	A	846	U	O4'-C1'-N1	7.43	114.15	108.20
1	A	2387	U	N1-C1'-C2'	-7.42	103.83	112.00
1	A	575	A	P-O3'-C3'	-7.42	110.80	119.70
1	A	790	U	O4'-C1'-N1	7.42	114.13	108.20
1	A	867	C	O4'-C1'-N1	7.42	114.13	108.20
1	A	76	C	N1-C1'-C2'	-7.41	103.85	112.00
1	A	2312	U	P-O3'-C3'	-7.41	110.81	119.70
1	A	1010	A	P-O3'-C3'	-7.41	110.81	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2197	U	OP1-P-O3'	7.36	121.40	105.20
1	A	1556	C	P-O3'-C3'	-7.36	110.87	119.70
1	A	2267	A	P-O3'-C3'	-7.35	110.88	119.70
1	A	961	C	N1-C1'-C2'	7.34	123.54	114.00
1	A	2836	U	N1-C1'-C2'	-7.34	103.93	112.00
1	A	91	A	P-O3'-C3'	7.34	128.50	119.70
1	A	325	G	P-O3'-C3'	-7.32	110.91	119.70
1	A	868	U	P-O3'-C3'	-7.32	110.92	119.70
1	A	1272	A	P-O3'-C3'	7.31	128.47	119.70
1	A	353	C	P-O3'-C3'	7.29	128.45	119.70
1	A	164	C	P-O3'-C3'	-7.28	110.96	119.70
1	A	1389	G	P-O3'-C3'	-7.27	110.98	119.70
1	A	2752	C	N1-C1'-C2'	-7.26	104.01	112.00
1	A	1674	G	P-O3'-C3'	7.25	128.41	119.70
1	A	945	A	O4'-C1'-N9	7.25	114.00	108.20
1	A	1144	A	P-O3'-C3'	-7.23	111.03	119.70
1	A	532	A	P-O3'-C3'	7.22	128.36	119.70
1	A	2572	A	P-O3'-C3'	7.22	128.36	119.70
1	A	1636	U	P-O3'-C3'	-7.20	111.06	119.70
1	A	1802	A	P-O3'-C3'	-7.20	111.06	119.70
1	A	2289	G	P-O3'-C3'	-7.19	111.08	119.70
1	A	1997	C	P-O3'-C3'	-7.18	111.08	119.70
1	A	1430	G	P-O3'-C3'	-7.17	111.10	119.70
1	A	397	U	O4'-C1'-N1	7.15	113.92	108.20
1	A	207	A	P-O3'-C3'	-7.15	111.12	119.70
1	A	1647	U	P-O3'-C3'	7.14	128.27	119.70
1	A	1206	G	P-O3'-C3'	-7.14	111.14	119.70
1	A	2384	U	N1-C1'-C2'	7.12	123.25	114.00
1	A	777	G	N9-C1'-C2'	-7.09	104.20	112.00
1	A	2868	A	P-O3'-C3'	-7.08	111.21	119.70
1	A	730	A	P-O3'-C3'	-7.07	111.22	119.70
1	A	669	G	P-O3'-C3'	7.07	128.18	119.70
1	A	629	G	P-O3'-C3'	-7.04	111.25	119.70
1	A	1901	A	P-O3'-C3'	-7.03	111.26	119.70
1	A	1683	U	P-O3'-C3'	-7.03	111.27	119.70
1	A	460	A	P-O3'-C3'	-7.03	111.27	119.70
1	A	1141	U	P-O3'-C3'	7.02	128.13	119.70
1	A	2250	G	O4'-C1'-N9	-7.02	102.59	108.20
1	A	2217	G	P-O3'-C3'	-7.01	111.28	119.70
1	A	2874	C	P-O3'-C3'	-7.01	111.29	119.70
1	A	229	C	N1-C1'-C2'	-7.00	104.30	112.00
1	A	324	A	P-O3'-C3'	-7.00	111.30	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1799	G	P-O3'-C3'	7.00	128.09	119.70
1	A	49	A	P-O3'-C3'	6.99	128.09	119.70
1	A	992	C	P-O3'-C3'	-6.99	111.31	119.70
1	A	2199	A	P-O3'-C3'	-6.99	111.31	119.70
1	A	2874	C	N1-C1'-C2'	-6.99	104.31	112.00
1	A	1079	C	N1-C1'-C2'	-6.99	104.32	112.00
1	A	1707	G	P-O3'-C3'	-6.98	111.32	119.70
1	A	2339	C	P-O3'-C3'	-6.97	111.34	119.70
1	A	162	U	O4'-C1'-N1	6.96	113.77	108.20
1	A	2603	G	P-O3'-C3'	-6.96	111.34	119.70
1	A	1347	A	P-O3'-C3'	-6.96	111.35	119.70
1	A	704	G	P-O3'-C3'	6.96	128.05	119.70
1	A	1965	C	O4'-C1'-N1	-6.94	102.65	108.20
1	A	1397	U	N1-C1'-C2'	6.94	123.02	114.00
1	A	2714	G	P-O3'-C3'	-6.94	111.38	119.70
1	A	2282	G	P-O3'-C3'	6.93	128.02	119.70
1	A	1569	A	P-O3'-C3'	-6.93	111.38	119.70
1	A	916	G	P-O3'-C3'	-6.92	111.39	119.70
1	A	913	U	P-O3'-C3'	6.92	128.00	119.70
1	A	2667	C	N1-C1'-C2'	-6.91	104.40	112.00
1	A	1460	U	P-O3'-C3'	6.91	127.99	119.70
1	A	1247	A	P-O3'-C3'	6.91	127.99	119.70
1	A	1967	C	P-O3'-C3'	-6.90	111.42	119.70
1	A	1019	U	O4'-C1'-N1	6.89	113.71	108.20
1	A	2272	U	O4'-C1'-N1	-6.88	102.70	108.20
1	A	2757	A	P-O3'-C3'	-6.87	111.45	119.70
1	A	1787	A	P-O3'-C3'	-6.87	111.46	119.70
1	A	1941	C	N1-C1'-C2'	-6.87	104.45	112.00
1	A	421	C	P-O3'-C3'	6.86	127.93	119.70
1	A	73	A	P-O3'-C3'	-6.85	111.48	119.70
1	A	670	A	P-O3'-C3'	6.85	127.92	119.70
2	B	24	G	P-O3'-C3'	6.84	127.91	119.70
1	A	1654	A	C3'-C2'-C1'	6.82	106.96	101.50
1	A	510	C	N1-C1'-C2'	-6.82	104.50	112.00
1	A	2646	C	O4'-C1'-N1	-6.80	102.76	108.20
1	A	129	C	N1-C1'-C2'	-6.80	104.52	112.00
1	A	1305	C	O4'-C1'-N1	6.80	113.64	108.20
1	A	1615	C	N1-C1'-C2'	6.80	122.84	114.00
1	A	958	U	P-O3'-C3'	-6.76	111.59	119.70
1	A	2391	G	P-O3'-C3'	6.75	127.80	119.70
1	A	304	U	O4'-C1'-N1	6.75	113.60	108.20
1	A	1114	C	N1-C1'-C2'	-6.74	104.59	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	628	G	P-O3'-C3'	-6.73	111.63	119.70
1	A	1900	A	P-O3'-C3'	6.72	127.77	119.70
1	A	407	G	P-O3'-C3'	-6.72	111.63	119.70
1	A	1557	C	P-O3'-C3'	-6.72	111.64	119.70
1	A	336	C	P-O3'-C3'	-6.71	111.64	119.70
1	A	2023	C	O4'-C1'-N1	6.70	113.56	108.20
1	A	2409	G	P-O3'-C3'	-6.70	111.66	119.70
1	A	2490	G	P-O3'-C3'	6.69	127.72	119.70
1	A	811	U	O4'-C1'-N1	6.68	113.55	108.20
1	A	335	C	O4'-C1'-N1	6.68	113.55	108.20
1	A	861	A	P-O3'-C3'	-6.68	111.68	119.70
1	A	1455	G	P-O3'-C3'	-6.68	111.68	119.70
1	A	1072	C	O4'-C1'-N1	6.68	113.54	108.20
1	A	2324	U	P-O3'-C3'	6.65	127.69	119.70
1	A	1008	A	P-O3'-C3'	6.65	127.68	119.70
1	A	571	U	P-O3'-C3'	6.65	127.68	119.70
1	A	484	C	O4'-C1'-N1	6.64	113.51	108.20
1	A	2267	A	N9-C1'-C2'	-6.64	104.70	112.00
1	A	777	G	P-O3'-C3'	-6.64	111.74	119.70
1	A	2060	A	P-O3'-C3'	6.64	127.66	119.70
1	A	2616	C	P-O3'-C3'	-6.64	111.74	119.70
1	A	2447	G	O4'-C1'-N9	6.63	113.51	108.20
1	A	1213	A	P-O3'-C3'	-6.63	111.75	119.70
1	A	1386	C	O4'-C1'-N1	6.63	113.50	108.20
10	J	25	LEU	CA-CB-CG	6.63	130.54	115.30
1	A	672	C	P-O3'-C3'	-6.62	111.76	119.70
1	A	915	C	P-O3'-C3'	-6.59	111.79	119.70
1	A	1717	A	P-O3'-C3'	-6.59	111.79	119.70
1	A	811	U	P-O3'-C3'	6.59	127.61	119.70
1	A	530	G	P-O3'-C3'	-6.58	111.81	119.70
1	A	1606	C	P-O3'-C3'	6.57	127.58	119.70
1	A	1733	G	P-O3'-C3'	-6.57	111.82	119.70
1	A	1993	U	P-O3'-C3'	-6.57	111.82	119.70
1	A	1568	G	P-O3'-C3'	-6.56	111.83	119.70
1	A	1136	G	P-O3'-C3'	-6.56	111.83	119.70
1	A	2567	G	P-O3'-C3'	-6.55	111.83	119.70
1	A	1649	G	P-O3'-C3'	-6.55	111.84	119.70
1	A	1615	C	P-O3'-C3'	6.54	127.55	119.70
1	A	1650	A	P-O3'-C3'	-6.54	111.85	119.70
1	A	230	G	P-O3'-C3'	-6.52	111.87	119.70
1	A	1289	C	P-O3'-C3'	-6.52	111.88	119.70
1	A	1399	C	N1-C1'-C2'	-6.51	104.84	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1600	C	O4'-C1'-N1	-6.51	102.99	108.20
2	B	107	G	P-O3'-C3'	6.51	127.51	119.70
1	A	1941	C	P-O3'-C3'	-6.50	111.89	119.70
1	A	271	G	P-O3'-C3'	6.49	127.48	119.70
1	A	2609	U	N1-C1'-C2'	6.48	122.42	114.00
1	A	2240	U	O4'-C1'-N1	6.47	113.38	108.20
1	A	901	C	P-O3'-C3'	6.46	127.45	119.70
1	A	1498	C	P-O3'-C3'	-6.45	111.96	119.70
1	A	1612	C	O4'-C1'-N1	6.45	113.36	108.20
1	A	1810	A	P-O3'-C3'	-6.45	111.96	119.70
1	A	2542	A	P-O3'-C3'	6.45	127.44	119.70
1	A	206	U	P-O3'-C3'	-6.44	111.97	119.70
1	A	2284	A	N9-C1'-C2'	-6.43	104.93	112.00
1	A	2226	C	C3'-C2'-C1'	6.42	106.64	101.50
1	A	143	C	N1-C1'-C2'	-6.42	104.94	112.00
1	A	1611	C	N1-C1'-C2'	-6.42	104.94	112.00
1	A	1397	U	P-O3'-C3'	6.42	127.40	119.70
1	A	1304	A	P-O3'-C3'	-6.41	112.00	119.70
1	A	1811	G	P-O3'-C3'	-6.41	112.00	119.70
1	A	2683	C	P-O3'-C3'	-6.41	112.00	119.70
1	A	1451	C	O4'-C1'-N1	6.41	113.33	108.20
1	A	2895	G	P-O3'-C3'	-6.41	112.01	119.70
1	A	1838	C	P-O3'-C3'	6.41	127.39	119.70
1	A	2447	G	P-O3'-C3'	6.39	127.37	119.70
1	A	858	G	P-O3'-C3'	6.38	127.35	119.70
1	A	1265	A	P-O3'-C3'	6.38	127.35	119.70
1	A	2299	U	O4'-C1'-N1	6.38	113.30	108.20
1	A	2582	G	N9-C1'-C2'	-6.37	105.00	112.00
1	A	480	A	P-O3'-C3'	-6.36	112.06	119.70
1	A	1333	G	P-O3'-C3'	-6.36	112.07	119.70
1	A	1314	C	N1-C1'-C2'	-6.35	105.01	112.00
1	A	2299	U	P-O3'-C3'	-6.34	112.09	119.70
1	A	1983	G	N9-C1'-C2'	-6.34	105.02	112.00
1	A	2873	A	O4'-C1'-N9	6.34	113.27	108.20
1	A	2034	U	P-O3'-C3'	-6.34	112.09	119.70
1	A	673	C	P-O3'-C3'	-6.33	112.11	119.70
1	A	1027	A	P-O3'-C3'	-6.33	112.11	119.70
1	A	802	A	P-O3'-C3'	-6.32	112.12	119.70
1	A	129	C	P-O3'-C3'	-6.32	112.12	119.70
1	A	397	U	P-O3'-C3'	-6.32	112.12	119.70
1	A	765	C	C3'-C2'-C1'	6.31	106.55	101.50
1	A	959	A	C3'-C2'-C1'	6.31	106.55	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	638	G	P-O3'-C3'	-6.31	112.13	119.70
1	A	2850	A	P-O3'-C3'	-6.30	112.14	119.70
8	H	48	GLU	O-C-N	6.30	132.78	122.70
1	A	1619	G	N9-C1'-C2'	-6.30	105.07	112.00
1	A	1064	C	P-O3'-C3'	-6.29	112.15	119.70
1	A	1078	U	O4'-C1'-N1	6.29	113.23	108.20
1	A	1848	A	P-O3'-C3'	-6.29	112.15	119.70
1	A	2210	U	P-O3'-C3'	6.28	127.23	119.70
1	A	1758	U	P-O3'-C3'	6.28	127.23	119.70
1	A	752	A	O4'-C1'-N9	6.26	113.21	108.20
1	A	783	A	C3'-C2'-C1'	6.26	106.51	101.50
1	A	2689	U	O4'-C1'-N1	6.26	113.21	108.20
1	A	964	C	C3'-C2'-C1'	6.26	106.51	101.50
1	A	1236	G	P-O3'-C3'	6.26	127.21	119.70
1	A	1291	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	2150	C	P-O3'-C3'	-6.24	112.21	119.70
1	A	1617	C	O4'-C1'-N1	6.24	113.19	108.20
1	A	2136	G	P-O3'-C3'	-6.24	112.22	119.70
1	A	1739	A	P-O3'-C3'	-6.23	112.22	119.70
1	A	1803	A	P-O3'-C3'	-6.23	112.22	119.70
1	A	2143	C	P-O3'-C3'	6.23	127.17	119.70
1	A	1399	C	P-O3'-C3'	-6.22	112.23	119.70
1	A	1602	U	P-O3'-C3'	6.22	127.17	119.70
1	A	1430	G	C3'-C2'-C1'	6.21	106.47	101.50
1	A	87	U	P-O3'-C3'	-6.21	112.25	119.70
1	A	1554	U	P-O3'-C3'	6.21	127.16	119.70
1	A	2438	U	O4'-C1'-N1	6.21	113.17	108.20
1	A	404	A	P-O3'-C3'	6.21	127.15	119.70
1	A	2339	C	O4'-C1'-N1	6.18	113.14	108.20
1	A	2520	C	C3'-C2'-C1'	6.18	106.44	101.50
1	A	2147	A	P-O3'-C3'	-6.17	112.30	119.70
1	A	449	A	C3'-C2'-C1'	6.16	106.43	101.50
1	A	1020	A	P-O3'-C3'	6.16	127.09	119.70
1	A	2334	U	P-O3'-C3'	6.15	127.08	119.70
1	A	2777	G	C3'-C2'-C1'	6.15	106.42	101.50
1	A	2033	A	P-O3'-C3'	6.15	127.08	119.70
1	A	1475	G	P-O3'-C3'	6.14	127.07	119.70
1	A	947	A	C3'-C2'-C1'	6.14	106.41	101.50
2	B	107	G	OP1-P-O3'	6.14	118.71	105.20
1	A	2498	C	P-O3'-C3'	-6.13	112.34	119.70
1	A	774	G	P-O3'-C3'	6.13	127.05	119.70
1	A	1268	A	C3'-C2'-C1'	6.12	106.40	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	28	A	C3'-C2'-C1'	6.11	106.39	101.50
1	A	2143	C	O4'-C1'-N1	6.11	113.09	108.20
1	A	2450	A	P-O3'-C3'	-6.11	112.36	119.70
1	A	1320	C	P-O3'-C3'	6.10	127.02	119.70
1	A	1803	A	C3'-C2'-C1'	6.10	106.38	101.50
1	A	1982	U	P-O3'-C3'	-6.10	112.38	119.70
1	A	2875	C	O4'-C1'-N1	6.10	113.08	108.20
1	A	1695	G	P-O3'-C3'	-6.09	112.39	119.70
1	A	2585	U	P-O3'-C3'	6.08	127.00	119.70
1	A	702	U	O4'-C1'-N1	6.08	113.07	108.20
1	A	2348	U	O4'-C1'-N1	6.08	113.06	108.20
1	A	1327	A	C3'-C2'-C1'	6.08	106.36	101.50
1	A	1314	C	C3'-C2'-C1'	6.07	106.36	101.50
1	A	2836	U	P-O3'-C3'	-6.07	112.42	119.70
1	A	2582	G	P-O3'-C3'	-6.07	112.42	119.70
1	A	605	G	C3'-C2'-C1'	6.06	106.35	101.50
1	A	1716	U	N1-C1'-C2'	-6.06	105.33	112.00
1	A	913	U	O4'-C1'-N1	6.05	113.04	108.20
1	A	2239	G	P-O3'-C3'	-6.05	112.44	119.70
1	A	2504	U	O4'-C1'-N1	6.05	113.04	108.20
1	A	1635	A	P-O3'-C3'	-6.04	112.45	119.70
1	A	476	G	P-O3'-C3'	-6.04	112.45	119.70
1	A	861	A	C3'-C2'-C1'	6.04	106.33	101.50
1	A	1996	C	P-O3'-C3'	6.04	126.94	119.70
1	A	1136	G	N9-C1'-C2'	-6.03	105.36	112.00
1	A	2214	C	P-O3'-C3'	-6.03	112.46	119.70
1	A	1636	U	N1-C1'-C2'	-6.03	105.37	112.00
1	A	973	A	P-O3'-C3'	6.02	126.93	119.70
1	A	1717	A	C3'-C2'-C1'	6.02	106.32	101.50
1	A	1398	C	P-O3'-C3'	-6.01	112.48	119.70
1	A	865	C	P-O3'-C3'	6.01	126.92	119.70
1	A	1962	C	P-O3'-C3'	6.01	126.91	119.70
1	A	374	A	C3'-C2'-C1'	6.01	106.31	101.50
1	A	1415	U	O4'-C1'-N1	6.01	113.00	108.20
1	A	976	G	C3'-C2'-C1'	6.00	106.30	101.50
1	A	1063	G	P-O3'-C3'	-6.00	112.50	119.70
1	A	77	G	C3'-C2'-C1'	6.00	106.30	101.50
1	A	1669	A	C3'-C2'-C1'	6.00	106.30	101.50
1	A	958	U	N1-C1'-C2'	-5.99	105.41	112.00
1	A	618	G	P-O3'-C3'	-5.99	112.51	119.70
1	A	2800	A	C3'-C2'-C1'	5.99	106.29	101.50
1	A	273	G	P-O3'-C3'	-5.98	112.52	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2881	U	P-O3'-C3'	-5.97	112.53	119.70
1	A	576	U	C3'-C2'-C1'	5.96	106.27	101.50
1	A	546	U	O4'-C1'-N1	5.96	112.97	108.20
1	A	673	C	C3'-C2'-C1'	5.96	106.27	101.50
1	A	1274	A	P-O3'-C3'	-5.96	112.55	119.70
1	A	638	G	C3'-C2'-C1'	5.96	106.27	101.50
1	A	1077	A	P-O3'-C3'	-5.96	112.55	119.70
1	A	1034	G	C3'-C2'-C1'	5.96	106.27	101.50
1	A	2609	U	P-O3'-C3'	5.95	126.84	119.70
1	A	163	C	N1-C1'-C2'	-5.95	105.45	112.00
1	A	2275	C	P-O3'-C3'	5.94	126.83	119.70
1	A	1782	U	O4'-C1'-N1	5.94	112.95	108.20
1	A	1649	G	N9-C1'-C2'	-5.94	105.47	112.00
1	A	424	G	C3'-C2'-C1'	5.93	106.25	101.50
1	A	407	G	C3'-C2'-C1'	5.93	106.25	101.50
1	A	1865	U	N1-C1'-C2'	5.93	121.71	114.00
1	A	1700	A	C3'-C2'-C1'	5.93	106.24	101.50
1	A	2036	C	P-O3'-C3'	-5.93	112.58	119.70
1	A	492	A	C3'-C2'-C1'	5.92	106.23	101.50
1	A	1633	G	P-O3'-C3'	5.91	126.80	119.70
1	A	1207	C	P-O3'-C3'	-5.91	112.61	119.70
1	A	104	A	C3'-C2'-C1'	5.91	106.23	101.50
1	A	2387	U	C3'-C2'-C1'	5.91	106.23	101.50
1	A	1286	A	P-O3'-C3'	5.91	126.79	119.70
1	A	424	G	N9-C1'-C2'	-5.90	105.50	112.00
1	A	2217	G	C3'-C2'-C1'	5.90	106.22	101.50
1	A	442	G	P-O3'-C3'	5.90	126.78	119.70
1	A	963	U	O4'-C1'-N1	5.90	112.92	108.20
1	A	1888	G	O4'-C1'-N9	5.90	112.92	108.20
1	A	2333	A	P-O3'-C3'	5.90	126.78	119.70
1	A	2338	C	O4'-C1'-N1	5.90	112.92	108.20
1	A	1829	A	N9-C1'-C2'	-5.89	105.52	112.00
1	A	2868	A	C3'-C2'-C1'	5.89	106.22	101.50
1	A	273	G	C3'-C2'-C1'	5.89	106.21	101.50
1	A	1811	G	C3'-C2'-C1'	5.89	106.21	101.50
1	A	1965	C	P-O3'-C3'	-5.89	112.63	119.70
1	A	2582	G	C3'-C2'-C1'	5.89	106.21	101.50
1	A	1333	G	C3'-C2'-C1'	5.88	106.21	101.50
1	A	1970	A	P-O3'-C3'	5.88	126.76	119.70
1	A	1110	G	P-O3'-C3'	5.88	126.76	119.70
1	A	1735	A	C3'-C2'-C1'	5.88	106.20	101.50
1	A	2334	U	N1-C1'-C2'	5.88	121.64	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1993	U	C3'-C2'-C1'	5.88	106.20	101.50
1	A	783	A	P-O3'-C3'	-5.88	112.65	119.70
1	A	1839	G	N9-C1'-C2'	-5.88	105.54	112.00
2	B	45	A	P-O3'-C3'	-5.87	112.65	119.70
1	A	1274	A	C3'-C2'-C1'	5.87	106.20	101.50
1	A	1558	C	O4'-C1'-N1	5.86	112.89	108.20
1	A	1722	A	P-O3'-C3'	-5.86	112.67	119.70
1	A	2752	C	O4'-C1'-N1	5.86	112.89	108.20
1	A	1839	G	C3'-C2'-C1'	5.86	106.19	101.50
1	A	1916	A	C3'-C2'-C1'	5.86	106.19	101.50
1	A	2440	C	P-O3'-C3'	-5.86	112.67	119.70
1	A	1290	C	O4'-C1'-N1	5.85	112.88	108.20
1	A	14	A	C3'-C2'-C1'	5.85	106.18	101.50
1	A	1114	C	O4'-C1'-N1	5.84	112.88	108.20
1	A	606	U	P-O3'-C3'	-5.84	112.69	119.70
1	A	321	U	O4'-C1'-N1	5.84	112.87	108.20
1	A	531	C	N1-C1'-C2'	5.84	121.59	114.00
1	A	395	U	N1-C1'-C2'	5.84	121.59	114.00
1	A	244	A	C3'-C2'-C1'	5.83	106.17	101.50
1	A	2450	A	C3'-C2'-C1'	5.83	106.17	101.50
1	A	740	C	C3'-C2'-C1'	5.83	106.16	101.50
1	A	2199	A	C3'-C2'-C1'	5.83	106.16	101.50
1	A	1809	A	P-O3'-C3'	-5.82	112.71	119.70
1	A	1821	A	P-O3'-C3'	-5.82	112.72	119.70
1	A	52	A	C3'-C2'-C1'	5.82	106.15	101.50
1	A	1649	G	C3'-C2'-C1'	5.82	106.15	101.50
1	A	2064	C	N1-C1'-C2'	-5.82	105.60	112.00
1	A	2498	C	C3'-C2'-C1'	5.81	106.15	101.50
1	A	217	A	C3'-C2'-C1'	5.81	106.15	101.50
1	A	1654	A	P-O3'-C3'	-5.81	112.73	119.70
1	A	2646	C	P-O3'-C3'	-5.81	112.73	119.70
2	B	90	C	P-O3'-C3'	-5.81	112.73	119.70
1	A	1400	U	P-O3'-C3'	-5.80	112.74	119.70
1	A	2729	G	C3'-C2'-C1'	5.80	106.14	101.50
1	A	302	C	N1-C1'-C2'	-5.80	105.62	112.00
1	A	2505	G	C3'-C2'-C1'	5.79	106.14	101.50
2	B	111	U	P-O3'-C3'	-5.79	112.75	119.70
1	A	460	A	C3'-C2'-C1'	5.79	106.13	101.50
1	A	947	A	P-O3'-C3'	-5.78	112.76	119.70
1	A	1493	C	P-O3'-C3'	5.78	126.64	119.70
1	A	2639	A	P-O3'-C3'	-5.78	112.76	119.70
1	A	2458	G	C4-N9-C1'	5.78	134.01	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2638	G	P-O3'-C3'	5.78	126.63	119.70
2	B	107	G	O3'-P-O5'	-5.77	93.03	104.00
1	A	2492	U	C3'-C2'-C1'	5.77	106.12	101.50
1	A	391	A	C3'-C2'-C1'	5.76	106.11	101.50
1	A	1389	G	C3'-C2'-C1'	5.76	106.11	101.50
1	A	1821	A	C3'-C2'-C1'	5.75	106.10	101.50
1	A	992	C	O4'-C1'-N1	5.75	112.80	108.20
1	A	1027	A	C3'-C2'-C1'	5.75	106.10	101.50
1	A	2459	A	C3'-C2'-C1'	5.74	106.09	101.50
1	A	1303	G	P-O3'-C3'	-5.73	112.82	119.70
1	A	747	U	P-O3'-C3'	-5.73	112.82	119.70
1	A	1388	G	C3'-C2'-C1'	5.73	106.08	101.50
1	A	1021	A	C3'-C2'-C1'	5.72	106.08	101.50
1	A	2150	C	C3'-C2'-C1'	5.72	106.08	101.50
1	A	1735	A	P-O3'-C3'	-5.72	112.84	119.70
1	A	2683	C	C3'-C2'-C1'	5.72	106.07	101.50
1	A	2489	U	O4'-C1'-N1	5.71	112.77	108.20
1	A	749	A	P-O3'-C3'	-5.71	112.85	119.70
1	A	1415	U	P-O3'-C3'	5.71	126.55	119.70
2	B	58	A	C3'-C2'-C1'	5.71	106.07	101.50
1	A	1010	A	C3'-C2'-C1'	5.71	106.06	101.50
1	A	2429	G	C4-N9-C1'	5.70	133.91	126.50
1	A	868	U	C3'-C2'-C1'	5.69	106.05	101.50
2	B	45	A	C3'-C2'-C1'	5.69	106.05	101.50
1	A	783	A	N9-C1'-C2'	-5.69	105.74	112.00
1	A	1273	U	P-O3'-C3'	-5.69	112.88	119.70
1	A	2714	G	N9-C1'-C2'	-5.68	105.75	112.00
1	A	510	C	C3'-C2'-C1'	5.68	106.05	101.50
1	A	945	A	P-O3'-C3'	5.68	126.52	119.70
1	A	2052	A	N9-C1'-C2'	-5.68	105.75	112.00
1	A	2214	C	C3'-C2'-C1'	5.68	106.04	101.50
1	A	445	C	P-O3'-C3'	-5.68	112.89	119.70
1	A	1267	U	P-O3'-C3'	-5.68	112.89	119.70
1	A	1555	G	C3'-C2'-C1'	5.68	106.04	101.50
1	A	1654	A	N9-C1'-C2'	-5.68	105.75	112.00
2	B	41	G	P-O3'-C3'	-5.68	112.89	119.70
1	A	424	G	P-O3'-C3'	-5.67	112.89	119.70
2	B	40	U	N1-C1'-C2'	5.67	121.38	114.00
1	A	73	A	C3'-C2'-C1'	5.67	106.04	101.50
1	A	2289	G	C3'-C2'-C1'	5.67	106.04	101.50
1	A	334	C	O4'-C1'-N1	5.67	112.73	108.20
1	A	919	U	O4'-C1'-N1	-5.67	103.67	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	628	G	C3'-C2'-C1'	5.66	106.03	101.50
1	A	916	G	C3'-C2'-C1'	5.66	106.03	101.50
1	A	2440	C	C3'-C2'-C1'	5.66	106.03	101.50
1	A	1144	A	C3'-C2'-C1'	5.66	106.02	101.50
1	A	1956	U	C3'-C2'-C1'	5.66	106.03	101.50
2	B	16	G	C3'-C2'-C1'	5.66	106.03	101.50
1	A	1089	A	P-O3'-C3'	5.65	126.48	119.70
1	A	412	A	C3'-C2'-C1'	5.65	106.02	101.50
1	A	2620	C	O4'-C1'-N1	-5.65	103.68	108.20
1	A	765	C	P-O3'-C3'	-5.64	112.93	119.70
1	A	2615	U	C3'-C2'-C1'	5.64	106.01	101.50
1	A	393	C	O4'-C1'-N1	5.64	112.71	108.20
1	A	656	G	C3'-C2'-C1'	5.64	106.01	101.50
1	A	2616	C	C3'-C2'-C1'	5.64	106.01	101.50
1	A	1759	A	P-O3'-C3'	-5.63	112.94	119.70
1	A	629	G	C3'-C2'-C1'	5.63	106.00	101.50
1	A	1901	A	C3'-C2'-C1'	5.63	106.00	101.50
1	A	1919	A	P-O3'-C3'	-5.63	112.95	119.70
1	A	389	G	P-O3'-C3'	-5.62	112.96	119.70
1	A	1400	U	C3'-C2'-C1'	5.62	105.99	101.50
1	A	1428	C	C3'-C2'-C1'	-5.62	97.00	101.50
1	A	1997	C	C3'-C2'-C1'	5.62	106.00	101.50
1	A	2506	U	P-O3'-C3'	-5.62	112.96	119.70
1	A	1675	C	C3'-C2'-C1'	5.62	105.99	101.50
1	A	2875	C	P-O3'-C3'	-5.62	112.96	119.70
1	A	1815	A	P-O3'-C3'	5.61	126.44	119.70
1	A	1945	G	C3'-C2'-C1'	5.61	105.99	101.50
1	A	827	U	P-O3'-C3'	5.60	126.42	119.70
1	A	1401	G	C3'-C2'-C1'	5.60	105.98	101.50
2	B	110	C	P-O3'-C3'	-5.60	112.98	119.70
1	A	1324	G	P-O3'-C3'	5.60	126.42	119.70
1	A	2409	G	C3'-C2'-C1'	5.60	105.98	101.50
1	A	2656	U	P-O3'-C3'	-5.60	112.98	119.70
1	A	860	U	C3'-C2'-C1'	5.59	105.98	101.50
1	A	990	A	C3'-C2'-C1'	5.59	105.97	101.50
1	A	1157	G	C3'-C2'-C1'	5.59	105.97	101.50
1	A	1498	C	C3'-C2'-C1'	5.59	105.97	101.50
1	A	1695	G	C3'-C2'-C1'	5.59	105.97	101.50
1	A	2314	A	C3'-C2'-C1'	5.58	105.97	101.50
1	A	1009	A	C3'-C2'-C1'	5.58	105.96	101.50
1	A	1636	U	C3'-C2'-C1'	5.58	105.96	101.50
1	A	2364	C	O4'-C1'-N1	5.58	112.66	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2493	U	C3'-C2'-C1'	5.58	105.96	101.50
1	A	1982	U	C3'-C2'-C1'	5.58	105.96	101.50
1	A	2348	U	P-O3'-C3'	-5.58	113.01	119.70
1	A	1760	C	C3'-C2'-C1'	5.57	105.96	101.50
1	A	231	A	C3'-C2'-C1'	5.57	105.96	101.50
1	A	747	U	N1-C1'-C2'	-5.57	105.87	112.00
1	A	103	A	C3'-C2'-C1'	5.57	105.96	101.50
1	A	1398	C	N1-C1'-C2'	-5.57	105.87	112.00
1	A	2024	G	C3'-C2'-C1'	5.57	105.95	101.50
1	A	2504	U	C3'-C2'-C1'	5.57	105.95	101.50
1	A	52	A	P-O3'-C3'	-5.57	113.02	119.70
1	A	687	C	C3'-C2'-C1'	5.57	105.95	101.50
1	A	2468	A	P-O3'-C3'	5.57	126.38	119.70
1	A	2880	C	C3'-C2'-C1'	5.56	105.95	101.50
1	A	325	G	C3'-C2'-C1'	5.56	105.95	101.50
1	A	2063	C	C3'-C2'-C1'	5.56	105.94	101.50
1	A	1648	U	C3'-C2'-C1'	5.56	105.94	101.50
1	A	778	G	N9-C1'-C2'	-5.55	105.89	112.00
1	A	2832	U	O4'-C1'-N1	5.55	112.64	108.20
1	A	223	A	P-O3'-C3'	-5.55	113.04	119.70
1	A	2573	C	P-O3'-C3'	-5.55	113.04	119.70
1	A	370	G	P-O3'-C3'	5.54	126.35	119.70
1	A	1857	G	P-O3'-C3'	5.54	126.35	119.70
1	A	572	A	O4'-C1'-N9	-5.54	103.77	108.20
1	A	746	U	N1-C1'-C2'	5.54	121.20	114.00
1	A	35	G	C3'-C2'-C1'	5.53	105.93	101.50
1	A	2850	A	C3'-C2'-C1'	5.53	105.93	101.50
1	A	2216	G	P-O3'-C3'	-5.53	113.06	119.70
1	A	1739	A	C3'-C2'-C1'	5.53	105.92	101.50
1	A	2239	G	C3'-C2'-C1'	5.53	105.92	101.50
1	A	1346	G	P-O3'-C3'	-5.53	113.07	119.70
1	A	788	A	P-O3'-C3'	5.53	126.33	119.70
1	A	2276	G	C3'-C2'-C1'	5.53	105.92	101.50
1	A	671	C	N1-C1'-C2'	-5.52	105.93	112.00
1	A	763	G	C3'-C2'-C1'	5.52	105.91	101.50
1	A	1981	A	P-O5'-C5'	-5.52	112.07	120.90
1	A	2216	G	C3'-C2'-C1'	5.52	105.91	101.50
1	A	1981	A	P-O3'-C3'	-5.52	113.08	119.70
1	A	443	A	C3'-C2'-C1'	5.51	105.91	101.50
1	A	481	G	O4'-C1'-N9	5.51	112.61	108.20
1	A	622	G	C3'-C2'-C1'	5.51	105.91	101.50
1	A	1290	C	N1-C1'-C2'	-5.51	105.94	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1782	U	C3'-C2'-C1'	5.51	105.91	101.50
1	A	992	C	C3'-C2'-C1'	5.50	105.90	101.50
2	B	111	U	N1-C1'-C2'	-5.50	105.94	112.00
1	A	221	A	P-O3'-C3'	5.50	126.30	119.70
1	A	335	C	P-O3'-C3'	-5.50	113.10	119.70
2	B	89	U	O4'-C1'-N1	5.49	112.59	108.20
1	A	1456	G	C3'-C2'-C1'	5.49	105.89	101.50
1	A	959	A	P-O3'-C3'	-5.49	113.11	119.70
1	A	1682	G	C3'-C2'-C1'	5.49	105.89	101.50
1	A	1919	A	C3'-C2'-C1'	5.48	105.89	101.50
2	B	110	C	C3'-C2'-C1'	5.48	105.89	101.50
1	A	615	U	N1-C1'-C2'	5.48	121.12	114.00
1	A	572	A	P-O3'-C3'	-5.48	113.13	119.70
1	A	510	C	P-O3'-C3'	-5.48	113.13	119.70
1	A	762	U	P-O3'-C3'	5.47	126.27	119.70
1	A	1734	G	C3'-C2'-C1'	5.47	105.87	101.50
1	A	2064	C	C3'-C2'-C1'	5.47	105.87	101.50
1	A	2136	G	C3'-C2'-C1'	5.46	105.87	101.50
1	A	1429	G	P-O3'-C3'	-5.46	113.14	119.70
1	A	705	A	N9-C1'-C2'	-5.46	106.00	112.00
1	A	794	A	C3'-C2'-C1'	5.45	105.86	101.50
1	A	2392	A	P-O3'-C3'	-5.45	113.17	119.70
1	A	2756	U	N1-C1'-C2'	5.45	121.08	114.00
1	A	2781	A	C3'-C2'-C1'	5.45	105.86	101.50
1	A	2895	G	C3'-C2'-C1'	5.44	105.86	101.50
1	A	230	G	C3'-C2'-C1'	5.44	105.85	101.50
1	A	1206	G	C3'-C2'-C1'	5.44	105.85	101.50
1	A	3	U	O4'-C1'-N1	5.43	112.55	108.20
1	A	1329	U	P-O3'-C3'	5.43	126.22	119.70
1	A	1347	A	C3'-C2'-C1'	5.43	105.85	101.50
1	A	2727	A	P-O3'-C3'	-5.43	113.18	119.70
1	A	2386	A	C3'-C2'-C1'	5.43	105.84	101.50
1	A	1738	G	P-O3'-C3'	5.42	126.21	119.70
1	A	1929	G	OP1-P-O3'	5.42	117.13	105.20
1	A	618	G	C3'-C2'-C1'	5.42	105.84	101.50
1	A	2034	U	N1-C1'-C2'	-5.42	106.04	112.00
1	A	1939	U	P-O3'-C3'	5.42	126.20	119.70
1	A	1655	A	C3'-C2'-C1'	5.41	105.83	101.50
1	A	1796	U	O4'-C1'-N1	5.41	112.53	108.20
1	A	2337	G	C3'-C2'-C1'	5.41	105.83	101.50
1	A	2612	C	O4'-C1'-N1	5.41	112.53	108.20
1	A	946	C	C3'-C2'-C1'	5.41	105.83	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1996	C	N1-C1'-C2'	5.41	121.03	114.00
1	A	2386	A	P-O3'-C3'	-5.41	113.21	119.70
1	A	234	U	C3'-C2'-C1'	5.41	105.82	101.50
1	A	2408	U	O4'-C1'-N1	5.41	112.53	108.20
1	A	637	A	P-O3'-C3'	5.40	126.19	119.70
1	A	2611	C	P-O3'-C3'	-5.40	113.22	119.70
1	A	2639	A	C3'-C2'-C1'	5.40	105.82	101.50
1	A	1077	A	C3'-C2'-C1'	5.40	105.82	101.50
1	A	1048	A	P-O3'-C3'	5.40	126.18	119.70
1	A	672	C	C3'-C2'-C1'	5.39	105.81	101.50
1	A	2429	G	C3'-C2'-C1'	5.39	105.81	101.50
1	A	2851	A	C3'-C2'-C1'	5.39	105.81	101.50
1	A	222	A	O4'-C1'-N9	5.39	112.51	108.20
1	A	1023	U	C3'-C2'-C1'	5.39	105.81	101.50
1	A	1565	C	N1-C1'-C2'	5.39	121.01	114.00
1	A	2657	A	C3'-C2'-C1'	5.39	105.81	101.50
1	A	87	U	C3'-C2'-C1'	5.39	105.81	101.50
1	A	991	C	C3'-C2'-C1'	5.39	105.81	101.50
1	A	304	U	C3'-C2'-C1'	5.38	105.81	101.50
1	A	2405	G	P-O3'-C3'	5.38	126.16	119.70
2	B	90	C	C3'-C2'-C1'	5.38	105.81	101.50
1	A	727	A	C3'-C2'-C1'	5.38	105.81	101.50
2	B	12	C	O4'-C1'-N1	-5.38	103.89	108.20
1	A	1653	G	O4'-C1'-N9	5.38	112.50	108.20
1	A	427	U	O4'-C1'-N1	5.38	112.50	108.20
1	A	1733	G	N9-C1'-C2'	-5.38	106.08	112.00
1	A	1941	C	C3'-C2'-C1'	5.38	105.80	101.50
1	A	1802	A	C3'-C2'-C1'	5.37	105.80	101.50
1	A	2349	G	C3'-C2'-C1'	5.37	105.80	101.50
1	A	604	G	P-O3'-C3'	-5.37	113.25	119.70
1	A	989	G	P-O3'-C3'	5.37	126.14	119.70
1	A	1047	G	P-O3'-C3'	5.36	126.14	119.70
1	A	477	A	P-O3'-C3'	-5.36	113.27	119.70
1	A	1848	A	N9-C1'-C2'	-5.36	106.10	112.00
1	A	15	G	C3'-C2'-C1'	5.36	105.79	101.50
1	A	826	U	P-O3'-C3'	-5.36	113.27	119.70
1	A	1405	U	O4'-C1'-N1	5.35	112.48	108.20
1	A	1961	C	O4'-C1'-N1	5.35	112.48	108.20
1	A	2036	C	C3'-C2'-C1'	5.35	105.78	101.50
1	A	2611	C	C3'-C2'-C1'	5.35	105.78	101.50
1	A	61	C	C3'-C2'-C1'	5.35	105.78	101.50
1	A	1759	A	C3'-C2'-C1'	5.34	105.77	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	389	G	C3'-C2'-C1'	5.34	105.77	101.50
1	A	196	A	P-O3'-C3'	5.33	126.10	119.70
1	A	2094	A	C3'-C2'-C1'	5.33	105.77	101.50
1	A	1683	U	C3'-C2'-C1'	5.32	105.76	101.50
2	B	13	G	C3'-C2'-C1'	5.32	105.75	101.50
1	A	1916	A	P-O3'-C3'	-5.32	113.32	119.70
1	A	575	A	C3'-C2'-C1'	5.31	105.75	101.50
1	A	2339	C	C3'-C2'-C1'	5.31	105.75	101.50
1	A	627	A	P-O3'-C3'	5.31	126.07	119.70
1	A	229	C	P-O3'-C3'	-5.30	113.33	119.70
1	A	1451	C	P-O3'-C3'	5.30	126.06	119.70
2	B	111	U	C3'-C2'-C1'	5.30	105.74	101.50
1	A	749	A	C3'-C2'-C1'	5.30	105.74	101.50
1	A	1024	G	C3'-C2'-C1'	5.30	105.74	101.50
1	A	61	C	P-O3'-C3'	-5.30	113.34	119.70
1	A	1535	A	P-O3'-C3'	5.30	126.06	119.70
1	A	1760	C	N1-C1'-C2'	-5.30	106.17	112.00
1	A	1050	A	P-O3'-C3'	-5.30	113.34	119.70
1	A	2873	A	P-O3'-C3'	5.29	126.04	119.70
1	A	2024	G	N9-C1'-C2'	-5.28	106.19	112.00
1	A	530	G	C3'-C2'-C1'	5.28	105.72	101.50
1	A	1512	C	O4'-C1'-N1	5.28	112.42	108.20
1	A	177	G	P-O3'-C3'	5.27	126.03	119.70
1	A	1136	G	C3'-C2'-C1'	5.27	105.72	101.50
1	A	92	U	C3'-C2'-C1'	5.27	105.72	101.50
1	A	726	G	O4'-C1'-N9	5.27	112.42	108.20
1	A	1510	G	C3'-C2'-C1'	5.27	105.72	101.50
1	A	1635	A	P-O5'-C5'	-5.27	112.47	120.90
1	A	397	U	C3'-C2'-C1'	5.27	105.71	101.50
1	A	413	C	C3'-C2'-C1'	5.26	105.71	101.50
1	A	1418	G	C3'-C2'-C1'	5.26	105.71	101.50
1	A	1557	C	C3'-C2'-C1'	5.26	105.71	101.50
1	A	1613	G	C3'-C2'-C1'	5.26	105.71	101.50
1	A	2893	A	P-O3'-C3'	5.26	126.01	119.70
1	A	1814	G	P-O3'-C3'	5.26	126.01	119.70
1	A	2615	U	P-O3'-C3'	-5.26	113.39	119.70
1	A	1386	C	P-O3'-C3'	-5.25	113.40	119.70
1	A	336	C	C3'-C2'-C1'	5.25	105.70	101.50
1	A	2876	G	C3'-C2'-C1'	5.25	105.70	101.50
1	A	1785	A	C3'-C2'-C1'	5.25	105.70	101.50
1	A	2275	C	N1-C1'-C2'	5.25	120.82	114.00
1	A	2504	U	P-O3'-C3'	-5.25	113.41	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2881	U	C3'-C2'-C1'	5.24	105.69	101.50
1	A	1026	G	C3'-C2'-C1'	5.24	105.69	101.50
1	A	1981	A	C3'-C2'-C1'	5.24	105.69	101.50
1	A	2683	C	O4'-C1'-N1	5.24	112.39	108.20
2	B	56	G	P-O3'-C3'	5.24	125.98	119.70
1	A	235	U	C3'-C2'-C1'	5.24	105.69	101.50
1	A	421	C	N1-C1'-C2'	5.24	120.81	114.00
1	A	1256	G	C3'-C2'-C1'	5.23	105.69	101.50
1	A	122	G	C3'-C2'-C1'	5.23	105.69	101.50
1	A	1612	C	C3'-C2'-C1'	5.23	105.69	101.50
1	A	2338	C	P-O3'-C3'	-5.23	113.42	119.70
1	A	2419	U	O4'-C1'-N1	5.23	112.38	108.20
1	A	406	G	P-O3'-C3'	-5.23	113.43	119.70
1	A	1992	G	P-O3'-C3'	5.22	125.97	119.70
1	A	2225	A	O4'-C1'-N9	5.22	112.38	108.20
1	A	1417	C	O4'-C1'-N1	5.22	112.38	108.20
1	A	1681	G	P-O3'-C3'	5.22	125.97	119.70
1	A	2757	A	C3'-C2'-C1'	5.22	105.68	101.50
1	A	1733	G	C3'-C2'-C1'	5.22	105.68	101.50
1	A	13	A	P-O3'-C3'	5.22	125.96	119.70
1	A	207	A	C3'-C2'-C1'	5.22	105.67	101.50
1	A	862	G	N9-C1'-C2'	-5.22	106.26	112.00
1	A	2846	G	P-O3'-C3'	-5.21	113.44	119.70
1	A	302	C	O4'-C1'-N1	5.21	112.37	108.20
1	A	1556	C	C3'-C2'-C1'	5.21	105.67	101.50
1	A	143	C	C3'-C2'-C1'	5.21	105.67	101.50
1	A	1291	C	C3'-C2'-C1'	5.21	105.67	101.50
1	A	324	A	C3'-C2'-C1'	5.21	105.67	101.50
1	A	1129	A	P-O3'-C3'	-5.21	113.45	119.70
1	A	336	C	O4'-C1'-N1	5.20	112.36	108.20
1	A	224	U	C3'-C2'-C1'	5.20	105.66	101.50
1	A	121	G	C3'-C2'-C1'	5.20	105.66	101.50
1	A	2069	G	N9-C1'-C2'	-5.20	106.28	112.00
1	A	2881	U	O4'-C1'-N1	5.20	112.36	108.20
1	A	482	A	P-O3'-C3'	-5.20	113.46	119.70
1	A	505	A	P-O3'-C3'	-5.20	113.47	119.70
1	A	1558	C	N1-C1'-C2'	5.19	120.75	114.00
1	A	164	C	C3'-C2'-C1'	5.19	105.65	101.50
1	A	1013	C	C3'-C2'-C1'	5.19	105.65	101.50
1	A	772	C	O4'-C1'-N1	5.19	112.35	108.20
1	A	1208	C	O4'-C1'-N1	5.19	112.35	108.20
1	A	2581	G	O4'-C1'-N9	5.19	112.35	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2836	U	C3'-C2'-C1'	5.19	105.65	101.50
1	A	2603	G	C3'-C2'-C1'	5.19	105.65	101.50
1	A	2567	G	C3'-C2'-C1'	5.18	105.65	101.50
1	A	730	A	C3'-C2'-C1'	5.18	105.65	101.50
1	A	2450	A	N9-C1'-C2'	-5.18	106.30	112.00
1	A	2667	C	P-O3'-C3'	-5.18	113.49	119.70
1	A	964	C	O4'-C1'-N1	5.17	112.34	108.20
2	B	16	G	P-O3'-C3'	-5.17	113.49	119.70
1	A	104	A	P-O3'-C3'	-5.17	113.49	119.70
1	A	1569	A	C3'-C2'-C1'	5.17	105.64	101.50
1	A	946	C	P-O3'-C3'	-5.17	113.50	119.70
1	A	77	G	P-O3'-C3'	-5.16	113.51	119.70
1	A	2337	G	P-O3'-C3'	-5.16	113.51	119.70
1	A	1810	A	C3'-C2'-C1'	5.16	105.62	101.50
1	A	250	G	C3'-C2'-C1'	5.15	105.62	101.50
1	A	1276	A	C3'-C2'-C1'	5.15	105.62	101.50
1	A	1943	U	N1-C1'-C2'	5.15	120.70	114.00
1	A	459	U	P-O3'-C3'	-5.15	113.52	119.70
1	A	1080	A	P-O3'-C3'	-5.15	113.52	119.70
1	A	197	A	P-O3'-C3'	-5.15	113.52	119.70
1	A	933	A	O4'-C1'-N9	-5.14	104.08	108.20
1	A	1456	G	P-O3'-C3'	-5.14	113.53	119.70
1	A	2299	U	C3'-C2'-C1'	5.14	105.61	101.50
1	A	2874	C	C3'-C2'-C1'	5.14	105.62	101.50
2	B	42	C	P-O3'-C3'	-5.14	113.53	119.70
1	A	739	A	P-O3'-C3'	5.14	125.87	119.70
1	A	1050	A	C3'-C2'-C1'	5.14	105.61	101.50
1	A	2879	A	P-O3'-C3'	5.14	125.86	119.70
1	A	1324	G	O4'-C1'-N9	5.13	112.31	108.20
1	A	1401	G	P-O3'-C3'	-5.13	113.54	119.70
1	A	588	U	C3'-C2'-C1'	5.13	105.61	101.50
1	A	1993	U	O4'-C1'-N1	5.13	112.31	108.20
1	A	1329	U	N1-C1'-C2'	5.13	120.67	114.00
1	A	615	U	P-O3'-C3'	5.13	125.86	119.70
1	A	1938	A	P-O3'-C3'	5.12	125.85	119.70
8	H	48	GLU	CA-C-N	-5.12	105.93	117.20
1	A	1812	U	O4'-C1'-N1	5.12	112.30	108.20
1	A	406	G	C3'-C2'-C1'	5.12	105.59	101.50
1	A	824	U	P-O3'-C3'	-5.12	113.56	119.70
1	A	2459	A	N9-C1'-C2'	-5.12	106.37	112.00
1	A	199	A	O4'-C1'-N9	5.11	112.29	108.20
1	A	1034	G	P-O3'-C3'	-5.11	113.56	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1783	A	O5'-P-OP2	-5.11	101.10	105.70
1	A	1396	U	N1-C1'-C2'	5.11	120.64	114.00
1	A	1722	A	C3'-C2'-C1'	5.11	105.59	101.50
1	A	1915	U	C3'-C2'-C1'	5.11	105.58	101.50
1	A	480	A	C3'-C2'-C1'	5.10	105.58	101.50
1	A	1515	A	O4'-C1'-N9	5.10	112.28	108.20
1	A	197	A	C3'-C2'-C1'	5.10	105.58	101.50
1	A	1012	U	O4'-C1'-N1	5.10	112.28	108.20
1	A	2505	G	C8-N9-C4	-5.10	104.36	106.40
1	A	2639	A	N9-C1'-C2'	-5.10	106.39	112.00
1	A	2543	G	C3'-C2'-C1'	5.10	105.58	101.50
1	A	1653	G	P-O3'-C3'	5.09	125.81	119.70
1	A	776	G	O4'-C1'-N9	-5.09	104.13	108.20
1	A	802	A	C3'-C2'-C1'	5.09	105.57	101.50
1	A	1493	C	N1-C1'-C2'	5.09	120.61	114.00
1	A	2347	C	C3'-C2'-C1'	5.09	105.57	101.50
1	A	2847	U	P-O3'-C3'	5.09	125.80	119.70
1	A	915	C	C3'-C2'-C1'	5.08	105.56	101.50
1	A	505	A	C3'-C2'-C1'	5.08	105.56	101.50
1	A	1458	U	O4'-C1'-N1	5.08	112.26	108.20
1	A	2429	G	C8-N9-C1'	-5.08	120.40	127.00
1	A	265	A	O4'-C1'-N9	5.08	112.26	108.20
1	A	2757	A	N9-C1'-C2'	-5.07	106.42	112.00
1	A	477	A	C3'-C2'-C1'	5.07	105.55	101.50
1	A	1919	A	N9-C1'-C2'	-5.06	106.43	112.00
1	A	321	U	P-O3'-C3'	5.06	125.77	119.70
1	A	2726	A	P-O3'-C3'	5.06	125.77	119.70
1	A	1080	A	C3'-C2'-C1'	5.06	105.55	101.50
1	A	445	C	C3'-C2'-C1'	5.05	105.54	101.50
1	A	606	U	C3'-C2'-C1'	5.05	105.54	101.50
1	A	2267	A	C4-N9-C1'	5.05	135.38	126.30
1	A	1539	U	P-O3'-C3'	-5.04	113.65	119.70
1	A	2731	G	P-O3'-C3'	-5.04	113.65	119.70
1	A	491	G	C3'-C2'-C1'	5.04	105.53	101.50
1	A	1399	C	C3'-C2'-C1'	5.04	105.53	101.50
1	A	2137	U	O4'-C1'-N1	5.04	112.23	108.20
1	A	831	G	C3'-C2'-C1'	5.04	105.53	101.50
1	A	1602	U	N1-C1'-C2'	5.03	120.54	114.00
1	A	2035	G	O4'-C1'-N9	5.03	112.23	108.20
1	A	1539	U	C3'-C2'-C1'	5.03	105.52	101.50
1	A	2729	G	P-O3'-C3'	-5.03	113.66	119.70
1	A	1491	G	C3'-C2'-C1'	5.03	105.52	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1064	C	C3'-C2'-C1'	5.03	105.52	101.50
1	A	2030	A	P-O3'-C3'	5.02	125.73	119.70
1	A	1457	U	O4'-C1'-N1	5.02	112.22	108.20
1	A	1619	G	P-O3'-C3'	-5.02	113.67	119.70
1	A	589	U	O4'-C1'-N1	5.02	112.22	108.20
1	A	2404	U	C3'-C2'-C1'	5.02	105.52	101.50
1	A	2440	C	O4'-C1'-N1	5.02	112.22	108.20
1	A	1346	G	C3'-C2'-C1'	5.01	105.51	101.50
1	A	1675	C	P-O3'-C3'	-5.01	113.68	119.70
1	A	1560	G	C3'-C2'-C1'	5.01	105.51	101.50
1	A	2573	C	C3'-C2'-C1'	5.01	105.51	101.50
1	A	2837	A	C3'-C2'-C1'	5.01	105.51	101.50
1	A	2622	U	O4'-C1'-N1	5.01	112.21	108.20
1	A	396	G	C3'-C2'-C1'	5.01	105.51	101.50
1	A	2489	U	P-O3'-C3'	5.01	125.71	119.70
1	A	2543	G	P-O3'-C3'	-5.01	113.69	119.70
1	A	199	A	P-O3'-C3'	5.00	125.70	119.70

