



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 8, 2024 – 08:21 AM EST

PDB ID : 2HHH  
Title : Crystal structure of kasugamycin bound to the 30S ribosomal subunit  
Authors : Schluenzen, F.  
Deposited on : 2006-06-28  
Resolution : 3.35 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.36  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

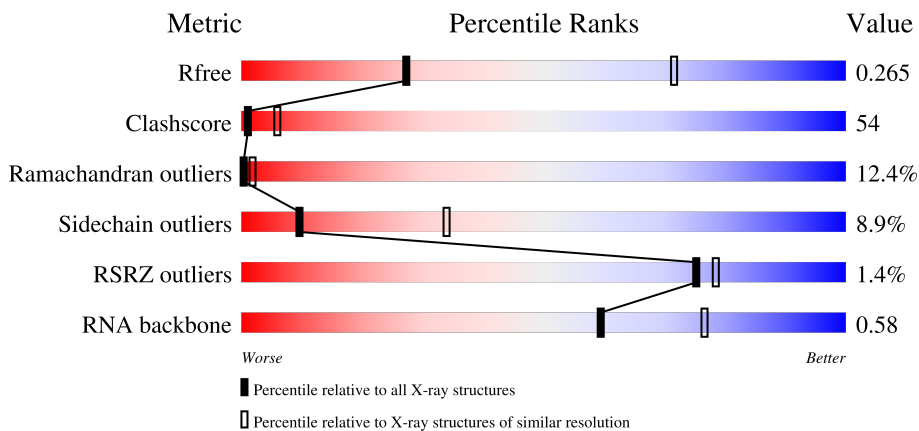
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.35 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1558 (3.42-3.30)
Clashscore	141614	1627 (3.42-3.30)
Ramachandran outliers	138981	1599 (3.42-3.30)
Sidechain outliers	138945	1598 (3.42-3.30)
RSRZ outliers	127900	1507 (3.42-3.30)
RNA backbone	3102	1023 (3.80-2.92)

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

Mol	Chain	Length	Quality of chain
1	A	1522	 15% 60% 19% 5%
2	B	256	 5% 16% 55% 17% 9%
3	C	239	 14% 54% 16% 14%
4	D	209	 19% 64% 15% 2% 2%

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

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	KSG	A	1524	-	-	-	X

## 2 Entry composition [i](#)

There are 22 unique types of molecules in this entry. The entry contains 51632 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1505	32349	14399	5994	10452	1504	44	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

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

- Molecule 3 is a protein called 30S ribosomal protein S3.

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

- Molecule 4 is a protein called 30S ribosomal protein S4.

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

- Molecule 5 is a protein called 30S ribosomal protein S5.

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

- Molecule 6 is a protein called 30S ribosomal protein S6.

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

- Molecule 7 is a protein called 30S ribosomal protein S7.

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

- Molecule 8 is a protein called 30S ribosomal protein S8.

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

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
9	I	127	1011	639	198	174	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	58	ARG	HIS	conflict	UNP P80374

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	J	98	794	499	156	138	1	0	0	0

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	K	119	885	549	168	165	3	0	0	0

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	L	124	970	611	195	163	1	0	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	2	VAL	-	insertion	UNP P17293
L	3	ALA	-	insertion	UNP P17293
L	4	LEU	-	insertion	UNP P17293

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	M	125	997	617	207	171	2	0	0	0

- Molecule 14 is a protein called 30S ribosomal protein S14.

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

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	O	88	734	459	147	126	2	0	0	0

- Molecule 16 is a protein called 30S ribosomal protein S16.

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

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	Q	104	857	547	161	147	2	0	0	0

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	R	73	597	380	118	99	0	0	0

- Molecule 19 is a protein called 30S ribosomal protein S19.

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

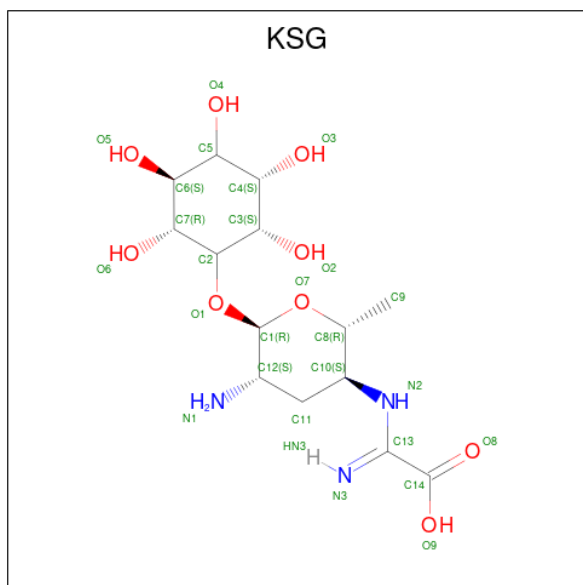
- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	T	99	Total 762	C 469	N 162	O 129	S 2	0	0	0

- Molecule 21 is a protein called 30S ribosomal protein Thx.

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

- Molecule 22 is (1S,2R,3S,4R,5S,6S)-2,3,4,5,6-PENTAHYDROXYCYCLOHEXYL 2-AMINO-4-[[CARBOXY(IMINO)METHYL]AMINO]-2,3,4,6-TETRADEOXY-ALPHA-D-ARABINO-HEXOPYRANOSIDE (three-letter code: KSG) (formula: C<sub>14</sub>H<sub>25</sub>N<sub>3</sub>O<sub>9</sub>).

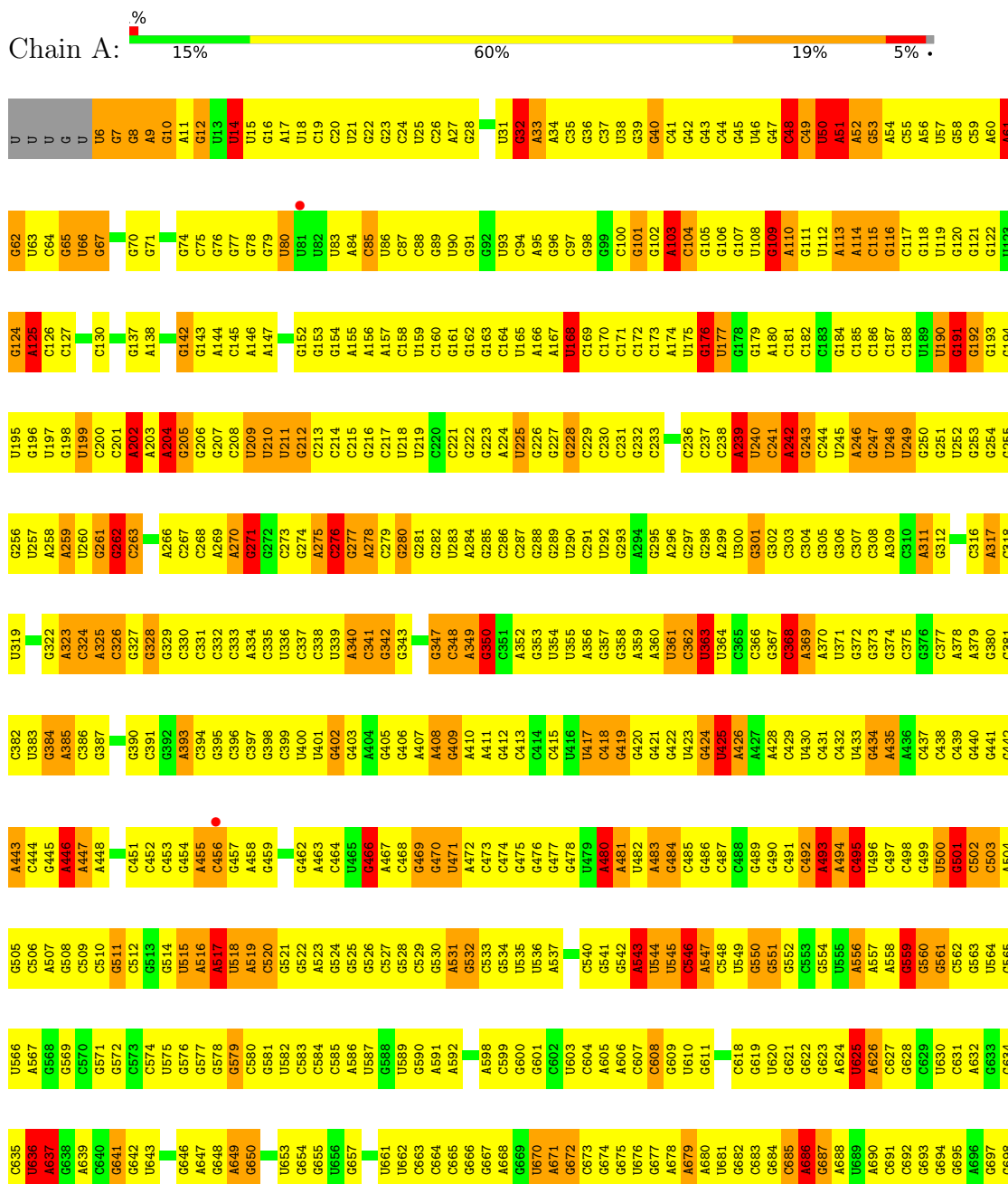


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
22	A	1	Total 26	C 14	N 3	O 9	0	0
22	A	1	Total 26	C 14	N 3	O 9	0	0

### 3 Residue-property plots

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

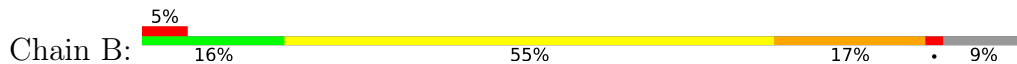
#### • Molecule 1: 16S ribosomal RNA



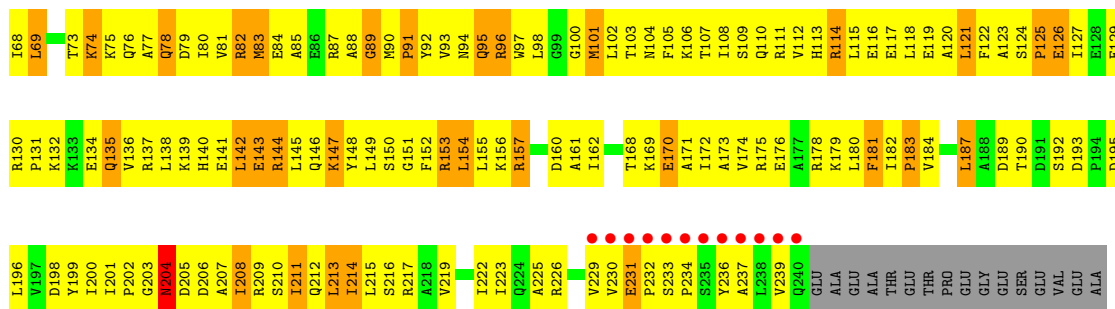


A699	A700	G702	G703	G705	A706	A707	A710	A712	A713	G715	A717	G718	G719	G720	A721	G722	G723	U724	G725	G726	U727	G728	G729	A730	G731	G732	G733	G734	U735	G736	A737	G738	G739	G740	U741	G742	A743	G744	G745	G746	G747	G748	G749	A750	A751	A752	G753	G754	G755	U756	G757	G758								
G759	G760	A761	G762	G763	A764	A765	A766	G767	G768	G769	G770	U773	A774	G775	A776	U777	A778	C779	G780	G781	G782	G783	G784	U785	A786	G787	G788	G789	G790	A791	G792	G793	G794	G795	U797	A798	A800	C801	G802	A803	U804	U805	C806	U811	G812	G813	G814	U815	C816	A817	A818	A819	G820	G821	G822					
U823	C824	U825	C826	C827	U828	G829	G830	G831	G832	G833	C834	G835	G836	A837	A838	G839	A842	A843	G844	G845	G846	G847	U848	U849	A850	A851	G852	G853	G854	G855	G856	G857	G858	G859	C860	C861	U862	G863	G864	G865	G866	A867	G868	U869	A870	U871	G872	G873	G874	C877	C878	A879	G880	G881	G882	U883	G884			
A885	A886	A887	C888	U889	C890	A891	A892	A893	G894	G895	A896	A897	U898	U899	C900	A901	C902	G903	G904	G905	G906	G907	C908	C909	G912	A913	C914	A915	A916	G917	G918	G919	G923	A924	A927	C926	C927	A928	C929	U930	C931	G932	U933	U934	U935	A936	G937	U938	U939	C940	G941	A942	A943	A944	G945	C946	A947			
C948	G949	C950	C951	A952	A953	G954	A955	C957	C958	U959	U960	A961	C962	C963	A964	G965	U969	U970	G971	A972	C973	C974	U975	G982	A983	A984	C985	C986	G989	G990	A993	A994	A995	C996	C997	C998	U999	G1000	G1001	G1002	G1003	U1004	G1005	C1006	G941	A942	C1008	C1009	C1010	C1011	G1012									
A1013	G1014	G1015	C1020	C1021	C1022	U1023	G1025	G1030	A1031	U1032	U1033	G1034	U1035	C1037	G904	U1038	C1101	G1102	G1103	G1104	G1105	C1106	G1107	G1108	G1109	G1110	C1111	A1050	A1051	G1052	G1055	U1056	G1057	C1058	C1059	U1061	A1063	G1064	G1065	U1066	G1067	U1068	U1069	G1070	G1071	U1072	C1073	U1074	G1077	U1078	G1079	C1080								
C1081	G1082	C1083	A1084	C1085	C1086	G1087	U1088	C1090	G1091	C1092	A1093	A1094	C1095	C1096	C1097	G1098	C1099	G1100	C1101	G1102	G1103	G1104	U1105	A1106	U1107	C1108	G1109	G1110	C1111	A1112	C1113	G1114	C1120	G1121	G1122	C1123	C1124	G1125	G1126	G1127	C1128	A1129	C1130	U1131	C1132	U1133	A1134	A1135	C1136	G1137	G1138	G1139	G1140	C1141	G1142	G1143	C1144			
C1145	C1146	G1149	A1150	A1151	A1152	C1153	C1154	G1157	A1158	C1159	G1160	U1161	G1162	G1163	A1165	G1166	G1167	G1168	G1169	A1170	C1171	G1172	A1173	C1174	U1175	U1176	C1177	U1178	G1179	U1180	U1181	C1182	A1183	G1184	C1185	A1186	U1187	G1188	G1189	C1192	U1193	U1194	A1195	C1196	G1197	G1198	C1199	C1200	U1201	U1202	U1203	G1204	C1205	A1206	A1207					
C1208	A1209	C1210	A1211	C1212	G1213	U1214	G1215	C1216	U1217	A1218	C1219	A1220	U1221	U1222	C1223	C1224	G1225	C1226	A1227	C1228	U1229	G1230	G1231	C1232	U1233	A1234	G1235	C1236	G1237	U1238	G1239	G1240	C1241	C1245	C1246	G1247	G1248	C1249	A1250	A1251	G1252	G1253	G1254	G1255	G1256	A1257	G1258	C1259	U1260	A1261	U1262	U1263	C1264	G1265	U1266	A1267	A1269			
A1270	A1271	G1272	G1273	U1274	G1275	G1276	G1277	C1280	A1281	U1282	C1285	G1286	A1287	G1288	U1289	G1290	G1291	G1292	G1293	A1294	U1295	C1296	U1298	G1299	G1300	A1301	C1302	C1303	C1304	G1305	A1306	C1307	C1308	C1309	C1310	A1311	G1312	A1313	G1314	A1315	C1316	C1317	C1318	G1319	G1320	A1321	C1322	U1323	C1324	U1325	G1326	U1327	A1328	G1329	U1330					
A1331	A1332	U1333	C1334	C1335	C1336	G1337	G1338	A1339	U1340	C1341	A1342	G1343	U1346	G1348	C1349	C1350	G1351	C1352	G1353	U1354	C1355	U1356	A1357	A1358	U1359	A1360	C1361	G1362	U1363	U1364	C1365	G1368	G1369	G1370	U1373	U1374	G1375	U1376	A1377	C1378	A1379	C1380	C1381	C1382	C1383	G1384	C1385	C1386	C1387	G1388	U1389	A1391	C1395							
A1396	U1397	G1398	G1399	A1400	G1401	G1402	C1403	G1404	U1408	C1409	U1410	A1411	C1412	C1413	C1414	G1415	A1416	A1417	G1418	U1419	R23	U1420	G1421	C1422	C1423	G1424	U1425	A1426	A1427	G1428	C1429	C1430	U1431	A1432	C1433	G1434	G1435	G1436	C1437	A1438	G1439	G1440	C1441	G1442	C1443	C1444	G1445	G1446	G1447	C1448	G1449	U1450	C1451	U1452	G1453	G1454	U1458	U1459		
G1460	A1461	C1462	U1463	G1464	G1465	G1466	G1467	C1468	U1473	C1474	G1475	U1476	A1477	C1478	C1479	A1480	A1481	G1482	G1483	U1484	R23	A1485	G1486	C1487	U1488	G1489	U1490	A1491	C1492	C1493	G1494	A1496	A1497	G1498	G1499	U1500	C1501	C1502	G1503	G1504	C1505	U1506	U1507	A1508	A1509	U1510	C	A	C	C	G1548	F57	C	U	U	U	U	U	G66	T67

• Molecule 2: 30S ribosomal protein S2

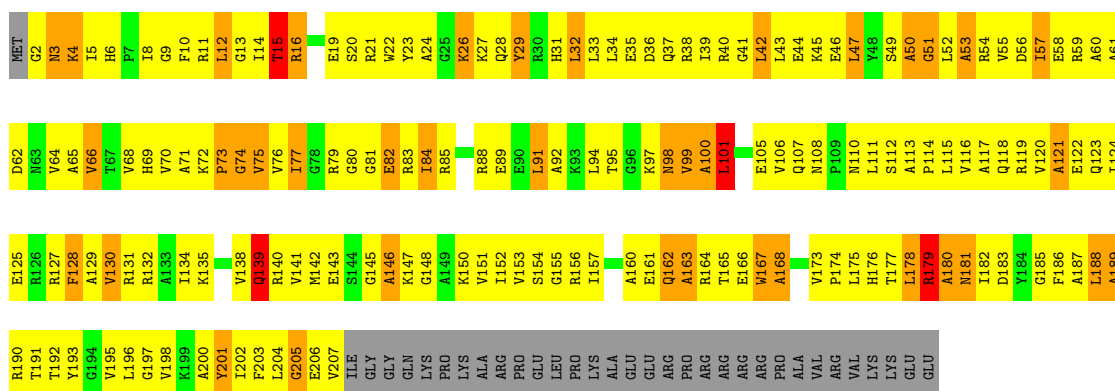


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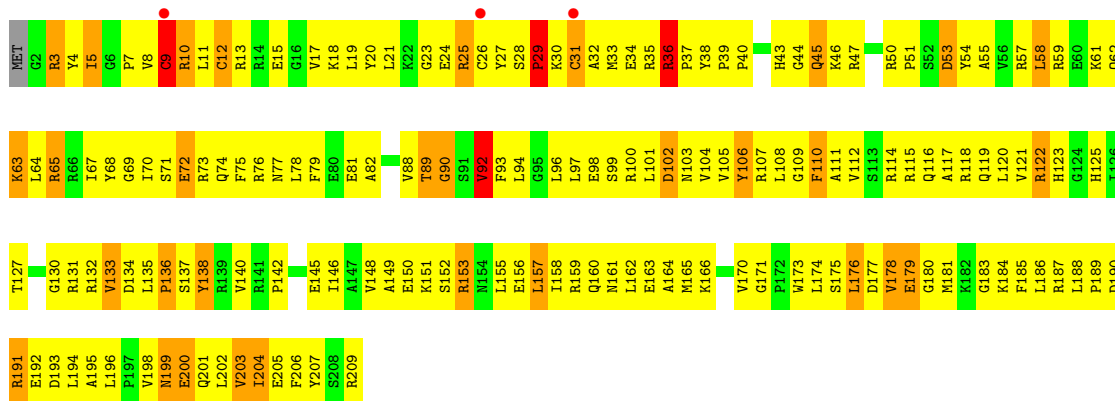
• Molecule 3: 30S ribosomal protein S3

Chain C: 14% 54% 16% 14%



• Molecule 4: 30S ribosomal protein S4

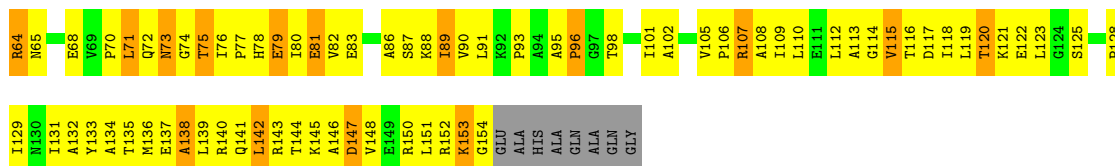
Chain D: 19% 64% 15%



• Molecule 5: 30S ribosomal protein S5

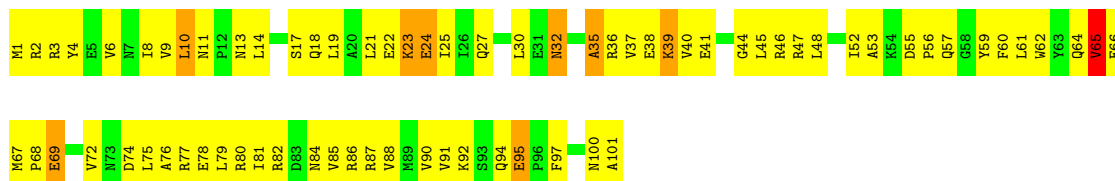
Chain E: 17% 61% 14% 7%





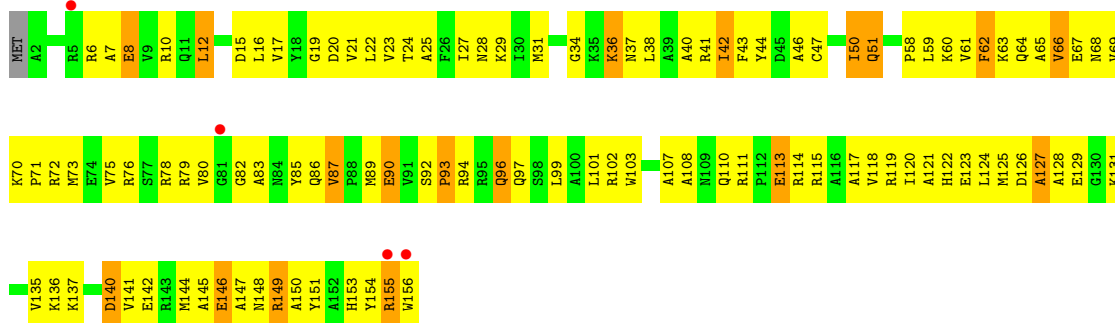
- Molecule 6: 30S ribosomal protein S6

Chain F: 29% 62% 8%



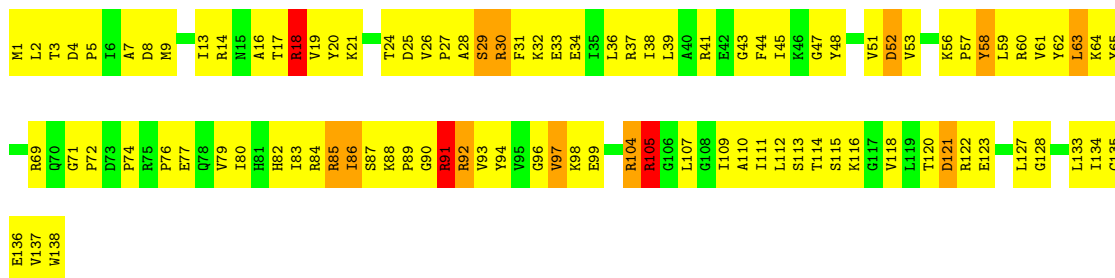
- Molecule 7: 30S ribosomal protein S7

Chain G: 3% 30% 58% 12%



- Molecule 8: 30S ribosomal protein S8

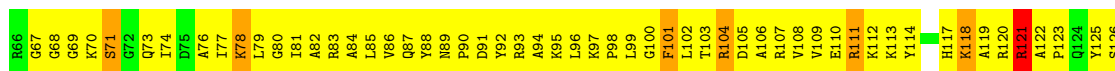
Chain H: 28% 62% 8%



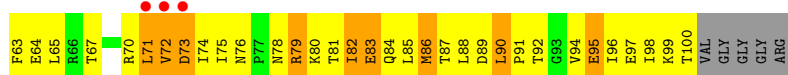
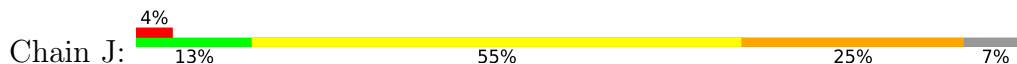
- Molecule 9: 30S ribosomal protein S9

Chain I: 13% 73% 12%

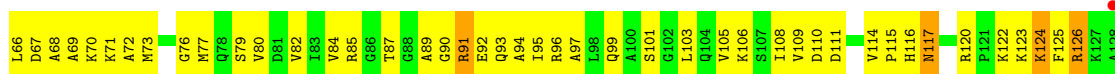




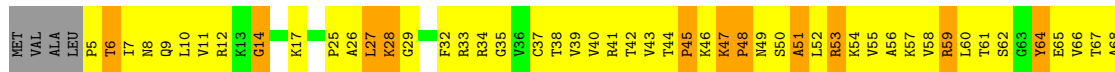
• Molecule 10: 30S ribosomal protein S10



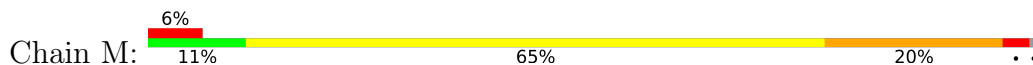
• Molecule 11: 30S ribosomal protein S11

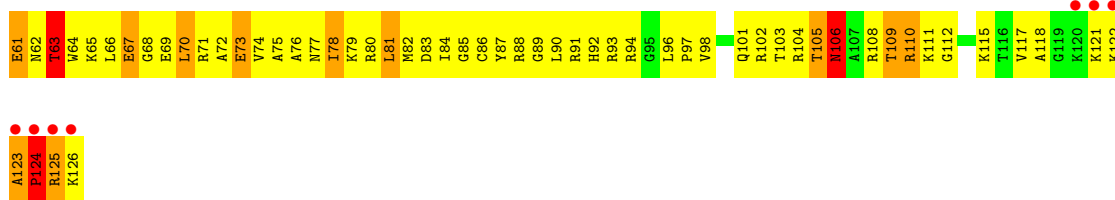


• Molecule 12: 30S ribosomal protein S12



• Molecule 13: 30S ribosomal protein S13





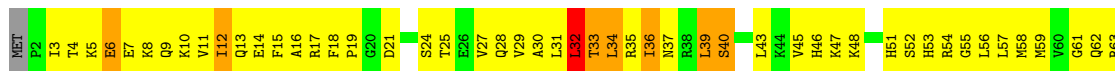
- Molecule 14: 30S ribosomal protein S14

Chain N: 20% 57% 20% ..



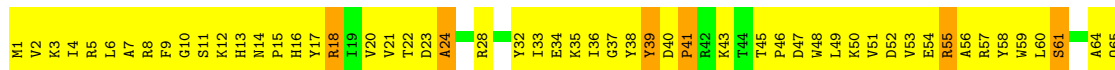
- Molecule 15: 30S ribosomal protein S15

Chain O: 19% 63% 16% ..



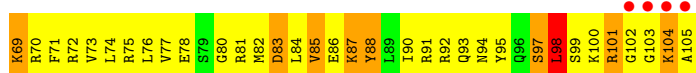
- Molecule 16: 30S ribosomal protein S16

Chain P: 17% 69% 8% 6%



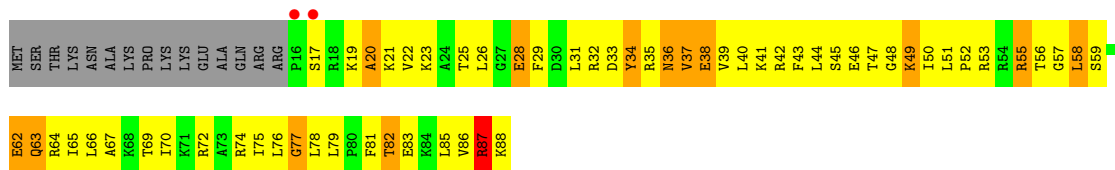
- Molecule 17: 30S ribosomal protein S17

Chain Q: 4% 23% 63% 11% ..

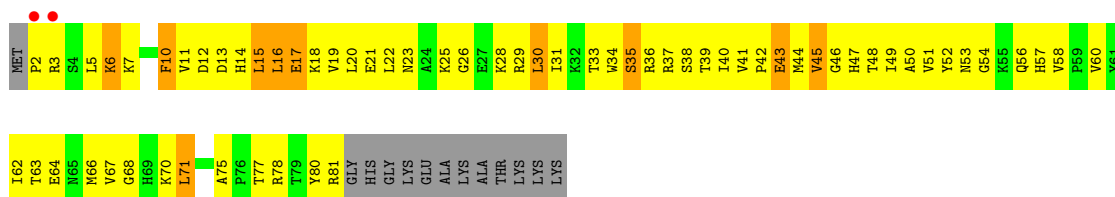
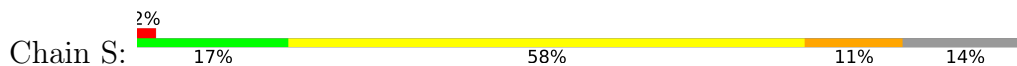


- Molecule 18: 30S ribosomal protein S18

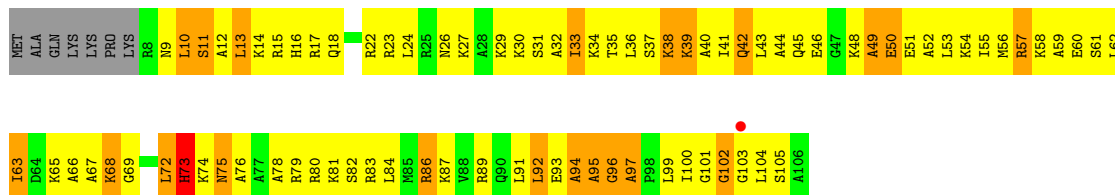
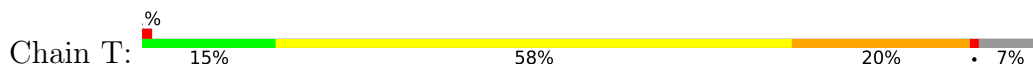
Chain R: 2% 15% 52% 15% 17%



• Molecule 19: 30S ribosomal protein S19



• Molecule 20: 30S ribosomal protein S20



• Molecule 21: 30S ribosomal protein Thx



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	410.44Å 410.44Å 172.65Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.74 – 3.35 29.74 – 3.30	Depositor EDS
% Data completeness (in resolution range)	98.4 (29.74-3.35) 97.0 (29.74-3.30)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.55 (at 3.31Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.265 , 0.289 0.242 , 0.265	Depositor DCC
$R_{free}$ test set	10101 reflections (4.76%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	56.5	Xtrriage
Anisotropy	0.534	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.16 , 19.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.36$ , $\langle L^2 \rangle = 0.19$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.86	EDS
Total number of atoms	51632	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	38.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.65% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality i

### 5.1 Standard geometry i

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

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	0.76	3/36212 (0.0%)	0.84	69/56520 (0.1%)
2	B	0.58	0/1935	0.77	1/2609 (0.0%)
3	C	0.56	0/1636	0.74	0/2205
4	D	0.64	1/1733 (0.1%)	0.79	2/2318 (0.1%)
5	E	0.76	0/1162	0.94	1/1564 (0.1%)
6	F	0.50	0/856	0.69	0/1154
7	G	0.48	0/1276	0.68	0/1709
8	H	0.69	0/1136	0.86	0/1527
9	I	0.51	0/1029	0.74	1/1378 (0.1%)
10	J	0.46	0/807	0.74	0/1085
11	K	0.53	0/900	0.76	0/1213
12	L	0.59	0/986	0.82	0/1320
13	M	0.48	0/1008	0.75	0/1347
14	N	0.59	0/501	0.84	0/664
15	O	0.58	0/745	0.77	0/992
16	P	0.59	0/716	0.81	0/963
17	Q	0.65	0/870	0.85	0/1159
18	R	0.50	0/603	0.74	0/799
19	S	0.43	0/661	0.70	0/890
20	T	0.52	0/764	0.76	0/1006
21	U	0.55	0/212	0.76	0/277
All	All	0.70	4/55748 (0.0%)	0.82	74/82699 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	86
8	H	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
All	All	0	87

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	702	G	C5-C6	-6.16	1.36	1.42
4	D	12	CYS	CB-SG	6.00	1.92	1.82
1	A	1067	G	C5-C6	-5.41	1.36	1.42
1	A	1317	C	N1-C2	5.04	1.45	1.40

All (74) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	637	A	N9-C1'-C2'	9.39	126.21	114.00
1	A	242	A	N9-C1'-C2'	9.14	125.89	114.00
1	A	802	G	N9-C1'-C2'	9.02	125.72	114.00
1	A	938	U	N1-C1'-C2'	8.16	124.61	114.00
1	A	48	C	N1-C1'-C2'	7.85	124.20	114.00
4	D	12	CYS	CA-CB-SG	7.43	127.38	114.00
1	A	262	G	C2'-C3'-O3'	7.18	125.30	109.50
1	A	949	G	N9-C1'-C2'	7.02	123.13	114.00
1	A	176	G	C2'-C3'-O3'	6.80	124.58	113.70
1	A	311	A	N9-C1'-C2'	6.66	122.66	114.00
1	A	1304	C	N1-C1'-C2'	6.63	122.62	114.00
1	A	168	U	N1-C1'-C2'	6.54	122.50	114.00
1	A	850	A	O4'-C1'-N9	6.52	113.42	108.20
1	A	954	G	N9-C1'-C2'	6.50	122.44	114.00
1	A	705	G	N9-C1'-C2'	6.47	122.41	114.00
1	A	425	U	O4'-C1'-N1	6.42	113.34	108.20
1	A	32	G	N9-C1'-C2'	6.34	122.24	114.00
1	A	543	A	N9-C1'-C2'	6.26	122.14	114.00
1	A	368	C	C2'-C3'-O3'	6.19	123.61	113.70
1	A	1483	G	C2'-C3'-O3'	6.18	123.59	113.70
1	A	1482	G	OP2-P-O3'	6.16	118.74	105.20
1	A	361	U	N1-C1'-C2'	6.13	121.97	114.00
1	A	912	C	C1'-O4'-C4'	-6.04	105.07	109.90
1	A	949	G	O4'-C1'-N9	6.01	113.00	108.20
2	B	187	LEU	N-CA-C	-5.99	94.84	111.00
1	A	912	C	O4'-C1'-N1	5.97	112.98	108.20
1	A	1507	G	O4'-C1'-N9	5.94	112.95	108.20
1	A	262	G	O4'-C1'-N9	-5.92	103.47	108.20
9	I	6	GLY	N-CA-C	-5.91	98.31	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1477	A	O5'-P-OP1	-5.90	100.39	105.70
1	A	1480	A	N9-C1'-C2'	5.89	121.66	114.00
1	A	480	A	N9-C1'-C2'	5.84	121.59	114.00
1	A	862	U	N1-C1'-C2'	5.66	121.36	114.00
1	A	1091	G	C4'-C3'-C2'	-5.65	96.95	102.60
1	A	1262	A	C1'-O4'-C4'	-5.64	105.39	109.90
5	E	81	GLU	N-CA-C	-5.56	95.99	111.00
1	A	204	A	N9-C1'-C2'	5.55	121.22	114.00
1	A	103	A	N9-C1'-C2'	5.55	121.21	114.00
1	A	109	G	OP2-P-O3'	5.53	117.36	105.20
1	A	125	A	N9-C1'-C2'	5.53	121.19	114.00
1	A	1050	A	N9-C1'-C2'	5.46	121.10	114.00
1	A	849	U	N1-C1'-C2'	5.45	121.09	114.00
1	A	938	U	C2'-C3'-O3'	5.45	122.42	113.70
1	A	239	A	N9-C1'-C2'	5.44	121.07	114.00
1	A	1262	A	N9-C1'-C2'	5.42	121.05	114.00
1	A	625	U	N1-C1'-C2'	5.42	121.04	114.00
1	A	949	G	C1'-O4'-C4'	-5.37	105.61	109.90
1	A	168	U	O4'-C1'-N1	5.36	112.49	108.20
1	A	1077	G	N9-C1'-C2'	5.33	120.93	114.00
1	A	493	A	C2'-C3'-O3'	5.30	122.18	113.70
1	A	543	A	OP2-P-O3'	5.28	116.82	105.20
1	A	1262	A	O4'-C1'-N9	5.26	112.41	108.20
1	A	446	A	N9-C1'-C2'	5.25	120.82	114.00
1	A	1318	C	N1-C1'-C2'	5.24	120.81	114.00
1	A	301	G	N9-C1'-C2'	5.23	120.80	114.00
1	A	109	G	N9-C1'-C2'	5.21	120.77	114.00
1	A	191	G	N9-C1'-C2'	5.21	120.77	114.00
1	A	262	G	C5'-C4'-C3'	-5.20	107.68	116.00
1	A	546	C	O4'-C1'-N1	5.19	112.35	108.20
1	A	1134	A	N9-C1'-C2'	5.18	120.73	114.00
1	A	868	G	OP2-P-O3'	5.17	116.58	105.20
1	A	803	A	OP2-P-O3'	5.16	116.56	105.20
1	A	736	G	N9-C1'-C2'	5.16	120.71	114.00
1	A	1122	G	N9-C1'-C2'	5.15	120.69	114.00
1	A	954	G	C1'-O4'-C4'	-5.14	105.79	109.90
1	A	495	C	C1'-O4'-C4'	-5.12	105.81	109.90
1	A	777	U	N1-C1'-C2'	5.11	120.64	114.00
4	D	166	LYS	N-CA-C	-5.10	97.22	111.00
1	A	501	G	N9-C1'-C2'	5.10	120.62	114.00
1	A	1363	U	C2'-C3'-O3'	5.09	121.85	113.70
1	A	686	A	N9-C1'-C2'	5.08	120.60	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	51	A	O4'-C1'-N9	5.07	112.25	108.20
1	A	1280	C	N1-C1'-C2'	5.05	120.57	114.00
1	A	1480	A	O4'-C1'-N9	5.03	112.23	108.20

There are no chirality outliers.