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	F	177	ARG	Mainchain

5.2 Close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	60995	0	0	2300	0
2	B	2507	0	0	90	0
3	C	2083	0	0	63	0
4	D	1565	0	0	68	0
5	E	1552	0	0	42	0
6	F	1420	0	12	41	0
7	G	1323	0	0	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	H	1111	0	0	30	0
9	I	1032	0	0	13	0
10	J	1129	0	0	47	0
11	K	939	0	0	35	0
12	L	1045	0	0	49	0
13	M	1074	0	0	26	0
14	N	961	0	0	49	0
15	O	892	0	0	20	0
16	P	917	0	0	34	0
17	Q	947	0	0	42	0
18	R	816	0	0	27	0
19	S	857	0	0	26	0
20	T	739	0	0	27	0
21	U	780	0	0	24	0
22	V	753	0	0	12	0
23	W	596	0	0	39	0
24	X	625	0	0	26	0
25	Y	509	0	0	15	0
26	Z	449	0	0	10	0
27	0	444	0	0	18	0
28	1	410	0	0	12	0
29	2	377	0	0	11	0
30	3	504	0	0	22	0
31	4	302	0	0	8	0
32	A	132	0	0	0	0
32	B	1	0	0	0	0
32	C	2	0	0	0	0
32	E	1	0	0	0	0
32	J	1	0	0	0	0
33	4	1	0	0	0	0
34	2	2	0	0	0	0
34	3	1	0	0	0	0
34	4	2	0	0	0	0
34	A	605	0	0	12	0
34	B	4	0	0	0	0
34	C	7	0	0	0	0
34	D	1	0	0	0	0
34	E	3	0	0	0	0
34	J	6	0	0	0	0
34	L	4	0	0	0	0
34	N	2	0	0	0	0
34	T	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	U	2	0	0	0	0
34	V	1	0	0	0	0
All	All	90434	0	12	3069	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 35.

All (3069) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2093:G:O6	1:A:2225:A:C8	2.08	1.07
1:A:1116:G:C2	1:A:1117:C:C5	2.51	0.98
1:A:1116:G:C2	1:A:1117:C:C6	2.52	0.98
1:A:1116:G:N3	1:A:1117:C:C6	2.33	0.95
2:B:69:G:C8	2:B:70:C:C5	2.55	0.94
1:A:2093:G:N3	1:A:2094:A:C8	2.39	0.91
1:A:2800:A:O2'	1:A:2801:G:C4'	2.19	0.91
1:A:1116:G:N3	1:A:1117:C:C5	2.39	0.90
1:A:2093:G:N2	1:A:2094:A:C4	2.40	0.89
1:A:1116:G:C4	1:A:1117:C:C5	2.60	0.89
1:A:1387:A:N6	1:A:1401:G:C6	2.41	0.88
1:A:2319:G:O2'	1:A:2321:U:O4	1.94	0.86
4:D:118:PHE:CD1	4:D:119:ALA:N	2.44	0.85
2:B:58:A:C2'	2:B:59:A:C8	2.60	0.85
1:A:2093:G:C2	1:A:2094:A:C5	2.65	0.84
1:A:1346:G:O2'	1:A:1347:A:C8	2.31	0.84
1:A:1521:G:C6	1:A:1522:A:N6	2.44	0.84
1:A:1116:G:N2	1:A:1117:C:C2	2.45	0.84
1:A:739:A:O2'	1:A:740:C:C5	2.31	0.83
1:A:2267:A:N6	1:A:2272:U:N3	2.27	0.82
2:B:110:C:O2'	2:B:111:U:C5'	2.28	0.81
1:A:2408:U:O2'	1:A:2409:G:C5'	2.28	0.81
1:A:2875:C:O2'	1:A:2876:G:C8	2.33	0.81
1:A:2093:G:C6	1:A:2225:A:C8	2.68	0.81
1:A:335:C:O2'	1:A:336:C:C6	2.34	0.81
1:A:2051:A:C4'	1:A:2052:A:OP1	2.28	0.81
1:A:2091:C:N4	1:A:2092:U:C5	2.49	0.80
1:A:84:A:C4	1:A:103:A:N6	2.49	0.80
1:A:484:C:N4	1:A:497:A:C2	2.49	0.80
1:A:2296:U:C4'	1:A:2297:A:OP1	2.30	0.80
1:A:2092:U:O2'	1:A:2093:G:C5'	2.30	0.80
1:A:2094:A:O2'	1:A:2095:A:C5'	2.29	0.79
1:A:2519:U:C6	1:A:2542:A:N6	2.50	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2093:G:C6	1:A:2225:A:N7	2.50	0.79
1:A:1116:G:N1	1:A:1117:C:C4	2.51	0.79
1:A:2092:U:C4'	1:A:2093:G:OP1	2.30	0.79
1:A:1915:U:C2'	1:A:1916:A:C8	2.66	0.79
1:A:1116:G:N2	1:A:1117:C:N1	2.30	0.79
1:A:740:C:C5	1:A:1981:A:C2	2.71	0.78
1:A:1116:G:C2	1:A:1117:C:C4	2.71	0.78
13:M:27:SER:N	13:M:66:ARG:NH2	2.32	0.78
1:A:2214:C:O2'	1:A:2215:C:C5'	2.31	0.78
1:A:1401:G:C2'	1:A:1402:U:C6	2.67	0.78
1:A:1492:G:C3'	1:A:1493:C:C5'	2.62	0.78
1:A:482:A:N6	1:A:506:G:C4	2.51	0.78
1:A:302:C:O2'	1:A:303:G:C8	2.38	0.77
1:A:1439:A:N7	1:A:1440:U:C1'	2.47	0.77
1:A:959:A:C2'	1:A:960:A:C8	2.68	0.77
1:A:2392:A:C8	1:A:2429:G:C2	2.73	0.77
2:B:111:U:O2'	2:B:112:G:C8	2.38	0.77
1:A:740:C:C6	1:A:1981:A:C2	2.73	0.76
1:A:1024:G:C3'	1:A:1025:G:C5'	2.62	0.76
1:A:70:G:O2'	1:A:71:A:C5'	2.34	0.76
11:K:71:ARG:CB	11:K:72:PRO:CD	2.63	0.76
1:A:1313:U:C2'	1:A:1313:U:O2	2.33	0.76
1:A:379:G:C6	1:A:396:G:O6	2.39	0.76
1:A:2726:A:O2'	11:K:67:LYS:NZ	2.18	0.76
1:A:2321:U:O2	1:A:2321:U:C3'	2.33	0.75
1:A:2216:G:O2'	1:A:2217:G:C8	2.38	0.75
1:A:1080:A:O2'	1:A:1081:U:C6	2.39	0.75
1:A:2135:A:C3'	1:A:2136:G:C5'	2.65	0.75
1:A:370:G:N1	1:A:424:G:C5	2.54	0.75
1:A:1809:A:O2'	1:A:1810:A:C8	2.40	0.75
2:B:69:G:C4	2:B:70:C:C6	2.75	0.75
1:A:1809:A:C2	1:A:1810:A:C4	2.74	0.75
1:A:412:A:O2'	1:A:413:C:C5'	2.35	0.75
1:A:1327:A:O2'	1:A:1328:A:O4'	2.05	0.75
1:A:1022:G:N2	1:A:1142:A:C2	2.55	0.75
1:A:1027:A:O2'	1:A:1028:A:C8	2.40	0.75
1:A:216:A:N3	1:A:217:A:C8	2.55	0.74
1:A:195:A:C6	1:A:198:C:C5	2.75	0.74
1:A:5:A:C2	1:A:2899:A:C2	2.76	0.74
1:A:217:A:C2'	1:A:218:A:C8	2.70	0.74
17:Q:27:ARG:CA	17:Q:33:VAL:CG1	2.66	0.74
1:A:1439:A:C2	1:A:1553:A:N7	2.56	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:374:A:O2'	1:A:375:G:O4'	2.06	0.73
1:A:975:A:O2'	1:A:976:G:C8	2.41	0.73
1:A:2056:G:C2	1:A:2057:G:C8	2.76	0.73
1:A:2823:A:C5	1:A:2824:C:C5	2.75	0.73
1:A:1817:G:O2'	1:A:1818:U:C5'	2.36	0.73
23:W:40:ARG:NH1	23:W:40:ARG:CG	2.50	0.73
1:A:1288:G:C8	1:A:1327:A:N6	2.56	0.73
1:A:2136:G:C2'	1:A:2137:U:C6	2.71	0.73
1:A:1847:A:O2'	1:A:1848:A:C8	2.42	0.73
1:A:1784:A:C4'	1:A:1785:A:O5'	2.36	0.73
1:A:1669:A:C2'	1:A:1669:A:N3	2.52	0.72
1:A:822:G:O6	1:A:943:A:C2	2.42	0.72
1:A:33:C:O2'	1:A:34:U:C5'	2.36	0.72
1:A:828:U:C5	1:A:829:A:N6	2.57	0.72
1:A:226:A:C2	1:A:230:G:O6	2.42	0.72
1:A:1127:A:O2'	1:A:1128:G:C5'	2.38	0.72
1:A:2259:U:O2'	1:A:2260:C:C6	2.43	0.72
1:A:1307:A:N6	1:A:1606:C:C6	2.58	0.72
1:A:310:A:O2'	1:A:311:A:C8	2.43	0.72
1:A:1063:G:O2'	1:A:1064:C:C6	2.42	0.72
23:W:27:GLY:CA	23:W:31:LEU:CD1	2.67	0.72
1:A:1827:U:C4'	1:A:1970:A:O2'	2.38	0.72
1:A:876:C:C5'	1:A:876:C:O2	2.38	0.72
1:A:2054:A:C2	1:A:2616:C:N3	2.58	0.72
1:A:216:A:O2'	1:A:217:A:C8	2.43	0.72
1:A:2056:G:N2	27:O:1:ALA:N	2.38	0.71
2:B:57:A:O2'	2:B:58:A:C8	2.43	0.71
1:A:2023:C:O2'	1:A:2024:G:C8	2.42	0.71
1:A:1555:G:N2	1:A:1556:C:C2	2.58	0.71
1:A:1071:G:N7	1:A:1089:A:C6	2.59	0.71
1:A:1973:G:C5	1:A:1974:C:C5	2.78	0.71
1:A:1021:A:O2'	1:A:1022:G:C4'	2.37	0.71
1:A:638:G:O2'	1:A:639:U:O4'	2.08	0.71
2:B:81:G:C5	2:B:82:U:C5	2.79	0.71
17:Q:46:TYR:CZ	17:Q:50:ARG:NH1	2.59	0.71
1:A:2689:U:C4'	1:A:2690:U:OP2	2.39	0.70
1:A:2336:A:N7	23:W:40:ARG:NH2	2.38	0.70
1:A:2848:G:O2'	1:A:2849:U:C6	2.44	0.70
1:A:2506:U:C5	1:A:2576:G:O6	2.44	0.70
1:A:2339:C:O2'	1:A:2340:A:C8	2.44	0.70
1:A:2348:U:O2'	1:A:2349:G:C8	2.44	0.70
1:A:2064:C:O3'	1:A:2251:G:N2	2.23	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1071:G:N7	1:A:1089:A:C5	2.60	0.70
1:A:1510:G:N2	1:A:1511:G:C4	2.60	0.70
1:A:201:C:C5	1:A:202:U:C5	2.80	0.70
1:A:1608:A:C8	1:A:1611:C:N4	2.60	0.70
1:A:28:A:C6	1:A:513:A:C8	2.79	0.70
1:A:303:G:O2'	1:A:304:U:C6	2.44	0.69
1:A:477:A:O2'	1:A:478:A:C8	2.45	0.69
1:A:674:G:O3'	5:E:60:TRP:CH2	2.45	0.69
1:A:1935:G:C1'	1:A:1964:G:N2	2.56	0.69
1:A:2150:C:O2'	1:A:2151:U:O4'	2.11	0.69
6:F:136:ILE:O	6:F:137:PHE:O	2.09	0.69
1:A:2091:C:C4	1:A:2092:U:C4	2.80	0.69
1:A:1019:U:O2'	1:A:1021:A:N1	2.26	0.69
1:A:228:C:C5'	1:A:229:C:C5	2.75	0.69
1:A:1613:G:C6	1:A:1619:G:O6	2.45	0.69
1:A:1417:C:O2'	1:A:1418:G:C5'	2.40	0.69
1:A:1343:G:O2'	1:A:1344:U:C6	2.46	0.69
1:A:1062:G:O4'	1:A:1088:A:N7	2.25	0.69
1:A:234:U:O2'	1:A:235:U:C5'	2.41	0.68
1:A:1142:A:C8	1:A:1144:A:N7	2.60	0.68
1:A:1534:U:C6	1:A:1538:G:N1	2.62	0.68
1:A:1537:G:C2'	1:A:1538:G:C4'	2.70	0.68
1:A:1087:G:C5	1:A:1089:A:C2	2.81	0.68
14:N:62:ASN:O	14:N:63:ARG:CB	2.42	0.68
1:A:575:A:C2	1:A:576:U:C5	2.82	0.68
1:A:304:U:O2'	1:A:305:C:C6	2.46	0.68
1:A:859:G:O2'	1:A:860:U:OP2	2.11	0.68
1:A:128:C:O2'	1:A:129:C:C6	2.46	0.68
1:A:604:G:O2'	1:A:605:G:C5'	2.42	0.68
1:A:197:A:N6	1:A:2430:A:C2'	2.57	0.68
1:A:1060:U:C4'	1:A:1061:U:O5'	2.41	0.68
4:D:114:LYS:CD	4:D:116:LYS:NZ	2.57	0.68
1:A:2136:G:O2'	1:A:2137:U:C6	2.47	0.68
23:W:37:VAL:CG2	23:W:38:ARG:NH1	2.57	0.68
1:A:528:A:N1	1:A:2043:C:O5'	2.27	0.68
1:A:1722:A:C6	1:A:1739:A:C8	2.81	0.68
1:A:1821:A:O2'	1:A:1822:C:O5'	2.12	0.67
1:A:1352:U:C5	1:A:1377:G:C6	2.82	0.67
1:A:2585:U:O2'	1:A:2586:U:C5'	2.42	0.67
1:A:1038:G:C2'	1:A:1039:A:C5'	2.71	0.67
1:A:1079:C:N4	1:A:1088:A:N3	2.42	0.67
1:A:1799:G:C8	3:C:179:GLU:OE1	2.47	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1010:A:O2'	1:A:1011:G:C5'	2.42	0.67
1:A:449:A:O2'	1:A:450:G:C5'	2.43	0.67
18:R:82:HIS:O	18:R:82:HIS:CG	2.47	0.67
1:A:2336:A:N7	23:W:40:ARG:CZ	2.58	0.67
24:X:31:ASN:ND2	24:X:31:ASN:N	2.42	0.67
1:A:859:G:N2	1:A:916:G:C2'	2.57	0.67
1:A:35:G:O2'	1:A:36:G:O5'	2.13	0.67
1:A:1511:G:O2'	1:A:1512:C:C6	2.47	0.67
1:A:1651:G:N2	1:A:2007:U:C2	2.63	0.67
1:A:686:U:C6	1:A:788:A:N1	2.62	0.67
1:A:575:A:N3	1:A:576:U:C5	2.62	0.67
1:A:1274:A:C6	1:A:1302:A:C2	2.82	0.67
2:B:40:U:O2'	2:B:45:A:N6	2.27	0.67
1:A:2508:G:C2	1:A:2582:G:C6	2.83	0.67
1:A:2197:U:C6	1:A:2224:G:C6	2.82	0.67
1:A:2646:C:C5'	1:A:2646:C:C6	2.78	0.67
1:A:616:A:C2'	1:A:617:G:C8	2.78	0.67
1:A:1827:U:O4'	1:A:1970:A:O2'	2.12	0.67
1:A:2093:G:N7	1:A:2225:A:C4	2.63	0.67
1:A:1135:C:N4	1:A:1139:G:C6	2.63	0.67
1:A:92:U:O2'	1:A:93:G:C5'	2.43	0.66
1:A:2331:G:N1	1:A:2385:C:C4	2.63	0.66
1:A:77:G:O2'	1:A:78:U:O4'	2.12	0.66
1:A:2540:C:C2	1:A:2541:A:C8	2.83	0.66
6:F:107:VAL:N	6:F:108:PRO:CD	2.58	0.66
1:A:2314:A:C2	1:A:2315:G:C5	2.82	0.66
1:A:217:A:O2'	1:A:218:A:O4'	2.12	0.66
1:A:1716:U:O2'	1:A:1717:A:C8	2.48	0.66
22:V:80:HIS:CD2	22:V:83:LYS:N	2.63	0.66
1:A:1565:C:O2'	1:A:1566:A:C2'	2.44	0.66
1:A:1905:C:O4'	1:A:1928:A:C2	2.48	0.66
2:B:69:G:N7	2:B:70:C:C4	2.63	0.66
1:A:1342:A:N6	1:A:1397:U:C5	2.64	0.66
1:A:36:G:C6	1:A:445:C:N4	2.63	0.66
2:B:42:C:N4	6:F:87:LYS:NZ	2.43	0.66
1:A:2376:A:N3	15:O:99:TYR:CE2	2.64	0.66
1:A:867:C:O2'	1:A:868:U:C5'	2.43	0.66
2:B:13:G:N2	2:B:16:G:C4	2.64	0.66
3:C:8:THR:O	3:C:9:SER:CB	2.44	0.66
1:A:2468:A:O2'	1:A:2469:A:C8	2.49	0.66
1:A:2197:U:C5	1:A:2224:G:C6	2.84	0.66
1:A:1139:G:N2	1:A:1140:C:C2	2.63	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1009:A:O2'	1:A:1010:A:C8	2.49	0.66
1:A:249:C:C5'	1:A:2394:C:O2'	2.43	0.66
1:A:301:G:C6	1:A:302:C:N4	2.64	0.66
1:A:1919:A:O2'	1:A:1920:C:C5'	2.44	0.66
1:A:2060:A:C2'	5:E:63:LYS:NZ	2.59	0.66
1:A:1223:G:N2	1:A:1226:A:OP2	2.29	0.66
1:A:187:G:C2	1:A:210:C:C2	2.83	0.66
1:A:273:G:O2'	1:A:274:C:O4'	2.13	0.66
1:A:867:C:O2'	1:A:868:U:C6	2.49	0.66
4:D:149:ASN:O	4:D:151:THR:N	2.29	0.66
1:A:2333:A:C2	1:A:2335:A:N6	2.65	0.65
1:A:1865:U:C4	1:A:1875:G:C2	2.84	0.65
1:A:921:C:C2'	1:A:922:C:C5'	2.74	0.65
1:A:668:A:C5	1:A:670:A:N7	2.64	0.65
1:A:616:A:O2'	1:A:617:G:C8	2.49	0.65
1:A:2458:G:O2'	1:A:2460:U:C5	2.49	0.65
2:B:18:G:C2	2:B:67:G:O6	2.50	0.65
1:A:2572:A:C8	4:D:149:ASN:ND2	2.65	0.65
1:A:2531:A:C5'	7:G:156:TYR:CZ	2.79	0.65
1:A:325:G:O6	1:A:338:G:C2	2.49	0.65
1:A:1797:G:O3'	3:C:255:LYS:O	2.15	0.65
1:A:84:A:C5	1:A:103:A:N6	2.65	0.65
1:A:1439:A:C8	1:A:1440:U:O4'	2.50	0.65
1:A:1416:G:C6	1:A:1417:C:N4	2.65	0.65
1:A:1915:U:O2'	1:A:1916:A:C5'	2.45	0.65
1:A:861:A:O2'	1:A:862:G:C5'	2.45	0.65
4:D:208:LYS:O	4:D:209:ALA:CB	2.44	0.65
1:A:655:A:O2'	1:A:656:G:C8	2.49	0.65
1:A:956:G:C2	1:A:962:G:O6	2.50	0.65
1:A:1455:G:O2'	1:A:1456:G:C8	2.50	0.65
1:A:2834:G:C1'	1:A:2879:A:N6	2.59	0.65
1:A:503:A:C6	1:A:506:G:C6	2.84	0.65
1:A:1034:G:O2'	1:A:1035:U:O4'	2.15	0.65
1:A:2024:G:O2'	1:A:2025:C:O4'	2.13	0.65
1:A:2093:G:O2'	1:A:2094:A:OP2	2.15	0.65
1:A:2093:G:C2	1:A:2094:A:N7	2.65	0.65
1:A:2135:A:C2'	1:A:2136:G:O4'	2.45	0.65
1:A:1809:A:C2'	1:A:1810:A:C8	2.80	0.65
1:A:1286:A:C6	1:A:1289:C:N3	2.65	0.65
1:A:532:A:O2'	1:A:2021:C:N3	2.30	0.65
1:A:2850:A:OP2	1:A:2866:U:N3	2.30	0.65
1:A:1731:G:C4'	1:A:1732:C:OP1	2.45	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:104:A:O2'	1:A:105:C:O4'	2.14	0.64
1:A:2638:G:O2'	1:A:2639:A:C8	2.51	0.64
10:J:4:PHE:O	10:J:44:TYR:CZ	2.50	0.64
1:A:2297:A:N3	1:A:2298:A:C8	2.66	0.64
1:A:377:G:C6	1:A:378:C:C4	2.86	0.64
1:A:2653:U:C4	1:A:2654:A:C6	2.85	0.64
1:A:1347:A:O2'	1:A:1348:C:C5'	2.45	0.64
1:A:232:G:C4'	1:A:233:A:OP1	2.45	0.64
1:A:1929:G:C4'	1:A:1930:G:OP1	2.46	0.64
1:A:13:A:O2'	1:A:15:G:N7	2.31	0.64
1:A:9:G:C6	1:A:2629:U:C5	2.86	0.64
1:A:832:U:OP1	12:L:39:LYS:N	2.30	0.64
1:A:752:A:O2'	1:A:753:A:OP2	2.16	0.64
6:F:177:ARG:CD	6:F:178:LYS:N	2.60	0.64
1:A:2409:G:O2'	1:A:2410:G:O4'	2.14	0.64
1:A:36:G:N1	1:A:445:C:N4	2.46	0.64
1:A:656:G:O2'	1:A:657:U:O4'	2.15	0.64
1:A:2261:C:C2	1:A:2280:G:N2	2.66	0.64
23:W:23:LYS:CD	23:W:24:ARG:N	2.61	0.64
1:A:1116:G:C6	1:A:1117:C:N4	2.66	0.64
1:A:1611:C:O2'	1:A:1612:C:C6	2.51	0.64
1:A:612:G:N2	1:A:614:A:O2'	2.30	0.64
1:A:1362:C:N3	1:A:1363:C:C5	2.66	0.64
1:A:563:A:C4	1:A:2018:G:C2	2.86	0.64
1:A:573:U:C4'	1:A:574:A:OP1	2.45	0.64
1:A:617:G:O2'	1:A:618:G:C8	2.51	0.64
1:A:2376:A:C1'	15:O:99:TYR:CE1	2.81	0.64
11:K:21:CYS:SG	11:K:39:ILE:CG2	2.86	0.64
1:A:2197:U:C5	1:A:2224:G:C5	2.86	0.64
1:A:858:G:C4	1:A:2268:A:C2	2.85	0.64
1:A:111:A:C2	1:A:112:U:C2	2.86	0.63
1:A:379:G:C6	1:A:396:G:C6	2.86	0.63
1:A:604:G:C2	1:A:605:G:C5	2.86	0.63
1:A:2657:A:O2'	1:A:2658:C:C5'	2.46	0.63
24:X:63:ILE:CD1	24:X:64:ASP:N	2.61	0.63
1:A:1069:A:O2'	1:A:1070:A:C5'	2.46	0.63
1:A:1607:C:C4'	1:A:1608:A:C8	2.81	0.63
1:A:1965:C:C3'	1:A:1966:A:C5'	2.76	0.63
1:A:2748:A:C4	1:A:2757:A:N6	2.67	0.63
1:A:1565:C:N4	1:A:1567:G:C2	2.66	0.63
14:N:94:TYR:N	14:N:94:TYR:CD1	2.66	0.63
1:A:1116:G:C6	1:A:1117:C:C4	2.87	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:4:19:ARG:O	31:4:20:ASP:CB	2.46	0.63
1:A:2297:A:C2	1:A:2298:A:N7	2.67	0.63
1:A:620:G:O2'	1:A:622:G:N7	2.32	0.63
1:A:1301:A:C4	1:A:1303:G:N7	2.66	0.63
1:A:2199:A:C2'	1:A:2200:C:C6	2.82	0.63
1:A:396:G:O2'	1:A:397:U:C5'	2.47	0.63
1:A:1416:G:C2	1:A:1417:C:C4	2.87	0.63
1:A:117:G:N1	1:A:119:A:N6	2.46	0.63
1:A:118:A:C8	1:A:119:A:C8	2.86	0.63
1:A:2136:G:C2'	1:A:2137:U:C5	2.81	0.63
1:A:2040:G:C5	1:A:2041:U:C5	2.87	0.63
1:A:1973:G:C4	1:A:1974:C:C5	2.87	0.63
1:A:2239:G:OP2	34:A:3366:HOH:O	2.16	0.63
27:0:16:ARG:O	27:0:19:ASP:N	2.32	0.63
1:A:2232:C:P	24:X:26:ARG:NH1	2.72	0.63
16:P:86:LYS:NZ	16:P:86:LYS:CA	2.61	0.63
22:V:55:GLU:O	22:V:57:TYR:N	2.32	0.63
1:A:303:G:C2	1:A:304:U:C2	2.87	0.62
1:A:445:C:O2'	1:A:446:G:O4'	2.17	0.62
1:A:247:G:C8	1:A:249:C:C6	2.87	0.62
1:A:1301:A:C8	1:A:1303:G:C8	2.87	0.62
1:A:2:G:C6	1:A:3:U:C4	2.87	0.62
1:A:1062:G:C8	1:A:1088:A:C8	2.87	0.62
1:A:975:A:N3	1:A:976:G:C8	2.66	0.62
1:A:989:G:C4'	1:A:990:A:OP1	2.46	0.62
1:A:233:A:O2'	1:A:234:U:O5'	2.16	0.62
1:A:1416:G:C4	1:A:1417:C:C5	2.87	0.62
1:A:1931:U:C2'	1:A:1932:A:C8	2.82	0.62
6:F:177:ARG:NE	6:F:178:LYS:N	2.47	0.62
1:A:1508:A:C4'	1:A:1509:A:OP1	2.47	0.62
1:A:1670:C:C5	1:A:1671:U:C4	2.87	0.62
1:A:1342:A:C6	1:A:1397:U:C6	2.86	0.62
1:A:1439:A:N7	1:A:1440:U:N1	2.48	0.62
1:A:2064:C:O2'	1:A:2065:C:O4'	2.17	0.62
1:A:279:A:N6	1:A:361:G:O2'	2.33	0.62
30:3:41:ARG:CG	30:3:41:ARG:NH2	2.60	0.62
2:B:81:G:C4	2:B:82:U:C5	2.88	0.62
23:W:18:LYS:CD	23:W:19:ARG:N	2.62	0.62
1:A:185:G:C6	1:A:212:G:C2	2.87	0.62
1:A:1754:A:C6	1:A:1755:A:C6	2.86	0.62
1:A:589:U:O2'	1:A:590:A:C5'	2.48	0.62
25:Y:1:MET:CE	25:Y:1:MET:N	2.62	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:46:G:C2	1:A:47:C:C5	2.86	0.62
14:N:37:THR:CG2	14:N:39:PRO:CD	2.77	0.62
1:A:271:G:O2'	1:A:272:A:C5'	2.47	0.62
1:A:2726:A:O2'	1:A:2727:A:P	2.57	0.62
1:A:1324:G:O2'	1:A:1616:A:C6	2.53	0.62
1:A:2336:A:C8	23:W:40:ARG:NH2	2.68	0.62
4:D:124:ARG:CD	4:D:125:TRP:CD1	2.83	0.62
1:A:1649:G:O2'	1:A:1650:A:C5'	2.48	0.62
2:B:109:A:O2'	2:B:110:C:C6	2.53	0.62
1:A:1069:A:N6	1:A:1073:A:C5'	2.62	0.62
23:W:17:ALA:O	23:W:18:LYS:CB	2.47	0.62
1:A:14:A:N6	1:A:526:A:C4	2.67	0.62
1:A:2396:G:C2	1:A:2421:G:C2	2.88	0.62
1:A:1839:G:O2'	1:A:1840:G:C5'	2.48	0.62
1:A:1388:G:O2'	1:A:1389:G:C5'	2.47	0.62
1:A:946:C:O2'	1:A:947:A:C5'	2.48	0.62
1:A:2788:C:O2'	1:A:2809:A:N3	2.33	0.62
1:A:1208:C:N3	1:A:1209:U:C5	2.68	0.62
1:A:1554:U:C5'	1:A:1555:G:OP2	2.48	0.62
1:A:396:G:O2'	1:A:397:U:C6	2.53	0.62
1:A:411:G:C4'	1:A:412:A:OP1	2.47	0.62
1:A:991:C:C4	1:A:1185:G:C6	2.88	0.62
1:A:2836:U:O2'	1:A:2837:A:O5'	2.17	0.62
1:A:2837:A:N6	1:A:2882:A:C6	2.68	0.62
1:A:2874:C:O2'	1:A:2875:C:C6	2.53	0.61
1:A:14:A:C6	1:A:526:A:C2	2.88	0.61
1:A:2093:G:N2	1:A:2094:A:C5	2.66	0.61
4:D:10:GLY:O	4:D:11:MET:CB	2.48	0.61
1:A:2800:A:C2'	1:A:2801:G:C4'	2.78	0.61
1:A:1205:A:N7	5:E:165:HIS:CG	2.68	0.61
1:A:671:C:O2'	1:A:672:C:C5'	2.49	0.61
1:A:1722:A:N6	1:A:1739:A:C8	2.68	0.61
1:A:2235:G:C5	1:A:2236:U:C5	2.88	0.61
1:A:19:A:C2	1:A:522:A:C2	2.88	0.61
1:A:836:G:C6	1:A:837:C:N3	2.67	0.61
1:A:104:A:O2'	1:A:105:C:C5'	2.48	0.61
6:F:177:ARG:NH1	6:F:178:LYS:HB3	2.16	0.61
1:A:117:G:C2	1:A:119:A:N6	2.68	0.61
8:H:132:PHE:CZ	8:H:134:VAL:CB	2.83	0.61
23:W:8:SER:O	23:W:9:THR:CB	2.47	0.61
1:A:1682:G:O2'	1:A:1683:U:C6	2.53	0.61
1:A:2226:C:O2'	1:A:2227:A:O4'	2.18	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2149:U:O2'	1:A:2150:C:C6	2.53	0.61
7:G:93:TYR:N	7:G:93:TYR:CD2	2.65	0.61
18:R:27:ILE:CG2	18:R:28:ALA:N	2.63	0.61
1:A:987:C:O2'	1:A:1000:A:N3	2.34	0.61
1:A:1039:A:C4	1:A:1040:A:C8	2.88	0.61
1:A:513:A:C2	1:A:514:A:C5	2.89	0.61
1:A:1361:G:C5	1:A:1362:C:C5	2.88	0.61
1:A:192:C:OP1	34:A:3561:HOH:O	2.16	0.61
1:A:1281:G:C6	1:A:1290:C:N4	2.67	0.61
1:A:859:G:N2	1:A:916:G:O2'	2.33	0.61
2:B:15:A:C4	2:B:109:A:C6	2.88	0.61
2:B:24:G:C1'	2:B:27:C:N4	2.64	0.61
1:A:1808:A:O3'	1:A:1809:A:C8	2.54	0.61
1:A:1639:C:C2'	1:A:1640:A:C5'	2.79	0.61
1:A:2332:C:O2'	23:W:40:ARG:NH2	2.34	0.61
1:A:231:A:O2'	1:A:232:G:C5'	2.49	0.61
1:A:1290:C:O2'	1:A:1291:C:C6	2.54	0.61
1:A:1272:A:C2	1:A:1618:A:N3	2.68	0.61
1:A:84:A:C4'	1:A:85:G:O5'	2.47	0.60
1:A:674:G:O2'	5:E:69:ARG:CG	2.49	0.60
1:A:612:G:C2	1:A:617:G:O6	2.54	0.60
1:A:1430:G:O2'	1:A:1431:A:O4'	2.19	0.60
1:A:295:G:N2	1:A:296:U:C6	2.69	0.60
1:A:1655:A:C5'	4:D:118:PHE:CE1	2.85	0.60
1:A:2688:G:N1	1:A:2720:U:OP2	2.33	0.60
1:A:1420:A:C4	1:A:2211:A:N7	2.69	0.60
1:A:656:G:O2'	1:A:657:U:C5'	2.49	0.60
1:A:1731:G:O2'	1:A:1732:C:C5'	2.49	0.60
1:A:1734:G:C2'	1:A:1735:A:C8	2.84	0.60
1:A:55:G:N2	1:A:116:C:C2	2.68	0.60
31:4:3:VAL:O	31:4:4:ARG:CB	2.48	0.60
1:A:873:C:C4'	13:M:64:TRP:CD1	2.84	0.60
1:A:2091:C:N4	1:A:2092:U:C4	2.69	0.60
1:A:1389:G:O2'	1:A:1390:U:C5'	2.50	0.60
1:A:627:A:O2'	1:A:628:G:C8	2.54	0.60
1:A:1905:C:O2'	1:A:1929:G:O2'	2.18	0.60
1:A:727:A:C2'	1:A:728:G:C8	2.84	0.60
8:H:80:ILE:CB	8:H:101:ASP:CB	2.79	0.60
1:A:2492:U:O2'	1:A:2493:U:C5'	2.50	0.60
21:U:33:VAL:O	21:U:34:ILE:CG1	2.49	0.60
1:A:1609:A:N6	1:A:1616:A:C2	2.69	0.60
1:A:55:G:C2	1:A:116:C:C2	2.90	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:729:G:N3	1:A:729:G:C2'	2.64	0.60
10:J:86:GLN:O	10:J:87:ALA:CB	2.49	0.60
1:A:503:A:C4	1:A:506:G:N7	2.69	0.60
1:A:1286:A:C4	1:A:1289:C:N4	2.70	0.60
1:A:250:G:O6	1:A:386:G:N2	2.35	0.60
1:A:1207:C:O2'	1:A:1208:C:C6	2.55	0.60
1:A:2093:G:N3	1:A:2094:A:N7	2.49	0.60
1:A:86:G:C2	1:A:87:U:C4	2.90	0.60
1:A:484:C:O2'	1:A:485:C:C6	2.55	0.60
1:A:976:G:N3	1:A:977:G:C8	2.70	0.60
12:L:100:ILE:O	12:L:101:ILE:CB	2.50	0.60
3:C:122:ALA:CB	3:C:127:ASN:ND2	2.63	0.60
1:A:2013:A:N6	1:A:2014:A:C2	2.70	0.60
1:A:332:A:C5	1:A:335:C:N4	2.70	0.60
1:A:1649:G:C6	1:A:2009:A:C6	2.89	0.60
1:A:873:C:C4'	13:M:64:TRP:NE1	2.65	0.60
10:J:94:ALA:O	10:J:95:ARG:CB	2.50	0.60
1:A:2212:A:C8	1:A:2214:C:N4	2.70	0.60
12:L:17:LYS:NZ	12:L:19:LEU:CD2	2.65	0.60
1:A:1040:A:C2	1:A:1041:G:C4	2.90	0.60
1:A:1071:G:O2'	1:A:1072:C:C5'	2.49	0.60
1:A:1809:A:C2	1:A:1810:A:C5	2.90	0.60
1:A:992:C:O3'	18:R:74:ILE:CD1	2.50	0.60
1:A:2235:G:C4	1:A:2236:U:C5	2.90	0.60
1:A:2650:U:C2	1:A:2671:G:N2	2.70	0.59
1:A:1345:C:C5'	1:A:1396:U:O4	2.50	0.59
1:A:1552:A:N3	1:A:1552:A:C2'	2.65	0.59
1:A:2143:C:C5'	1:A:2144:G:OP2	2.50	0.59
1:A:1275:A:N3	1:A:1275:A:O2'	2.36	0.59
1:A:296:U:C2	1:A:297:G:C8	2.90	0.59
1:A:2216:G:O2'	1:A:2217:G:C5'	2.51	0.59
1:A:374:A:N6	1:A:401:A:C8	2.70	0.59
1:A:605:G:O2'	1:A:606:U:C5'	2.50	0.59
7:G:149:ALA:O	7:G:151:ARG:N	2.35	0.59
1:A:1252:G:C4	1:A:1253:A:C2	2.90	0.59
2:B:68:C:O2'	2:B:69:G:C5'	2.50	0.59
4:D:117:GLY:O	4:D:119:ALA:N	2.36	0.59
1:A:1973:G:C6	1:A:1974:C:C4	2.90	0.59
1:A:28:A:O2'	1:A:29:U:C5'	2.49	0.59
1:A:1056:G:N2	1:A:1102:C:C5	2.70	0.59
1:A:2283:C:O2'	1:A:2284:A:C5'	2.50	0.59
1:A:2283:C:N4	1:A:2389:G:C5	2.71	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:59:PRO:CB	5:E:67:ARG:NH2	2.65	0.59
12:L:55:MET:SD	12:L:59:ARG:NE	2.75	0.59
1:A:1814:G:N1	1:A:1815:A:N6	2.51	0.59
1:A:571:U:C6	1:A:575:A:N6	2.70	0.59
1:A:2232:C:OP1	24:X:26:ARG:NH1	2.36	0.59
1:A:1838:C:C2	1:A:1899:A:C2	2.90	0.59
1:A:61:C:O2'	1:A:62:U:C5'	2.49	0.59
1:A:1654:A:O2'	1:A:1655:A:C5'	2.51	0.59
1:A:379:G:C6	1:A:380:G:C5	2.90	0.59
1:A:2331:G:N1	1:A:2385:C:N4	2.50	0.59
2:B:58:A:O2'	2:B:59:A:C5'	2.51	0.59
1:A:1343:G:C5	1:A:1597:A:N6	2.71	0.59
1:A:1716:U:O2'	1:A:1717:A:C5'	2.51	0.59
1:A:247:G:C4'	1:A:386:G:C5	2.86	0.59
1:A:1317:G:C6	1:A:1318:U:N3	2.71	0.59
1:A:2552:U:C2	1:A:2554:U:C5'	2.86	0.59
1:A:2191:A:C5	1:A:2192:U:C5	2.90	0.59
1:A:259:G:C6	1:A:260:G:N7	2.70	0.59
1:A:170:U:C2	1:A:171:U:C5	2.90	0.59
1:A:1342:A:C5	1:A:1345:C:N4	2.71	0.59
1:A:500:G:N2	1:A:503:A:C8	2.71	0.59
1:A:1738:G:O2'	1:A:1739:A:C8	2.56	0.59
1:A:1651:G:C2	1:A:2007:U:C2	2.91	0.59
1:A:1649:G:C6	1:A:2009:A:N1	2.71	0.59
3:C:62:ARG:CG	3:C:62:ARG:NH2	2.65	0.59
16:P:102:ARG:O	16:P:103:THR:CB	2.51	0.59
7:G:163:TYR:N	7:G:163:TYR:CD2	2.69	0.59
1:A:415:A:C2	1:A:2409:G:C6	2.91	0.59
1:A:1913:A:C4'	1:A:1914:C:OP1	2.50	0.59
23:W:33:GLY:O	23:W:34:SER:CB	2.50	0.59
1:A:1204:A:N1	1:A:1241:A:N1	2.49	0.59
7:G:91:VAL:N	7:G:93:TYR:CD2	2.71	0.59
1:A:995:C:O2'	17:Q:60:TRP:CZ2	2.56	0.59
1:A:2093:G:C2	1:A:2094:A:C8	2.90	0.58
1:A:1400:U:O2'	1:A:1401:G:O4'	2.19	0.58
1:A:265:A:N7	1:A:427:U:O2'	2.36	0.58
1:A:1826:G:C6	1:A:1827:U:C4	2.91	0.58
1:A:2345:G:C6	1:A:2347:C:N4	2.71	0.58
1:A:2549:G:N2	1:A:2560:A:C4	2.71	0.58
1:A:1262:A:N3	27:O:6:LYS:NZ	2.51	0.58
1:A:876:C:C2'	1:A:877:A:OP1	2.51	0.58
1:A:1973:G:C6	1:A:1974:C:N4	2.72	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1053:C:N4	1:A:1054:A:N6	2.51	0.58
16:P:107:ALA:O	16:P:108:ARG:C	2.41	0.58
1:A:961:C:C5	1:A:2031:A:C2	2.91	0.58
1:A:1213:A:O2'	1:A:1214:A:C5'	2.51	0.58
25:Y:22:LEU:CD1	25:Y:23:ARG:NH1	2.66	0.58
2:B:69:G:N7	2:B:70:C:C5	2.71	0.58
1:A:1912:A:N6	1:A:1917:U:N3	2.51	0.58
1:A:35:G:C5	1:A:454:A:C2	2.91	0.58
1:A:308:G:C6	1:A:309:A:C6	2.92	0.58
1:A:160:A:N1	1:A:161:A:C2	2.71	0.58
11:K:14:SER:OG	11:K:51:LYS:N	2.37	0.58
31:4:7:VAL:CG1	31:4:8:LYS:N	2.66	0.58
2:B:15:A:C8	2:B:109:A:N6	2.71	0.58
1:A:1342:A:C4	1:A:1345:C:N4	2.71	0.58
1:A:305:C:C2	1:A:313:G:C2	2.91	0.58
1:A:216:A:C4	1:A:217:A:C8	2.91	0.58
2:B:42:C:O2'	2:B:43:C:C5'	2.50	0.58
10:J:43:GLU:O	10:J:45:THR:N	2.36	0.58
1:A:608:A:C5	1:A:621:A:N7	2.72	0.58
19:S:8:ARG:O	19:S:9:HIS:CB	2.51	0.58
2:B:49:C:OP1	15:O:102:ARG:N	2.35	0.58
1:A:764:A:C2	1:A:781:A:C2	2.91	0.58
1:A:271:G:C6	1:A:272:A:N6	2.72	0.58
30:3:18:LYS:CG	30:3:19:GLY:N	2.67	0.58
14:N:28:LEU:O	14:N:32:GLU:N	2.36	0.58
9:I:20:SER:N	9:I:21:PRO:CD	2.66	0.58
8:H:9:VAL:CG1	8:H:10:ALA:N	2.66	0.58
26:Z:16:LEU:N	26:Z:16:LEU:CD2	2.67	0.58
1:A:1521:G:C6	1:A:1522:A:C6	2.92	0.58
1:A:1352:U:C5	1:A:1377:G:O6	2.56	0.58
1:A:1734:G:O2'	1:A:1735:A:C8	2.56	0.58
1:A:1605:C:C4'	1:A:1610:A:C6	2.87	0.58
1:A:155:A:C2	1:A:172:A:C6	2.92	0.58
6:F:113:PHE:O	6:F:114:ARG:CB	2.52	0.58
1:A:1087:G:C4	1:A:1089:A:C2	2.91	0.58
1:A:2577:A:C2	27:0:1:ALA:N	2.71	0.58
1:A:1737:G:C6	1:A:1738:G:N1	2.72	0.58
1:A:1208:C:C2	1:A:1209:U:C5	2.92	0.58
2:B:78:A:C6	2:B:99:A:C8	2.92	0.58
1:A:2550:G:C2	1:A:2559:C:O2	2.56	0.58
1:A:1039:A:C5	1:A:1040:A:C8	2.92	0.58
1:A:1553:A:N7	1:A:1555:G:C6	2.72	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1329:U:O2'	1:A:1330:C:OP1	2.22	0.58
1:A:915:C:O2'	1:A:916:G:C5'	2.52	0.58
16:P:50:ARG:CB	16:P:57:ALA:N	2.67	0.58
14:N:90:ARG:NH2	14:N:116:VAL:CG1	2.67	0.58
1:A:1049:C:C5	1:A:1050:A:N7	2.71	0.58
1:A:1038:G:C6	1:A:1118:C:N4	2.72	0.58
1:A:1555:G:O2'	1:A:1556:C:C5'	2.51	0.58
1:A:1079:C:O2'	1:A:1080:A:C8	2.57	0.58
1:A:1026:G:O2'	1:A:1027:A:C5'	2.51	0.58
1:A:1814:G:C6	1:A:1815:A:N6	2.72	0.58
1:A:1997:C:O2'	1:A:1998:A:C5'	2.51	0.58
7:G:84:LYS:O	7:G:85:LYS:CB	2.52	0.58
1:A:91:A:O2'	1:A:92:U:C5'	2.52	0.58
17:Q:46:TYR:CD1	18:R:74:ILE:CG2	2.87	0.58
1:A:2148:G:N2	1:A:2149:U:O4	2.36	0.58
31:4:16:ILE:CG1	31:4:25:VAL:CG2	2.82	0.58
17:Q:57:ARG:NH1	17:Q:92:LYS:CE	2.67	0.58
1:A:502:A:C5	1:A:505:A:N7	2.72	0.57
1:A:673:C:O2'	1:A:674:G:C5'	2.52	0.57
1:A:813:U:C6	1:A:1195:G:N2	2.72	0.57
1:A:185:G:C5	1:A:212:G:N2	2.71	0.57
1:A:143:C:O2'	1:A:144:A:O4'	2.21	0.57
1:A:460:A:C6	1:A:470:A:C8	2.92	0.57
1:A:1800:C:C2	1:A:1802:A:C8	2.93	0.57
1:A:2144:G:O2'	1:A:2147:A:OP2	2.23	0.57
10:J:64:VAL:CG1	10:J:65:THR:N	2.67	0.57
1:A:1329:U:O2'	1:A:1330:C:P	2.62	0.57
1:A:117:G:C6	1:A:119:A:C6	2.92	0.57
1:A:136:G:N2	1:A:144:A:C2	2.72	0.57
1:A:489:G:C5	1:A:491:G:C5	2.92	0.57
1:A:1427:A:C2	1:A:1570:A:OP2	2.58	0.57
1:A:391:A:O2'	1:A:392:U:C5'	2.52	0.57
1:A:529:A:C8	1:A:2023:C:N4	2.72	0.57
1:A:571:U:C5	1:A:575:A:C6	2.92	0.57
1:A:2234:G:C5	1:A:2235:G:C8	2.92	0.57
2:B:96:G:C5	2:B:97:C:C5	2.92	0.57
1:A:1326:U:O2'	1:A:1327:A:C8	2.57	0.57
1:A:404:A:N3	1:A:406:G:C6	2.73	0.57
4:D:118:PHE:CG	4:D:119:ALA:N	2.72	0.57
1:A:627:A:O2'	1:A:628:G:O5'	2.23	0.57
1:A:2757:A:OP1	31:4:20:ASP:N	2.38	0.57
1:A:491:G:C2'	1:A:492:A:C8	2.86	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:345:A:O2'	1:A:346:A:C2	2.58	0.57
1:A:1544:A:C6	1:A:1545:A:C6	2.92	0.57
7:G:115:GLN:CG	7:G:116:LEU:N	2.68	0.57
1:A:1857:G:C4	1:A:1884:G:N1	2.72	0.57
1:A:1204:A:O4'	1:A:1206:G:C5	2.58	0.57
2:B:109:A:C6	2:B:110:C:N4	2.73	0.57
1:A:740:C:O2'	1:A:741:U:C5'	2.52	0.57
1:A:2729:G:O2'	1:A:2730:C:O4'	2.21	0.57
1:A:727:A:O2'	1:A:728:G:C8	2.58	0.57
1:A:811:U:C5'	1:A:812:C:OP2	2.52	0.57
14:N:1:MET:O	14:N:2:ARG:CB	2.52	0.57
3:C:30:ALA:N	3:C:31:PRO:CD	2.68	0.57
1:A:2727:A:O2'	1:A:2728:U:C6	2.58	0.57
1:A:445:C:C2'	1:A:446:G:C8	2.88	0.57
1:A:672:C:O2'	1:A:673:C:C5'	2.53	0.57
1:A:962:G:O2'	1:A:963:U:C5'	2.52	0.57
1:A:1204:A:O4'	1:A:1206:G:N7	2.38	0.57
1:A:2199:A:N6	1:A:2225:A:N9	2.53	0.57
1:A:200:U:C5	1:A:201:C:C4	2.92	0.57
14:N:16:HIS:O	14:N:20:MET:CB	2.53	0.57
1:A:1684:G:C2	1:A:1705:A:C2	2.92	0.57
1:A:1281:G:C5	1:A:1282:U:C5	2.92	0.57
1:A:1359:A:C2	1:A:1360:G:C1'	2.87	0.57
1:A:532:A:N1	1:A:2020:A:O2'	2.38	0.56
11:K:7:MET:CA	11:K:7:MET:CE	2.82	0.56
1:A:604:G:O2'	1:A:605:G:C8	2.58	0.56
21:U:95:PHE:N	21:U:95:PHE:CD1	2.69	0.56
1:A:834:G:C1'	1:A:2358:A:N3	2.68	0.56
1:A:2063:C:O2'	1:A:2064:C:C5'	2.53	0.56
1:A:674:G:N2	1:A:2445:G:OP1	2.38	0.56
1:A:308:G:N1	1:A:309:A:C2	2.73	0.56
2:B:78:A:C2	2:B:99:A:C4	2.92	0.56
1:A:492:A:N1	19:S:49:LYS:CE	2.68	0.56
1:A:503:A:C4'	1:A:504:A:O5'	2.53	0.56
1:A:36:G:N1	1:A:445:C:C4	2.73	0.56
1:A:2879:A:O2'	1:A:2880:C:P	2.64	0.56
1:A:972:A:N1	1:A:973:A:N6	2.54	0.56
1:A:1649:G:N1	1:A:2009:A:C6	2.74	0.56
1:A:836:G:C5	1:A:837:C:C4	2.94	0.56
1:A:260:G:C6	1:A:261:G:C5	2.93	0.56
1:A:1262:A:C6	1:A:1263:U:C2	2.92	0.56
1:A:460:A:C2'	1:A:461:C:O4'	2.54	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2439:A:C4'	1:A:2440:C:O5'	2.54	0.56
11:K:2:ILE:O	11:K:3:GLN:CG	2.53	0.56
1:A:1171:G:C2	1:A:1179:G:N3	2.73	0.56
1:A:1830:C:C5'	3:C:14:HIS:CE1	2.88	0.56
1:A:382:A:C2	1:A:393:C:C2	2.93	0.56
2:B:52:A:O2'	2:B:53:A:C8	2.58	0.56
1:A:2210:U:C4'	1:A:2211:A:C5'	2.83	0.56
1:A:1022:G:C6	1:A:1140:C:C5	2.94	0.56
1:A:629:G:O2'	1:A:630:G:C5'	2.52	0.56
1:A:1304:A:O2'	1:A:1305:C:O5'	2.24	0.56
1:A:1428:C:C5	1:A:1569:A:C5'	2.88	0.56
6:F:129:MET:CE	6:F:174:PHE:CZ	2.89	0.56
1:A:910:A:C2	13:M:13:HIS:CE1	2.93	0.56
19:S:39:THR:O	19:S:40:ASN:CB	2.53	0.56
1:A:736:C:C4	1:A:737:C:C5	2.94	0.56
23:W:25:PHE:O	23:W:27:GLY:N	2.38	0.56
2:B:81:G:C4	2:B:82:U:C6	2.94	0.56
1:A:477:A:C2'	1:A:478:A:C8	2.88	0.56
1:A:2147:A:C4'	1:A:2147:A:OP1	2.54	0.56
1:A:1416:G:N1	1:A:1417:C:C4	2.73	0.56
1:A:669:G:C2	1:A:801:G:C6	2.93	0.56
1:A:962:G:O2'	1:A:963:U:C6	2.58	0.56
1:A:1304:A:O2'	1:A:1305:C:C6	2.58	0.56
1:A:457:A:N3	1:A:459:U:O4	2.39	0.56
1:A:699:A:N6	1:A:733:G:O2'	2.38	0.56
1:A:1036:G:C6	1:A:1120:G:C6	2.93	0.56
1:A:1954:G:O2'	1:A:1955:U:P	2.63	0.56
1:A:2330:G:N1	1:A:2386:A:C6	2.73	0.56
1:A:2259:U:C4	1:A:2427:C:N4	2.74	0.56
1:A:1717:A:N6	1:A:1744:A:C8	2.73	0.56
1:A:143:C:C2'	1:A:144:A:C8	2.88	0.56
21:U:95:PHE:O	21:U:97:SER:N	2.38	0.56
1:A:289:G:C2	1:A:352:A:C2	2.94	0.56
1:A:1458:U:O3'	1:A:1459:G:C4'	2.54	0.56
1:A:1116:G:C2	1:A:1117:C:C2	2.94	0.56
1:A:739:A:C4'	1:A:740:C:OP1	2.52	0.56
1:A:370:G:C6	1:A:424:G:N7	2.74	0.56
17:Q:40:LYS:CD	17:Q:44:TYR:CE2	2.89	0.56
1:A:1931:U:OP2	1:A:1968:G:N2	2.38	0.56
10:J:44:TYR:CD1	17:Q:63:ARG:NH2	2.74	0.56
1:A:677:A:C2	1:A:678:C:C4	2.94	0.56
17:Q:91:ARG:NH1	18:R:10:LYS:CB	2.69	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1420:A:N3	1:A:2211:A:N7	2.52	0.56
1:A:377:G:C6	1:A:378:C:N3	2.73	0.56
1:A:1265:A:C8	1:A:1267:U:N3	2.73	0.56
1:A:1179:G:N2	1:A:1180:U:C2	2.74	0.56
1:A:2106:U:C4	1:A:2107:G:N7	2.74	0.56
1:A:919:U:C2	1:A:920:A:N7	2.74	0.56
4:D:202:ILE:CD1	4:D:202:ILE:N	2.69	0.56
1:A:412:A:N6	1:A:2412:A:O4'	2.39	0.56
1:A:217:A:O2'	1:A:218:A:C5'	2.54	0.56
1:A:49:A:N6	1:A:177:G:C5	2.73	0.56
12:L:93:ASN:O	12:L:95:LEU:N	2.38	0.56
1:A:39:G:N2	1:A:441:U:C2	2.73	0.56
1:A:204:A:O2'	1:A:205:G:O5'	2.24	0.56
1:A:2093:G:C5	1:A:2225:A:C5	2.94	0.56
1:A:1816:C:O2'	1:A:1817:G:P	2.63	0.56
1:A:404:A:C2	1:A:421:C:N3	2.74	0.56
1:A:2868:A:O2'	1:A:2869:G:C5'	2.54	0.56
1:A:1731:G:N3	1:A:1733:G:C8	2.74	0.56
1:A:2308:G:C8	1:A:2310:C:N4	2.74	0.56
13:M:72:PRO:O	13:M:73:ILE:CB	2.54	0.56
2:B:94:A:OP1	22:V:19:ARG:CD	2.54	0.56
6:F:36:ASN:O	6:F:37:MET:CB	2.54	0.56
24:X:53:LYS:O	24:X:57:VAL:N	2.38	0.56
1:A:659:G:C5	1:A:660:C:C4	2.93	0.56
1:A:2517:C:O2'	1:A:2518:A:C3'	2.53	0.55
1:A:1331:G:C4	1:A:1333:G:N7	2.73	0.55
1:A:2748:A:C2	1:A:2757:A:C5	2.94	0.55
1:A:1429:G:O2'	1:A:1430:G:C8	2.58	0.55
1:A:297:G:C2	1:A:342:A:C2	2.94	0.55
1:A:491:G:O2'	1:A:492:A:C5'	2.54	0.55
1:A:1645:G:OP1	1:A:1646:C:C5'	2.54	0.55
1:A:224:U:C4	1:A:225:C:C5	2.94	0.55
1:A:2303:G:C6	1:A:2314:A:N6	2.74	0.55
1:A:2461:A:C2	1:A:2490:G:N2	2.74	0.55
1:A:2677:G:C4	1:A:2731:G:N2	2.74	0.55
20:T:39:THR:CG2	20:T:42:GLU:CB	2.85	0.55
1:A:597:G:C2	1:A:661:A:C2	2.95	0.55
1:A:1116:G:C2	1:A:1117:C:N1	2.73	0.55
1:A:299:A:N3	1:A:319:G:O2'	2.40	0.55
1:A:202:U:C3'	1:A:203:A:C8	2.89	0.55
1:A:118:A:OP2	1:A:119:A:C3'	2.53	0.55
2:B:52:A:C6	15:O:33:ARG:NH2	2.74	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2360:G:C1'	12:L:60:ARG:NH2	2.69	0.55
1:A:2812:G:C6	1:A:2813:A:C6	2.95	0.55
3:C:75:ALA:CB	3:C:95:TYR:CD1	2.89	0.55
1:A:2615:U:O2'	1:A:2616:C:C5'	2.54	0.55
7:G:91:VAL:N	7:G:93:TYR:CE2	2.74	0.55
7:G:164:ALA:O	7:G:165:ASP:CB	2.54	0.55
20:T:14:PRO:O	20:T:15:HIS:CB	2.54	0.55
1:A:1435:G:C2	1:A:1558:C:N4	2.74	0.55
4:D:12:THR:CG2	4:D:13:ARG:N	2.69	0.55
6:F:76:PHE:N	6:F:76:PHE:CD2	2.74	0.55
1:A:395:U:O2'	1:A:396:G:C8	2.59	0.55
1:A:230:G:C2	1:A:231:A:N7	2.74	0.55
1:A:233:A:O2'	1:A:234:U:C6	2.59	0.55
1:A:2834:G:N9	1:A:2879:A:N6	2.54	0.55
1:A:177:G:OP2	1:A:177:G:N2	2.40	0.55
1:A:2311:A:C4'	1:A:2312:U:OP2	2.55	0.55
1:A:2750:A:O2'	1:A:2752:C:N4	2.40	0.55
1:A:2217:G:O2'	1:A:2218:G:C5'	2.54	0.55
1:A:2217:G:O2'	1:A:2218:G:O4'	2.25	0.55
1:A:1440:U:O2'	1:A:1441:G:C5'	2.54	0.55
1:A:2313:C:O2'	1:A:2314:A:C5'	2.55	0.55
1:A:1000:A:N1	1:A:1001:A:C2	2.75	0.55
1:A:538:A:O2'	10:J:8:PRO:CG	2.54	0.55
1:A:538:A:C2	1:A:556:A:C4	2.94	0.55
1:A:1391:U:C4'	20:T:19:LYS:NZ	2.69	0.55
1:A:1498:C:O2'	1:A:1499:C:C5'	2.55	0.55
1:A:215:G:O2'	1:A:216:A:O5'	2.25	0.55
1:A:627:A:O2'	1:A:628:G:O4'	2.25	0.55
19:S:49:LYS:CB	19:S:49:LYS:NZ	2.70	0.55
11:K:2:ILE:CG2	11:K:3:GLN:N	2.66	0.55
1:A:878:A:C3'	1:A:878:A:N3	2.70	0.55
1:A:2054:A:C2	1:A:2616:C:C2	2.95	0.55
1:A:1492:G:C4	1:A:1496:A:N6	2.75	0.55
1:A:1553:A:N7	1:A:1555:G:C5	2.75	0.55
1:A:1079:C:N4	1:A:1088:A:C5'	2.70	0.55
1:A:856:G:N2	1:A:922:C:C2	2.75	0.55
4:D:124:ARG:CD	4:D:125:TRP:NE1	2.70	0.55
1:A:1237:A:C2	1:A:1238:G:C1'	2.90	0.55
8:H:2:GLN:O	8:H:3:VAL:O	2.25	0.55
3:C:16:VAL:N	3:C:203:VAL:CG1	2.70	0.55
1:A:663:G:O6	1:A:664:G:C6	2.59	0.55
1:A:1612:C:O2'	1:A:1613:G:O5'	2.25	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1014:A:C2	1:A:1149:G:C2	2.95	0.55
1:A:309:A:C2	1:A:329:G:O2'	2.60	0.55
1:A:2408:U:C2'	1:A:2409:G:C8	2.90	0.54
1:A:675:A:OP1	5:E:60:TRP:CZ2	2.60	0.54
1:A:571:U:C4	1:A:2030:A:C6	2.95	0.54
1:A:197:A:N7	1:A:2430:A:C8	2.75	0.54
1:A:1355:G:C6	1:A:1377:G:N2	2.75	0.54
1:A:763:G:C4	1:A:765:C:C6	2.94	0.54
1:A:322:A:C2	1:A:340:A:C6	2.95	0.54
6:F:4:HIS:CE1	6:F:96:TRP:CH2	2.95	0.54
1:A:687:C:O2'	1:A:688:U:O4'	2.25	0.54
1:A:1654:A:N3	1:A:1655:A:C8	2.76	0.54
1:A:1210:G:C6	1:A:1237:A:N7	2.75	0.54
1:A:2812:G:C2	1:A:2813:A:C4	2.95	0.54
22:V:70:ILE:N	22:V:70:ILE:CD1	2.70	0.54
1:A:272:A:N3	1:A:273:G:N7	2.55	0.54
10:J:44:TYR:C	10:J:44:TYR:CD2	2.81	0.54
4:D:169:ARG:O	4:D:170:VAL:CG2	2.55	0.54
28:1:51:ALA:O	28:1:52:LYS:CB	2.56	0.54
1:A:1168:G:C6	1:A:1182:G:C6	2.95	0.54
4:D:106:LYS:CB	4:D:206:ALA:CB	2.85	0.54
16:P:9:GLN:CB	16:P:12:MET:CE	2.86	0.54
21:U:47:PRO:CB	21:U:54:PRO:CG	2.86	0.54
1:A:1497:U:C5	1:A:1578:U:O5'	2.61	0.54
1:A:1069:A:C4'	1:A:1070:A:O5'	2.55	0.54
1:A:637:A:C4'	1:A:638:G:O5'	2.54	0.54
2:B:45:A:O2'	2:B:46:A:O4'	2.25	0.54
1:A:802:A:C2'	1:A:803:U:C6	2.90	0.54
1:A:206:U:O2'	1:A:207:A:C5'	2.55	0.54
1:A:874:G:C2	1:A:904:G:C2	2.96	0.54
1:A:2714:G:O2'	1:A:2715:C:C5'	2.55	0.54
1:A:2274:A:C5	1:A:2276:G:C8	2.95	0.54
1:A:1700:A:C2'	1:A:1701:A:C5'	2.86	0.54
1:A:2744:G:N2	1:A:2745:C:C2	2.76	0.54
4:D:137:SER:C	4:D:138:LEU:CD2	2.75	0.54
1:A:1331:G:C4	1:A:1333:G:C8	2.95	0.54
1:A:638:G:C2'	1:A:639:U:C6	2.90	0.54
1:A:242:G:C8	30:3:3:ILE:O	2.59	0.54
4:D:118:PHE:CE1	4:D:119:ALA:O	2.61	0.54
1:A:33:C:N4	1:A:446:G:O2'	2.40	0.54
1:A:861:A:C2'	1:A:862:G:C8	2.91	0.54
1:A:866:A:O2'	1:A:867:C:C6	2.61	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:765:C:C2	1:A:766:U:C6	2.96	0.54
1:A:2592:G:C5	1:A:2593:U:C5	2.95	0.54
13:M:73:ILE:CG1	13:M:93:VAL:CG1	2.86	0.54
1:A:381:G:C5'	24:X:15:ASN:ND2	2.70	0.54
20:T:29:THR:CB	20:T:86:THR:N	2.71	0.54
11:K:6:THR:O	11:K:8:LEU:CD1	2.56	0.54
1:A:1342:A:C6	1:A:1397:U:C5	2.96	0.54
1:A:2266:A:O2'	1:A:2267:A:OP2	2.26	0.54
1:A:27:G:O2'	1:A:28:A:C8	2.61	0.54
1:A:668:A:C5	1:A:670:A:C8	2.96	0.54
1:A:563:A:N3	17:Q:36:GLN:NE2	2.55	0.54
1:A:608:A:C6	1:A:621:A:C8	2.96	0.54
5:E:85:PHE:O	5:E:86:ALA:C	2.46	0.54
17:Q:79:ILE:CD1	17:Q:79:ILE:C	2.76	0.54
1:A:311:A:C2	1:A:328:U:O4	2.61	0.54
1:A:332:A:C4	1:A:335:C:N4	2.76	0.54
1:A:103:A:O2'	1:A:104:A:C5'	2.56	0.54
1:A:397:U:OP1	24:X:30:PRO:CA	2.56	0.54
1:A:1078:U:C4'	1:A:1079:C:O5'	2.55	0.54
1:A:265:A:C6	1:A:428:A:O4'	2.61	0.54
1:A:976:G:C5'	1:A:1156:A:N6	2.70	0.54
6:F:135:ILE:O	6:F:137:PHE:N	2.41	0.54
14:N:14:SER:C	14:N:16:HIS:N	2.59	0.54
4:D:133:THR:CG2	4:D:134:HIS:N	2.71	0.54
1:A:749:A:C6	1:A:1618:A:C2	2.96	0.54
1:A:664:G:C4'	1:A:941:A:OP1	2.55	0.54
1:A:2455:G:N1	1:A:2498:C:N4	2.55	0.54
1:A:1335:C:N4	34:A:3245:HOH:O	2.41	0.54
19:S:27:LYS:O	19:S:28:LYS:O	2.26	0.54
1:A:1114:C:O2'	1:A:1115:G:C8	2.61	0.54
1:A:739:A:O2'	1:A:740:C:C6	2.61	0.54
1:A:1912:A:N7	1:A:1918:A:C2	2.76	0.54
1:A:1127:A:N7	1:A:2488:G:O2'	2.41	0.54
1:A:2238:G:C5'	1:A:2239:G:OP1	2.55	0.54
1:A:1671:U:N3	1:A:1674:G:OP2	2.41	0.54
1:A:1206:G:O2'	1:A:1207:C:C5'	2.55	0.54
1:A:1446:C:N4	1:A:1447:C:N4	2.55	0.54
1:A:2100:G:C6	1:A:2101:A:C6	2.96	0.54
1:A:1635:A:O2'	1:A:1636:U:C5'	2.56	0.54
1:A:1112:G:O2'	1:A:1113:U:C6	2.61	0.54
1:A:2209:G:C5	1:A:2210:U:C4	2.96	0.54
1:A:1087:G:C6	1:A:1089:A:C2	2.96	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1993:U:O2'	1:A:1994:C:C5'	2.56	0.54
2:B:40:U:O2	2:B:43:C:C2'	2.55	0.54
12:L:81:ASP:O	12:L:83:ALA:N	2.40	0.54
2:B:16:G:O6	2:B:69:G:C5	2.61	0.53
4:D:118:PHE:O	4:D:119:ALA:CB	2.56	0.53
1:A:307:G:N2	1:A:310:A:C8	2.76	0.53
1:A:2298:A:O2'	1:A:2299:U:C5'	2.55	0.53
1:A:527:C:C2'	1:A:527:C:O2	2.56	0.53
1:A:201:C:C4	1:A:202:U:C5	2.96	0.53
1:A:2756:U:C1'	1:A:2757:A:C5'	2.86	0.53
1:A:2748:A:N1	1:A:2757:A:N7	2.56	0.53
20:T:28:ASN:O	20:T:29:THR:CG2	2.56	0.53
1:A:684:G:C2	1:A:794:A:C2	2.96	0.53
4:D:131:ASP:N	4:D:131:ASP:OD2	2.42	0.53
14:N:21:PHE:CD1	14:N:21:PHE:N	2.76	0.53
1:A:1387:A:N3	1:A:1388:G:C8	2.77	0.53
2:B:58:A:O2'	2:B:59:A:C8	2.61	0.53
1:A:1126:A:C4'	1:A:1127:A:O5'	2.57	0.53
1:A:514:A:N3	1:A:581:C:O2'	2.41	0.53
1:A:606:U:O2'	1:A:607:U:C4'	2.57	0.53
1:A:464:U:C6	1:A:788:A:C2	2.97	0.53
4:D:124:ARG:NH1	4:D:125:TRP:CZ2	2.76	0.53
1:A:726:G:O2'	1:A:727:A:OP2	2.25	0.53
1:A:782:A:O2'	3:C:223:ALA:O	2.26	0.53
3:C:71:ASP:CA	3:C:117:SER:O	2.56	0.53
19:S:7:HIS:CE1	19:S:10:ALA:CA	2.91	0.53
1:A:2204:G:C2	1:A:2205:A:C8	2.95	0.53
7:G:48:THR:O	7:G:49:LEU:CB	2.56	0.53
1:A:301:G:O3'	21:U:81:ARG:NH1	2.42	0.53
1:A:1286:A:O2'	1:A:1288:G:N2	2.42	0.53
1:A:1802:A:C2	1:A:1803:A:C6	2.97	0.53
1:A:1739:A:O2'	1:A:1740:G:C5'	2.57	0.53
1:A:75:G:O2'	1:A:76:C:C6	2.61	0.53
1:A:1413:A:C6	1:A:1414:C:N4	2.77	0.53
5:E:119:ILE:CD1	5:E:143:LEU:CD2	2.86	0.53
10:J:30:THR:CG2	10:J:31:GLU:N	2.71	0.53
1:A:1028:A:C2	1:A:1029:A:C5	2.96	0.53
1:A:2837:A:N6	1:A:2882:A:N6	2.56	0.53
1:A:1992:G:N2	1:A:1995:U:C5	2.76	0.53
1:A:811:U:C4	12:L:21:ARG:NH1	2.77	0.53
7:G:88:LEU:N	7:G:128:THR:O	2.41	0.53
4:D:119:ALA:CB	4:D:163:GLY:C	2.77	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:303:G:C6	1:A:315:G:C6	2.97	0.53
1:A:92:U:C2'	1:A:93:G:O4'	2.56	0.53
1:A:1798:U:C5	3:C:270:ARG:NH1	2.76	0.53
1:A:2148:G:O2'	1:A:2149:U:C5	2.62	0.53
1:A:575:A:O2'	1:A:576:U:C5'	2.57	0.53
1:A:605:G:O2'	1:A:606:U:O4'	2.26	0.53
1:A:1717:A:C2'	1:A:1718:G:O4'	2.56	0.53
1:A:830:G:N3	1:A:2448:A:C6	2.77	0.53
1:A:1775:U:C2'	1:A:1776:G:O5'	2.56	0.53
1:A:469:G:P	5:E:55:SER:CB	2.96	0.53
13:M:73:ILE:CG2	13:M:91:TYR:CE1	2.92	0.53
6:F:4:HIS:CE1	6:F:96:TRP:CZ2	2.96	0.53
9:I:113:ALA:CB	9:I:124:MET:SD	2.97	0.53
1:A:121:G:N2	1:A:131:A:C4	2.76	0.53
1:A:2058:A:N6	1:A:2059:A:N6	2.56	0.53
14:N:22:ARG:O	14:N:22:ARG:CG	2.56	0.53
1:A:528:A:C2	1:A:2043:C:C5'	2.92	0.53
1:A:1607:C:N4	1:A:1622:G:N7	2.56	0.53
1:A:1225:G:C6	1:A:1226:A:N6	2.76	0.53
1:A:324:A:N6	1:A:338:G:O2'	2.41	0.53
1:A:2077:A:OP1	1:A:2238:G:N1	2.41	0.53
1:A:1430:G:O2'	1:A:1431:A:C5'	2.57	0.53
30:3:18:LYS:CD	30:3:19:GLY:N	2.72	0.53
1:A:811:U:O2'	1:A:1251:C:O4'	2.27	0.53
1:A:538:A:O2'	10:J:8:PRO:CD	2.57	0.53
6:F:91:ARG:CA	6:F:95:MET:SD	2.97	0.53
17:Q:71:ASN:ND2	17:Q:106:THR:CA	2.72	0.53
1:A:287:G:N1	1:A:354:A:C6	2.76	0.53
1:A:1833:C:C4	1:A:1834:U:C5	2.97	0.53
13:M:1:MET:O	13:M:2:LEU:O	2.27	0.53
1:A:747:U:C2'	1:A:2613:U:O4	2.56	0.53
13:M:76:LYS:O	13:M:77:PRO:O	2.27	0.53
1:A:1346:G:O2'	1:A:1347:A:O5'	2.27	0.53
21:U:81:ARG:N	21:U:81:ARG:CD	2.72	0.53
1:A:424:G:O2'	1:A:425:G:C5'	2.55	0.53
1:A:195:A:C5	1:A:198:C:C5	2.97	0.53
1:A:2823:A:C4	1:A:2824:C:C6	2.96	0.53
4:D:113:SER:OG	4:D:114:LYS:N	2.41	0.53
1:A:1539:U:O2'	1:A:1540:G:O4'	2.27	0.53
1:A:2290:G:C5	1:A:2291:U:C4	2.97	0.53
2:B:69:G:C5	2:B:70:C:C5	2.96	0.53
1:A:1385:A:O2'	1:A:1386:C:C6	2.62	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:90:U:C4	1:A:91:A:C5	2.96	0.53
1:A:397:U:O2'	1:A:398:C:O5'	2.26	0.53
1:A:2061:G:C2	1:A:2063:C:C4	2.97	0.53
5:E:60:TRP:O	5:E:61:ARG:CB	2.57	0.53
1:A:13:A:N3	1:A:15:G:O6	2.42	0.53
1:A:9:G:C6	1:A:2895:G:O6	2.62	0.53
1:A:1239:G:C5	1:A:1240:U:C5	2.96	0.53
1:A:1525:A:C6	1:A:1526:C:C2	2.97	0.53
1:A:1040:A:C2	1:A:1041:G:N9	2.77	0.53
1:A:2616:C:O2'	1:A:2617:U:O4'	2.27	0.53
1:A:1914:C:O2'	1:A:1915:U:C5'	2.57	0.53
1:A:2849:U:OP1	16:P:92:ARG:NH1	2.42	0.53
1:A:189:G:C2'	1:A:190:A:O5'	2.56	0.53
1:A:382:A:C2'	1:A:383:C:C5'	2.87	0.53
30:3:35:LYS:CB	30:3:40:LYS:CD	2.87	0.53
1:A:1338:G:C4'	20:T:18:GLU:OE2	2.57	0.53
1:A:930:G:C2	1:A:933:A:C2	2.96	0.53
1:A:1974:C:C2	1:A:1975:G:C8	2.97	0.53
14:N:62:ASN:OD1	14:N:62:ASN:N	2.43	0.53
1:A:574:A:C2	1:A:2032:G:O2'	2.62	0.53
2:B:40:U:N3	2:B:43:C:OP2	2.42	0.53
1:A:945:A:C8	1:A:2448:A:C2	2.97	0.53
14:N:92:GLY:N	14:N:94:TYR:CE1	2.77	0.53
1:A:1754:A:N6	1:A:1755:A:C6	2.77	0.53
3:C:93:VAL:CG1	3:C:101:ARG:N	2.72	0.53
3:C:120:ASP:CG	3:C:121:ALA:N	2.63	0.53
1:A:163:C:O2'	1:A:164:C:C5'	2.56	0.53
12:L:62:PRO:O	30:3:12:ARG:CB	2.56	0.53
1:A:2686:G:C5	1:A:2687:U:C4	2.97	0.53
10:J:35:ARG:CG	10:J:40:HIS:CD2	2.91	0.53
1:A:1655:A:C4'	4:D:118:PHE:CD1	2.92	0.52
2:B:58:A:O2'	2:B:59:A:O4'	2.27	0.52
1:A:2331:G:C2	1:A:2385:C:N3	2.76	0.52
1:A:478:A:C6	1:A:480:A:C5	2.97	0.52
1:A:2656:U:C5	1:A:2664:G:N2	2.77	0.52
1:A:2234:G:C5	1:A:2235:G:N7	2.77	0.52
1:A:1681:G:O2'	1:A:1762:A:O2'	2.26	0.52
1:A:2264:C:C2	1:A:2277:G:N2	2.77	0.52
1:A:775:G:C2	1:A:794:A:C8	2.96	0.52
1:A:152:A:C2	1:A:175:G:C2	2.97	0.52
1:A:2371:G:C2	1:A:2372:U:C6	2.97	0.52
15:O:23:ALA:O	15:O:42:PRO:CG	2.56	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1914:C:O2'	1:A:1915:U:O4'	2.26	0.52
1:A:2622:U:O2'	1:A:2825:G:N7	2.42	0.52
1:A:1798:U:C4	1:A:1819:A:C2	2.97	0.52
1:A:1865:U:O4	1:A:1875:G:N3	2.42	0.52
1:A:1429:G:N3	1:A:1430:G:N7	2.56	0.52
1:A:1954:G:O2'	1:A:1956:U:C5	2.62	0.52
1:A:204:A:O4'	1:A:206:U:C6	2.62	0.52
23:W:16:GLU:OE2	23:W:16:GLU:CA	2.57	0.52
1:A:2199:A:N6	1:A:2225:A:C8	2.78	0.52
2:B:109:A:C5	2:B:110:C:C4	2.96	0.52
1:A:2296:U:C5	15:O:9:ARG:NH2	2.77	0.52
1:A:1555:G:C2	1:A:1556:C:C2	2.97	0.52
1:A:379:G:C5	1:A:396:G:C6	2.97	0.52
1:A:2726:A:O2'	1:A:2727:A:C5'	2.57	0.52
1:A:1059:G:N1	1:A:1088:A:C2	2.78	0.52
1:A:1027:A:N7	1:A:1126:A:C2	2.77	0.52
1:A:1125:G:C6	1:A:1126:A:N6	2.78	0.52
1:A:991:C:O2'	1:A:992:C:C5'	2.58	0.52
1:A:1612:C:C2'	1:A:1613:G:O5'	2.57	0.52
1:A:860:U:O2'	1:A:861:A:C5'	2.57	0.52
1:A:1867:G:O6	1:A:1875:G:N2	2.41	0.52
1:A:2834:G:C4	1:A:2879:A:N6	2.77	0.52
1:A:60:G:O2'	1:A:61:C:OP1	2.27	0.52
1:A:1862:G:C2	1:A:1881:C:C2	2.97	0.52
6:F:48:LEU:O	6:F:52:ALA:CB	2.58	0.52
5:E:79:ARG:O	5:E:80:SER:C	2.47	0.52
1:A:647:G:C5	1:A:648:G:N7	2.77	0.52
1:A:1116:G:N2	1:A:1117:C:C6	2.75	0.52
1:A:1141:U:C4'	1:A:1142:A:O5'	2.57	0.52
1:A:2259:U:C5	1:A:2427:C:N4	2.78	0.52
1:A:1906:G:OP2	1:A:1929:G:O2'	2.26	0.52
1:A:141:G:C3'	1:A:142:A:O4'	2.57	0.52
1:A:453:A:N3	1:A:457:A:O2'	2.42	0.52
1:A:2478:A:N7	1:A:2529:G:C6	2.78	0.52
1:A:1706:C:O2'	1:A:1707:G:OP1	2.27	0.52
9:I:28:GLY:O	9:I:29:GLN:C	2.47	0.52
2:B:69:G:N9	2:B:70:C:C5	2.77	0.52
1:A:1308:A:N6	1:A:1309:G:C2	2.77	0.52
6:F:59:ILE:CD1	6:F:137:PHE:CZ	2.92	0.52
1:A:861:A:O2'	1:A:862:G:O4'	2.27	0.52
1:A:1009:A:N3	1:A:1153:C:O2'	2.42	0.52
1:A:272:A:C2	1:A:273:G:C5	2.97	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:704:G:O2'	1:A:705:A:C8	2.62	0.52
1:A:726:G:C8	1:A:726:G:OP2	2.63	0.52
1:A:142:A:C4	1:A:143:C:C5	2.98	0.52
1:A:1782:U:O2	1:A:2608:G:O2'	2.27	0.52
6:F:41:GLU:O	6:F:43:ILE:N	2.42	0.52
21:U:35:VAL:CG1	21:U:36:GLU:N	2.71	0.52
8:H:68:ARG:CD	8:H:68:ARG:O	2.58	0.52
1:A:332:A:C8	1:A:335:C:N4	2.77	0.52
1:A:1437:C:C2	1:A:1438:U:C5	2.98	0.52
14:N:14:SER:O	14:N:16:HIS:N	2.42	0.52
2:B:45:A:C2'	2:B:46:A:C8	2.93	0.52
1:A:1663:G:C2	1:A:1998:A:C5	2.98	0.52
11:K:34:GLY:O	11:K:35:VAL:CG2	2.58	0.52
1:A:2566:A:O2'	1:A:2567:G:P	2.67	0.52
23:W:77:LYS:O	23:W:78:PHE:CB	2.58	0.52
1:A:927:A:C6	1:A:928:A:C6	2.98	0.52
1:A:2875:C:O2'	1:A:2876:G:C5'	2.57	0.52
1:A:2725:A:C4	1:A:2727:A:N7	2.78	0.52
1:A:1815:A:C2	1:A:1817:G:O6	2.63	0.52
1:A:567:U:C4	1:A:568:U:C4	2.97	0.52
1:A:813:U:C2	1:A:814:C:C5	2.97	0.52
10:J:65:THR:O	10:J:68:LYS:NZ	2.43	0.52
1:A:163:C:O2'	1:A:164:C:O4'	2.28	0.52
1:A:1469:A:C2	1:A:1470:A:C5	2.96	0.52
1:A:845:A:N6	1:A:932:U:N3	2.57	0.52
14:N:9:GLN:O	14:N:17:ARG:CD	2.58	0.52
3:C:128:THR:CG2	3:C:188:ARG:CB	2.88	0.52
1:A:2093:G:O2'	1:A:2094:A:P	2.66	0.52
2:B:58:A:O2'	2:B:59:A:O5'	2.28	0.52
1:A:447:A:C4	1:A:473:G:C8	2.97	0.52
1:A:2040:G:C6	1:A:2041:U:C4	2.97	0.52
1:A:813:U:N1	1:A:1195:G:N2	2.57	0.52
3:C:255:LYS:C	3:C:256:THR:CG2	2.78	0.52
1:A:2668:G:O2'	1:A:2669:G:O5'	2.28	0.52
1:A:2235:G:C4	1:A:2236:U:C6	2.97	0.52
10:J:95:ARG:NH1	10:J:99:ARG:NH2	2.58	0.52
1:A:781:A:N1	1:A:1776:G:O2'	2.42	0.52
21:U:94:PHE:O	21:U:95:PHE:C	2.48	0.52
1:A:1179:G:C2	1:A:1180:U:C2	2.97	0.52