All (87) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	101	G	Sidechain
1	A	1032	U	Sidechain
1	A	1038	A	Sidechain
1	A	1050	A	Sidechain
1	A	1056	U	Sidechain
1	A	1060	G	Sidechain
1	A	109	G	Sidechain
1	A	1091	G	Sidechain
1	A	112	U	Sidechain
1	A	1122	G	Sidechain
1	A	1163	G	Sidechain
1	A	1187	U	Sidechain
1	A	12	G	Sidechain
1	A	1202	G	Sidechain
1	A	1213	G	Sidechain
1	A	1238	A	Sidechain
1	A	125	A	Sidechain
1	A	1263	U	Sidechain
1	A	1283	U	Sidechain
1	A	1304	C	Sidechain
1	A	1353	G	Sidechain
1	A	1355	U	Sidechain
1	A	1376	U	Sidechain
1	A	1381	A	Sidechain
1	A	14	U	Sidechain
1	A	1419	U	Sidechain
1	A	142	G	Sidechain
1	A	1475	G	Sidechain
1	A	1503	G	Sidechain
1	A	199	U	Sidechain
1	A	202	A	Sidechain
1	A	204	A	Sidechain
1	A	225	U	Sidechain
1	A	228	G	Sidechain

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
1	A	249	U	Sidechain
1	A	259	A	Sidechain
1	A	261	G	Sidechain
1	A	262	G	Sidechain
1	A	271	G	Sidechain
1	A	276	C	Sidechain
1	A	280	G	Sidechain
1	A	295	G	Sidechain
1	A	317	A	Sidechain
1	A	350	G	Sidechain
1	A	363	U	Sidechain
1	A	408	A	Sidechain
1	A	443	A	Sidechain
1	A	466	G	Sidechain
1	A	480	A	Sidechain
1	A	50	U	Sidechain
1	A	500	U	Sidechain
1	A	501	G	Sidechain
1	A	517	A	Sidechain
1	A	52	A	Sidechain
1	A	554	G	Sidechain
1	A	559	G	Sidechain
1	A	608	C	Sidechain
1	A	61	A	Sidechain
1	A	636	U	Sidechain
1	A	641	G	Sidechain
1	A	650	G	Sidechain
1	A	703	C	Sidechain
1	A	711	G	Sidechain
1	A	736	G	Sidechain
1	A	747	G	Sidechain
1	A	750	A	Sidechain
1	A	777	U	Sidechain
1	A	796	C	Sidechain
1	A	803	A	Sidechain
1	A	811	U	Sidechain
1	A	819	U	Sidechain
1	A	820	G	Sidechain
1	A	842	A	Sidechain
1	A	846	C	Sidechain
1	A	847	G	Sidechain
1	A	848	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	85	C	Sidechain
1	A	850	A	Sidechain
1	A	856	G	Sidechain
1	A	858	C	Sidechain
1	A	898	U	Sidechain
1	A	924	A	Sidechain
1	A	925	G	Sidechain
1	A	933	U	Sidechain
1	A	941	G	Sidechain
1	A	952	A	Sidechain
8	H	58	TYR	Sidechain

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32349	0	16328	2022	0
2	B	1900	0	1951	273	0
3	C	1612	0	1677	302	0
4	D	1703	0	1767	271	0
5	E	1146	0	1207	206	0
6	F	843	0	857	101	0
7	G	1257	0	1296	158	0
8	H	1116	0	1177	132	0
9	I	1011	0	1043	181	0
10	J	794	0	840	144	0
11	K	885	0	904	116	0
12	L	970	0	1057	170	0
13	M	997	0	1072	185	0
14	N	492	0	533	93	0
15	O	734	0	771	101	0
16	P	700	0	720	102	0
17	Q	857	0	930	147	0
18	R	597	0	668	120	0
19	S	647	0	673	111	0
20	T	762	0	856	132	0
21	U	208	0	221	28	0
22	A	52	0	46	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	51632	0	36594	4702	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 54.