1:A:1962:C:C4'	1:A:1963:U:OP1	2.58	0.52
1:A:1489:C:C4'	1:A:1490:A:OP1	2.58	0.52
2:B:56:G:C4'	2:B:57:A:O5'	2.58	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1519:G:C6	1:A:1520:U:N3	2.78	0.52
1:A:2056:G:N2	1:A:2057:G:C8	2.78	0.52
1:A:225:C:N3	1:A:231:A:N6	2.58	0.52
1:A:2865:U:C5	1:A:2866:U:C2	2.98	0.52
1:A:590:A:C5	1:A:591:U:C5	2.98	0.52
1:A:1268:A:O2'	1:A:1269:A:O4'	2.28	0.52
1:A:1338:G:O2'	1:A:1393:A:N1	2.43	0.52
1:A:2353:G:N3	23:W:30:VAL:CG1	2.73	0.52
8:H:97:ARG:O	8:H:98:ASP:CB	2.57	0.52
1:A:1038:G:C3'	1:A:1039:A:C5'	2.88	0.52
1:A:1341:G:C2	20:T:84:TYR:CE2	2.98	0.52
1:A:1520:U:O4	1:A:1521:G:C6	2.63	0.52
1:A:2212:A:N7	1:A:2214:C:N4	2.58	0.52
1:A:1076:C:O2'	1:A:1077:A:C8	2.62	0.52
1:A:216:A:N6	1:A:432:A:C1'	2.73	0.52
1:A:975:A:C8	1:A:990:A:N6	2.78	0.52
1:A:447:A:C5'	1:A:449:A:C5	2.93	0.52
1:A:566:U:C5	1:A:567:U:C5	2.98	0.52
1:A:475:C:C2'	1:A:476:G:C8	2.93	0.52
23:W:44:PHE:CE2	23:W:76:ARG:NE	2.78	0.52
1:A:2657:A:O2'	1:A:2658:C:O4'	2.28	0.52
1:A:2839:G:N2	1:A:2880:C:C4	2.78	0.52
1:A:2889:C:N4	1:A:2890:G:C6	2.77	0.52
1:A:137:U:C4	1:A:138:U:C2	2.98	0.52
24:X:1:SER:O	24:X:3:VAL:N	2.43	0.52
1:A:191:A:C2	34:A:3172:HOH:O	2.62	0.52
25:Y:47:ARG:O	25:Y:50:VAL:N	2.42	0.52
1:A:584:C:N4	1:A:585:G:C6	2.78	0.52
21:U:42:LYS:CB	21:U:42:LYS:NZ	2.73	0.52
1:A:1068:G:C8	1:A:1069:A:N7	2.78	0.51
1:A:2151:U:C2	1:A:2152:G:C8	2.98	0.51
1:A:2837:A:O2'	1:A:2838:G:O4'	2.28	0.51
1:A:192:C:O2'	1:A:802:A:N3	2.43	0.51
1:A:1281:G:N7	1:A:1282:U:C5	2.79	0.51
1:A:762:U:C4'	1:A:763:G:O5'	2.58	0.51
1:A:1267:U:O2'	1:A:1268:A:C8	2.63	0.51
1:A:845:A:C2	1:A:847:U:N1	2.78	0.51
3:C:2:VAL:O	3:C:3:VAL:CB	2.58	0.51
28:1:8:ILE:CG2	28:1:9:LYS:N	2.73	0.51
1:A:2250:G:N2	13:M:82:MET:CB	2.73	0.51
24:X:77:TYR:CD1	24:X:77:TYR:C	2.83	0.51
14:N:31:HIS:O	14:N:33:ILE:N	2.43	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:35:LYS:NZ	14:N:112:TYR:CE1	2.77	0.51
1:A:504:A:O2'	1:A:505:A:P	2.69	0.51
1:A:1285:A:N6	1:A:1329:U:C5	2.78	0.51
1:A:560:C:O2'	17:Q:47:ARG:NH1	2.44	0.51
1:A:589:U:C2	1:A:590:A:N7	2.79	0.51
1:A:1683:U:O2'	1:A:1684:G:C5'	2.59	0.51
1:A:1264:A:OP1	27:O:15:ARG:NH1	2.43	0.51
30:3:15:LYS:NZ	30:3:19:GLY:CA	2.73	0.51
1:A:459:U:O2'	1:A:460:A:C5'	2.59	0.51
1:A:121:G:C2	1:A:131:A:C5	2.98	0.51
3:C:224:MET:SD	3:C:229:HIS:CB	2.99	0.51
15:O:14:ALA:O	15:O:18:LEU:N	2.44	0.51
1:A:301:G:C5	1:A:302:C:N4	2.79	0.51
1:A:2725:A:C4	1:A:2727:A:C8	2.99	0.51
1:A:627:A:O2'	1:A:628:G:P	2.69	0.51
1:A:200:U:O4	1:A:248:G:C2	2.64	0.51
1:A:478:A:C2	1:A:480:A:C8	2.98	0.51
1:A:1060:U:C4'	1:A:1061:U:C2'	2.88	0.51
1:A:727:A:OP1	1:A:1431:A:O2'	2.28	0.51
1:A:260:G:C6	1:A:261:G:N7	2.78	0.51
1:A:1695:G:O2'	1:A:1696:G:O5'	2.29	0.51
1:A:2893:A:O4'	1:A:2894:G:C2	2.63	0.51
3:C:231:HIS:O	3:C:232:GLY:C	2.48	0.51
1:A:2660:A:C2	1:A:2661:G:C5	2.98	0.51
5:E:128:ALA:CB	5:E:129:PRO:CD	2.89	0.51
1:A:311:A:O2'	1:A:332:A:O4'	2.29	0.51
1:A:1060:U:O4'	1:A:1061:U:C2'	2.59	0.51
1:A:78:U:O2'	1:A:79:C:C5'	2.59	0.51
1:A:2654:A:C4	1:A:2656:U:N3	2.79	0.51
1:A:2756:U:O2'	1:A:2757:A:C5'	2.57	0.51
1:A:1670:C:O2	4:D:134:HIS:NE2	2.44	0.51
1:A:732:C:N4	1:A:733:G:C6	2.79	0.51
20:T:9:LYS:CG	20:T:9:LYS:O	2.58	0.51
1:A:301:G:C6	1:A:317:G:C6	2.98	0.51
1:A:2392:A:C8	1:A:2429:G:N1	2.79	0.51
1:A:1062:G:C4	1:A:1063:G:C8	2.98	0.51
1:A:2136:G:O6	1:A:2156:G:C2	2.63	0.51
1:A:477:A:O2'	1:A:478:A:O5'	2.28	0.51
1:A:478:A:C6	1:A:480:A:C6	2.99	0.51
1:A:2140:G:C6	1:A:2152:G:C6	2.98	0.51
1:A:821:A:N7	1:A:946:C:C4	2.79	0.51
1:A:621:A:O2'	1:A:622:G:O5'	2.28	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:749:A:C4	1:A:750:A:C8	2.98	0.51
1:A:492:A:O2'	1:A:493:G:C5'	2.58	0.51
1:A:1782:U:O2'	1:A:1783:A:C5'	2.58	0.51
1:A:510:C:C2'	1:A:511:U:C6	2.94	0.51
24:X:39:VAL:O	24:X:41:SER:N	2.44	0.51
1:A:1383:A:C2	1:A:1384:A:C5	2.99	0.51
21:U:6:ARG:CG	21:U:7:ASP:N	2.73	0.51
14:N:71:ARG:NH2	14:N:71:ARG:CB	2.74	0.51
1:A:2798:U:C5'	1:A:2800:A:N7	2.74	0.51
1:A:1064:C:O2'	1:A:1065:U:C5'	2.58	0.51
1:A:533:G:O5'	17:Q:23:TYR:CD2	2.64	0.51
1:A:1130:U:N3	1:A:2025:C:OP1	2.44	0.51
1:A:14:A:C5	1:A:526:A:C2	2.99	0.51
1:A:1272:A:C2	1:A:1618:A:C2	2.99	0.51
1:A:782:A:OP1	1:A:782:A:C8	2.64	0.51
1:A:460:A:N6	1:A:470:A:C8	2.78	0.51
1:A:2712:C:C2	1:A:2715:C:OP1	2.64	0.51
4:D:78:GLY:C	4:D:80:TRP:CZ3	2.83	0.51
12:L:50:PHE:CE2	12:L:53:GLY:N	2.79	0.51
1:A:2324:U:C5'	1:A:2325:G:C5'	2.88	0.51
1:A:1760:C:C2'	1:A:1761:C:C6	2.94	0.51
1:A:100:U:OP1	1:A:100:U:C6	2.64	0.51
1:A:1038:G:N1	1:A:1118:C:C4	2.79	0.51
1:A:1312:U:O2'	1:A:1314:C:N4	2.44	0.51
1:A:740:C:C5	1:A:1981:A:N1	2.79	0.51
1:A:785:G:O2'	1:A:1779:U:C5'	2.59	0.51
1:A:404:A:C5'	1:A:405:U:OP1	2.59	0.51
1:A:1307:A:C2'	1:A:1308:A:C5'	2.89	0.51
1:A:1739:A:C2	1:A:1740:G:C4	2.99	0.51
1:A:1734:G:N3	1:A:1735:A:C8	2.79	0.51
1:A:1735:A:C2	1:A:1736:U:C2	2.98	0.51
1:A:111:A:N1	1:A:112:U:C2	2.79	0.51
1:A:279:A:N6	1:A:361:G:C1'	2.74	0.51
1:A:526:A:C6	1:A:2626:C:C4'	2.94	0.51
1:A:2808:G:O2'	1:A:2809:A:C8	2.64	0.51
1:A:1249:U:O2'	1:A:1250:G:OP2	2.28	0.51
1:A:2287:A:C6	1:A:2289:G:C5	2.98	0.51
1:A:40:U:C4	1:A:41:C:C4	2.98	0.51
1:A:2094:A:O2'	1:A:2095:A:O4'	2.28	0.51
1:A:1519:G:N1	1:A:1520:U:C2	2.78	0.51
1:A:482:A:N6	1:A:506:G:N9	2.58	0.51
1:A:1916:A:O2'	1:A:1917:U:O4'	2.28	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1142:A:C8	1:A:1144:A:C5	2.99	0.51
1:A:475:C:O2'	1:A:476:G:C5'	2.59	0.51
1:A:616:A:N3	1:A:617:G:C8	2.79	0.51
1:A:2234:G:C6	1:A:2235:G:C5	2.98	0.51
1:A:508:A:N6	19:S:9:HIS:CE1	2.79	0.51
1:A:237:C:N3	1:A:238:C:C5	2.79	0.51
8:H:93:SER:CB	8:H:121:VAL:CG2	2.89	0.51
8:H:61:VAL:CG1	8:H:62:LEU:N	2.74	0.51
11:K:118:LEU:O	11:K:120:PRO:CD	2.59	0.51
2:B:18:G:C2	2:B:19:C:C2	2.99	0.51
1:A:2209:G:C6	1:A:2210:U:O4	2.63	0.51
1:A:867:C:O2'	1:A:868:U:O5'	2.28	0.51
1:A:249:C:C2'	1:A:249:C:O2	2.59	0.51
16:P:50:ARG:CA	16:P:57:ALA:O	2.58	0.51
1:A:1996:C:C4'	1:A:1997:C:OP1	2.59	0.51
21:U:94:PHE:O	21:U:94:PHE:CD2	2.64	0.51
1:A:980:A:C4	1:A:1136:G:O4'	2.64	0.51
2:B:50:A:C2	2:B:51:G:C1'	2.94	0.51
1:A:415:A:N1	1:A:2409:G:C6	2.79	0.51
1:A:2299:U:O2'	1:A:2300:C:C6	2.64	0.51
1:A:1075:C:O2'	1:A:1076:C:C6	2.64	0.51
1:A:2385:C:O2'	1:A:2386:A:C8	2.64	0.51
1:A:223:A:O2'	1:A:408:G:N3	2.43	0.51
1:A:224:U:OP2	1:A:408:G:N2	2.44	0.51
1:A:1130:U:O2'	1:A:1131:G:C8	2.64	0.51
1:A:1613:G:C2	1:A:1617:C:C2	2.99	0.51
1:A:819:A:OP2	1:A:1187:G:N2	2.44	0.51
1:A:1673:G:C2'	1:A:1674:G:C5'	2.89	0.51
24:X:57:VAL:CG1	24:X:58:ILE:N	2.74	0.51
1:A:40:U:C4	1:A:41:C:N4	2.79	0.51
1:A:92:U:C6	1:A:93:G:C8	2.99	0.50
1:A:1803:A:O2'	1:A:1804:C:C5'	2.59	0.50
1:A:876:C:O2'	1:A:877:A:P	2.69	0.50
1:A:947:A:O2'	1:A:948:C:O4'	2.28	0.50
1:A:1206:G:C6	1:A:1207:C:N4	2.80	0.50
1:A:1429:G:C2	1:A:1430:G:C5	2.99	0.50
20:T:15:HIS:CE1	20:T:80:TRP:CH2	2.99	0.50
18:R:39:LEU:O	18:R:40:MET:CB	2.58	0.50
1:A:1837:C:C2	1:A:1904:G:C2	2.99	0.50
17:Q:96:ASP:C	17:Q:98:ALA:N	2.64	0.50
2:B:109:A:C6	2:B:110:C:C4	3.00	0.50
1:A:320:A:C2'	5:E:131:THR:OG1	2.59	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2725:A:O2'	1:A:2726:A:C8	2.64	0.50
1:A:1076:C:O2	9:I:92:PRO:CG	2.59	0.50
1:A:2259:U:C5	1:A:2427:C:C4	3.00	0.50
1:A:604:G:C6	1:A:625:G:N1	2.79	0.50
1:A:1195:G:O2'	1:A:1226:A:N1	2.44	0.50
1:A:279:A:C6	1:A:361:G:O2'	2.64	0.50
24:X:53:LYS:CA	24:X:56:ARG:CB	2.89	0.50
1:A:2533:U:C4	1:A:2534:A:C4	2.99	0.50
1:A:2773:C:C2	1:A:2774:C:C5	2.98	0.50
1:A:1385:A:O2'	1:A:1386:C:C5'	2.59	0.50
1:A:303:G:C6	1:A:315:G:O6	2.64	0.50
1:A:2616:C:O2'	1:A:2617:U:C5'	2.59	0.50
1:A:84:A:N1	1:A:98:G:O2'	2.45	0.50
1:A:1286:A:C4	1:A:1289:C:C4	2.99	0.50
1:A:1034:G:O6	1:A:1122:G:C6	2.65	0.50
1:A:1020:A:C2	1:A:1141:U:C2	3.00	0.50
1:A:976:G:O2'	1:A:977:G:C5'	2.60	0.50
1:A:1799:G:N1	1:A:1819:A:OP2	2.45	0.50
1:A:2259:U:C6	1:A:2427:C:C4	2.99	0.50
1:A:1308:A:C6	1:A:1309:G:C2	3.00	0.50
1:A:1826:G:C5	1:A:1827:U:C5	3.00	0.50
4:D:149:ASN:OD1	4:D:150:GLN:N	2.45	0.50
1:A:2881:U:O3'	14:N:96:ARG:NE	2.44	0.50
1:A:2550:G:C6	1:A:2551:C:C4	3.00	0.50
2:B:84:G:N2	2:B:93:C:C2	2.79	0.50
1:A:558:U:OP1	10:J:113:PRO:CD	2.59	0.50
1:A:1747:U:C2	1:A:1748:C:C5	3.00	0.50
1:A:1345:C:O2'	1:A:1346:G:C8	2.64	0.50
1:A:1441:G:C2	1:A:1551:A:C2	3.00	0.50
1:A:1087:G:C4	1:A:1089:A:N3	2.80	0.50
1:A:1142:A:N7	1:A:1144:A:C5	2.79	0.50
1:A:1667:G:O2'	1:A:1668:A:P	2.70	0.50
1:A:2061:G:C4	1:A:2063:C:N4	2.80	0.50
1:A:915:C:C2'	1:A:916:G:C8	2.95	0.50
1:A:49:A:C6	1:A:177:G:C6	2.99	0.50
1:A:2283:C:C4	1:A:2389:G:C4	2.99	0.50
1:A:309:A:N3	1:A:329:G:O2'	2.44	0.50
1:A:241:A:C4'	1:A:242:G:OP1	2.60	0.50
14:N:9:GLN:O	14:N:17:ARG:NE	2.45	0.50
2:B:88:C:O2'	2:B:89:U:OP2	2.29	0.50
1:A:1982:U:C6	1:A:1982:U:O5'	2.65	0.50
4:D:62:LYS:N	4:D:63:PRO:CD	2.74	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:44:ASN:C	3:C:46:GLY:N	2.65	0.50
3:C:257:ARG:NH2	3:C:263:ASP:OD2	2.45	0.50
1:A:2706:A:N6	34:A:3508:HOH:O	2.43	0.50
2:B:12:C:C4'	2:B:13:G:OP1	2.60	0.50
1:A:98:G:O2'	1:A:103:A:C8	2.65	0.50
1:A:1439:A:C8	1:A:1439:A:C3'	2.94	0.50
1:A:225:C:N4	1:A:419:U:O2'	2.45	0.50
1:A:2849:U:O4	1:A:2867:G:C8	2.65	0.50
1:A:2345:G:C8	1:A:2347:C:C5	2.99	0.50
1:A:616:A:O2'	1:A:617:G:C5'	2.58	0.50
1:A:2458:G:O2'	1:A:2460:U:C4	2.65	0.50
1:A:9:G:C6	1:A:2629:U:C6	3.00	0.50
1:A:2748:A:C2	1:A:2749:A:C4	3.00	0.50
1:A:622:G:O2'	1:A:623:C:C5'	2.58	0.50
14:N:9:GLN:C	14:N:10:LEU:O	2.48	0.50
4:D:196:ALA:O	4:D:197:THR:C	2.50	0.50
1:A:2450:A:C2	1:A:2451:A:C8	2.99	0.50
1:A:2404:U:O2'	1:A:2405:G:O4'	2.29	0.50
4:D:166:GLY:O	4:D:167:ASN:CB	2.59	0.50
1:A:1388:G:N3	1:A:1389:G:C8	2.79	0.50
1:A:2024:G:O2'	1:A:2025:C:C5'	2.60	0.50
1:A:118:A:N3	1:A:178:G:C1'	2.75	0.50
1:A:2077:A:C5	1:A:2078:C:C5	2.99	0.50
1:A:1670:C:C5	1:A:1671:U:C5	2.99	0.50
1:A:2234:G:C4	1:A:2235:G:C8	3.00	0.50
1:A:489:G:C6	1:A:491:G:C4	3.00	0.50
1:A:2253:G:C5	1:A:2254:C:C5	2.99	0.50
1:A:745:G:C5'	1:A:746:U:OP2	2.60	0.50
1:A:445:C:O2'	1:A:446:G:C8	2.65	0.50
1:A:447:A:C5'	1:A:449:A:N7	2.75	0.50
1:A:2868:A:O2'	1:A:2869:G:O4'	2.29	0.50
1:A:28:A:N6	1:A:513:A:C8	2.79	0.50
1:A:1275:A:O3'	1:A:1276:A:O4'	2.30	0.50
1:A:618:G:O2'	1:A:619:G:C5'	2.59	0.50
1:A:858:G:C5	1:A:2268:A:C2	3.00	0.50
27:0:16:ARG:O	27:0:17:SER:C	2.50	0.50
1:A:1317:G:C2	1:A:1336:A:C2	3.00	0.50
31:4:7:VAL:CG2	31:4:25:VAL:CG2	2.90	0.50
1:A:1954:G:O2'	1:A:1955:U:OP2	2.30	0.50
1:A:2533:U:O4	1:A:2534:A:C2	2.64	0.50
1:A:2716:C:C2	1:A:2717:C:C5	2.99	0.50
29:2:15:SER:O	29:2:16:HIS:ND1	2.45	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1603:A:C2	1:A:1604:C:C2	2.99	0.50
1:A:502:A:N6	1:A:505:A:C6	2.79	0.50
1:A:2899:A:C2	1:A:2900:A:C5	3.00	0.50
1:A:1802:A:N6	1:A:1817:G:N2	2.60	0.50
23:W:37:VAL:CG1	23:W:55:ASP:CB	2.89	0.50
1:A:2345:G:C5	1:A:2381:A:C2	2.99	0.50
1:A:1536:C:C2	1:A:1536:C:OP2	2.65	0.50
1:A:614:A:C4'	1:A:616:A:N6	2.74	0.50
1:A:279:A:C2	1:A:362:A:C4'	2.95	0.50
1:A:452:G:OP1	5:E:53:THR:CG2	2.59	0.50
1:A:2612:C:C5'	1:A:2613:U:OP1	2.59	0.50
2:B:75:G:N1	2:B:102:G:N2	2.59	0.50
1:A:1626:A:O2'	1:A:1627:G:OP2	2.30	0.50
22:V:44:HIS:NE2	22:V:85:LYS:CB	2.75	0.50
1:A:2226:C:O2'	1:A:2227:A:C5'	2.60	0.50
1:A:2800:A:N1	1:A:2801:G:N3	2.60	0.50
1:A:1345:C:O2'	1:A:1346:G:O5'	2.30	0.50
1:A:1071:G:O6	1:A:1089:A:C2	2.65	0.50
1:A:1330:C:O2'	1:A:1331:G:O5'	2.29	0.50
1:A:35:G:C2'	1:A:36:G:O5'	2.60	0.50
1:A:223:A:C5	1:A:422:A:C8	3.00	0.50
1:A:231:A:O2'	1:A:232:G:O4'	2.30	0.50
1:A:2143:C:C2	1:A:2148:G:N1	2.80	0.50
1:A:1013:C:O2'	1:A:1014:A:C5'	2.60	0.50
1:A:2531:A:C4	1:A:2532:G:C8	3.00	0.50
1:A:46:G:C2	1:A:47:C:C6	2.99	0.50
1:A:2421:G:N7	30:3:30:HIS:CD2	2.80	0.50
1:A:615:U:N3	5:E:35:TYR:CE1	2.79	0.50
28:1:38:PHE:CD2	28:1:39:ASP:N	2.80	0.50
1:A:301:G:O2'	1:A:302:C:O5'	2.30	0.49
1:A:303:G:O2'	1:A:304:U:O5'	2.29	0.49
1:A:2867:G:O2'	1:A:2867:G:N3	2.44	0.49
1:A:2345:G:C5	1:A:2347:C:N4	2.80	0.49
1:A:1587:G:N2	1:A:1588:G:C1'	2.75	0.49
18:R:81:LYS:N	18:R:81:LYS:CD	2.75	0.49
1:A:2314:A:N3	1:A:2315:G:C8	2.80	0.49
1:A:677:A:O2'	1:A:2071:A:C5'	2.59	0.49
1:A:732:C:C4	1:A:733:G:C5	3.00	0.49
17:Q:91:ARG:NH2	18:R:11:GLN:O	2.45	0.49
20:T:29:THR:N	20:T:87:LEU:CB	2.75	0.49
1:A:164:C:O2'	1:A:165:A:C5'	2.60	0.49
1:A:584:C:C4	1:A:585:G:C5	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:39:LEU:CB	18:R:49:ILE:CD1	2.90	0.49
1:A:270:A:N1	1:A:369:U:O2'	2.45	0.49
1:A:122:G:O2'	1:A:123:G:C5'	2.60	0.49
17:Q:78:PHE:CE1	17:Q:82:LEU:CD1	2.95	0.49
5:E:147:LEU:O	5:E:148:ILE:CB	2.59	0.49
4:D:141:ARG:NH1	4:D:141:ARG:CB	2.76	0.49
1:A:2296:U:O2'	1:A:2297:A:O5'	2.30	0.49
1:A:1865:U:O4	1:A:1875:G:C2	2.65	0.49
1:A:325:G:O2'	1:A:326:G:C5'	2.60	0.49
1:A:45:G:C5'	1:A:46:G:OP1	2.61	0.49
1:A:526:A:N6	1:A:2626:C:C4'	2.75	0.49
1:A:999:U:C2'	1:A:1000:A:C5'	2.90	0.49
1:A:460:A:OP2	29:2:41:ARG:NH1	2.45	0.49
1:A:1539:U:O2'	1:A:1540:G:C8	2.65	0.49
1:A:2660:A:C2	1:A:2661:G:N7	2.81	0.49
1:A:83:A:N6	1:A:101:A:C5'	2.75	0.49
14:N:73:ASN:CA	14:N:76:VAL:CG2	2.90	0.49
10:J:100:VAL:O	10:J:104:ALA:CB	2.60	0.49
1:A:157:C:C2	1:A:158:U:C6	3.00	0.49
2:B:90:C:O2'	2:B:91:C:O4'	2.29	0.49
28:1:25:ASN:CB	28:1:28:THR:OG1	2.59	0.49
2:B:109:A:C5	2:B:110:C:N4	2.81	0.49
4:D:119:ALA:CB	4:D:163:GLY:O	2.60	0.49
1:A:802:A:O2'	1:A:803:U:C5'	2.60	0.49
1:A:2428:G:C2	12:L:54:GLN:NE2	2.80	0.49
1:A:492:A:O2'	1:A:493:G:O4'	2.31	0.49
1:A:1112:G:O2'	1:A:1113:U:C5'	2.60	0.49
1:A:1526:C:N4	1:A:1527:G:C6	2.80	0.49
6:F:5:ASP:C	6:F:7:TYR:N	2.65	0.49
14:N:103:ARG:CD	14:N:110:MET:SD	3.00	0.49
1:A:2431:U:N3	1:A:2434:A:OP2	2.45	0.49
1:A:477:A:O2'	1:A:478:A:O4'	2.30	0.49
1:A:1735:A:O2'	1:A:1736:U:C5'	2.60	0.49
1:A:2652:C:C4	1:A:2653:U:C4	3.01	0.49
1:A:52:A:N3	1:A:178:G:N2	2.59	0.49
1:A:1790:C:O2'	3:C:207:ALA:CB	2.61	0.49
1:A:996:A:C6	1:A:1160:G:C2	3.01	0.49
21:U:58:VAL:CG1	21:U:60:LYS:CG	2.91	0.49
19:S:71:VAL:CG1	19:S:71:VAL:O	2.61	0.49
1:A:2092:U:C5'	1:A:2093:G:OP1	2.60	0.49
1:A:319:G:C6	1:A:333:G:C6	3.00	0.49
1:A:528:A:C2	1:A:2043:C:O5'	2.65	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:628:G:O2'	1:A:629:G:C8	2.66	0.49
1:A:581:C:C2	1:A:582:A:N7	2.81	0.49
1:A:271:G:O2'	1:A:272:A:O4'	2.29	0.49
1:A:1056:G:C1'	1:A:1103:A:N6	2.76	0.49
1:A:1056:G:O5'	1:A:1085:A:C2	2.65	0.49
19:S:64:ALA:O	19:S:65:ASP:C	2.50	0.49
20:T:69:ARG:NE	20:T:70:HIS:CD2	2.81	0.49
19:S:66:ILE:N	19:S:66:ILE:CD1	2.75	0.49
1:A:2093:G:C2	1:A:2094:A:C4	2.98	0.49
1:A:307:G:N1	1:A:310:A:OP2	2.45	0.49
1:A:333:G:C2	1:A:334:C:C5	3.01	0.49
1:A:1914:C:C6	1:A:1915:U:C6	3.01	0.49
1:A:628:G:O2'	1:A:629:G:C5'	2.60	0.49
1:A:2869:G:C5	1:A:2870:C:C4	3.00	0.49
1:A:2339:C:O2'	1:A:2340:A:O5'	2.30	0.49
1:A:586:A:N1	1:A:809:G:O2'	2.45	0.49
6:F:137:PHE:CB	6:F:138:PRO:CD	2.91	0.49
1:A:3:U:C4	1:A:4:U:C4	3.01	0.49
1:A:1290:C:C2	1:A:1291:C:C5	3.01	0.49
1:A:2283:C:C5	1:A:2389:G:C4	3.00	0.49
1:A:2603:G:OP2	1:A:2603:G:C4'	2.60	0.49
1:A:2461:A:N1	1:A:2490:G:N2	2.60	0.49
23:W:49:ASN:ND2	23:W:81:ILE:CG2	2.76	0.49
12:L:3:LEU:O	12:L:4:ASN:C	2.50	0.49
1:A:2406:A:C2	12:L:69:ARG:NH2	2.80	0.49
1:A:1312:U:O2'	1:A:1313:U:OP2	2.29	0.49
1:A:1647:U:C5'	1:A:1648:U:OP1	2.60	0.49
1:A:1668:A:O4'	1:A:1669:A:C2	2.66	0.49
1:A:2313:C:O2'	1:A:2314:A:C8	2.66	0.49
1:A:858:G:C5	1:A:2268:A:N1	2.81	0.49
1:A:120:U:O4	1:A:177:G:C8	2.66	0.49
1:A:995:C:O2'	17:Q:60:TRP:CH2	2.66	0.49
1:A:459:U:C5	1:A:469:G:N2	2.81	0.49
11:K:11:ALA:CB	11:K:64:ARG:NH1	2.76	0.49
1:A:712:G:C2	1:A:720:U:O2	2.65	0.49
12:L:47:ARG:NH2	12:L:47:ARG:CG	2.75	0.49
1:A:299:A:C2	1:A:319:G:N3	2.81	0.49
1:A:2728:U:O2'	1:A:2729:G:C8	2.66	0.49
1:A:627:A:C2	1:A:637:A:C4	3.01	0.49
1:A:1682:G:C2	1:A:1757:A:O4'	2.66	0.49
12:L:94:THR:O	12:L:98:ALA:N	2.46	0.49
1:A:1178:C:C2	1:A:1179:G:C8	3.01	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:29:THR:OG1	20:T:86:THR:N	2.45	0.49
1:A:845:A:N1	1:A:932:U:O2	2.46	0.49
1:A:191:A:N1	34:A:3172:HOH:O	2.34	0.49
1:A:983:A:N6	1:A:984:A:C2	2.81	0.49
21:U:86:PHE:CG	21:U:87:GLU:N	2.81	0.49
10:J:120:ARG:O	10:J:123:LYS:NZ	2.46	0.49
19:S:68:ASP:N	19:S:68:ASP:OD1	2.45	0.49
1:A:1399:C:O2'	1:A:1400:U:C5'	2.61	0.49
1:A:2321:U:O2	1:A:2321:U:O5'	2.30	0.49
1:A:303:G:O2'	1:A:304:U:C5'	2.61	0.49
1:A:1205:A:N7	5:E:165:HIS:ND1	2.61	0.49
1:A:533:G:C2	1:A:534:U:C2	3.00	0.49
1:A:1512:C:C4	1:A:1513:U:C4	3.01	0.49
1:A:1865:U:O4	1:A:1875:G:C4	2.65	0.49
1:A:2882:A:OP1	14:N:96:ARG:CD	2.61	0.49
10:J:45:THR:N	10:J:46:PRO:CD	2.76	0.49
1:A:2714:G:C5	1:A:2715:C:C5	3.00	0.49
1:A:2675:A:C2	1:A:2676:C:C2	3.01	0.49
25:Y:57:LEU:CD1	25:Y:60:LYS:CE	2.91	0.49
1:A:2683:C:O2'	1:A:2684:U:C5'	2.61	0.49
4:D:94:GLN:CG	4:D:94:GLN:O	2.60	0.49
4:D:181:ASP:N	4:D:186:LEU:O	2.45	0.49
1:A:1039:A:C2	1:A:1116:G:N2	2.81	0.49
1:A:319:G:C6	1:A:333:G:N1	2.81	0.49
1:A:1553:A:C8	1:A:1555:G:C6	3.01	0.49
1:A:1063:G:C6	1:A:1064:C:N4	2.80	0.49
1:A:2135:A:C8	1:A:2135:A:OP2	2.66	0.49
1:A:1809:A:N3	1:A:1810:A:C8	2.80	0.49
1:A:1028:A:C2	1:A:1029:A:C6	3.01	0.49
1:A:1826:G:C2'	1:A:1827:U:O5'	2.60	0.49
1:A:630:G:N2	1:A:633:A:OP2	2.45	0.49
1:A:675:A:N6	1:A:676:A:N6	2.61	0.49
1:A:1596:A:C6	1:A:1597:A:C6	3.00	0.49
1:A:1362:C:C4	1:A:1363:C:C5	3.01	0.49
1:A:2077:A:C5	1:A:2435:A:C6	3.01	0.49
16:P:109:ILE:O	16:P:110:LYS:CG	2.61	0.49
14:N:100:CYS:O	27:O:41:HIS:CD2	2.66	0.49
10:J:32:LEU:O	10:J:36:LEU:N	2.45	0.49
1:A:1387:A:C4	1:A:1388:G:N7	2.81	0.48
1:A:961:C:C5	1:A:2456:C:O4'	2.66	0.48
1:A:910:A:C4	13:M:13:HIS:ND1	2.81	0.48
1:A:1532:A:N1	1:A:1540:G:C6	2.81	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1042:G:C5	1:A:1043:C:C4	3.01	0.48
6:F:60:SER:O	6:F:62:GLN:N	2.46	0.48
1:A:1387:A:C4	1:A:1388:G:C8	3.01	0.48
1:A:1128:G:O6	1:A:2491:U:C5	2.66	0.48
1:A:638:G:C6	1:A:651:G:C5	3.01	0.48
1:A:2507:C:C2	1:A:2508:G:C8	3.01	0.48
1:A:1361:G:C4	1:A:1362:C:C5	3.00	0.48
1:A:53:A:C2	29:2:35:ARG:NH1	2.81	0.48
1:A:1091:G:C2	1:A:1101:U:N3	2.81	0.48
23:W:37:VAL:O	23:W:38:ARG:CB	2.60	0.48
1:A:2331:G:O2'	23:W:40:ARG:CB	2.62	0.48
1:A:1667:G:OP1	11:K:7:MET:N	2.46	0.48
1:A:1317:G:C6	1:A:1318:U:C4	3.01	0.48
1:A:1833:C:C2	1:A:1834:U:C6	3.01	0.48
6:F:43:ILE:CG2	6:F:44:ALA:N	2.76	0.48
13:M:74:THR:OG1	13:M:86:LYS:NZ	2.47	0.48
1:A:88:G:C2	1:A:89:A:C8	3.01	0.48
1:A:2520:C:O2'	1:A:2521:C:C6	2.66	0.48
1:A:370:G:N1	1:A:424:G:C6	2.81	0.48
1:A:876:C:O4'	1:A:876:C:O2	2.30	0.48
18:R:82:HIS:O	18:R:82:HIS:CD2	2.66	0.48
1:A:1274:A:O2'	1:A:1275:A:C5'	2.61	0.48
1:A:1565:C:O2'	1:A:1566:A:O5'	2.30	0.48
1:A:668:A:C4	1:A:670:A:N7	2.81	0.48
1:A:2077:A:C2	1:A:2244:U:O2	2.65	0.48
1:A:1683:U:O2'	1:A:1684:G:O4'	2.31	0.48
10:J:94:ALA:O	10:J:95:ARG:CG	2.62	0.48
1:A:2478:A:C8	1:A:2529:G:C5	3.02	0.48
4:D:108:ASP:N	4:D:204:LYS:O	2.46	0.48
16:P:64:SER:O	16:P:66:GLY:N	2.46	0.48
7:G:167:VAL:CG2	7:G:168:VAL:N	2.77	0.48
1:A:711:G:C2	1:A:721:A:C2	3.02	0.48
17:Q:87:VAL:CG1	17:Q:88:GLU:N	2.75	0.48
5:E:115:GLN:O	5:E:117:ARG:N	2.46	0.48
1:A:1388:G:N1	1:A:1400:U:N3	2.61	0.48
4:D:119:ALA:CB	4:D:163:GLY:N	2.76	0.48
1:A:407:G:O2'	1:A:408:G:O5'	2.32	0.48
1:A:2150:C:O2'	1:A:2151:U:C5'	2.61	0.48
1:A:863:A:C2	1:A:864:G:C4	3.01	0.48
1:A:197:A:N7	1:A:2430:A:C5	2.82	0.48
1:A:2645:G:O2'	1:A:2646:C:OP1	2.32	0.48
1:A:324:A:O2'	1:A:325:G:O4'	2.32	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1670:C:N4	1:A:1674:G:O5'	2.46	0.48
1:A:728:G:C2	1:A:730:A:C4	3.01	0.48
1:A:204:A:C4	1:A:206:U:O4	2.67	0.48
3:C:203:VAL:O	3:C:205:GLY:N	2.46	0.48
6:F:93:GLU:O	6:F:95:MET:N	2.46	0.48
1:A:2079:U:O2'	24:X:22:ASN:ND2	2.45	0.48
27:O:38:LEU:O	27:O:41:HIS:ND1	2.46	0.48
8:H:27:ARG:NH1	24:X:59:ASP:CA	2.76	0.48
1:A:1453:A:C4'	1:A:1454:C:OP2	2.60	0.48
1:A:139:U:N3	20:T:1:MET:N	2.62	0.48
5:E:139:LYS:CB	5:E:139:LYS:NZ	2.76	0.48
2:B:16:G:O6	2:B:69:G:C6	2.66	0.48
1:A:2298:A:O2'	1:A:2299:U:C6	2.66	0.48
1:A:426:C:C2'	1:A:427:U:C5'	2.91	0.48
1:A:1323:C:N4	1:A:1324:G:N7	2.62	0.48
1:A:575:A:C2	1:A:576:U:C4	3.02	0.48
1:A:2756:U:C4'	1:A:2757:A:O5'	2.62	0.48
1:A:46:G:N2	1:A:47:C:C2	2.81	0.48
1:A:2234:G:C6	1:A:2235:G:N7	2.81	0.48
1:A:2190:G:C5'	1:A:2191:A:OP2	2.61	0.48
11:K:118:LEU:C	11:K:120:PRO:CD	2.82	0.48
23:W:81:ILE:CD1	23:W:81:ILE:C	2.81	0.48
9:I:51:GLY:O	9:I:52:LEU:CB	2.60	0.48
19:S:50:VAL:O	19:S:53:SER:N	2.47	0.48
2:B:69:G:C5	2:B:70:C:C4	3.02	0.48
1:A:2614:A:C4'	1:A:2615:U:OP1	2.60	0.48
1:A:2297:A:C2	1:A:2298:A:C8	3.02	0.48
1:A:397:U:O2'	1:A:398:C:P	2.72	0.48
1:A:2725:A:C5	1:A:2727:A:N7	2.82	0.48
1:A:1808:A:N7	24:X:27:ARG:NH1	2.61	0.48
1:A:2463:C:C2	1:A:2488:G:N2	2.82	0.48
1:A:2345:G:C6	1:A:2381:A:C6	3.02	0.48
2:B:43:C:O2'	2:B:45:A:N7	2.47	0.48
1:A:2668:G:O2'	1:A:2669:G:C8	2.66	0.48
1:A:1291:C:O2'	1:A:1292:G:C5'	2.62	0.48
1:A:764:A:N3	1:A:781:A:C6	2.82	0.48
1:A:1997:C:OP2	4:D:129:THR:N	2.47	0.48
1:A:2566:A:O2'	1:A:2567:G:OP2	2.31	0.48
15:O:75:GLY:N	15:O:106:LEU:CD1	2.77	0.48
14:N:57:THR:O	14:N:80:PHE:CD1	2.67	0.48
30:3:50:SER:O	30:3:52:GLY:N	2.47	0.48
24:X:65:THR:O	24:X:68:ALA:CB	2.62	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:564:C:O2	1:A:578:G:N2	2.46	0.48
26:Z:28:LEU:N	26:Z:28:LEU:CD2	2.77	0.48
2:B:67:G:O2'	2:B:68:C:C6	2.67	0.48
1:A:301:G:O5'	21:U:81:ARG:NH1	2.47	0.48
1:A:424:G:C2	1:A:425:G:C8	3.01	0.48
1:A:1416:G:C2	1:A:1417:C:C5	3.02	0.48
1:A:2508:G:N2	1:A:2582:G:C6	2.82	0.48
1:A:616:A:O2'	1:A:617:G:O5'	2.32	0.48
3:C:212:TRP:CD1	3:C:212:TRP:C	2.87	0.48
1:A:2571:U:N3	1:A:2574:G:C8	2.82	0.48
1:A:2333:A:OP2	23:W:76:ARG:NH1	2.45	0.48
1:A:1361:G:C4	1:A:1362:C:C6	3.02	0.48
1:A:1677:A:N6	1:A:1678:A:C6	2.82	0.48
1:A:2627:G:O2'	1:A:2781:A:N1	2.46	0.48
1:A:192:C:O4'	1:A:678:C:O2	2.32	0.48
1:A:295:G:C2	1:A:296:U:C5	3.02	0.48
1:A:587:C:N3	12:L:33:ARG:NH2	2.61	0.48
1:A:2516:A:C2	1:A:2569:G:N3	2.82	0.48
1:A:2776:A:C4'	1:A:2777:G:O5'	2.62	0.48
18:R:66:HIS:CD2	18:R:94:THR:CG2	2.97	0.48
19:S:1:MET:CE	19:S:1:MET:N	2.77	0.48
21:U:92:VAL:CB	21:U:101:THR:CG2	2.92	0.48
1:A:1039:A:C6	1:A:1040:A:N7	2.81	0.48
1:A:1597:A:O3'	1:A:1598:A:C8	2.67	0.48
1:A:669:G:N2	1:A:670:A:C2	2.80	0.48
7:G:92:GLY:O	7:G:93:TYR:C	2.52	0.48
1:A:1268:A:C6	1:A:2013:A:C8	3.01	0.48
17:Q:39:ILE:O	17:Q:42:GLY:N	2.47	0.48
17:Q:9:ALA:C	17:Q:11:ALA:N	2.68	0.48
4:D:107:VAL:CG1	4:D:109:VAL:CG2	2.92	0.48
19:S:36:LEU:C	19:S:38:TYR:N	2.67	0.48
1:A:1801:A:C5	1:A:2203:U:C5	3.02	0.48
18:R:97:LYS:O	18:R:97:LYS:CG	2.62	0.48
12:L:103:ILE:N	12:L:103:ILE:CD1	2.77	0.48
3:C:19:VAL:O	3:C:19:VAL:CG1	2.61	0.48
1:A:2876:G:O2'	1:A:2877:G:O5'	2.31	0.48
1:A:1808:A:C3'	1:A:1809:A:C8	2.97	0.48
1:A:1819:A:C1'	1:A:1821:A:C6	2.97	0.48
1:A:2386:A:O2'	1:A:2387:U:C6	2.67	0.48
1:A:2387:U:O2	23:W:38:ARG:CZ	2.61	0.48
1:A:476:G:O2'	1:A:477:A:O5'	2.32	0.48
1:A:2644:G:C6	1:A:2645:G:C2	3.02	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:255:LYS:O	3:C:256:THR:CG2	2.62	0.48
1:A:1674:G:N2	1:A:1677:A:N1	2.62	0.48
1:A:46:G:N1	1:A:47:C:C4	2.82	0.48
1:A:1252:G:N3	1:A:1253:A:C2	2.82	0.48
1:A:1527:G:C2	1:A:1546:G:N1	2.81	0.48
16:P:88:ARG:NH1	16:P:112:ARG:NH2	2.62	0.48
16:P:28:LYS:O	16:P:80:VAL:O	2.32	0.48
27:O:42:ILE:CD1	27:O:48:TYR:CD2	2.97	0.48
3:C:191:LEU:CD2	3:C:191:LEU:N	2.77	0.48
2:B:18:G:C6	2:B:19:C:N3	2.82	0.47
1:A:1078:U:C4'	1:A:1079:C:C5'	2.92	0.47
1:A:1993:U:O2'	1:A:1994:C:O4'	2.32	0.47
1:A:227:A:O2'	1:A:228:C:O5'	2.32	0.47
1:A:197:A:N7	1:A:2430:A:C4	2.82	0.47
1:A:77:G:O2'	1:A:78:U:C5'	2.62	0.47
1:A:1717:A:O2'	1:A:1718:G:O4'	2.32	0.47
1:A:1364:G:N3	1:A:1368:G:C2	2.82	0.47
1:A:2077:A:C6	1:A:2435:A:C6	3.02	0.47
1:A:836:G:C6	1:A:837:C:C4	3.01	0.47
1:A:2308:G:O6	1:A:2311:A:N7	2.47	0.47
1:A:2287:A:N7	1:A:2289:G:C8	2.82	0.47
9:I:57:VAL:CG1	9:I:58:ILE:N	2.77	0.47
20:T:62:VAL:CG1	20:T:63:VAL:N	2.76	0.47
6:F:147:ARG:O	6:F:148:VAL:CG2	2.62	0.47
2:B:57:A:C6	6:F:25:MET:CG	2.97	0.47
1:A:1603:A:N1	1:A:1604:C:C2	2.82	0.47
1:A:2875:C:O2'	1:A:2876:G:O5'	2.32	0.47
1:A:303:G:C2'	1:A:304:U:C6	2.97	0.47
1:A:2209:G:C2	1:A:2216:G:C2	3.02	0.47
1:A:411:G:C5'	1:A:412:A:OP1	2.62	0.47
1:A:404:A:C2	1:A:406:G:N1	2.83	0.47
1:A:1223:G:O6	18:R:71:LYS:NZ	2.47	0.47
1:A:621:A:O2'	1:A:622:G:O4'	2.31	0.47
1:A:999:U:O2'	1:A:1000:A:C5'	2.62	0.47
10:J:95:ARG:O	10:J:96:ARG:C	2.52	0.47
1:A:1944:U:C4	1:A:1955:U:C5	3.02	0.47
5:E:149:ILE:CG2	5:E:188:MET:CA	2.92	0.47
1:A:2843:G:C2	1:A:2875:C:N3	2.83	0.47
1:A:395:U:O2'	1:A:396:G:O5'	2.31	0.47
1:A:1324:G:N2	1:A:1328:A:N1	2.62	0.47
1:A:1126:A:C8	1:A:1126:A:OP1	2.67	0.47
1:A:876:C:C4'	1:A:876:C:O2	2.62	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2069:G:C2	1:A:2443:C:C2	3.02	0.47
1:A:1716:U:O2	1:A:1717:A:C8	2.67	0.47
1:A:1507:C:C5'	1:A:1508:A:OP2	2.63	0.47
1:A:295:G:C2	1:A:296:U:C6	3.01	0.47
1:A:1146:C:N4	1:A:1147:A:N6	2.63	0.47
10:J:1:MET:SD	10:J:2:LYS:NZ	2.87	0.47
1:A:2378:A:C2'	1:A:2379:G:C5'	2.92	0.47
9:I:12:VAL:CG1	9:I:13:ALA:N	2.77	0.47
16:P:19:PHE:CE1	16:P:58:PHE:CD2	3.03	0.47
1:A:1312:U:O2'	1:A:1314:C:C5	2.67	0.47
1:A:1918:A:C4'	1:A:1919:A:OP1	2.62	0.47
1:A:1441:G:C4	1:A:1551:A:C2	3.02	0.47
1:A:1555:G:C2	1:A:1556:C:N3	2.83	0.47
10:J:41:LYS:C	10:J:43:GLU:N	2.68	0.47
1:A:1671:U:O2	1:A:1673:G:C8	2.68	0.47
1:A:1120:G:C6	1:A:1121:C:C4	3.02	0.47
1:A:2290:G:C6	1:A:2291:U:C4	3.02	0.47
5:E:79:ARG:CG	5:E:80:SER:N	2.77	0.47
8:H:96:THR:O	8:H:97:ARG:CG	2.62	0.47
10:J:73:VAL:CG2	10:J:74:TYR:N	2.77	0.47
1:A:2195:U:C2	1:A:2196:C:C6	3.03	0.47
3:C:24:HIS:N	3:C:80:LEU:O	2.47	0.47
1:A:95:A:O2'	25:Y:40:SER:N	2.48	0.47
8:H:24:GLY:O	8:H:25:TYR:C	2.51	0.47
15:O:17:LYS:O	15:O:17:LYS:CE	2.63	0.47
2:B:16:G:O2'	2:B:17:C:C5'	2.62	0.47
1:A:1612:C:O2'	1:A:1613:G:O4'	2.33	0.47
1:A:2144:G:C2	1:A:2148:G:O6	2.68	0.47
1:A:2376:A:C2	15:O:99:TYR:CD2	3.02	0.47
1:A:2469:A:C6	1:A:2482:A:C8	3.02	0.47
7:G:154:GLU:O	7:G:156:TYR:N	2.47	0.47
1:A:1838:C:C4	1:A:1899:A:N3	2.83	0.47
1:A:243:U:O2'	1:A:244:A:C5'	2.63	0.47
14:N:33:ILE:CD1	14:N:118:ARG:NH2	2.77	0.47
1:A:2036:C:O2'	1:A:2037:A:C5'	2.62	0.47
11:K:17:ARG:CG	11:K:18:ARG:N	2.77	0.47
2:B:23:G:N2	2:B:61:G:C2	2.82	0.47
1:A:2463:C:C2	1:A:2488:G:C2	3.03	0.47
1:A:1667:G:C2'	1:A:1991:U:O4	2.62	0.47
6:F:135:ILE:CD1	6:F:135:ILE:N	2.77	0.47
1:A:918:A:N6	1:A:2268:A:OP2	2.47	0.47
1:A:704:G:C2'	1:A:726:G:N2	2.78	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2550:G:O6	1:A:2551:C:N4	2.47	0.47
11:K:2:ILE:N	11:K:2:ILE:CD1	2.78	0.47
27:0:38:LEU:N	27:0:41:HIS:CE1	2.82	0.47
24:X:19:HIS:C	24:X:21:LEU:N	2.67	0.47
11:K:104:THR:C	11:K:106:GLU:N	2.68	0.47
1:A:1380:G:C2	1:A:1381:G:C8	3.03	0.47
1:A:389:G:C6	1:A:2413:G:O2'	2.67	0.47
18:R:83:TYR:CD2	18:R:83:TYR:C	2.87	0.47
2:B:66:A:OP2	2:B:108:A:N6	2.47	0.47
2:B:68:C:O2'	2:B:69:G:O5'	2.33	0.47
1:A:1340:U:O2'	1:A:1341:G:P	2.73	0.47
1:A:63:A:N6	1:A:91:A:N6	2.63	0.47
1:A:87:U:O2'	1:A:88:G:P	2.73	0.47
1:A:2217:G:C2	1:A:2218:G:C4	3.03	0.47
1:A:73:A:C8	1:A:73:A:O5'	2.68	0.47
1:A:1079:C:N4	1:A:1088:A:C2	2.82	0.47
1:A:425:G:C2	1:A:426:C:C4	3.03	0.47
1:A:1286:A:C5	1:A:1289:C:C4	3.02	0.47
1:A:527:C:O2'	1:A:528:A:P	2.72	0.47
1:A:675:A:C6	1:A:676:A:C6	3.02	0.47
1:A:567:U:O4	1:A:568:U:C4	2.67	0.47
1:A:1608:A:C5	1:A:1611:C:C4	3.02	0.47
1:A:2586:U:O2'	1:A:2587:A:C5'	2.63	0.47
1:A:2571:U:C4	1:A:2574:G:C8	3.02	0.47
1:A:1456:G:O2'	1:A:1457:U:C5'	2.63	0.47
1:A:2666:C:C2'	1:A:2667:C:O5'	2.62	0.47
1:A:261:G:O2'	1:A:610:C:O2'	2.33	0.47
1:A:579:G:N2	1:A:1262:A:C4	2.83	0.47
1:A:489:G:C6	1:A:491:G:C5	3.03	0.47
1:A:1426:G:C5'	1:A:1427:A:OP2	2.63	0.47
1:A:2889:C:C4	1:A:2890:G:C6	3.02	0.47
1:A:244:A:O2'	1:A:245:G:O4'	2.32	0.47
20:T:85:VAL:O	20:T:86:THR:OG1	2.33	0.47
3:C:93:VAL:CG1	3:C:94:LEU:N	2.78	0.47
1:A:2893:A:C4'	1:A:2894:G:O5'	2.62	0.47
1:A:82:U:C2'	1:A:83:A:C5'	2.93	0.47
1:A:2286:G:N7	28:1:33:LEU:CD2	2.78	0.47
1:A:1627:G:C2	1:A:1628:G:N7	2.82	0.47
1:A:1866:A:C4	1:A:1876:A:N6	2.83	0.47
1:A:2302:U:O2'	6:F:121:PHE:CZ	2.67	0.47
12:L:117:THR:CG2	12:L:118:THR:N	2.77	0.47
1:A:2602:A:OP1	1:A:2602:A:C3'	2.63	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1312:U:C2	1:A:1603:A:C6	3.03	0.47
1:A:1519:G:C5'	1:A:1520:U:OP2	2.62	0.47
1:A:301:G:C8	1:A:334:C:C2	3.02	0.47
1:A:371:A:C4	1:A:373:U:O4	2.68	0.47
1:A:991:C:O5'	1:A:991:C:C6	2.68	0.47
14:N:16:HIS:O	14:N:20:MET:N	2.47	0.47
1:A:1716:U:C4	1:A:1745:A:N6	2.83	0.47
10:J:44:TYR:CB	17:Q:63:ARG:CZ	2.92	0.47
12:L:58:TYR:O	30:3:12:ARG:CZ	2.63	0.47
1:A:1378:A:C8	1:A:1380:G:C5	3.02	0.47
1:A:2097:A:C5	1:A:2098:U:C4	3.03	0.47
13:M:119:LEU:CD2	13:M:119:LEU:O	2.62	0.47
1:A:475:C:O2'	1:A:476:G:C8	2.68	0.47
1:A:2144:G:O2'	1:A:2145:C:C5'	2.63	0.47
1:A:2314:A:C2	1:A:2315:G:C4	3.03	0.47
1:A:2834:G:O2'	1:A:2879:A:N6	2.48	0.47
1:A:61:C:C4	1:A:94:A:C2	3.03	0.47
1:A:287:G:C2	1:A:354:A:C2	3.02	0.47
1:A:845:A:C2	1:A:847:U:C6	3.03	0.47
1:A:715:A:C6	1:A:716:A:C6	3.02	0.47
12:L:73:ILE:O	12:L:105:ILE:CG2	2.63	0.47
1:A:1753:G:C2	1:A:1756:G:C2	3.02	0.47
1:A:56:A:C2	1:A:115:C:C2	3.03	0.47
6:F:169:LEU:N	6:F:169:LEU:CD1	2.78	0.47
1:A:2798:U:O4'	1:A:2800:A:N6	2.48	0.47
1:A:784:G:O2'	1:A:785:G:C8	2.68	0.47
1:A:1738:G:O2'	1:A:1739:A:P	2.73	0.47
17:Q:64:ILE:CD1	17:Q:95:ALA:CB	2.93	0.47
1:A:52:A:C5	1:A:118:A:C2	3.03	0.47
1:A:919:U:C2	1:A:920:A:C8	3.03	0.47
1:A:1498:C:O2'	1:A:1499:C:O4'	2.33	0.47
3:C:106:PRO:CB	3:C:141:HIS:CE1	2.98	0.47
31:4:36:ARG:CG	31:4:37:GLN:N	2.78	0.47
10:J:80:HIS:O	10:J:81:ILE:C	2.52	0.47
1:A:2045:C:O2	27:0:18:HIS:NE2	2.48	0.47
1:A:1895:C:C6	1:A:1895:C:C3'	2.98	0.47
2:B:109:A:O2'	2:B:110:C:O5'	2.33	0.46
2:B:69:G:C4	2:B:70:C:C5	3.03	0.46
1:A:740:C:C4	1:A:1981:A:C2	3.03	0.46
1:A:1552:A:O2'	1:A:1553:A:C5'	2.63	0.46
1:A:374:A:C6	1:A:401:A:C8	3.03	0.46
1:A:2023:C:O2'	1:A:2024:G:O5'	2.33	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:638:G:O2'	1:A:639:U:C5'	2.63	0.46
1:A:513:A:N1	1:A:514:A:C6	2.83	0.46
1:A:862:G:O6	1:A:916:G:C2	2.68	0.46
1:A:1717:A:O2'	1:A:1718:G:C5'	2.63	0.46
1:A:2376:A:N9	15:O:99:TYR:CE1	2.84	0.46
1:A:1869:G:C2	1:A:1873:G:C6	3.03	0.46
1:A:2668:G:O2'	1:A:2669:G:P	2.73	0.46
1:A:2666:C:N4	7:G:107:GLY:O	2.48	0.46
1:A:946:C:O2'	1:A:947:A:C8	2.68	0.46
14:N:52:ILE:CG2	14:N:94:TYR:CD2	2.98	0.46
1:A:119:A:C4'	1:A:120:U:OP1	2.63	0.46
1:A:1203:U:C2	1:A:1204:A:C6	3.02	0.46
5:E:55:SER:OG	5:E:56:GLY:N	2.47	0.46
1:A:241:A:C1'	1:A:243:U:C5	2.98	0.46
1:A:1759:A:C4	1:A:1760:C:C5	3.03	0.46
3:C:68:ARG:NH1	3:C:115:ILE:CD1	2.78	0.46
7:G:58:ALA:O	7:G:59:ASP:C	2.53	0.46
11:K:9:ASN:N	11:K:9:ASN:ND2	2.61	0.46
1:A:975:A:O2'	1:A:976:G:C5'	2.62	0.46
1:A:447:A:C8	1:A:473:G:C6	3.03	0.46
1:A:197:A:C5	1:A:2430:A:C4	3.03	0.46
1:A:1014:A:N1	1:A:1149:G:C6	2.82	0.46
1:A:1651:G:C2	1:A:2007:U:N3	2.84	0.46
1:A:2582:G:N3	1:A:2582:G:C2'	2.78	0.46
1:A:117:G:O4'	1:A:126:A:C2	2.68	0.46
1:A:54:G:C5	1:A:55:G:C8	3.03	0.46
1:A:185:G:C4	1:A:212:G:N2	2.83	0.46
1:A:2631:G:N2	1:A:2788:C:C2	2.83	0.46
1:A:732:C:N4	1:A:733:G:C5	2.83	0.46
1:A:269:C:N3	1:A:270:A:N7	2.64	0.46
21:U:58:VAL:CG1	21:U:59:GLU:N	2.77	0.46
17:Q:87:VAL:CG2	18:R:52:PRO:CD	2.93	0.46
3:C:184:GLU:O	3:C:185:ALA:C	2.54	0.46
1:A:1853:A:C6	1:A:1854:A:N1	2.83	0.46
1:A:1655:A:C5'	4:D:118:PHE:CD1	2.98	0.46
1:A:1420:A:C8	1:A:2211:A:N6	2.83	0.46
1:A:223:A:C6	1:A:422:A:N7	2.84	0.46
23:W:31:LEU:C	23:W:33:GLY:N	2.68	0.46
1:A:1737:G:C5'	1:A:1738:G:OP2	2.63	0.46
1:A:2631:G:C2'	1:A:2632:A:C5'	2.93	0.46
12:L:93:ASN:CG	12:L:94:THR:N	2.69	0.46
1:A:2312:U:O2	1:A:2312:U:C2'	2.63	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2601:C:C2	1:A:2603:G:N7	2.84	0.46
6:F:129:MET:CE	6:F:174:PHE:CE1	2.98	0.46
20:T:87:LEU:CD2	20:T:88:LYS:N	2.78	0.46
16:P:19:PHE:N	16:P:19:PHE:CD2	2.83	0.46
25:Y:31:GLN:C	25:Y:33:ALA:N	2.68	0.46
11:K:92:GLU:O	11:K:93:GLN:C	2.54	0.46
1:A:1656:C:OP1	4:D:141:ARG:NH1	2.49	0.46
1:A:336:C:O2'	1:A:337:C:C5'	2.64	0.46
1:A:35:G:O2'	1:A:36:G:O4'	2.33	0.46
1:A:2303:G:N1	1:A:2314:A:C5	2.83	0.46
1:A:2837:A:C6	1:A:2882:A:N1	2.83	0.46
1:A:677:A:N1	1:A:678:C:C4	2.83	0.46
1:A:1776:G:C2	1:A:1789:A:N3	2.83	0.46
1:A:1998:A:C5	1:A:1999:C:C5	3.03	0.46
11:K:2:ILE:O	11:K:3:GLN:CB	2.62	0.46
1:A:1627:G:N2	1:A:1628:G:C8	2.83	0.46
6:F:42:ALA:CB	6:F:49:LEU:CD2	2.94	0.46
12:L:92:LEU:CD2	12:L:124:GLY:CA	2.93	0.46
1:A:2092:U:O4'	1:A:2092:U:O2	2.33	0.46
1:A:1655:A:C2'	1:A:1656:C:C6	2.99	0.46
1:A:498:G:C6	1:A:499:U:C5	3.03	0.46
1:A:1551:A:C4	1:A:1552:A:C8	3.04	0.46
1:A:1059:G:C6	1:A:1080:A:N1	2.83	0.46
1:A:1071:G:N2	1:A:1090:A:OP2	2.48	0.46
1:A:1821:A:C2'	1:A:1822:C:O5'	2.63	0.46
23:W:37:VAL:CG1	23:W:55:ASP:OD2	2.64	0.46
1:A:2315:G:C2	1:A:2316:G:C4	3.04	0.46
1:A:2654:A:C4'	1:A:2655:G:OP1	2.63	0.46
1:A:294:A:N1	1:A:346:A:C6	2.83	0.46
1:A:1435:G:N2	1:A:1558:C:N4	2.63	0.46
1:A:1532:A:C2	1:A:1540:G:N1	2.83	0.46
1:A:100:U:O2'	1:A:101:A:C4	2.68	0.46
2:B:87:U:O2'	2:B:88:C:OP1	2.34	0.46
17:Q:74:SER:O	17:Q:78:PHE:CB	2.63	0.46
19:S:58:ALA:O	19:S:63:GLY:O	2.33	0.46
1:A:2215:C:O2'	1:A:2216:G:C8	2.69	0.46
1:A:1071:G:O4'	1:A:1088:A:O2'	2.32	0.46
1:A:455:C:N3	1:A:473:G:C4'	2.78	0.46
1:A:2348:U:O2'	1:A:2349:G:O5'	2.34	0.46
1:A:604:G:C6	1:A:625:G:C6	3.03	0.46
1:A:813:U:C2	1:A:1195:G:N2	2.84	0.46
1:A:668:A:C2	1:A:670:A:C6	3.03	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:324:A:C2	1:A:325:G:C1'	2.99	0.46
14:N:52:ILE:CG2	14:N:94:TYR:CE2	2.99	0.46
1:A:764:A:N1	1:A:1789:A:O2'	2.48	0.46
1:A:1239:G:C5	1:A:1240:U:C6	3.04	0.46
1:A:2478:A:C8	1:A:2529:G:C6	3.03	0.46
11:K:92:GLU:O	11:K:93:GLN:O	2.34	0.46
1:A:410:G:C2	1:A:2407:A:C6	3.03	0.46
1:A:2425:A:C4'	1:A:2426:A:O5'	2.63	0.46
1:A:438:G:C6	1:A:439:A:C6	3.04	0.46
1:A:807:U:OP2	12:L:41:ARG:NH1	2.48	0.46
3:C:236:GLY:O	3:C:238:ASN:N	2.48	0.46
10:J:125:TYR:CE2	10:J:132:HIS:CD2	3.04	0.46
23:W:20:LEU:N	23:W:20:LEU:CD1	2.79	0.46
2:B:24:G:C8	2:B:56:G:C5	3.03	0.46
1:A:484:C:O2'	1:A:485:C:O5'	2.33	0.46
1:A:532:A:C4	1:A:2021:C:O2	2.69	0.46
1:A:1816:C:O2'	1:A:1817:G:OP1	2.34	0.46
1:A:1821:A:OP1	3:C:199:HIS:NE2	2.49	0.46
1:A:2851:A:C2'	1:A:2852:G:C8	2.98	0.46
1:A:2142:A:C5	1:A:2143:C:O2'	2.68	0.46
1:A:1343:G:N3	1:A:1344:U:C5	2.84	0.46
1:A:272:A:C2	1:A:273:G:C6	3.03	0.46
1:A:856:G:C2	1:A:922:C:C2	3.04	0.46
1:A:338:G:C2'	1:A:339:U:C5'	2.94	0.46
1:A:1000:A:C6	1:A:1001:A:C2	3.04	0.46
1:A:750:A:OP1	1:A:1615:C:N4	2.48	0.46
10:J:8:PRO:CG	10:J:9:GLU:N	2.78	0.46
1:A:687:C:O2'	1:A:688:U:C5'	2.64	0.46
10:J:1:MET:SD	10:J:2:LYS:N	2.88	0.46
12:L:73:ILE:O	12:L:105:ILE:CA	2.64	0.46
1:A:1500:G:N1	1:A:1501:G:C5	2.84	0.46
1:A:21:A:C6	1:A:520:G:C6	3.03	0.46
1:A:1714:U:C3'	1:A:1715:G:C5'	2.93	0.46
1:A:219:A:N6	1:A:220:G:N1	2.64	0.46
1:A:1593:A:C2	1:A:1594:U:C2	3.04	0.46
1:A:2415:G:C6	1:A:2416:C:C4	3.03	0.46
19:S:25:ARG:NH1	19:S:25:ARG:CB	2.78	0.46
1:A:2199:A:C6	1:A:2225:A:C4	3.04	0.46
1:A:323:C:C6	5:E:165:HIS:CE1	3.04	0.46
1:A:397:U:O2'	1:A:398:C:O4'	2.33	0.46
1:A:2679:A:C2	1:A:2729:G:C6	3.04	0.46
1:A:406:G:O2'	1:A:407:G:C5'	2.63	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:627:A:O4'	1:A:637:A:N6	2.48	0.46
1:A:1416:G:N3	1:A:1417:C:C5	2.84	0.46
1:A:827:U:C4	1:A:2430:A:C6	3.04	0.46
1:A:1737:G:N7	1:A:1738:G:C6	2.84	0.46
1:A:1011:G:C6	1:A:1013:C:C4	3.03	0.46
1:A:2468:A:N7	1:A:2476:A:N1	2.64	0.46
1:A:271:G:O2'	1:A:272:A:P	2.74	0.46
1:A:2881:U:O2'	1:A:2882:A:C5'	2.64	0.46
6:F:177:ARG:CZ	6:F:178:LYS:HB3	2.46	0.46
1:A:621:A:C2'	1:A:622:G:O5'	2.63	0.46
1:A:1267:U:C5	1:A:2012:G:N2	2.84	0.46
20:T:38:ALA:O	20:T:39:THR:CB	2.64	0.46
1:A:510:C:O2'	1:A:511:U:O4'	2.34	0.46
9:I:5:GLN:OE1	9:I:59:THR:CG2	2.64	0.46
5:E:170:ARG:NH2	5:E:176:ASP:CB	2.79	0.46
15:O:69:ASP:O	15:O:73:ALA:N	2.49	0.46
15:O:41:ALA:O	15:O:43:ASN:N	2.49	0.46
1:A:1845:G:N2	1:A:1896:G:C4	2.84	0.46
20:T:61:LEU:C	20:T:61:LEU:CD1	2.84	0.46
2:B:109:A:C2	2:B:110:C:C2	3.04	0.46
1:A:85:G:O2'	1:A:86:G:C5'	2.63	0.46
1:A:425:G:C4	1:A:426:C:C5	3.04	0.46
1:A:1613:G:C6	1:A:1617:C:C5	3.03	0.46
1:A:2507:C:N4	1:A:2508:G:C6	2.84	0.46
1:A:1566:A:C2	3:C:212:TRP:CD2	3.04	0.46
1:A:110:G:C4	1:A:111:A:C8	3.04	0.46
1:A:1965:C:C6	1:A:1965:C:C5'	2.98	0.46
1:A:2756:U:C4'	1:A:2757:A:C5'	2.94	0.46
1:A:729:G:N2	1:A:1774:C:C2	2.83	0.46
1:A:1203:U:C4	1:A:1204:A:N7	2.83	0.46
1:A:1291:C:O2'	1:A:1292:G:O4'	2.33	0.46
1:A:1998:A:C4	1:A:1999:C:C6	3.04	0.46
1:A:2036:C:O2'	1:A:2037:A:C8	2.69	0.46
1:A:95:A:O2'	25:Y:41:HIS:CD2	2.69	0.46
10:J:111:LYS:CB	10:J:115:GLY:CA	2.94	0.46
10:J:25:LEU:O	10:J:27:ARG:N	2.49	0.46
1:A:2418:A:C6	1:A:2419:U:C4	3.04	0.46
7:G:138:GLN:O	7:G:138:GLN:CG	2.64	0.46
1:A:1991:U:C6	1:A:1991:U:C3'	2.99	0.46
1:A:33:C:O2	1:A:447:A:N6	2.49	0.46
1:A:637:A:OP2	12:L:112:LEU:CD2	2.64	0.46
1:A:2880:C:O2'	1:A:2881:U:C5'	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:752:A:C6	1:A:1781:U:C1'	2.99	0.46
1:A:818:G:N7	1:A:1187:G:C6	2.84	0.46
1:A:799:G:OP2	1:A:800:A:C3'	2.64	0.46
1:A:727:A:O2'	1:A:728:G:O5'	2.34	0.46
19:S:8:ARG:CA	19:S:102:HIS:ND1	2.79	0.46
1:A:811:U:O4	12:L:21:ARG:NH1	2.49	0.46
1:A:2276:G:O2'	1:A:2277:G:C5'	2.64	0.46
1:A:241:A:N6	1:A:256:A:OP2	2.49	0.46
1:A:2291:U:C2'	1:A:2292:U:C6	2.99	0.46
1:A:693:A:O2'	1:A:1353:A:N3	2.48	0.46
1:A:1753:G:N1	1:A:1756:G:N1	2.64	0.46
28:1:47:ILE:N	28:1:47:ILE:CD1	2.79	0.46
22:V:56:PHE:C	22:V:56:PHE:CD1	2.89	0.46
1:A:2053:G:C2'	1:A:2054:A:C5'	2.93	0.45
1:A:1551:A:C6	1:A:1552:A:N7	2.85	0.45
1:A:1019:U:OP1	1:A:1035:U:O2'	2.34	0.45
1:A:1739:A:O2'	1:A:1740:G:O5'	2.34	0.45
1:A:617:G:N3	1:A:618:G:C8	2.84	0.45
1:A:120:U:C2	1:A:149:A:C6	3.04	0.45
1:A:1204:A:C4	1:A:1206:G:C6	3.04	0.45
1:A:2016:U:C4	1:A:2017:U:C4	3.04	0.45
1:A:1171:G:C4	1:A:1179:G:N2	2.85	0.45
1:A:100:U:C1'	1:A:101:A:C5	3.00	0.45
18:R:39:LEU:CA	18:R:49:ILE:CG2	2.94	0.45
6:F:60:SER:C	6:F:62:GLN:N	2.69	0.45
28:1:37:LYS:O	28:1:48:TYR:CD2	2.69	0.45
7:G:18:ILE:CD1	7:G:42:VAL:CG1	2.94	0.45
1:A:843:G:C6	1:A:844:A:N6	2.83	0.45
20:T:50:LEU:CD2	20:T:51:PHE:N	2.79	0.45
1:A:1402:U:C2'	1:A:1403:A:O5'	2.64	0.45
1:A:1345:C:O2'	1:A:1346:G:P	2.74	0.45
1:A:1326:U:O2'	1:A:1327:A:O5'	2.34	0.45
1:A:922:C:C4	1:A:923:G:N7	2.83	0.45
1:A:1735:A:O2'	1:A:1736:U:O4'	2.34	0.45
1:A:2895:G:O2'	1:A:2896:C:C6	2.69	0.45
1:A:1272:A:N3	1:A:1618:A:C4	2.84	0.45
19:S:9:HIS:N	19:S:102:HIS:CE1	2.84	0.45
1:A:1997:C:O2'	1:A:1998:A:O5'	2.34	0.45
1:A:219:A:C5	1:A:220:G:C5	3.04	0.45
1:A:1786:A:P	34:A:3295:HOH:O	2.74	0.45
16:P:56:SER:O	16:P:75:THR:CG2	2.64	0.45
16:P:67:GLU:OE1	16:P:68:GLY:N	2.49	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1297:C:N3	1:A:1298:C:C5	2.84	0.45
1:A:1665:A:N7	34:A:3275:HOH:O	2.36	0.45
8:H:116:ARG:O	8:H:117:LEU:CG	2.64	0.45
1:A:1385:A:O2'	1:A:1386:C:O5'	2.33	0.45
1:A:323:C:C6	5:E:165:HIS:NE2	2.85	0.45
5:E:165:HIS:O	5:E:167:VAL:N	2.50	0.45
1:A:370:G:C6	1:A:424:G:C5	3.04	0.45
1:A:806:C:OP2	12:L:37:GLY:N	2.49	0.45
1:A:614:A:OP2	1:A:614:A:N3	2.49	0.45
1:A:2238:G:C4'	1:A:2239:G:OP1	2.64	0.45
1:A:1204:A:N9	1:A:1206:G:C6	2.84	0.45
12:L:54:GLN:O	12:L:55:MET:C	2.54	0.45
3:C:61:TYR:CE1	3:C:62:ARG:O	2.69	0.45
17:Q:6:GLY:C	17:Q:8:ILE:N	2.69	0.45
21:U:73:ASN:CB	21:U:95:PHE:CE2	2.98	0.45
1:A:2752:C:O2'	1:A:2753:A:C5'	2.65	0.45
1:A:121:G:N3	1:A:131:A:C2	2.85	0.45
10:J:123:LYS:N	10:J:123:LYS:CD	2.80	0.45
1:A:42:A:C2	1:A:438:G:C2	3.05	0.45
1:A:519:U:O2'	19:S:73:LYS:NZ	2.49	0.45
12:L:29:LYS:O	12:L:30:THR:OG1	2.35	0.45
1:A:17:G:C6	1:A:524:G:C6	3.04	0.45
23:W:39:GLN:O	23:W:39:GLN:CD	2.55	0.45
21:U:80:ASP:OD1	21:U:80:ASP:N	2.47	0.45
1:A:1436:G:N2	1:A:1557:C:C2	2.84	0.45
1:A:1093:G:OP1	7:G:171:LYS:NZ	2.50	0.45
1:A:2869:G:C8	1:A:2870:C:C5	3.04	0.45
1:A:1011:G:O2'	1:A:1012:U:OP1	2.35	0.45
1:A:857:G:O2'	23:W:19:ARG:CZ	2.65	0.45
1:A:352:A:C3'	1:A:353:C:C4'	2.95	0.45
1:A:511:U:O2'	1:A:1215:G:N2	2.49	0.45
1:A:1969:A:O2'	1:A:1972:G:N3	2.49	0.45
1:A:132:G:N2	1:A:148:U:C2	2.84	0.45
1:A:435:C:C5	1:A:436:C:C5	3.03	0.45
1:A:2201:G:C5	1:A:2202:U:C5	3.05	0.45
1:A:1661:G:C5	1:A:1662:U:C5	3.05	0.45
22:V:21:ARG:NH2	22:V:87:GLN:O	2.49	0.45
2:B:16:G:C6	2:B:69:G:C4	3.04	0.45
1:A:301:G:C8	1:A:334:C:O2	2.69	0.45
1:A:2214:C:C2	1:A:2215:C:C5	3.05	0.45
1:A:1324:G:C1'	1:A:1616:A:N6	2.79	0.45
1:A:531:C:O5'	1:A:532:A:C8	2.70	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2376:A:C2	15:O:99:TYR:CE2	3.05	0.45
1:A:921:C:O2'	1:A:922:C:C5'	2.65	0.45
1:A:1731:G:C2	1:A:1733:G:C5	3.04	0.45
23:W:18:LYS:N	23:W:36:ILE:CG1	2.80	0.45
1:A:1857:G:N3	1:A:1884:G:C2	2.84	0.45
1:A:1036:G:C5	1:A:1120:G:C6	3.05	0.45
1:A:663:G:C6	1:A:664:G:C5	3.04	0.45
14:N:35:LYS:CG	14:N:112:TYR:CE1	3.00	0.45
1:A:1759:A:O2'	1:A:1760:C:C5'	2.65	0.45
1:A:2642:G:C2	1:A:2773:C:C2	3.05	0.45
6:F:122:ASP:CB	6:F:126:ASN:ND2	2.79	0.45
11:K:94:PRO:CG	11:K:115:ILE:CD1	2.94	0.45
19:S:29:VAL:CG1	19:S:55:ILE:CD1	2.95	0.45
5:E:144:GLU:O	5:E:145:ASP:C	2.55	0.45
1:A:2820:A:O2'	14:N:3:HIS:CD2	2.69	0.45
12:L:122:VAL:CG2	12:L:122:VAL:O	2.64	0.45
1:A:2200:C:N4	1:A:2224:G:N2	2.63	0.45
1:A:1398:C:O2'	1:A:1399:C:C6	2.70	0.45
1:A:2865:U:C5	1:A:2866:U:N3	2.84	0.45
1:A:833:A:OP2	12:L:39:LYS:NZ	2.50	0.45
1:A:945:A:C5'	1:A:946:C:OP2	2.65	0.45
1:A:973:A:C1'	1:A:1188:U:C6	3.00	0.45
1:A:1303:G:O2'	1:A:1304:A:C8	2.69	0.45
8:H:80:ILE:CB	8:H:101:ASP:OD2	2.65	0.45
1:A:1264:A:C6	1:A:1265:A:N6	2.85	0.45
7:G:85:LYS:O	7:G:86:LEU:CG	2.64	0.45
1:A:2592:G:C6	1:A:2593:U:C4	3.05	0.45
1:A:352:A:C6	1:A:353:C:C2	3.05	0.45
1:A:1168:G:C2	1:A:1182:G:C2	3.04	0.45
21:U:54:PRO:CG	21:U:55:GLY:N	2.80	0.45
1:A:96:C:C4'	25:Y:41:HIS:CD2	3.00	0.45
10:J:111:LYS:CB	10:J:115:GLY:N	2.80	0.45
29:2:28:ARG:C	29:2:30:VAL:N	2.69	0.45
3:C:159:THR:N	3:C:194:VAL:CG1	2.80	0.45
1:A:2738:A:C2	1:A:2766:A:N6	2.85	0.45
1:A:777:G:C2	1:A:778:G:C8	3.04	0.45
1:A:1346:G:O2'	1:A:1347:A:P	2.75	0.45
1:A:335:C:O2'	1:A:336:C:O5'	2.35	0.45
1:A:2298:A:O2'	1:A:2299:U:O4'	2.35	0.45
1:A:977:G:C2	1:A:978:G:C8	3.05	0.45
1:A:223:A:N6	1:A:422:A:C6	2.84	0.45
1:A:804:A:C2'	1:A:806:C:C4	3.00	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1613:G:C2	1:A:1617:C:N3	2.84	0.45
1:A:1455:G:N7	14:N:64:ARG:NH1	2.64	0.45
1:A:1682:G:C2'	1:A:1683:U:C5	2.99	0.45
1:A:995:C:O2	10:J:3:THR:CG2	2.64	0.45
1:A:244:A:C2'	1:A:245:G:O4'	2.64	0.45
1:A:2415:G:C5	1:A:2416:C:C4	3.05	0.45
11:K:28:SER:O	11:K:29:HIS:CB	2.65	0.45
1:A:2886:A:N7	27:O:39:ARG:NE	2.65	0.45
2:B:108:A:O2'	2:B:109:A:P	2.75	0.45
1:A:1341:G:C3'	1:A:1397:U:O2	2.65	0.45
1:A:1814:G:C6	1:A:1815:A:C6	3.05	0.45
1:A:450:G:N1	1:A:454:A:OP2	2.49	0.45
1:A:1536:C:C5'	1:A:1537:G:O5'	2.65	0.45
10:J:43:GLU:O	10:J:43:GLU:CG	2.64	0.45
1:A:2013:A:C6	1:A:2014:A:C2	3.05	0.45
16:P:49:ILE:O	16:P:50:ARG:O	2.35	0.45
1:A:1427:A:N6	1:A:1571:A:OP2	2.49	0.45
1:A:599:A:C5	1:A:600:G:N7	2.85	0.45
1:A:1339:G:C5'	1:A:1393:A:N1	2.80	0.45
1:A:647:G:O2'	1:A:648:G:C5'	2.65	0.45
1:A:2642:G:N2	1:A:2773:C:C2	2.85	0.45
1:A:410:G:N1	1:A:2407:A:N6	2.64	0.45
4:D:38:LYS:NZ	4:D:38:LYS:CB	2.79	0.45
1:A:2722:G:C2	1:A:2723:C:C2	3.04	0.45
1:A:2390:U:OP2	30:3:34:LYS:CE	2.65	0.45
1:A:2545:G:O2'	1:A:2565:A:N1	2.50	0.45
1:A:2751:G:N3	7:G:2:ARG:NH2	2.64	0.45
19:S:20:VAL:CG1	19:S:43:ALA:CB	2.94	0.45
7:G:7:PRO:O	7:G:8:VAL:CB	2.64	0.45
14:N:49:GLU:N	14:N:50:PRO:CD	2.80	0.45
5:E:98:LYS:O	5:E:99:LYS:CB	2.64	0.45
1:A:696:G:N1	1:A:767:U:C2	2.85	0.45
1:A:12:U:C2'	1:A:12:U:O2	2.65	0.45
1:A:1398:C:O2'	1:A:1399:C:O5'	2.35	0.45
1:A:335:C:O2'	1:A:336:C:P	2.74	0.45
1:A:91:A:O2'	1:A:92:U:C6	2.70	0.45
1:A:1062:G:OP1	1:A:1070:A:C4'	2.65	0.45
1:A:1080:A:C4	1:A:1081:U:C5	3.04	0.45
1:A:425:G:C2	1:A:426:C:C5	3.04	0.45
1:A:1800:C:C2	1:A:1802:A:N7	2.84	0.45
1:A:229:C:O2'	1:A:230:G:O5'	2.34	0.45
1:A:2348:U:O2'	1:A:2349:G:C5'	2.65	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2069:G:N2	1:A:2443:C:C2	2.85	0.45
1:A:2508:G:C2	1:A:2582:G:O6	2.69	0.45
1:A:612:G:N2	1:A:617:G:O6	2.50	0.45
14:N:64:ARG:O	14:N:68:ALA:N	2.49	0.45
1:A:2440:C:C2'	1:A:2441:U:O5'	2.64	0.45
1:A:2752:C:O2'	1:A:2753:A:O4'	2.35	0.45
1:A:2455:G:C2	1:A:2498:C:C4	3.05	0.45
14:N:9:GLN:O	14:N:10:LEU:O	2.34	0.45
1:A:2405:G:N2	1:A:2411:A:N7	2.65	0.45
15:O:94:ARG:CD	15:O:97:PHE:O	2.65	0.45
11:K:73:ASP:N	11:K:73:ASP:OD1	2.49	0.45
12:L:120:VAL:CG1	12:L:121:THR:N	2.80	0.45
12:L:110:VAL:C	12:L:111:ILE:CD1	2.85	0.45
1:A:1494:A:C2	1:A:1495:A:C4	3.05	0.45
20:T:34:VAL:O	20:T:34:VAL:CG1	2.64	0.45
1:A:2209:G:C6	1:A:2216:G:C6	3.05	0.45
1:A:957:C:N4	1:A:959:A:C6	2.85	0.45
1:A:822:G:C5'	34:A:3196:HOH:O	2.64	0.45
1:A:1973:G:C5	1:A:1974:C:C4	3.04	0.45
1:A:1343:G:N7	1:A:1597:A:N6	2.65	0.45
1:A:1534:U:C2'	1:A:1536:C:O2	2.65	0.45
1:A:107:G:C5'	1:A:294:A:OP1	2.65	0.45
1:A:777:G:O2'	1:A:778:G:C5'	2.65	0.45
8:H:50:ARG:NH1	8:H:53:GLU:CB	2.80	0.45
1:A:90:U:C4	1:A:91:A:N7	2.85	0.44
1:A:444:C:O2'	1:A:445:C:P	2.75	0.44
1:A:230:G:O2'	1:A:231:A:C8	2.70	0.44
1:A:638:G:O2'	1:A:639:U:C6	2.70	0.44
17:Q:64:ILE:O	17:Q:68:ALA:CB	2.66	0.44
1:A:2748:A:C6	1:A:2757:A:N7	2.85	0.44
1:A:54:G:C6	1:A:117:G:N2	2.85	0.44
1:A:1204:A:N6	1:A:1241:A:C2	2.85	0.44
1:A:189:G:O2'	1:A:190:A:O5'	2.35	0.44
1:A:1429:G:N3	1:A:1430:G:C8	2.85	0.44
1:A:996:A:C4	1:A:997:G:C8	3.05	0.44
1:A:2425:A:O2'	1:A:2426:A:OP2	2.35	0.44
1:A:2735:G:C4	1:A:2736:A:C8	3.05	0.44
13:M:58:LYS:O	13:M:60:GLN:N	2.49	0.44
7:G:1:SER:C	7:G:3:VAL:N	2.71	0.44
1:A:498:G:C2	1:A:499:U:C6	3.05	0.44
1:A:1441:G:C4	1:A:1442:U:C5	3.06	0.44
1:A:1510:G:C2	1:A:1511:G:C5	3.05	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1906:G:C2	1:A:1907:G:C5	3.05	0.44
1:A:1929:G:C5'	1:A:1930:G:OP1	2.66	0.44
1:A:2657:A:O2'	1:A:2658:C:O5'	2.35	0.44
10:J:44:TYR:O	10:J:45:THR:CB	2.65	0.44
10:J:4:PHE:CG	10:J:5:THR:N	2.85	0.44
1:A:119:A:C5'	1:A:120:U:OP1	2.65	0.44
1:A:106:C:O2'	1:A:294:A:O2'	2.35	0.44
1:A:2691:C:C5'	1:A:2691:C:C6	3.00	0.44
1:A:1383:A:C2	1:A:1384:A:C4	3.05	0.44
18:R:97:LYS:O	18:R:98:ILE:C	2.56	0.44
18:R:98:ILE:CG2	18:R:98:ILE:O	2.65	0.44
1:A:410:G:N2	1:A:418:C:C2	2.85	0.44
1:A:1870:C:C5'	1:A:1871:A:C2	3.00	0.44
4:D:171:THR:O	4:D:172:VAL:CG2	2.65	0.44
14:N:79:LEU:O	14:N:81:ASN:N	2.50	0.44
6:F:11:VAL:CG1	6:F:12:VAL:N	2.80	0.44
4:D:61:THR:O	4:D:64:GLU:N	2.50	0.44
3:C:82:TYR:O	3:C:84:PRO:CD	2.65	0.44
11:K:10:VAL:CG1	11:K:12:ASP:OD1	2.65	0.44
11:K:100:PHE:CD1	11:K:100:PHE:N	2.85	0.44
1:A:1555:G:C2	1:A:1556:C:C4	3.05	0.44
1:A:1079:C:N3	1:A:1088:A:C2	2.84	0.44
1:A:1327:A:C2'	1:A:1328:A:C8	3.00	0.44
1:A:374:A:C6	1:A:401:A:N7	2.84	0.44
1:A:988:A:C2	1:A:989:G:C2	3.06	0.44
1:A:590:A:C4	1:A:591:U:C6	3.05	0.44
4:D:124:ARG:NH1	4:D:125:TRP:CE2	2.85	0.44
1:A:2282:G:O2'	1:A:2283:C:OP2	2.35	0.44
1:A:780:G:O2'	1:A:783:A:N6	2.51	0.44
1:A:2108:A:OP2	1:A:2108:A:C8	2.71	0.44
1:A:1413:A:C5	1:A:1414:C:N4	2.86	0.44
2:B:32:U:C2	2:B:51:G:N2	2.85	0.44
1:A:1568:G:N2	3:C:57:HIS:CE1	2.85	0.44
1:A:1478:G:C6	1:A:1514:G:C2	3.05	0.44
25:Y:21:LEU:CD2	25:Y:25:GLN:NE2	2.80	0.44
4:D:73:VAL:O	4:D:74:GLU:CB	2.65	0.44
1:A:2197:U:O2'	1:A:2198:A:C8	2.70	0.44
1:A:1116:G:C5	1:A:1117:C:C5	3.04	0.44
1:A:1062:G:C4	1:A:1063:G:N7	2.85	0.44
1:A:1809:A:C4	1:A:1810:A:N7	2.86	0.44
18:R:81:LYS:O	18:R:82:HIS:C	2.56	0.44
1:A:2574:G:N2	4:D:147:GLY:O	2.50	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2458:G:C5'	1:A:2459:A:OP1	2.66	0.44
1:A:962:G:O2'	1:A:963:U:O5'	2.35	0.44
10:J:45:THR:C	10:J:47:HIS:N	2.71	0.44
1:A:470:A:C2	1:A:471:A:C4	3.05	0.44
1:A:538:A:N6	1:A:555:G:O2'	2.51	0.44
1:A:2455:G:C2	1:A:2498:C:N4	2.85	0.44
1:A:1653:G:O6	14:N:10:LEU:C	2.56	0.44
1:A:156:A:C4	1:A:157:C:C6	3.05	0.44
1:A:524:G:C5	1:A:525:U:C5	3.05	0.44
5:E:109:LEU:O	5:E:112:LEU:CB	2.65	0.44
1:A:1779:U:C5	1:A:1784:A:N7	2.85	0.44
1:A:1438:U:C4	1:A:1555:G:N1	2.86	0.44
1:A:959:A:O2'	1:A:960:A:O4'	2.36	0.44
1:A:1287:A:O2'	1:A:1288:G:C5'	2.65	0.44
1:A:1142:A:N7	1:A:1144:A:C6	2.85	0.44
1:A:2056:G:N2	1:A:2057:G:N9	2.65	0.44
1:A:2848:G:O2'	1:A:2849:U:C5	2.70	0.44
1:A:2850:A:O2'	1:A:2851:A:C5'	2.66	0.44
1:A:1613:G:C6	1:A:1619:G:C6	3.05	0.44
1:A:474:G:O2'	1:A:475:C:OP1	2.36	0.44
1:A:570:G:C5	1:A:2030:A:C5	3.06	0.44
1:A:197:A:C8	1:A:2430:A:N7	2.85	0.44
1:A:250:G:O6	1:A:386:G:N1	2.50	0.44
1:A:271:G:C2	1:A:367:G:C4	3.05	0.44
1:A:2571:U:C2'	1:A:2572:A:OP1	2.66	0.44
1:A:655:A:O2'	1:A:656:G:N7	2.49	0.44
1:A:1455:G:O2'	1:A:1456:G:O5'	2.35	0.44
1:A:1731:G:C2	1:A:1733:G:N7	2.85	0.44
1:A:781:A:C5'	1:A:782:A:OP1	2.66	0.44
1:A:2744:G:C4	1:A:2761:A:C2	3.05	0.44
24:X:1:SER:C	24:X:3:VAL:N	2.71	0.44
24:X:67:LEU:O	24:X:77:TYR:OH	2.35	0.44
1:A:1476:U:O2	1:A:1516:G:C2	2.71	0.44
20:T:67:VAL:O	20:T:68:LYS:CG	2.65	0.44
1:A:2525:G:C2	1:A:2539:C:C2	3.06	0.44
4:D:1:MET:SD	4:D:100:LEU:CD1	3.05	0.44
1:A:2104:C:O2	1:A:2105:U:C5	2.70	0.44
13:M:33:LEU:CD2	13:M:128:THR:CB	2.94	0.44
20:T:22:THR:OG1	20:T:23:ALA:N	2.50	0.44
1:A:942:G:O2'	1:A:1189:A:O2'	2.36	0.44
1:A:1465:G:C5	1:A:1466:U:C4	3.06	0.44
1:A:1910:G:C6	1:A:1911:U:C4	3.05	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:815:C:OP1	18:R:85:LYS:CE	2.65	0.44
25:Y:30:MET:SD	25:Y:30:MET:O	2.75	0.44
1:A:1574:C:O5'	1:A:1574:C:C6	2.70	0.44
1:A:333:G:N3	1:A:334:C:C6	2.85	0.44
1:A:502:A:C5'	1:A:503:A:OP2	2.66	0.44
1:A:1553:A:C8	1:A:1555:G:O6	2.71	0.44
1:A:1062:G:C8	1:A:1070:A:OP2	2.71	0.44
1:A:1323:C:C4	1:A:1324:G:N7	2.85	0.44
1:A:2824:C:OP2	1:A:2825:G:N2	2.51	0.44
1:A:570:G:O6	1:A:2499:C:OP1	2.36	0.44
1:A:2335:A:C4	1:A:2337:G:N7	2.86	0.44
1:A:1734:G:C4	1:A:1735:A:N7	2.85	0.44
1:A:821:A:C8	1:A:946:C:C5	3.06	0.44
1:A:1263:U:O2'	27:0:3:GLN:NE2	2.50	0.44
5:E:149:ILE:O	5:E:188:MET:CA	2.66	0.44
1:A:2415:G:C2	1:A:2416:C:C2	3.06	0.44
1:A:1419:A:C2	1:A:1579:A:C2	3.06	0.44
12:L:76:GLU:O	12:L:76:GLU:CG	2.66	0.44
1:A:1387:A:O2'	1:A:1388:G:OP2	2.35	0.44
1:A:633:A:C8	1:A:633:A:O5'	2.70	0.44
1:A:604:G:O6	1:A:625:G:C6	2.71	0.44
1:A:1906:G:N1	1:A:1907:G:C5	2.86	0.44
1:A:1869:G:C2	1:A:1873:G:N1	2.85	0.44
1:A:1776:G:C5	1:A:1777:U:C5	3.06	0.44
1:A:780:G:C6	1:A:782:A:C2	3.05	0.44
1:A:1857:G:N3	1:A:1884:G:N1	2.65	0.44
1:A:1954:G:O2'	1:A:1956:U:O4	2.34	0.44
1:A:465:G:O4'	29:2:16:HIS:CD2	2.71	0.44
1:A:564:C:C3'	1:A:564:C:C6	3.01	0.44
1:A:964:C:O2'	1:A:965:C:O5'	2.36	0.44
23:W:13:ARG:CG	23:W:14:ASP:N	2.80	0.44
7:G:126:THR:CG2	7:G:127:GLN:N	2.80	0.44
13:M:34:LYS:CB	13:M:131:VAL:CG2	2.95	0.44
1:A:909:A:C6	1:A:912:C:C2	3.06	0.44
27:0:53:VAL:O	27:0:54:ILE:O	2.36	0.44
12:L:79:LEU:CD2	12:L:115:GLU:O	2.66	0.44
1:A:1039:A:C5	1:A:1040:A:N7	2.85	0.44
1:A:1491:G:O2'	1:A:1492:G:C5'	2.65	0.44
1:A:1064:C:OP1	9:I:88:GLY:CA	2.66	0.44
1:A:1286:A:C5	1:A:1289:C:N4	2.86	0.44
1:A:195:A:C6	1:A:198:C:C6	3.06	0.44
1:A:227:A:C5'	1:A:229:C:N4	2.81	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1900:A:C6	1:A:1970:A:N7	2.86	0.44
1:A:605:G:O2'	1:A:606:U:O5'	2.36	0.44
1:A:1275:A:N6	14:N:15:SER:O	2.51	0.44
1:A:654:A:C2'	1:A:655:A:O5'	2.66	0.44
1:A:2654:A:N3	1:A:2656:U:C4	2.86	0.44
1:A:2667:C:O2'	1:A:2668:G:C8	2.71	0.44
17:Q:4:LYS:NZ	17:Q:6:GLY:CA	2.81	0.44
1:A:2812:G:N2	1:A:2889:C:C2	2.85	0.44
1:A:244:A:C2'	1:A:245:G:O5'	2.65	0.44
1:A:2371:G:O3'	28:1:44:GLN:NE2	2.51	0.44
1:A:269:C:C2	1:A:270:A:C8	3.05	0.44
25:Y:58:ASN:C	25:Y:60:LYS:N	2.70	0.44
19:S:36:LEU:O	19:S:38:TYR:N	2.51	0.44
1:A:2285:C:C5	28:1:5:ARG:NH2	2.85	0.44
13:M:81:ARG:NH2	13:M:84:LYS:CE	2.81	0.44
1:A:2575:C:C5'	4:D:148:GLN:O	2.66	0.44
13:M:19:GLY:N	13:M:38:ARG:NH2	2.66	0.44
5:E:134:LEU:CA	5:E:137:LYS:CB	2.95	0.44
13:M:31:PHE:O	13:M:105:MET:N	2.51	0.44
26:Z:8:GLN:O	26:Z:9:THR:OG1	2.36	0.44
10:J:84:ILE:O	10:J:84:ILE:CG2	2.65	0.44
1:A:303:G:N1	1:A:315:G:C6	2.86	0.44
1:A:1809:A:C6	1:A:1810:A:C6	3.06	0.44
1:A:401:A:O2'	1:A:402:A:O4'	2.35	0.44
1:A:422:A:C2	1:A:423:A:C5	3.06	0.44
17:Q:46:TYR:OH	17:Q:50:ARG:NH1	2.51	0.44
1:A:129:C:O2'	1:A:130:C:O4'	2.35	0.44
1:A:1275:A:C2'	1:A:1275:A:N3	2.81	0.44
12:L:111:ILE:O	12:L:131:ALA:CB	2.66	0.44
18:R:55:ASP:CG	18:R:56:GLY:N	2.71	0.44
1:A:463:G:N2	1:A:466:A:OP2	2.51	0.44
1:A:1914:C:O2'	1:A:1915:U:C6	2.71	0.43
1:A:2216:G:C4	1:A:2217:G:N7	2.86	0.43
1:A:229:C:O2'	1:A:230:G:O4'	2.36	0.43
1:A:1512:C:C4	1:A:1513:U:C5	3.05	0.43
1:A:2145:C:C3'	1:A:2147:A:OP2	2.66	0.43
1:A:2467:C:N4	1:A:2468:A:N1	2.65	0.43
1:A:2009:A:N6	34:A:3222:HOH:O	2.50	0.43
1:A:763:G:C5	1:A:765:C:C5	3.06	0.43
1:A:159:G:O2'	1:A:160:A:C5'	2.66	0.43
1:A:2287:A:C5	1:A:2289:G:C8	3.06	0.43
4:D:181:ASP:C	4:D:183:GLU:N	2.70	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:19:PHE:CE1	16:P:58:PHE:CE2	3.06	0.43
1:A:715:A:N6	1:A:716:A:C6	2.86	0.43
1:A:1297:C:C2	1:A:1298:C:C6	3.07	0.43
1:A:1419:A:C4	1:A:1579:A:C6	3.06	0.43
1:A:1485:U:C2	1:A:1505:A:C2	3.06	0.43
29:2:1:MET:CG	29:2:2:LYS:N	2.81	0.43
3:C:196:ASN:O	3:C:197:ALA:CB	2.64	0.43
26:Z:20:LYS:O	26:Z:24:LEU:CD1	2.65	0.43
1:A:642:U:O2'	1:A:644:A:N7	2.51	0.43
7:G:106:LEU:O	7:G:108:PHE:CE1	2.71	0.43
14:N:67:PHE:C	14:N:67:PHE:CD1	2.91	0.43
1:A:1398:C:O2'	1:A:1399:C:O4'	2.36	0.43
1:A:301:G:C4	1:A:302:C:C4	3.06	0.43
1:A:498:G:C6	1:A:499:U:C4	3.05	0.43
24:X:29:LEU:CB	24:X:30:PRO:CD	2.96	0.43
1:A:2314:A:O2'	1:A:2315:G:O4'	2.36	0.43
1:A:2458:G:O2'	1:A:2460:U:O4	2.35	0.43
1:A:563:A:C6	1:A:2018:G:C4	3.07	0.43
1:A:728:G:N3	1:A:730:A:C8	2.85	0.43
6:F:111:ARG:NH1	6:F:113:PHE:CE1	2.85	0.43
14:N:87:PHE:CD1	14:N:90:ARG:CD	3.00	0.43
1:A:2201:G:C5	1:A:2223:G:C2	3.06	0.43
1:A:2723:C:C5	1:A:2724:U:C5	3.06	0.43
15:O:7:ARG:NE	15:O:97:PHE:CZ	2.86	0.43
10:J:89:PHE:O	10:J:92:MET:N	2.52	0.43
12:L:119:PRO:CB	12:L:139:GLY:O	2.66	0.43
5:E:90:GLN:CA	5:E:90:GLN:OE1	2.66	0.43
1:A:931:U:C2'	1:A:931:U:O2	2.65	0.43
2:B:109:A:C4	2:B:110:C:C5	3.06	0.43
1:A:379:G:N1	1:A:380:G:C4	2.86	0.43
1:A:2331:G:C6	1:A:2385:C:N4	2.86	0.43
1:A:1537:G:O2'	1:A:1538:G:C4'	2.65	0.43
1:A:2646:C:C4'	1:A:2646:C:C6	3.01	0.43
1:A:2060:A:O2'	34:A:3350:HOH:O	2.21	0.43
1:A:1361:G:C2'	1:A:1362:C:C5'	2.96	0.43
1:A:858:G:C6	1:A:2268:A:C6	3.07	0.43
1:A:1757:A:N1	1:A:1762:A:C2	2.86	0.43
1:A:763:G:N9	1:A:765:C:C6	2.86	0.43
1:A:241:A:O2'	1:A:242:G:O5'	2.36	0.43
2:B:34:A:C6	2:B:44:G:C8	3.05	0.43
1:A:101:A:O2'	1:A:102:U:OP1	2.35	0.43
1:A:1686:C:C2	1:A:1703:G:C2	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:283:G:N2	1:A:358:U:C2	2.87	0.43
24:X:52:ALA:C	24:X:54:GLY:N	2.72	0.43
26:Z:40:THR:C	26:Z:42:ALA:N	2.70	0.43
1:A:1387:A:N6	1:A:1401:G:N1	2.67	0.43
1:A:1387:A:O2'	1:A:1388:G:C8	2.71	0.43
1:A:2319:G:O2'	1:A:2320:U:O5'	2.37	0.43
1:A:1654:A:O2'	1:A:1655:A:O5'	2.36	0.43
1:A:1802:A:O2'	1:A:1803:A:C8	2.71	0.43
1:A:529:A:C4	1:A:2023:C:C5	3.06	0.43
1:A:992:C:O2'	1:A:993:G:C5'	2.66	0.43
1:A:475:C:C6	1:A:476:G:N7	2.87	0.43
1:A:1596:A:N6	1:A:1597:A:N6	2.66	0.43
1:A:2303:G:O6	1:A:2314:A:N6	2.51	0.43
1:A:865:C:C5'	1:A:866:A:OP1	2.66	0.43
1:A:972:A:C2	1:A:973:A:N6	2.86	0.43
7:G:163:TYR:O	7:G:164:ALA:C	2.56	0.43
1:A:2600:A:C6	1:A:2601:C:N4	2.87	0.43
1:A:1527:G:N2	1:A:1546:G:C6	2.87	0.43
1:A:2370:G:C6	1:A:2371:G:C6	3.06	0.43
1:A:2682:A:O2'	1:A:2683:C:O5'	2.37	0.43
4:D:36:GLN:NE2	4:D:38:LYS:NZ	2.66	0.43
1:A:2575:C:C4'	4:D:148:GLN:O	2.67	0.43
4:D:34:VAL:CG1	4:D:48:ILE:CD1	2.97	0.43
4:D:66:GLY:C	4:D:68:PHE:N	2.71	0.43
1:A:1057:A:C6	1:A:1058:U:C4	3.06	0.43
1:A:1057:A:N3	1:A:1082:U:C2	2.86	0.43
1:A:2846:G:P	16:P:51:ASN:CB	3.07	0.43
21:U:39:ASN:O	21:U:40:LEU:C	2.57	0.43
1:A:68:G:N2	1:A:74:A:OP2	2.51	0.43
1:A:1585:C:C2'	1:A:1586:A:O5'	2.66	0.43
1:A:2474:U:O2	1:A:2474:U:O4'	2.36	0.43
2:B:57:A:C2'	2:B:58:A:C8	3.02	0.43
1:A:1286:A:C5	1:A:1289:C:N3	2.87	0.43
1:A:1331:G:N3	1:A:1333:G:C8	2.87	0.43
1:A:372:G:N2	1:A:401:A:OP2	2.51	0.43
1:A:2024:G:C5	1:A:2040:G:C2	3.06	0.43
1:A:527:C:O2'	1:A:528:A:O5'	2.36	0.43
1:A:651:G:C6	1:A:652:U:C4	3.07	0.43
16:P:92:ARG:CG	16:P:92:ARG:O	2.66	0.43
1:A:2345:G:C5	1:A:2347:C:C5	3.06	0.43
24:X:26:ARG:NH1	24:X:28:PHE:CD2	2.86	0.43
1:A:362:A:C5	1:A:363:G:C8	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2688:G:C1'	1:A:2721:A:N6	2.82	0.43
1:A:2553:G:N1	1:A:2554:U:O2	2.51	0.43
1:A:579:G:C8	1:A:2017:U:O4	2.71	0.43
1:A:457:A:C2	1:A:459:U:O4	2.71	0.43
2:B:52:A:N6	15:O:33:ARG:NE	2.66	0.43
1:A:204:A:C4	1:A:206:U:C4	3.06	0.43
1:A:1833:C:C4	1:A:1834:U:C4	3.06	0.43
1:A:996:A:C5	1:A:1160:G:N2	2.87	0.43
30:3:33:THR:CG2	30:3:34:LYS:N	2.81	0.43
22:V:32:GLY:O	22:V:33:GLY:C	2.56	0.43
1:A:38:A:C2	1:A:442:G:C2	3.06	0.43
8:H:4:ILE:O	8:H:37:VAL:N	2.52	0.43
1:A:2402:U:O2'	1:A:2403:C:OP2	2.36	0.43
1:A:593:U:C2	1:A:594:U:C5	3.06	0.43
1:A:851:C:C4	1:A:852:U:O4	2.72	0.43
1:A:1006:C:O5'	1:A:1006:C:C6	2.72	0.43
1:A:2199:A:O2'	1:A:2200:C:C5'	2.66	0.43
1:A:333:G:O2'	1:A:334:C:C5'	2.66	0.43
1:A:502:A:C6	1:A:505:A:C5	3.06	0.43
1:A:2726:A:O2'	1:A:2727:A:O5'	2.36	0.43
1:A:1063:G:C5	1:A:1064:C:N4	2.87	0.43
1:A:1308:A:N6	1:A:1309:G:N1	2.67	0.43
1:A:2850:A:N7	1:A:2868:A:O2'	2.51	0.43
1:A:671:C:O2'	1:A:672:C:P	2.75	0.43
1:A:1417:C:C4'	1:A:1587:G:N2	2.82	0.43
1:A:1930:G:O2'	1:A:1931:U:P	2.76	0.43
1:A:271:G:O2'	1:A:272:A:O5'	2.36	0.43
1:A:1735:A:O2'	1:A:1736:U:O5'	2.37	0.43
1:A:1000:A:N6	1:A:1001:A:N1	2.66	0.43
1:A:728:G:C4	1:A:730:A:C8	3.06	0.43
25:Y:18:LEU:O	25:Y:22:LEU:CD1	2.67	0.43
17:Q:57:ARG:O	17:Q:59:LEU:N	2.52	0.43
1:A:1569:A:N1	1:A:1570:A:C2	2.87	0.43
1:A:2307:G:O2'	1:A:2308:G:C8	2.71	0.43
1:A:599:A:N3	1:A:659:G:C2	2.86	0.43
1:A:95:A:C2'	1:A:96:C:C5'	2.96	0.43
1:A:2418:A:C6	1:A:2419:U:N3	2.87	0.43
1:A:2817:U:C2'	1:A:2818:U:O5'	2.67	0.43
21:U:82:VAL:O	21:U:96:LYS:CG	2.67	0.43
8:H:65:ALA:O	8:H:66:ASN:C	2.57	0.43
26:Z:32:GLY:C	26:Z:34:THR:N	2.71	0.43
1:A:291:G:N1	1:A:350:G:C5	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2200:C:O2	1:A:2226:C:N4	2.52	0.43
1:A:2798:U:C5'	1:A:2799:A:OP1	2.67	0.43
1:A:2216:G:C2'	1:A:2217:G:C8	3.02	0.43
1:A:1438:U:C5	1:A:1552:A:N1	2.86	0.43
1:A:1079:C:C4	1:A:1088:A:C2	3.07	0.43
1:A:2898:U:C2	1:A:2899:A:C8	3.06	0.43
1:A:373:U:O2'	1:A:374:A:C8	2.72	0.43
1:A:2330:G:C2	1:A:2386:A:C2	3.07	0.43
1:A:628:G:O2'	1:A:629:G:O5'	2.37	0.43
1:A:2851:A:O2'	1:A:2852:G:O4'	2.36	0.43
1:A:1343:G:C2	1:A:1344:U:C4	3.07	0.43
1:A:1355:G:C2	1:A:1356:G:C8	3.06	0.43
1:A:273:G:O2'	1:A:274:C:C5'	2.67	0.43
1:A:2532:G:O2'	1:A:2657:A:N1	2.52	0.43
1:A:1303:G:O2'	1:A:1304:A:O5'	2.37	0.43
1:A:764:A:C2	1:A:781:A:C4	3.07	0.43
1:A:1663:G:C6	1:A:1998:A:N6	2.87	0.43
1:A:1180:U:C4	1:A:1181:U:C4	3.06	0.43
1:A:538:A:C5'	10:J:7:LYS:NZ	2.81	0.43
1:A:898:C:C5	1:A:899:A:C5	3.07	0.43
1:A:186:G:N2	1:A:211:C:O2	2.52	0.43
1:A:1443:U:C2	1:A:1444:G:C8	3.07	0.43
1:A:2700:A:N1	1:A:2701:U:C4	2.86	0.43
1:A:1345:C:OP2	1:A:1345:C:C3'	2.66	0.43
1:A:216:A:C4	1:A:217:A:N7	2.87	0.43
1:A:533:G:N2	17:Q:44:TYR:CD1	2.87	0.43
1:A:2336:A:N1	23:W:56:HIS:CE1	2.87	0.43
1:A:446:G:C4'	1:A:447:A:OP1	2.66	0.43
1:A:528:A:O2'	1:A:529:A:C5'	2.66	0.43
1:A:1565:C:C4	1:A:1567:G:C2	3.07	0.43
25:Y:22:LEU:CG	25:Y:23:ARG:NH1	2.82	0.43
1:A:294:A:N1	1:A:346:A:N1	2.67	0.43
19:S:40:ASN:OD1	19:S:41:LYS:N	2.52	0.43
1:A:243:U:OP2	30:3:7:ARG:NH1	2.52	0.43
3:C:94:LEU:CD1	3:C:100:ARG:CD	2.96	0.43
1:A:2370:G:C6	1:A:2371:G:C5	3.07	0.43
1:A:647:G:C2'	1:A:648:G:C8	3.02	0.43
1:A:2682:A:O2'	1:A:2683:C:C6	2.72	0.43
8:H:53:GLU:C	8:H:55:GLU:N	2.71	0.43
1:A:125:A:OP2	29:2:19:ARG:NH2	2.52	0.43
1:A:1794:A:C2	1:A:1795:C:C2	3.07	0.43
1:A:266:G:C2'	1:A:267:C:O5'	2.66	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:43:ASN:O	8:H:47:PHE:CD2	2.72	0.43
1:A:1722:A:O2'	1:A:1723:G:O4'	2.37	0.43
1:A:1517:G:N2	1:A:1732:C:C5	2.87	0.43
1:A:831:G:O3'	12:L:38:GLN:N	2.52	0.43
1:A:117:G:C4'	1:A:126:A:C2	3.02	0.43
1:A:3:U:C4	1:A:4:U:C5	3.07	0.43
1:A:1281:G:C2	1:A:1290:C:N3	2.87	0.43
1:A:1338:G:O6	20:T:66:LYS:CE	2.66	0.43
1:A:647:G:C8	1:A:648:G:N7	2.87	0.43
1:A:2563:U:O2	1:A:2566:A:N7	2.52	0.43
17:Q:96:ASP:OD1	17:Q:96:ASP:C	2.56	0.43
29:2:18:PHE:O	29:2:19:ARG:C	2.57	0.43
14:N:84:GLY:N	14:N:85:PRO:CD	2.82	0.43
1:A:2423:U:C5'	1:A:2424:C:OP1	2.66	0.43
11:K:121:GLU:O	11:K:122:VAL:C	2.57	0.43
1:A:1371:G:C2	1:A:1372:U:C5	3.06	0.43
1:A:2218:G:C5	1:A:2219:U:C5	3.07	0.43
1:A:2135:A:O2'	1:A:2136:G:O4'	2.37	0.43
1:A:975:A:C2'	1:A:976:G:C8	3.02	0.43
1:A:2344:U:O2'	1:A:2345:G:C5'	2.67	0.43
1:A:678:C:C2'	1:A:679:C:C6	3.02	0.43
1:A:1265:A:C4'	1:A:1266:G:O5'	2.67	0.43
1:A:352:A:C4	1:A:353:C:C1'	3.02	0.43
17:Q:86:SER:O	17:Q:87:VAL:C	2.57	0.43
1:A:66:C:C4	1:A:67:U:C4	3.06	0.43
23:W:45:HIS:O	23:W:46:ALA:CB	2.66	0.43
1:A:1255:U:O2'	1:A:1256:G:OP1	2.35	0.43
1:A:2206:C:C2	1:A:2207:C:C5	3.07	0.43
2:B:69:G:C5	2:B:70:C:C6	3.07	0.42
2:B:69:G:N9	2:B:70:C:C6	2.86	0.42
1:A:740:C:C5'	1:A:1784:A:C3'	2.97	0.42
1:A:302:C:O2'	1:A:303:G:O5'	2.37	0.42
1:A:2052:A:O2'	1:A:2053:G:C5'	2.67	0.42
1:A:1735:A:N3	1:A:1736:U:C6	2.87	0.42
1:A:2077:A:C6	1:A:2435:A:N6	2.87	0.42
13:M:136:MET:CE	22:V:57:TYR:CD2	3.02	0.42
1:A:2744:G:C4	1:A:2761:A:N1	2.87	0.42
1:A:2686:G:C6	1:A:2687:U:C4	3.07	0.42
4:D:21:SER:CB	11:K:73:ASP:O	2.67	0.42
30:3:22:LYS:N	30:3:48:MET:CB	2.82	0.42
29:2:9:VAL:CG1	29:2:10:LEU:N	2.82	0.42
26:Z:30:ARG:NH2	26:Z:33:HIS:CB	2.82	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:384:A:N6	1:A:385:C:C2	2.87	0.42
1:A:2221:G:C6	1:A:2222:C:C4	3.07	0.42
1:A:2099:U:O2	1:A:2099:U:C2'	2.67	0.42
2:B:11:C:C5	2:B:12:C:C5	3.07	0.42
1:A:1439:A:N7	1:A:1440:U:O4'	2.51	0.42
1:A:671:C:O2'	1:A:672:C:OP2	2.37	0.42
1:A:1510:G:N2	1:A:1511:G:N3	2.66	0.42
1:A:1512:C:C5	1:A:1513:U:C5	3.07	0.42
1:A:1598:A:C2	1:A:1599:U:C2	3.07	0.42
1:A:464:U:C1'	1:A:686:U:C5	3.02	0.42
2:B:42:C:C2'	2:B:43:C:C6	3.02	0.42
1:A:2582:G:N2	1:A:2583:G:C8	2.88	0.42
1:A:617:G:O2'	1:A:618:G:O5'	2.37	0.42
1:A:1867:G:C2	1:A:1868:C:C2	3.07	0.42
1:A:1364:G:N3	1:A:1368:G:N2	2.67	0.42
1:A:55:G:C2	1:A:116:C:N3	2.87	0.42
1:A:117:G:C6	1:A:119:A:N1	2.87	0.42
1:A:143:C:O2'	1:A:144:A:C1'	2.67	0.42
1:A:1353:A:C2	1:A:1378:A:C2	3.07	0.42
1:A:1419:A:N7	1:A:1421:G:C6	2.88	0.42
1:A:282:A:C6	1:A:283:G:C5	3.07	0.42
1:A:1371:G:N3	1:A:1372:U:C5	2.87	0.42
9:I:76:ALA:O	9:I:135:MET:CE	2.66	0.42
5:E:106:LYS:O	5:E:110:SER:N	2.51	0.42
11:K:113:MET:O	11:K:116:ILE:CG1	2.68	0.42
1:A:1835:G:C5	1:A:1836:C:C5	3.06	0.42
1:A:2048:G:C6	1:A:2049:G:C5	3.08	0.42
22:V:61:LEU:N	22:V:61:LEU:CD2	2.81	0.42
29:2:23:ALA:O	29:2:24:THR:CB	2.67	0.42
1:A:1394:U:C6	1:A:1394:U:C3'	3.02	0.42
1:A:103:A:O2'	1:A:104:A:O4'	2.36	0.42
1:A:374:A:O2'	1:A:375:G:O5'	2.38	0.42
1:A:223:A:C2	1:A:407:G:N3	2.87	0.42
1:A:2349:G:OP1	30:3:44:ARG:NH2	2.52	0.42
1:A:2582:G:O2'	1:A:2583:G:C5'	2.68	0.42
1:A:617:G:O2'	1:A:618:G:O4'	2.37	0.42
1:A:1931:U:OP2	1:A:1968:G:N1	2.52	0.42
1:A:2881:U:O2'	1:A:2882:A:O4'	2.37	0.42
1:A:2652:C:N4	1:A:2653:U:C4	2.87	0.42
1:A:2654:A:N6	1:A:2667:C:N4	2.67	0.42
1:A:946:C:O2'	1:A:947:A:O5'	2.38	0.42
1:A:1303:G:O2'	1:A:1304:A:C5'	2.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:729:G:O6	3:C:207:ALA:N	2.53	0.42
1:A:704:G:O2'	1:A:705:A:P	2.77	0.42
1:A:1265:A:C4	1:A:1267:U:C4	3.08	0.42
1:A:2304:G:N2	1:A:2312:U:N3	2.67	0.42
1:A:2714:G:C4	1:A:2715:C:C6	3.06	0.42
4:D:137:SER:CB	4:D:138:LEU:CD2	2.96	0.42
1:A:2547:A:C8	1:A:2566:A:C8	3.07	0.42
1:A:927:A:N1	1:A:928:A:C2	2.87	0.42
1:A:1490:A:C8	3:C:73:ILE:CD1	3.02	0.42
1:A:219:A:N7	1:A:220:G:C5	2.87	0.42
16:P:67:GLU:CD	16:P:68:GLY:N	2.72	0.42
1:A:2557:G:C6	1:A:2558:C:N4	2.87	0.42
1:A:695:G:C4	1:A:768:G:C2	3.08	0.42
1:A:1422:G:C4'	1:A:1493:C:OP1	2.67	0.42
1:A:379:G:C6	1:A:380:G:N7	2.87	0.42
1:A:1063:G:C2	1:A:1064:C:N3	2.87	0.42
1:A:1034:G:C6	1:A:1122:G:C6	3.07	0.42
1:A:373:U:C2	1:A:374:A:N7	2.88	0.42
1:A:2024:G:N1	1:A:2040:G:C4	2.87	0.42
1:A:1008:A:C4'	1:A:1009:A:OP1	2.67	0.42
1:A:2:G:C5	1:A:3:U:C4	3.07	0.42
17:Q:4:LYS:O	17:Q:5:ARG:CB	2.66	0.42
1:A:2107:G:C2	1:A:2108:A:C5	3.06	0.42
1:A:1469:A:C2'	1:A:1470:A:C8	3.03	0.42
14:N:13:ASN:O	14:N:17:ARG:NH1	2.53	0.42
1:A:82:U:C2	1:A:83:A:C8	3.07	0.42
26:Z:10:ARG:NH2	26:Z:52:PHE:O	2.52	0.42
23:W:11:ASN:OD1	23:W:11:ASN:O	2.37	0.42
1:A:310:A:O2'	1:A:311:A:C5'	2.67	0.42
1:A:1420:A:C2	1:A:2211:A:N7	2.88	0.42
4:D:19:GLY:O	11:K:72:PRO:CB	2.67	0.42
1:A:2595:G:C6	1:A:2599:G:C6	3.07	0.42
1:A:2331:G:C2	1:A:2385:C:C4	3.07	0.42
1:A:586:A:O2'	1:A:671:C:O2	2.37	0.42
1:A:2836:U:O2'	1:A:2837:A:C8	2.73	0.42
17:Q:63:ARG:O	17:Q:66:ALA:N	2.53	0.42
1:A:2244:U:C5	1:A:2245:U:C4	3.08	0.42
1:A:308:G:N1	1:A:309:A:N1	2.68	0.42
28:1:38:PHE:CG	28:1:39:ASP:N	2.88	0.42
1:A:996:A:C2	1:A:997:G:C8	3.07	0.42
20:T:69:ARG:O	20:T:74:ILE:CD1	2.67	0.42
18:R:52:PRO:O	18:R:53:PHE:CD2	2.72	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:39:ASP:CG	4:D:40:LEU:N	2.73	0.42
2:B:76:G:C6	2:B:77:U:C4	3.08	0.42
4:D:184:ARG:NH2	16:P:6:GLN:NE2	2.67	0.42
1:A:1529:G:O6	1:A:1543:G:C2	2.72	0.42
24:X:69:GLU:O	24:X:70:LEU:CB	2.67	0.42
26:Z:4:ILE:CG2	26:Z:56:VAL:CG1	2.98	0.42
1:A:2209:G:C6	1:A:2210:U:C4	3.08	0.42
1:A:2258:C:O2'	1:A:2427:C:OP2	2.38	0.42
1:A:2043:C:C2	1:A:2044:C:C5	3.07	0.42
12:L:112:LEU:CD2	12:L:112:LEU:N	2.82	0.42
1:A:2850:A:C6	1:A:2869:G:C4'	3.02	0.42
1:A:1352:U:C6	1:A:1377:G:O6	2.72	0.42
1:A:1931:U:C2	1:A:1932:A:C8	3.08	0.42
1:A:973:A:C5'	1:A:974:G:OP2	2.68	0.42
1:A:1754:A:OP1	16:P:93:LYS:CE	2.67	0.42
1:A:1206:G:C6	1:A:1207:C:C4	3.08	0.42
1:A:730:A:O2'	1:A:731:C:C5'	2.67	0.42
1:A:1050:A:O2'	1:A:1051:G:O5'	2.37	0.42
6:F:91:ARG:NH2	6:F:91:ARG:CB	2.83	0.42
1:A:1653:G:O6	14:N:10:LEU:O	2.37	0.42
25:Y:53:VAL:O	25:Y:57:LEU:CB	2.68	0.42
12:L:124:GLY:N	12:L:143:GLU:OE2	2.52	0.42
1:A:410:G:C6	1:A:2407:A:N6	2.87	0.42
5:E:170:ARG:CZ	5:E:176:ASP:OD2	2.67	0.42
1:A:1665:A:C6	1:A:1666:G:C5	3.08	0.42
4:D:16:THR:CG2	4:D:20:VAL:CB	2.97	0.42
8:H:133:GLN:NE2	8:H:139:PHE:CE2	2.87	0.42
1:A:2526:G:C5	1:A:2527:C:C5	3.08	0.42
1:A:1520:U:C4	1:A:1521:G:C5	3.08	0.42
1:A:88:G:C8	1:A:88:G:O5'	2.73	0.42
1:A:71:A:O4'	1:A:73:A:C5	2.72	0.42
1:A:1991:U:C6	1:A:1991:U:C4'	3.03	0.42
1:A:480:A:C3'	1:A:481:G:C5'	2.97	0.42
1:A:859:G:O2'	1:A:916:G:N1	2.53	0.42
1:A:128:C:C2'	1:A:129:C:C6	3.02	0.42
1:A:603:A:C4'	1:A:604:G:O5'	2.68	0.42
1:A:972:A:C6	1:A:973:A:C6	3.08	0.42
1:A:1304:A:O2'	1:A:1305:C:P	2.78	0.42
1:A:2626:C:C2'	1:A:2627:G:C5'	2.97	0.42
1:A:1241:A:N3	1:A:1241:A:O4'	2.52	0.42
1:A:1838:C:N3	1:A:1899:A:C2	2.87	0.42
9:I:21:PRO:N	9:I:22:PRO:CD	2.82	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1048:A:C2	1:A:1049:C:N3	2.88	0.42
1:A:206:U:O2'	1:A:207:A:C8	2.72	0.42
20:T:38:ALA:CB	20:T:81:LYS:NZ	2.83	0.42
1:A:1334:G:C6	1:A:1335:C:N3	2.88	0.42
9:I:57:VAL:O	9:I:58:ILE:CG1	2.67	0.42
3:C:24:HIS:ND1	3:C:25:LYS:N	2.67	0.42
16:P:52:ARG:N	16:P:56:SER:OG	2.53	0.42
4:D:172:VAL:O	4:D:172:VAL:CG1	2.68	0.42
1:A:1255:U:O2'	1:A:1256:G:P	2.77	0.42
7:G:120:ILE:CG2	7:G:120:ILE:O	2.68	0.42
1:A:499:U:C4	1:A:500:G:C6	3.07	0.42
1:A:58:G:N3	1:A:73:A:C2	2.88	0.42
1:A:628:G:C6	1:A:636:G:C2	3.08	0.42
1:A:602:A:C4'	1:A:604:G:O3'	2.68	0.42
2:B:46:A:C5	2:B:47:C:C5	3.07	0.42
1:A:1361:G:C6	1:A:1362:C:C5	3.08	0.42
1:A:2077:A:C5	1:A:2435:A:C5	3.08	0.42
1:A:1508:A:O3'	1:A:1509:A:C2	2.72	0.42
1:A:61:C:N3	1:A:94:A:C2	2.88	0.42
1:A:151:C:OP1	1:A:1359:A:O2'	2.38	0.42
11:K:119:ALA:O	11:K:120:PRO:C	2.57	0.42
5:E:117:ARG:NH1	5:E:183:PHE:O	2.51	0.42
1:A:2418:A:O2'	28:1:19:PHE:CZ	2.72	0.42
1:A:186:G:N2	1:A:211:C:C2	2.88	0.42
24:X:70:LEU:O	24:X:74:GLY:N	2.52	0.42
30:3:24:LYS:O	30:3:25:HIS:CD2	2.73	0.42
8:H:31:VAL:CB	8:H:32:PRO:CD	2.98	0.42
1:A:1590:A:C6	1:A:1591:A:N6	2.88	0.42
23:W:70:VAL:O	23:W:70:VAL:CG2	2.67	0.42
1:A:2197:U:O2	1:A:2225:A:N7	2.53	0.42
1:A:1386:C:O2'	1:A:1387:A:C8	2.72	0.42
1:A:265:A:N6	1:A:428:A:O4'	2.53	0.42
1:A:533:G:OP1	17:Q:27:ARG:CD	2.67	0.42
1:A:447:A:C4	1:A:473:G:N7	2.87	0.42
1:A:992:C:O2'	1:A:993:G:O4'	2.36	0.42
1:A:2848:G:OP2	16:P:94:ALA:CB	2.68	0.42
1:A:2666:C:O4'	1:A:2666:C:O2	2.36	0.42
1:A:9:G:C5	1:A:2629:U:C4	3.08	0.42
1:A:2077:A:N6	1:A:2435:A:N6	2.68	0.42
1:A:190:A:O2'	1:A:679:C:O2'	2.38	0.42
1:A:800:A:N1	1:A:802:A:C8	2.88	0.42
1:A:1048:A:C6	1:A:1111:A:C2	3.08	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:19:PHE:CE1	16:P:58:PHE:CG	3.07	0.42
1:A:2301:C:C4	1:A:2302:U:C5	3.08	0.42
3:C:239:PHE:CD1	3:C:240:GLY:N	2.87	0.42
1:A:30:G:C6	1:A:31:C:N3	2.87	0.42
8:H:1:MET:CB	8:H:21:VAL:O	2.67	0.42
1:A:2543:G:C6	1:A:2765:A:C5	3.08	0.42
11:K:97:THR:O	11:K:98:ARG:CB	2.68	0.42
7:G:36:LEU:CD1	7:G:36:LEU:N	2.83	0.42
1:A:311:A:O2'	1:A:312:G:OP1	2.38	0.42
1:A:2051:A:C2	1:A:2052:A:N6	2.87	0.42
1:A:482:A:O2'	1:A:483:A:P	2.78	0.42
1:A:1436:G:N2	1:A:1556:C:O2	2.53	0.42
1:A:1139:G:C2'	1:A:1140:C:C5'	2.98	0.42
1:A:862:G:C2'	1:A:863:A:C8	3.02	0.42
1:A:685:A:C5'	1:A:686:U:OP1	2.68	0.42
16:P:86:LYS:N	16:P:86:LYS:NZ	2.68	0.42
22:V:57:TYR:N	22:V:57:TYR:CD1	2.87	0.42
1:A:2807:U:C3'	1:A:2808:G:C5'	2.97	0.42
1:A:2283:C:N4	1:A:2389:G:C6	2.88	0.42
3:C:80:LEU:CD1	3:C:80:LEU:N	2.83	0.42
1:A:1378:A:C8	1:A:1380:G:C6	3.08	0.42
11:K:87:LEU:O	11:K:89:ASN:N	2.53	0.42
2:B:64:G:C6	2:B:65:U:C4	3.08	0.42
12:L:23:ILE:N	12:L:23:ILE:CD1	2.82	0.42
1:A:332:A:O2'	1:A:334:C:OP2	2.38	0.41
1:A:1821:A:O2'	1:A:1822:C:O4'	2.37	0.41
1:A:224:U:O4	1:A:232:G:N2	2.53	0.41
1:A:2847:U:C2'	1:A:2848:G:C5'	2.98	0.41
1:A:566:U:O2'	1:A:809:G:OP2	2.38	0.41
1:A:1206:G:C4	1:A:1207:C:C5	3.07	0.41
1:A:1270:C:C5'	1:A:1271:G:OP1	2.68	0.41
1:A:1265:A:C8	1:A:1267:U:C2	3.08	0.41
1:A:2013:A:N6	1:A:2014:A:N1	2.68	0.41
1:A:1838:C:N4	1:A:1899:A:O4'	2.53	0.41
1:A:2191:A:N7	1:A:2192:U:C5	2.88	0.41
8:H:8:LYS:CD	8:H:9:VAL:N	2.83	0.41
1:A:1251:C:C5	17:Q:5:ARG:NH1	2.88	0.41
5:E:149:ILE:CG2	5:E:188:MET:CB	2.98	0.41
10:J:2:LYS:CB	10:J:2:LYS:NZ	2.82	0.41
10:J:74:TYR:CE2	10:J:103:ILE:CD1	3.02	0.41
1:A:2694:G:C5	1:A:2695:U:C5	3.08	0.41
1:A:1576:U:C2	1:A:1577:C:C5	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:88:GLY:O	12:L:89:VAL:CG1	2.68	0.41
1:A:319:G:O6	1:A:333:G:C6	2.73	0.41
1:A:2391:G:O2'	1:A:2392:A:O5'	2.38	0.41
1:A:223:A:C5	1:A:422:A:N7	2.88	0.41
1:A:2040:G:C4	1:A:2041:U:C6	3.08	0.41
1:A:2867:G:N3	1:A:2867:G:C2'	2.83	0.41
1:A:2454:G:C2	1:A:2499:C:N3	2.88	0.41
1:A:1869:G:N1	1:A:1873:G:C6	2.87	0.41
1:A:1735:A:C4	1:A:1736:U:C5	3.08	0.41
1:A:2261:C:C2	1:A:2280:G:C2	3.08	0.41
1:A:2359:C:O2'	30:3:53:ASP:OD2	2.38	0.41
1:A:780:G:N1	1:A:782:A:C2	2.88	0.41
1:A:470:A:C6	1:A:471:A:C6	3.08	0.41
17:Q:4:LYS:NZ	17:Q:7:VAL:N	2.68	0.41
1:A:1829:A:O2'	3:C:14:HIS:CE1	2.73	0.41
1:A:2752:C:C2'	1:A:2753:A:C8	3.03	0.41
1:A:2691:C:O2'	1:A:2692:G:C5'	2.67	0.41
25:Y:60:LYS:O	25:Y:60:LYS:CG	2.68	0.41
4:D:108:ASP:OD1	4:D:207:VAL:CG2	2.68	0.41
1:A:2221:G:C5	1:A:2222:C:C5	3.08	0.41
4:D:176:ASP:O	4:D:190:LYS:N	2.53	0.41
3:C:66:PHE:CZ	3:C:155:ARG:NH1	2.88	0.41
1:A:37:C:O2'	5:E:45:ALA:CB	2.68	0.41
1:A:2470:G:C6	1:A:2481:G:C2	3.09	0.41
11:K:107:LEU:C	11:K:109:SER:N	2.73	0.41
1:A:1805:A:N3	3:C:49:THR:CG2	2.83	0.41
7:G:60:GLY:O	7:G:62:ALA:N	2.53	0.41
3:C:145:MET:CE	3:C:181:ARG:NH2	2.83	0.41
14:N:70:THR:CG2	14:N:70:THR:O	2.66	0.41
2:B:17:C:N3	2:B:68:C:N3	2.69	0.41
2:B:54:G:N2	6:F:25:MET:CE	2.83	0.41
1:A:87:U:C2'	1:A:88:G:OP1	2.65	0.41
1:A:89:A:C2	1:A:90:U:C2	3.09	0.41
1:A:1077:A:O2'	1:A:1078:U:C5'	2.68	0.41
1:A:447:A:C5	1:A:473:G:C5	3.08	0.41
1:A:2338:C:O2'	1:A:2339:C:P	2.79	0.41
1:A:1003:G:O2'	1:A:1010:A:N1	2.53	0.41
1:A:1275:A:N7	14:N:16:HIS:CB	2.83	0.41
1:A:1275:A:C8	14:N:16:HIS:CD2	3.08	0.41
30:3:41:ARG:NH2	30:3:41:ARG:CB	2.83	0.41
1:A:1206:G:O2'	1:A:1207:C:O5'	2.37	0.41
10:J:99:ARG:CB	10:J:99:ARG:CZ	2.99	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1317:G:N2	1:A:1336:A:N3	2.68	0.41
1:A:1700:A:O2'	1:A:1701:A:C5'	2.69	0.41
1:A:1446:C:C4	1:A:1447:C:C4	3.08	0.41
1:A:75:G:O2'	1:A:76:C:O5'	2.38	0.41
1:A:981:A:N1	1:A:2027:G:O2'	2.54	0.41
1:A:67:U:C2	1:A:68:G:C8	3.08	0.41
1:A:2365:G:O2'	1:A:2366:A:C8	2.73	0.41
18:R:79:ARG:O	18:R:80:ARG:CB	2.69	0.41
13:M:133:LYS:NZ	13:M:133:LYS:CB	2.84	0.41
1:A:50:U:C6	1:A:50:U:OP1	2.74	0.41
2:B:108:A:O2'	2:B:109:A:OP2	2.39	0.41
1:A:1312:U:O2'	1:A:1313:U:P	2.78	0.41
1:A:739:A:OP2	1:A:739:A:C8	2.74	0.41
1:A:302:C:O2'	1:A:303:G:C5'	2.68	0.41
1:A:1071:G:C5	1:A:1089:A:C5	3.09	0.41
1:A:1328:A:C2'	1:A:1330:C:N4	2.83	0.41
1:A:230:G:O2'	1:A:231:A:O5'	2.38	0.41
1:A:2869:G:N7	1:A:2870:C:C5	2.89	0.41
1:A:1739:A:C2'	1:A:1740:G:C8	3.03	0.41
1:A:1566:A:C2	3:C:212:TRP:CG	3.08	0.41
1:A:1838:C:C4	1:A:1899:A:C2	3.08	0.41
1:A:1317:G:C5	1:A:1318:U:C4	3.08	0.41
1:A:142:A:C2'	1:A:143:C:C6	3.04	0.41
1:A:1792:G:C5'	3:C:203:VAL:CG2	2.99	0.41
1:A:2286:G:C4'	1:A:2287:A:O4'	2.68	0.41
27:O:41:HIS:ND1	27:O:41:HIS:C	2.74	0.41
16:P:16:VAL:CG1	16:P:19:PHE:CE2	3.04	0.41
1:A:389:G:O2'	1:A:390:U:C5'	2.68	0.41
1:A:1984:G:C6	1:A:1985:C:C4	3.08	0.41
15:O:80:GLU:O	15:O:84:GLU:N	2.53	0.41
1:A:936:A:C6	1:A:937:C:C4	3.08	0.41
1:A:2503:A:C4'	1:A:2504:U:OP1	2.69	0.41
16:P:24:THR:O	16:P:44:GLY:O	2.39	0.41
1:A:334:C:O2'	1:A:335:C:OP1	2.38	0.41
1:A:2725:A:C5	1:A:2727:A:C5	3.09	0.41
1:A:532:A:C3'	17:Q:27:ARG:NH1	2.84	0.41
1:A:1799:G:C4'	1:A:1800:C:O5'	2.68	0.41
1:A:455:C:N3	1:A:473:G:C5'	2.84	0.41
1:A:827:U:C5	1:A:2430:A:C5	3.08	0.41
1:A:2376:A:N3	15:O:99:TYR:CZ	2.89	0.41
10:J:42:ALA:O	10:J:44:TYR:N	2.54	0.41
1:A:971:G:OP2	1:A:974:G:N2	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1364:G:C4	1:A:1368:G:N2	2.88	0.41
1:A:873:C:N3	1:A:905:A:C2	2.88	0.41
1:A:1055:G:C5	1:A:1056:G:C8	3.09	0.41
1:A:259:G:C6	1:A:260:G:C8	3.08	0.41
1:A:155:A:C6	1:A:172:A:N6	2.89	0.41
1:A:2744:G:C6	1:A:2761:A:C6	3.08	0.41
3:C:120:ASP:O	3:C:121:ALA:O	2.38	0.41
1:A:2516:A:C4	1:A:2569:G:N2	2.88	0.41
1:A:696:G:C2	1:A:767:U:O2	2.73	0.41
3:C:181:ARG:NH1	3:C:265:PHE:CD1	2.88	0.41
4:D:127:PHE:O	4:D:128:ARG:C	2.59	0.41
1:A:183:C:C5	1:A:184:C:C5	3.08	0.41
1:A:825:A:C2	1:A:826:U:C2	3.08	0.41
5:E:40:ARG:CZ	5:E:92:HIS:CD2	3.04	0.41
14:N:5:LYS:CG	14:N:6:SER:N	2.84	0.41
18:R:68:ARG:CD	18:R:92:TRP:CH2	3.04	0.41
7:G:132:LEU:CD1	7:G:132:LEU:N	2.84	0.41
1:A:1388:G:C2	1:A:1389:G:C8	3.08	0.41
1:A:323:C:C4	1:A:333:G:N7	2.88	0.41
1:A:1071:G:O6	1:A:1091:G:N7	2.53	0.41
23:W:56:HIS:O	23:W:58:LEU:N	2.54	0.41
5:E:69:ARG:O	5:E:70:SER:CB	2.68	0.41
1:A:574:A:C4'	1:A:575:A:C5'	2.98	0.41
1:A:2:G:C5	1:A:3:U:C5	3.09	0.41
23:W:18:LYS:CB	23:W:18:LYS:NZ	2.83	0.41
1:A:835:C:C4	1:A:836:G:N7	2.89	0.41
1:A:2466:C:OP1	31:4:4:ARG:CB	2.68	0.41
12:L:98:ALA:O	12:L:99:ASN:C	2.59	0.41
1:A:579:G:C8	1:A:2017:U:C4	3.09	0.41
1:A:1689:A:C4	1:A:1700:A:C6	3.09	0.41
1:A:1759:A:N7	1:A:2696:U:O2'	2.54	0.41
1:A:810:U:O4	12:L:30:THR:CG2	2.68	0.41
1:A:358:U:N3	1:A:359:G:N7	2.68	0.41
1:A:2846:G:OP1	16:P:51:ASN:CB	2.69	0.41
1:A:1813:G:N3	3:C:49:THR:CB	2.83	0.41
22:V:75:GLN:CG	22:V:92:VAL:CG1	2.99	0.41
1:A:1712:U:C4	1:A:1713:A:C6	3.09	0.41
1:A:635:C:C5	12:L:109:LYS:NZ	2.88	0.41
12:L:65:GLY:O	12:L:66:PHE:CB	2.68	0.41
5:E:88:ARG:CB	5:E:89:PRO:CD	2.99	0.41
1:A:2157:G:N2	1:A:2157:G:OP2	2.53	0.41
19:S:62:ASP:N	19:S:62:ASP:OD1	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:67:G:O2'	2:B:68:C:O5'	2.38	0.41
1:A:1340:U:C4	1:A:1603:A:C8	3.08	0.41
1:A:1471:G:O6	1:A:1521:G:C2	2.74	0.41
1:A:2517:C:C5	1:A:2542:A:C5	3.08	0.41
1:A:1668:A:N6	1:A:1993:U:C5	2.89	0.41
23:W:25:PHE:CD1	23:W:25:PHE:C	2.92	0.41
1:A:272:A:C4	1:A:273:G:N7	2.89	0.41
1:A:1733:G:C2'	1:A:1734:G:O5'	2.68	0.41
1:A:831:G:O2'	1:A:832:U:C5'	2.69	0.41
8:H:132:PHE:CZ	8:H:134:VAL:CG1	3.03	0.41
17:Q:57:ARG:C	17:Q:59:LEU:N	2.73	0.41
1:A:1858:A:C2	1:A:1859:U:C2	3.09	0.41
17:Q:89:ILE:O	17:Q:91:ARG:N	2.53	0.41
3:C:95:TYR:C	3:C:97:ASP:N	2.73	0.41
3:C:2:VAL:O	3:C:17:LYS:O	2.37	0.41
21:U:100:GLU:O	21:U:101:THR:C	2.59	0.41
1:A:1358:G:N2	1:A:1374:G:C6	2.88	0.41
1:A:1910:G:C2	1:A:1921:G:C2	3.08	0.41
28:1:16:THR:CG2	28:1:42:VAL:CG2	2.99	0.41
1:A:1877:A:C6	1:A:1878:G:C6	3.09	0.41
8:H:84:ALA:CB	8:H:148:ALA:CA	2.99	0.41
19:S:14:ALA:O	19:S:18:ARG:CB	2.69	0.41
1:A:2373:G:C6	1:A:2374:C:C4	3.08	0.41
19:S:32:ALA:O	19:S:33:LEU:CB	2.67	0.41
17:Q:101:ASP:CB	18:R:2:TYR:OH	2.68	0.41
8:H:33:GLN:O	8:H:34:GLY:C	2.59	0.41
11:K:15:GLY:O	11:K:16:ALA:O	2.38	0.41
26:Z:53:MET:O	26:Z:54:VAL:CG1	2.69	0.41
4:D:79:LEU:CD2	4:D:79:LEU:N	2.84	0.41
1:A:1451:C:C2'	1:A:1451:C:O2	2.69	0.41
1:A:2093:G:C5	1:A:2225:A:N7	2.88	0.41
1:A:1655:A:C4'	4:D:118:PHE:CE1	3.03	0.41
1:A:2841:C:C2	1:A:2877:G:N2	2.89	0.41
1:A:1029:A:N7	1:A:1030:C:C2	2.89	0.41
1:A:2056:G:C2	1:A:2057:G:N7	2.89	0.41
1:A:1343:G:C2'	1:A:1344:U:C5	3.03	0.41
1:A:2654:A:N3	1:A:2656:U:O4	2.54	0.41
1:A:1206:G:C2	1:A:1207:C:C2	3.08	0.41
1:A:1252:G:C2	1:A:1253:A:C2	3.08	0.41
1:A:1904:G:O2'	1:A:1927:A:N6	2.54	0.41
1:A:983:A:C6	1:A:984:A:C2	3.09	0.41
1:A:1016:G:C2	1:A:1147:A:C2	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:23:G:C2	2:B:61:G:C2	3.09	0.41
1:A:776:G:N1	1:A:2072:C:OP1	2.53	0.41
13:M:15:GLY:O	13:M:16:ARG:CB	2.69	0.41
1:A:900:A:C6	1:A:901:C:N3	2.88	0.41
30:3:57:VAL:O	30:3:60:CYS:N	2.54	0.41
20:T:3:ARG:O	20:T:4:GLU:C	2.59	0.41
1:A:1680:U:O2'	1:A:1763:G:N7	2.54	0.41
1:A:580:U:C6	1:A:580:U:C3'	3.04	0.41
2:B:18:G:C2	2:B:67:G:C6	3.08	0.41
2:B:18:G:C6	2:B:19:C:C4	3.09	0.41
2:B:67:G:C4	2:B:68:C:C5	3.09	0.41
2:B:66:A:C2'	2:B:67:G:OP2	2.69	0.41
1:A:333:G:C2	1:A:334:C:C6	3.08	0.41
1:A:2298:A:C2'	1:A:2299:U:C6	3.03	0.41
1:A:89:A:C6	1:A:90:U:C4	3.09	0.41
1:A:1076:C:O2'	1:A:1077:A:N7	2.54	0.41
9:I:92:PRO:O	9:I:93:ASN:CB	2.69	0.41
1:A:1288:G:C5	1:A:1327:A:C6	3.08	0.41
1:A:976:G:C2	1:A:977:G:C8	3.09	0.41
1:A:1815:A:C4'	1:A:1816:C:OP1	2.68	0.41
1:A:1994:C:OP1	4:D:132:ALA:N	2.53	0.41
1:A:224:U:O2'	1:A:225:C:O5'	2.39	0.41
1:A:1826:G:C5	1:A:1827:U:C4	3.09	0.41
1:A:2345:G:C4	1:A:2347:C:C5	3.09	0.41
1:A:2345:G:C4	1:A:2381:A:C2	3.09	0.41
1:A:2347:C:O2'	1:A:2348:U:C6	2.74	0.41
1:A:1608:A:C5	1:A:1611:C:N4	2.89	0.41
1:A:625:G:C6	1:A:626:A:N7	2.89	0.41
1:A:1925:C:C3'	1:A:1925:C:C6	3.04	0.41
1:A:2333:A:N1	1:A:2335:A:N6	2.69	0.41
1:A:1203:U:N3	1:A:1204:A:N6	2.68	0.41
12:L:99:ASN:O	12:L:100:ILE:CB	2.68	0.41
12:L:96:LYS:C	12:L:98:ALA:N	2.74	0.41
1:A:2191:A:C5'	1:A:2192:U:OP2	2.69	0.41
1:A:579:G:C2	1:A:1262:A:C5	3.09	0.41
1:A:1048:A:C5	1:A:1111:A:C2	3.09	0.41
8:H:2:GLN:O	8:H:19:VAL:O	2.38	0.41
1:A:2204:G:N3	1:A:2205:A:C8	2.89	0.41
2:B:44:G:OP1	6:F:91:ARG:NH1	2.54	0.41
1:A:1695:G:C2'	1:A:1696:G:O4'	2.69	0.41
1:A:2323:G:C6	1:A:2324:U:C4	3.09	0.41
1:A:83:A:C6	1:A:101:A:OP1	2.74	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2773:C:C2	1:A:2774:C:C6	3.08	0.41
1:A:1982:U:O2'	1:A:1983:G:C5'	2.68	0.41
1:A:982:C:C5'	1:A:983:A:OP1	2.69	0.41
16:P:87:ARG:NH2	16:P:110:LYS:O	2.54	0.41
1:A:1042:G:C6	1:A:1043:C:C4	3.09	0.41
13:M:11:LYS:NZ	13:M:86:LYS:O	2.54	0.41
1:A:593:U:C2'	1:A:594:U:C6	3.04	0.41
1:A:2700:A:C2	1:A:2708:G:C2	3.09	0.41
30:3:28:LEU:O	30:3:29:ARG:CB	2.68	0.41
10:J:59:ALA:O	10:J:62:VAL:CG1	2.69	0.41
1:A:2154:A:C8	1:A:2155:U:C5	3.09	0.41
3:C:166:ARG:CB	3:C:171:VAL:CG2	2.99	0.41
10:J:55:ILE:O	10:J:55:ILE:CG1	2.68	0.41
13:M:112:LEU:CD1	13:M:112:LEU:O	2.68	0.41
30:3:14:LYS:O	30:3:21:PHE:O	2.38	0.41
7:G:157:LYS:C	7:G:159:LYS:N	2.75	0.41
13:M:69:PRO:O	13:M:70:ASP:CB	2.68	0.41
27:0:27:LEU:CD2	27:0:27:LEU:N	2.84	0.41
1:A:1912:A:C2	1:A:1919:A:N6	2.89	0.41
1:A:379:G:C5	1:A:396:G:O6	2.74	0.41
1:A:1808:A:N6	24:X:27:ARG:NH1	2.69	0.41
1:A:374:A:C6	1:A:401:A:C5	3.09	0.41
1:A:2847:U:OP1	16:P:95:LYS:NZ	2.54	0.41
1:A:2061:G:N3	1:A:2063:C:C5	2.89	0.41
1:A:1868:C:N4	1:A:1869:G:O6	2.54	0.41
23:W:9:THR:CG2	23:W:10:ARG:N	2.83	0.41
1:A:1681:G:O2'	1:A:1762:A:C2'	2.69	0.41
1:A:677:A:C6	1:A:678:C:N4	2.88	0.41
1:A:2287:A:C6	1:A:2289:G:C4	3.09	0.41
1:A:2450:A:N1	1:A:2451:A:C5	2.90	0.41
1:A:2516:A:C2	1:A:2569:G:C2	3.08	0.41
4:D:107:VAL:CG2	4:D:177:VAL:CG1	2.99	0.41
16:P:19:PHE:O	16:P:20:ARG:CB	2.69	0.41
1:A:219:A:C8	1:A:220:G:N7	2.89	0.41
1:A:518:G:C4	1:A:519:U:C5	3.09	0.41
6:F:12:VAL:O	6:F:16:MET:CB	2.69	0.41
1:A:2700:A:C6	1:A:2701:U:O4	2.74	0.41
1:A:1795:C:O2'	1:A:1901:A:OP1	2.39	0.41
8:H:84:ALA:CB	8:H:148:ALA:CB	2.99	0.41
1:A:718:A:C2	1:A:719:C:C2	3.09	0.41
15:O:30:ARG:CG	15:O:31:THR:N	2.84	0.41
20:T:55:VAL:CG2	20:T:56:GLU:N	2.83	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:35:LYS:O	3:C:36:ASN:CB	2.68	0.41
1:A:1967:C:C6	1:A:1967:C:C5'	3.03	0.41
6:F:103:ILE:O	6:F:103:ILE:CG2	2.69	0.41
1:A:483:A:OP2	1:A:484:C:C5	2.74	0.40
1:A:2520:C:C2	1:A:2521:C:C5	3.10	0.40
1:A:426:C:O2'	1:A:427:U:C5'	2.69	0.40
1:A:225:C:C4	1:A:231:A:N6	2.90	0.40
1:A:2024:G:C6	1:A:2040:G:C2	3.10	0.40
1:A:477:A:O2'	1:A:478:A:C5'	2.69	0.40
1:A:2836:U:C2	1:A:2837:A:N7	2.89	0.40
17:Q:63:ARG:O	17:Q:64:ILE:C	2.59	0.40
1:A:363:G:C2	1:A:364:C:C5	3.09	0.40
1:A:46:G:C2	1:A:47:C:C4	3.09	0.40
1:A:1206:G:O2'	1:A:1207:C:C6	2.73	0.40
1:A:1540:G:C2'	1:A:1541:C:O5'	2.69	0.40
1:A:1961:C:C5	1:A:1962:C:C4	3.09	0.40
21:U:7:ASP:O	21:U:8:ASP:CB	2.67	0.40
18:R:49:ILE:O	18:R:49:ILE:CG1	2.68	0.40
3:C:64:VAL:CG1	3:C:66:PHE:CZ	3.04	0.40
1:A:908:C:OP1	13:M:22:GLN:CG	2.69	0.40
1:A:1376:C:C5'	34:A:3247:HOH:O	2.69	0.40
7:G:117:PRO:O	7:G:118:ALA:C	2.60	0.40
6:F:131:VAL:C	6:F:133:GLU:N	2.74	0.40
1:A:2815:C:O2	27:O:40:HIS:CE1	2.74	0.40
1:A:2800:A:C4	1:A:2801:G:C1'	3.04	0.40
1:A:503:A:C5	1:A:506:G:C5	3.09	0.40
1:A:1914:C:O4'	1:A:1914:C:O2	2.40	0.40
1:A:2385:C:O2'	1:A:2386:A:O5'	2.39	0.40
1:A:2868:A:C2	1:A:2869:G:C4	3.09	0.40
16:P:105:LYS:CD	16:P:108:ARG:NH2	2.84	0.40
1:A:329:G:C4'	1:A:330:A:OP1	2.69	0.40
1:A:1048:A:C5	1:A:1049:C:N4	2.89	0.40
1:A:1663:G:C6	1:A:1992:G:N7	2.89	0.40
1:A:142:A:C5	1:A:143:C:C4	3.09	0.40
1:A:2440:C:O2'	1:A:2441:U:C4'	2.68	0.40
1:A:1695:G:N3	1:A:1695:G:C2'	2.84	0.40
1:A:465:G:C4'	29:2:16:HIS:CD2	3.04	0.40
14:N:103:ARG:CG	14:N:104:ALA:N	2.83	0.40
1:A:996:A:C5	1:A:1160:G:C2	3.09	0.40
12:L:29:LYS:O	12:L:30:THR:CB	2.68	0.40
1:A:1910:G:N2	1:A:1921:G:C4	2.88	0.40
1:A:285:G:C6	1:A:356:G:C6	3.09	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1109:C:N4	1:A:1110:G:N1	2.68	0.40
27:O:4:GLN:O	27:O:4:GLN:CG	2.69	0.40
7:G:19:ASN:ND2	7:G:19:ASN:N	2.69	0.40
1:A:319:G:C6	1:A:320:A:C4	3.09	0.40
1:A:300:A:C5	1:A:334:C:C4'	3.04	0.40
1:A:1285:A:C6	1:A:1329:U:C5	3.09	0.40
1:A:197:A:N6	1:A:2430:A:N3	2.69	0.40
1:A:2544:G:C5'	1:A:2645:G:N7	2.85	0.40
10:J:39:LYS:NZ	10:J:43:GLU:OE2	2.55	0.40
1:A:2667:C:O2'	1:A:2668:G:O4'	2.39	0.40
1:A:2235:G:C6	1:A:2236:U:C4	3.10	0.40
1:A:762:U:N3	1:A:1431:A:OP1	2.54	0.40
18:R:9:GLY:C	18:R:10:LYS:CG	2.89	0.40
1:A:1044:C:C4	1:A:1112:G:O6	2.74	0.40
24:X:1:SER:O	24:X:2:ARG:C	2.60	0.40
6:F:121:PHE:O	6:F:122:ASP:CG	2.59	0.40
1:A:30:G:C5	1:A:31:C:C4	3.10	0.40
8:H:1:MET:CE	8:H:23:ALA:CB	2.99	0.40
8:H:143:ILE:O	8:H:144:VAL:CG1	2.69	0.40
30:3:63:TYR:O	30:3:64:ALA:O	2.39	0.40
11:K:13:ASN:ND2	11:K:13:ASN:N	2.69	0.40
1:A:1038:G:C2	1:A:1118:C:N3	2.90	0.40
1:A:1313:U:O2'	1:A:1314:C:C5'	2.69	0.40
1:A:2899:A:N1	1:A:2900:A:C6	2.89	0.40
1:A:2021:C:C2'	1:A:2021:C:O2	2.69	0.40
1:A:2595:G:N1	1:A:2599:G:C6	2.89	0.40
1:A:575:A:O2'	1:A:576:U:C6	2.74	0.40
1:A:2337:G:N3	1:A:2337:G:C2'	2.84	0.40
1:A:2530:A:C8	7:G:156:TYR:OH	2.75	0.40
1:A:1364:G:N2	1:A:1367:A:OP2	2.55	0.40
1:A:2075:U:C4	1:A:2238:G:C5	3.10	0.40
1:A:278:A:N1	1:A:362:A:C8	2.90	0.40
14:N:37:THR:O	14:N:41:ALA:N	2.55	0.40
1:A:2808:G:N2	1:A:2891:U:C6	2.89	0.40
3:C:69:ASN:O	3:C:70:LYS:C	2.59	0.40
1:A:797:G:OP1	5:E:57:LYS:CG	2.70	0.40
16:P:31:VAL:O	16:P:32:VAL:CG1	2.70	0.40
1:A:841:G:C2'	1:A:842:U:C5'	3.00	0.40
5:E:157:LEU:CD1	5:E:157:LEU:C	2.89	0.40
1:A:1787:A:O5'	1:A:1787:A:C8	2.75	0.40
1:A:784:G:C2	3:C:227:VAL:CG2	3.04	0.40
1:A:1072:C:O2'	1:A:1093:G:O6	2.39	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1286:A:C6	1:A:1289:C:C2	3.09	0.40
1:A:1019:U:O2'	1:A:1021:A:C2	2.75	0.40
1:A:876:C:C3'	1:A:877:A:C8	3.05	0.40
1:A:2339:C:O2'	1:A:2340:A:P	2.80	0.40
1:A:1275:A:O3'	1:A:1276:A:C4'	2.70	0.40
1:A:1301:A:C5	1:A:1303:G:C5	3.09	0.40
1:A:2559:C:C6	1:A:2559:C:C3'	3.05	0.40
1:A:1829:A:O2'	3:C:14:HIS:NE2	2.54	0.40
21:U:8:ASP:C	21:U:8:ASP:OD1	2.60	0.40
8:H:26:ALA:O	8:H:27:ARG:CB	2.69	0.40
4:D:175:LEU:O	4:D:176:ASP:CB	2.70	0.40
1:A:772:C:N3	1:A:773:U:C5	2.90	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	269/271 (99%)	177 (66%)	55 (20%)	37 (14%)	0	3
4	D	207/209 (99%)	134 (65%)	39 (19%)	34 (16%)	0	1
5	E	199/201 (99%)	122 (61%)	51 (26%)	26 (13%)	0	3
6	F	176/178 (99%)	98 (56%)	46 (26%)	32 (18%)	0	1
7	G	174/176 (99%)	100 (58%)	43 (25%)	31 (18%)	0	1
8	H	147/149 (99%)	71 (48%)	58 (40%)	18 (12%)	1	4
9	I	139/141 (99%)	78 (56%)	43 (31%)	18 (13%)	0	3
10	J	140/142 (99%)	90 (64%)	30 (21%)	20 (14%)	0	2
11	K	120/122 (98%)	83 (69%)	13 (11%)	24 (20%)	0	1
12	L	141/143 (99%)	81 (57%)	42 (30%)	18 (13%)	0	3
13	M	134/136 (98%)	93 (69%)	24 (18%)	17 (13%)	0	3
14	N	118/120 (98%)	72 (61%)	30 (25%)	16 (14%)	0	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	O	114/116 (98%)	76 (67%)	26 (23%)	12 (10%)	1	7
16	P	112/114 (98%)	65 (58%)	27 (24%)	20 (18%)	0	1
17	Q	115/117 (98%)	78 (68%)	24 (21%)	13 (11%)	1	5
18	R	101/103 (98%)	67 (66%)	25 (25%)	9 (9%)	1	10
19	S	108/110 (98%)	75 (69%)	21 (19%)	12 (11%)	1	6
20	T	91/93 (98%)	47 (52%)	28 (31%)	16 (18%)	0	1
21	U	100/102 (98%)	50 (50%)	23 (23%)	27 (27%)	0	0
22	V	92/94 (98%)	61 (66%)	24 (26%)	7 (8%)	2	15
23	W	77/79 (98%)	34 (44%)	22 (29%)	21 (27%)	0	0
24	X	75/77 (97%)	46 (61%)	24 (32%)	5 (7%)	2	18
25	Y	61/63 (97%)	40 (66%)	16 (26%)	5 (8%)	1	12
26	Z	56/58 (97%)	35 (62%)	15 (27%)	6 (11%)	1	6
27	0	54/56 (96%)	37 (68%)	12 (22%)	5 (9%)	1	9
28	1	48/50 (96%)	33 (69%)	10 (21%)	5 (10%)	1	7
29	2	44/46 (96%)	32 (73%)	6 (14%)	6 (14%)	0	3
30	3	62/64 (97%)	40 (64%)	17 (27%)	5 (8%)	1	13
31	4	36/38 (95%)	24 (67%)	6 (17%)	6 (17%)	0	1
All	All	3310/3368 (98%)	2039 (62%)	800 (24%)	471 (14%)	0	2