All (4702) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:89:PRO:HA	8:H:92:ARG:NH1	1.49	1.27
12:L:41:ARG:HG2	12:L:42:THR:H	1.05	1.13
3:C:156:ARG:H	3:C:163:ALA:HA	1.04	1.13
19:S:28:LYS:HG2	19:S:29:ARG:H	1.07	1.12
10:J:45:ARG:HB3	10:J:45:ARG:HH11	1.15	1.11
3:C:91:LEU:HD21	3:C:99:VAL:HG13	1.17	1.09
12:L:28:LYS:HD2	12:L:33:ARG:HH22	1.00	1.08
1:A:239:A:H4'	1:A:240:U:C5'	1.84	1.08
1:A:1132:C:H2'	1:A:1133:U:H6	1.12	1.07
1:A:181:C:O3'	20:T:82:SER:HB3	1.54	1.06
1:A:917:G:H5''	7:G:102:ARG:HH22	1.17	1.05
5:E:18:ARG:HG2	5:E:19:MET:H	0.98	1.05
5:E:139:LEU:HD22	5:E:142:LEU:HD11	1.33	1.05
2:B:68:ILE:H	2:B:90:MET:HE3	1.20	1.04
1:A:239:A:H4'	1:A:240:U:H5'	1.38	1.03
1:A:1030:G:H5''	14:N:4:LYS:HD2	1.38	1.03
19:S:20:LEU:HA	19:S:23:ASN:HD22	1.21	1.02
1:A:106:G:H21	1:A:350:G:H5'	1.20	1.02
16:P:74:LEU:HB3	16:P:79:VAL:HG21	1.42	1.01
1:A:1207:A:H5'	13:M:103:THR:OG1	1.61	1.01
9:I:26:VAL:HG22	9:I:61:ALA:HB3	1.39	1.01
1:A:917:G:H5''	7:G:102:ARG:NH2	1.75	1.01
7:G:113:GLU:HG2	7:G:119:ARG:HG2	1.43	1.01
8:H:87:SER:HA	8:H:93:VAL:HG23	1.40	1.00
9:I:93:ARG:HD3	9:I:97:LYS:HE3	1.40	1.00
1:A:1432:A:H5''	1:A:1433:C:H5	1.25	0.99
1:A:1426:G:H5''	1:A:1427:A:H5'	1.40	0.99
13:M:65:LYS:HE3	13:M:69:GLU:HG2	1.44	0.99
6:F:48:LEU:HD13	6:F:52:ILE:HG13	1.44	0.98
4:D:131:ARG:H	4:D:131:ARG:HD2	1.28	0.98
14:N:41:ARG:HG2	14:N:41:ARG:HH11	1.27	0.98
4:D:140:VAL:HG11	4:D:146:ILE:HD11	1.42	0.98
3:C:94:LEU:HD23	3:C:95:THR:HG23	1.45	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1425:G:N2	1:A:1427:A:H3'	1.78	0.97
1:A:1480:A:H2	1:A:1483:G:H1	1.03	0.97
5:E:18:ARG:HG2	5:E:19:MET:N	1.78	0.97
12:L:41:ARG:HG2	12:L:42:THR:N	1.80	0.97
1:A:563:G:H5'	1:A:712:A:H1'	1.46	0.97
9:I:28:VAL:HG22	9:I:63:ILE:HB	1.45	0.97
1:A:1135:A:H5''	10:J:13:HIS:CD2	1.99	0.96
1:A:1132:C:H2'	1:A:1133:U:C6	2.01	0.96
1:A:1331:A:H2'	1:A:1332:A:H8	1.30	0.96
1:A:791:A:H2'	1:A:792:C:H6	1.29	0.95
3:C:58:GLU:H	3:C:65:ALA:HB3	1.28	0.95
12:L:28:LYS:HD2	12:L:33:ARG:NH2	1.81	0.95
3:C:195:VAL:O	3:C:196:LEU:HD23	1.65	0.94
3:C:188:LEU:HD11	3:C:195:VAL:HG13	1.48	0.94
5:E:79:GLU:HG3	5:E:93:PRO:HD2	1.50	0.94
5:E:80:ILE:HD11	5:E:91:LEU:HD12	1.48	0.94
1:A:1467:G:C2'	1:A:1468:C:H5''	1.98	0.94
20:T:43:LEU:HD11	20:T:55:ILE:HD12	1.48	0.94
1:A:937:A:H3'	1:A:938:U:H5''	1.48	0.94
6:F:30:LEU:HD23	6:F:75:LEU:HD21	1.50	0.94
1:A:1418:G:H2'	1:A:1419:U:C6	2.03	0.93
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.48	0.93
1:A:1467:G:H2'	1:A:1468:C:H5''	1.47	0.93
1:A:531:A:H4'	1:A:532:G:O5'	1.68	0.93
5:E:89:ILE:HD13	5:E:90:VAL:N	1.84	0.93
1:A:1325:G:H1'	9:I:121:ARG:HH12	1.31	0.92
3:C:70:VAL:HG21	3:C:76:VAL:HG21	1.49	0.92
1:A:246:A:H4'	1:A:247:G:O5'	1.68	0.92
9:I:26:VAL:HB	9:I:33:PHE:HB2	1.50	0.92
5:E:41:VAL:CG2	5:E:113:ALA:HA	2.00	0.92
1:A:1282:G:HO2'	1:A:1283:U:H6	1.13	0.91
9:I:108:VAL:HG12	9:I:109:VAL:H	1.34	0.91
5:E:43:LEU:HD23	5:E:44:GLY:N	1.85	0.91
3:C:91:LEU:HD21	3:C:99:VAL:CG1	1.99	0.91
1:A:347:G:H4'	1:A:348:C:OP1	1.71	0.91
1:A:1425:G:H21	1:A:1427:A:H3'	1.31	0.91
3:C:52:LEU:HD23	3:C:52:LEU:H	1.35	0.91
1:A:945:C:H4'	9:I:128:ARG:HG3	1.52	0.91
1:A:1218:A:H4'	1:A:1286:G:H4'	1.52	0.91
15:O:56:LEU:HA	15:O:59:MET:HE2	1.52	0.91
1:A:1486:G:H2'	1:A:1487:C:H6	1.36	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:13:LEU:H	20:T:13:LEU:HD12	1.35	0.91
2:B:204:ASN:HD22	2:B:206:ASP:H	1.19	0.90
1:A:1158:A:H2'	1:A:1159:G:C8	2.06	0.90
1:A:858:C:H5''	12:L:12:ARG:HH21	1.37	0.90
2:B:209:ARG:HE	2:B:239:VAL:CG1	1.84	0.90
3:C:3:ASN:HD22	3:C:3:ASN:N	1.69	0.90
6:F:9:VAL:HB	6:F:87:ARG:HB2	1.51	0.90
1:A:251:G:H1'	17:Q:16:GLN:NE2	1.87	0.89
1:A:434:G:H4'	1:A:435:A:OP1	1.69	0.89
3:C:6:HIS:HD2	3:C:9:GLY:H	1.16	0.89
3:C:26:LYS:H	3:C:26:LYS:HD3	1.37	0.89
4:D:104:VAL:HG12	4:D:108:LEU:HD11	1.53	0.89
1:A:1040:G:H5''	3:C:154:SER:HB2	1.53	0.89
12:L:67:THR:HG21	12:L:96:VAL:HG22	1.54	0.89
1:A:43:G:H2'	1:A:44:C:C6	2.06	0.89
1:A:791:A:H2'	1:A:792:C:C6	2.07	0.89
5:E:144:THR:HG22	5:E:145:LYS:N	1.87	0.89
1:A:823:U:H5'	1:A:824:C:H5	1.38	0.89
20:T:57:ARG:HE	20:T:102:GLY:HA3	1.36	0.89
1:A:584:C:OP1	8:H:97:VAL:HG12	1.73	0.89
10:J:34:VAL:HG22	10:J:74:ILE:HG12	1.55	0.89
1:A:1287:G:HO2'	1:A:1288:A:H8	0.93	0.88
1:A:1396:A:H2	1:A:1465:G:H22	1.10	0.88
11:K:54:ARG:O	11:K:57:THR:HG22	1.73	0.88
8:H:83:ILE:HG13	8:H:137:VAL:HG22	1.56	0.88
1:A:1433:C:H4'	1:A:1434:G:O5'	1.71	0.88
4:D:70:ILE:HD11	4:D:100:ARG:NE	1.87	0.88
10:J:12:ASP:HB3	10:J:15:THR:HB	1.56	0.88
1:A:1120:C:H4'	1:A:1121:G:C2	2.08	0.88
11:K:48:ILE:HD13	11:K:63:LEU:HB2	1.54	0.88
19:S:28:LYS:HG2	19:S:29:ARG:N	1.89	0.88
1:A:804:U:H4'	1:A:805:G:OP2	1.71	0.87
1:A:1328:A:H2'	7:G:10:ARG:HH22	1.39	0.87
7:G:51:GLN:HG2	7:G:58:PRO:HD3	1.56	0.87
12:L:41:ARG:CG	12:L:42:THR:H	1.87	0.87
1:A:1140:A:H1'	1:A:1163:G:N2	1.90	0.87
1:A:1269:A:H2	1:A:1335:G:H1'	1.40	0.87
13:M:81:LEU:HA	13:M:84:ILE:HG12	1.57	0.87
14:N:27:CYS:SG	14:N:29:ARG:HB2	2.15	0.87
1:A:648:G:H22	1:A:725:G:H1	1.20	0.87
2:B:142:LEU:HD22	2:B:146:GLN:NE2	1.90	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:97:LYS:HE2	9:I:102:LEU:HD12	1.55	0.87
1:A:61:A:H4'	1:A:62:G:O5'	1.73	0.87
3:C:156:ARG:N	3:C:163:ALA:HA	1.88	0.87
1:A:367:G:O2'	1:A:368:C:H5'	1.75	0.87
3:C:14:ILE:HG22	3:C:15:THR:H	1.39	0.87
1:A:1177:C:H3'	1:A:1178:U:C5'	2.05	0.86
4:D:28:SER:O	4:D:30:LYS:N	2.08	0.86
8:H:123:GLU:O	8:H:127:LEU:HD23	1.76	0.86
1:A:106:G:N2	1:A:350:G:H5'	1.90	0.86
3:C:84:ILE:O	3:C:88:ARG:HB2	1.74	0.86
2:B:98:LEU:HB2	2:B:101:MET:SD	2.14	0.86
13:M:6:GLY:O	13:M:7:VAL:HG22	1.74	0.86
1:A:1288:A:N6	1:A:1313:G:H1'	1.90	0.86
3:C:188:LEU:CD1	3:C:189:ALA:H	1.88	0.86
1:A:43:G:H2'	1:A:44:C:H6	1.39	0.86
1:A:1432:A:H5''	1:A:1433:C:C5	2.09	0.86
2:B:53:ARG:HA	2:B:56:ARG:NH1	1.91	0.86
1:A:191:G:H4'	1:A:192:G:OP2	1.76	0.86
3:C:188:LEU:HD12	3:C:189:ALA:H	1.41	0.86
1:A:603:U:H3	4:D:135:LEU:HD21	1.39	0.85
1:A:722:C:OP2	6:F:92:LYS:HE3	1.75	0.85
10:J:90:LEU:H	10:J:91:PRO:HD2	1.40	0.85
1:A:550:G:H4'	1:A:551:G:OP1	1.73	0.85
1:A:661:U:H3	1:A:697:G:H22	1.20	0.85
1:A:900:G:H2'	1:A:901:A:C8	2.10	0.85
4:D:125:HIS:HD1	4:D:152:SER:HG	1.25	0.85
1:A:485:C:H2'	1:A:486:G:H8	1.40	0.85
5:E:110:LEU:HD13	5:E:118:ILE:HD12	1.59	0.85
7:G:59:LEU:HD11	7:G:63:LYS:HE3	1.56	0.85
8:H:89:PRO:HA	8:H:92:ARG:HH12	1.36	0.85
1:A:103:A:H2'	1:A:322:G:H21	1.41	0.85
5:E:139:LEU:CD2	5:E:142:LEU:HD11	2.06	0.85
15:O:25:THR:HG21	15:O:70:LEU:HD23	1.56	0.85
1:A:1207:A:H5'	13:M:103:THR:HG1	1.37	0.85
4:D:150:GLU:H	4:D:150:GLU:CD	1.78	0.85
1:A:1233:A:H2'	1:A:1234:A:C8	2.12	0.84
1:A:1331:A:H2'	1:A:1332:A:C8	2.13	0.84
1:A:1383:C:H4'	1:A:1384:G:OP2	1.78	0.84
7:G:50:ILE:HD11	7:G:121:ALA:HA	1.57	0.84
1:A:1099:C:H2'	1:A:1100:G:H5'	1.60	0.84
9:I:17:VAL:HG11	9:I:81:ILE:HA	1.59	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1172:G:OP1	3:C:4:LYS:HA	1.78	0.84
3:C:91:LEU:CD2	3:C:99:VAL:HG13	2.05	0.84
5:E:80:ILE:HD12	5:E:80:ILE:O	1.78	0.83
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.12	0.83
9:I:65:VAL:HG21	9:I:73:GLN:HB3	1.58	0.83
3:C:64:VAL:HB	3:C:99:VAL:HB	1.58	0.83
13:M:81:LEU:HA	13:M:84:ILE:CG1	2.08	0.83
1:A:1216:C:H5'	1:A:1348:G:OP1	1.78	0.83
2:B:74:LYS:HZ1	2:B:206:ASP:HB2	1.44	0.83
17:Q:101:ARG:HA	17:Q:101:ARG:HE	1.42	0.83
1:A:1287:G:H5'	21:U:4:GLY:HA3	1.59	0.83
7:G:37:ASN:ND2	9:I:41:VAL:HG23	1.94	0.83
13:M:62:ASN:O	13:M:63:THR:HB	1.76	0.83
4:D:151:LYS:H	4:D:151:LYS:HD2	1.43	0.82
19:S:64:GLU:O	19:S:67:VAL:HG23	1.80	0.82
5:E:89:ILE:HD13	5:E:89:ILE:C	1.99	0.82
1:A:130:C:O2	16:P:1:MET:HB2	1.80	0.82
1:A:1282:G:O2'	1:A:1283:U:H6	1.62	0.82
5:E:18:ARG:CG	5:E:19:MET:H	1.87	0.82
11:K:48:ILE:HG22	11:K:49:GLY:H	1.44	0.82
3:C:130:VAL:HG21	3:C:157:ILE:HG23	1.58	0.82
1:A:182:C:N3	20:T:105:SER:HB3	1.95	0.82
1:A:397:C:H2'	1:A:398:G:H8	1.44	0.82
2:B:30:ARG:HG3	2:B:31:TYR:CD2	2.15	0.82
13:M:4:ILE:HG22	13:M:5:ALA:H	1.45	0.82
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.62	0.82
13:M:98:VAL:HG23	13:M:110:ARG:HH12	1.44	0.82
1:A:970:U:H4'	1:A:971:G:O5'	1.79	0.82
18:R:86:VAL:O	18:R:87:ARG:HG2	1.79	0.82
1:A:515:U:H4'	1:A:516:A:H5''	1.62	0.82
4:D:127:THR:HG23	4:D:130:GLY:O	1.78	0.82
10:J:49:VAL:O	10:J:60:ARG:HA	1.79	0.82
1:A:823:U:H5'	1:A:824:C:C5	2.14	0.81
1:A:947:A:H61	13:M:126:LYS:HB2	1.43	0.81
1:A:1009:C:H2'	1:A:1010:G:H8	1.45	0.81
1:A:1238:A:H4'	1:A:1239:U:H5'	1.60	0.81
4:D:121:VAL:O	4:D:134:ASP:HA	1.80	0.81
1:A:641:G:O2'	1:A:642:G:H5'	1.79	0.81
6:F:3:ARG:HH21	6:F:64:GLN:HE22	1.28	0.81
17:Q:9:VAL:HG22	17:Q:56:VAL:HG22	1.60	0.81
1:A:670:U:O4	1:A:687:G:H1'	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:68:ILE:N	2:B:90:MET:HE3	1.95	0.81
5:E:12:LEU:HD12	5:E:31:LEU:HB2	1.62	0.81
7:G:59:LEU:O	7:G:62:PHE:HB3	1.80	0.81
12:L:75:HIS:HA	12:L:102:ARG:HH22	1.45	0.81
13:M:57:ARG:HG3	13:M:61:GLU:OE2	1.80	0.81
2:B:204:ASN:ND2	2:B:206:ASP:H	1.78	0.81
10:J:3:LYS:HA	10:J:75:ILE:HA	1.63	0.81
1:A:442:G:H2'	1:A:470:G:N2	1.96	0.81
1:A:1274:U:H5'	9:I:38:GLN:NE2	1.96	0.81
1:A:424:G:H4'	1:A:425:U:O5'	1.78	0.81
11:K:77:MET:HE1	11:K:80:VAL:HG22	1.62	0.81
12:L:70:ILE:HD13	12:L:77:LEU:HD12	1.61	0.81
13:M:75:ALA:HA	13:M:78:ILE:HD12	1.60	0.81
17:Q:67:LYS:O	17:Q:68:ARG:HB3	1.80	0.81
18:R:47:THR:HB	18:R:49:LYS:HE3	1.61	0.81
1:A:1280:C:C2	7:G:114:ARG:NH1	2.49	0.81
1:A:609:G:H2'	1:A:610:U:C6	2.16	0.80
2:B:130:ARG:NH2	3:C:207:VAL:HG22	1.95	0.80
10:J:3:LYS:HG2	10:J:75:ILE:HG23	1.63	0.80
4:D:102:ASP:HB3	4:D:136:PRO:HA	1.62	0.80
11:K:66:LEU:HB3	11:K:70:LYS:HE3	1.62	0.80
1:A:1124:C:H2'	1:A:1125:G:H8	1.43	0.80
6:F:100:ASN:HD22	18:R:23:LYS:HG2	1.45	0.80
20:T:79:ARG:HE	20:T:83:ARG:HH12	1.26	0.80
1:A:205:G:H2'	1:A:206:G:H8	1.47	0.80
1:A:1305:G:H2'	1:A:1306:A:C8	2.17	0.80
10:J:8:LEU:HB2	10:J:70:ARG:HB2	1.61	0.80
16:P:39:TYR:CD2	16:P:73:LEU:HD11	2.17	0.80
18:R:53:ARG:NH1	18:R:59:SER:HA	1.95	0.80
13:M:79:LYS:O	13:M:82:MET:HB3	1.82	0.80
3:C:32:LEU:HD21	3:C:59:ARG:HD2	1.64	0.80
4:D:109:GLY:O	4:D:111:ALA:N	2.14	0.80
1:A:401:U:H3'	1:A:402:G:H5'	1.63	0.80
12:L:39:VAL:O	12:L:56:ALA:HA	1.81	0.80
11:K:21:ILE:HB	11:K:84:VAL:HG12	1.65	0.80
1:A:603:U:N3	4:D:135:LEU:HD21	1.96	0.79
3:C:47:LEU:H	3:C:47:LEU:HD12	1.47	0.79
5:E:12:LEU:CD1	5:E:31:LEU:HB2	2.12	0.79
20:T:57:ARG:NE	20:T:102:GLY:HA3	1.97	0.79
1:A:385:A:H2'	1:A:386:C:H5'	1.64	0.79
1:A:954:G:OP2	1:A:1340:U:H1'	1.81	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1177:C:H3'	1:A:1178:U:H5'	1.62	0.79
1:A:1274:U:P	7:G:41:ARG:HH22	2.04	0.79
1:A:1287:G:H22	1:A:1313:G:H2'	1.47	0.79
3:C:155:GLY:O	3:C:196:LEU:HD22	1.81	0.79
14:N:41:ARG:HG2	14:N:41:ARG:NH1	1.94	0.79
11:K:58:PRO:HB2	11:K:93:GLN:HG3	1.64	0.79
1:A:386:C:H2'	1:A:387:G:C8	2.18	0.79
1:A:822:G:H2'	1:A:823:U:H5''	1.62	0.79
1:A:1080:C:H2'	1:A:1081:C:C6	2.18	0.79
1:A:65:G:H4'	1:A:66:U:H5''	1.64	0.79
1:A:386:C:H2'	1:A:387:G:H8	1.46	0.79
1:A:1329:G:O2'	1:A:1330:U:OP2	1.98	0.79
1:A:1462:C:H2'	1:A:1463:U:H6	1.48	0.79
6:F:22:GLU:OE1	6:F:82:ARG:HD3	1.83	0.79
13:M:65:LYS:HE3	13:M:69:GLU:CG	2.12	0.79
7:G:75:VAL:HG21	7:G:144:MET:HB3	1.63	0.79
13:M:4:ILE:HG22	13:M:5:ALA:N	1.98	0.79
1:A:252:U:H2'	1:A:253:G:H8	1.48	0.78
7:G:145:ALA:C	7:G:147:ALA:H	1.85	0.78
1:A:323:A:H4'	1:A:324:C:OP1	1.84	0.78
4:D:64:LEU:HD23	4:D:198:VAL:HG11	1.63	0.78
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.64	0.78
4:D:131:ARG:H	4:D:131:ARG:CD	1.95	0.78
5:E:71:LEU:HD11	5:E:114:GLY:HA3	1.63	0.78
10:J:30:SER:OG	10:J:81:THR:HA	1.84	0.78
13:M:117:VAL:HG12	13:M:118:ALA:H	1.46	0.78
9:I:117:HIS:O	9:I:118:LYS:HG3	1.83	0.78
1:A:684:G:O3'	1:A:687:G:H5'	1.83	0.78
14:N:14:PRO:C	14:N:16:PHE:H	1.85	0.78
1:A:25:U:H2'	1:A:26:C:H6	1.49	0.78
5:E:144:THR:HG22	5:E:145:LYS:H	1.43	0.78
11:K:91:ARG:HD3	18:R:88:LYS:HE2	1.64	0.78
13:M:52:GLU:HG2	13:M:55:ARG:HH21	1.49	0.78
1:A:94:C:H2'	1:A:95:A:C8	2.19	0.78
1:A:1419:U:H2'	1:A:1420:C:C6	2.19	0.78
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.65	0.78
1:A:802:G:H3'	1:A:803:A:C5'	2.14	0.78
1:A:1200:C:H2'	1:A:1201:U:C6	2.18	0.78
8:H:7:ALA:HB2	8:H:85:ARG:HD2	1.66	0.78
9:I:9:ARG:HG2	9:I:14:VAL:HG22	1.66	0.78
9:I:125:TYR:CE1	9:I:128:ARG:HD2	2.19	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:824:C:H5''	1:A:825:U:OP1	1.84	0.78
5:E:51:VAL:O	5:E:55:VAL:HG23	1.84	0.78
16:P:9:PHE:CE2	16:P:18:ARG:HD2	2.19	0.78
1:A:1080:C:H2'	1:A:1081:C:H6	1.46	0.78
5:E:144:THR:O	5:E:148:VAL:HG23	1.84	0.78
8:H:86:ILE:HD11	8:H:136:GLU:HB2	1.66	0.77
13:M:108:ARG:NH1	13:M:111:LYS:HD2	1.97	0.77
1:A:850:A:H4'	1:A:851:A:OP1	1.83	0.77
8:H:34:GLU:O	8:H:37:ARG:HB3	1.84	0.77
9:I:19:LEU:O	9:I:20:ARG:HG3	1.83	0.77
18:R:45:SER:C	18:R:47:THR:H	1.86	0.77
1:A:400:U:H2'	1:A:401:U:C6	2.19	0.77
1:A:489:G:H5'	1:A:518:U:H2'	1.66	0.77
1:A:1047:G:H4'	1:A:1048:U:C5'	2.14	0.77
3:C:110:ASN:O	3:C:111:LEU:HD23	1.83	0.77
13:M:78:ILE:O	13:M:81:LEU:HD23	1.85	0.77
4:D:70:ILE:HD11	4:D:100:ARG:CD	2.14	0.77
17:Q:12:SER:HB3	17:Q:20:THR:HB	1.65	0.77
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.49	0.77
6:F:80:ARG:NH1	6:F:88:VAL:HB	1.99	0.77
12:L:120:TYR:O	12:L:122:THR:HG23	1.84	0.77
17:Q:9:VAL:HG21	17:Q:84:LEU:HD13	1.66	0.77
18:R:39:VAL:HG13	18:R:40:LEU:N	1.99	0.77
13:M:98:VAL:HG23	13:M:110:ARG:NH1	1.98	0.77
18:R:47:THR:CB	18:R:49:LYS:HE3	2.14	0.77
19:S:12:ASP:HB2	19:S:35:SER:OG	1.84	0.77
1:A:190:U:O4	17:Q:62:SER:HB3	1.84	0.77
1:A:1498:G:H2'	1:A:1499:G:H8	1.48	0.77
6:F:18:GLN:O	6:F:21:LEU:HB3	1.85	0.77
12:L:115:LYS:O	12:L:117:ARG:N	2.16	0.77
19:S:25:LYS:H	19:S:25:LYS:HD2	1.50	0.77
1:A:1142:U:H5'	1:A:1143:G:OP1	1.85	0.77
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.19	0.77
1:A:11:A:H2'	1:A:12:G:H8	1.50	0.77
1:A:496:U:H2'	1:A:497:C:C6	2.19	0.77
1:A:737:A:H4'	1:A:738:C:O5'	1.83	0.77
2:B:187:LEU:HD21	2:B:214:ILE:HG13	1.66	0.77
3:C:141:VAL:HG11	3:C:202:ILE:HG12	1.66	0.77
19:S:12:ASP:H	19:S:38:SER:HB3	1.49	0.77
1:A:1014:G:H2'	1:A:1015:G:H8	1.49	0.76
3:C:14:ILE:HG22	3:C:15:THR:N	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:148:ASN:C	7:G:150:ALA:H	1.85	0.76
12:L:83:VAL:HG21	12:L:100:ILE:HD13	1.67	0.76
14:N:27:CYS:SG	14:N:29:ARG:CB	2.73	0.76
18:R:17:SER:HA	18:R:19:LYS:NZ	2.00	0.76
1:A:425:U:H4'	1:A:426:A:O5'	1.84	0.76
1:A:474:C:H2'	1:A:475:G:H8	1.49	0.76
7:G:93:PRO:HG2	7:G:94:ARG:H	1.51	0.76
1:A:1009:C:H2'	1:A:1010:G:C8	2.19	0.76
1:A:1107:G:H5'	10:J:35:SER:O	1.85	0.76
1:A:1352:C:H2'	1:A:1353:G:C8	2.20	0.76
1:A:1419:U:H2'	1:A:1420:C:H6	1.49	0.76
1:A:1468:C:H6	1:A:1468:C:H5'	1.51	0.76
5:E:151:LEU:HD11	8:H:77:GLU:OE2	1.83	0.76
1:A:486:G:H4'	1:A:534:G:H4'	1.67	0.76
3:C:123:GLN:O	3:C:128:PHE:HB2	1.85	0.76
9:I:7:THR:HG22	9:I:8:GLY:N	2.01	0.76
1:A:290:U:H2'	1:A:291:C:H6	1.49	0.76
1:A:1010:G:N2	1:A:1012:G:H3'	2.00	0.76
1:A:1232:A:H4'	9:I:68:GLY:H	1.50	0.76
2:B:142:LEU:HD22	2:B:146:GLN:HE22	1.47	0.76
1:A:1269:A:C2	1:A:1335:G:H1'	2.20	0.76
2:B:112:VAL:O	2:B:115:LEU:HB3	1.85	0.76
6:F:46:ARG:HB2	6:F:60:PHE:HE1	1.51	0.76
15:O:17:ARG:HG3	15:O:17:ARG:HH11	1.51	0.76
1:A:1429:C:H2'	1:A:1430:C:H6	1.50	0.76
7:G:145:ALA:O	7:G:147:ALA:N	2.19	0.76
8:H:19:VAL:HG23	8:H:21:LYS:HG2	1.66	0.76
1:A:1108:U:H3	10:J:5:ARG:NH2	1.84	0.76
10:J:84:GLN:O	10:J:88:LEU:HD12	1.86	0.76
1:A:333:C:H2'	1:A:334:A:H8	1.51	0.75
2:B:53:ARG:HA	2:B:56:ARG:CZ	2.15	0.75
4:D:104:VAL:HG11	4:D:146:ILE:HD12	1.67	0.75
15:O:39:LEU:HD13	15:O:56:LEU:HB2	1.68	0.75
18:R:56:THR:HG21	18:R:63:GLN:OE1	1.87	0.75
7:G:37:ASN:HD21	9:I:41:VAL:H	1.34	0.75
1:A:502:C:O2'	12:L:50:SER:HB3	1.85	0.75
2:B:88:ALA:C	2:B:90:MET:H	1.90	0.75
18:R:87:ARG:HG2	18:R:87:ARG:HH11	1.48	0.75
1:A:721:A:H2'	1:A:722:C:C6	2.22	0.75
1:A:858:C:H5''	12:L:12:ARG:NH2	2.01	0.75
20:T:10:LEU:O	20:T:12:ALA:N	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.68	0.75
1:A:775:G:H2'	1:A:776:A:H5'	1.68	0.75
18:R:26:LEU:HD13	18:R:42:ARG:HH12	1.49	0.75
1:A:646:G:H2'	1:A:647:A:H8	1.52	0.75
1:A:1329:G:H3'	9:I:108:VAL:O	1.87	0.75
2:B:100:GLY:N	2:B:176:GLU:OE2	2.16	0.75
1:A:938:U:O2'	1:A:1205:C:H4'	1.86	0.75
9:I:7:THR:HG22	9:I:8:GLY:H	1.50	0.75
12:L:10:LEU:O	12:L:14:GLY:N	2.16	0.75
1:A:472:A:H2'	1:A:473:C:O4'	1.88	0.74
3:C:47:LEU:HD12	3:C:47:LEU:N	2.02	0.74
7:G:85:TYR:HD1	7:G:154:TYR:HE1	1.31	0.74
11:K:69:ALA:O	11:K:73:MET:HG2	1.86	0.74
19:S:62:ILE:HD12	19:S:66:MET:HG3	1.69	0.74
2:B:88:ALA:O	2:B:90:MET:N	2.20	0.74
4:D:8:VAL:O	4:D:10:ARG:N	2.19	0.74
6:F:3:ARG:HH21	6:F:64:GLN:NE2	1.84	0.74
2:B:139:LYS:O	2:B:143:GLU:HG2	1.87	0.74
2:B:209:ARG:HE	2:B:239:VAL:HG11	1.52	0.74
3:C:3:ASN:N	3:C:3:ASN:ND2	2.30	0.74
7:G:37:ASN:HD21	9:I:41:VAL:HG23	1.51	0.74
18:R:55:ARG:HB3	18:R:55:ARG:HH11	1.51	0.74
1:A:1124:C:H2'	1:A:1125:G:C8	2.22	0.74
1:A:1201:U:H2'	1:A:1202:G:H8	1.52	0.74
4:D:24:GLU:O	4:D:25:ARG:HB3	1.88	0.74
1:A:802:G:H3'	1:A:803:A:H5'	1.70	0.74
1:A:1044:G:N2	1:A:1179:G:H1'	2.03	0.74
3:C:131:ARG:HG2	3:C:135:LYS:HE3	1.69	0.74
8:H:13:ILE:O	8:H:17:THR:HG23	1.88	0.74
1:A:103:A:H2'	1:A:322:G:N2	2.02	0.74
17:Q:60:ILE:HB	17:Q:74:LEU:HD12	1.70	0.74
19:S:33:THR:HG22	19:S:35:SER:H	1.51	0.74
1:A:224:A:H2'	1:A:225:U:C6	2.22	0.74
5:E:82:VAL:HG21	5:E:138:ALA:HA	1.70	0.74
7:G:42:ILE:HG22	7:G:120:ILE:HD12	1.69	0.74
1:A:676:U:O2	1:A:678:A:H5''	1.88	0.74
5:E:12:LEU:O	5:E:12:LEU:HD13	1.88	0.74
20:T:46:GLU:HB3	20:T:48:LYS:NZ	2.02	0.74
1:A:9:A:N6	4:D:209:ARG:HB2	2.02	0.74
1:A:515:U:H5''	1:A:516:A:OP1	1.88	0.74
12:L:89:ARG:HG2	12:L:97:ARG:HA	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:67:THR:HG22	16:P:68:ASP:N	2.01	0.74
1:A:1238:A:H8	3:C:27:LYS:HZ1	1.36	0.73
1:A:1475:G:H2'	1:A:1476:U:H6	1.53	0.73
12:L:71:PRO:O	12:L:102:ARG:HD2	1.88	0.73
1:A:1467:G:C3'	1:A:1468:C:H5''	2.17	0.73
18:R:64:ARG:O	18:R:67:ALA:HB3	1.89	0.73
2:B:124:SER:HB2	2:B:125:PRO:HD2	1.69	0.73
1:A:95:A:O2'	1:A:96:G:H5'	1.88	0.73
14:N:23:ARG:HD3	14:N:30:ALA:HB2	1.69	0.73
1:A:984:A:H2'	1:A:985:C:H5'	1.70	0.73
2:B:187:LEU:CD2	2:B:214:ILE:HG13	2.17	0.73
10:J:30:SER:HB3	10:J:80:LYS:HG3	1.70	0.73
16:P:81:ARG:HG3	16:P:83:GLU:HG2	1.68	0.73
1:A:1084:A:H4'	1:A:1085:A:O5'	1.88	0.73
1:A:1238:A:N6	1:A:1260:U:H1'	2.03	0.73
1:A:1250:A:H2'	1:A:1251:A:C8	2.22	0.73
8:H:91:ARG:HG3	12:L:7:ILE:HG13	1.69	0.73
1:A:496:U:H2'	1:A:497:C:H6	1.54	0.73
2:B:206:ASP:CG	2:B:207:ALA:N	2.42	0.73
18:R:53:ARG:HG2	18:R:63:GLN:HG2	1.71	0.73
1:A:446:A:H1'	1:A:447:A:C8	2.23	0.73
5:E:72:GLN:OE1	5:E:77:PRO:HB3	1.89	0.73
8:H:86:ILE:HD12	8:H:133:LEU:CD2	2.19	0.73
9:I:121:ARG:HG2	9:I:121:ARG:HH11	1.54	0.73
18:R:44:LEU:HD22	18:R:48:GLY:O	1.87	0.73
1:A:242:A:N6	1:A:277:G:H1'	2.04	0.72
1:A:1050:A:O2'	1:A:1051:G:H8	1.71	0.72
8:H:83:ILE:HG23	8:H:83:ILE:O	1.89	0.72
8:H:36:LEU:HD13	8:H:61:VAL:HG22	1.71	0.72
9:I:47:LEU:C	9:I:49:PRO:HD2	2.08	0.72
10:J:19:SER:OG	10:J:91:PRO:HG3	1.89	0.72
19:S:42:PRO:HA	19:S:45:VAL:HG23	1.70	0.72
1:A:331:C:H2'	1:A:332:C:C6	2.24	0.72
1:A:932:G:N2	1:A:1209:A:H62	1.86	0.72
1:A:943:A:C2	1:A:947:A:C2	2.78	0.72
1:A:1202:G:H2'	1:A:1203:G:H8	1.55	0.72
12:L:113:ARG:HB2	12:L:122:THR:HG21	1.71	0.72
1:A:896:A:H2'	1:A:897:A:C8	2.24	0.72
1:A:1178:U:H5''	1:A:1179:G:H5'	1.71	0.72
1:A:1483:G:C8	1:A:1483:G:H3'	2.25	0.72
11:K:77:MET:CE	11:K:80:VAL:HG22	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:15:VAL:HG23	13:M:43:THR:O	1.89	0.72
1:A:584:C:H4'	8:H:128:GLY:O	1.90	0.72
1:A:1380:C:H4'	1:A:1381:A:OP2	1.90	0.72
3:C:15:THR:O	3:C:16:ARG:HB2	1.89	0.72
11:K:109:VAL:HG13	18:R:85:LEU:O	1.89	0.72
12:L:126:LYS:N	12:L:126:LYS:HD2	2.04	0.72
17:Q:90:ILE:O	17:Q:93:GLN:HB3	1.89	0.72
17:Q:101:ARG:HA	17:Q:101:ARG:NE	2.04	0.72
1:A:197:U:H3	20:T:105:SER:HG	1.38	0.72
1:A:251:G:H1'	17:Q:16:GLN:HE22	1.51	0.72
1:A:627:C:H2'	1:A:628:G:H8	1.55	0.72
5:E:11:ILE:HG22	5:E:12:LEU:HD12	1.72	0.72
5:E:40:ARG:HG2	5:E:40:ARG:HH11	1.54	0.72
7:G:85:TYR:HD1	7:G:154:TYR:CE1	2.08	0.72
8:H:110:ALA:HB3	8:H:121:ASP:HB3	1.69	0.72
11:K:96:ARG:HA	11:K:99:GLN:OE1	1.89	0.72
16:P:6:LEU:HD23	16:P:17:TYR:CG	2.24	0.72
1:A:1045:U:H2'	1:A:1046:C:C6	2.24	0.72
1:A:1216:C:H1'	1:A:1347:U:O2	1.89	0.72
1:A:575:U:H2'	1:A:576:G:H8	1.55	0.72
1:A:888:C:H2'	1:A:889:U:H6	1.55	0.72
1:A:1347:U:O2'	1:A:1348:G:OP1	2.08	0.72
1:A:1359:U:H2'	1:A:1360:A:C8	2.25	0.72
6:F:48:LEU:HD13	6:F:52:ILE:CG1	2.20	0.72
10:J:49:VAL:HG12	10:J:50:ILE:O	1.89	0.72
1:A:1069:U:H3	1:A:1082:G:H22	1.36	0.72
19:S:20:LEU:HA	19:S:23:ASN:ND2	2.02	0.72
1:A:23:G:H2'	1:A:24:C:C6	2.25	0.71
1:A:546:C:H41	1:A:862:U:H2'	1.55	0.71
1:A:811:U:H2'	1:A:848:U:O4	1.89	0.71
13:M:23:TYR:CE2	13:M:70:LEU:HB3	2.25	0.71
1:A:544:U:H4'	1:A:545:U:H5''	1.72	0.71
1:A:50:U:H1'	12:L:28:LYS:HZ3	1.53	0.71
2:B:23:ARG:HH11	2:B:23:ARG:C	1.92	0.71
16:P:1:MET:O	16:P:24:ALA:HB2	1.90	0.71
18:R:39:VAL:HG13	18:R:40:LEU:HD23	1.72	0.71
1:A:179:G:H2'	1:A:180:A:H8	1.55	0.71
1:A:1113:A:H3'	1:A:1113:A:OP2	1.89	0.71
1:A:1232:A:H4'	9:I:68:GLY:N	2.04	0.71
3:C:94:LEU:CD2	3:C:95:THR:HG23	2.19	0.71
7:G:15:ASP:OD2	7:G:23:VAL:HG11	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:3:GLN:HG3	9:I:20:ARG:HE	1.54	0.71
9:I:100:GLY:O	9:I:102:LEU:N	2.24	0.71
18:R:26:LEU:HD13	18:R:42:ARG:NH1	2.05	0.71
1:A:543:A:H4'	1:A:544:U:O5'	1.91	0.71
1:A:1287:G:H22	1:A:1313:G:C2'	2.03	0.71
1:A:1480:A:H5''	1:A:1481:A:OP2	1.89	0.71
3:C:56:ASP:O	3:C:57:ILE:HG13	1.91	0.71
7:G:70:LYS:HB3	7:G:96:GLN:OE1	1.90	0.71
7:G:99:LEU:HD22	7:G:103:TRP:CZ2	2.25	0.71
12:L:47:LYS:CB	12:L:48:PRO:HD3	2.20	0.71
13:M:52:GLU:HG2	13:M:55:ARG:NH2	2.05	0.71
1:A:438:C:H2'	1:A:439:C:H6	1.56	0.71
1:A:1374:U:H2'	1:A:1375:G:C8	2.25	0.71
11:K:34:ASP:O	11:K:36:ASP:N	2.23	0.71
14:N:14:PRO:HG3	14:N:17:LYS:HA	1.73	0.71
16:P:22:THR:HA	16:P:33:ILE:HG13	1.72	0.71
1:A:366:C:O2'	1:A:367:G:H5'	1.91	0.71
1:A:1208:C:H4'	1:A:1209:A:OP1	1.91	0.71
5:E:9:LYS:HG3	5:E:112:LEU:HD11	1.72	0.71
18:R:36:ASN:O	18:R:39:VAL:HG12	1.90	0.71
1:A:1111:C:H5'	9:I:16:ARG:NH2	2.05	0.71
8:H:1:MET:HG2	8:H:2:LEU:N	2.03	0.71
9:I:108:VAL:HG12	9:I:109:VAL:N	2.03	0.71
12:L:55:VAL:CG1	12:L:67:THR:HG23	2.19	0.71
18:R:36:ASN:ND2	18:R:38:GLU:HG2	2.06	0.71
1:A:385:A:H2'	1:A:386:C:C5'	2.21	0.71
1:A:483:A:O2'	1:A:484:G:C8	2.42	0.71
4:D:102:ASP:HB3	4:D:136:PRO:CA	2.21	0.71
7:G:126:ASP:HA	7:G:129:GLU:HB2	1.71	0.71
1:A:673:C:P	11:K:46:GLY:HA3	2.31	0.70
1:A:1230:A:H1'	9:I:70:LYS:NZ	2.06	0.70
1:A:1399:G:N2	1:A:1463:U:H1'	2.05	0.70
2:B:209:ARG:HE	2:B:239:VAL:HG13	1.54	0.70
5:E:80:ILE:HD13	5:E:138:ALA:HB1	1.73	0.70
8:H:89:PRO:HA	8:H:92:ARG:CZ	2.19	0.70
19:S:40:ILE:HB	19:S:67:VAL:O	1.90	0.70
20:T:30:LYS:HB3	20:T:34:LYS:HE3	1.71	0.70
1:A:244:C:O2'	1:A:245:U:H5'	1.91	0.70
1:A:454:G:H3'	1:A:455:A:H5''	1.74	0.70
1:A:1222:U:H4'	1:A:1223:G:OP2	1.89	0.70
3:C:188:LEU:CD1	3:C:189:ALA:N	2.55	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:73:MET:SD	7:G:90:GLU:HA	2.32	0.70
1:A:252:U:H2'	1:A:253:G:C8	2.26	0.70
1:A:333:C:H2'	1:A:334:A:C8	2.27	0.70
3:C:54:ARG:HB3	3:C:69:HIS:HD2	1.57	0.70
7:G:83:ALA:HB3	7:G:85:TYR:CE2	2.26	0.70
1:A:324:C:H4'	1:A:325:A:O5'	1.90	0.70
1:A:1184:G:C2	14:N:42:ILE:HG21	2.27	0.70
2:B:91:PRO:HB3	2:B:154:LEU:HB2	1.73	0.70
15:O:25:THR:CG2	15:O:70:LEU:HD23	2.21	0.70
1:A:1037:C:O2'	1:A:1038:A:H5''	1.91	0.70
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.27	0.70
4:D:112:VAL:N	4:D:116:GLN:OE1	2.19	0.70
5:E:144:THR:HG22	5:E:146:ALA:H	1.57	0.70
17:Q:24:GLU:OE2	17:Q:37:LYS:HD3	1.91	0.70
1:A:1216:C:H2'	1:A:1217:U:H6	1.57	0.70
1:A:1221:A:H62	1:A:1281:A:H62	1.39	0.70
1:A:1349:C:H2'	1:A:1350:C:C6	2.26	0.70
8:H:111:ILE:O	8:H:134:ILE:HD12	1.92	0.70
11:K:91:ARG:HD2	11:K:92:GLU:OE1	1.92	0.70
11:K:95:ILE:O	11:K:99:GLN:HG3	1.91	0.70
12:L:55:VAL:HG11	12:L:67:THR:HG23	1.73	0.70
14:N:26:ARG:HH12	14:N:47:LEU:HG	1.56	0.70
1:A:397:C:H2'	1:A:398:G:C8	2.27	0.70
1:A:801:C:H1'	1:A:803:A:H5'	1.74	0.70
2:B:206:ASP:CG	2:B:207:ALA:H	1.95	0.70
15:O:31:LEU:HD12	15:O:31:LEU:H	1.56	0.70
3:C:11:ARG:O	3:C:14:ILE:N	2.19	0.70
1:A:378:A:H2'	1:A:379:A:C8	2.25	0.70
3:C:110:ASN:HD21	3:C:140:ARG:HB3	1.57	0.70
1:A:1440:G:H2'	1:A:1441:C:C6	2.27	0.69
4:D:120:LEU:O	4:D:125:HIS:HB2	1.92	0.69
9:I:8:GLY:HA2	9:I:79:LEU:HD12	1.72	0.69
10:J:16:LEU:HD23	10:J:94:VAL:HG22	1.73	0.69
1:A:823:U:C5'	1:A:824:C:H5	2.04	0.69
8:H:20:TYR:HA	8:H:65:TYR:CE2	2.27	0.69
15:O:17:ARG:NH1	15:O:77:ARG:NH1	2.39	0.69
1:A:380:G:H2'	1:A:381:C:H6	1.57	0.69
12:L:67:THR:CG2	12:L:96:VAL:HG22	2.23	0.69
17:Q:68:ARG:O	17:Q:69:LYS:HB2	1.93	0.69
1:A:1350:C:H4'	10:J:48:THR:HG21	1.73	0.69
4:D:192:GLU:N	4:D:192:GLU:OE1	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:110:LEU:O	5:E:113:ALA:HB3	1.93	0.69
10:J:12:ASP:O	10:J:15:THR:HG22	1.93	0.69
20:T:79:ARG:HE	20:T:83:ARG:NH1	1.91	0.69
1:A:419:G:N2	1:A:420:G:C8	2.61	0.69
20:T:54:LYS:HG3	20:T:100:ILE:HD13	1.74	0.69
1:A:1280:C:C5	7:G:114:ARG:HD3	2.28	0.69
10:J:32:ALA:HB2	10:J:76:ASN:HB2	1.74	0.69
1:A:1204:G:P	19:S:77:THR:HG21	2.33	0.69
1:A:1507:G:H5''	1:A:1508:G:OP2	1.93	0.69
14:N:22:THR:HB	14:N:33:VAL:HG21	1.74	0.69
1:A:452:C:H2'	1:A:453:C:H6	1.56	0.69
1:A:749:G:H1	1:A:796:C:H2'	1.58	0.69
1:A:932:G:H21	1:A:1209:A:H62	1.40	0.69
3:C:8:ILE:HG23	3:C:16:ARG:HG2	1.73	0.69
5:E:15:ARG:O	5:E:16:THR:HG22	1.93	0.69
5:E:109:ILE:HD12	5:E:135:THR:HG21	1.74	0.69
10:J:61:GLU:OE1	14:N:45:ARG:NH1	2.25	0.69
18:R:36:ASN:O	18:R:36:ASN:ND2	2.26	0.69
19:S:36:ARG:HH21	19:S:75:ALA:HB3	1.56	0.69
1:A:522:G:OP2	12:L:115:LYS:HG3	1.93	0.69
1:A:1355:U:H2'	1:A:1356:G:O4'	1.93	0.69
3:C:139:GLN:NE2	3:C:143:GLU:HB2	2.07	0.69
6:F:11:ASN:OD1	6:F:13:ASN:N	2.22	0.69
12:L:75:HIS:HA	12:L:102:ARG:NH2	2.06	0.69
1:A:65:G:H4'	1:A:66:U:C5'	2.21	0.69
2:B:31:TYR:HE1	2:B:200:ILE:HD12	1.56	0.69
2:B:77:ALA:HB2	2:B:211:ILE:HD13	1.75	0.69
5:E:15:ARG:O	5:E:27:ARG:O	2.11	0.69
11:K:73:MET:O	11:K:76:GLY:N	2.26	0.69
1:A:1260:U:C5'	1:A:1261:A:O4'	2.41	0.68
3:C:173:VAL:O	3:C:173:VAL:HG12	1.94	0.68
5:E:43:LEU:HD23	5:E:43:LEU:C	2.13	0.68
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.75	0.68
5:E:26:PHE:CD1	5:E:26:PHE:N	2.60	0.68
18:R:36:ASN:HD22	18:R:36:ASN:C	1.94	0.68
1:A:371:U:OP1	16:P:69:THR:HG21	1.94	0.68
9:I:32:ASP:O	9:I:35:GLU:N	2.22	0.68
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.24	0.68
1:A:247:G:H4'	1:A:248:U:O5'	1.92	0.68
1:A:407:A:N9	1:A:409:G:H1'	2.08	0.68
1:A:822:G:C2'	1:A:823:U:H5''	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1099:C:H2'	1:A:1100:G:C5'	2.23	0.68
1:A:1355:U:H5''	9:I:71:SER:HB3	1.76	0.68
3:C:177:THR:HG23	3:C:177:THR:O	1.92	0.68
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.75	0.68
1:A:955:A:H2'	1:A:956:A:H5''	1.74	0.68
1:A:1385:C:H2'	1:A:1386:C:O4'	1.94	0.68
4:D:70:ILE:CG2	4:D:71:SER:N	2.57	0.68
6:F:10:LEU:HB3	6:F:85:VAL:HA	1.74	0.68
7:G:141:VAL:O	7:G:144:MET:HB2	1.94	0.68
13:M:5:ALA:HB2	13:M:22:ILE:HD13	1.76	0.68
21:U:12:LYS:O	21:U:16:GLY:N	2.26	0.68
1:A:608:C:O2'	1:A:609:G:H5'	1.93	0.68
1:A:1201:U:H2'	1:A:1202:G:C8	2.29	0.68
1:A:168:U:H5'	1:A:204:A:O4'	1.93	0.68
1:A:769:G:C2	1:A:770:G:C8	2.82	0.68
1:A:964:A:H2'	1:A:965:G:C8	2.29	0.68
1:A:1506:U:O2'	1:A:1507:G:H3'	1.94	0.68
7:G:24:THR:HA	7:G:27:ILE:HD12	1.76	0.68
9:I:17:VAL:HG21	9:I:81:ILE:N	2.07	0.68
10:J:81:THR:C	10:J:83:GLU:H	1.98	0.68
1:A:53:G:O2'	1:A:54:A:H5'	1.93	0.68
1:A:585:C:H2'	1:A:586:A:H8	1.59	0.68
2:B:181:PHE:N	2:B:181:PHE:HD1	1.92	0.68
4:D:70:ILE:HD11	4:D:100:ARG:CZ	2.24	0.68
4:D:179:GLU:O	4:D:181:MET:HG3	1.94	0.68
10:J:45:ARG:HH11	10:J:45:ARG:CB	2.00	0.68
1:A:97:C:OP1	20:T:17:ARG:HD2	1.94	0.68
1:A:1207:A:C5'	13:M:103:THR:OG1	2.41	0.68
4:D:35:ARG:O	4:D:36:ARG:HB2	1.94	0.68
8:H:65:TYR:HA	8:H:79:VAL:HG23	1.76	0.68
10:J:71:LEU:O	10:J:72:VAL:HB	1.93	0.68
13:M:24:GLY:HA3	13:M:66:LEU:HD22	1.75	0.68
20:T:42:GLN:O	20:T:45:GLN:HB3	1.95	0.68
1:A:745:G:C5	1:A:746:C:C4	2.82	0.67
1:A:897:A:O2'	1:A:898:U:H5'	1.94	0.67
2:B:104:ASN:OD1	2:B:107:THR:HB	1.94	0.67
2:B:181:PHE:N	2:B:181:PHE:CD1	2.60	0.67
4:D:36:ARG:H	4:D:37:PRO:HD3	1.59	0.67
9:I:48:GLU:OE1	9:I:51:ARG:HD2	1.93	0.67
1:A:943:A:C2	13:M:124:PRO:HB2	2.29	0.67
1:A:1325:G:H1'	9:I:121:ARG:NH1	2.08	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:155:LEU:HD22	2:B:157:ARG:O	1.95	0.67
5:E:15:ARG:NE	5:E:26:PHE:CD2	2.62	0.67
5:E:36:ASP:O	5:E:38:GLN:N	2.27	0.67
1:A:18:U:H2'	1:A:19:C:C6	2.29	0.67
1:A:1287:G:O2'	1:A:1288:A:H8	1.72	0.67
5:E:41:VAL:HG23	5:E:113:ALA:HA	1.76	0.67
7:G:146:GLU:HA	7:G:149:ARG:HB2	1.75	0.67
9:I:33:PHE:HZ	9:I:46:ALA:HB3	1.59	0.67
17:Q:27:PHE:O	17:Q:36:ILE:HG12	1.94	0.67
1:A:960:U:H4'	1:A:961:A:O5'	1.93	0.67
1:A:1269:A:H2'	1:A:1270:A:C8	2.30	0.67
3:C:26:LYS:H	3:C:26:LYS:CD	2.00	0.67
5:E:80:ILE:CD1	5:E:91:LEU:HD12	2.24	0.67
5:E:91:LEU:HD12	5:E:138:ALA:HB1	1.76	0.67
1:A:647:A:H2'	1:A:648:G:C8	2.29	0.67
1:A:1211:A:H2'	1:A:1212:C:H6	1.59	0.67
2:B:28:PHE:CD2	2:B:190:THR:HA	2.30	0.67
4:D:103:ASN:O	4:D:106:TYR:N	2.27	0.67
1:A:386:C:O3'	16:P:28:ARG:NH2	2.28	0.67
1:A:799:A:H5''	1:A:801:C:N4	2.10	0.67
1:A:1040:G:C5'	3:C:154:SER:HB2	2.24	0.67
1:A:1486:G:H2'	1:A:1487:C:C6	2.26	0.67
9:I:118:LYS:O	9:I:119:ALA:HB3	1.94	0.67
12:L:28:LYS:CD	12:L:33:ARG:HH22	1.92	0.67
2:B:52:GLU:HG2	2:B:56:ARG:NH2	2.09	0.67
10:J:29:ARG:HB2	10:J:84:GLN:HE22	1.60	0.67
11:K:36:ASP:N	11:K:36:ASP:OD2	2.28	0.67
11:K:82:VAL:HB	11:K:108:ILE:HA	1.77	0.67
20:T:56:MET:O	20:T:59:ALA:HB3	1.94	0.67
1:A:243:G:OP2	17:Q:99:SER:HB2	1.94	0.67
1:A:930:U:O2'	1:A:931:G:H5'	1.94	0.67
1:A:1338:G:H2'	1:A:1339:A:C8	2.30	0.67
1:A:1482:G:O2'	1:A:1483:G:OP2	2.12	0.67
16:P:8:ARG:HG2	16:P:17:TYR:CE2	2.30	0.67
17:Q:20:THR:HG23	17:Q:43:LEU:HD21	1.77	0.67
1:A:1274:U:H5'	9:I:38:GLN:HE22	1.59	0.67
1:A:1496:A:H2'	1:A:1497:A:C8	2.30	0.67
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.30	0.67
4:D:61:LYS:HD2	4:D:207:TYR:OH	1.95	0.67
15:O:7:GLU:O	15:O:11:VAL:HG23	1.94	0.67
15:O:27:VAL:HG12	15:O:31:LEU:HD11	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:56:VAL:HG12	17:Q:77:VAL:HB	1.77	0.67
19:S:42:PRO:O	19:S:45:VAL:HG23	1.95	0.67
1:A:283:U:H2'	1:A:284:A:H8	1.60	0.67
1:A:1329:G:HO2'	1:A:1330:U:P	2.17	0.67
1:A:1377:A:N6	1:A:1479:C:H5'	2.10	0.67
2:B:88:ALA:HB1	2:B:90:MET:HG2	1.77	0.67
2:B:134:GLU:C	2:B:136:VAL:H	1.97	0.67
3:C:13:GLY:O	3:C:14:ILE:HD13	1.95	0.67
4:D:190:ASP:O	4:D:192:GLU:N	2.28	0.67
9:I:79:LEU:O	9:I:82:ALA:HB3	1.95	0.67
13:M:36:LYS:HD2	13:M:59:TYR:CZ	2.30	0.67
15:O:87:ILE:HG22	15:O:88:ARG:N	2.10	0.67
1:A:529:C:O2'	1:A:530:G:H5'	1.95	0.66
1:A:720:C:H2'	1:A:721:A:C8	2.30	0.66
1:A:1047:G:H4'	1:A:1048:U:H5''	1.76	0.66
2:B:100:GLY:O	2:B:102:LEU:N	2.28	0.66
5:E:75:THR:HG23	5:E:76:ILE:N	2.08	0.66
10:J:94:VAL:HG12	10:J:95:GLU:N	2.08	0.66
1:A:1020:C:H2'	1:A:1021:C:C6	2.30	0.66
1:A:1263:U:H5'	1:A:1264:C:H5	1.59	0.66
2:B:121:LEU:O	2:B:127:ILE:HG12	1.94	0.66
6:F:46:ARG:HB2	6:F:60:PHE:CE1	2.30	0.66
10:J:45:ARG:HB3	10:J:45:ARG:NH1	1.99	0.66
1:A:250:G:OP1	17:Q:67:LYS:O	2.13	0.66
1:A:721:A:H2'	1:A:722:C:H6	1.60	0.66
1:A:1477:A:P	22:A:1523:KSG:H12	2.35	0.66
2:B:142:LEU:CA	2:B:146:GLN:HE22	2.08	0.66
5:E:121:LYS:HE3	5:E:122:GLU:O	1.95	0.66
1:A:75:C:H2'	1:A:76:G:H8	1.61	0.66
1:A:1135:A:H5''	10:J:13:HIS:HD2	1.59	0.66
1:A:1225:C:H2'	1:A:1226:C:H6	1.61	0.66
1:A:1260:U:H5''	1:A:1261:A:O4'	1.95	0.66
1:A:1403:C:H2'	1:A:1404:G:H8	1.61	0.66
2:B:156:LYS:O	2:B:156:LYS:HD3	1.95	0.66
1:A:474:C:H2'	1:A:475:G:C8	2.31	0.66
1:A:501:G:HO2'	1:A:514:G:H4'	1.60	0.66
1:A:1351:G:OP1	10:J:62:HIS:HE1	1.78	0.66
3:C:100:ALA:O	3:C:101:LEU:HB2	1.94	0.66
7:G:75:VAL:HG11	7:G:86:GLN:HB3	1.77	0.66
1:A:1225:C:H2'	1:A:1226:C:C6	2.30	0.66
4:D:13:ARG:NH1	4:D:38:TYR:O	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:107:ARG:HH12	4:D:114:ARG:HH22	1.43	0.66
19:S:28:LYS:CG	19:S:29:ARG:H	1.92	0.66
20:T:66:ALA:HB1	20:T:72:LEU:HB2	1.78	0.66
1:A:385:A:C2'	1:A:386:C:H5'	2.26	0.66
1:A:522:G:H4'	12:L:114:LYS:HD3	1.78	0.66
1:A:579:G:H2'	1:A:625:U:O4	1.96	0.66
2:B:93:VAL:HG11	2:B:97:TRP:CD1	2.31	0.66
9:I:43:ALA:HA	9:I:74:ILE:HD13	1.77	0.66
17:Q:74:LEU:O	17:Q:74:LEU:HD23	1.96	0.66
20:T:46:GLU:HB3	20:T:48:LYS:HZ2	1.61	0.66
21:U:12:LYS:HG3	21:U:17:THR:OG1	1.95	0.66
1:A:380:G:H2'	1:A:381:C:C6	2.31	0.66
1:A:540:C:H2'	1:A:541:G:H5'	1.78	0.66
1:A:758:G:H1	1:A:789:C:H42	1.42	0.66
3:C:82:GLU:O	3:C:85:ARG:HB3	1.94	0.66
16:P:22:THR:HA	16:P:33:ILE:CD1	2.26	0.66
16:P:55:ARG:O	16:P:58:TYR:HB3	1.95	0.66
1:A:271:G:H5'	17:Q:14:LYS:HD3	1.76	0.66
1:A:802:G:O2'	1:A:804:U:C5	2.48	0.66
1:A:1373:U:H2'	1:A:1374:U:H6	1.61	0.66
3:C:23:TYR:CD2	3:C:24:ALA:N	2.64	0.66
4:D:36:ARG:N	4:D:37:PRO:HD3	2.10	0.66
7:G:12:LEU:HD12	7:G:12:LEU:N	2.11	0.66
7:G:64:GLN:O	7:G:67:GLU:HB3	1.96	0.66
8:H:86:ILE:HD12	8:H:133:LEU:HD22	1.78	0.66
11:K:57:THR:HG23	11:K:60:ALA:CB	2.26	0.66
16:P:20:VAL:HG13	16:P:21:VAL:N	2.09	0.66
17:Q:92:ARG:O	17:Q:95:TYR:HB2	1.96	0.66
18:R:39:VAL:HG13	18:R:40:LEU:H	1.60	0.66
1:A:749:G:N1	1:A:796:C:H2'	2.10	0.66
1:A:767:C:O2'	1:A:768:C:H5'	1.94	0.66
1:A:964:A:H1'	19:S:54:GLY:O	1.95	0.66
1:A:1489:G:O2'	1:A:1490:U:H5'	1.96	0.66
4:D:31:CYS:O	4:D:31:CYS:SG	2.54	0.66
11:K:67:ASP:HA	11:K:70:LYS:HD2	1.77	0.66
1:A:266:A:H2'	1:A:267:C:C6	2.31	0.65
1:A:609:G:H2'	1:A:610:U:H6	1.57	0.65
1:A:1488:U:H2'	1:A:1489:G:C8	2.31	0.65
3:C:174:PRO:HB2	3:C:177:THR:HG22	1.77	0.65
5:E:144:THR:CG2	5:E:145:LYS:N	2.57	0.65
7:G:148:ASN:O	7:G:150:ALA:N	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:73:GLU:OE1	15:O:73:GLU:HA	1.95	0.65
19:S:16:LEU:O	19:S:19:VAL:HG12	1.96	0.65
1:A:424:G:C2	1:A:426:A:N6	2.63	0.65
1:A:552:G:N2	1:A:861:C:C2	2.65	0.65
1:A:671:A:H4'	1:A:672:G:O5'	1.95	0.65
1:A:1151:A:H8	1:A:1151:A:O5'	1.79	0.65
2:B:32:ILE:HD13	2:B:40:HIS:CD2	2.31	0.65
6:F:10:LEU:HA	6:F:86:ARG:HG2	1.78	0.65
7:G:25:ALA:HA	7:G:28:ASN:HD22	1.60	0.65
14:N:22:THR:HB	14:N:33:VAL:CG2	2.25	0.65
4:D:140:VAL:CG1	4:D:146:ILE:HD11	2.21	0.65
5:E:115:VAL:HG21	5:E:118:ILE:HD11	1.78	0.65
17:Q:81:ARG:HG3	17:Q:81:ARG:O	1.96	0.65
17:Q:82:MET:O	17:Q:84:LEU:N	2.29	0.65
18:R:87:ARG:HG2	18:R:87:ARG:NH1	2.11	0.65
20:T:67:ALA:HA	20:T:73:HIS:H	1.61	0.65
1:A:867:A:H4'	1:A:868:G:OP1	1.96	0.65
4:D:96:LEU:O	4:D:99:SER:N	2.28	0.65
4:D:104:VAL:HG21	4:D:140:VAL:HG21	1.77	0.65
6:F:82:ARG:HA	6:F:82:ARG:HE	1.61	0.65
12:L:53:ARG:H	12:L:53:ARG:HD2	1.61	0.65
12:L:55:VAL:HG12	12:L:56:ALA:N	2.11	0.65
1:A:483:A:H4'	1:A:484:G:OP1	1.96	0.65
1:A:799:A:O2'	1:A:800:A:P	2.54	0.65
1:A:1295:U:OP2	19:S:6:LYS:HA	1.96	0.65
14:N:6:LEU:HB3	14:N:23:ARG:NH2	2.11	0.65
1:A:622:G:O2'	1:A:623:G:H5'	1.96	0.65
3:C:188:LEU:HD11	3:C:195:VAL:CG1	2.23	0.65
18:R:58:LEU:HD11	18:R:66:LEU:HD13	1.77	0.65
1:A:501:G:O2'	1:A:514:G:H4'	1.95	0.65
1:A:724:U:O2'	1:A:725:G:H5'	1.95	0.65
1:A:1251:A:C2	1:A:1295:U:O4'	2.50	0.65
2:B:142:LEU:CD2	2:B:146:GLN:HE22	2.09	0.65
7:G:38:LEU:O	7:G:42:ILE:HG13	1.96	0.65
10:J:38:ILE:HG13	10:J:71:LEU:HB3	1.79	0.65
10:J:78:ASN:O	10:J:80:LYS:N	2.30	0.65
12:L:53:ARG:HD2	12:L:53:ARG:N	2.11	0.65
15:O:36:ILE:HA	15:O:59:MET:CE	2.27	0.65
18:R:29:PHE:HE1	18:R:31:LEU:CD2	2.10	0.65
1:A:860:C:O2'	1:A:861:C:H5'	1.96	0.65
1:A:903:G:C6	1:A:905:G:N7	2.64	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:994:A:H2'	1:A:995:A:C8	2.32	0.65
1:A:1220:A:N7	1:A:1285:C:H1'	2.11	0.65
3:C:6:HIS:CD2	3:C:9:GLY:H	2.07	0.65
3:C:64:VAL:HB	3:C:99:VAL:CB	2.27	0.65
1:A:199:U:H2'	1:A:200:C:C6	2.31	0.65
1:A:670:U:H1'	11:K:42:TRP:HE1	1.62	0.65
1:A:1482:G:H4'	1:A:1483:G:O5'	1.97	0.65
3:C:54:ARG:HB3	3:C:69:HIS:CD2	2.32	0.65
7:G:46:ALA:O	7:G:50:ILE:HG13	1.97	0.65
19:S:22:LEU:HD11	19:S:31:ILE:HD11	1.79	0.65
1:A:106:G:H21	1:A:350:G:C5'	2.03	0.65
1:A:1435:G:O2'	1:A:1436:G:H5'	1.98	0.65
3:C:112:SER:HB2	3:C:115:LEU:HB2	1.78	0.65
4:D:203:VAL:O	4:D:206:PHE:N	2.30	0.65
6:F:1:MET:SD	6:F:67:MET:HA	2.37	0.65
10:J:6:ILE:O	10:J:71:LEU:O	2.14	0.65
12:L:5:PRO:HA	12:L:9:GLN:OE1	1.97	0.65
13:M:5:ALA:HB3	13:M:8:GLU:HG3	1.78	0.65
1:A:40:G:O2'	1:A:41:C:H5'	1.97	0.64
1:A:400:U:H2'	1:A:401:U:H6	1.59	0.64
1:A:943:A:O2'	1:A:944:G:H5'	1.98	0.64
1:A:1198:G:H5''	14:N:5:ALA:HB2	1.79	0.64
2:B:204:ASN:HD22	2:B:204:ASN:C	2.00	0.64
20:T:66:ALA:CB	20:T:72:LEU:HB2	2.27	0.64
1:A:142:G:O2'	1:A:143:G:H5'	1.97	0.64
1:A:698:G:H2'	1:A:699:A:C8	2.31	0.64
1:A:1108:U:H3	10:J:5:ARG:HH21	1.44	0.64
11:K:44:SER:OG	11:K:47:VAL:HG23	1.97	0.64
13:M:108:ARG:O	13:M:112:GLY:N	2.24	0.64
14:N:26:ARG:NH1	14:N:47:LEU:HG	2.11	0.64
16:P:21:VAL:HG12	16:P:33:ILE:HD12	1.79	0.64
19:S:30:LEU:HD23	19:S:48:THR:O	1.97	0.64
1:A:1480:A:H2	1:A:1483:G:N1	1.85	0.64
5:E:88:LYS:HB3	5:E:123:LEU:HB2	1.79	0.64
13:M:65:LYS:CE	13:M:69:GLU:HG2	2.25	0.64
17:Q:76:LEU:C	17:Q:76:LEU:HD23	2.17	0.64
1:A:953:A:H4'	1:A:954:G:OP2	1.96	0.64
1:A:1465:G:H2'	1:A:1466:G:H8	1.62	0.64
1:A:1491:A:H2'	1:A:1492:C:C6	2.32	0.64
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.00	0.64
3:C:113:ALA:HB3	3:C:114:PRO:HD3	1.77	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:203:VAL:HG12	4:D:204:ILE:N	2.11	0.64
9:I:28:VAL:HA	9:I:63:ILE:O	1.97	0.64
1:A:647:A:H2'	1:A:648:G:H8	1.63	0.64
1:A:1211:A:H2'	1:A:1212:C:C6	2.32	0.64
1:A:1335:G:H2'	1:A:1336:C:H6	1.61	0.64
1:A:1354:G:O3'	9:I:69:GLY:HA3	1.97	0.64
3:C:52:LEU:HD21	3:C:118:GLN:HE22	1.62	0.64
4:D:104:VAL:HG11	4:D:146:ILE:CD1	2.27	0.64
5:E:39:GLY:HA2	5:E:113:ALA:O	1.97	0.64
10:J:12:ASP:HB3	10:J:15:THR:CB	2.27	0.64
12:L:55:VAL:HG13	12:L:68:ALA:O	1.97	0.64
17:Q:10:VAL:O	17:Q:53:LEU:HD12	1.97	0.64
19:S:5:LEU:O	19:S:6:LYS:HB2	1.97	0.64
19:S:47:HIS:O	19:S:62:ILE:HG22	1.98	0.64
1:A:646:G:H2'	1:A:647:A:C8	2.32	0.64
1:A:900:G:H2'	1:A:901:A:H8	1.62	0.64
1:A:926:C:O2'	1:A:927:A:H5'	1.96	0.64
3:C:83:ARG:C	3:C:85:ARG:H	2.00	0.64
1:A:271:G:H5'	17:Q:14:LYS:HB3	1.80	0.64
1:A:678:A:H5'	11:K:53:SER:HB2	1.77	0.64
1:A:776:A:H4'	1:A:777:U:H5''	1.79	0.64
1:A:1246:C:H2'	1:A:1247:G:C8	2.32	0.64
1:A:1288:A:H62	1:A:1313:G:H1'	1.59	0.64
1:A:1403:C:H2'	1:A:1404:G:C8	2.32	0.64
3:C:26:LYS:HD3	3:C:26:LYS:N	2.11	0.64
7:G:24:THR:O	7:G:28:ASN:ND2	2.31	0.64
9:I:48:GLU:N	9:I:49:PRO:HD2	2.11	0.64
11:K:19:ALA:HB2	11:K:80:VAL:HG11	1.78	0.64
1:A:634:G:C2'	1:A:635:C:H5'	2.27	0.64
1:A:1109:U:H2'	1:A:1110:G:O4'	1.98	0.64
7:G:92:SER:HB2	7:G:93:PRO:HD2	1.80	0.64
9:I:17:VAL:HG22	9:I:63:ILE:HD13	1.79	0.64
12:L:117:ARG:O	12:L:119:LYS:O	2.16	0.64
18:R:66:LEU:HD21	18:R:70:ILE:HD11	1.79	0.64
1:A:831:G:O2'	1:A:832:G:H5'	1.98	0.64
1:A:1172:G:HO2'	1:A:1173:A:P	2.21	0.64
2:B:130:ARG:HH21	3:C:207:VAL:HG22	1.63	0.64
4:D:70:ILE:HG22	4:D:71:SER:N	2.11	0.64
19:S:11:VAL:HG13	19:S:38:SER:HB2	1.80	0.64
1:A:95:A:H2'	1:A:96:G:H8	1.63	0.64
1:A:540:C:C2'	1:A:541:G:H5'	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:739:G:OP2	15:O:65:ARG:HG2	1.97	0.64
1:A:858:C:O2'	1:A:859:G:H5'	1.97	0.64
1:A:1489:G:H2'	1:A:1490:U:O4'	1.97	0.64
4:D:9:CYS:O	4:D:13:ARG:HG3	1.98	0.64
12:L:93:LEU:HB3	12:L:96:VAL:HG21	1.80	0.64
1:A:340:A:H5''	1:A:341:C:H5	1.63	0.63
1:A:719:C:O2'	1:A:720:C:H5'	1.97	0.63
1:A:947:A:N6	13:M:126:LYS:HB2	2.13	0.63
2:B:178:ARG:NH2	8:H:74:PRO:HG3	2.12	0.63
4:D:119:GLN:HG2	4:D:123:HIS:CD2	2.32	0.63
10:J:19:SER:CB	10:J:91:PRO:HG3	2.28	0.63
13:M:84:ILE:C	13:M:86:CYS:H	2.01	0.63
15:O:31:LEU:O	15:O:34:LEU:HB3	1.98	0.63
1:A:25:U:H2'	1:A:26:C:C6	2.32	0.63
1:A:506:C:H41	12:L:53:ARG:HH22	1.45	0.63
1:A:835:C:H2'	1:A:836:G:O4'	1.98	0.63
1:A:952:A:P	14:N:29:ARG:HH22	2.20	0.63
1:A:999:U:H2'	1:A:1000:G:H8	1.62	0.63
4:D:82:ALA:HB1	4:D:92:VAL:HB	1.79	0.63
5:E:76:ILE:O	5:E:93:PRO:HB3	1.98	0.63
6:F:48:LEU:HD22	18:R:77:GLY:HA3	1.80	0.63
12:L:86:ARG:HH11	12:L:86:ARG:HG3	1.62	0.63
1:A:50:U:H1'	12:L:28:LYS:NZ	2.13	0.63
1:A:1383:C:C4'	1:A:1384:G:OP2	2.47	0.63
1:A:1465:G:O2'	1:A:1466:G:H5'	1.97	0.63
20:T:43:LEU:HD12	20:T:52:ALA:HA	1.79	0.63
1:A:750:A:C8	1:A:798:A:N6	2.67	0.63
1:A:781:C:OP1	11:K:124:LYS:HG3	1.99	0.63
1:A:1385:C:O2	1:A:1478:A:N1	2.31	0.63
2:B:29:ALA:O	2:B:31:TYR:N	2.31	0.63
3:C:177:THR:O	3:C:179:ARG:N	2.31	0.63
11:K:17:GLY:O	11:K:80:VAL:HA	1.99	0.63
11:K:87:THR:HA	11:K:91:ARG:HH21	1.63	0.63
12:L:119:LYS:O	12:L:120:TYR:HB2	1.99	0.63
15:O:36:ILE:HA	15:O:59:MET:HE3	1.80	0.63
1:A:181:C:H2'	1:A:182:C:H6	1.63	0.63
1:A:545:U:O2'	1:A:546:C:OP2	2.16	0.63
1:A:654:G:H2'	1:A:655:G:O4'	1.99	0.63
1:A:745:G:H4'	17:Q:102:GLY:C	2.19	0.63
12:L:75:HIS:HD2	12:L:77:LEU:HB2	1.63	0.63
20:T:26:ASN:O	20:T:29:LYS:HB2	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:33:A:H2'	1:A:34:A:C8	2.34	0.63
2:B:89:GLY:H	2:B:226:ARG:HH22	1.45	0.63
3:C:105:GLU:O	3:C:107:GLN:NE2	2.31	0.63
4:D:65:ARG:HD2	4:D:75:PHE:HB2	1.81	0.63
11:K:57:THR:HG23	11:K:60:ALA:HB2	1.80	0.63
17:Q:44:ALA:HB1	17:Q:73:VAL:HG22	1.79	0.63
18:R:37:VAL:CG2	18:R:78:LEU:HB3	2.27	0.63
1:A:452:C:H2'	1:A:453:C:C6	2.34	0.63
1:A:675:G:O2'	1:A:781:C:H4'	1.99	0.63
1:A:677:G:H1'	22:A:1524:KSG:H6	1.79	0.63
1:A:1482:G:HO2'	1:A:1483:G:P	2.21	0.63
2:B:89:GLY:H	2:B:226:ARG:NH2	1.97	0.63
6:F:3:ARG:NH2	6:F:64:GLN:HE22	1.95	0.63
12:L:25:PRO:C	12:L:27:LEU:H	1.99	0.63
12:L:47:LYS:CB	12:L:48:PRO:CD	2.75	0.63
1:A:1120:C:H4'	1:A:1121:G:N2	2.14	0.63
7:G:23:VAL:HG13	7:G:43:PHE:CE2	2.34	0.63
10:J:82:ILE:O	10:J:86:MET:HB2	1.99	0.63
1:A:176:G:O2'	1:A:177:U:OP2	2.10	0.63
1:A:199:U:H2'	1:A:200:C:H6	1.64	0.63
1:A:372:G:H5''	16:P:5:ARG:HD2	1.81	0.63
3:C:83:ARG:C	3:C:85:ARG:N	2.51	0.63
6:F:40:VAL:HG23	6:F:62:TRP:O	1.99	0.63
10:J:12:ASP:CB	10:J:15:THR:HB	2.28	0.63
10:J:54:PHE:HD2	10:J:55:LYS:HG2	1.64	0.63
12:L:60:LEU:HD21	12:L:66:VAL:HG22	1.80	0.63
13:M:23:TYR:HB3	13:M:67:GLU:HA	1.80	0.63
19:S:20:LEU:HD12	19:S:21:GLU:N	2.14	0.63
1:A:146:A:H2'	1:A:147:A:O4'	1.99	0.62
1:A:889:U:O2'	1:A:890:C:H5'	1.99	0.62
1:A:1364:U:O2'	1:A:1365:C:H5'	1.98	0.62
3:C:47:LEU:H	3:C:47:LEU:CD1	2.11	0.62
3:C:83:ARG:O	3:C:85:ARG:N	2.31	0.62
11:K:120:ARG:NH1	11:K:126:ARG:HD2	2.14	0.62
17:Q:17:LYS:HA	17:Q:46:ASP:O	1.99	0.62
1:A:42:G:H2'	1:A:43:G:H8	1.63	0.62
1:A:170:C:H2'	1:A:171:C:H6	1.63	0.62
1:A:287:C:O2'	1:A:288:G:H5'	1.98	0.62
1:A:1453:G:H2'	1:A:1454:G:C8	2.34	0.62
3:C:174:PRO:O	3:C:177:THR:HG22	1.98	0.62
4:D:150:GLU:HA	4:D:153:ARG:HG3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:71:LEU:CD1	5:E:114:GLY:HA3	2.28	0.62
1:A:20:C:H2'	1:A:21:U:H6	1.63	0.62
1:A:552:G:O6	12:L:5:PRO:HG3	1.99	0.62
1:A:673:C:H42	1:A:682:G:H1	1.45	0.62
1:A:733:C:H2'	1:A:734:G:H8	1.64	0.62
1:A:773:U:H2'	1:A:775:G:OP2	1.99	0.62
3:C:92:ALA:C	3:C:94:LEU:H	2.03	0.62
12:L:47:LYS:HB3	12:L:48:PRO:HD3	1.81	0.62
15:O:32:LEU:HD13	15:O:63:ARG:HB2	1.82	0.62
17:Q:43:LEU:CD1	17:Q:68:ARG:NH1	2.62	0.62
18:R:39:VAL:CG1	18:R:40:LEU:N	2.62	0.62
1:A:1012:G:O2'	1:A:1013:A:H5'	1.99	0.62
1:A:1020:C:H2'	1:A:1021:C:H6	1.63	0.62
1:A:1373:U:H2'	1:A:1374:U:C6	2.35	0.62
2:B:23:ARG:HH11	2:B:24:TRP:N	1.97	0.62
11:K:34:ASP:OD2	11:K:38:ASN:HB2	2.00	0.62
17:Q:12:SER:HB3	17:Q:20:THR:CB	2.29	0.62
18:R:39:VAL:CG1	18:R:40:LEU:H	2.12	0.62
20:T:69:GLY:O	20:T:73:HIS:ND1	2.33	0.62
1:A:925:G:H2'	1:A:926:C:C6	2.35	0.62
1:A:1320:G:H2'	1:A:1321:A:C8	2.33	0.62
1:A:1329:G:N2	1:A:1356:G:H2'	2.13	0.62
1:A:1396:A:H2	1:A:1465:G:N2	1.91	0.62
1:A:1466:G:H2'	1:A:1467:G:C8	2.35	0.62
2:B:25:ASN:HD22	2:B:26:PRO:HD2	1.65	0.62
5:E:11:ILE:O	5:E:12:LEU:HB3	1.99	0.62
5:E:144:THR:CG2	5:E:145:LYS:H	2.11	0.62
12:L:126:LYS:HD2	12:L:126:LYS:H	1.64	0.62
15:O:87:ILE:O	15:O:88:ARG:HB2	1.99	0.62
16:P:20:VAL:CG2	16:P:35:LYS:HA	2.30	0.62
1:A:762:G:O5'	1:A:762:G:H8	1.82	0.62
7:G:108:ALA:O	7:G:111:ARG:HG3	2.00	0.62
11:K:48:ILE:HD11	11:K:64:ALA:N	2.15	0.62
13:M:8:GLU:OE1	13:M:22:ILE:HA	1.99	0.62
1:A:984:A:C2'	1:A:985:C:H5'	2.30	0.62
1:A:1192:C:H4'	1:A:1196:C:C4	2.34	0.62
1:A:1437:C:H5''	20:T:27:LYS:NZ	2.14	0.62
2:B:109:SER:HA	2:B:112:VAL:HG23	1.82	0.62
3:C:3:ASN:C	3:C:4:LYS:HG2	2.19	0.62
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.79	0.62
2:B:25:ASN:HD22	2:B:25:ASN:C	2.03	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:93:VAL:HG11	2:B:97:TRP:HD1	1.63	0.62
3:C:119:ARG:O	3:C:123:GLN:HG3	1.99	0.62
4:D:149:ALA:O	4:D:150:GLU:C	2.38	0.62
13:M:5:ALA:CB	13:M:22:ILE:HD13	2.29	0.62
13:M:23:TYR:HE2	13:M:70:LEU:HB3	1.62	0.62
1:A:101:G:H2'	1:A:102:G:H5'	1.82	0.62
1:A:373:G:OP1	16:P:3:LYS:HD2	2.00	0.62
1:A:847:G:H4'	1:A:850:A:C8	2.35	0.62
2:B:230:VAL:HG13	2:B:231:GLU:OE2	2.00	0.62
3:C:68:VAL:HG12	3:C:70:VAL:CG2	2.30	0.62
3:C:125:GLU:C	3:C:127:ARG:H	2.02	0.62
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.82	0.62
1:A:251:G:C1'	17:Q:16:GLN:NE2	2.61	0.62
1:A:286:C:O2'	1:A:287:C:H5'	2.00	0.62
4:D:175:SER:O	4:D:183:GLY:HA2	2.00	0.62
12:L:47:LYS:HB2	12:L:48:PRO:CD	2.30	0.62
13:M:15:VAL:HG11	13:M:34:LEU:HD21	1.81	0.62
19:S:13:ASP:HA	19:S:16:LEU:HB3	1.82	0.62
19:S:43:GLU:H	19:S:43:GLU:CD	2.04	0.62
20:T:31:SER:HA	20:T:34:LYS:HD2	1.82	0.62
1:A:423:U:OP2	4:D:36:ARG:NH2	2.33	0.61
1:A:564:U:H2'	1:A:565:G:O4'	2.00	0.61
1:A:620:U:H2'	1:A:621:G:H8	1.65	0.61
1:A:1421:G:H2'	1:A:1422:C:C6	2.35	0.61
2:B:76:GLN:HG3	2:B:206:ASP:OD1	1.99	0.61
2:B:114:ARG:NH1	2:B:118:LEU:HD21	2.14	0.61
3:C:161:GLU:HG2	3:C:161:GLU:O	2.00	0.61
3:C:201:TYR:N	3:C:201:TYR:CD1	2.68	0.61
4:D:105:VAL:HA	4:D:108:LEU:HD12	1.82	0.61
5:E:36:ASP:C	5:E:38:GLN:H	2.03	0.61
6:F:69:GLU:HA	6:F:72:VAL:HG23	1.82	0.61
13:M:80:ARG:C	13:M:82:MET:H	2.03	0.61
1:A:212:G:H2'	1:A:213:C:C6	2.34	0.61
1:A:407:A:C1'	1:A:409:G:H1'	2.30	0.61
1:A:1161:A:O3'	9:I:103:THR:HG23	2.00	0.61
1:A:1267:A:H4'	1:A:1268:A:O5'	1.98	0.61
5:E:80:ILE:HD11	5:E:91:LEU:CD1	2.28	0.61
9:I:42:ARG:O	9:I:43:ALA:C	2.39	0.61
11:K:48:ILE:CD1	11:K:63:LEU:HB2	2.28	0.61
1:A:38:U:O2'	1:A:484:G:H4'	1.99	0.61