All (471) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	9	SER
3	C	28	PRO
3	C	186	ASP
3	C	232	GLY
3	C	239	PHE
3	C	269	ARG
4	D	11	MET
4	D	14	ILE
4	D	74	GLU
4	D	102	ALA
4	D	118	PHE
4	D	119	ALA
4	D	136	ASN
4	D	150	GLN

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Mol	Chain	Res	Type
4	D	162	ALA
4	D	170	VAL
4	D	194	PRO
5	E	41	GLN
5	E	62	GLN
5	E	99	LYS
5	E	116	ASP
5	E	153	LEU
6	F	10	GLU
6	F	12	VAL
6	F	32	LYS
6	F	36	ASN
6	F	42	ALA
6	F	76	PHE
6	F	112	ASP
6	F	114	ARG
6	F	120	SER
6	F	122	ASP
6	F	137	PHE
7	G	49	LEU
7	G	59	ASP
7	G	85	LYS
7	G	86	LEU
7	G	95	ALA
7	G	149	ALA
7	G	165	ASP
8	H	3	VAL
8	H	9	VAL
8	H	10	ALA
8	H	61	VAL
8	H	76	GLU
8	H	98	ASP
8	H	102	ALA
9	I	22	PRO
9	I	23	VAL
9	I	29	GLN
9	I	52	LEU
9	I	58	ILE
9	I	69	VAL
10	J	45	THR
10	J	81	ILE
10	J	87	ALA