1:A:398:G:O2'	1:A:399:C:H5'	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:443:A:H2'	1:A:444:C:C6	2.35	0.61
1:A:1050:A:O2'	1:A:1051:G:P	2.59	0.61
1:A:1127:G:N2	1:A:1129:A:H62	1.97	0.61
3:C:5:ILE:O	3:C:5:ILE:HD12	2.00	0.61
5:E:11:ILE:HG22	5:E:31:LEU:HB2	1.81	0.61
14:N:11:LYS:O	14:N:12:ARG:C	2.38	0.61
16:P:8:ARG:HB2	16:P:28:ARG:NH1	2.15	0.61
1:A:290:U:H2'	1:A:291:C:C6	2.34	0.61
1:A:454:G:H3'	1:A:455:A:C5'	2.31	0.61
5:E:42:GLY:HA3	5:E:62:ALA:O	1.99	0.61
19:S:31:ILE:O	19:S:50:ALA:N	2.30	0.61
19:S:49:ILE:HD12	19:S:71:LEU:HD21	1.83	0.61
1:A:262:G:H5''	1:A:262:G:C8	2.36	0.61
1:A:706:A:H4'	1:A:707:U:C5	2.35	0.61
1:A:1169:G:C2	1:A:1170:A:C4	2.89	0.61
2:B:121:LEU:N	2:B:121:LEU:HD23	2.14	0.61
2:B:178:ARG:O	8:H:71:GLY:HA2	2.01	0.61
9:I:111:ARG:HD2	9:I:113:LYS:HG3	1.83	0.61
18:R:47:THR:HG22	18:R:48:GLY:N	2.15	0.61
1:A:945:C:C4'	9:I:128:ARG:HG3	2.28	0.61
2:B:22:LYS:O	2:B:23:ARG:HG3	2.00	0.61
2:B:30:ARG:HG3	2:B:31:TYR:CE2	2.35	0.61
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.83	0.61
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.00	0.61
17:Q:97:SER:HB2	17:Q:102:GLY:C	2.20	0.61
19:S:16:LEU:C	19:S:18:LYS:H	2.04	0.61
1:A:7:G:C4	5:E:119:LEU:HD11	2.36	0.61
1:A:775:G:C2'	1:A:776:A:H5'	2.29	0.61
2:B:149:LEU:O	2:B:151:GLY:N	2.34	0.61
4:D:65:ARG:HE	4:D:72:GLU:N	1.97	0.61
17:Q:43:LEU:HD11	17:Q:68:ARG:NH1	2.16	0.61
19:S:22:LEU:HD22	19:S:28:LYS:HB2	1.81	0.61
1:A:268:C:O2'	1:A:269:A:H5'	2.00	0.61
1:A:576:G:O2'	1:A:577:G:H5'	2.01	0.61
1:A:603:U:C2	4:D:135:LEU:HD11	2.36	0.61
4:D:26:CYS:HA	4:D:31:CYS:HB2	1.82	0.61
5:E:41:VAL:HG21	5:E:113:ALA:HA	1.79	0.61
7:G:83:ALA:HB3	7:G:85:TYR:HE2	1.65	0.61
1:A:359:A:OP1	12:L:33:ARG:HG3	2.00	0.61
1:A:402:G:H5''	4:D:5:ILE:HG21	1.83	0.61
1:A:407:A:C4	1:A:409:G:H1'	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:737:A:H5'	1:A:738:C:C6	2.36	0.61
1:A:1403:C:O5'	1:A:1403:C:H6	1.83	0.61
2:B:23:ARG:C	2:B:23:ARG:NH1	2.55	0.61
4:D:61:LYS:HD3	4:D:206:PHE:CE2	2.36	0.61
4:D:194:LEU:HB3	4:D:196:LEU:HD12	1.82	0.61
5:E:139:LEU:HD22	5:E:142:LEU:CD1	2.22	0.61
1:A:372:G:O2'	1:A:373:G:H5'	2.00	0.61
1:A:964:A:H2'	1:A:965:G:H8	1.66	0.61
2:B:17:PHE:HD1	2:B:18:GLY:N	1.99	0.61
4:D:30:LYS:C	4:D:32:ALA:H	2.04	0.61
4:D:190:ASP:N	4:D:193:ASP:OD2	2.34	0.61
8:H:44:PHE:HB3	8:H:80:ILE:HG12	1.83	0.61
9:I:5:TYR:CG	9:I:6:GLY:N	2.68	0.61
11:K:80:VAL:HG21	11:K:103:LEU:HD13	1.82	0.61
1:A:745:G:H1'	17:Q:103:GLY:O	2.01	0.60
2:B:20:GLU:HG3	2:B:189:ASP:OD2	2.01	0.60
5:E:13:ILE:HG22	5:E:30:ALA:CB	2.31	0.60
5:E:44:GLY:N	5:E:62:ALA:HB2	2.16	0.60
10:J:92:THR:HG22	10:J:92:THR:O	2.01	0.60
14:N:9:LYS:HD3	14:N:9:LYS:C	2.22	0.60
16:P:39:TYR:HB2	16:P:49:LEU:HD12	1.83	0.60
1:A:51:A:O2'	1:A:53:G:C8	2.54	0.60
1:A:1203:G:OP1	1:A:1303:C:N3	2.33	0.60
4:D:5:ILE:HA	4:D:115:ARG:NH2	2.16	0.60
4:D:151:LYS:HD2	4:D:151:LYS:N	2.13	0.60
7:G:12:LEU:HD12	7:G:12:LEU:H	1.63	0.60
7:G:111:ARG:HB3	7:G:113:GLU:OE2	2.00	0.60
13:M:87:TYR:CE1	13:M:91:ARG:HD3	2.35	0.60
20:T:44:ALA:HB1	20:T:92:LEU:HG	1.83	0.60
1:A:332:C:H2'	1:A:333:C:H6	1.65	0.60
1:A:980:G:H2'	1:A:981:G:C8	2.36	0.60
1:A:993:A:H2'	1:A:994:A:C8	2.36	0.60
1:A:1302:C:O2'	1:A:1303:C:H5'	2.01	0.60
1:A:1350:C:H5'	10:J:60:ARG:NH1	2.16	0.60
3:C:132:ARG:HH22	4:D:47:ARG:NH1	1.97	0.60
3:C:179:ARG:HD2	3:C:179:ARG:C	2.21	0.60
12:L:98:TYR:N	12:L:98:TYR:CD1	2.69	0.60
14:N:9:LYS:HD3	14:N:9:LYS:O	2.01	0.60
18:R:62:GLU:O	18:R:65:ILE:N	2.34	0.60
1:A:42:G:H2'	1:A:43:G:C8	2.37	0.60
1:A:60:A:H3'	1:A:327:G:H22	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1342:A:H2'	1:A:1343:G:O4'	2.01	0.60
3:C:177:THR:HG23	3:C:180:ALA:HB2	1.83	0.60
4:D:187:ARG:HD2	4:D:188:LEU:H	1.66	0.60
6:F:100:ASN:HD22	18:R:23:LYS:CG	2.14	0.60
8:H:87:SER:HA	8:H:93:VAL:CG2	2.22	0.60
12:L:45:PRO:HG2	12:L:51:ALA:N	2.16	0.60
13:M:96:LEU:O	13:M:110:ARG:NH1	2.34	0.60
1:A:199:U:H1'	20:T:103:GLY:HA2	1.83	0.60
1:A:205:G:H2'	1:A:206:G:C8	2.35	0.60
3:C:97:LYS:O	3:C:98:ASN:HB3	2.01	0.60
3:C:188:LEU:O	3:C:189:ALA:HB2	2.00	0.60
14:N:44:LEU:HD12	14:N:44:LEU:O	2.02	0.60
1:A:190:U:O4	17:Q:63:ARG:N	2.31	0.60
1:A:702:G:H5'	1:A:703:C:OP2	2.01	0.60
1:A:745:G:C2	17:Q:105:ALA:HB3	2.37	0.60
1:A:1050:A:HO2'	1:A:1051:G:H8	1.48	0.60
1:A:1205:C:P	19:S:78:ARG:HH12	2.24	0.60
1:A:1333:U:H2'	1:A:1334:C:H6	1.67	0.60
3:C:107:GLN:H	3:C:107:GLN:CD	2.05	0.60
7:G:68:ASN:ND2	7:G:128:ALA:HA	2.17	0.60
14:N:3:ARG:NH1	14:N:6:LEU:HD11	2.17	0.60
16:P:74:LEU:O	16:P:79:VAL:HG23	2.00	0.60
20:T:33:ILE:HD11	20:T:63:ILE:HA	1.84	0.60
1:A:521:G:H2'	1:A:522:G:C8	2.36	0.60
1:A:923:G:N2	1:A:1316:G:H4'	2.16	0.60
1:A:1140:A:H5''	1:A:1141:C:OP1	2.01	0.60
1:A:1175:G:O2'	1:A:1176:U:H5'	2.01	0.60
1:A:1245:C:H2'	1:A:1246:C:H6	1.66	0.60
1:A:1498:G:O2'	1:A:1499:G:H5'	2.01	0.60
1:A:1500:U:O2'	1:A:1501:G:H5'	2.01	0.60
4:D:12:CYS:HA	4:D:19:LEU:HD12	1.83	0.60
5:E:70:PRO:O	5:E:71:LEU:C	2.39	0.60
7:G:25:ALA:CA	7:G:28:ASN:HD22	2.14	0.60
10:J:30:SER:O	10:J:78:ASN:HB2	2.02	0.60
13:M:13:LYS:O	13:M:14:ARG:C	2.39	0.60
16:P:74:LEU:CB	16:P:79:VAL:HG21	2.25	0.60
20:T:39:LYS:HD2	20:T:55:ILE:HD13	1.82	0.60
1:A:79:G:H3'	1:A:80:U:H5''	1.83	0.60
1:A:469:G:H4'	1:A:470:G:O5'	2.01	0.60
1:A:757:G:C6	1:A:791:A:N6	2.69	0.60
1:A:1172:G:C2'	1:A:1173:A:OP2	2.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1245:C:H2'	1:A:1246:C:C6	2.37	0.60
2:B:137:ARG:NH1	2:B:137:ARG:HB3	2.15	0.60
4:D:90:GLY:N	4:D:204:ILE:HD11	2.16	0.60
5:E:79:GLU:O	5:E:80:ILE:HG23	2.02	0.60
7:G:96:GLN:O	7:G:99:LEU:N	2.35	0.60
7:G:148:ASN:C	7:G:150:ALA:N	2.55	0.60
8:H:91:ARG:NH1	17:Q:33:GLY:HA3	2.16	0.60
15:O:27:VAL:HG12	15:O:31:LEU:CD1	2.31	0.60
16:P:67:THR:HG22	16:P:68:ASP:H	1.65	0.60
1:A:47:G:O2'	1:A:361:U:H1'	2.02	0.60
1:A:486:G:C2	1:A:487:C:C2	2.89	0.60
1:A:763:C:H2'	1:A:764:A:O4'	2.01	0.60
1:A:999:U:H2'	1:A:1000:G:C8	2.36	0.60
1:A:1000:G:H2'	1:A:1001:G:O4'	2.02	0.60
1:A:1153:G:H2'	1:A:1154:C:H6	1.67	0.60
3:C:134:ILE:O	3:C:138:VAL:HG23	2.02	0.60
4:D:8:VAL:HG13	4:D:21:LEU:HD13	1.83	0.60
10:J:30:SER:HB2	10:J:81:THR:N	2.16	0.60
14:N:14:PRO:C	14:N:16:PHE:N	2.55	0.60
18:R:45:SER:C	18:R:47:THR:N	2.52	0.60
18:R:65:ILE:C	18:R:67:ALA:N	2.55	0.60
1:A:214:C:H4'	1:A:456:C:N4	2.16	0.60
1:A:1439:G:H2'	1:A:1440:G:H8	1.67	0.60
6:F:75:LEU:O	6:F:75:LEU:HD13	2.02	0.60
15:O:3:ILE:HD12	15:O:3:ILE:N	2.17	0.60
18:R:47:THR:HG22	18:R:48:GLY:H	1.65	0.60
19:S:51:VAL:HG12	19:S:52:TYR:N	2.17	0.60
1:A:159:U:O2'	1:A:160:C:H5'	2.01	0.59
1:A:776:A:O2'	1:A:777:U:P	2.59	0.59
1:A:778:A:O2'	1:A:779:C:H5'	2.02	0.59
1:A:1336:C:O2'	1:A:1337:G:H5'	2.02	0.59
3:C:110:ASN:ND2	3:C:140:ARG:HB3	2.17	0.59
4:D:150:GLU:CD	4:D:150:GLU:N	2.53	0.59
7:G:20:ASP:O	7:G:23:VAL:HB	2.01	0.59
1:A:378:A:H2'	1:A:379:A:H8	1.67	0.59
1:A:802:G:C3'	1:A:803:A:C5'	2.79	0.59
1:A:1324:C:O2'	1:A:1325:G:H5'	2.02	0.59
4:D:64:LEU:HD23	4:D:198:VAL:CG1	2.31	0.59
5:E:144:THR:HB	5:E:147:ASP:OD2	2.02	0.59
11:K:99:GLN:HG2	11:K:105:VAL:HG21	1.84	0.59
1:A:110:A:H61	1:A:309:A:H1'	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:634:G:H2'	1:A:635:C:H5'	1.84	0.59
1:A:1128:C:O2'	1:A:1129:A:H8	1.84	0.59
1:A:1232:A:H2'	1:A:1233:A:C8	2.37	0.59
1:A:1280:C:N4	7:G:114:ARG:HB3	2.17	0.59
2:B:22:LYS:C	2:B:23:ARG:HG3	2.23	0.59
7:G:25:ALA:HA	7:G:28:ASN:ND2	2.16	0.59
7:G:115:ARG:HB2	7:G:118:VAL:HG23	1.84	0.59
15:O:9:GLN:HA	15:O:12:ILE:HD12	1.84	0.59
16:P:45:THR:HB	16:P:46:PRO:HD2	1.83	0.59
1:A:540:C:H2'	1:A:541:G:C5'	2.31	0.59
1:A:545:U:HO2'	1:A:546:C:P	2.24	0.59
1:A:1103:G:H8	1:A:1103:G:O5'	1.85	0.59
1:A:1208:C:H5''	13:M:103:THR:HB	1.83	0.59
1:A:1220:A:H5'	1:A:1318:C:H41	1.67	0.59
1:A:1302:C:H2'	1:A:1303:C:O4'	2.03	0.59
5:E:145:LYS:O	5:E:145:LYS:HG2	2.02	0.59
20:T:93:GLU:HA	20:T:93:GLU:OE2	2.01	0.59
1:A:548:C:C6	17:Q:31:LEU:HD11	2.37	0.59
1:A:902:C:O2'	1:A:903:G:H5'	2.02	0.59
1:A:908:C:O2'	1:A:909:C:H5'	2.01	0.59
1:A:1022:C:O2'	1:A:1023:U:H5'	2.03	0.59
1:A:1219:C:H4'	1:A:1316:G:N2	2.15	0.59
1:A:1263:U:H5'	1:A:1264:C:C5	2.36	0.59
13:M:65:LYS:O	13:M:66:LEU:HD23	2.02	0.59
20:T:53:LEU:HD21	20:T:104:LEU:HD12	1.85	0.59
1:A:9:A:C6	4:D:209:ARG:HB2	2.36	0.59
1:A:443:A:OP2	1:A:470:G:N2	2.32	0.59
1:A:1164:G:O2'	1:A:1165:A:OP2	2.20	0.59
1:A:1183:A:H4'	1:A:1184:G:O5'	2.02	0.59
1:A:1233:A:H2'	1:A:1234:A:H8	1.66	0.59
3:C:10:PHE:CZ	3:C:178:LEU:HD13	2.38	0.59
3:C:32:LEU:O	3:C:35:GLU:HB3	2.02	0.59
3:C:33:LEU:HD11	14:N:53:LEU:HD22	1.84	0.59
5:E:36:ASP:C	5:E:38:GLN:N	2.55	0.59
7:G:151:TYR:HA	7:G:153:HIS:CE1	2.36	0.59
10:J:85:LEU:O	10:J:87:THR:N	2.36	0.59
12:L:27:LEU:O	12:L:29:GLY:N	2.34	0.59
12:L:117:ARG:O	12:L:119:LYS:N	2.35	0.59
18:R:29:PHE:HE1	18:R:31:LEU:HD23	1.68	0.59
20:T:66:ALA:HB3	20:T:72:LEU:HD12	1.84	0.59
1:A:41:C:H2'	1:A:42:G:C8	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:85:C:H2'	1:A:86:U:O4'	2.02	0.59
1:A:727:U:H2'	1:A:728:C:C6	2.38	0.59
1:A:924:A:H2'	1:A:925:G:C8	2.38	0.59
1:A:1135:A:C5'	10:J:13:HIS:CD2	2.82	0.59
3:C:150:LYS:O	3:C:200:ALA:HA	2.02	0.59
4:D:109:GLY:C	4:D:111:ALA:H	2.05	0.59
4:D:176:LEU:O	4:D:176:LEU:HD23	2.03	0.59
5:E:41:VAL:HG21	5:E:113:ALA:CA	2.33	0.59
5:E:122:GLU:OE1	5:E:131:ILE:HG21	2.03	0.59
12:L:83:VAL:CG2	12:L:100:ILE:HG23	2.33	0.59
1:A:1203:G:O3'	19:S:77:THR:HG21	2.03	0.59
1:A:1423:C:H2'	1:A:1424:G:O4'	2.03	0.59
2:B:88:ALA:CB	2:B:90:MET:HG2	2.32	0.59
6:F:82:ARG:HB2	6:F:85:VAL:HB	1.84	0.59
8:H:83:ILE:O	8:H:83:ILE:CG2	2.50	0.59
18:R:88:LYS:OXT	18:R:88:LYS:HG2	2.02	0.59
1:A:1436:G:O2'	1:A:1437:C:H5'	2.03	0.59
3:C:154:SER:CB	3:C:197:GLY:H	2.16	0.59
10:J:67:THR:O	10:J:67:THR:HG22	2.03	0.59
12:L:47:LYS:HB2	12:L:48:PRO:HD3	1.84	0.59
13:M:87:TYR:CZ	13:M:91:ARG:HD3	2.37	0.59
15:O:10:LYS:HG3	15:O:11:VAL:N	2.17	0.59
1:A:270:A:HO2'	1:A:271:G:H8	1.50	0.59
1:A:732:C:H1'	1:A:733:C:H5	1.67	0.59
1:A:796:C:O2'	1:A:797:U:P	2.60	0.59
1:A:1390:C:H2'	1:A:1391:A:H8	1.67	0.59
5:E:78:HIS:CD2	8:H:107:LEU:HD12	2.38	0.59
20:T:43:LEU:CD1	20:T:55:ILE:HD12	2.27	0.59
20:T:91:LEU:C	20:T:93:GLU:H	2.06	0.59
1:A:155:A:H2'	1:A:156:A:O4'	2.02	0.58
1:A:277:G:O2'	1:A:278:A:P	2.61	0.58
1:A:283:U:H2'	1:A:284:A:C8	2.38	0.58
1:A:563:G:C5'	1:A:712:A:H1'	2.27	0.58
1:A:787:G:H2'	1:A:788:U:C6	2.38	0.58
1:A:1111:C:H4'	9:I:16:ARG:NH1	2.19	0.58
1:A:1440:G:H2'	1:A:1441:C:H6	1.68	0.58
2:B:77:ALA:O	2:B:78:GLN:C	2.41	0.58
2:B:87:ARG:HD3	2:B:234:PRO:CD	2.33	0.58
3:C:113:ALA:HB1	3:C:185:GLY:N	2.17	0.58
3:C:167:TRP:O	3:C:168:ALA:CB	2.51	0.58
4:D:53:ASP:O	4:D:57:ARG:HD3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:13:ILE:HA	5:E:29:GLY:O	2.03	0.58
12:L:110:VAL:O	12:L:122:THR:HG22	2.03	0.58
16:P:20:VAL:HG11	16:P:32:TYR:HB3	1.84	0.58
16:P:20:VAL:HG22	16:P:35:LYS:HA	1.85	0.58
16:P:58:TYR:O	16:P:61:SER:HB3	2.02	0.58
17:Q:8:GLY:HA3	17:Q:22:LEU:O	2.03	0.58
1:A:454:G:C3'	1:A:455:A:H5''	2.33	0.58
1:A:635:C:N3	1:A:636:U:C4	2.71	0.58
1:A:1305:G:H2'	1:A:1306:A:H8	1.68	0.58
1:A:1311:A:P	13:M:28:ALA:HB3	2.43	0.58
2:B:46:LYS:O	2:B:47:THR:C	2.42	0.58
4:D:191:ARG:O	4:D:191:ARG:HD2	2.02	0.58
9:I:26:VAL:CB	9:I:33:PHE:HB2	2.30	0.58
18:R:55:ARG:O	18:R:56:THR:C	2.42	0.58
20:T:55:ILE:O	20:T:56:MET:C	2.41	0.58
1:A:362:C:O2'	1:A:390:G:N2	2.36	0.58
1:A:1070:G:H2'	1:A:1071:G:H8	1.67	0.58
1:A:1308:C:OP1	21:U:12:LYS:NZ	2.36	0.58
4:D:59:ARG:NH2	4:D:62:GLN:HG3	2.17	0.58
4:D:152:SER:HB3	4:D:155:LEU:HD12	1.85	0.58
8:H:27:PRO:O	8:H:32:LYS:HE3	2.03	0.58
10:J:5:ARG:HB3	10:J:99:LYS:O	2.03	0.58
13:M:10:PRO:O	13:M:45:VAL:HG11	2.04	0.58
15:O:56:LEU:HG	15:O:57:LEU:N	2.18	0.58
16:P:22:THR:HA	16:P:33:ILE:CG1	2.33	0.58
1:A:88:C:H2'	1:A:89:G:C8	2.38	0.58
1:A:708:G:C2	1:A:709:G:C8	2.91	0.58
1:A:1329:G:O2'	1:A:1330:U:P	2.61	0.58
1:A:1329:G:HO2'	1:A:1356:G:H1	1.51	0.58
1:A:1395:C:H2'	1:A:1396:A:C8	2.39	0.58
2:B:193:ASP:OD1	2:B:195:ASP:HB2	2.03	0.58
3:C:33:LEU:HD23	3:C:33:LEU:C	2.23	0.58
4:D:177:ASP:O	4:D:178:VAL:C	2.40	0.58
7:G:145:ALA:C	7:G:147:ALA:N	2.51	0.58
8:H:120:THR:O	8:H:121:ASP:C	2.42	0.58
12:L:50:SER:O	12:L:51:ALA:HB2	2.04	0.58
15:O:87:ILE:HG22	15:O:88:ARG:H	1.68	0.58
1:A:185:C:H2'	1:A:186:C:C6	2.38	0.58
1:A:536:U:O2'	1:A:537:A:H5'	2.02	0.58
1:A:787:G:H2'	1:A:788:U:H6	1.67	0.58
1:A:1287:G:C5'	21:U:4:GLY:HA3	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:39:PRO:HG2	4:D:44:GLY:HA2	1.85	0.58
4:D:151:LYS:H	4:D:151:LYS:CD	2.15	0.58
6:F:3:ARG:NH2	6:F:64:GLN:NE2	2.52	0.58
16:P:57:ARG:NH1	16:P:79:VAL:O	2.37	0.58
1:A:485:C:OP1	12:L:117:ARG:NH2	2.36	0.58
1:A:566:U:C2	1:A:744:G:C6	2.91	0.58
1:A:1021:C:H2'	1:A:1022:C:H6	1.67	0.58
1:A:1065:G:H2'	1:A:1066:U:O4'	2.04	0.58
2:B:25:ASN:C	2:B:25:ASN:ND2	2.56	0.58
3:C:20:SER:HB3	3:C:22:TRP:HE1	1.68	0.58
5:E:110:LEU:HD13	5:E:118:ILE:CD1	2.33	0.58
8:H:44:PHE:CE1	8:H:137:VAL:HG12	2.38	0.58
8:H:111:ILE:HB	8:H:135:CYS:SG	2.44	0.58
11:K:33:THR:HA	11:K:39:PRO:HA	1.86	0.58
12:L:54:LYS:N	12:L:54:LYS:HD2	2.19	0.58
12:L:60:LEU:HD11	12:L:85:ILE:HD12	1.84	0.58
13:M:94:ARG:HH12	19:S:81:ARG:HD3	1.68	0.58
16:P:67:THR:CG2	16:P:68:ASP:N	2.67	0.58
1:A:398:G:H1'	1:A:604:C:H42	1.69	0.58
1:A:707:U:O2	1:A:707:U:H2'	2.03	0.58
3:C:74:GLY:O	3:C:76:VAL:N	2.36	0.58
4:D:8:VAL:HG11	4:D:21:LEU:CB	2.33	0.58
4:D:122:ARG:NH2	4:D:134:ASP:OD2	2.36	0.58
16:P:39:TYR:HB2	16:P:49:LEU:CD1	2.34	0.58
1:A:20:C:H2'	1:A:21:U:C6	2.39	0.58
1:A:702:G:H4'	11:K:117:ASN:HD21	1.67	0.58
1:A:757:G:O2'	1:A:758:G:H5'	2.03	0.58
1:A:925:G:C5	1:A:926:C:C4	2.92	0.58
1:A:1001:G:H2'	1:A:1002:G:H8	1.67	0.58
1:A:1064:G:H5''	5:E:27:ARG:NH1	2.18	0.58
1:A:1099:C:C2'	1:A:1100:G:C5'	2.82	0.58
1:A:1287:G:OP1	21:U:2:GLY:N	2.37	0.58
1:A:1340:U:H3'	1:A:1341:C:C6	2.38	0.58
2:B:209:ARG:NE	2:B:239:VAL:HG11	2.18	0.58
4:D:8:VAL:HG11	4:D:21:LEU:HB3	1.84	0.58
4:D:149:ALA:O	4:D:152:SER:N	2.37	0.58
4:D:209:ARG:HG2	4:D:209:ARG:HH11	1.68	0.58
5:E:135:THR:O	5:E:136:MET:C	2.41	0.58
6:F:40:VAL:HG22	6:F:41:GLU:N	2.19	0.58
7:G:122:HIS:HD2	7:G:125:MET:HE3	1.69	0.58
13:M:33:ALA:HA	13:M:59:TYR:HE2	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:79:LYS:HD3	13:M:83:ASP:OD2	2.04	0.58
1:A:228:G:O2'	1:A:229:C:H5'	2.03	0.58
1:A:379:A:H2'	1:A:380:G:H5'	1.85	0.58
1:A:575:U:H2'	1:A:576:G:C8	2.38	0.58
1:A:584:C:H42	1:A:622:G:H1	1.52	0.58
1:A:745:G:H2'	1:A:746:C:C6	2.39	0.58
1:A:950:C:H4'	10:J:57:LYS:HB3	1.86	0.58
1:A:1131:U:H4'	9:I:14:VAL:HG11	1.85	0.58
2:B:134:GLU:C	2:B:136:VAL:N	2.57	0.58
4:D:33:MET:SD	4:D:37:PRO:HA	2.44	0.58
4:D:64:LEU:O	4:D:64:LEU:HD13	2.03	0.58
7:G:114:ARG:HG2	7:G:114:ARG:HH11	1.69	0.58
13:M:80:ARG:HG2	13:M:81:LEU:N	2.18	0.58
14:N:11:LYS:O	14:N:13:THR:N	2.37	0.58
21:U:2:GLY:O	21:U:4:GLY:N	2.36	0.58
1:A:187:C:H2'	1:A:188:C:O4'	2.03	0.58
1:A:241:C:O2'	1:A:242:A:H5'	2.03	0.58
1:A:340:A:H5''	1:A:341:C:C5	2.38	0.58
1:A:422:G:O2'	1:A:423:U:H5'	2.04	0.58
1:A:485:C:H2'	1:A:486:G:C8	2.29	0.58
1:A:1111:C:O2'	1:A:1113:A:C8	2.54	0.58
1:A:1137:G:O2'	1:A:1138:G:H5'	2.03	0.58
1:A:1274:U:C5'	9:I:38:GLN:HE22	2.16	0.58
7:G:85:TYR:CD1	7:G:154:TYR:HE1	2.19	0.58
16:P:57:ARG:O	16:P:61:SER:HB3	2.03	0.58
17:Q:87:LYS:O	17:Q:88:TYR:C	2.41	0.58
20:T:57:ARG:HH21	20:T:100:ILE:CG2	2.17	0.58
1:A:262:G:O3'	17:Q:67:LYS:HB2	2.04	0.57
1:A:715:G:O2'	1:A:716:C:H5'	2.03	0.57
1:A:931:G:H2'	1:A:932:G:O4'	2.04	0.57
2:B:124:SER:O	2:B:127:ILE:HG13	2.04	0.57
3:C:35:GLU:OE2	3:C:97:LYS:HG3	2.04	0.57
4:D:36:ARG:HG3	4:D:38:TYR:CZ	2.39	0.57
4:D:106:TYR:C	4:D:106:TYR:CD2	2.76	0.57
5:E:8:GLU:O	5:E:8:GLU:HG2	2.04	0.57
13:M:65:LYS:HG3	13:M:69:GLU:OE2	2.02	0.57
20:T:50:GLU:HG3	20:T:99:LEU:HD12	1.84	0.57
1:A:50:U:O2	1:A:358:G:H1'	2.04	0.57
1:A:421:G:O2'	1:A:422:G:H5'	2.02	0.57
2:B:100:GLY:C	2:B:102:LEU:N	2.57	0.57
3:C:188:LEU:HD11	3:C:195:VAL:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:8:VAL:C	4:D:10:ARG:H	2.08	0.57
4:D:10:ARG:HH11	4:D:10:ARG:HG3	1.69	0.57
8:H:17:THR:HG22	8:H:63:LEU:HG	1.86	0.57
10:J:3:LYS:C	10:J:100:THR:HG23	2.24	0.57
10:J:51:ARG:H	10:J:59:SER:HB2	1.68	0.57
16:P:39:TYR:CE1	16:P:41:PRO:HA	2.39	0.57
17:Q:60:ILE:HD13	17:Q:61:GLU:O	2.05	0.57
20:T:75:ASN:O	20:T:78:ALA:HB3	2.04	0.57
1:A:41:C:H2'	1:A:42:G:H8	1.69	0.57
2:B:68:ILE:HD12	2:B:222:ILE:HD11	1.86	0.57
3:C:195:VAL:C	3:C:196:LEU:HD23	2.23	0.57
9:I:86:VAL:O	9:I:87:GLN:C	2.41	0.57
1:A:276:C:O2	17:Q:38:ARG:HG3	2.04	0.57
1:A:855:C:O2'	8:H:4:ASP:HB2	2.03	0.57
1:A:1102:C:O2'	1:A:1103:G:H5'	2.03	0.57
1:A:1483:G:H3'	1:A:1483:G:H8	1.69	0.57
2:B:80:ILE:HD11	2:B:208:ILE:HG23	1.86	0.57
2:B:140:HIS:O	2:B:141:GLU:C	2.41	0.57
4:D:107:ARG:NH1	4:D:114:ARG:NH2	2.53	0.57
10:J:20:ALA:O	10:J:24:VAL:HG23	2.03	0.57
13:M:37:THR:CG2	13:M:39:ILE:HD11	2.35	0.57
17:Q:67:LYS:CA	17:Q:70:ARG:HH12	2.15	0.57
18:R:40:LEU:HB2	18:R:79:LEU:HD11	1.87	0.57
1:A:390:G:H2'	1:A:391:C:C6	2.40	0.57
1:A:1408:U:H2'	1:A:1409:C:H6	1.69	0.57
3:C:5:ILE:HD13	3:C:10:PHE:HB2	1.85	0.57
3:C:94:LEU:HD23	3:C:95:THR:CG2	2.28	0.57
3:C:150:LYS:HE2	3:C:152:ILE:HD11	1.85	0.57
3:C:180:ALA:O	3:C:181:ASN:HB3	2.04	0.57
4:D:145:GLU:HG2	4:D:184:LYS:HE2	1.86	0.57
4:D:160:GLN:O	4:D:163:GLU:HB3	2.04	0.57
5:E:78:HIS:ND1	5:E:78:HIS:O	2.38	0.57
5:E:80:ILE:CD1	5:E:91:LEU:HB2	2.34	0.57
8:H:113:SER:N	8:H:134:ILE:HD11	2.19	0.57
9:I:27:THR:HG23	9:I:30:GLY:O	2.03	0.57
12:L:39:VAL:HB	12:L:57:LYS:CG	2.34	0.57
13:M:77:ASN:O	13:M:80:ARG:HB3	2.04	0.57
1:A:291:C:C4	1:A:292:U:C4	2.92	0.57
1:A:342:G:H2'	1:A:343:G:O4'	2.05	0.57
1:A:850:A:C2	1:A:852:G:C6	2.92	0.57
1:A:888:C:H2'	1:A:889:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:906:G:O2'	1:A:907:G:H5'	2.05	0.57
1:A:1085:A:O2'	1:A:1086:C:H5'	2.04	0.57
1:A:1132:C:OP1	9:I:9:ARG:HD3	2.03	0.57
1:A:1270:A:O4'	1:A:1335:G:H4'	2.05	0.57
1:A:1291:G:P	13:M:88:ARG:HH21	2.27	0.57
3:C:72:LYS:O	3:C:74:GLY:N	2.38	0.57
5:E:5:ASP:CG	5:E:6:PHE:H	2.07	0.57
6:F:95:GLU:CD	6:F:95:GLU:H	2.06	0.57
12:L:53:ARG:CB	12:L:93:LEU:HD11	2.35	0.57
12:L:92:ASP:O	12:L:93:LEU:HD23	2.03	0.57
13:M:84:ILE:HG13	13:M:86:CYS:HB2	1.86	0.57
18:R:59:SER:H	18:R:62:GLU:HB2	1.69	0.57
1:A:1202:G:H2'	1:A:1203:G:C8	2.36	0.57
1:A:1335:G:O2'	1:A:1336:C:H5'	2.03	0.57
2:B:74:LYS:NZ	2:B:206:ASP:HB2	2.17	0.57
3:C:14:ILE:CG2	3:C:15:THR:H	2.15	0.57
3:C:33:LEU:HD23	3:C:34:LEU:N	2.19	0.57
12:L:85:ILE:HA	12:L:99:HIS:O	2.05	0.57
1:A:190:U:H2'	17:Q:63:ARG:NH2	2.20	0.57
1:A:453:C:C2	1:A:454:G:C8	2.93	0.57
1:A:515:U:H4'	1:A:516:A:C5'	2.33	0.57
1:A:623:G:O2'	1:A:624:A:H5'	2.05	0.57
1:A:902:C:H5'	1:A:1382:C:OP2	2.04	0.57
1:A:1291:G:O2'	1:A:1292:G:H5'	2.05	0.57
1:A:1437:C:H5''	20:T:27:LYS:HZ3	1.70	0.57
3:C:201:TYR:N	3:C:201:TYR:HD1	2.03	0.57
4:D:150:GLU:O	4:D:153:ARG:HB2	2.04	0.57
7:G:21:VAL:HG23	7:G:22:LEU:N	2.19	0.57
8:H:36:LEU:CD1	8:H:61:VAL:HG22	2.34	0.57
12:L:83:VAL:HG22	12:L:84:LEU:N	2.20	0.57
16:P:81:ARG:CG	16:P:83:GLU:HG2	2.35	0.57
18:R:17:SER:HA	18:R:19:LYS:HZ1	1.69	0.57
1:A:410:A:C2	1:A:411:A:C4	2.93	0.57
2:B:28:PHE:O	2:B:29:ALA:C	2.43	0.57
5:E:7:GLU:OE2	5:E:37:ARG:NE	2.23	0.57
13:M:17:VAL:O	13:M:20:THR:HB	2.05	0.57
20:T:50:GLU:O	20:T:100:ILE:HD12	2.05	0.57
1:A:744:G:H2'	1:A:745:G:H5'	1.87	0.57
1:A:1330:U:H4'	9:I:120:ARG:HD2	1.87	0.57
2:B:85:ALA:O	2:B:88:ALA:O	2.22	0.57
3:C:77:ILE:O	3:C:83:ARG:HB3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:15:VAL:HB	13:M:34:LEU:HD11	1.86	0.57
18:R:59:SER:OG	18:R:62:GLU:HG3	2.05	0.57
1:A:444:C:H3'	1:A:445:G:H8	1.69	0.56
1:A:446:A:H1'	1:A:447:A:N7	2.20	0.56
1:A:702:G:C4'	11:K:117:ASN:HD21	2.18	0.56
1:A:812:A:H2'	1:A:813:G:O4'	2.05	0.56
1:A:1050:A:H1'	1:A:1051:G:O4'	2.04	0.56
1:A:1280:C:H4'	1:A:1281:A:C8	2.40	0.56
2:B:31:TYR:CE1	2:B:200:ILE:HD12	2.37	0.56
5:E:144:THR:CG2	5:E:146:ALA:H	2.17	0.56
6:F:67:MET:HB2	6:F:68:PRO:CD	2.34	0.56
6:F:82:ARG:HA	6:F:82:ARG:NE	2.20	0.56
8:H:86:ILE:O	8:H:88:LYS:HG3	2.05	0.56
13:M:9:ILE:HD12	13:M:9:ILE:N	2.19	0.56
1:A:778:A:H2'	1:A:779:C:C6	2.40	0.56
1:A:1331:A:C2'	1:A:1332:A:H8	2.10	0.56
1:A:1332:A:C2	1:A:1333:U:C2	2.92	0.56
2:B:18:GLY:HA3	2:B:41:ILE:HA	1.86	0.56
3:C:3:ASN:O	3:C:4:LYS:HG2	2.04	0.56
13:M:29:ARG:O	13:M:32:GLU:HB3	2.05	0.56
1:A:239:A:H4'	1:A:240:U:O5'	2.04	0.56
1:A:353:G:O2'	1:A:354:U:H5'	2.03	0.56
1:A:442:G:H2'	1:A:470:G:H22	1.69	0.56
1:A:995:A:H2'	1:A:996:G:O4'	2.04	0.56
1:A:1096:C:O5'	1:A:1096:C:H6	1.87	0.56
1:A:1301:A:H2'	1:A:1305:G:N7	2.20	0.56
1:A:1328:A:H1'	1:A:1330:U:C5	2.39	0.56
1:A:1333:U:O2'	1:A:1334:C:H5'	2.05	0.56
1:A:1382:C:O2	1:A:1384:G:C5	2.59	0.56
1:A:1473:U:H2'	1:A:1474:C:C6	2.40	0.56
2:B:106:LYS:O	2:B:110:GLN:HG3	2.04	0.56
2:B:161:ALA:HA	2:B:182:ILE:HG22	1.87	0.56
3:C:188:LEU:HD13	3:C:189:ALA:N	2.20	0.56
4:D:114:ARG:O	4:D:117:ALA:HB3	2.05	0.56
4:D:156:GLU:HG2	4:D:160:GLN:HE21	1.70	0.56
5:E:48:ALA:HB1	5:E:49:PRO:HD2	1.86	0.56
5:E:80:ILE:CD1	5:E:138:ALA:HB1	2.35	0.56
5:E:82:VAL:HG11	5:E:137:GLU:HB3	1.87	0.56
14:N:37:PHE:HB3	14:N:39:LEU:CD1	2.36	0.56
17:Q:44:ALA:HA	17:Q:71:PHE:O	2.04	0.56
1:A:204:A:H4'	1:A:205:G:O5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:483:A:H1'	1:A:531:A:N6	2.20	0.56
1:A:562:C:O2'	1:A:712:A:N3	2.33	0.56
1:A:745:G:C6	1:A:746:C:C4	2.94	0.56
1:A:781:C:O2'	1:A:782:G:H5'	2.06	0.56
1:A:845:G:O2'	1:A:851:A:N6	2.38	0.56
1:A:857:C:H2'	1:A:858:C:H6	1.69	0.56
1:A:870:A:H2'	1:A:871:C:C6	2.40	0.56
1:A:938:U:C2	1:A:1207:A:N7	2.74	0.56
1:A:949:G:O2'	1:A:1348:G:O2'	2.22	0.56
1:A:1178:U:H5''	1:A:1179:G:C5'	2.36	0.56
1:A:1302:C:N3	19:S:36:ARG:NH1	2.54	0.56
3:C:35:GLU:O	3:C:38:ARG:HB2	2.05	0.56
4:D:25:ARG:HA	4:D:28:SER:OG	2.05	0.56
12:L:34:ARG:O	12:L:61:THR:HG23	2.06	0.56
19:S:80:TYR:CG	19:S:81:ARG:N	2.73	0.56
1:A:211:U:H4'	1:A:212:G:O5'	2.04	0.56
1:A:367:G:C2'	1:A:368:C:H5'	2.35	0.56
1:A:1207:A:H5'	1:A:1208:C:OP2	2.05	0.56
1:A:1475:G:H1'	1:A:1496:A:H2	1.71	0.56
2:B:47:THR:HA	2:B:202:PRO:HG2	1.88	0.56
2:B:48:MET:O	2:B:51:LEU:N	2.38	0.56
13:M:52:GLU:HA	13:M:55:ARG:HE	1.70	0.56
17:Q:26:GLN:O	17:Q:27:PHE:HB3	2.05	0.56
17:Q:66:SER:O	17:Q:67:LYS:C	2.44	0.56
18:R:34:TYR:HA	18:R:69:THR:HG23	1.88	0.56
1:A:208:C:H42	1:A:212:G:H1	1.53	0.56
1:A:251:G:C1'	17:Q:16:GLN:HE21	2.19	0.56
1:A:561:G:H1'	1:A:800:A:N3	2.20	0.56
1:A:674:G:N2	1:A:682:G:C6	2.74	0.56
1:A:1309:C:H2'	1:A:1310:C:C6	2.40	0.56
1:A:1351:G:H4'	14:N:61:TRP:HZ2	1.70	0.56
6:F:36:ARG:HH12	6:F:38:GLU:HG2	1.68	0.56
12:L:126:LYS:H	12:L:126:LYS:CD	2.17	0.56
18:R:38:GLU:OE1	18:R:38:GLU:N	2.38	0.56
18:R:76:LEU:O	18:R:78:LEU:N	2.39	0.56
20:T:54:LYS:HE2	20:T:100:ILE:HD11	1.87	0.56
1:A:23:G:H4'	1:A:863:G:C8	2.41	0.56
1:A:101:G:C2'	1:A:102:G:H5'	2.35	0.56
1:A:334:A:H2'	1:A:335:C:H6	1.70	0.56
1:A:438:C:H2'	1:A:439:C:C6	2.40	0.56
1:A:994:A:H2'	1:A:995:A:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1163:G:O2'	1:A:1164:G:O4'	2.24	0.56
1:A:1464:G:H2'	1:A:1465:G:C8	2.40	0.56
2:B:100:GLY:C	2:B:102:LEU:H	2.06	0.56
4:D:90:GLY:CA	4:D:204:ILE:HD11	2.36	0.56
6:F:38:GLU:O	6:F:39:LYS:HB3	2.06	0.56
7:G:15:ASP:HB3	7:G:19:GLY:H	1.70	0.56
19:S:10:PHE:C	19:S:10:PHE:CD2	2.79	0.56
1:A:745:G:N2	17:Q:105:ALA:HB3	2.20	0.56
1:A:1103:G:O2'	1:A:1104:U:H5'	2.05	0.56
1:A:1195:A:N1	1:A:1197:G:H1'	2.20	0.56
2:B:17:PHE:HD1	2:B:17:PHE:C	2.09	0.56
5:E:41:VAL:CG2	5:E:113:ALA:CA	2.80	0.56
7:G:64:GLN:HG2	7:G:128:ALA:HB1	1.88	0.56
7:G:69:VAL:O	7:G:71:PRO:HD3	2.06	0.56
7:G:113:GLU:CD	7:G:113:GLU:H	2.08	0.56
8:H:97:VAL:HG13	8:H:98:LYS:N	2.21	0.56
17:Q:19:VAL:HG23	17:Q:44:ALA:HB3	1.88	0.56
19:S:62:ILE:CD1	19:S:66:MET:HG3	2.34	0.56
1:A:79:G:C3'	1:A:80:U:H5''	2.36	0.56
1:A:258:A:C6	1:A:259:A:C6	2.94	0.56
1:A:273:C:O2'	1:A:274:G:H5'	2.06	0.56
1:A:485:C:H1'	1:A:533:C:H1'	1.88	0.56
1:A:639:A:C2	1:A:738:C:N3	2.74	0.56
1:A:905:G:C2	1:A:906:G:C8	2.93	0.56
1:A:1002:G:H2'	1:A:1002:G:N3	2.20	0.56
1:A:1318:C:H1'	1:A:1319:G:N1	2.21	0.56
2:B:98:LEU:HB2	2:B:101:MET:CG	2.36	0.56
3:C:116:VAL:HG21	3:C:202:ILE:HD11	1.88	0.56
3:C:132:ARG:HH22	4:D:47:ARG:HH12	1.52	0.56
5:E:139:LEU:HA	5:E:142:LEU:HG	1.88	0.56
6:F:3:ARG:HE	6:F:64:GLN:HE21	1.53	0.56
16:P:21:VAL:HG11	16:P:59:TRP:CE2	2.40	0.56
20:T:76:ALA:HA	20:T:79:ARG:NH1	2.21	0.56
1:A:9:A:H1'	5:E:102:ALA:C	2.27	0.56
1:A:879:A:N7	1:A:880:G:H1'	2.22	0.56
1:A:896:A:H2'	1:A:897:A:H8	1.70	0.56
1:A:1069:U:H3	1:A:1082:G:N2	2.03	0.56
1:A:1486:G:C5	1:A:1487:C:C5	2.93	0.56
2:B:17:PHE:C	2:B:17:PHE:CD1	2.78	0.56
3:C:188:LEU:CD1	3:C:195:VAL:HG13	2.30	0.56
4:D:170:VAL:HG12	4:D:171:GLY:N	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:25:ILE:HD12	6:F:82:ARG:HD2	1.88	0.56
6:F:75:LEU:O	6:F:79:LEU:HG	2.06	0.56
18:R:19:LYS:O	18:R:20:ALA:HB2	2.06	0.56
1:A:231:C:H5'	17:Q:70:ARG:HG2	1.88	0.55
1:A:277:G:HO2'	1:A:278:A:P	2.28	0.55
1:A:405:G:OP1	4:D:24:GLU:O	2.24	0.55
1:A:1109:U:H6	1:A:1109:U:P	2.29	0.55
6:F:8:ILE:HB	6:F:61:LEU:HB2	1.89	0.55
11:K:19:ALA:CB	11:K:80:VAL:HG11	2.37	0.55
15:O:70:LEU:HD12	15:O:78:TYR:HB2	1.86	0.55
1:A:70:G:H2'	1:A:71:G:H8	1.70	0.55
1:A:243:G:OP1	17:Q:100:LYS:HE2	2.06	0.55
1:A:891:A:P	12:L:47:LYS:HZ2	2.29	0.55
1:A:1328:A:C2'	7:G:10:ARG:HH22	2.16	0.55
2:B:17:PHE:CD1	2:B:18:GLY:N	2.74	0.55
2:B:26:PRO:O	2:B:28:PHE:N	2.39	0.55
2:B:174:VAL:O	2:B:178:ARG:HB2	2.07	0.55
4:D:38:TYR:HB2	4:D:39:PRO:HD2	1.88	0.55
5:E:38:GLN:O	5:E:71:LEU:HD12	2.06	0.55
7:G:78:ARG:HB2	7:G:156:TRP:CZ3	2.41	0.55
8:H:96:GLY:O	8:H:99:GLU:N	2.26	0.55
9:I:59:PHE:O	9:I:60:ASP:HB2	2.06	0.55
10:J:15:THR:HG23	10:J:94:VAL:HG22	1.87	0.55
17:Q:94:ASN:O	17:Q:97:SER:OG	2.20	0.55
1:A:67:G:H4'	1:A:168:U:C5	2.42	0.55
1:A:75:C:O2'	1:A:76:G:H5'	2.06	0.55
1:A:1173:A:H2'	1:A:1174:C:C6	2.42	0.55
1:A:1307:C:H2'	1:A:1308:C:C6	2.41	0.55
2:B:25:ASN:HD22	2:B:26:PRO:CD	2.18	0.55
4:D:118:ARG:O	4:D:121:VAL:HB	2.06	0.55
7:G:155:ARG:O	7:G:156:TRP:CB	2.54	0.55
13:M:4:ILE:O	13:M:5:ALA:O	2.25	0.55
13:M:11:ARG:HG2	13:M:12:ASN:N	2.22	0.55
18:R:86:VAL:O	18:R:87:ARG:CG	2.52	0.55
1:A:263:C:OP2	17:Q:67:LYS:HD2	2.06	0.55
1:A:412:G:C5	1:A:413:C:C4	2.95	0.55
1:A:1290:U:H2'	1:A:1291:G:H8	1.71	0.55
1:A:1453:G:H2'	1:A:1454:G:H8	1.70	0.55
2:B:35:GLU:O	2:B:36:ARG:HG3	2.05	0.55
3:C:35:GLU:CG	3:C:59:ARG:HH22	2.19	0.55
3:C:180:ALA:O	3:C:181:ASN:CB	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:177:ASP:O	4:D:177:ASP:OD1	2.25	0.55
5:E:24:ARG:HG2	5:E:24:ARG:HH11	1.70	0.55
5:E:83:GLU:HG2	5:E:88:LYS:HG3	1.88	0.55
6:F:101:ALA:HA	18:R:28:GLU:HG3	1.89	0.55
11:K:66:LEU:HB3	11:K:70:LYS:CE	2.34	0.55
11:K:123:LYS:O	11:K:125:PHE:N	2.39	0.55
14:N:14:PRO:HB2	14:N:16:PHE:O	2.05	0.55
16:P:36:ILE:HG13	16:P:37:GLY:H	1.72	0.55
1:A:317:A:O2'	1:A:318:C:H5'	2.07	0.55
1:A:486:G:H2'	1:A:487:C:H6	1.72	0.55
1:A:545:U:O2'	1:A:546:C:P	2.64	0.55
1:A:634:G:O2'	1:A:635:C:H5'	2.07	0.55
1:A:826:C:H2'	1:A:827:C:H6	1.71	0.55
1:A:858:C:C5'	12:L:12:ARG:HH21	2.15	0.55
1:A:959:U:H4'	14:N:21:TYR:CE2	2.42	0.55
4:D:110:PHE:CD1	4:D:162:LEU:HD21	2.41	0.55
5:E:42:GLY:C	5:E:62:ALA:HB1	2.26	0.55
7:G:36:LYS:O	7:G:36:LYS:HD3	2.06	0.55
11:K:95:ILE:HG21	11:K:108:ILE:HD13	1.87	0.55
12:L:33:ARG:HD2	12:L:62:SER:HB3	1.87	0.55
16:P:53:VAL:HG23	16:P:54:GLU:N	2.22	0.55
1:A:88:C:H2'	1:A:89:G:H8	1.70	0.55
1:A:257:U:O2	1:A:259:A:C8	2.59	0.55
1:A:463:A:O2'	1:A:464:C:H5'	2.06	0.55
1:A:566:U:H2'	1:A:567:A:O4'	2.06	0.55
1:A:738:C:O2	1:A:738:C:C2'	2.54	0.55
1:A:836:G:O6	1:A:847:G:C8	2.60	0.55
1:A:958:C:H2'	1:A:959:U:H5'	1.88	0.55
4:D:71:SER:O	4:D:73:ARG:N	2.40	0.55
9:I:92:TYR:O	9:I:93:ARG:C	2.45	0.55
9:I:93:ARG:CD	9:I:97:LYS:HE3	2.27	0.55
13:M:14:ARG:CZ	13:M:42:ALA:HA	2.37	0.55
20:T:42:GLN:O	20:T:46:GLU:HG3	2.05	0.55
1:A:270:A:O2'	1:A:271:G:H8	1.90	0.55
1:A:792:C:OP1	15:O:48:LYS:HE2	2.06	0.55
1:A:846:C:O2'	1:A:851:A:H2'	2.07	0.55
1:A:959:U:H5''	14:N:21:TYR:CZ	2.41	0.55
1:A:1128:C:O2'	1:A:1129:A:C8	2.60	0.55
2:B:43:ASP:C	2:B:43:ASP:OD1	2.45	0.55
3:C:5:ILE:CD1	3:C:10:PHE:HB2	2.36	0.55
3:C:29:TYR:OH	14:N:54:PRO:HG2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:23:GLY:HA3	4:D:112:VAL:CG1	2.37	0.55
4:D:70:ILE:HD11	4:D:100:ARG:HD2	1.89	0.55
4:D:201:GLN:O	4:D:205:GLU:HG3	2.06	0.55
5:E:89:ILE:C	5:E:89:ILE:CD1	2.68	0.55
9:I:108:VAL:CG1	9:I:109:VAL:H	2.15	0.55
13:M:81:LEU:HA	13:M:84:ILE:CD1	2.36	0.55
17:Q:43:LEU:HD11	17:Q:68:ARG:HH12	1.72	0.55
1:A:410:A:C2	1:A:411:A:N9	2.75	0.55
1:A:491:C:H2'	1:A:492:C:C5	2.42	0.55
2:B:120:ALA:O	2:B:122:PHE:N	2.40	0.55
3:C:15:THR:HG21	3:C:179:ARG:O	2.07	0.55
3:C:64:VAL:O	3:C:99:VAL:HG23	2.06	0.55
3:C:112:SER:O	3:C:113:ALA:C	2.45	0.55
4:D:10:ARG:HG3	4:D:10:ARG:NH1	2.21	0.55
8:H:137:VAL:HG12	8:H:138:TRP:N	2.21	0.55
10:J:25:GLU:O	10:J:28:ARG:HB2	2.07	0.55
10:J:81:THR:O	10:J:83:GLU:N	2.39	0.55
11:K:43:SER:HB3	11:K:68:ALA:HB2	1.89	0.55
13:M:39:ILE:O	13:M:41:PRO:HD3	2.07	0.55
15:O:45:VAL:HG12	15:O:46:HIS:H	1.71	0.55
17:Q:67:LYS:O	17:Q:68:ARG:CB	2.50	0.55
1:A:407:A:H1'	1:A:409:G:H1'	1.89	0.55
1:A:939:U:C2'	1:A:940:C:H5'	2.37	0.55
1:A:1287:G:OP1	21:U:2:GLY:CA	2.54	0.55
1:A:1475:G:H2'	1:A:1476:U:C6	2.37	0.55
2:B:120:ALA:C	2:B:122:PHE:H	2.09	0.55
3:C:58:GLU:HB3	10:J:92:THR:CG2	2.29	0.55
3:C:108:ASN:OD1	3:C:110:ASN:HB2	2.07	0.55
3:C:142:MET:HE1	3:C:148:GLY:N	2.22	0.55
4:D:32:ALA:C	4:D:34:GLU:N	2.56	0.55
6:F:94:GLN:NE2	18:R:32:ARG:HD3	2.22	0.55
9:I:33:PHE:CZ	9:I:46:ALA:HB3	2.40	0.55
1:A:124:G:O2'	1:A:125:A:OP2	2.23	0.55
1:A:142:G:C2	1:A:143:G:C8	2.95	0.55
1:A:417:U:H5'	1:A:418:C:OP2	2.07	0.55
1:A:1287:G:N2	1:A:1313:G:C2'	2.69	0.55
1:A:1485:A:H2'	1:A:1486:G:C8	2.41	0.55
2:B:142:LEU:O	2:B:143:GLU:C	2.44	0.55
4:D:18:LYS:HB3	4:D:20:TYR:HE2	1.72	0.55
5:E:107:ARG:O	5:E:108:ALA:C	2.44	0.55
7:G:96:GLN:O	7:G:97:GLN:C	2.45	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:47:PHE:CE2	14:N:37:PHE:CE1	2.95	0.55
13:M:3:ARG:HA	13:M:8:GLU:O	2.07	0.55
15:O:53:HIS:O	15:O:56:LEU:HB3	2.07	0.55
16:P:9:PHE:HE2	16:P:18:ARG:HD2	1.70	0.55
16:P:20:VAL:HG11	16:P:32:TYR:CB	2.38	0.55
20:T:49:ALA:O	20:T:50:GLU:C	2.44	0.55
1:A:195:U:H2'	1:A:196:G:C8	2.42	0.54
1:A:691:C:O2	11:K:39:PRO:HD3	2.07	0.54
1:A:1050:A:O2'	1:A:1051:G:C8	2.56	0.54
2:B:98:LEU:HB2	2:B:101:MET:HG3	1.90	0.54
5:E:141:GLN:O	5:E:143:ARG:HG2	2.07	0.54
7:G:67:GLU:HA	7:G:67:GLU:OE2	2.07	0.54
11:K:124:LYS:HB3	11:K:125:PHE:CD1	2.43	0.54
12:L:35:GLY:HA3	12:L:58:VAL:HG12	1.87	0.54
1:A:11:A:O2'	1:A:12:G:H5'	2.07	0.54
1:A:475:G:H2'	1:A:476:G:H8	1.72	0.54
1:A:591:A:C2'	1:A:592:A:H5'	2.37	0.54
1:A:736:G:O2'	1:A:737:A:P	2.65	0.54
1:A:856:G:OP1	8:H:89:PRO:O	2.25	0.54
1:A:1035:U:H2'	1:A:1182:C:H41	1.72	0.54
1:A:1172:G:O2'	1:A:1173:A:P	2.64	0.54
1:A:1355:U:OP1	9:I:71:SER:HB3	2.06	0.54
1:A:1439:G:O2'	1:A:1440:G:H5'	2.07	0.54
3:C:35:GLU:HG2	3:C:59:ARG:HH22	1.71	0.54
4:D:90:GLY:H	4:D:204:ILE:HD11	1.72	0.54
9:I:38:GLN:OE1	9:I:39:GLY:N	2.40	0.54
11:K:33:THR:OG1	11:K:37:GLY:C	2.46	0.54
11:K:48:ILE:HD13	11:K:63:LEU:CB	2.32	0.54
16:P:74:LEU:HB3	16:P:79:VAL:CG2	2.27	0.54
1:A:378:A:C2	1:A:379:A:C4	2.95	0.54
1:A:486:G:H2'	1:A:487:C:O4'	2.07	0.54
1:A:642:G:O2'	1:A:643:U:H5'	2.07	0.54
4:D:29:PRO:C	4:D:30:LYS:HG3	2.28	0.54
8:H:16:ALA:HB3	8:H:63:LEU:HD21	1.89	0.54
10:J:47:PHE:CE2	14:N:37:PHE:HE1	2.25	0.54
13:M:40:ASN:HB3	13:M:43:THR:HG23	1.89	0.54
15:O:32:LEU:O	15:O:33:THR:C	2.44	0.54
1:A:182:C:C2	20:T:105:SER:HB3	2.42	0.54
1:A:904:G:H1	22:A:1523:KSG:H6	1.73	0.54
1:A:937:A:C3'	1:A:938:U:H5''	2.29	0.54
1:A:1188:G:C6	1:A:1189:G:C5	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1401:A:H3'	1:A:1402:G:C8	2.42	0.54
1:A:1438:A:C2	1:A:1439:G:H1'	2.43	0.54
2:B:59:GLU:O	2:B:60:ASP:C	2.45	0.54
2:B:137:ARG:HB3	2:B:137:ARG:HH11	1.71	0.54
2:B:200:ILE:HG22	2:B:201:ILE:N	2.22	0.54
3:C:8:ILE:O	3:C:11:ARG:N	2.40	0.54
4:D:8:VAL:O	4:D:11:LEU:HG	2.07	0.54
4:D:107:ARG:HH12	4:D:114:ARG:NH2	2.05	0.54
6:F:24:GLU:HG3	6:F:25:ILE:N	2.20	0.54
10:J:94:VAL:CG1	10:J:95:GLU:N	2.71	0.54
14:N:12:ARG:O	14:N:14:PRO:N	2.40	0.54
15:O:24:SER:O	15:O:25:THR:C	2.46	0.54
15:O:66:LEU:O	15:O:69:TYR:HB3	2.08	0.54
17:Q:97:SER:O	17:Q:98:LEU:HD12	2.07	0.54
19:S:15:LEU:HD12	19:S:16:LEU:N	2.22	0.54
20:T:57:ARG:HB2	20:T:57:ARG:HH11	1.72	0.54
1:A:544:U:H4'	1:A:545:U:C5'	2.38	0.54
1:A:585:C:H2'	1:A:586:A:C8	2.41	0.54
1:A:626:A:N7	8:H:115:SER:HA	2.23	0.54
1:A:855:C:O2'	8:H:3:THR:HG23	2.07	0.54
1:A:923:G:H21	1:A:1316:G:H4'	1.71	0.54
1:A:969:U:O2'	1:A:970:U:H5'	2.08	0.54
1:A:980:G:H2'	1:A:981:G:O4'	2.07	0.54
1:A:1329:G:C4	9:I:107:ARG:NH1	2.75	0.54
2:B:16:HIS:O	2:B:17:PHE:O	2.26	0.54
2:B:52:GLU:HG2	2:B:56:ARG:HH21	1.72	0.54
5:E:37:ARG:HG2	5:E:37:ARG:HH11	1.72	0.54
6:F:80:ARG:CZ	6:F:88:VAL:HB	2.38	0.54
9:I:69:GLY:O	9:I:73:GLN:HG3	2.08	0.54
1:A:275:A:H5'	1:A:277:G:O4'	2.08	0.54
1:A:319:U:OP1	20:T:23:ARG:HA	2.07	0.54
1:A:870:A:O2'	1:A:1398:G:H4'	2.07	0.54
1:A:1428:G:N2	1:A:1438:A:H1'	2.22	0.54
1:A:1430:C:O2'	1:A:1431:U:H5'	2.08	0.54
1:A:1464:G:H2'	1:A:1465:G:O4'	2.08	0.54
2:B:87:ARG:NH2	2:B:233:SER:HB2	2.22	0.54
2:B:148:TYR:CD2	2:B:148:TYR:N	2.75	0.54
3:C:14:ILE:CG2	3:C:15:THR:N	2.71	0.54
3:C:38:ARG:HH11	3:C:38:ARG:HG3	1.72	0.54
4:D:10:ARG:NH1	4:D:40:PRO:HB2	2.21	0.54
7:G:122:HIS:HD2	7:G:125:MET:CE	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:137:VAL:O	8:H:138:TRP:HB3	2.07	0.54
9:I:93:ARG:HD3	9:I:97:LYS:CE	2.28	0.54
10:J:90:LEU:N	10:J:91:PRO:HD2	2.13	0.54
12:L:60:LEU:HD22	12:L:60:LEU:N	2.23	0.54
14:N:16:PHE:O	14:N:18:VAL:N	2.41	0.54
16:P:22:THR:OG1	16:P:23:ASP:N	2.40	0.54
18:R:25:THR:HG22	18:R:25:THR:O	2.08	0.54
1:A:214:C:C4'	1:A:456:C:N4	2.70	0.54
1:A:522:G:O2'	1:A:523:A:H5'	2.07	0.54
1:A:740:C:H2'	1:A:741:U:O4'	2.06	0.54
1:A:1325:G:C1'	9:I:121:ARG:HH12	2.11	0.54
1:A:1415:G:H1'	1:A:1447:G:N2	2.22	0.54
2:B:187:LEU:HD13	2:B:205:ASP:HA	1.90	0.54
3:C:167:TRP:O	3:C:168:ALA:HB2	2.06	0.54
4:D:8:VAL:HG13	4:D:21:LEU:CD1	2.38	0.54
5:E:86:ALA:HB3	5:E:125:SER:HB2	1.90	0.54
9:I:120:ARG:O	9:I:122:ALA:N	2.40	0.54
10:J:10:GLY:N	10:J:16:LEU:HD11	2.23	0.54
12:L:119:LYS:O	12:L:120:TYR:CB	2.56	0.54
19:S:7:LYS:HG3	19:S:7:LYS:O	2.08	0.54
1:A:124:G:H4'	1:A:125:A:O5'	2.08	0.54
1:A:698:G:N3	1:A:761:A:H1'	2.23	0.54
1:A:893:A:H2'	1:A:894:G:H5'	1.90	0.54
1:A:1125:G:H2'	1:A:1126:G:O4'	2.07	0.54
2:B:134:GLU:O	2:B:136:VAL:N	2.41	0.54
3:C:52:LEU:H	3:C:52:LEU:CD2	2.14	0.54
4:D:150:GLU:O	4:D:153:ARG:N	2.40	0.54
9:I:44:VAL:O	9:I:46:ALA:N	2.41	0.54
10:J:12:ASP:HB3	10:J:15:THR:CG2	2.37	0.54
13:M:79:LYS:C	13:M:82:MET:HB3	2.27	0.54
17:Q:24:GLU:CD	17:Q:37:LYS:HD3	2.28	0.54
20:T:57:ARG:O	20:T:58:LYS:C	2.45	0.54
20:T:72:LEU:CD2	20:T:76:ALA:HB3	2.38	0.54
1:A:58:G:H2'	1:A:59:C:C6	2.42	0.54
1:A:474:C:O2'	1:A:475:G:H5'	2.08	0.54
1:A:542:G:C8	1:A:543:A:C2	2.96	0.54
1:A:637:A:P	8:H:56:LYS:HZ1	2.31	0.54
1:A:1195:A:C2	1:A:1197:G:H1'	2.43	0.54
1:A:1219:C:C4'	1:A:1316:G:H21	2.21	0.54
1:A:1359:U:H2'	1:A:1360:A:H8	1.70	0.54
1:A:1422:C:P	20:T:38:LYS:HZ3	2.31	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:80:ILE:HG21	2:B:212:GLN:HA	1.90	0.54
4:D:5:ILE:HA	4:D:115:ARG:HH22	1.71	0.54
4:D:179:GLU:O	4:D:181:MET:N	2.41	0.54
5:E:10:MET:HE1	5:E:13:ILE:HD13	1.89	0.54
10:J:19:SER:HB2	10:J:91:PRO:HG3	1.88	0.54
11:K:34:ASP:C	11:K:36:ASP:H	2.11	0.54
13:M:4:ILE:CG2	13:M:5:ALA:H	2.11	0.54
14:N:24:CYS:SG	14:N:26:ARG:HB3	2.48	0.54
14:N:36:PHE:O	14:N:36:PHE:CD1	2.61	0.54
17:Q:97:SER:HB2	17:Q:103:GLY:N	2.23	0.54
19:S:15:LEU:O	19:S:19:VAL:N	2.33	0.54
1:A:219:U:H5'	20:T:68:LYS:NZ	2.23	0.54
1:A:434:G:C4'	1:A:435:A:OP1	2.50	0.54
1:A:803:A:H4'	1:A:804:U:OP2	2.08	0.54
1:A:1096:C:H2'	1:A:1097:C:H6	1.73	0.54
7:G:20:ASP:OD1	7:G:23:VAL:N	2.38	0.54
7:G:76:ARG:HB2	7:G:89:MET:SD	2.48	0.54
1:A:55:C:H2'	1:A:348:C:H41	1.73	0.53
1:A:699:A:H2'	1:A:700:A:O4'	2.08	0.53
1:A:802:G:O2'	1:A:804:U:H5	1.90	0.53
1:A:826:C:H2'	1:A:827:C:C6	2.43	0.53
1:A:918:C:H2'	1:A:919:G:H8	1.71	0.53
1:A:1135:A:C5'	10:J:13:HIS:HD2	2.19	0.53
1:A:1465:G:H2'	1:A:1466:G:C8	2.43	0.53
1:A:1488:U:H2'	1:A:1489:G:N7	2.22	0.53
8:H:120:THR:O	8:H:122:ARG:N	2.41	0.53
9:I:47:LEU:HB3	9:I:50:LEU:HD12	1.90	0.53
9:I:97:LYS:CE	9:I:102:LEU:HD12	2.34	0.53
10:J:56:HIS:O	10:J:59:SER:OG	2.23	0.53
13:M:14:ARG:HB3	13:M:16:ASP:OD1	2.08	0.53
19:S:81:ARG:O	19:S:81:ARG:HG2	2.07	0.53
1:A:444:C:H3'	1:A:445:G:C8	2.43	0.53
1:A:447:A:O2'	1:A:448:A:O4'	2.27	0.53
1:A:1048:U:H4'	1:A:1049:C:O5'	2.09	0.53
1:A:1100:G:O3'	9:I:104:ARG:NH1	2.28	0.53
1:A:1294:G:O2'	1:A:1295:U:H5'	2.09	0.53
1:A:1358:A:H2'	1:A:1359:U:O4'	2.07	0.53
3:C:40:ARG:O	3:C:44:GLU:HG3	2.08	0.53
7:G:76:ARG:O	7:G:156:TRP:HZ3	1.90	0.53
7:G:80:VAL:HB	7:G:85:TYR:CD1	2.43	0.53
9:I:79:LEU:HD13	9:I:83:ARG:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:95:LYS:C	9:I:98:PRO:HD2	2.28	0.53
10:J:8:LEU:HD21	10:J:96:ILE:HG12	1.90	0.53
18:R:17:SER:HA	18:R:19:LYS:HZ2	1.71	0.53
1:A:232:G:C5	1:A:233:C:C5	2.96	0.53
1:A:508:G:H2'	1:A:509:C:C6	2.43	0.53
1:A:1010:G:H21	1:A:1012:G:H3'	1.71	0.53
2:B:18:GLY:CA	2:B:41:ILE:HA	2.38	0.53
3:C:62:ASP:O	3:C:97:LYS:O	2.26	0.53
13:M:56:LEU:O	13:M:60:VAL:HG23	2.07	0.53
16:P:73:LEU:O	16:P:76:GLN:N	2.38	0.53
1:A:334:A:H2'	1:A:335:C:C6	2.43	0.53
1:A:472:A:C2	1:A:473:C:H1'	2.44	0.53
1:A:730:A:O2'	1:A:731:C:H5'	2.09	0.53
1:A:803:A:H5''	1:A:804:U:OP2	2.08	0.53
1:A:887:A:H2'	1:A:888:C:O4'	2.09	0.53
2:B:88:ALA:C	2:B:90:MET:N	2.55	0.53
2:B:125:PRO:C	2:B:127:ILE:H	2.12	0.53
4:D:162:LEU:HD12	4:D:181:MET:HE2	1.89	0.53
5:E:53:LEU:O	5:E:54:ALA:C	2.46	0.53
7:G:155:ARG:O	7:G:156:TRP:HB2	2.07	0.53
12:L:27:LEU:C	12:L:29:GLY:N	2.60	0.53
16:P:32:TYR:CE2	16:P:35:LYS:HB2	2.43	0.53
1:A:45:G:H2'	1:A:46:U:C6	2.43	0.53
1:A:278:A:H3'	1:A:279:C:C5	2.43	0.53
1:A:369:A:C2	1:A:467:A:C6	2.96	0.53
1:A:418:C:H4'	1:A:419:G:C4	2.44	0.53
1:A:1070:G:H2'	1:A:1071:G:C8	2.43	0.53
1:A:1377:A:C5	1:A:1479:C:H4'	2.44	0.53
1:A:1475:G:O2'	1:A:1476:U:H5'	2.09	0.53
3:C:99:VAL:CG2	3:C:100:ALA:N	2.72	0.53
4:D:70:ILE:CD1	4:D:100:ARG:CZ	2.86	0.53
4:D:88:VAL:O	4:D:92:VAL:HG23	2.08	0.53
5:E:152:ARG:HB3	8:H:43:GLY:HA3	1.91	0.53
7:G:8:GLU:OE1	7:G:8:GLU:O	2.26	0.53
7:G:41:ARG:O	7:G:44:TYR:N	2.42	0.53
7:G:80:VAL:HG11	7:G:154:TYR:CZ	2.44	0.53
9:I:126:SER:C	9:I:128:ARG:H	2.12	0.53
12:L:28:LYS:O	12:L:29:GLY:C	2.46	0.53
12:L:59:ARG:NH1	12:L:65:GLU:HG2	2.22	0.53
12:L:111:LYS:O	12:L:112:ASP:HB2	2.08	0.53
15:O:45:VAL:HB	15:O:46:HIS:ND1	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:5:LEU:O	19:S:6:LYS:CB	2.57	0.53
1:A:206:G:O2'	1:A:207:G:H5'	2.09	0.53
1:A:466:G:O2'	1:A:467:A:C8	2.60	0.53
2:B:170:GLU:O	2:B:172:ILE:N	2.42	0.53
4:D:156:GLU:O	4:D:160:GLN:HG3	2.09	0.53
4:D:200:GLU:HG2	4:D:201:GLN:H	1.73	0.53
7:G:113:GLU:CD	7:G:113:GLU:N	2.62	0.53
8:H:104:ARG:O	8:H:107:LEU:N	2.42	0.53
9:I:43:ALA:HA	9:I:74:ILE:CD1	2.38	0.53
10:J:51:ARG:HB2	10:J:59:SER:HB3	1.89	0.53
19:S:33:THR:HG22	19:S:35:SER:N	2.22	0.53
20:T:26:ASN:O	20:T:29:LYS:N	2.39	0.53
20:T:60:GLU:HA	20:T:63:ILE:HD12	1.89	0.53
1:A:181:C:H2'	1:A:182:C:C6	2.43	0.53
1:A:198:G:H2'	1:A:199:U:H6	1.74	0.53
1:A:531:A:C4'	1:A:532:G:O5'	2.50	0.53
1:A:1099:C:O2'	1:A:1100:G:H5''	2.09	0.53
1:A:1481:A:O2'	1:A:1482:G:OP1	2.20	0.53
5:E:72:GLN:O	5:E:73:ASN:HB3	2.09	0.53
5:E:128:PRO:O	5:E:129:ILE:C	2.44	0.53
8:H:90:GLY:O	8:H:91:ARG:HB2	2.09	0.53
10:J:7:LYS:HG3	10:J:71:LEU:HD22	1.91	0.53
11:K:67:ASP:O	11:K:70:LYS:HB2	2.09	0.53
14:N:24:CYS:SG	14:N:39:LEU:HA	2.47	0.53
16:P:82:GLN:O	16:P:82:GLN:HG3	2.07	0.53
17:Q:20:THR:HG23	17:Q:43:LEU:CD2	2.38	0.53
19:S:35:SER:C	19:S:37:ARG:H	2.10	0.53
19:S:42:PRO:HA	19:S:45:VAL:CG2	2.37	0.53
1:A:51:A:N6	1:A:357:G:H4'	2.23	0.53
1:A:59:C:H1'	1:A:384:G:O6	2.09	0.53
1:A:117:C:OP1	1:A:308:C:H5'	2.09	0.53
1:A:328:G:O2'	1:A:329:G:H5'	2.08	0.53
1:A:687:G:H3'	1:A:687:G:OP2	2.09	0.53
1:A:899:U:H2'	1:A:900:G:O4'	2.08	0.53
1:A:1111:C:H2'	1:A:1112:C:H5''	1.90	0.53
2:B:24:TRP:CG	2:B:25:ASN:N	2.74	0.53
2:B:101:MET:HA	2:B:108:ILE:CD1	2.39	0.53
5:E:132:ALA:O	5:E:135:THR:HB	2.08	0.53
5:E:141:GLN:O	5:E:142:LEU:C	2.47	0.53
6:F:52:ILE:HD11	18:R:77:GLY:HA3	1.91	0.53
10:J:98:ILE:O	10:J:99:LYS:HG3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:45:PRO:HG2	12:L:50:SER:C	2.29	0.53
19:S:16:LEU:O	19:S:18:LYS:N	2.42	0.53
1:A:18:U:H4'	1:A:1063:A:O4'	2.09	0.53
1:A:709:G:H2'	1:A:710:C:H6	1.74	0.53
1:A:872:G:H2'	1:A:873:G:C8	2.44	0.53
3:C:33:LEU:O	3:C:34:LEU:C	2.44	0.53
3:C:140:ARG:HA	3:C:143:GLU:HB3	1.91	0.53
5:E:57:LYS:O	5:E:60:TYR:N	2.42	0.53
9:I:31:GLN:NE2	9:I:35:GLU:HG3	2.23	0.53
16:P:20:VAL:CG1	16:P:21:VAL:N	2.71	0.53
1:A:18:U:O4'	1:A:1063:A:H1'	2.09	0.53
1:A:21:U:H2'	1:A:22:G:C8	2.44	0.53
1:A:546:C:N4	1:A:862:U:H2'	2.23	0.53
1:A:673:C:N4	1:A:682:G:H1	2.07	0.53
1:A:1036:G:H2'	1:A:1181:U:H5	1.74	0.53
1:A:1041:G:C5	1:A:1042:C:C4	2.96	0.53
1:A:1338:G:H2'	1:A:1339:A:H8	1.72	0.53
4:D:68:TYR:OH	4:D:98:GLU:OE1	2.21	0.53
4:D:179:GLU:C	4:D:181:MET:H	2.13	0.53
7:G:31:MET:SD	7:G:34:GLY:HA2	2.49	0.53
7:G:113:GLU:OE2	7:G:113:GLU:N	2.42	0.53
10:J:38:ILE:HG13	10:J:71:LEU:CB	2.39	0.53
12:L:10:LEU:N	12:L:10:LEU:HD23	2.24	0.53
12:L:32:PHE:HB3	12:L:85:ILE:O	2.10	0.53
13:M:14:ARG:HG2	13:M:42:ALA:HA	1.90	0.53
1:A:670:U:O4	1:A:687:G:O2'	2.19	0.52
1:A:1219:C:O3'	1:A:1282:G:N2	2.41	0.52
4:D:199:ASN:O	4:D:200:GLU:C	2.47	0.52
5:E:24:ARG:HG2	5:E:24:ARG:NH1	2.23	0.52
8:H:48:TYR:HA	8:H:60:ARG:O	2.09	0.52
11:K:49:GLY:O	11:K:50:TYR:O	2.27	0.52
12:L:59:ARG:CZ	12:L:65:GLU:HG2	2.39	0.52
14:N:3:ARG:O	14:N:7:ILE:HG13	2.09	0.52
14:N:14:PRO:CG	14:N:17:LYS:HA	2.38	0.52
15:O:11:VAL:HG21	15:O:34:LEU:HD12	1.90	0.52
16:P:67:THR:CG2	16:P:68:ASP:H	2.23	0.52
17:Q:29:HIS:CE1	17:Q:32:TYR:H	2.25	0.52
19:S:80:TYR:CD1	19:S:81:ARG:N	2.77	0.52
1:A:35:C:H42	1:A:534:G:H1	1.57	0.52
1:A:200:C:H2'	1:A:201:C:C6	2.44	0.52
1:A:528:G:C5	1:A:529:C:C5	2.96	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:561:G:H1'	1:A:800:A:C4	2.43	0.52
1:A:1431:U:HO2'	1:A:1432:A:H8	1.57	0.52
1:A:1458:G:O2'	1:A:1459:U:H5'	2.09	0.52
1:A:1473:U:H2'	1:A:1474:C:H6	1.74	0.52
2:B:53:ARG:HG3	2:B:56:ARG:HH12	1.73	0.52
2:B:234:PRO:O	2:B:237:ALA:HB3	2.09	0.52
10:J:26:ALA:HB1	10:J:84:GLN:HB3	1.91	0.52
10:J:39:PRO:O	10:J:40:LEU:HB2	2.08	0.52
18:R:29:PHE:CE1	18:R:31:LEU:HD23	2.45	0.52
18:R:85:LEU:HD12	18:R:86:VAL:N	2.24	0.52
1:A:480:A:H1'	1:A:481:A:C8	2.44	0.52
1:A:486:G:OP1	12:L:118:SER:CB	2.57	0.52
1:A:1293:G:O6	19:S:2:PRO:HB2	2.09	0.52
2:B:75:LYS:HE3	2:B:78:GLN:OE1	2.09	0.52
3:C:91:LEU:HD23	3:C:92:ALA:N	2.24	0.52
4:D:25:ARG:NH2	4:D:30:LYS:HB3	2.24	0.52
5:E:9:LYS:CG	5:E:112:LEU:HD11	2.39	0.52
6:F:36:ARG:NH1	6:F:38:GLU:HG2	2.25	0.52
13:M:58:GLU:O	13:M:62:ASN:HB2	2.08	0.52
17:Q:29:HIS:C	17:Q:29:HIS:ND1	2.62	0.52
1:A:335:C:H2'	1:A:336:U:C6	2.44	0.52
1:A:542:G:C4	1:A:543:A:C2	2.97	0.52
1:A:962:C:O2'	1:A:963:C:H5'	2.09	0.52
1:A:1048:U:O2'	1:A:1049:C:OP2	2.25	0.52
1:A:1228:C:H2'	1:A:1229:U:H6	1.75	0.52
1:A:1325:G:H2'	1:A:1326:C:C6	2.44	0.52
1:A:1436:G:H8	1:A:1436:G:O5'	1.92	0.52
3:C:6:HIS:NE2	3:C:8:ILE:HB	2.22	0.52
3:C:33:LEU:HD11	14:N:53:LEU:CD2	2.40	0.52
3:C:34:LEU:HD23	3:C:34:LEU:O	2.09	0.52
3:C:68:VAL:HG12	3:C:70:VAL:HG22	1.90	0.52
9:I:71:SER:O	9:I:74:ILE:N	2.42	0.52
13:M:33:ALA:HA	13:M:59:TYR:CE2	2.44	0.52
21:U:5:ASP:OD1	21:U:8:THR:HG23	2.09	0.52
1:A:9:A:H1'	5:E:102:ALA:O	2.10	0.52
1:A:9:A:H4'	1:A:10:G:OP1	2.09	0.52
1:A:529:C:H5''	4:D:72:GLU:HG2	1.92	0.52
1:A:600:G:O2'	1:A:601:G:H5'	2.08	0.52
1:A:657:G:O3'	6:F:87:ARG:NH2	2.43	0.52
1:A:737:A:H4'	1:A:738:C:C5'	2.39	0.52
1:A:1141:C:H42	1:A:1163:G:H1	1.56	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1282:G:O2'	1:A:1283:U:P	2.67	0.52
1:A:1325:G:H2'	1:A:1326:C:O4'	2.09	0.52
1:A:1382:C:C2	1:A:1480:A:N6	2.78	0.52
1:A:1422:C:P	20:T:38:LYS:NZ	2.83	0.52
5:E:87:SER:HB3	5:E:131:ILE:CD1	2.39	0.52
8:H:28:ALA:O	8:H:29:SER:HB3	2.09	0.52
12:L:84:LEU:O	12:L:101:VAL:N	2.33	0.52
13:M:18:ALA:O	13:M:20:THR:N	2.43	0.52
15:O:39:LEU:HD13	15:O:56:LEU:CB	2.37	0.52
18:R:38:GLU:HA	18:R:41:LYS:HE3	1.92	0.52
1:A:271:G:H5'	17:Q:14:LYS:CB	2.40	0.52
1:A:715:G:H5'	1:A:750:A:H4'	1.90	0.52
1:A:732:C:H1'	1:A:733:C:C5	2.43	0.52
1:A:745:G:C1'	17:Q:103:GLY:O	2.58	0.52
1:A:751:A:H2'	1:A:752:A:C8	2.44	0.52
1:A:1151:A:H2'	1:A:1152:A:C8	2.44	0.52
1:A:1263:U:H4'	1:A:1264:C:OP2	2.10	0.52
5:E:102:ALA:HB1	5:E:120:THR:HG21	1.91	0.52
8:H:53:VAL:HB	8:H:58:TYR:CE1	2.45	0.52
11:K:109:VAL:HG22	18:R:86:VAL:HA	1.91	0.52
12:L:59:ARG:HD3	12:L:65:GLU:OE2	2.10	0.52
16:P:20:VAL:HG21	16:P:32:TYR:CD2	2.45	0.52
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.42	0.52
20:T:36:LEU:HD12	20:T:62:LEU:HD11	1.90	0.52
1:A:197:U:O2'	1:A:198:G:H5'	2.10	0.52
1:A:224:A:H2'	1:A:225:U:H6	1.73	0.52
1:A:444:C:C5	1:A:445:G:C5	2.98	0.52
1:A:681:U:O4'	1:A:770:G:H4'	2.10	0.52
1:A:838:A:H2'	1:A:839:G:O4'	2.09	0.52
1:A:984:A:H2'	1:A:985:C:C5'	2.39	0.52
3:C:91:LEU:HD23	3:C:91:LEU:C	2.30	0.52
3:C:112:SER:O	3:C:116:VAL:HG23	2.09	0.52
4:D:118:ARG:HG3	4:D:136:PRO:HB3	1.92	0.52
6:F:10:LEU:CD1	6:F:59:TYR:HB3	2.40	0.52
7:G:123:GLU:O	7:G:127:ALA:HB2	2.10	0.52
12:L:59:ARG:CZ	12:L:65:GLU:CG	2.87	0.52
14:N:35:ARG:O	14:N:37:PHE:N	2.43	0.52
17:Q:62:SER:HB2	17:Q:72:ARG:HG3	1.92	0.52
18:R:56:THR:OG1	18:R:57:GLY:N	2.43	0.52
21:U:24:ARG:HH11	21:U:24:ARG:HG3	1.75	0.52
1:A:582:U:H4'	8:H:94:TYR:CG	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:751:A:H2'	1:A:752:A:H8	1.74	0.52
1:A:837:A:H2'	1:A:838:A:H8	1.73	0.52
1:A:1334:C:H1'	1:A:1354:G:N2	2.23	0.52
1:A:1425:G:H2'	1:A:1425:G:N3	2.25	0.52
2:B:12:GLU:OE1	2:B:12:GLU:HA	2.09	0.52
3:C:22:TRP:CE3	3:C:22:TRP:O	2.63	0.52
3:C:114:PRO:O	3:C:117:ALA:HB3	2.10	0.52
4:D:25:ARG:C	4:D:27:TYR:H	2.12	0.52
6:F:56:PRO:C	6:F:57:GLN:HG3	2.30	0.52
9:I:10:ARG:HD3	9:I:105:ASP:HB3	1.92	0.52