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Mol	Chain	Res	Type
10	J	95	ARG
11	K	16	ALA
11	K	49	ARG
11	K	71	ARG
11	K	120	PRO
12	L	4	ASN
12	L	41	ARG
12	L	82	LEU
12	L	85	VAL
12	L	89	VAL
12	L	100	ILE
12	L	101	ILE
12	L	111	ILE
13	M	2	LEU
13	M	72	PRO
13	M	73	ILE
13	M	77	PRO
13	M	135	VAL
14	N	8	ARG
14	N	10	LEU
14	N	104	ALA
15	O	90	VAL
16	P	25	VAL
16	P	50	ARG
16	P	83	ILE
16	P	94	ALA
16	P	112	ARG
19	S	28	LYS
19	S	33	LEU
19	S	40	ASN
19	S	72	THR
20	T	14	PRO
20	T	15	HIS
20	T	20	ALA
20	T	29	THR
20	T	39	THR
20	T	88	LYS
21	U	8	ASP
21	U	65	GLN
21	U	82	VAL
21	U	92	VAL
21	U	96	LYS

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Mol	Chain	Res	Type
21	U	97	SER
22	V	56	PHE
23	W	9	THR
23	W	34	SER
23	W	35	ILE
23	W	46	ALA
23	W	71	LYS
24	X	2	ARG
25	Y	22	LEU
26	Z	4	ILE
26	Z	13	ILE
27	0	54	ILE
29	2	24	THR
30	3	29	ARG
30	3	51	LYS
31	4	20	ASP
3	C	3	VAL
3	C	15	VAL
3	C	37	SER
3	C	69	ASN
3	C	94	LEU
3	C	121	ALA
3	C	140	VAL
3	C	141	HIS
4	D	31	ALA
4	D	77	ARG
4	D	93	GLY
4	D	95	SER
4	D	143	PRO
4	D	164	GLN
4	D	176	ASP
4	D	197	THR
5	E	24	ASN
5	E	55	SER
5	E	80	SER
5	E	127	GLU
5	E	148	ILE
5	E	166	LYS
5	E	187	VAL
6	F	8	LYS
6	F	41	GLU
6	F	43	ILE

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Mol	Chain	Res	Type
6	F	67	THR
6	F	113	PHE
6	F	133	GLU
6	F	138	PRO
6	F	145	VAL
6	F	148	VAL
7	G	80	GLU
7	G	83	THR
7	G	93	TYR
7	G	123	GLU
7	G	125	PRO
7	G	150	TYR
7	G	164	ALA
8	H	66	ASN
8	H	72	ILE
8	H	86	ASP
8	H	143	ILE
8	H	144	VAL
9	I	9	LYS
9	I	19	PRO
9	I	30	GLN
9	I	62	ALA
9	I	140	GLU
10	J	44	TYR
10	J	112	GLY
10	J	113	PRO
11	K	2	ILE
11	K	18	ARG
11	K	35	VAL
11	K	46	ALA
11	K	72	PRO
11	K	88	ASN
11	K	104	THR
11	K	110	GLU
12	L	48	ARG
12	L	66	PHE
12	L	88	GLY
12	L	99	ASN
13	M	14	LYS
13	M	35	ALA
13	M	95	LEU
13	M	111	GLU

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Mol	Chain	Res	Type
14	N	2	ARG
14	N	13	ASN
14	N	30	ARG
14	N	63	ARG
14	N	82	GLU
14	N	91	ALA
14	N	105	GLY
15	O	27	VAL
15	O	43	ASN
15	O	72	ALA
16	P	33	GLU
16	P	51	ASN
16	P	85	VAL
16	P	108	ARG
17	Q	88	GLU
18	R	3	ALA
18	R	40	MET
18	R	98	ILE
19	S	3	THR
20	T	33	LYS
20	T	56	GLU
20	T	68	LYS
21	U	17	ASP
21	U	34	ILE
21	U	52	ASN
21	U	87	GLU
21	U	88	ASP
21	U	95	PHE
22	V	58	SER
23	W	18	LYS
23	W	33	GLY
23	W	36	ILE
23	W	53	GLY
23	W	57	THR
23	W	83	ALA
24	X	41	SER
25	Y	9	LYS
25	Y	37	LEU
25	Y	46	VAL
27	0	32	THR
27	0	55	ALA
28	1	4	ILE

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Mol	Chain	Res	Type
28	1	35	LEU
28	1	36	LYS
29	2	40	ALA
30	3	22	LYS
31	4	4	ARG
3	C	13	ARG
3	C	36	ASN
3	C	38	LYS
3	C	43	ASN
3	C	98	GLY
3	C	122	ALA
3	C	196	ASN
3	C	237	ARG
4	D	43	ASP
4	D	44	GLY
4	D	48	ILE
4	D	112	THR
4	D	122	VAL
4	D	167	ASN
4	D	175	LEU
5	E	45	ALA
5	E	86	ALA
5	E	165	HIS
5	E	188	MET
6	F	37	MET
6	F	116	LEU
7	G	9	VAL
7	G	11	PRO
7	G	39	ALA
7	G	40	VAL
7	G	45	ALA
7	G	136	ASP
7	G	169	ARG
8	H	97	ARG
9	I	51	GLY
9	I	83	ALA
9	I	87	SER
9	I	119	ALA
10	J	5	THR
10	J	6	ALA
10	J	43	GLU
11	K	14	SER

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Mol	Chain	Res	Type
11	K	93	GLN
11	K	103	VAL
12	L	15	ALA
12	L	93	ASN
13	M	16	ARG
13	M	69	PRO
13	M	70	ASP
14	N	15	SER
14	N	71	ARG
14	N	102	PHE
15	O	3	LYS
15	O	42	PRO
16	P	42	PHE
16	P	93	LYS
17	Q	5	ARG
17	Q	32	ARG
17	Q	45	ALA
17	Q	58	GLN
17	Q	86	SER
17	Q	87	VAL
17	Q	91	ARG
18	R	29	THR
18	R	89	HIS
19	S	32	ALA
20	T	19	LYS
21	U	40	LEU
21	U	54	PRO
21	U	89	GLY
21	U	101	THR
22	V	33	GLY
22	V	88	HIS
23	W	25	PHE
23	W	39	GLN
24	X	34	SER
24	X	63	ILE
25	Y	2	LYS
26	Z	30	ARG
26	Z	32	GLY
29	2	43	THR
31	4	3	VAL
31	4	23	ILE
3	C	34	GLU

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Mol	Chain	Res	Type
3	C	45	ASN
3	C	59	GLN
3	C	190	THR
4	D	99	GLU
4	D	107	VAL
4	D	173	GLN
5	E	22	ASP
5	E	63	LYS
5	E	69	ARG
5	E	126	VAL
6	F	94	ARG
7	G	46	ASP
7	G	91	VAL
7	G	117	PRO
7	G	118	ALA
7	G	126	THR
8	H	46	PHE
9	I	35	MET
10	J	25	LEU
10	J	39	LYS
10	J	65	THR
10	J	72	LYS
11	K	3	GLN
11	K	5	GLN
11	K	17	ARG
11	K	89	ASN
11	K	98	ARG
12	L	19	LEU
13	M	106	ASP
13	M	110	GLU
14	N	5	LYS
15	O	37	ALA
16	P	20	ARG
16	P	103	THR
19	S	65	ASP
20	T	11	LEU
20	T	61	LEU
21	U	6	ARG
21	U	64	ILE
21	U	99	SER
23	W	78	PHE
24	X	27	ARG

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Mol	Chain	Res	Type
27	0	53	VAL
28	1	24	LYS
29	2	29	GLN
30	3	3	ILE
31	4	8	LYS
3	C	106	PRO
3	C	195	GLY
3	C	238	ASN
4	D	106	LYS
4	D	172	VAL
5	E	96	VAL
5	E	129	PRO
6	F	68	LYS
6	F	70	ARG
6	F	82	TYR
6	F	87	LYS
6	F	88	VAL
7	G	53	PRO
7	G	152	ARG
8	H	121	VAL
10	J	23	LYS
11	K	6	THR
11	K	108	ARG
13	M	20	LEU
14	N	85	PRO
15	O	65	THR
16	P	63	ILE
16	P	65	ASN
16	P	113	LEU
17	Q	90	ASP
18	R	53	PHE
18	R	65	ALA
19	S	37	THR
19	S	61	ASN
21	U	33	VAL
22	V	84	PRO
23	W	16	GLU
23	W	23	LYS
23	W	26	GLY
23	W	32	ALA
23	W	41	GLY
28	1	50	GLU

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Mol	Chain	Res	Type
30	3	6	VAL
31	4	16	ILE
3	C	64	VAL
3	C	96	LYS
3	C	204	LEU
4	D	109	VAL
4	D	161	MET
5	E	13	THR
5	E	60	TRP
6	F	31	GLU
6	F	83	PRO
6	F	175	PRO
7	G	155	PRO
7	G	166	GLU
8	H	124	THR
9	I	31	GLY
10	J	13	ARG
12	L	62	PRO
12	L	92	LEU
14	N	46	ARG
15	O	8	ILE
15	O	89	ASP
15	O	107	ALA
16	P	109	ILE
17	Q	23	TYR
18	R	8	GLY
18	R	52	PRO
20	T	53	VAL
20	T	74	ILE
21	U	4	ILE
21	U	12	VAL
21	U	67	SER
26	Z	2	LYS
27	0	17	SER
29	2	39	ARG
3	C	123	ILE
4	D	2	ILE
5	E	73	ILE
8	H	99	ILE
9	I	138	VAL
11	K	119	ALA
17	Q	6	GLY

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Mol	Chain	Res	Type
17	Q	39	ILE
19	S	29	VAL
21	U	35	VAL
21	U	49	PRO
3	C	2	VAL
3	C	246	PRO
10	J	96	ARG
16	P	31	VAL
16	P	104	GLY
20	T	16	VAL
21	U	41	VAL
21	U	47	PRO
23	W	30	VAL
10	J	56	VAL
11	K	48	PRO
12	L	114	GLY
13	M	36	VAL
16	P	32	VAL
19	S	103	ILE
26	Z	54	VAL
29	2	38	GLY
3	C	72	GLY
3	C	84	PRO
5	E	174	GLY
6	F	125	GLY
10	J	73	VAL
10	J	83	GLY
13	M	19	GLY
19	S	96	ILE
20	T	47	VAL
22	V	26	PHE
7	G	16	VAL
8	H	126	GLY
15	O	58	ILE
17	Q	7	VAL
22	V	15	GLY
23	W	22	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	216/216 (100%)	189 (88%)	27 (12%)	7	32
4	D	164/164 (100%)	139 (85%)	25 (15%)	4	21
5	E	165/165 (100%)	148 (90%)	17 (10%)	10	42
6	F	149/149 (100%)	127 (85%)	22 (15%)	4	22
7	G	137/137 (100%)	121 (88%)	16 (12%)	8	36
8	H	114/114 (100%)	98 (86%)	16 (14%)	5	25
9	I	109/109 (100%)	103 (94%)	6 (6%)	30	75
10	J	116/116 (100%)	103 (89%)	13 (11%)	9	38
11	K	103/103 (100%)	82 (80%)	21 (20%)	2	8
12	L	102/102 (100%)	89 (87%)	13 (13%)	6	31
13	M	109/109 (100%)	103 (94%)	6 (6%)	30	75
14	N	100/100 (100%)	80 (80%)	20 (20%)	2	9
15	O	86/86 (100%)	78 (91%)	8 (9%)	13	48
16	P	99/99 (100%)	89 (90%)	10 (10%)	11	42
17	Q	89/89 (100%)	75 (84%)	14 (16%)	4	19
18	R	84/84 (100%)	71 (84%)	13 (16%)	4	20
19	S	93/93 (100%)	79 (85%)	14 (15%)	4	21
20	T	80/80 (100%)	74 (92%)	6 (8%)	19	62
21	U	83/83 (100%)	73 (88%)	10 (12%)	7	34
22	V	78/78 (100%)	70 (90%)	8 (10%)	10	42
23	W	59/59 (100%)	44 (75%)	15 (25%)	1	3
24	X	67/67 (100%)	57 (85%)	10 (15%)	4	22
25	Y	55/55 (100%)	52 (94%)	3 (6%)	30	75
26	Z	48/48 (100%)	40 (83%)	8 (17%)	3	16
27	0	47/47 (100%)	40 (85%)	7 (15%)	4	22
28	1	45/45 (100%)	41 (91%)	4 (9%)	14	51
29	2	38/38 (100%)	35 (92%)	3 (8%)	18	59
30	3	51/51 (100%)	40 (78%)	11 (22%)	1	7
31	4	34/34 (100%)	29 (85%)	5 (15%)	4	23
All	All	2720/2720 (100%)	2369 (87%)	351 (13%)	6	30

All (351) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	23	LEU
3	C	35	LYS
3	C	43	ASN
3	C	51	ARG
3	C	57	HIS
3	C	62	ARG
3	C	80	LEU
3	C	90	ILE
3	C	102	TYR
3	C	124	LYS
3	C	136	VAL
3	C	152	GLN
3	C	172	THR
3	C	173	LEU
3	C	183	VAL
3	C	187	CYS
3	C	188	ARG
3	C	190	THR
3	C	191	LEU
3	C	206	LYS
3	C	212	TRP
3	C	220	ARG
3	C	227	VAL
3	C	228	ASP
3	C	235	GLU
3	C	256	THR
3	C	269	ARG
4	D	24	VAL
4	D	28	GLU
4	D	32	ASN
4	D	33	ARG
4	D	35	THR
4	D	38	LYS
4	D	48	ILE
4	D	55	LYS
4	D	56	LYS
4	D	58	ASN
4	D	62	LYS
4	D	79	LEU
4	D	106	LYS
4	D	121	THR
4	D	136	ASN

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Mol	Chain	Res	Type
4	D	138	LEU
4	D	140	HIS
4	D	141	ARG
4	D	148	GLN
4	D	150	GLN
4	D	151	THR
4	D	159	LYS
4	D	168	GLU
4	D	189	VAL
4	D	193	VAL
5	E	53	THR
5	E	57	LYS
5	E	61	ARG
5	E	67	ARG
5	E	69	ARG
5	E	77	ILE
5	E	78	TRP
5	E	108	ILE
5	E	112	LEU
5	E	117	ARG
5	E	126	VAL
5	E	139	LYS
5	E	149	ILE
5	E	157	LEU
5	E	163	ASN
5	E	164	LEU
5	E	166	LYS
6	F	47	LYS
6	F	48	LEU
6	F	49	LEU
6	F	76	PHE
6	F	94	ARG
6	F	97	GLU
6	F	110	ILE
6	F	111	ARG
6	F	113	PHE
6	F	119	LYS
6	F	133	GLU
6	F	134	GLN
6	F	135	ILE
6	F	139	GLU
6	F	142	TYR

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Mol	Chain	Res	Type
6	F	147	ARG
6	F	151	LEU
6	F	160	LYS
6	F	166	ARG
6	F	169	LEU
6	F	172	PHE
6	F	177	ARG
7	G	2	ARG
7	G	18	ILE
7	G	19	ASN
7	G	34	ARG
7	G	35	THR
7	G	40	VAL
7	G	51	PHE
7	G	72	ASN
7	G	84	LYS
7	G	93	TYR
7	G	120	ILE
7	G	132	LEU
7	G	162	ARG
7	G	163	TYR
7	G	166	GLU
7	G	176	LYS
8	H	8	LYS
8	H	22	LYS
8	H	25	TYR
8	H	27	ARG
8	H	28	ASN
8	H	50	ARG
8	H	57	LYS
8	H	66	ASN
8	H	68	ARG
8	H	76	GLU
8	H	86	ASP
8	H	91	PHE
8	H	104	THR
8	H	109	GLU
8	H	132	PHE
8	H	144	VAL
9	I	7	TYR
9	I	16	MET
9	I	30	GLN

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Mol	Chain	Res	Type
9	I	58	ILE
9	I	72	THR
9	I	93	ASN
10	J	25	LEU
10	J	36	LEU
10	J	47	HIS
10	J	52	ASP
10	J	57	LEU
10	J	81	ILE
10	J	92	MET
10	J	95	ARG
10	J	99	ARG
10	J	101	ILE
10	J	106	LYS
10	J	129	GLU
10	J	139	VAL
11	K	3	GLN
11	K	6	THR
11	K	7	MET
11	K	9	ASN
11	K	13	ASN
11	K	21	CYS
11	K	25	LEU
11	K	39	ILE
11	K	41	ILE
11	K	47	ILE
11	K	49	ARG
11	K	54	LYS
11	K	65	THR
11	K	77	ILE
11	K	79	PHE
11	K	100	PHE
11	K	105	ARG
11	K	106	GLU
11	K	107	LEU
11	K	111	LYS
11	K	114	LYS
12	L	3	LEU
12	L	4	ASN
12	L	6	LEU
12	L	47	ARG
12	L	69	ARG

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Mol	Chain	Res	Type
12	L	79	LEU
12	L	82	LEU
12	L	99	ASN
12	L	103	ILE
12	L	111	ILE
12	L	112	LEU
12	L	141	LYS
12	L	143	GLU
13	M	8	LYS
13	M	38	ARG
13	M	78	LEU
13	M	97	GLN
13	M	105	MET
13	M	115	GLU
14	N	14	SER
14	N	18	GLN
14	N	21	PHE
14	N	29	VAL
14	N	33	ILE
14	N	40	LYS
14	N	46	ARG
14	N	53	THR
14	N	62	ASN
14	N	63	ARG
14	N	67	PHE
14	N	69	ARG
14	N	75	ILE
14	N	90	ARG
14	N	94	TYR
14	N	95	THR
14	N	97	ILE
14	N	98	LEU
14	N	107	ASN
14	N	114	GLU
15	O	17	LYS
15	O	31	THR
15	O	63	LYS
15	O	65	THR
15	O	68	LYS
15	O	90	VAL
15	O	115	LEU
15	O	117	PHE

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Mol	Chain	Res	Type
16	P	6	GLN
16	P	7	LEU
16	P	13	LYS
16	P	19	PHE
16	P	28	LYS
16	P	31	VAL
16	P	83	ILE
16	P	86	LYS
16	P	95	LYS
16	P	101	GLU
17	Q	3	VAL
17	Q	10	ARG
17	Q	12	ARG
17	Q	15	LYS
17	Q	18	LYS
17	Q	35	PHE
17	Q	47	ARG
17	Q	50	ARG
17	Q	54	ARG
17	Q	57	ARG
17	Q	63	ARG
17	Q	69	ARG
17	Q	79	ILE
17	Q	93	ILE
18	R	6	GLN
18	R	10	LYS
18	R	13	ARG
18	R	22	LEU
18	R	37	GLU
18	R	39	LEU
18	R	48	LYS
18	R	58	VAL
18	R	80	ARG
18	R	83	TYR
18	R	86	GLN
18	R	90	ARG
18	R	93	PHE
19	S	6	LYS
19	S	9	HIS
19	S	22	ASP
19	S	23	LEU
19	S	31	GLN

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Mol	Chain	Res	Type
19	S	45	VAL
19	S	46	LEU
19	S	66	ILE
19	S	70	LYS
19	S	74	ILE
19	S	76	VAL
19	S	84	ARG
19	S	86	MET
19	S	88	ARG
20	T	9	LYS
20	T	12	ARG
20	T	18	GLU
20	T	48	GLN
20	T	54	GLU
20	T	64	LYS
21	U	13	LEU
21	U	20	LYS
21	U	21	ARG
21	U	40	LEU
21	U	41	VAL
21	U	45	GLN
21	U	71	ILE
21	U	85	ARG
21	U	94	PHE
21	U	95	PHE
22	V	26	PHE
22	V	40	ILE
22	V	51	GLN
22	V	61	LEU
22	V	65	VAL
22	V	69	GLU
22	V	70	ILE
22	V	76	ASP
23	W	18	LYS
23	W	20	LEU
23	W	22	VAL
23	W	25	PHE
23	W	30	VAL
23	W	35	ILE
23	W	37	VAL
23	W	39	GLN
23	W	40	ARG

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Mol	Chain	Res	Type
23	W	58	LEU
23	W	68	PHE
23	W	76	ARG
23	W	77	LYS
23	W	80	SER
23	W	81	ILE
24	X	5	GLN
24	X	6	VAL
24	X	26	ARG
24	X	31	ASN
24	X	46	VAL
24	X	47	THR
24	X	53	LYS
24	X	63	ILE
24	X	73	ARG
24	X	77	TYR
25	Y	1	MET
25	Y	4	LYS
25	Y	28	LEU
26	Z	15	ARG
26	Z	16	LEU
26	Z	23	LEU
26	Z	24	LEU
26	Z	28	LEU
26	Z	29	ARG
26	Z	30	ARG
26	Z	53	MET
27	0	5	ASN
27	0	9	ARG
27	0	22	THR
27	0	27	LEU
27	0	41	HIS
27	0	42	ILE
27	0	49	ARG
28	1	10	LEU
28	1	20	TYR
28	1	35	LEU
28	1	44	GLN
29	2	26	ASN
29	2	33	ARG
29	2	45	SER
30	3	12	ARG

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Mol	Chain	Res	Type
30	3	14	LYS
30	3	27	ASN
30	3	28	LEU
30	3	29	ARG
30	3	41	ARG
30	3	46	LYS
30	3	48	MET
30	3	49	VAL
30	3	51	LYS
30	3	61	LEU
31	4	2	LYS
31	4	9	LYS
31	4	13	ASN
31	4	15	LYS
31	4	17	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2839/2903 (97%)	1062 (37%)	506 (17%)
2	B	116/117 (99%)	38 (32%)	15 (12%)
All	All	2955/3020 (97%)	1100 (37%)	521 (17%)

All (1100) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	13	A
1	A	14	A
1	A	15	G
1	A	16	C
1	A	28	A
1	A	29	U
1	A	34	U
1	A	35	G
1	A	36	G
1	A	37	C
1	A	39	G
1	A	46	G

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Mol	Chain	Res	Type
1	A	49	A
1	A	50	U
1	A	52	A
1	A	53	A
1	A	55	G
1	A	61	C
1	A	62	U
1	A	64	A
1	A	70	G
1	A	71	A
1	A	73	A
1	A	74	A
1	A	75	G
1	A	76	C
1	A	77	G
1	A	78	U
1	A	79	C
1	A	83	A
1	A	84	A
1	A	85	G
1	A	86	G
1	A	87	U
1	A	88	G
1	A	91	A
1	A	92	U
1	A	93	G
1	A	96	C
1	A	100	U
1	A	101	A
1	A	102	U
1	A	103	A
1	A	104	A
1	A	105	C
1	A	118	A
1	A	119	A
1	A	120	U
1	A	121	G
1	A	122	G
1	A	123	G
1	A	126	A
1	A	128	C
1	A	129	C

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Mol	Chain	Res	Type
1	A	130	C
1	A	134	G
1	A	139	U
1	A	140	C
1	A	141	G
1	A	142	A
1	A	143	C
1	A	155	A
1	A	156	A
1	A	160	A
1	A	162	U
1	A	163	C
1	A	164	C
1	A	165	A
1	A	166	U
1	A	180	G
1	A	181	A
1	A	196	A
1	A	197	A
1	A	199	A
1	A	204	A
1	A	205	G
1	A	206	U
1	A	207	A
1	A	208	C
1	A	216	A
1	A	217	A
1	A	218	A
1	A	222	A
1	A	223	A
1	A	224	U
1	A	225	C
1	A	227	A
1	A	228	C
1	A	229	C
1	A	230	G
1	A	231	A
1	A	232	G
1	A	233	A
1	A	234	U
1	A	235	U
1	A	241	A

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Mol	Chain	Res	Type
1	A	242	G
1	A	244	A
1	A	245	G
1	A	248	G
1	A	249	C
1	A	250	G
1	A	251	A
1	A	255	A
1	A	258	G
1	A	264	C
1	A	265	A
1	A	266	G
1	A	271	G
1	A	272	A
1	A	273	G
1	A	274	C
1	A	277	G
1	A	280	U
1	A	281	C
1	A	284	U
1	A	285	G
1	A	294	A
1	A	295	G
1	A	299	A
1	A	301	G
1	A	302	C
1	A	303	G
1	A	304	U
1	A	311	A
1	A	312	G
1	A	314	C
1	A	315	G
1	A	322	A
1	A	323	C
1	A	324	A
1	A	325	G
1	A	326	G
1	A	329	G
1	A	330	A
1	A	334	C
1	A	335	C
1	A	336	C

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Mol	Chain	Res	Type
1	A	337	C
1	A	343	C
1	A	351	C
1	A	353	C
1	A	354	A
1	A	362	A
1	A	367	G
1	A	371	A
1	A	372	G
1	A	373	U
1	A	374	A
1	A	375	G
1	A	383	C
1	A	386	G
1	A	387	U
1	A	388	G
1	A	390	U
1	A	392	U
1	A	396	G
1	A	397	U
1	A	398	C
1	A	399	U
1	A	404	A
1	A	405	U
1	A	406	G
1	A	407	G
1	A	408	G
1	A	411	G
1	A	412	A
1	A	413	C
1	A	414	C
1	A	424	G
1	A	425	G
1	A	430	A
1	A	436	C
1	A	442	G
1	A	443	A
1	A	444	C
1	A	445	C
1	A	446	G
1	A	447	A
1	A	449	A

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Mol	Chain	Res	Type
1	A	450	G
1	A	451	U
1	A	455	C
1	A	457	A
1	A	459	U
1	A	460	A
1	A	461	C
1	A	462	C
1	A	475	C
1	A	476	G
1	A	477	A
1	A	478	A
1	A	479	A
1	A	480	A
1	A	481	G
1	A	482	A
1	A	485	C
1	A	490	C
1	A	491	G
1	A	492	A
1	A	498	G
1	A	502	A
1	A	504	A
1	A	505	A
1	A	507	A
1	A	510	C
1	A	511	U
1	A	512	G
1	A	527	C
1	A	528	A
1	A	529	A
1	A	530	G
1	A	531	C
1	A	532	A
1	A	533	G
1	A	534	U
1	A	544	C
1	A	545	U
1	A	546	U
1	A	547	A
1	A	548	G
1	A	549	G

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Mol	Chain	Res	Type
1	A	562	U
1	A	563	A
1	A	571	U
1	A	572	A
1	A	573	U
1	A	574	A
1	A	575	A
1	A	576	U
1	A	577	G
1	A	586	A
1	A	587	C
1	A	588	U
1	A	589	U
1	A	590	A
1	A	603	A
1	A	604	G
1	A	605	G
1	A	606	U
1	A	607	U
1	A	613	A
1	A	614	A
1	A	616	A
1	A	617	G
1	A	618	G
1	A	621	A
1	A	622	G
1	A	623	C
1	A	627	A
1	A	628	G
1	A	629	G
1	A	637	A
1	A	638	G
1	A	639	U
1	A	645	C
1	A	646	U
1	A	654	A
1	A	655	A
1	A	656	G
1	A	657	U
1	A	662	G
1	A	669	G
1	A	671	C

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Mol	Chain	Res	Type
1	A	672	C
1	A	673	C
1	A	686	U
1	A	687	C
1	A	688	U
1	A	699	A
1	A	702	U
1	A	705	A
1	A	717	C
1	A	726	G
1	A	727	A
1	A	728	G
1	A	729	G
1	A	730	A
1	A	731	C
1	A	739	A
1	A	740	C
1	A	741	U
1	A	745	G
1	A	746	U
1	A	747	U
1	A	748	G
1	A	751	A
1	A	753	A
1	A	756	A
1	A	757	G
1	A	763	G
1	A	764	A
1	A	765	C
1	A	766	U
1	A	775	G
1	A	776	G
1	A	777	G
1	A	778	G
1	A	782	A
1	A	783	A
1	A	784	G
1	A	785	G
1	A	789	A
1	A	790	U
1	A	791	C
1	A	792	A

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Mol	Chain	Res	Type
1	A	794	A
1	A	798	G
1	A	800	A
1	A	801	G
1	A	802	A
1	A	803	U
1	A	805	G
1	A	806	C
1	A	812	C
1	A	819	A
1	A	827	U
1	A	828	U
1	A	830	G
1	A	831	G
1	A	832	U
1	A	846	U
1	A	847	U
1	A	858	G
1	A	859	G
1	A	860	U
1	A	861	A
1	A	862	G
1	A	866	A
1	A	867	C
1	A	868	U
1	A	869	G
1	A	875	G
1	A	877	A
1	A	878	A
1	A	902	C
1	A	910	A
1	A	912	C
1	A	914	G
1	A	915	C
1	A	916	G
1	A	917	A
1	A	919	U
1	A	922	C
1	A	932	U
1	A	933	A
1	A	934	U
1	A	941	A

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Mol	Chain	Res	Type
1	A	944	C
1	A	946	C
1	A	947	A
1	A	948	C
1	A	953	G
1	A	958	U
1	A	959	A
1	A	960	A
1	A	961	C
1	A	962	G
1	A	963	U
1	A	964	C
1	A	965	C
1	A	973	A
1	A	974	G
1	A	976	G
1	A	977	G
1	A	983	A
1	A	985	C
1	A	990	A
1	A	991	C
1	A	992	C
1	A	996	A
1	A	1005	C
1	A	1008	A
1	A	1009	A
1	A	1010	A
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1014	A
1	A	1020	A
1	A	1021	A
1	A	1022	G
1	A	1023	U
1	A	1024	G
1	A	1025	G
1	A	1026	G
1	A	1027	A
1	A	1028	A
1	A	1033	U
1	A	1034	G

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Mol	Chain	Res	Type
1	A	1035	U
1	A	1039	A
1	A	1040	A
1	A	1044	C
1	A	1045	C
1	A	1046	A
1	A	1047	G
1	A	1048	A
1	A	1050	A
1	A	1051	G
1	A	1055	G
1	A	1056	G
1	A	1057	A
1	A	1060	U
1	A	1061	U
1	A	1063	G
1	A	1064	C
1	A	1065	U
1	A	1066	U
1	A	1068	G
1	A	1070	A
1	A	1071	G
1	A	1072	C
1	A	1073	A
1	A	1074	G
1	A	1075	C
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1080	A
1	A	1081	U
1	A	1083	U
1	A	1088	A
1	A	1089	A
1	A	1091	G
1	A	1097	U
1	A	1100	C
1	A	1103	A
1	A	1111	A
1	A	1112	G
1	A	1113	U

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Mol	Chain	Res	Type
1	A	1114	C
1	A	1115	G
1	A	1126	A
1	A	1127	A
1	A	1128	G
1	A	1129	A
1	A	1130	U
1	A	1132	U
1	A	1133	A
1	A	1134	A
1	A	1135	C
1	A	1136	G
1	A	1137	G
1	A	1139	G
1	A	1142	A
1	A	1144	A
1	A	1145	C
1	A	1155	A
1	A	1156	A
1	A	1157	G
1	A	1158	C
1	A	1169	A
1	A	1172	C
1	A	1174	U
1	A	1176	U
1	A	1204	A
1	A	1205	A
1	A	1206	G
1	A	1207	C
1	A	1208	C
1	A	1211	C
1	A	1213	A
1	A	1227	G
1	A	1231	U
1	A	1237	A
1	A	1240	U
1	A	1241	A
1	A	1242	U
1	A	1246	A
1	A	1247	A
1	A	1248	G
1	A	1249	U

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Mol	Chain	Res	Type
1	A	1250	G
1	A	1253	A
1	A	1255	U
1	A	1256	G
1	A	1257	C
1	A	1262	A
1	A	1265	A
1	A	1266	G
1	A	1267	U
1	A	1268	A
1	A	1269	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1274	A
1	A	1275	A
1	A	1276	A
1	A	1277	G
1	A	1286	A
1	A	1287	A
1	A	1288	G
1	A	1290	C
1	A	1291	C
1	A	1292	G
1	A	1300	G
1	A	1301	A
1	A	1304	A
1	A	1305	C
1	A	1311	G
1	A	1313	U
1	A	1314	C
1	A	1315	C
1	A	1321	A
1	A	1324	G
1	A	1325	U
1	A	1326	U
1	A	1327	A
1	A	1328	A
1	A	1329	U
1	A	1330	C
1	A	1331	G
1	A	1332	G

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Mol	Chain	Res	Type
1	A	1333	G
1	A	1334	G
1	A	1336	A
1	A	1337	G
1	A	1340	U
1	A	1341	G
1	A	1342	A
1	A	1343	G
1	A	1345	C
1	A	1346	G
1	A	1347	A
1	A	1352	U
1	A	1365	A
1	A	1374	G
1	A	1379	U
1	A	1382	G
1	A	1383	A
1	A	1385	A
1	A	1386	C
1	A	1387	A
1	A	1388	G
1	A	1389	G
1	A	1397	U
1	A	1398	C
1	A	1399	C
1	A	1400	U
1	A	1401	G
1	A	1403	A
1	A	1404	C
1	A	1416	G
1	A	1417	C
1	A	1418	G
1	A	1419	A
1	A	1421	G
1	A	1426	G
1	A	1427	A
1	A	1428	C
1	A	1430	G
1	A	1431	A
1	A	1434	A
1	A	1440	U
1	A	1452	G

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Mol	Chain	Res	Type
1	A	1453	A
1	A	1455	G
1	A	1456	G
1	A	1457	U
1	A	1458	U
1	A	1459	G
1	A	1460	U
1	A	1461	C
1	A	1470	A
1	A	1476	U
1	A	1478	G
1	A	1482	G
1	A	1483	G
1	A	1490	A
1	A	1491	G
1	A	1492	G
1	A	1493	C
1	A	1494	A
1	A	1497	U
1	A	1498	C
1	A	1499	C
1	A	1503	A
1	A	1504	A
1	A	1507	C
1	A	1508	A
1	A	1509	A
1	A	1510	G
1	A	1511	G
1	A	1512	C
1	A	1520	U
1	A	1522	A
1	A	1524	G
1	A	1531	C
1	A	1532	A
1	A	1534	U
1	A	1535	A
1	A	1536	C
1	A	1537	G
1	A	1538	G
1	A	1539	U
1	A	1540	G
1	A	1541	C

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Mol	Chain	Res	Type
1	A	1554	U
1	A	1555	G
1	A	1556	C
1	A	1557	C
1	A	1558	C
1	A	1559	U
1	A	1560	G
1	A	1561	C
1	A	1565	C
1	A	1566	A
1	A	1567	G
1	A	1568	G
1	A	1569	A
1	A	1570	A
1	A	1583	A
1	A	1584	U
1	A	1585	C
1	A	1586	A
1	A	1600	C
1	A	1603	A
1	A	1604	C
1	A	1606	C
1	A	1607	C
1	A	1608	A
1	A	1610	A
1	A	1612	C
1	A	1613	G
1	A	1615	C
1	A	1616	A
1	A	1618	A
1	A	1626	A
1	A	1627	G
1	A	1635	A
1	A	1636	U
1	A	1637	A
1	A	1640	A
1	A	1646	C
1	A	1647	U
1	A	1648	U
1	A	1649	G
1	A	1650	A
1	A	1654	A

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Mol	Chain	Res	Type
1	A	1655	A
1	A	1663	G
1	A	1668	A
1	A	1669	A
1	A	1670	C
1	A	1674	G
1	A	1675	C
1	A	1676	A
1	A	1682	G
1	A	1683	U
1	A	1684	G
1	A	1694	C
1	A	1695	G
1	A	1696	G
1	A	1697	G
1	A	1698	A
1	A	1699	G
1	A	1700	A
1	A	1701	A
1	A	1707	G
1	A	1713	A
1	A	1714	U
1	A	1715	G
1	A	1717	A
1	A	1718	G
1	A	1722	A
1	A	1723	G
1	A	1728	C
1	A	1729	U
1	A	1730	C
1	A	1731	G
1	A	1732	C
1	A	1733	G
1	A	1734	G
1	A	1735	A
1	A	1736	U
1	A	1739	A
1	A	1740	G
1	A	1756	G
1	A	1758	U
1	A	1759	A
1	A	1760	C

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Mol	Chain	Res	Type
1	A	1764	C
1	A	1773	A
1	A	1776	G
1	A	1777	U
1	A	1780	A
1	A	1781	U
1	A	1782	U
1	A	1783	A
1	A	1784	A
1	A	1785	A
1	A	1786	A
1	A	1787	A
1	A	1788	C
1	A	1800	C
1	A	1802	A
1	A	1803	A
1	A	1804	C
1	A	1808	A
1	A	1809	A
1	A	1810	A
1	A	1811	G
1	A	1812	U
1	A	1815	A
1	A	1816	C
1	A	1817	G
1	A	1818	U
1	A	1820	U
1	A	1821	A
1	A	1822	C
1	A	1823	G
1	A	1824	G
1	A	1828	G
1	A	1829	A
1	A	1838	C
1	A	1839	G
1	A	1840	G
1	A	1847	A
1	A	1848	A
1	A	1857	G
1	A	1865	U
1	A	1870	C
1	A	1873	G

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Mol	Chain	Res	Type
1	A	1875	G
1	A	1877	A
1	A	1884	G
1	A	1889	A
1	A	1900	A
1	A	1901	A
1	A	1902	C
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1914	C
1	A	1915	U
1	A	1916	A
1	A	1919	A
1	A	1920	C
1	A	1927	A
1	A	1929	G
1	A	1930	G
1	A	1931	U
1	A	1932	A
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1941	C
1	A	1942	C
1	A	1943	U
1	A	1944	U
1	A	1945	G
1	A	1946	U
1	A	1955	U
1	A	1956	U
1	A	1963	U
1	A	1964	G
1	A	1966	A
1	A	1967	C
1	A	1968	G
1	A	1970	A
1	A	1971	U
1	A	1972	G
1	A	1973	G
1	A	1975	G
1	A	1981	A

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Mol	Chain	Res	Type
1	A	1982	U
1	A	1983	G
1	A	1991	U
1	A	1993	U
1	A	1994	C
1	A	1996	C
1	A	1997	C
1	A	1998	A
1	A	2015	A
1	A	2018	G
1	A	2020	A
1	A	2021	C
1	A	2022	U
1	A	2023	C
1	A	2024	G
1	A	2025	C
1	A	2030	A
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2034	U
1	A	2035	G
1	A	2036	C
1	A	2037	A
1	A	2043	C
1	A	2052	A
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2063	C
1	A	2064	C
1	A	2065	C
1	A	2068	U
1	A	2069	G
1	A	2079	U
1	A	2092	U
1	A	2093	G
1	A	2094	A
1	A	2095	A
1	A	2104	C

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Mol	Chain	Res	Type
1	A	2108	A
1	A	2109	U
1	A	2110	G
1	A	2134	A
1	A	2135	A
1	A	2136	G
1	A	2137	U
1	A	2138	G
1	A	2139	U
1	A	2143	C
1	A	2144	G
1	A	2145	C
1	A	2147	A
1	A	2148	G
1	A	2150	C
1	A	2151	U
1	A	2152	G
1	A	2153	C
1	A	2154	A
1	A	2156	G
1	A	2157	G
1	A	2180	U
1	A	2181	U
1	A	2183	A
1	A	2187	U
1	A	2191	A
1	A	2192	U
1	A	2198	A
1	A	2199	A
1	A	2200	C
1	A	2204	G
1	A	2210	U
1	A	2211	A
1	A	2212	A
1	A	2213	U
1	A	2214	C
1	A	2215	C
1	A	2216	G
1	A	2217	G
1	A	2225	A
1	A	2226	C
1	A	2227	A

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Mol	Chain	Res	Type
1	A	2238	G
1	A	2239	G
1	A	2240	U
1	A	2249	U
1	A	2250	G
1	A	2259	U
1	A	2260	C
1	A	2266	A
1	A	2267	A
1	A	2268	A
1	A	2275	C
1	A	2276	G
1	A	2277	G
1	A	2279	G
1	A	2283	C
1	A	2284	A
1	A	2286	G
1	A	2287	A
1	A	2289	G
1	A	2290	G
1	A	2296	U
1	A	2297	A
1	A	2298	A
1	A	2299	U
1	A	2300	C
1	A	2305	U
1	A	2306	C
1	A	2308	G
1	A	2309	A
1	A	2310	C
1	A	2311	A
1	A	2312	U
1	A	2313	C
1	A	2314	A
1	A	2315	G
1	A	2320	U
1	A	2325	G
1	A	2332	C
1	A	2334	U
1	A	2335	A
1	A	2337	G
1	A	2338	C

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Mol	Chain	Res	Type
1	A	2339	C
1	A	2340	A
1	A	2345	G
1	A	2347	C
1	A	2348	U
1	A	2349	G
1	A	2350	C
1	A	2357	G
1	A	2358	A
1	A	2361	G
1	A	2382	G
1	A	2383	G
1	A	2384	U
1	A	2385	C
1	A	2386	A
1	A	2387	U
1	A	2390	U
1	A	2392	A
1	A	2393	U
1	A	2394	C
1	A	2402	U
1	A	2403	C
1	A	2404	U
1	A	2405	G
1	A	2406	A
1	A	2407	A
1	A	2409	G
1	A	2410	G
1	A	2423	U
1	A	2424	C
1	A	2426	A
1	A	2427	C
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2431	U
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	U
1	A	2447	G
1	A	2448	A

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Mol	Chain	Res	Type
1	A	2450	A
1	A	2451	A
1	A	2457	U
1	A	2459	A
1	A	2460	U
1	A	2475	C
1	A	2476	A
1	A	2490	G
1	A	2491	U
1	A	2493	U
1	A	2494	G
1	A	2498	C
1	A	2499	C
1	A	2502	G
1	A	2503	A
1	A	2504	U
1	A	2505	G
1	A	2506	U
1	A	2513	A
1	A	2518	A
1	A	2520	C
1	A	2521	C
1	A	2529	G
1	A	2534	A
1	A	2543	G
1	A	2544	G
1	A	2547	A
1	A	2554	U
1	A	2567	G
1	A	2573	C
1	A	2574	G
1	A	2576	G
1	A	2578	G
1	A	2581	G
1	A	2582	G
1	A	2583	G
1	A	2585	U
1	A	2602	A
1	A	2603	G
1	A	2604	U
1	A	2609	U
1	A	2610	C

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Mol	Chain	Res	Type
1	A	2611	C
1	A	2612	C
1	A	2613	U
1	A	2614	A
1	A	2615	U
1	A	2616	C
1	A	2617	U
1	A	2629	U
1	A	2630	G
1	A	2632	A
1	A	2646	C
1	A	2647	U
1	A	2654	A
1	A	2655	G
1	A	2656	U
1	A	2657	A
1	A	2658	C
1	A	2667	C
1	A	2668	G
1	A	2669	G
1	A	2682	A
1	A	2683	C
1	A	2690	U
1	A	2691	C
1	A	2692	G
1	A	2713	U
1	A	2714	G
1	A	2718	G
1	A	2726	A
1	A	2727	A
1	A	2728	U
1	A	2729	G
1	A	2730	C
1	A	2732	G
1	A	2736	A
1	A	2748	A
1	A	2750	A
1	A	2751	G
1	A	2752	C
1	A	2753	A
1	A	2756	U
1	A	2757	A

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Mol	Chain	Res	Type
1	A	2758	A
1	A	2765	A
1	A	2777	G
1	A	2778	A
1	A	2791	G
1	A	2792	A
1	A	2799	A
1	A	2800	A
1	A	2801	G
1	A	2808	G
1	A	2820	A
1	A	2822	G
1	A	2823	A
1	A	2833	U
1	A	2834	G
1	A	2835	A
1	A	2836	U
1	A	2837	A
1	A	2838	G
1	A	2848	G
1	A	2850	A
1	A	2851	A
1	A	2852	G
1	A	2861	U
1	A	2866	U
1	A	2867	G
1	A	2868	A
1	A	2869	G
1	A	2872	A
1	A	2873	A
1	A	2874	C
1	A	2875	C
1	A	2876	G
1	A	2877	G
1	A	2879	A
1	A	2880	C
1	A	2881	U
1	A	2883	A
1	A	2894	G
1	A	2895	G
1	A	2896	C
1	A	2902	C

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Mol	Chain	Res	Type
2	B	9	G
2	B	12	C
2	B	13	G
2	B	15	A
2	B	16	G
2	B	24	G
2	B	25	U
2	B	30	C
2	B	35	C
2	B	36	C
2	B	41	G
2	B	42	C
2	B	43	C
2	B	44	G
2	B	45	A
2	B	46	A
2	B	48	U
2	B	57	A
2	B	58	A
2	B	59	A
2	B	63	C
2	B	64	G
2	B	65	U
2	B	66	A
2	B	67	G
2	B	68	C
2	B	69	G
2	B	70	C
2	B	87	U
2	B	88	C
2	B	89	U
2	B	90	C
2	B	91	C
2	B	99	A
2	B	109	A
2	B	110	C
2	B	111	U
2	B	112	G

All (521) RNA pucker outliers are listed below:

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Mol	Chain	Res	Type
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Mol	Chain	Res	Type
1	A	13	A
1	A	14	A
1	A	15	G
1	A	28	A
1	A	33	C
1	A	35	G
1	A	36	G
1	A	49	A
1	A	52	A
1	A	60	G
1	A	61	C
1	A	70	G
1	A	73	A
1	A	77	G
1	A	84	A
1	A	86	G
1	A	87	U
1	A	91	A
1	A	92	U
1	A	103	A
1	A	104	A
1	A	119	A
1	A	121	G
1	A	122	G
1	A	125	A
1	A	128	C
1	A	129	C
1	A	141	G
1	A	143	C
1	A	163	C
1	A	164	C
1	A	196	A
1	A	197	A
1	A	204	A
1	A	206	U
1	A	207	A
1	A	215	G
1	A	217	A
1	A	222	A
1	A	223	A
1	A	224	U