9:I:121:ARG:C	9:I:121:ARG:HD3	2.30	0.52
9:I:122:ALA:HB1	9:I:123:PRO:HD2	1.92	0.52
10:J:39:PRO:O	10:J:40:LEU:CB	2.57	0.52
11:K:122:LYS:O	11:K:123:LYS:C	2.47	0.52
13:M:31:LYS:O	13:M:35:GLU:HB2	2.09	0.52
16:P:11:SER:OG	16:P:14:ASN:HB3	2.10	0.52
20:T:46:GLU:HB3	20:T:48:LYS:HZ3	1.75	0.52
1:A:121:G:N2	17:Q:61:GLU:OE1	2.42	0.52
1:A:270:A:O2'	1:A:271:G:P	2.68	0.52
1:A:801:C:H4'	1:A:802:G:O5'	2.09	0.52
1:A:1021:C:H2'	1:A:1022:C:C6	2.45	0.52
1:A:1077:G:H5''	1:A:1078:U:H5	1.75	0.52
1:A:1299:C:O2'	1:A:1300:A:H5'	2.10	0.52
1:A:1308:C:OP2	21:U:6:ARG:CZ	2.58	0.52
1:A:1358:A:H4'	7:G:29:LYS:HE2	1.91	0.52
2:B:46:LYS:O	2:B:48:MET:N	2.43	0.52
2:B:147:LYS:HB3	2:B:148:TYR:CD2	2.45	0.52
3:C:34:LEU:CD1	14:N:25:VAL:HG21	2.39	0.52
9:I:121:ARG:HG2	9:I:121:ARG:NH1	2.22	0.52
10:J:8:LEU:CD2	10:J:96:ILE:HG12	2.40	0.52
13:M:11:ARG:CG	13:M:12:ASN:N	2.73	0.52
17:Q:78:GLU:OE1	17:Q:81:ARG:HD2	2.09	0.52
20:T:76:ALA:O	20:T:80:ARG:HG2	2.10	0.52
1:A:366:C:C2'	1:A:367:G:H5'	2.39	0.52
1:A:823:U:O2	1:A:823:U:H2'	2.09	0.52
1:A:1328:A:H5'	9:I:120:ARG:HH12	1.75	0.52
1:A:1355:U:O2'	1:A:1356:G:H5'	2.10	0.52
2:B:78:GLN:O	2:B:94:ASN:OD1	2.28	0.52
2:B:132:LYS:HA	2:B:135:GLN:HB3	1.92	0.52
2:B:182:ILE:O	2:B:183:PRO:C	2.47	0.52
3:C:33:LEU:CD1	14:N:53:LEU:HD22	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:111:ILE:HD12	8:H:135:CYS:SG	2.50	0.52
12:L:53:ARG:HB2	12:L:93:LEU:HD11	1.92	0.52
16:P:67:THR:HB	16:P:70:ALA:HB2	1.92	0.52
1:A:239:A:C4'	1:A:240:U:H5'	2.27	0.51
1:A:366:C:C2	1:A:367:G:C8	2.99	0.51
1:A:574:C:C2	1:A:575:U:C5	2.99	0.51
1:A:959:U:H4'	14:N:21:TYR:CD2	2.46	0.51
1:A:1220:A:C8	1:A:1285:C:H1'	2.44	0.51
1:A:1331:A:C4	1:A:1332:A:C8	2.98	0.51
1:A:1422:C:OP1	20:T:38:LYS:NZ	2.43	0.51
2:B:126:GLU:O	2:B:129:GLU:HB2	2.11	0.51
4:D:18:LYS:HB3	4:D:20:TYR:CE2	2.46	0.51
4:D:61:LYS:HD3	4:D:206:PHE:CD2	2.46	0.51
4:D:110:PHE:HD1	4:D:162:LEU:HD21	1.75	0.51
4:D:158:ILE:CG2	4:D:181:MET:HE2	2.40	0.51
4:D:170:VAL:HG21	4:D:176:LEU:HD22	1.92	0.51
6:F:6:VAL:HG22	6:F:90:VAL:HG22	1.92	0.51
7:G:44:TYR:O	7:G:47:CYS:HB2	2.10	0.51
14:N:23:ARG:HA	14:N:30:ALA:HA	1.92	0.51
14:N:57:ARG:HG2	14:N:58:LYS:H	1.75	0.51
15:O:34:LEU:C	15:O:34:LEU:HD23	2.31	0.51
17:Q:76:LEU:HD23	17:Q:77:VAL:N	2.25	0.51
20:T:45:GLN:HA	20:T:91:LEU:HD22	1.92	0.51
20:T:49:ALA:O	20:T:52:ALA:N	2.43	0.51
1:A:307:C:O2'	1:A:308:C:H5'	2.09	0.51
1:A:850:A:C2	1:A:852:G:C5	2.99	0.51
1:A:1417:A:H2'	1:A:1418:G:O4'	2.09	0.51
3:C:52:LEU:O	3:C:53:ALA:HB2	2.10	0.51
7:G:110:GLN:OE1	7:G:110:GLN:HA	2.10	0.51
9:I:26:VAL:HA	9:I:61:ALA:O	2.10	0.51
13:M:84:ILE:O	13:M:86:CYS:N	2.43	0.51
20:T:14:LYS:O	20:T:18:GLN:HG3	2.09	0.51
1:A:23:G:H2'	1:A:24:C:H6	1.72	0.51
1:A:45:G:H2'	1:A:46:U:O4'	2.10	0.51
1:A:462:G:H2'	1:A:463:A:H8	1.75	0.51
1:A:541:G:H2'	1:A:542:G:O4'	2.11	0.51
1:A:857:C:H2'	1:A:858:C:C6	2.45	0.51
1:A:1287:G:N2	1:A:1313:G:O2'	2.42	0.51
2:B:87:ARG:HD3	2:B:234:PRO:HD2	1.93	0.51
2:B:98:LEU:CB	2:B:101:MET:SD	2.93	0.51
2:B:222:ILE:HG22	2:B:223:ILE:N	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:11:ARG:O	3:C:12:LEU:C	2.49	0.51
9:I:127:LYS:N	9:I:127:LYS:HD2	2.26	0.51
13:M:10:PRO:HB2	13:M:18:ALA:CB	2.38	0.51
13:M:17:VAL:O	13:M:20:THR:CB	2.58	0.51
13:M:60:VAL:O	13:M:62:ASN:N	2.43	0.51
14:N:41:ARG:NH1	14:N:41:ARG:CG	2.66	0.51
15:O:75:PRO:O	15:O:78:TYR:HB3	2.09	0.51
18:R:37:VAL:HG21	18:R:78:LEU:HB3	1.92	0.51
20:T:15:ARG:O	20:T:18:GLN:N	2.42	0.51
20:T:33:ILE:HD13	20:T:63:ILE:HA	1.91	0.51
1:A:43:G:C4	1:A:44:C:C5	2.98	0.51
1:A:163:G:O2'	1:A:164:C:H5'	2.11	0.51
1:A:276:C:H4'	1:A:277:G:OP2	2.10	0.51
1:A:982:G:C2	1:A:983:A:H1'	2.44	0.51
1:A:983:A:N7	1:A:1020:C:N3	2.59	0.51
1:A:1149:G:N2	1:A:1151:A:H3'	2.25	0.51
1:A:1328:A:H61	1:A:1357:A:H3'	1.75	0.51
2:B:23:ARG:O	2:B:24:TRP:O	2.28	0.51
3:C:147:LYS:O	3:C:203:PHE:CD2	2.63	0.51
4:D:78:LEU:HB3	4:D:93:PHE:HE2	1.75	0.51
5:E:136:MET:O	5:E:139:LEU:N	2.36	0.51
8:H:24:THR:HG23	8:H:24:THR:O	2.10	0.51
9:I:26:VAL:HB	9:I:33:PHE:CB	2.33	0.51
9:I:84:ALA:O	9:I:86:VAL:N	2.44	0.51
12:L:92:ASP:C	12:L:93:LEU:HD23	2.30	0.51
18:R:48:GLY:H	18:R:82:THR:HA	1.75	0.51
20:T:39:LYS:O	20:T:43:LEU:HG	2.11	0.51
21:U:5:ASP:O	21:U:11:GLY:HA3	2.10	0.51
1:A:74:G:O2'	1:A:75:C:H5'	2.10	0.51
1:A:211:U:H5'	1:A:212:G:OP1	2.10	0.51
1:A:263:C:P	17:Q:67:LYS:HB2	2.50	0.51
1:A:937:A:H3'	1:A:938:U:C5'	2.32	0.51
3:C:155:GLY:HA3	3:C:163:ALA:CB	2.36	0.51
4:D:3:ARG:NH2	4:D:74:GLN:OE1	2.43	0.51
4:D:25:ARG:CZ	4:D:30:LYS:HB3	2.40	0.51
5:E:43:LEU:C	5:E:43:LEU:CD2	2.78	0.51
8:H:47:GLY:O	8:H:62:TYR:HB2	2.11	0.51
10:J:15:THR:CG2	10:J:16:LEU:N	2.73	0.51
10:J:42:THR:HG23	10:J:67:THR:C	2.30	0.51
10:J:96:ILE:HG22	10:J:97:GLU:N	2.25	0.51
11:K:115:PRO:C	11:K:117:ASN:H	2.14	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:117:ARG:O	12:L:118:SER:C	2.47	0.51
13:M:6:GLY:O	13:M:7:VAL:CG2	2.53	0.51
13:M:26:GLY:O	13:M:28:ALA:N	2.43	0.51
16:P:36:ILE:HG13	16:P:37:GLY:N	2.26	0.51
1:A:198:G:C4	20:T:105:SER:HB2	2.45	0.51
1:A:470:G:HO2'	1:A:471:U:H6	1.57	0.51
1:A:673:C:OP2	11:K:46:GLY:HA3	2.10	0.51
1:A:896:A:C6	1:A:897:A:C6	2.98	0.51
1:A:1114:G:H1	1:A:1126:G:H21	1.59	0.51
1:A:1143:G:O2'	1:A:1144:C:H5'	2.11	0.51
3:C:12:LEU:HD21	14:N:51:GLY:HA3	1.92	0.51
4:D:76:ARG:O	4:D:79:PHE:HB3	2.10	0.51
5:E:34:VAL:N	5:E:42:GLY:O	2.44	0.51
5:E:65:ASN:CG	5:E:65:ASN:O	2.49	0.51
5:E:133:TYR:O	5:E:134:ALA:C	2.49	0.51
6:F:100:ASN:ND2	18:R:23:LYS:O	2.44	0.51
8:H:31:PHE:HE1	8:H:118:VAL:CG2	2.24	0.51
9:I:118:LYS:O	9:I:119:ALA:CB	2.58	0.51
12:L:78:GLN:N	12:L:81:SER:OG	2.39	0.51
15:O:24:SER:O	15:O:27:VAL:N	2.43	0.51
17:Q:29:HIS:CE1	17:Q:31:LEU:H	2.29	0.51
1:A:170:C:O2'	1:A:171:C:H5'	2.11	0.51
1:A:676:U:H1'	1:A:679:A:N7	2.25	0.51
1:A:703:C:O2	18:R:50:ILE:HG13	2.10	0.51
1:A:804:U:C4'	1:A:805:G:OP2	2.54	0.51
1:A:917:G:C6	1:A:918:C:N4	2.79	0.51
1:A:1208:C:H5''	13:M:103:THR:CB	2.40	0.51
3:C:120:VAL:O	3:C:121:ALA:C	2.49	0.51
5:E:129:ILE:O	5:E:132:ALA:HB3	2.10	0.51
13:M:86:CYS:O	13:M:89:GLY:N	2.40	0.51
15:O:17:ARG:HH11	15:O:17:ARG:CG	2.22	0.51
15:O:67:LEU:O	15:O:70:LEU:N	2.44	0.51
17:Q:97:SER:O	17:Q:99:SER:N	2.43	0.51
20:T:57:ARG:NH2	20:T:100:ILE:HG21	2.26	0.51
20:T:82:SER:O	20:T:86:ARG:HB2	2.11	0.51
1:A:36:G:H2'	1:A:37:C:C6	2.46	0.51
1:A:76:G:O2'	1:A:77:G:H5'	2.11	0.51
1:A:126:C:H2'	1:A:127:C:C6	2.46	0.51
1:A:154:G:H2'	1:A:156:A:OP2	2.11	0.51
1:A:209:U:O2'	1:A:210:U:OP1	2.24	0.51
1:A:480:A:H5'	1:A:481:A:OP1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:547:A:HO2'	1:A:550:G:HO2'	1.57	0.51
1:A:549:U:C4	1:A:550:G:C5	2.98	0.51
1:A:591:A:O2'	1:A:592:A:H5'	2.11	0.51
1:A:679:A:H2'	1:A:680:A:C8	2.45	0.51
1:A:864:G:C6	1:A:865:G:C5	2.99	0.51
1:A:1380:C:OP2	5:E:24:ARG:NH2	2.44	0.51
2:B:200:ILE:HG22	2:B:201:ILE:H	1.75	0.51
4:D:64:LEU:HD21	4:D:94:LEU:HD21	1.93	0.51
4:D:77:ASN:O	4:D:78:LEU:C	2.49	0.51
4:D:78:LEU:CD1	4:D:97:LEU:HD23	2.41	0.51
4:D:194:LEU:HD22	4:D:194:LEU:N	2.25	0.51
10:J:75:ILE:HG22	10:J:76:ASN:N	2.25	0.51
13:M:23:TYR:CG	13:M:23:TYR:O	2.64	0.51
14:N:27:CYS:SG	14:N:29:ARG:HB3	2.49	0.51
15:O:55:GLY:O	15:O:58:MET:HB2	2.11	0.51
15:O:76:GLU:OE2	15:O:80:ALA:HB2	2.10	0.51
18:R:66:LEU:HD21	18:R:70:ILE:CD1	2.41	0.51
1:A:517:A:O2'	1:A:519:A:OP2	2.27	0.51
1:A:618:C:O2'	1:A:619:G:H5'	2.11	0.51
1:A:649:A:N3	1:A:716:C:H2'	2.26	0.51
1:A:732:C:O2'	1:A:733:C:OP2	2.28	0.51
1:A:736:G:H4'	1:A:738:C:H5	1.75	0.51
1:A:959:U:H2'	1:A:960:U:C5	2.46	0.51
1:A:1072:G:N2	1:A:1073:U:H1'	2.26	0.51
1:A:1172:G:H2'	1:A:1173:A:OP2	2.11	0.51
1:A:1299:C:H2'	1:A:1300:A:O4'	2.11	0.51
1:A:1309:C:H2'	1:A:1310:C:H6	1.76	0.51
1:A:1397:U:H2'	1:A:1398:G:H8	1.76	0.51
1:A:1443:C:H2'	1:A:1444:C:O4'	2.11	0.51
2:B:74:LYS:NZ	2:B:205:ASP:O	2.42	0.51
2:B:93:VAL:HG22	2:B:101:MET:HE1	1.93	0.51
3:C:162:GLN:O	3:C:163:ALA:C	2.47	0.51
4:D:109:GLY:C	4:D:111:ALA:N	2.63	0.51
8:H:1:MET:CG	8:H:2:LEU:N	2.73	0.51
11:K:18:ARG:NH1	11:K:36:ASP:HA	2.25	0.51
15:O:4:THR:O	15:O:5:LYS:C	2.49	0.51
19:S:35:SER:C	19:S:37:ARG:N	2.61	0.51
21:U:20:LYS:O	21:U:20:LYS:HG2	2.10	0.51
1:A:104:C:C4	1:A:105:G:C5	2.99	0.51
1:A:271:G:C5'	17:Q:14:LYS:HD3	2.41	0.51
1:A:521:G:H2'	1:A:522:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:522:G:O3'	12:L:114:LYS:HD3	2.11	0.51
1:A:805:G:N1	1:A:858:C:C4	2.79	0.51
1:A:981:G:N2	1:A:1022:C:C2	2.79	0.51
1:A:1032:U:H1'	1:A:1183:A:N7	2.25	0.51
1:A:1231:C:O2'	9:I:73:GLN:NE2	2.43	0.51
1:A:1270:A:C2	1:A:1271:A:C4	2.99	0.51
1:A:1301:A:H5'	1:A:1302:C:OP1	2.11	0.51
1:A:1329:G:C2'	1:A:1330:U:OP2	2.58	0.51
1:A:1408:U:H2'	1:A:1409:C:C6	2.45	0.51
5:E:98:THR:N	5:E:117:ASP:OD1	2.41	0.51
7:G:79:ARG:HA	7:G:83:ALA:O	2.09	0.51
11:K:91:ARG:CD	18:R:88:LYS:HE2	2.38	0.51
17:Q:27:PHE:HB2	17:Q:28:PRO:HD2	1.92	0.51
18:R:47:THR:HA	18:R:83:GLU:HB2	1.92	0.51
18:R:53:ARG:CG	18:R:63:GLN:HG2	2.37	0.51
1:A:10:G:N2	1:A:11:A:C4	2.79	0.50
1:A:738:C:O2	1:A:738:C:H2'	2.11	0.50
1:A:796:C:O2'	1:A:797:U:OP2	2.28	0.50
1:A:1307:C:H2'	1:A:1308:C:H6	1.76	0.50
2:B:19:HIS:NE2	2:B:206:ASP:HB3	2.26	0.50
2:B:53:ARG:O	2:B:56:ARG:HB3	2.10	0.50
3:C:84:ILE:O	3:C:84:ILE:HG12	2.10	0.50
4:D:150:GLU:O	4:D:151:LYS:C	2.49	0.50
5:E:128:PRO:HG2	5:E:129:ILE:H	1.76	0.50
7:G:23:VAL:O	7:G:24:THR:C	2.49	0.50
7:G:144:MET:O	7:G:147:ALA:HB3	2.11	0.50
8:H:26:VAL:HG22	8:H:59:LEU:HB2	1.93	0.50
14:N:41:ARG:HH11	14:N:41:ARG:CG	2.08	0.50
16:P:13:HIS:O	16:P:15:PRO:HD2	2.12	0.50
16:P:34:GLU:OE2	16:P:55:ARG:HD3	2.10	0.50
18:R:28:GLU:OE1	18:R:28:GLU:N	2.44	0.50
19:S:16:LEU:C	19:S:18:LYS:N	2.64	0.50
19:S:34:TRP:O	19:S:36:ARG:N	2.41	0.50
20:T:51:GLU:HA	20:T:54:LYS:HB2	1.93	0.50
1:A:170:C:H2'	1:A:171:C:C6	2.44	0.50
1:A:324:C:O2'	1:A:325:A:P	2.68	0.50
1:A:368:C:N4	1:A:384:G:OP2	2.44	0.50
1:A:892:A:O2'	1:A:893:A:H5'	2.11	0.50
2:B:101:MET:HA	2:B:108:ILE:HD12	1.92	0.50
4:D:57:ARG:HH22	5:E:107:ARG:HD3	1.77	0.50
4:D:203:VAL:O	4:D:206:PHE:HB3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:51:VAL:O	8:H:58:TYR:N	2.43	0.50
8:H:63:LEU:HB3	8:H:65:TYR:CE1	2.46	0.50
8:H:83:ILE:HG13	8:H:137:VAL:CG2	2.35	0.50
12:L:55:VAL:HG12	12:L:56:ALA:H	1.76	0.50
17:Q:104:LYS:O	17:Q:105:ALA:HB2	2.11	0.50
1:A:63:U:H2'	1:A:64:C:C6	2.47	0.50
1:A:172:C:P	20:T:65:LYS:NZ	2.85	0.50
1:A:281:G:O2'	1:A:282:G:H5'	2.11	0.50
1:A:390:G:H2'	1:A:391:C:H6	1.75	0.50
1:A:493:A:H8	1:A:493:A:O5'	1.94	0.50
1:A:720:C:H2'	1:A:721:A:H8	1.73	0.50
1:A:1408:U:O2'	1:A:1409:C:H5'	2.10	0.50
2:B:142:LEU:HA	2:B:146:GLN:HE22	1.74	0.50
2:B:204:ASN:ND2	2:B:206:ASP:N	2.56	0.50
2:B:213:LEU:HD23	2:B:213:LEU:C	2.31	0.50
11:K:85:ARG:HE	11:K:111:ASP:HB3	1.77	0.50
13:M:4:ILE:O	13:M:5:ALA:C	2.49	0.50
17:Q:74:LEU:HD23	17:Q:74:LEU:C	2.31	0.50
19:S:11:VAL:HA	19:S:38:SER:HB2	1.92	0.50
19:S:22:LEU:HD21	19:S:28:LYS:HD2	1.93	0.50
1:A:536:U:H2'	1:A:537:A:H8	1.77	0.50
1:A:763:C:N4	1:A:764:A:C6	2.79	0.50
1:A:868:G:O2'	1:A:869:U:OP2	2.29	0.50
1:A:1290:U:OP1	13:M:98:VAL:N	2.43	0.50
2:B:20:GLU:CG	2:B:189:ASP:OD2	2.60	0.50
4:D:10:ARG:HH11	4:D:10:ARG:CG	2.25	0.50
4:D:64:LEU:HD12	4:D:75:PHE:CE1	2.47	0.50
5:E:93:PRO:CG	8:H:105:ARG:HE	2.25	0.50
6:F:8:ILE:HD11	6:F:79:LEU:HD13	1.92	0.50
9:I:100:GLY:C	9:I:102:LEU:N	2.65	0.50
12:L:49:ASN:HD22	12:L:49:ASN:N	2.08	0.50
13:M:15:VAL:O	13:M:18:ALA:HB3	2.12	0.50
16:P:11:SER:O	16:P:14:ASN:N	2.39	0.50
19:S:39:THR:HA	19:S:70:LYS:HG2	1.94	0.50
1:A:484:G:N2	1:A:530:G:H1'	2.27	0.50
1:A:485:C:O3'	12:L:118:SER:HB2	2.12	0.50
1:A:741:U:O2'	1:A:857:C:H1'	2.11	0.50
1:A:982:G:C6	1:A:983:A:N3	2.79	0.50
1:A:1249:C:O2	21:U:20:LYS:HD3	2.12	0.50
1:A:1280:C:C4	7:G:114:ARG:HD3	2.46	0.50
2:B:33:TYR:O	2:B:34:ALA:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:196:LEU:N	2:B:196:LEU:HD23	2.27	0.50
4:D:64:LEU:HD23	4:D:198:VAL:CB	2.40	0.50
4:D:161:ASN:O	4:D:162:LEU:C	2.49	0.50
13:M:26:GLY:O	13:M:27:LYS:C	2.49	0.50
13:M:40:ASN:O	13:M:43:THR:HG23	2.12	0.50
18:R:34:TYR:CD2	18:R:34:TYR:N	2.78	0.50
21:U:17:THR:O	21:U:22:ARG:HD3	2.12	0.50
1:A:232:G:C6	1:A:233:C:C4	2.99	0.50
2:B:126:GLU:HG2	2:B:129:GLU:OE1	2.11	0.50
2:B:178:ARG:HH21	8:H:74:PRO:HG3	1.77	0.50
4:D:200:GLU:HG2	4:D:201:GLN:N	2.27	0.50
14:N:18:VAL:O	14:N:20:ALA:N	2.39	0.50
14:N:24:CYS:N	14:N:33:VAL:HG11	2.27	0.50
15:O:32:LEU:CD1	15:O:63:ARG:HB2	2.42	0.50
15:O:46:HIS:O	15:O:48:LYS:N	2.45	0.50
1:A:723:C:P	6:F:2:ARG:HH22	2.35	0.50
1:A:736:G:O2'	1:A:737:A:O5'	2.30	0.50
1:A:866:G:N1	1:A:867:A:N6	2.60	0.50
1:A:976:G:O2'	1:A:977:C:H5'	2.11	0.50
1:A:1298:G:N2	1:A:1300:A:H3'	2.27	0.50
2:B:97:TRP:CH2	2:B:176:GLU:CD	2.83	0.50
5:E:15:ARG:O	5:E:16:THR:CG2	2.58	0.50
10:J:81:THR:C	10:J:83:GLU:N	2.65	0.50
15:O:32:LEU:O	15:O:34:LEU:N	2.45	0.50
1:A:231:C:H2'	1:A:232:G:H8	1.77	0.50
1:A:528:G:H2'	1:A:529:C:H6	1.77	0.50
1:A:536:U:H2'	1:A:537:A:C8	2.46	0.50
1:A:609:G:C4	1:A:610:U:C5	2.99	0.50
1:A:745:G:O2'	17:Q:104:LYS:HA	2.11	0.50
1:A:1062:G:H2'	1:A:1063:A:C8	2.47	0.50
3:C:79:ARG:HG3	3:C:82:GLU:HB3	1.94	0.50
3:C:130:VAL:O	3:C:134:ILE:HG13	2.12	0.50
4:D:137:SER:O	4:D:138:TYR:C	2.48	0.50
6:F:22:GLU:OE2	6:F:84:ASN:HB2	2.11	0.50
7:G:42:ILE:CG2	7:G:120:ILE:HD12	2.40	0.50
11:K:34:ASP:CG	11:K:38:ASN:HB2	2.32	0.50
13:M:34:LEU:HD13	13:M:41:PRO:HA	1.93	0.50
13:M:81:LEU:HA	13:M:84:ILE:HD11	1.94	0.50
15:O:82:ILE:O	15:O:85:LEU:N	2.36	0.50
20:T:57:ARG:HD2	20:T:103:GLY:H	1.77	0.50
1:A:212:G:H2'	1:A:213:C:H6	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:289:G:C6	1:A:290:U:C4	3.00	0.50
1:A:298:G:N3	1:A:540:C:H4'	2.27	0.50
1:A:1342:A:H2'	1:A:1343:G:C8	2.46	0.50
2:B:142:LEU:CB	2:B:146:GLN:HE22	2.25	0.50
3:C:10:PHE:CE2	3:C:178:LEU:HD13	2.46	0.50
3:C:178:LEU:O	3:C:179:ARG:HB2	2.12	0.50
4:D:103:ASN:O	4:D:106:TYR:HB3	2.12	0.50
7:G:65:ALA:HB1	7:G:127:ALA:CB	2.42	0.50
9:I:86:VAL:HG13	9:I:90:PRO:HA	1.94	0.50
9:I:93:ARG:O	9:I:96:LEU:N	2.45	0.50
12:L:27:LEU:C	12:L:29:GLY:H	2.15	0.50
16:P:8:ARG:HG2	16:P:17:TYR:HE2	1.75	0.50
18:R:65:ILE:O	18:R:67:ALA:N	2.45	0.50
19:S:47:HIS:H	19:S:62:ILE:CG2	2.25	0.50
1:A:84:A:H2'	1:A:85:C:O4'	2.12	0.49
1:A:639:A:C2	1:A:738:C:N4	2.80	0.49
1:A:654:G:C2	1:A:721:A:C2	3.00	0.49
1:A:856:G:C5'	8:H:89:PRO:HG2	2.42	0.49
1:A:1099:C:C2'	1:A:1100:G:H5''	2.42	0.49
1:A:1230:A:H1'	9:I:70:LYS:HZ3	1.76	0.49
1:A:1292:G:C2	1:A:1310:C:N3	2.80	0.49
2:B:80:ILE:HD13	2:B:212:GLN:HB2	1.94	0.49
3:C:201:TYR:O	3:C:202:ILE:HG13	2.13	0.49
12:L:39:VAL:HB	12:L:57:LYS:HG2	1.93	0.49
13:M:62:ASN:O	13:M:63:THR:CB	2.52	0.49
17:Q:86:GLU:O	17:Q:87:LYS:C	2.49	0.49
1:A:90:U:H2'	1:A:91:G:H8	1.77	0.49
1:A:222:G:C6	1:A:223:G:N7	2.80	0.49
1:A:238:C:H2'	1:A:239:A:H5'	1.94	0.49
1:A:311:A:H4'	1:A:349:A:N1	2.27	0.49
1:A:338:C:H2'	1:A:339:U:O4'	2.12	0.49
1:A:341:C:H4'	1:A:342:G:C5'	2.42	0.49
1:A:385:A:C6	1:A:386:C:H1'	2.47	0.49
1:A:540:C:O2'	1:A:541:G:H5'	2.11	0.49
1:A:820:G:C6	1:A:829:G:C6	3.00	0.49
1:A:1087:G:OP1	2:B:111:ARG:HD2	2.11	0.49
1:A:1205:C:OP1	1:A:1206:G:H3'	2.12	0.49
1:A:1227:A:H2'	1:A:1228:C:C6	2.47	0.49
22:A:1524:KSG:O6	22:A:1524:KSG:H1	2.13	0.49
3:C:119:ARG:HG2	3:C:140:ARG:HH12	1.76	0.49
4:D:62:GLN:O	4:D:63:LYS:C	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:162:LEU:O	4:D:165:MET:HB2	2.12	0.49
5:E:11:ILE:HG22	5:E:31:LEU:CB	2.42	0.49
8:H:20:TYR:HA	8:H:65:TYR:CZ	2.48	0.49
17:Q:91:ARG:O	17:Q:92:ARG:C	2.49	0.49
18:R:53:ARG:HH12	18:R:59:SER:HA	1.76	0.49
1:A:434:G:O3'	1:A:478:G:N1	2.45	0.49
1:A:850:A:C4'	1:A:851:A:OP1	2.58	0.49
1:A:918:C:H2'	1:A:919:G:C8	2.47	0.49
1:A:1047:G:O2'	1:A:1172:G:N2	2.45	0.49
1:A:1258:G:H8	1:A:1258:G:O5'	1.96	0.49
3:C:42:LEU:O	3:C:45:LYS:N	2.44	0.49
4:D:78:LEU:HD13	4:D:97:LEU:HD23	1.94	0.49
5:E:144:THR:HG22	5:E:146:ALA:N	2.26	0.49
13:M:15:VAL:CG1	13:M:34:LEU:HD11	2.42	0.49
16:P:48:TRP:CE3	16:P:49:LEU:HB2	2.47	0.49
17:Q:82:MET:C	17:Q:84:LEU:N	2.65	0.49
18:R:45:SER:OG	18:R:49:LYS:HB2	2.12	0.49
20:T:10:LEU:C	20:T:12:ALA:H	2.15	0.49
1:A:39:G:C2	1:A:393:A:C2	3.00	0.49
1:A:202:A:H2'	1:A:203:A:C8	2.47	0.49
1:A:246:A:C2	1:A:270:A:C6	3.00	0.49
1:A:296:A:H2'	1:A:297:G:O4'	2.12	0.49
1:A:341:C:H4'	1:A:342:G:H5''	1.94	0.49
1:A:605:A:H8	1:A:605:A:O5'	1.95	0.49
2:B:46:LYS:O	2:B:49:GLU:N	2.46	0.49
2:B:126:GLU:HA	2:B:129:GLU:HG3	1.94	0.49
5:E:40:ARG:HH11	5:E:40:ARG:CG	2.23	0.49
8:H:5:PRO:O	8:H:8:ASP:HB3	2.11	0.49
8:H:91:ARG:CG	12:L:7:ILE:HG13	2.39	0.49
12:L:9:GLN:O	12:L:10:LEU:C	2.50	0.49
12:L:111:LYS:O	12:L:112:ASP:CB	2.60	0.49
12:L:117:ARG:C	12:L:119:LYS:N	2.66	0.49
1:A:382:C:C2'	1:A:383:U:H5'	2.42	0.49
1:A:470:G:C2'	1:A:471:U:OP2	2.60	0.49
1:A:510:C:OP1	1:A:891:A:H3'	2.12	0.49
1:A:795:C:H4'	1:A:878:A:N6	2.27	0.49
1:A:952:A:C4	14:N:31:ARG:NH2	2.81	0.49
1:A:1078:U:H2'	1:A:1079:C:O4'	2.12	0.49
2:B:44:LEU:O	2:B:45:GLN:C	2.50	0.49
3:C:118:GLN:O	3:C:121:ALA:HB3	2.12	0.49
3:C:119:ARG:CG	3:C:140:ARG:HH12	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:56:PRO:O	6:F:57:GLN:HG3	2.11	0.49
8:H:52:ASP:HA	8:H:56:LYS:O	2.12	0.49
13:M:80:ARG:C	13:M:82:MET:N	2.65	0.49
1:A:208:C:N4	1:A:210:U:H1'	2.27	0.49
1:A:324:C:H4'	1:A:325:A:C5'	2.41	0.49
1:A:397:C:O2'	1:A:398:G:H5'	2.13	0.49
1:A:670:U:H2'	1:A:671:A:C8	2.47	0.49
1:A:702:G:O4'	11:K:117:ASN:ND2	2.45	0.49
1:A:739:G:OP2	15:O:65:ARG:CG	2.61	0.49
1:A:823:U:O2	1:A:823:U:C2'	2.61	0.49
1:A:970:U:O2'	1:A:971:G:OP2	2.28	0.49
1:A:1110:G:N1	1:A:1128:C:N3	2.59	0.49
1:A:1192:C:H5'	1:A:1196:C:N4	2.28	0.49
1:A:1429:C:C2	1:A:1430:C:C5	3.01	0.49
2:B:15:VAL:HG11	2:B:209:ARG:C	2.33	0.49
3:C:38:ARG:HG3	3:C:38:ARG:NH1	2.27	0.49
4:D:54:TYR:O	4:D:55:ALA:C	2.50	0.49
4:D:65:ARG:NE	4:D:72:GLU:HA	2.27	0.49
4:D:194:LEU:HD22	4:D:194:LEU:H	1.77	0.49
5:E:102:ALA:CB	5:E:120:THR:HG21	2.42	0.49
7:G:107:ALA:O	7:G:108:ALA:C	2.50	0.49
9:I:18:PHE:HB2	9:I:62:TYR:O	2.12	0.49
9:I:80:GLY:O	9:I:81:ILE:C	2.50	0.49
12:L:113:ARG:CB	12:L:122:THR:HG21	2.43	0.49
13:M:54:VAL:O	13:M:55:ARG:C	2.51	0.49
20:T:63:ILE:O	20:T:66:ALA:N	2.35	0.49
1:A:21:U:H2'	1:A:22:G:H8	1.77	0.49
1:A:199:U:H4'	20:T:102:GLY:C	2.33	0.49
1:A:373:G:P	16:P:5:ARG:HH11	2.36	0.49
1:A:581:G:C8	1:A:582:U:C5	3.00	0.49
1:A:768:C:C2	1:A:769:G:C8	3.01	0.49
1:A:791:A:C4	1:A:792:C:C5	3.00	0.49
1:A:981:G:C2	1:A:982:G:C6	3.01	0.49
1:A:1113:A:P	1:A:1114:G:OP2	2.71	0.49
1:A:1204:G:O2'	1:A:1205:C:H5'	2.13	0.49
1:A:1313:G:C2'	1:A:1314:A:OP2	2.60	0.49
2:B:12:GLU:C	2:B:14:GLY:N	2.64	0.49
2:B:120:ALA:C	2:B:122:PHE:N	2.66	0.49
3:C:70:VAL:O	3:C:106:VAL:HG23	2.12	0.49
3:C:145:GLY:O	3:C:146:ALA:HB3	2.12	0.49
3:C:147:LYS:HE2	3:C:205:GLY:HA2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:155:GLY:HA2	3:C:164:ARG:H	1.77	0.49
3:C:186:PHE:CD1	3:C:187:ALA:N	2.80	0.49
4:D:61:LYS:HD2	4:D:207:TYR:CZ	2.48	0.49
4:D:88:VAL:O	4:D:89:THR:C	2.50	0.49
4:D:191:ARG:NH2	4:D:198:VAL:O	2.44	0.49
12:L:79:GLU:HB3	12:L:80:HIS:CE1	2.48	0.49
13:M:117:VAL:HG12	13:M:118:ALA:N	2.23	0.49
19:S:16:LEU:HA	19:S:19:VAL:HG12	1.94	0.49
1:A:166:A:O2'	1:A:167:A:H5'	2.13	0.49
1:A:497:C:O2'	1:A:498:C:H5'	2.12	0.49
1:A:620:U:H2'	1:A:621:G:C8	2.46	0.49
1:A:667:G:H2'	1:A:668:A:C8	2.48	0.49
1:A:762:G:C2'	1:A:763:C:H5'	2.43	0.49
1:A:1044:G:C2	1:A:1179:G:N3	2.81	0.49
1:A:1173:A:H2'	1:A:1174:C:H6	1.78	0.49
1:A:1358:A:C6	1:A:1359:U:N3	2.81	0.49
3:C:3:ASN:O	3:C:4:LYS:CG	2.61	0.49
3:C:191:THR:HG22	3:C:192:THR:N	2.27	0.49
5:E:89:ILE:HD12	5:E:91:LEU:HG	1.95	0.49
5:E:141:GLN:O	5:E:142:LEU:O	2.30	0.49
6:F:38:GLU:OE1	6:F:66:GLU:HB2	2.13	0.49
8:H:14:ARG:O	8:H:17:THR:OG1	2.30	0.49
9:I:73:GLN:O	9:I:76:ALA:HB3	2.13	0.49
16:P:67:THR:HB	16:P:70:ALA:CB	2.42	0.49
1:A:182:C:P	20:T:82:SER:HB3	2.52	0.49
1:A:961:A:OP1	14:N:6:LEU:HD21	2.12	0.49
1:A:1000:G:C2	1:A:1001:G:H1'	2.48	0.49
1:A:1221:A:H2'	1:A:1280:C:N4	2.28	0.49
3:C:42:LEU:O	3:C:43:LEU:C	2.51	0.49
3:C:139:GLN:HE21	3:C:139:GLN:C	2.15	0.49
4:D:101:LEU:C	4:D:103:ASN:H	2.14	0.49
4:D:199:ASN:O	4:D:202:LEU:N	2.44	0.49
10:J:30:SER:HB3	10:J:84:GLN:HE21	1.78	0.49
11:K:34:ASP:OD1	11:K:38:ASN:N	2.46	0.49
11:K:97:ALA:O	11:K:101:SER:HB3	2.13	0.49
13:M:104:ARG:O	13:M:105:THR:HG23	2.13	0.49
18:R:37:VAL:HG21	18:R:78:LEU:HD22	1.95	0.49
19:S:44:MET:O	19:S:47:HIS:CD2	2.65	0.49
19:S:44:MET:HA	19:S:47:HIS:HD2	1.78	0.49
20:T:32:ALA:O	20:T:35:THR:HB	2.13	0.49
1:A:76:G:H2'	1:A:77:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:C:H2'	1:A:216:G:O4'	2.13	0.49
1:A:445:G:N7	1:A:466:G:O6	2.46	0.49
1:A:542:G:C5	1:A:543:A:C2	3.00	0.49
1:A:685:C:H5''	1:A:687:G:O4'	2.12	0.49
1:A:744:G:C2'	1:A:745:G:H5'	2.43	0.49
1:A:745:G:H4'	17:Q:102:GLY:CA	2.42	0.49
1:A:751:A:H2'	1:A:752:A:O4'	2.12	0.49
1:A:853:C:O2'	8:H:14:ARG:NH1	2.43	0.49
1:A:856:G:C6	1:A:857:C:C4	3.01	0.49
1:A:1141:C:C2'	1:A:1141:C:O2	2.61	0.49
1:A:1199:C:C4	1:A:1200:C:C5	3.01	0.49
1:A:1396:A:O2'	1:A:1397:U:H5'	2.13	0.49
3:C:79:ARG:HG2	3:C:82:GLU:HG2	1.94	0.49
4:D:34:GLU:O	4:D:35:ARG:HB2	2.12	0.49
4:D:76:ARG:HG2	4:D:76:ARG:HH11	1.77	0.49
5:E:57:LYS:O	5:E:60:TYR:HB3	2.13	0.49
5:E:64:ARG:O	5:E:65:ASN:HB3	2.12	0.49
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.94	0.49
10:J:29:ARG:CB	10:J:84:GLN:HE22	2.25	0.49
18:R:43:PHE:CG	18:R:66:LEU:HD11	2.48	0.49
20:T:55:ILE:O	20:T:58:LYS:N	2.46	0.49
1:A:21:U:O2'	1:A:22:G:H5'	2.12	0.48
1:A:305:G:H2'	1:A:306:G:H8	1.77	0.48
1:A:649:A:H2'	1:A:709:G:N2	2.28	0.48
1:A:886:A:O2'	1:A:887:A:H5'	2.12	0.48
1:A:1030:G:OP1	14:N:4:LYS:NZ	2.44	0.48
1:A:1435:G:H8	1:A:1435:G:O5'	1.96	0.48
2:B:29:ALA:O	2:B:32:ILE:N	2.34	0.48
3:C:177:THR:CG2	3:C:180:ALA:HB2	2.42	0.48
4:D:195:ALA:O	4:D:196:LEU:C	2.50	0.48
5:E:50:GLU:O	5:E:53:LEU:HB2	2.13	0.48
9:I:15:ALA:HA	9:I:64:THR:O	2.13	0.48
9:I:79:LEU:HD13	9:I:79:LEU:C	2.33	0.48
12:L:25:PRO:C	12:L:27:LEU:N	2.64	0.48
12:L:75:HIS:CD2	12:L:77:LEU:HB2	2.46	0.48
16:P:14:ASN:OD1	16:P:16:HIS:HE1	1.96	0.48
17:Q:84:LEU:O	17:Q:85:VAL:C	2.51	0.48
18:R:76:LEU:O	18:R:78:LEU:HG	2.12	0.48
19:S:42:PRO:O	19:S:45:VAL:N	2.46	0.48
19:S:51:VAL:O	19:S:57:HIS:HA	2.13	0.48
19:S:53:ASN:N	19:S:56:GLN:O	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:469:G:O2'	1:A:470:G:OP2	2.29	0.48
1:A:576:G:H2'	1:A:577:G:H8	1.77	0.48
1:A:627:C:H2'	1:A:628:G:C8	2.41	0.48
1:A:811:U:C4	1:A:848:U:C2	3.02	0.48
1:A:1160:G:P	9:I:97:LYS:HZ3	2.36	0.48
1:A:1230:A:H1'	9:I:70:LYS:HZ1	1.73	0.48
1:A:1270:A:H1'	1:A:1334:C:O2'	2.12	0.48
3:C:125:GLU:C	3:C:127:ARG:N	2.65	0.48
4:D:185:PHE:HE2	4:D:188:LEU:HD23	1.78	0.48
5:E:33:VAL:HB	5:E:112:LEU:HD12	1.95	0.48
9:I:79:LEU:HD23	9:I:101:PHE:O	2.12	0.48
12:L:5:PRO:HB2	12:L:10:LEU:HD21	1.94	0.48
12:L:34:ARG:HG3	12:L:61:THR:CG2	2.43	0.48
12:L:45:PRO:HB2	12:L:49:ASN:O	2.12	0.48
13:M:98:VAL:CG2	13:M:110:ARG:HH12	2.19	0.48
19:S:49:ILE:O	19:S:60:VAL:N	2.45	0.48
1:A:125:A:H5''	1:A:191:G:H2'	1.96	0.48
1:A:725:G:O2'	1:A:726:G:H5'	2.13	0.48
1:A:1169:G:OP1	9:I:113:LYS:HE2	2.12	0.48
1:A:1192:C:H5'	1:A:1196:C:H42	1.78	0.48