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Mol	Chain	Res	Type
1	A	227	A
1	A	229	C
1	A	230	G
1	A	231	A
1	A	232	G
1	A	234	U
1	A	235	U
1	A	241	A
1	A	243	U
1	A	244	A
1	A	249	C
1	A	250	G
1	A	271	G
1	A	273	G
1	A	301	G
1	A	303	G
1	A	304	U
1	A	311	A
1	A	321	U
1	A	324	A
1	A	325	G
1	A	329	G
1	A	335	C
1	A	336	C
1	A	370	G
1	A	374	A
1	A	386	G
1	A	388	G
1	A	389	G
1	A	391	A
1	A	395	U
1	A	396	G
1	A	397	U
1	A	404	A
1	A	406	G
1	A	407	G
1	A	411	G
1	A	412	A
1	A	413	C
1	A	424	G
1	A	442	G
1	A	443	A

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Mol	Chain	Res	Type
1	A	445	C
1	A	446	G
1	A	449	A
1	A	454	A
1	A	459	U
1	A	460	A
1	A	474	G
1	A	476	G
1	A	477	A
1	A	479	A
1	A	480	A
1	A	484	C
1	A	489	G
1	A	491	G
1	A	492	A
1	A	503	A
1	A	505	A
1	A	510	C
1	A	527	C
1	A	530	G
1	A	533	G
1	A	571	U
1	A	572	A
1	A	573	U
1	A	575	A
1	A	576	U
1	A	588	U
1	A	603	A
1	A	604	G
1	A	605	G
1	A	606	U
1	A	615	U
1	A	617	G
1	A	618	G
1	A	620	G
1	A	621	A
1	A	622	G
1	A	627	A
1	A	628	G
1	A	629	G
1	A	637	A
1	A	638	G

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Mol	Chain	Res	Type
1	A	655	A
1	A	656	G
1	A	670	A
1	A	672	C
1	A	673	C
1	A	685	A
1	A	687	C
1	A	704	G
1	A	705	A
1	A	726	G
1	A	727	A
1	A	730	A
1	A	739	A
1	A	740	C
1	A	762	U
1	A	763	G
1	A	765	C
1	A	777	G
1	A	782	A
1	A	783	A
1	A	794	A
1	A	800	A
1	A	802	A
1	A	811	U
1	A	829	A
1	A	831	G
1	A	859	G
1	A	860	U
1	A	861	A
1	A	865	C
1	A	867	C
1	A	868	U
1	A	876	C
1	A	913	U
1	A	915	C
1	A	916	G
1	A	931	U
1	A	933	A
1	A	945	A
1	A	946	C
1	A	947	A
1	A	957	C

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Mol	Chain	Res	Type
1	A	958	U
1	A	959	A
1	A	961	C
1	A	964	C
1	A	973	A
1	A	976	G
1	A	989	G
1	A	990	A
1	A	991	C
1	A	992	C
1	A	1008	A
1	A	1009	A
1	A	1010	A
1	A	1011	G
1	A	1013	C
1	A	1020	A
1	A	1021	A
1	A	1023	U
1	A	1024	G
1	A	1025	G
1	A	1026	G
1	A	1027	A
1	A	1033	U
1	A	1034	G
1	A	1047	G
1	A	1050	A
1	A	1060	U
1	A	1063	G
1	A	1064	C
1	A	1069	A
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1080	A
1	A	1110	G
1	A	1114	C
1	A	1126	A
1	A	1129	A
1	A	1135	C
1	A	1136	G
1	A	1141	U
1	A	1144	A

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Mol	Chain	Res	Type
1	A	1156	A
1	A	1157	G
1	A	1204	A
1	A	1206	G
1	A	1207	C
1	A	1210	G
1	A	1213	A
1	A	1247	A
1	A	1249	U
1	A	1256	G
1	A	1265	A
1	A	1267	U
1	A	1268	A
1	A	1272	A
1	A	1274	A
1	A	1276	A
1	A	1289	C
1	A	1291	C
1	A	1300	G
1	A	1303	G
1	A	1304	A
1	A	1312	U
1	A	1313	U
1	A	1314	C
1	A	1325	U
1	A	1327	A
1	A	1329	U
1	A	1333	G
1	A	1340	U
1	A	1346	G
1	A	1347	A
1	A	1385	A
1	A	1386	C
1	A	1388	G
1	A	1389	G
1	A	1397	U
1	A	1398	C
1	A	1399	C
1	A	1400	U
1	A	1401	G
1	A	1415	U
1	A	1417	C

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Mol	Chain	Res	Type
1	A	1418	G
1	A	1427	A
1	A	1430	G
1	A	1451	C
1	A	1455	G
1	A	1456	G
1	A	1475	G
1	A	1482	G
1	A	1489	C
1	A	1491	G
1	A	1492	G
1	A	1497	U
1	A	1498	C
1	A	1508	A
1	A	1510	G
1	A	1536	C
1	A	1539	U
1	A	1554	U
1	A	1555	G
1	A	1556	C
1	A	1557	C
1	A	1558	C
1	A	1560	G
1	A	1565	C
1	A	1568	G
1	A	1569	A
1	A	1603	A
1	A	1606	C
1	A	1612	C
1	A	1613	G
1	A	1615	C
1	A	1619	G
1	A	1626	A
1	A	1634	A
1	A	1635	A
1	A	1636	U
1	A	1647	U
1	A	1648	U
1	A	1649	G
1	A	1653	G
1	A	1654	A
1	A	1655	A

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Mol	Chain	Res	Type
1	A	1667	G
1	A	1669	A
1	A	1674	G
1	A	1675	C
1	A	1681	G
1	A	1682	G
1	A	1683	U
1	A	1693	U
1	A	1695	G
1	A	1696	G
1	A	1698	A
1	A	1700	A
1	A	1706	C
1	A	1713	A
1	A	1717	A
1	A	1722	A
1	A	1731	G
1	A	1733	G
1	A	1734	G
1	A	1735	A
1	A	1738	G
1	A	1739	A
1	A	1758	U
1	A	1759	A
1	A	1760	C
1	A	1776	G
1	A	1780	A
1	A	1782	U
1	A	1784	A
1	A	1785	A
1	A	1786	A
1	A	1787	A
1	A	1799	G
1	A	1802	A
1	A	1803	A
1	A	1808	A
1	A	1810	A
1	A	1811	G
1	A	1815	A
1	A	1816	C
1	A	1817	G
1	A	1821	A

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Mol	Chain	Res	Type
1	A	1828	G
1	A	1838	C
1	A	1839	G
1	A	1848	A
1	A	1900	A
1	A	1901	A
1	A	1913	A
1	A	1915	U
1	A	1916	A
1	A	1918	A
1	A	1919	A
1	A	1929	G
1	A	1931	U
1	A	1932	A
1	A	1936	A
1	A	1941	C
1	A	1943	U
1	A	1945	G
1	A	1954	G
1	A	1956	U
1	A	1962	C
1	A	1963	U
1	A	1965	C
1	A	1967	C
1	A	1970	A
1	A	1972	G
1	A	1980	G
1	A	1981	A
1	A	1982	U
1	A	1992	G
1	A	1993	U
1	A	1996	C
1	A	1997	C
1	A	2021	C
1	A	2023	C
1	A	2024	G
1	A	2030	A
1	A	2034	U
1	A	2036	C
1	A	2051	A
1	A	2052	A
1	A	2063	C

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Mol	Chain	Res	Type
1	A	2064	C
1	A	2067	G
1	A	2068	U
1	A	2092	U
1	A	2094	A
1	A	2133	G
1	A	2135	A
1	A	2136	G
1	A	2143	C
1	A	2148	G
1	A	2150	C
1	A	2179	C
1	A	2197	U
1	A	2199	A
1	A	2210	U
1	A	2214	C
1	A	2216	G
1	A	2217	G
1	A	2225	A
1	A	2226	C
1	A	2238	G
1	A	2239	G
1	A	2249	U
1	A	2258	C
1	A	2259	U
1	A	2266	A
1	A	2267	A
1	A	2275	C
1	A	2276	G
1	A	2282	G
1	A	2283	C
1	A	2286	G
1	A	2288	A
1	A	2289	G
1	A	2296	U
1	A	2299	U
1	A	2311	A
1	A	2314	A
1	A	2334	U
1	A	2337	G
1	A	2339	C
1	A	2344	U

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Mol	Chain	Res	Type
1	A	2347	C
1	A	2348	U
1	A	2349	G
1	A	2384	U
1	A	2386	A
1	A	2391	G
1	A	2392	A
1	A	2404	U
1	A	2406	A
1	A	2407	A
1	A	2409	G
1	A	2425	A
1	A	2428	G
1	A	2429	G
1	A	2439	A
1	A	2440	C
1	A	2447	G
1	A	2450	A
1	A	2458	G
1	A	2459	A
1	A	2490	G
1	A	2492	U
1	A	2493	U
1	A	2497	A
1	A	2498	C
1	A	2503	A
1	A	2504	U
1	A	2505	G
1	A	2520	C
1	A	2542	A
1	A	2543	G
1	A	2566	A
1	A	2567	G
1	A	2572	A
1	A	2573	C
1	A	2581	G
1	A	2582	G
1	A	2601	C
1	A	2603	G
1	A	2609	U
1	A	2611	C
1	A	2613	U

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Mol	Chain	Res	Type
1	A	2615	U
1	A	2616	C
1	A	2639	A
1	A	2645	G
1	A	2646	C
1	A	2654	A
1	A	2656	U
1	A	2657	A
1	A	2666	C
1	A	2667	C
1	A	2668	G
1	A	2681	C
1	A	2682	A
1	A	2689	U
1	A	2691	C
1	A	2712	C
1	A	2714	G
1	A	2726	A
1	A	2729	G
1	A	2750	A
1	A	2752	C
1	A	2756	U
1	A	2757	A
1	A	2776	A
1	A	2777	G
1	A	2781	A
1	A	2798	U
1	A	2800	A
1	A	2832	U
1	A	2836	U
1	A	2837	A
1	A	2848	G
1	A	2850	A
1	A	2851	A
1	A	2866	U
1	A	2868	A
1	A	2873	A
1	A	2874	C
1	A	2875	C
1	A	2876	G
1	A	2879	A
1	A	2880	C

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Mol	Chain	Res	Type
1	A	2881	U
1	A	2893	A
1	A	2895	G
2	B	12	C
2	B	13	G
2	B	16	G
2	B	40	U
2	B	45	A
2	B	56	G
2	B	58	A
2	B	66	A
2	B	68	C
2	B	87	U
2	B	88	C
2	B	90	C
2	B	108	A
2	B	110	C
2	B	111	U

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 138 ligands modelled in this entry, 138 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	2841/2903 (97%)	0.70	215 (7%) 14 4	49, 122, 252, 460	0
2	B	117/117 (100%)	0.88	15 (12%) 4 2	95, 169, 224, 274	0
3	C	271/271 (100%)	0.60	18 (6%) 18 4	51, 96, 147, 192	0
4	D	209/209 (100%)	0.68	12 (5%) 23 5	50, 111, 176, 290	0
5	E	201/201 (100%)	0.59	20 (9%) 8 2	62, 197, 395, 486	0
6	F	178/178 (100%)	1.06	36 (20%) 2 1	183, 225, 286, 338	0
7	G	176/176 (100%)	0.80	26 (14%) 3 1	95, 195, 279, 335	0
8	H	149/149 (100%)	0.29	14 (9%) 9 3	82, 181, 277, 319	0
9	I	141/141 (100%)	1.13	26 (18%) 2 1	210, 324, 369, 408	0
10	J	142/142 (100%)	0.65	12 (8%) 11 3	63, 102, 163, 184	0
11	K	122/122 (100%)	0.58	7 (5%) 23 5	52, 95, 164, 236	0
12	L	143/143 (100%)	1.36	38 (26%) 1 1	58, 159, 278, 348	0
13	M	136/136 (100%)	0.85	23 (16%) 2 1	44, 105, 164, 196	0
14	N	120/120 (100%)	1.11	20 (16%) 2 1	79, 127, 200, 268	0
15	O	116/116 (100%)	1.61	35 (30%) 1 1	124, 169, 240, 292	0
16	P	114/114 (100%)	0.65	10 (8%) 10 3	62, 114, 174, 238	0
17	Q	117/117 (100%)	0.77	8 (6%) 17 4	66, 103, 194, 288	0
18	R	103/103 (100%)	0.50	8 (7%) 13 4	67, 130, 227, 316	0
19	S	110/110 (100%)	1.59	34 (30%) 1 1	59, 130, 231, 279	0
20	T	93/93 (100%)	1.40	23 (24%) 1 1	123, 205, 306, 347	0
21	U	102/102 (100%)	1.95	37 (36%) 1 0	123, 285, 434, 557	0
22	V	94/94 (100%)	0.83	12 (12%) 4 2	97, 143, 194, 233	0
23	W	79/79 (100%)	1.45	23 (29%) 1 1	82, 140, 238, 284	0
24	X	77/77 (100%)	1.01	11 (14%) 3 1	78, 117, 171, 236	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	Y	63/63 (100%)	1.26	14 (22%) 1 1	143, 309, 433, 440	0
26	Z	58/58 (100%)	0.40	2 (3%) 43 10	78, 119, 208, 217	0
27	0	56/56 (100%)	0.74	5 (8%) 10 3	63, 139, 242, 298	0
28	1	50/50 (100%)	0.57	3 (6%) 21 5	99, 170, 210, 236	0
29	2	46/46 (100%)	1.15	7 (15%) 3 1	81, 118, 175, 233	0
30	3	64/64 (100%)	1.65	24 (37%) 1 0	65, 128, 183, 257	0
31	4	38/38 (100%)	2.52	21 (55%) 0 0	79, 137, 187, 227	0
All	All	6326/6388 (99%)	0.83	759 (11%) 5 2	44, 132, 301, 557	0

All (759) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1537	G	14.0
5	E	127	GLU	13.5
25	Y	3	ALA	11.9
9	I	9	LYS	11.1
6	F	129	MET	11.0
1	A	1420	A	10.6
20	T	56	GLU	10.0
9	I	8	VAL	9.2
21	U	69	VAL	8.1
1	A	1535	A	7.9
9	I	1	ALA	7.4
21	U	31	GLY	7.3
31	4	1	MET	7.2
12	L	75	ALA	7.2
23	W	18	LYS	7.1
15	O	20	GLU	7.1
21	U	17	ASP	7.1
25	Y	1	MET	6.9
19	S	70	LYS	6.9
21	U	25	LYS	6.9
1	A	138	U	6.7
31	4	29	ALA	6.7
6	F	105	ILE	6.7
9	I	2	LYS	6.7
21	U	32	LYS	6.7
12	L	74	THR	6.7
21	U	70	ALA	6.6
21	U	36	GLU	6.6

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Mol	Chain	Res	Type	RSRZ
19	S	27	LYS	6.6
12	L	108	ALA	6.6
6	F	175	PRO	6.6
23	W	19	ARG	6.5
9	I	3	LYS	6.4
15	O	60	GLU	6.3
6	F	44	ALA	6.3
1	A	914	G	6.2
21	U	29	SER	6.2
19	S	31	GLN	6.2
19	S	32	ALA	6.2
21	U	38	ILE	6.2
7	G	171	LYS	6.0
31	4	9	LYS	6.0
14	N	76	VAL	6.0
21	U	34	ILE	5.9
1	A	2585	U	5.9
1	A	1460	U	5.9
15	O	93	ASP	5.9
27	0	23	ALA	5.9
1	A	145	C	5.8
1	A	345	A	5.8
2	B	88	C	5.8
12	L	82	LEU	5.7
1	A	1073	A	5.7
31	4	33	HIS	5.7
12	L	92	LEU	5.5
4	D	1	MET	5.5
1	A	1583	A	5.5
21	U	30	SER	5.4
19	S	26	GLY	5.4
1	A	613	A	5.3
1	A	1067	A	5.3
20	T	43	ILE	5.3
21	U	59	GLU	5.3
6	F	78	ILE	5.3
4	D	198	GLY	5.2
5	E	98	LYS	5.2
15	O	21	LEU	5.2
21	U	51	LEU	5.2
31	4	21	GLY	5.2
15	O	28	VAL	5.2

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Mol	Chain	Res	Type	RSRZ
15	O	11	ALA	5.2
1	A	2297	A	5.1
1	A	440	C	5.1
20	T	83	ALA	5.1
9	I	10	LEU	5.1
29	2	22	MET	5.1
23	W	32	ALA	5.0
15	O	12	THR	5.0
14	N	72	ASP	5.0
6	F	104	THR	5.0
30	3	39	ARG	5.0
4	D	179	ARG	5.0
12	L	16	GLY	4.9
4	D	197	THR	4.9
19	S	34	ASP	4.9
1	A	1031	G	4.9
1	A	1211	C	4.9
1	A	137	U	4.8
6	F	111	ARG	4.8
12	L	143	GLU	4.8
21	U	24	VAL	4.8
14	N	73	ASN	4.8
25	Y	2	LYS	4.8
1	A	1548	A	4.7
23	W	31	LEU	4.7
6	F	116	LEU	4.7
22	V	33	GLY	4.7
1	A	2184	A	4.7
12	L	106	GLU	4.6
1	A	619	G	4.6
5	E	128	ALA	4.6
1	A	1640	A	4.6
4	D	10	GLY	4.6
31	4	30	GLU	4.6
1	A	93	G	4.6
15	O	29	HIS	4.6
2	B	90	C	4.5
25	Y	37	LEU	4.5
1	A	2110	G	4.5
23	W	20	LEU	4.5
12	L	73	ILE	4.5
9	I	31	GLY	4.5

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Mol	Chain	Res	Type	RSRZ
30	3	20	GLY	4.5
12	L	96	LYS	4.5
21	U	68	ASN	4.5
1	A	2001	C	4.5
14	N	63	ARG	4.5
21	U	75	ALA	4.5
23	W	60	ALA	4.5
1	A	1641	A	4.4
1	A	2602	A	4.4
1	A	2062	A	4.4
1	A	876	C	4.4
15	O	25	ARG	4.4
31	4	10	LEU	4.4
1	A	2402	U	4.4
15	O	56	LYS	4.4
7	G	166	GLU	4.4
19	S	35	ILE	4.3
1	A	2438	U	4.3
21	U	35	VAL	4.3
27	0	24	VAL	4.3
19	S	71	VAL	4.3
21	U	28	LEU	4.3
1	A	1538	G	4.2
1	A	1590	A	4.2
15	O	9	ARG	4.2
1	A	493	G	4.2
18	R	71	LYS	4.2
6	F	43	ILE	4.2
31	4	32	LYS	4.2
21	U	74	ALA	4.2
10	J	2	LYS	4.2
1	A	308	G	4.1
1	A	1547	C	4.1
15	O	19	GLN	4.1
1	A	1554	U	4.1
21	U	40	LEU	4.1
22	V	34	LYS	4.1
6	F	75	GLY	4.1
30	3	40	LYS	4.0
12	L	104	GLN	4.0
13	M	126	ILE	4.0
27	0	25	THR	4.0

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Mol	Chain	Res	Type	RSRZ
1	A	1247	A	4.0
2	B	72	G	4.0
14	N	43	GLU	4.0
7	G	147	LEU	4.0
20	T	65	GLY	4.0
13	M	56	ALA	4.0
1	A	1523	U	3.9
30	3	35	LYS	3.9
12	L	107	PHE	3.9
13	M	96	ILE	3.9
13	M	127	LYS	3.9
19	S	110	ARG	3.9
15	O	59	ALA	3.9
12	L	126	ARG	3.9
10	J	1	MET	3.9
7	G	118	ALA	3.9
6	F	107	VAL	3.9
7	G	123	GLU	3.9
1	A	2334	U	3.9
4	D	8	LYS	3.8
15	O	18	LEU	3.8
7	G	150	TYR	3.8
31	4	8	LYS	3.8
6	F	80	GLN	3.8
14	N	62	ASN	3.8
1	A	1643	G	3.8
1	A	1030	C	3.8
12	L	103	ILE	3.8
9	I	99	LYS	3.8
18	R	50	GLY	3.8
1	A	2820	A	3.8
1	A	1095	A	3.8
24	X	23	ALA	3.8
1	A	228	C	3.7
25	Y	32	ALA	3.7
6	F	153	ILE	3.7
30	3	27	ASN	3.7
5	E	137	LYS	3.7
16	P	113	LEU	3.7
1	A	877	A	3.7
9	I	97	VAL	3.7
19	S	39	THR	3.7

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Mol	Chain	Res	Type	RSRZ
20	T	34	VAL	3.7
30	3	36	ALA	3.7
1	A	2354	C	3.7
14	N	56	LYS	3.7
15	O	37	ALA	3.7
1	A	1058	U	3.7
24	X	24	THR	3.7
25	Y	4	LYS	3.7
18	R	72	VAL	3.7
1	A	211	C	3.7
1	A	1808	A	3.6
1	A	1552	A	3.6
30	3	19	GLY	3.6
1	A	857	G	3.6
1	A	2147	A	3.6
6	F	20	ASN	3.6
19	S	85	ILE	3.6
30	3	15	LYS	3.6
25	Y	29	ARG	3.6
30	3	45	PRO	3.6
18	R	73	LYS	3.6
6	F	22	ASN	3.6
1	A	1497	U	3.6
3	C	4	LYS	3.6
7	G	170	THR	3.6
19	S	91	GLY	3.6
20	T	57	VAL	3.6
1	A	2063	C	3.5
1	A	1642	G	3.5
20	T	55	VAL	3.5
21	U	19	GLY	3.5
1	A	1085	A	3.5
3	C	1	ALA	3.5
31	4	20	ASP	3.5
9	I	39	LYS	3.5
1	A	1551	A	3.5
12	L	71	ALA	3.5
31	4	7	VAL	3.5
1	A	1093	G	3.5
2	B	102	G	3.5
5	E	99	LYS	3.5
1	A	974	G	3.4

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Mol	Chain	Res	Type	RSRZ
5	E	201	ALA	3.4
25	Y	5	GLU	3.4
1	A	2179	C	3.4
14	N	12	ARG	3.4
21	U	62	ALA	3.4
31	4	34	LYS	3.4
30	3	21	PHE	3.4
7	G	122	ALA	3.4
1	A	2024	G	3.4
19	S	28	LYS	3.4
21	U	2	ALA	3.4
1	A	1559	U	3.4
30	3	33	THR	3.4
6	F	158	THR	3.3
20	T	68	LYS	3.3
1	A	1302	A	3.3
19	S	92	ARG	3.3
1	A	318	C	3.3
21	U	50	ALA	3.3
14	N	57	THR	3.3
6	F	110	ILE	3.3
1	A	1396	U	3.3
3	C	193	GLU	3.3
6	F	157	THR	3.3
10	J	63	ALA	3.3
21	U	66	VAL	3.3
8	H	19	VAL	3.3
3	C	35	LYS	3.3
12	L	144	GLU	3.3
19	S	93	ALA	3.3
13	M	135	VAL	3.3
1	A	1536	C	3.3
9	I	4	VAL	3.2
13	M	41	LEU	3.2
23	W	34	SER	3.2
1	A	866	A	3.2
1	A	2439	A	3.2
21	U	85	ARG	3.2
20	T	74	ILE	3.2
1	A	1807	G	3.2
1	A	2742	G	3.2
9	I	95	ASP	3.2

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Mol	Chain	Res	Type	RSRZ
28	1	23	THR	3.2
13	M	136	MET	3.2
1	A	2610	C	3.2
1	A	1413	A	3.2
22	V	41	GLU	3.2
7	G	104	LEU	3.2
23	W	69	GLU	3.2
24	X	75	GLU	3.2
4	D	2	ILE	3.2
14	N	54	LEU	3.2
30	3	34	LYS	3.2
6	F	115	GLY	3.2
22	V	81	PRO	3.1
24	X	16	ASN	3.1
16	P	3	ILE	3.1
6	F	155	ILE	3.1
14	N	66	ALA	3.1
16	P	36	LYS	3.1
21	U	37	GLY	3.1
1	A	2145	C	3.1
12	L	5	THR	3.1
18	R	8	GLY	3.1
25	Y	31	GLN	3.1
23	W	33	GLY	3.1
6	F	112	ASP	3.1
1	A	2799	A	3.1
1	A	2689	U	3.1
2	B	12	C	3.1
9	I	79	LEU	3.1
5	E	102	ARG	3.1
19	S	7	HIS	3.1
12	L	69	ARG	3.1
1	A	1781	U	3.0
31	4	35	GLN	3.0
2	B	41	G	3.0
8	H	39	ALA	3.0
1	A	146	A	3.0
1	A	1084	A	3.0
9	I	56	VAL	3.0
16	P	109	ILE	3.0
7	G	169	ARG	3.0
2	B	83	G	3.0

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Mol	Chain	Res	Type	RSRZ
7	G	121	THR	3.0
16	P	6	GLN	3.0
1	A	1806	C	3.0
6	F	106	ALA	3.0
19	S	69	LEU	3.0
1	A	529	A	3.0
10	J	69	ARG	2.9
1	A	938	G	2.9
17	Q	55	GLN	2.9
8	H	10	ALA	2.9
26	Z	12	ALA	2.9
1	A	518	G	2.9
1	A	2295	C	2.9
22	V	42	LEU	2.9
24	X	74	GLY	2.9
6	F	74	ALA	2.9
7	G	81	GLY	2.9
1	A	549	G	2.9
1	A	143	C	2.9
15	O	14	ALA	2.9
1	A	935	C	2.9
30	3	28	LEU	2.9
7	G	93	TYR	2.9
23	W	43	LYS	2.9
1	A	968	C	2.9
12	L	114	GLY	2.9
15	O	40	ILE	2.9
22	V	93	ARG	2.9
1	A	1407	G	2.9
5	E	24	ASN	2.9
1	A	698	C	2.8
2	B	70	C	2.8
15	O	96	GLY	2.8
4	D	184	ARG	2.8
14	N	59	SER	2.8
25	Y	36	GLN	2.8
25	Y	63	ALA	2.8
1	A	388	G	2.8
30	3	14	LYS	2.8
1	A	858	G	2.8
1	A	2603	G	2.8
23	W	21	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
12	L	19	LEU	2.8
21	U	49	PRO	2.8
1	A	2106	U	2.8
10	J	96	ARG	2.8
30	3	10	ALA	2.8
3	C	36	ASN	2.8
9	I	66	PHE	2.8
15	O	97	PHE	2.8
20	T	2	ILE	2.8
20	T	54	GLU	2.8
22	V	32	GLY	2.8
9	I	61	TYR	2.8
16	P	98	TYR	2.8
19	S	84	ARG	2.8
5	E	35	TYR	2.8
1	A	1094	U	2.8
1	A	936	A	2.8
18	R	87	GLN	2.8
19	S	33	LEU	2.8
29	2	13	ASN	2.8
1	A	492	A	2.8
1	A	2712	C	2.8
3	C	2	VAL	2.8
11	K	104	THR	2.8
16	P	91	VAL	2.8
12	L	20	GLY	2.8
9	I	80	LYS	2.7
5	E	140	ASP	2.7
17	Q	111	LYS	2.7
15	O	13	ARG	2.7
1	A	136	G	2.7
7	G	102	ILE	2.7
14	N	112	TYR	2.7
1	A	106	C	2.7
3	C	30	ALA	2.7
25	Y	7	ARG	2.7
13	M	12	MET	2.7
23	W	35	ILE	2.7
1	A	212	G	2.7
6	F	79	ARG	2.7
9	I	68	PHE	2.7
1	A	995	C	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	1104	C	2.7
7	G	52	GLY	2.7
10	J	87	ALA	2.7
30	3	22	LYS	2.7
1	A	1061	U	2.7
11	K	69	VAL	2.7
22	V	7	GLU	2.7
7	G	99	GLY	2.7
14	N	8	ARG	2.7
14	N	69	ARG	2.7
1	A	1984	G	2.7
16	P	101	GLU	2.7
15	O	50	ALA	2.7
18	R	88	GLY	2.7
12	L	125	LEU	2.7
27	0	36	LYS	2.7
5	E	59	PRO	2.7
22	V	94	ALA	2.7
1	A	2000	C	2.6
2	B	89	U	2.6
20	T	1	MET	2.6
30	3	52	GLY	2.6
13	M	97	GLN	2.6
7	G	9	VAL	2.6
1	A	867	C	2.6
1	A	259	G	2.6
1	A	2020	A	2.6
28	1	52	LYS	2.6
30	3	11	LYS	2.6
1	A	816	C	2.6
17	Q	13	HIS	2.6
3	C	3	VAL	2.6
16	P	100	ARG	2.6
5	E	126	VAL	2.6
5	E	155	GLU	2.6
6	F	127	TYR	2.6
23	W	28	GLU	2.6
21	U	65	GLN	2.6
15	O	36	TYR	2.6
17	Q	88	GLU	2.6
7	G	77	GLY	2.6
7	G	160	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
22	V	6	ALA	2.6
29	2	12	ARG	2.6
2	B	107	G	2.6
19	S	66	ILE	2.6
13	M	21	ALA	2.6
31	4	15	LYS	2.6
15	O	61	GLN	2.6
23	W	36	ILE	2.6
1	A	1250	G	2.6
1	A	1303	G	2.6
4	D	185	ASN	2.6
15	O	88	LYS	2.6
19	S	83	LYS	2.6
1	A	1029	A	2.6
15	O	71	ALA	2.6
1	A	389	G	2.6
1	A	1249	U	2.6
1	A	1028	A	2.6
22	V	35	GLU	2.6
1	A	961	C	2.6
8	H	18	GLN	2.6
1	A	667	U	2.6
5	E	134	LEU	2.6
1	A	789	A	2.6
13	M	129	THR	2.6
24	X	7	THR	2.6
24	X	76	LYS	2.6
19	S	14	ALA	2.6
3	C	249	VAL	2.5
6	F	77	LYS	2.5
1	A	1780	A	2.5
21	U	11	ILE	2.5
2	B	69	G	2.5
1	A	2601	C	2.5
6	F	174	PHE	2.5
1	A	2085	U	2.5
10	J	92	MET	2.5
12	L	70	LYS	2.5
9	I	30	GLN	2.5
11	K	33	ALA	2.5
1	A	2305	U	2.5
7	G	106	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
20	T	67	VAL	2.5
3	C	236	GLY	2.5
1	A	937	C	2.5
12	L	64	PHE	2.5
12	L	17	LYS	2.5
31	4	2	LYS	2.5
21	U	12	VAL	2.5
1	A	151	C	2.5
7	G	90	GLY	2.5
21	U	5	ARG	2.5
1	A	2296	U	2.5
18	R	49	ILE	2.5
1	A	2355	G	2.5
1	A	2084	C	2.5
9	I	18	ASN	2.5
13	M	114	ARG	2.5
1	A	62	U	2.5
15	O	26	LEU	2.5
12	L	65	GLY	2.5
20	T	76	ARG	2.5
1	A	152	A	2.5
16	P	7	LEU	2.5
28	1	51	ALA	2.5
1	A	441	U	2.5
1	A	2584	U	2.5
9	I	34	ILE	2.5
12	L	31	GLY	2.5
8	H	2	GLN	2.5
1	A	2561	U	2.5
10	J	3	THR	2.4
7	G	168	VAL	2.4
23	W	62	ALA	2.4
7	G	57	TYR	2.4
20	T	24	MET	2.4
19	S	94	ASP	2.4
24	X	47	THR	2.4
1	A	1591	A	2.4
1	A	969	G	2.4
1	A	1146	C	2.4
1	A	1300	G	2.4
1	A	2611	C	2.4
2	B	96	G	2.4

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Mol	Chain	Res	Type	RSRZ
8	H	17	ASP	2.4
12	L	72	ALA	2.4
30	3	51	LYS	2.4
31	4	28	SER	2.4
1	A	139	U	2.4
1	A	517	C	2.4
14	N	46	ARG	2.4
1	A	1135	C	2.4
1	A	1297	C	2.4
19	S	86	MET	2.4
19	S	107	VAL	2.4
9	I	83	ALA	2.4
20	T	3	ARG	2.4
6	F	113	PHE	2.4
19	S	72	THR	2.4
3	C	235	GLU	2.4
1	A	102	U	2.4
1	A	810	U	2.4
1	A	2743	U	2.4
23	W	51	GLY	2.4
1	A	2710	C	2.4
7	G	124	CYS	2.4
3	C	227	VAL	2.4
1	A	144	A	2.4
11	K	119	ALA	2.3
1	A	1136	G	2.3
27	0	1	ALA	2.3
12	L	26	GLY	2.3
31	4	14	CYS	2.3
1	A	546	U	2.3
3	C	223	ALA	2.3
20	T	77	ARG	2.3
14	N	113	ILE	2.3
13	M	55	ARG	2.3
8	H	87	GLU	2.3
1	A	1193	G	2.3
10	J	66	GLY	2.3
23	W	61	LYS	2.3
23	W	74	LYS	2.3
14	N	51	LEU	2.3
31	4	6	SER	2.3
15	O	62	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	A	1132	U	2.3
6	F	132	ARG	2.3
8	H	13	GLY	2.3
19	S	95	ARG	2.3
3	C	198	GLU	2.3
13	M	25	ASP	2.3
1	A	2676	C	2.3
2	B	86	G	2.3
6	F	73	VAL	2.3
15	O	16	ARG	2.3
1	A	948	C	2.3
25	Y	14	LEU	2.3
1	A	1090	A	2.3
8	H	81	ALA	2.3
20	T	69	ARG	2.3
6	F	32	LYS	2.3
1	A	1453	A	2.3
25	Y	33	ALA	2.3
12	L	102	GLY	2.3
1	A	1298	C	2.3
5	E	26	ALA	2.3
5	E	133	LEU	2.3
12	L	57	LEU	2.3
13	M	17	ASN	2.3
1	A	983	A	2.3
30	3	37	THR	2.3
1	A	1299	G	2.2
6	F	103	ILE	2.2
7	G	159	LYS	2.2
1	A	2873	A	2.2
8	H	119	ASN	2.2
5	E	76	PRO	2.2
12	L	91	ASP	2.2
23	W	42	THR	2.2
1	A	317	G	2.2
1	A	1042	G	2.2
21	U	23	LYS	2.2
1	A	1406	U	2.2
23	W	45	HIS	2.2
1	A	283	G	2.2
29	2	41	ARG	2.2
6	F	131	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	752	A	2.2
1	A	1553	A	2.2
12	L	78	ARG	2.2
15	O	82	ALA	2.2
1	A	2023	C	2.2
1	A	2463	C	2.2
15	O	106	LEU	2.2
1	A	2053	G	2.2
1	A	2083	G	2.2
17	Q	90	ASP	2.2
8	H	11	ASN	2.2
1	A	2185	U	2.2
29	2	14	ARG	2.2
1	A	587	C	2.2
1	A	1168	G	2.2
2	B	20	G	2.2
21	U	89	GLY	2.2
23	W	73	PRO	2.2
15	O	41	ALA	2.2
13	M	54	THR	2.2
31	4	31	PRO	2.2
9	I	36	GLU	2.2
15	O	24	THR	2.2
1	A	2432	A	2.2
24	X	8	GLY	2.2
9	I	96	LYS	2.2
11	K	61	VAL	2.2
12	L	89	VAL	2.2
17	Q	4	LYS	2.2
20	T	73	ARG	2.2
6	F	128	SER	2.2
10	J	89	PHE	2.2
12	L	49	GLY	2.2
1	A	1661	G	2.2
1	A	2082	A	2.2
13	M	22	GLN	2.2
20	T	72	GLN	2.2
30	3	64	ALA	2.2
29	2	42	LEU	2.2
1	A	236	C	2.2
1	A	1607	C	2.2
1	A	2755	C	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	1002	G	2.2
1	A	1570	A	2.2
24	X	5	GLN	2.2
15	O	35	ILE	2.2
19	S	68	ASP	2.2
31	4	36	ARG	2.2
10	J	129	GLU	2.1
13	M	124	LEU	2.1
1	A	63	A	2.1
12	L	97	ALA	2.1
1	A	494	G	2.1
1	A	2379	G	2.1
1	A	2437	G	2.1
6	F	135	ILE	2.1
20	T	88	LYS	2.1
1	A	1312	U	2.1
1	A	2235	G	2.1
8	H	15	LEU	2.1
13	M	20	LEU	2.1
12	L	50	PHE	2.1
12	L	93	ASN	2.1
26	Z	55	LYS	2.1
13	M	16	ARG	2.1
21	U	1	ALA	2.1
8	H	118	PRO	2.1
7	G	89	VAL	2.1
17	Q	22	GLY	2.1
19	S	36	LEU	2.1
1	A	256	A	2.1
1	A	1057	A	2.1
1	A	2031	A	2.1
3	C	139	THR	2.1
1	A	2581	G	2.1
1	A	2442	C	2.1
23	W	9	THR	2.1
3	C	76	VAL	2.1
1	A	2690	U	2.1
14	N	9	GLN	2.1
9	I	15	GLY	2.1
19	S	15	GLN	2.1
19	S	88	ARG	2.1
30	3	55	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
29	2	11	LYS	2.1
31	4	18	LYS	2.1
15	O	10	ARG	2.1
21	U	102	ILE	2.1
1	A	294	A	2.1
9	I	38	CYS	2.1
20	T	81	LYS	2.1
1	A	489	G	2.1
1	A	748	G	2.1
1	A	1627	G	2.1
1	A	588	U	2.1
5	E	22	ASP	2.1
13	M	36	VAL	2.1
23	W	52	CYS	2.1
3	C	228	ASP	2.1
1	A	745	G	2.1
1	A	1738	G	2.1
19	S	64	ALA	2.1
13	M	39	GLY	2.1
1	A	1412	U	2.1
1	A	142	A	2.1
3	C	22	GLU	2.1
14	N	70	THR	2.1
30	3	46	LYS	2.1
11	K	98	ARG	2.1
5	E	58	LYS	2.0
1	A	1568	G	2.0
1	A	2353	G	2.0
2	B	77	U	2.0
5	E	34	ALA	2.0
15	O	8	ILE	2.0
19	S	21	ALA	2.0
20	T	64	LYS	2.0
22	V	89	ILE	2.0
6	F	41	GLU	2.0
4	D	196	ALA	2.0
19	S	6	LYS	2.0
30	3	47	ALA	2.0
1	A	1599	U	2.0
1	A	2021	C	2.0
17	Q	108	LEU	2.0
1	A	178	G	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	1332	G	2.0
4	D	26	VAL	2.0
4	D	187	LEU	2.0
1	A	213	A	2.0
11	K	121	GLU	2.0
24	X	73	ARG	2.0
1	A	187	G	2.0
1	A	915	C	2.0
1	A	1256	G	2.0
1	A	1323	C	2.0
1	A	1639	C	2.0
10	J	99	ARG	2.0
13	M	18	ARG	2.0
8	H	106	ALA	2.0
21	U	20	LYS	2.0
1	A	89	A	2.0
1	A	2589	A	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
32	MG	A	2922	1/1	0.82	217.67	247,247,247,247	0
32	MG	J	747	1/1	1.35	89.15	230,230,230,230	0
32	MG	A	2924	1/1	1.08	80.88	199,199,199,199	0
32	MG	A	2965	1/1	1.22	66.07	211,211,211,211	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
32	MG	A	2999	1/1	0.71	62.62	102,102,102,102	0
32	MG	A	2964	1/1	1.38	32.62	229,229,229,229	0
32	MG	A	2935	1/1	0.81	14.78	121,121,121,121	0
32	MG	A	2976	1/1	0.61	14.24	274,274,274,274	0
32	MG	A	2960	1/1	0.45	12.40	227,227,227,227	0
32	MG	A	2962	1/1	0.37	12.09	200,200,200,200	0
32	MG	A	3011	1/1	0.55	10.81	185,185,185,185	0
32	MG	C	722	1/1	0.69	10.51	129,129,129,129	0
32	MG	A	3029	1/1	0.52	9.36	200,200,200,200	0
32	MG	A	2966	1/1	0.49	9.23	278,278,278,278	0
32	MG	A	2908	1/1	0.79	8.94	309,309,309,309	0
32	MG	A	2994	1/1	0.36	8.15	116,116,116,116	0
32	MG	A	2938	1/1	0.32	7.88	194,194,194,194	0
32	MG	A	3010	1/1	0.64	6.52	161,161,161,161	0
32	MG	A	2987	1/1	0.51	5.51	144,144,144,144	0
32	MG	A	2911	1/1	0.36	5.23	148,148,148,148	0
32	MG	A	3001	1/1	0.26	5.20	172,172,172,172	0
32	MG	A	2983	1/1	0.60	5.02	108,108,108,108	0
32	MG	A	3035	1/1	0.81	4.94	174,174,174,174	0
32	MG	A	2928	1/1	1.17	4.13	278,278,278,278	0
32	MG	A	2997	1/1	0.65	4.05	107,107,107,107	0
32	MG	A	3032	1/1	1.24	3.52	233,233,233,233	0
32	MG	A	2993	1/1	0.56	3.44	165,165,165,165	0
32	MG	A	2977	1/1	0.33	3.31	190,190,190,190	0
32	MG	A	2959	1/1	0.65	3.10	197,197,197,197	0
32	MG	A	2914	1/1	0.40	3.00	127,127,127,127	0
32	MG	A	3017	1/1	0.32	2.91	167,167,167,167	0
32	MG	A	2980	1/1	0.30	2.84	222,222,222,222	0
32	MG	A	2988	1/1	0.36	2.24	87,87,87,87	0
32	MG	A	2905	1/1	0.28	2.20	180,180,180,180	0
32	MG	A	2936	1/1	0.45	1.98	95,95,95,95	0
32	MG	A	2950	1/1	0.33	1.78	95,95,95,95	0
32	MG	A	2910	1/1	0.20	1.78	254,254,254,254	0
32	MG	A	2961	1/1	0.25	1.77	204,204,204,204	0
32	MG	A	3014	1/1	0.28	1.71	109,109,109,109	0
32	MG	A	2971	1/1	0.63	1.63	209,209,209,209	0
32	MG	A	2940	1/1	0.42	1.48	197,197,197,197	0
32	MG	C	272	1/1	0.41	1.35	145,145,145,145	0
32	MG	A	2917	1/1	0.32	1.23	172,172,172,172	0
32	MG	A	2981	1/1	0.41	1.17	180,180,180,180	0
32	MG	A	3008	1/1	0.28	1.15	262,262,262,262	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
32	MG	A	2986	1/1	0.24	1.01	204,204,204,204	0
32	MG	A	3034	1/1	0.42	0.90	212,212,212,212	0
32	MG	B	590	1/1	0.25	0.57	104,104,104,104	0
32	MG	A	3018	1/1	0.27	0.34	65,65,65,65	0
32	MG	A	2958	1/1	0.27	0.26	120,120,120,120	0
32	MG	A	2912	1/1	0.22	0.14	69,69,69,69	0
32	MG	A	2949	1/1	0.25	0.02	151,151,151,151	0
32	MG	A	3027	1/1	0.33	-0.05	176,176,176,176	0
32	MG	A	2909	1/1	0.30	-0.06	211,211,211,211	0
32	MG	A	2984	1/1	0.21	-0.07	142,142,142,142	0
32	MG	A	2995	1/1	0.26	-0.21	229,229,229,229	0
32	MG	A	3024	1/1	0.24	-0.28	84,84,84,84	0
32	MG	A	3006	1/1	0.23	-0.34	44,44,44,44	0
32	MG	A	2906	1/1	0.26	-0.48	236,236,236,236	0
32	MG	A	2927	1/1	0.24	-0.57	89,89,89,89	0
32	MG	A	2931	1/1	0.25	-0.62	143,143,143,143	0
32	MG	A	3007	1/1	0.22	-0.73	47,47,47,47	0
32	MG	A	2945	1/1	0.23	-0.79	161,161,161,161	0
32	MG	A	3031	1/1	0.18	-0.84	214,214,214,214	0
32	MG	A	2907	1/1	0.21	-0.86	114,114,114,114	0
32	MG	A	2951	1/1	0.15	-0.86	218,218,218,218	0
32	MG	A	2975	1/1	0.13	-0.87	187,187,187,187	0
32	MG	A	2920	1/1	0.22	-0.88	204,204,204,204	0
32	MG	A	3030	1/1	0.20	-0.90	142,142,142,142	0
32	MG	A	2969	1/1	0.19	-0.96	61,61,61,61	0
32	MG	A	2996	1/1	0.25	-1.06	114,114,114,114	0
32	MG	A	2974	1/1	0.21	-1.07	133,133,133,133	0
32	MG	A	3023	1/1	0.19	-1.10	109,109,109,109	0
32	MG	A	2998	1/1	0.13	-1.12	95,95,95,95	0
32	MG	A	3013	1/1	0.17	-1.16	153,153,153,153	0
32	MG	A	3016	1/1	0.20	-1.19	148,148,148,148	0
32	MG	A	3000	1/1	0.24	-1.27	144,144,144,144	0
32	MG	A	2930	1/1	0.23	-1.28	253,253,253,253	0
32	MG	A	3012	1/1	0.22	-1.29	174,174,174,174	0
32	MG	A	2982	1/1	0.20	-1.32	142,142,142,142	0
32	MG	A	2992	1/1	0.19	-1.33	99,99,99,99	0
32	MG	A	2989	1/1	0.18	-1.33	139,139,139,139	0
32	MG	A	2933	1/1	0.19	-1.38	68,68,68,68	0
32	MG	A	2916	1/1	0.20	-1.40	126,126,126,126	0
32	MG	A	2918	1/1	0.24	-1.42	183,183,183,183	0
33	ZN	4	781	1/1	0.19	-1.47	161,161,161,161	0
32	MG	A	2947	1/1	0.21	-1.52	156,156,156,156	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	A	2946	1/1	0.15	-1.57	100,100,100,100	0
32	MG	A	3033	1/1	0.18	-1.66	85,85,85,85	0
32	MG	A	3025	1/1	0.17	-1.70	153,153,153,153	0
32	MG	A	2915	1/1	0.19	-1.73	64,64,64,64	0
32	MG	A	2925	1/1	0.25	-1.80	69,69,69,69	0
32	MG	A	2926	1/1	0.16	-1.91	87,87,87,87	0
32	MG	A	3009	1/1	0.16	-1.93	92,92,92,92	0
32	MG	A	2948	1/1	0.17	-1.98	78,78,78,78	0
32	MG	A	3004	1/1	0.14	-1.99	67,67,67,67	0
32	MG	A	3021	1/1	0.15	-2.05	76,76,76,76	0
32	MG	A	3003	1/1	0.18	-2.13	78,78,78,78	0
32	MG	A	2954	1/1	0.13	-2.20	57,57,57,57	0
32	MG	A	3015	1/1	0.15	-2.24	131,131,131,131	0
32	MG	A	2942	1/1	0.16	-2.49	65,65,65,65	0
32	MG	A	3002	1/1	0.19	-2.52	68,68,68,68	0
32	MG	A	2991	1/1	0.12	-2.54	87,87,87,87	0
32	MG	E	202	1/1	0.12	-2.61	131,131,131,131	0
32	MG	A	2957	1/1	0.15	-2.64	96,96,96,96	0
32	MG	A	2979	1/1	0.18	-2.74	93,93,93,93	0
32	MG	A	2985	1/1	0.10	-2.93	197,197,197,197	0
32	MG	A	2973	1/1	0.21	-3.07	56,56,56,56	0
32	MG	A	2955	1/1	0.19	-3.07	89,89,89,89	0
32	MG	A	2970	1/1	0.15	-3.09	83,83,83,83	0
32	MG	A	2921	1/1	0.17	-3.20	226,226,226,226	0
32	MG	A	2919	1/1	0.12	-3.24	87,87,87,87	0
32	MG	A	2904	1/1	0.12	-3.41	151,151,151,151	0
32	MG	A	3022	1/1	0.13	-3.44	93,93,93,93	0
32	MG	A	3026	1/1	0.12	-3.45	61,61,61,61	0
32	MG	A	3028	1/1	0.12	-3.47	82,82,82,82	0
32	MG	A	2972	1/1	0.11	-3.52	69,69,69,69	0
32	MG	A	2968	1/1	0.13	-3.59	49,49,49,49	0
32	MG	A	2929	1/1	0.09	-3.62	109,109,109,109	0
32	MG	A	2937	1/1	0.14	-3.71	125,125,125,125	0
32	MG	A	2939	1/1	0.07	-4.02	82,82,82,82	0
32	MG	A	2943	1/1	0.16	-4.32	70,70,70,70	0
32	MG	A	2934	1/1	0.15	-4.72	105,105,105,105	0
32	MG	A	2978	1/1	0.19	-4.75	174,174,174,174	0
32	MG	A	2952	1/1	0.28	-5.00	172,172,172,172	0
32	MG	A	2941	1/1	0.13	-5.01	102,102,102,102	0
32	MG	A	2963	1/1	0.11	-5.16	105,105,105,105	0
32	MG	A	3005	1/1	0.17	-5.20	86,86,86,86	0
32	MG	A	3019	1/1	0.15	-5.21	77,77,77,77	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	A	2953	1/1	0.13	-5.26	106,106,106,106	0
32	MG	A	2944	1/1	0.13	-6.31	82,82,82,82	0
32	MG	A	3020	1/1	0.09	-6.76	71,71,71,71	0
32	MG	A	2967	1/1	0.09	-8.97	70,70,70,70	0
32	MG	A	2932	1/1	0.18	-12.74	112,112,112,112	0
32	MG	A	2990	1/1	0.12	-17.38	179,179,179,179	0
32	MG	A	2956	1/1	0.04	-20.20	67,67,67,67	0
32	MG	A	2923	1/1	0.12	-21.02	49,49,49,49	0
32	MG	A	2913	1/1	0.73	-	218,218,218,218	0

6.5 Other polymers ⓘ

There are no such residues in this entry.