1:A:1216:C:H4'	1:A:1347:U:H1'	1.95	0.48
1:A:1357:A:O2'	1:A:1358:A:H5'	2.13	0.48
1:A:1422:C:H2'	1:A:1423:C:C6	2.49	0.48
1:A:1450:U:O2'	1:A:1451:A:H5'	2.12	0.48
1:A:1483:G:C8	1:A:1483:G:C3'	2.89	0.48
3:C:94:LEU:HD23	3:C:94:LEU:O	2.13	0.48
6:F:3:ARG:HE	6:F:64:GLN:NE2	2.10	0.48
7:G:22:LEU:HD11	7:G:101:LEU:HD21	1.95	0.48
11:K:58:PRO:HA	11:K:90:GLY:HA3	1.95	0.48
12:L:84:LEU:HB3	12:L:101:VAL:HB	1.96	0.48
15:O:6:GLU:O	15:O:7:GLU:C	2.52	0.48
15:O:18:PHE:HB2	15:O:19:PRO:CD	2.43	0.48
15:O:27:VAL:O	15:O:31:LEU:CD1	2.61	0.48
17:Q:97:SER:OG	17:Q:103:GLY:CA	2.61	0.48
1:A:198:G:H2'	1:A:199:U:C6	2.49	0.48
1:A:406:G:H2'	1:A:425:U:C4	2.49	0.48
1:A:486:G:H2'	1:A:487:C:C6	2.48	0.48
1:A:865:G:H2'	1:A:866:G:O4'	2.12	0.48
1:A:975:U:O2'	1:A:976:G:H5'	2.14	0.48
1:A:1001:G:H2'	1:A:1002:G:C8	2.47	0.48
1:A:1245:C:O2'	1:A:1246:C:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1299:C:C6	14:N:16:PHE:CD2	3.01	0.48
2:B:31:TYR:HE1	2:B:200:ILE:CD1	2.26	0.48
2:B:230:VAL:HG12	2:B:231:GLU:O	2.13	0.48
3:C:202:ILE:CG2	3:C:204:LEU:HD21	2.44	0.48
4:D:5:ILE:HG22	4:D:5:ILE:O	2.12	0.48
10:J:49:VAL:HG12	10:J:50:ILE:N	2.27	0.48
16:P:38:TYR:CE2	16:P:50:LYS:HD3	2.49	0.48
20:T:53:LEU:HD13	20:T:101:GLY:H	1.77	0.48
1:A:193:G:O2'	1:A:194:G:H5'	2.14	0.48
1:A:208:C:N3	1:A:212:G:N2	2.51	0.48
1:A:254:G:O2'	1:A:255:G:H5'	2.14	0.48
1:A:352:A:C5	1:A:353:G:C8	3.01	0.48
1:A:542:G:H2'	1:A:543:A:H2	1.78	0.48
1:A:582:U:H2'	1:A:583:C:C6	2.48	0.48
1:A:1340:U:H3'	1:A:1341:C:C5	2.48	0.48
2:B:125:PRO:C	2:B:127:ILE:N	2.65	0.48
3:C:46:GLU:HB2	3:C:47:LEU:HD12	1.95	0.48
3:C:58:GLU:HB2	3:C:65:ALA:HB2	1.96	0.48
3:C:154:SER:OG	3:C:196:LEU:HB3	2.14	0.48
7:G:93:PRO:CG	7:G:94:ARG:H	2.24	0.48
10:J:27:ALA:HB1	10:J:74:ILE:HD13	1.96	0.48
12:L:75:HIS:HD2	12:L:77:LEU:CB	2.24	0.48
14:N:18:VAL:HG23	14:N:19:ARG:N	2.29	0.48
14:N:41:ARG:HD2	14:N:41:ARG:C	2.34	0.48
17:Q:61:GLU:HA	17:Q:71:PHE:CD1	2.49	0.48
17:Q:103:GLY:O	17:Q:104:LYS:O	2.30	0.48
19:S:11:VAL:HG22	19:S:39:THR:O	2.13	0.48
19:S:36:ARG:NH2	19:S:75:ALA:HB3	2.25	0.48
1:A:168:U:C2	1:A:204:A:C2	3.01	0.48
1:A:190:U:O4	17:Q:62:SER:CB	2.58	0.48
1:A:1089:G:O2'	1:A:1090:C:H5'	2.13	0.48
1:A:1322:A:O2'	1:A:1323:U:H5'	2.14	0.48
1:A:1361:C:C5	1:A:1362:G:C8	3.01	0.48
2:B:25:ASN:HD22	2:B:26:PRO:N	2.11	0.48
2:B:213:LEU:O	2:B:214:ILE:C	2.51	0.48
3:C:139:GLN:HE22	3:C:143:GLU:HB2	1.78	0.48
4:D:187:ARG:CD	4:D:188:LEU:H	2.26	0.48
5:E:12:LEU:O	5:E:30:ALA:HA	2.14	0.48
9:I:13:ALA:HA	9:I:67:GLY:O	2.13	0.48
9:I:48:GLU:OE1	9:I:48:GLU:HA	2.14	0.48
9:I:99:LEU:HD22	9:I:99:LEU:N	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:110:ASP:C	11:K:110:ASP:OD1	2.51	0.48
14:N:44:LEU:HD12	14:N:44:LEU:C	2.33	0.48
19:S:23:ASN:HA	19:S:26:GLY:O	2.12	0.48
20:T:94:ALA:O	20:T:95:ALA:CB	2.61	0.48
1:A:275:A:OP2	17:Q:95:TYR:CE2	2.67	0.48
1:A:446:A:C1'	1:A:447:A:C8	2.97	0.48
1:A:447:A:O2'	1:A:448:A:P	2.72	0.48
1:A:620:U:O2'	1:A:621:G:H5'	2.13	0.48
1:A:682:G:H2'	1:A:683:C:C6	2.49	0.48
1:A:844:C:H2'	1:A:845:G:O4'	2.14	0.48
1:A:928:U:H2'	1:A:929:G:H8	1.78	0.48
1:A:1096:C:H1'	3:C:178:LEU:HD21	1.95	0.48
1:A:1236:C:OP1	10:J:45:ARG:HD2	2.14	0.48
1:A:1280:C:O2	1:A:1280:C:H2'	2.13	0.48
1:A:1311:A:O2'	1:A:1312:U:H5'	2.14	0.48
1:A:1374:U:H2'	1:A:1375:G:H8	1.76	0.48
2:B:48:MET:O	2:B:50:GLU:N	2.47	0.48
2:B:82:ARG:O	2:B:83:MET:C	2.52	0.48
2:B:115:LEU:O	2:B:118:LEU:N	2.44	0.48
2:B:172:ILE:O	2:B:175:ARG:HB3	2.14	0.48
3:C:21:ARG:NH2	3:C:56:ASP:OD2	2.46	0.48
3:C:34:LEU:C	3:C:34:LEU:HD23	2.33	0.48
5:E:45:PHE:CE2	5:E:47:LYS:HE3	2.49	0.48
5:E:81:GLU:HB3	5:E:88:LYS:NZ	2.29	0.48
5:E:115:VAL:HG11	5:E:118:ILE:HD12	1.96	0.48
7:G:72:ARG:HG2	7:G:142:GLU:OE1	2.14	0.48
9:I:111:ARG:HH11	9:I:111:ARG:HG3	1.78	0.48
13:M:18:ALA:O	13:M:21:TYR:N	2.38	0.48
15:O:10:LYS:HD2	15:O:10:LYS:C	2.34	0.48
15:O:25:THR:O	15:O:28:GLN:HB2	2.13	0.48
1:A:46:U:H2'	1:A:47:G:C8	2.49	0.48
1:A:97:C:P	20:T:17:ARG:HH11	2.36	0.48
1:A:210:U:H5''	1:A:211:U:OP1	2.14	0.48
1:A:254:G:H2'	1:A:255:G:H8	1.79	0.48
1:A:354:U:H2'	1:A:355:U:C6	2.49	0.48
1:A:409:G:H2'	1:A:424:G:N2	2.28	0.48
1:A:501:G:O2'	1:A:514:G:C4'	2.62	0.48
1:A:799:A:HO2'	1:A:800:A:P	2.35	0.48
1:A:818:C:O5'	1:A:818:C:H6	1.97	0.48
1:A:855:C:O2	8:H:3:THR:HG21	2.14	0.48
1:A:1036:G:H2'	1:A:1181:U:C5	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1218:A:H2'	1:A:1219:C:C6	2.49	0.48
1:A:1219:C:C4'	1:A:1316:G:N2	2.77	0.48
1:A:1274:U:P	7:G:41:ARG:NH2	2.81	0.48
1:A:1291:G:C6	1:A:1311:A:C2	3.02	0.48
1:A:1310:C:O2'	1:A:1311:A:H5'	2.14	0.48
2:B:19:HIS:CD2	2:B:204:ASN:ND2	2.82	0.48
3:C:129:ALA:CB	3:C:132:ARG:HD2	2.43	0.48
4:D:8:VAL:CG2	4:D:115:ARG:NH1	2.76	0.48
7:G:41:ARG:O	7:G:42:ILE:C	2.52	0.48
10:J:12:ASP:OD1	10:J:14:LYS:N	2.47	0.48
11:K:85:ARG:NE	11:K:111:ASP:OD2	2.47	0.48
13:M:68:GLY:O	13:M:72:ALA:N	2.41	0.48
15:O:46:HIS:C	15:O:48:LYS:N	2.66	0.48
1:A:95:A:H2'	1:A:96:G:C8	2.46	0.48
1:A:298:G:H8	1:A:298:G:O5'	1.97	0.48
1:A:490:G:C6	1:A:491:C:C4	3.02	0.48
1:A:698:G:C2	1:A:761:A:H1'	2.48	0.48
1:A:1088:A:O2'	1:A:1089:G:H5'	2.14	0.48
1:A:1181:U:H4'	10:J:54:PHE:CD1	2.49	0.48
1:A:1301:A:H5'	19:S:70:LYS:HZ2	1.78	0.48
1:A:1429:C:H2'	1:A:1430:C:C6	2.40	0.48
1:A:1459:U:H2'	1:A:1460:G:O4'	2.13	0.48
2:B:75:LYS:O	2:B:75:LYS:HD3	2.12	0.48
3:C:130:VAL:HG11	3:C:157:ILE:HD13	1.95	0.48
4:D:96:LEU:O	4:D:99:SER:HB2	2.13	0.48
4:D:131:ARG:HD2	4:D:131:ARG:N	2.11	0.48
8:H:104:ARG:O	8:H:105:ARG:C	2.52	0.48
10:J:71:LEU:O	10:J:72:VAL:CB	2.58	0.48
11:K:48:ILE:HG22	11:K:49:GLY:N	2.21	0.48
13:M:49:THR:O	13:M:53:VAL:HG23	2.14	0.48
15:O:5:LYS:O	15:O:9:GLN:HG3	2.12	0.48
16:P:52:ASP:O	16:P:52:ASP:OD1	2.31	0.48
18:R:70:ILE:HG22	18:R:70:ILE:O	2.13	0.48
1:A:113:A:C5	1:A:236:C:C4	3.02	0.48
1:A:191:G:H1	1:A:260:U:P	2.37	0.48
1:A:317:A:H2	1:A:328:G:H22	1.59	0.48
1:A:567:A:H1'	1:A:743:A:N6	2.28	0.48
1:A:713:A:H2'	1:A:714:G:H8	1.79	0.48
1:A:981:G:H2'	1:A:982:G:C8	2.49	0.48
1:A:1112:C:O2'	1:A:1113:A:OP2	2.24	0.48
1:A:1349:C:H2'	1:A:1350:C:H6	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1506:U:HO2'	1:A:1507:G:P	2.37	0.48
3:C:19:GLU:O	3:C:56:ASP:HA	2.14	0.48
6:F:30:LEU:HB3	6:F:35:ALA:HB3	1.96	0.48
8:H:38:ILE:HG22	8:H:39:LEU:N	2.28	0.48
9:I:97:LYS:C	9:I:100:GLY:H	2.16	0.48
10:J:91:PRO:HB2	10:J:94:VAL:CG2	2.44	0.48
12:L:7:ILE:O	12:L:8:ASN:C	2.52	0.48
13:M:121:LYS:N	13:M:121:LYS:HD2	2.29	0.48
15:O:27:VAL:O	15:O:31:LEU:HD12	2.14	0.48
15:O:87:ILE:O	15:O:88:ARG:CB	2.61	0.48
18:R:74:ARG:HB3	18:R:81:PHE:CZ	2.48	0.48
19:S:62:ILE:HD12	19:S:66:MET:CG	2.41	0.48
1:A:20:C:O2'	1:A:21:U:H5'	2.15	0.47
1:A:225:U:H2'	1:A:226:G:H8	1.78	0.47
1:A:332:C:H2'	1:A:333:C:C6	2.48	0.47
1:A:589:U:H2'	1:A:590:G:C8	2.48	0.47
1:A:715:G:OP1	1:A:750:A:H1'	2.14	0.47
1:A:982:G:N1	1:A:983:A:H1'	2.29	0.47
1:A:1102:C:OP2	9:I:9:ARG:NH2	2.46	0.47
1:A:1280:C:H1'	1:A:1281:A:C6	2.49	0.47
1:A:1296:C:OP2	19:S:6:LYS:CD	2.62	0.47
2:B:187:LEU:HA	2:B:201:ILE:HB	1.96	0.47
3:C:152:ILE:HG22	3:C:153:VAL:N	2.28	0.47
5:E:89:ILE:HD13	5:E:90:VAL:CA	2.44	0.47
7:G:60:LYS:O	7:G:61:VAL:C	2.52	0.47
8:H:82:HIS:HD2	8:H:138:TRP:NE1	2.11	0.47
9:I:110:GLU:OE2	9:I:113:LYS:NZ	2.45	0.47
9:I:114:TYR:CD1	9:I:114:TYR:C	2.87	0.47
16:P:6:LEU:HD12	16:P:6:LEU:N	2.29	0.47
16:P:11:SER:O	16:P:12:LYS:C	2.51	0.47
19:S:52:TYR:HA	19:S:56:GLN:O	2.14	0.47
20:T:53:LEU:O	20:T:57:ARG:HD3	2.14	0.47
1:A:45:G:H2'	1:A:46:U:H6	1.79	0.47
1:A:143:G:H2'	1:A:144:A:H8	1.79	0.47
1:A:369:A:H1'	1:A:466:G:H1'	1.95	0.47
1:A:472:A:C2'	1:A:473:C:H5'	2.45	0.47
1:A:486:G:C4'	1:A:534:G:H4'	2.43	0.47
1:A:487:C:OP1	12:L:119:LYS:NZ	2.47	0.47
1:A:868:G:H2'	1:A:884:G:O6	2.15	0.47
1:A:903:G:C2	1:A:905:G:C8	3.01	0.47
1:A:1055:G:H2'	1:A:1056:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1186:A:H2'	1:A:1187:U:H6	1.78	0.47
1:A:1204:G:C5'	19:S:77:THR:HG21	2.44	0.47
1:A:1363:U:O2'	1:A:1364:U:OP2	2.27	0.47
2:B:54:THR:O	2:B:57:PHE:N	2.45	0.47
2:B:176:GLU:O	2:B:180:LEU:HG	2.14	0.47
3:C:5:ILE:HD12	3:C:5:ILE:C	2.34	0.47
5:E:9:LYS:HB2	5:E:112:LEU:HD11	1.96	0.47
5:E:105:VAL:HB	5:E:106:PRO:CD	2.44	0.47
6:F:78:GLU:HA	6:F:81:ILE:CD1	2.44	0.47
6:F:97:PHE:HB2	18:R:32:ARG:HH21	1.79	0.47
7:G:65:ALA:O	7:G:66:VAL:C	2.52	0.47
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.49	0.47
17:Q:26:GLN:HG2	17:Q:37:LYS:HG3	1.96	0.47
18:R:36:ASN:O	18:R:38:GLU:N	2.47	0.47
19:S:33:THR:CG2	19:S:35:SER:H	2.22	0.47
20:T:91:LEU:O	20:T:93:GLU:N	2.46	0.47
1:A:176:G:H4'	1:A:177:U:C5'	2.44	0.47
1:A:424:G:HO2'	1:A:425:U:P	2.37	0.47
1:A:682:G:H2'	1:A:683:C:H6	1.78	0.47
1:A:765:A:H2'	1:A:766:A:O4'	2.14	0.47
1:A:776:A:O2'	1:A:777:U:OP2	2.33	0.47
1:A:814:G:H4'	2:B:23:ARG:HA	1.95	0.47
1:A:943:A:C2	1:A:947:A:N1	2.82	0.47
1:A:1163:G:O2'	1:A:1164:G:O5'	2.31	0.47
22:A:1523:KSG:O6	22:A:1523:KSG:H1	2.13	0.47
5:E:12:LEU:HD22	5:E:12:LEU:C	2.34	0.47
9:I:63:ILE:HG21	9:I:77:ILE:HG12	1.97	0.47
11:K:30:VAL:N	11:K:43:SER:O	2.48	0.47
15:O:32:LEU:O	15:O:35:ARG:N	2.47	0.47
18:R:29:PHE:HE1	18:R:31:LEU:HD21	1.80	0.47
19:S:41:VAL:HG23	19:S:43:GLU:HG2	1.97	0.47
20:T:78:ALA:O	20:T:79:ARG:C	2.52	0.47
1:A:275:A:OP2	17:Q:95:TYR:HE2	1.98	0.47
1:A:288:G:N7	1:A:289:G:H1'	2.29	0.47
1:A:938:U:O2	1:A:938:U:H2'	2.13	0.47
1:A:1238:A:H2	1:A:1240:G:N1	2.13	0.47
1:A:1260:U:H5'	1:A:1261:A:O4'	2.13	0.47
2:B:184:VAL:HG23	2:B:198:ASP:OD2	2.13	0.47
4:D:156:GLU:HG2	4:D:160:GLN:NE2	2.28	0.47
4:D:161:ASN:O	4:D:163:GLU:N	2.47	0.47
5:E:153:LYS:HD2	5:E:154:GLY:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:6:THR:O	12:L:7:ILE:C	2.53	0.47
13:M:71:ARG:HG2	13:M:71:ARG:HH11	1.79	0.47
13:M:125:ARG:HD2	13:M:125:ARG:C	2.33	0.47
17:Q:57:VAL:HA	17:Q:77:VAL:HG23	1.97	0.47
20:T:37:SER:O	20:T:38:LYS:C	2.53	0.47
1:A:98:G:H4'	1:A:169:C:O4'	2.15	0.47
1:A:170:C:C2	1:A:171:C:C5	3.02	0.47
1:A:462:G:O2'	1:A:463:A:H5'	2.13	0.47
1:A:522:G:C4'	12:L:114:LYS:HD3	2.44	0.47
1:A:736:G:C4'	1:A:738:C:H5	2.27	0.47
1:A:971:G:O2'	1:A:972:A:OP1	2.30	0.47
1:A:1094:A:H61	3:C:177:THR:HA	1.79	0.47
1:A:1104:U:O2'	1:A:1105:U:H5'	2.14	0.47
1:A:1351:G:H5''	9:I:112:LYS:O	2.15	0.47
1:A:1476:U:O2'	1:A:1477:A:P	2.71	0.47
22:A:1524:KSG:H5	7:G:82:GLY:HA3	1.96	0.47
2:B:84:GLU:OE1	2:B:216:SER:HA	2.14	0.47
2:B:105:PHE:HE2	2:B:157:ARG:HA	1.78	0.47
3:C:29:TYR:C	3:C:29:TYR:CD2	2.88	0.47
4:D:102:ASP:OD1	4:D:136:PRO:O	2.31	0.47
5:E:137:GLU:O	5:E:139:LEU:N	2.47	0.47
8:H:41:ARG:O	8:H:41:ARG:HG2	2.12	0.47
8:H:64:LYS:C	8:H:65:TYR:CD1	2.87	0.47
8:H:86:ILE:HD12	8:H:133:LEU:HD21	1.92	0.47
8:H:91:ARG:HG2	12:L:7:ILE:HG21	1.97	0.47
10:J:3:LYS:O	10:J:100:THR:HG23	2.14	0.47
11:K:72:ALA:HB1	11:K:77:MET:HG3	1.97	0.47
13:M:37:THR:HG21	13:M:39:ILE:HD11	1.97	0.47
13:M:89:GLY:O	13:M:92:HIS:HB2	2.14	0.47
1:A:340:A:O2'	1:A:341:C:P	2.73	0.47
1:A:765:A:H2'	1:A:766:A:C5'	2.45	0.47
1:A:805:G:C6	1:A:858:C:N4	2.83	0.47
1:A:1213:G:O2'	1:A:1214:U:H5'	2.15	0.47
3:C:179:ARG:HH11	3:C:179:ARG:HG3	1.79	0.47
6:F:76:ALA:O	6:F:77:ARG:C	2.53	0.47
6:F:91:VAL:HG13	18:R:72:ARG:NH2	2.29	0.47
8:H:137:VAL:CG1	8:H:138:TRP:N	2.77	0.47
10:J:56:HIS:HB2	10:J:59:SER:OG	2.15	0.47
11:K:93:GLN:NE2	11:K:96:ARG:NH2	2.63	0.47
11:K:110:ASP:HB2	18:R:88:LYS:HD2	1.96	0.47
11:K:114:VAL:O	11:K:114:VAL:HG13	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:55:VAL:CG1	12:L:56:ALA:N	2.77	0.47
13:M:59:TYR:O	13:M:60:VAL:O	2.32	0.47
17:Q:29:HIS:ND1	17:Q:29:HIS:O	2.47	0.47
17:Q:63:ARG:HG2	17:Q:64:PRO:O	2.14	0.47
20:T:23:ARG:HG2	20:T:23:ARG:NH1	2.28	0.47
1:A:36:G:N2	12:L:118:SER:OG	2.44	0.47
1:A:172:C:O2'	1:A:173:C:H5'	2.15	0.47
1:A:251:G:O6	1:A:262:G:O6	2.33	0.47
1:A:437:C:H6	1:A:437:C:O5'	1.97	0.47
1:A:470:G:O2'	1:A:471:U:P	2.73	0.47
1:A:492:C:H5''	1:A:493:A:OP1	2.15	0.47
1:A:505:G:O2'	1:A:506:C:H5'	2.14	0.47
1:A:574:C:N3	1:A:575:U:C5	2.83	0.47
1:A:665:C:H2'	1:A:666:G:C8	2.50	0.47
1:A:674:G:O5'	1:A:674:G:H8	1.97	0.47
1:A:765:A:H2'	1:A:766:A:H5'	1.96	0.47
1:A:768:C:H2'	1:A:769:G:H8	1.80	0.47
1:A:1099:C:C2'	1:A:1100:G:H5'	2.36	0.47
1:A:1161:A:O2'	1:A:1162:A:H5'	2.15	0.47
1:A:1209:A:O3'	13:M:115:LYS:HD3	2.14	0.47
1:A:1239:U:O2'	1:A:1240:G:OP2	2.28	0.47
1:A:1303:C:H2'	1:A:1304:C:C5	2.50	0.47
1:A:1328:A:H4'	1:A:1329:G:O5'	2.14	0.47
1:A:1333:U:H2'	1:A:1334:C:C6	2.46	0.47
2:B:149:LEU:C	2:B:151:GLY:N	2.68	0.47
2:B:157:ARG:HH11	2:B:157:ARG:HG3	1.80	0.47
2:B:212:GLN:C	2:B:212:GLN:CD	2.74	0.47
2:B:239:VAL:O	2:B:239:VAL:HG12	2.15	0.47
3:C:56:ASP:O	3:C:57:ILE:CG1	2.62	0.47
4:D:12:CYS:CA	4:D:19:LEU:HD12	2.45	0.47
4:D:76:ARG:HD3	4:D:207:TYR:CE2	2.49	0.47
4:D:103:ASN:O	4:D:104:VAL:C	2.50	0.47
4:D:162:LEU:HD12	4:D:181:MET:CE	2.44	0.47
6:F:9:VAL:HG22	6:F:60:PHE:CD2	2.50	0.47
7:G:107:ALA:O	7:G:110:GLN:HB2	2.14	0.47
8:H:16:ALA:HB1	8:H:21:LYS:HB2	1.97	0.47
11:K:120:ARG:NH2	11:K:126:ARG:NH1	2.63	0.47
12:L:33:ARG:CD	12:L:62:SER:HB3	2.45	0.47
12:L:65:GLU:CD	12:L:65:GLU:N	2.68	0.47
13:M:37:THR:HG22	13:M:37:THR:O	2.15	0.47
13:M:84:ILE:C	13:M:86:CYS:N	2.66	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:33:VAL:HG23	14:N:33:VAL:O	2.15	0.47
15:O:24:SER:HB2	15:O:27:VAL:HG23	1.96	0.47
15:O:81:LEU:O	15:O:82:ILE:C	2.51	0.47
19:S:12:ASP:H	19:S:38:SER:CB	2.24	0.47
20:T:33:ILE:O	20:T:34:LYS:C	2.52	0.47
1:A:161:G:H2'	1:A:162:G:H8	1.79	0.47
1:A:278:A:H3'	1:A:279:C:C6	2.49	0.47
1:A:342:G:O2'	1:A:343:G:H5'	2.14	0.47
1:A:342:G:C2'	1:A:343:G:H5'	2.44	0.47
1:A:526:G:P	4:D:10:ARG:HH22	2.37	0.47
1:A:709:G:C4	1:A:710:C:C5	3.03	0.47
1:A:1094:A:N6	3:C:177:THR:HA	2.30	0.47
1:A:1203:G:O2'	19:S:77:THR:HG23	2.15	0.47
1:A:1221:A:H1'	1:A:1223:G:C4	2.50	0.47
1:A:1230:A:H2'	1:A:1231:C:H6	1.80	0.47
1:A:1246:C:H2'	1:A:1247:G:H8	1.78	0.47
1:A:1318:C:H1'	1:A:1319:G:C6	2.50	0.47
1:A:1467:G:H2'	1:A:1468:C:C5'	2.34	0.47
2:B:16:HIS:CE1	2:B:210:SER:HA	2.50	0.47
2:B:155:LEU:HD23	2:B:155:LEU:HA	1.76	0.47
2:B:203:GLY:O	2:B:205:ASP:N	2.47	0.47
3:C:182:ILE:HG22	3:C:183:ASP:O	2.15	0.47
3:C:186:PHE:HA	3:C:198:VAL:O	2.14	0.47
4:D:179:GLU:C	4:D:181:MET:N	2.68	0.47
5:E:13:ILE:HD12	5:E:51:VAL:CG1	2.45	0.47
5:E:91:LEU:HD23	5:E:91:LEU:HA	1.60	0.47
10:J:11:PHE:CZ	10:J:65:LEU:HD21	2.50	0.47
14:N:17:LYS:HD3	14:N:17:LYS:C	2.35	0.47
15:O:25:THR:O	15:O:29:VAL:HG23	2.15	0.47
15:O:36:ILE:HA	15:O:59:MET:HE1	1.97	0.47
17:Q:9:VAL:CG2	17:Q:56:VAL:HG22	2.39	0.47
1:A:339:U:H2'	1:A:341:C:C5	2.49	0.47
1:A:400:U:C2	1:A:401:U:C5	3.02	0.47
1:A:458:A:C4'	16:P:82:GLN:HE21	2.27	0.47
1:A:524:G:H2'	1:A:525:G:O4'	2.15	0.47
1:A:706:A:C6	1:A:708:G:C5	3.02	0.47
1:A:950:C:OP1	10:J:57:LYS:NZ	2.40	0.47
1:A:1058:C:OP1	2:B:103:THR:HG21	2.14	0.47
1:A:1128:C:O2'	1:A:1129:A:O5'	2.32	0.47
1:A:1204:G:OP1	19:S:77:THR:HG21	2.13	0.47
1:A:1329:G:C8	9:I:107:ARG:HB3	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1439:G:H2'	1:A:1440:G:C8	2.48	0.47
1:A:1463:U:O2	1:A:1463:U:H2'	2.14	0.47
22:A:1524:KSG:O2	22:A:1524:KSG:H8	2.15	0.47
2:B:142:LEU:HA	2:B:142:LEU:HD23	1.79	0.47
4:D:8:VAL:HG12	4:D:9:CYS:N	2.29	0.47
4:D:65:ARG:HD2	4:D:75:PHE:CB	2.43	0.47
6:F:19:LEU:HD23	6:F:23:LYS:HG3	1.97	0.47
6:F:64:GLN:O	6:F:64:GLN:HG2	2.15	0.47
7:G:51:GLN:OE1	7:G:51:GLN:HA	2.14	0.47
7:G:113:GLU:CG	7:G:119:ARG:HG2	2.30	0.47
8:H:112:LEU:CA	8:H:134:ILE:HD12	2.45	0.47
12:L:43:VAL:HG12	12:L:44:THR:N	2.30	0.47
12:L:104:VAL:O	12:L:105:TYR:HB2	2.14	0.47
14:N:47:LEU:O	14:N:48:ALA:C	2.53	0.47
17:Q:19:VAL:HG23	17:Q:19:VAL:O	2.15	0.47
19:S:70:LYS:O	19:S:71:LEU:C	2.53	0.47
1:A:199:U:C1'	20:T:103:GLY:HA2	2.45	0.47
1:A:453:C:H2'	1:A:454:G:O4'	2.15	0.47
1:A:510:C:H2'	1:A:511:G:O4'	2.15	0.47
1:A:661:U:H3	1:A:697:G:N2	2.01	0.47
1:A:1253:G:O5'	1:A:1253:G:H8	1.98	0.47
1:A:1260:U:H5''	1:A:1261:A:C5'	2.45	0.47
1:A:1363:U:O2'	1:A:1364:U:P	2.73	0.47
1:A:1485:A:H2'	1:A:1486:G:H8	1.78	0.47
4:D:10:ARG:HH12	4:D:40:PRO:HB2	1.80	0.47
4:D:161:ASN:O	4:D:164:ALA:N	2.48	0.47
5:E:9:LYS:HG3	5:E:112:LEU:HD21	1.96	0.47
5:E:13:ILE:HG22	5:E:30:ALA:HA	1.96	0.47
8:H:45:ILE:HD13	8:H:61:VAL:HG13	1.97	0.47
9:I:3:GLN:HG3	9:I:20:ARG:NE	2.27	0.47
9:I:10:ARG:O	9:I:11:LYS:C	2.54	0.47
11:K:84:VAL:HG23	11:K:110:ASP:HA	1.97	0.47
14:N:3:ARG:HD3	14:N:6:LEU:HD12	1.96	0.47
18:R:87:ARG:NH1	18:R:87:ARG:CG	2.75	0.47
20:T:59:ALA:C	20:T:63:ILE:HD12	2.36	0.47
1:A:17:A:H4'	5:E:17:ALA:H	1.80	0.46
1:A:432:C:O2'	1:A:433:U:H5'	2.14	0.46
1:A:502:C:O2'	1:A:503:C:OP2	2.26	0.46
1:A:507:A:H61	12:L:53:ARG:NH1	2.14	0.46
1:A:609:G:C5	1:A:610:U:C4	3.02	0.46
1:A:850:A:C4	1:A:852:G:C8	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:951:G:H2'	1:A:952:A:H8	1.79	0.46
1:A:1032:U:H4'	1:A:1033:G:OP2	2.14	0.46
1:A:1050:A:O2'	1:A:1051:G:OP2	2.33	0.46
1:A:1140:A:C6	1:A:1162:A:C6	3.03	0.46
1:A:1149:G:H22	1:A:1151:A:H3'	1.80	0.46
1:A:1280:C:O2	1:A:1280:C:C2'	2.62	0.46
1:A:1352:C:H2'	1:A:1353:G:H8	1.76	0.46
22:A:1523:KSG:O2	22:A:1523:KSG:H8	2.15	0.46
2:B:119:GLU:OE2	2:B:153:ARG:NH2	2.47	0.46
2:B:134:GLU:O	2:B:138:LEU:N	2.41	0.46
2:B:212:GLN:NE2	2:B:216:SER:HB3	2.30	0.46
4:D:43:HIS:O	4:D:44:GLY:C	2.51	0.46
4:D:65:ARG:O	4:D:69:GLY:N	2.47	0.46
5:E:137:GLU:C	5:E:139:LEU:N	2.68	0.46
8:H:17:THR:OG1	8:H:18:ARG:N	2.47	0.46
12:L:65:GLU:N	12:L:65:GLU:OE1	2.48	0.46
13:M:37:THR:HG22	13:M:39:ILE:HD11	1.97	0.46
15:O:9:GLN:O	15:O:12:ILE:HB	2.15	0.46
16:P:59:TRP:O	16:P:60:LEU:C	2.52	0.46
17:Q:45:HIS:HB2	17:Q:69:LYS:HE2	1.96	0.46
19:S:7:LYS:O	19:S:7:LYS:CG	2.63	0.46
1:A:23:G:O2'	1:A:24:C:H5'	2.16	0.46
1:A:161:G:O2'	1:A:162:G:H5'	2.15	0.46
1:A:311:A:H1'	1:A:349:A:C2	2.50	0.46
1:A:341:C:H1'	1:A:342:G:N2	2.31	0.46
1:A:525:G:O2'	1:A:526:G:H5'	2.15	0.46
1:A:728:C:H2'	1:A:729:C:C6	2.50	0.46
1:A:783:G:O2'	1:A:784:G:H5'	2.15	0.46
1:A:803:A:N7	1:A:1507:G:C2	2.83	0.46
1:A:997:C:O5'	1:A:997:C:H6	1.98	0.46
1:A:1014:G:H2'	1:A:1015:G:C8	2.39	0.46
1:A:1145:C:N3	1:A:1157:G:C2	2.83	0.46
1:A:1169:G:H3'	1:A:1170:A:H8	1.80	0.46
1:A:1248:G:N2	1:A:1252:C:C2	2.84	0.46
2:B:108:ILE:O	2:B:111:ARG:N	2.48	0.46
2:B:216:SER:OG	2:B:217:ARG:N	2.48	0.46
3:C:112:SER:CB	3:C:115:LEU:HD12	2.45	0.46
3:C:174:PRO:HB2	3:C:177:THR:CG2	2.43	0.46
4:D:173:TRP:O	4:D:186:LEU:HB2	2.14	0.46
5:E:31:LEU:HD23	5:E:44:GLY:O	2.15	0.46
5:E:115:VAL:CG1	5:E:116:THR:N	2.75	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:69:GLU:HA	6:F:72:VAL:CG2	2.45	0.46
7:G:50:ILE:HG12	7:G:125:MET:HE2	1.95	0.46
8:H:44:PHE:HD1	8:H:80:ILE:HG12	1.80	0.46
9:I:79:LEU:CD1	9:I:83:ARG:HD2	2.45	0.46
17:Q:90:ILE:O	17:Q:93:GLN:CB	2.61	0.46
18:R:65:ILE:C	18:R:67:ALA:H	2.17	0.46
20:T:42:GLN:NE2	20:T:46:GLU:OE2	2.48	0.46
20:T:79:ARG:O	20:T:80:ARG:C	2.52	0.46
1:A:225:U:O2'	16:P:23:ASP:OD2	2.33	0.46
1:A:355:U:O2'	1:A:356:A:H5'	2.16	0.46
1:A:370:A:C6	1:A:371:U:C4	3.04	0.46
1:A:377:C:H2'	1:A:378:A:O4'	2.15	0.46
1:A:406:G:C2	1:A:425:U:C2	3.04	0.46
1:A:429:C:H2'	1:A:430:U:H6	1.80	0.46
1:A:604:C:H2'	1:A:605:A:O4'	2.15	0.46
1:A:803:A:C4'	1:A:804:U:OP2	2.63	0.46
1:A:873:G:C6	1:A:874:C:N4	2.82	0.46
1:A:1280:C:H3'	7:G:114:ARG:HH22	1.79	0.46
1:A:1385:C:H2'	1:A:1386:C:C6	2.50	0.46
1:A:1494:G:H2'	1:A:1496:A:OP2	2.15	0.46
2:B:90:MET:HB3	2:B:91:PRO:HD2	1.98	0.46
3:C:32:LEU:HD21	3:C:59:ARG:CD	2.40	0.46
3:C:49:SER:O	3:C:51:GLY:N	2.49	0.46
7:G:87:VAL:HG22	7:G:154:TYR:HD1	1.79	0.46
8:H:18:ARG:HG3	8:H:18:ARG:NH1	2.31	0.46
9:I:10:ARG:HE	9:I:11:LYS:HB2	1.80	0.46
9:I:111:ARG:HD3	9:I:112:LYS:C	2.35	0.46
13:M:23:TYR:CD2	13:M:70:LEU:HB3	2.51	0.46
17:Q:82:MET:O	17:Q:83:ASP:C	2.54	0.46
19:S:50:ALA:HA	19:S:58:VAL:O	2.15	0.46
20:T:96:GLY:O	20:T:97:ALA:HB3	2.16	0.46
21:U:6:ARG:HD2	21:U:15:ARG:NH1	2.30	0.46
1:A:10:G:H5'	5:E:122:GLU:OE2	2.14	0.46
1:A:198:G:O2'	1:A:199:U:H5'	2.15	0.46
1:A:424:G:C4	1:A:426:A:C6	3.04	0.46
1:A:458:A:H2'	1:A:459:G:O4'	2.15	0.46
1:A:626:A:H2'	1:A:627:C:C6	2.50	0.46
1:A:757:G:C4	1:A:758:G:C8	3.04	0.46
1:A:1152:A:O5'	1:A:1152:A:H8	1.97	0.46
1:A:1177:C:H2'	1:A:1179:G:H5'	1.97	0.46
1:A:1293:G:N7	19:S:2:PRO:HA	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1335:G:N2	1:A:1353:G:C4	2.84	0.46
1:A:1337:G:O2'	1:A:1338:G:H5'	2.16	0.46
1:A:1349:C:O2'	10:J:60:ARG:NH2	2.48	0.46
2:B:125:PRO:O	2:B:127:ILE:N	2.48	0.46
4:D:11:LEU:C	4:D:13:ARG:N	2.66	0.46
4:D:53:ASP:O	4:D:57:ARG:CD	2.62	0.46
4:D:203:VAL:O	4:D:204:ILE:C	2.54	0.46
5:E:95:ALA:HB1	5:E:96:PRO:HD2	1.97	0.46
6:F:53:ALA:O	6:F:55:ASP:N	2.48	0.46
7:G:65:ALA:HB1	7:G:127:ALA:HB1	1.96	0.46
9:I:108:VAL:CG1	9:I:109:VAL:N	2.74	0.46
13:M:40:ASN:HD22	13:M:41:PRO:HD2	1.81	0.46
13:M:45:VAL:O	13:M:48:LEU:HB2	2.15	0.46
15:O:51:HIS:ND1	15:O:51:HIS:N	2.61	0.46
20:T:23:ARG:HG2	20:T:23:ARG:HH11	1.81	0.46
1:A:32:G:N1	1:A:49:C:H5''	2.30	0.46
1:A:62:G:H2'	1:A:63:U:O4'	2.15	0.46
1:A:501:G:HO2'	1:A:514:G:C4'	2.26	0.46
1:A:936:A:C6	1:A:937:A:N1	2.84	0.46
1:A:1160:G:P	9:I:97:LYS:NZ	2.88	0.46
1:A:1283:U:HO2'	1:A:1284:U:P	2.38	0.46
2:B:69:LEU:HB3	2:B:162:ILE:HG12	1.98	0.46
4:D:57:ARG:NH2	5:E:107:ARG:HD3	2.30	0.46
4:D:100:ARG:HB3	4:D:102:ASP:OD1	2.15	0.46
7:G:23:VAL:O	7:G:27:ILE:HG13	2.15	0.46
7:G:64:GLN:HG3	7:G:68:ASN:HD21	1.80	0.46
7:G:103:TRP:CD1	7:G:137:LYS:HD3	2.50	0.46
9:I:9:ARG:CG	9:I:14:VAL:HG22	2.43	0.46
10:J:15:THR:HG23	10:J:94:VAL:CG2	2.45	0.46
10:J:29:ARG:HB2	10:J:84:GLN:NE2	2.26	0.46
13:M:59:TYR:O	13:M:63:THR:HB	2.15	0.46
15:O:36:ILE:HG12	15:O:59:MET:HE3	1.98	0.46
15:O:75:PRO:HG2	15:O:76:GLU:H	1.81	0.46
18:R:40:LEU:CB	18:R:79:LEU:HD11	2.45	0.46
19:S:30:LEU:CD2	19:S:31:ILE:H	2.29	0.46
1:A:6:U:O2'	1:A:7:G:N3	2.47	0.46
1:A:198:G:C6	1:A:199:U:C4	3.04	0.46
1:A:542:G:H2'	1:A:543:A:C2	2.51	0.46
1:A:609:G:C6	1:A:610:U:C4	3.04	0.46
1:A:676:U:H2'	1:A:678:A:OP2	2.16	0.46
1:A:691:C:H4'	11:K:20:TYR:CD1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:776:A:H4'	1:A:777:U:C5'	2.44	0.46
1:A:902:C:C6	1:A:902:C:H3'	2.51	0.46
1:A:905:G:O2'	1:A:906:G:H5'	2.16	0.46
1:A:1231:C:H2'	1:A:1232:A:H5'	1.97	0.46
1:A:1438:A:H2'	1:A:1439:G:O4'	2.15	0.46
1:A:1486:G:C4	1:A:1487:C:C5	3.03	0.46
3:C:70:VAL:HG12	3:C:71:ALA:N	2.31	0.46
3:C:76:VAL:O	3:C:83:ARG:HB3	2.16	0.46
5:E:59:GLY:O	5:E:63:ARG:HB2	2.14	0.46
5:E:109:ILE:HD12	5:E:135:THR:CG2	2.44	0.46
7:G:69:VAL:O	7:G:69:VAL:HG12	2.15	0.46
9:I:43:ALA:O	9:I:44:VAL:C	2.53	0.46
11:K:91:ARG:NH1	18:R:88:LYS:HE3	2.31	0.46
13:M:29:ARG:O	13:M:32:GLU:N	2.49	0.46
18:R:19:LYS:HD2	18:R:19:LYS:N	2.31	0.46
19:S:19:VAL:O	19:S:22:LEU:HB2	2.16	0.46
1:A:441:G:H2'	1:A:442:G:C5'	2.46	0.46
1:A:905:G:H4'	1:A:1481:A:N7	2.30	0.46
1:A:1004:U:H2'	1:A:1005:G:C8	2.50	0.46
1:A:1169:G:C6	1:A:1170:A:C5	3.04	0.46
1:A:1282:G:O2'	1:A:1283:U:O5'	2.34	0.46
1:A:1438:A:C6	1:A:1439:G:C4	3.03	0.46
2:B:101:MET:HG3	2:B:108:ILE:HD13	1.98	0.46
3:C:147:LYS:O	3:C:203:PHE:HD2	1.99	0.46
4:D:18:LYS:HD3	4:D:20:TYR:HE2	1.81	0.46
5:E:147:ASP:OD2	5:E:147:ASP:N	2.35	0.46
7:G:42:ILE:HG23	7:G:117:ALA:HA	1.98	0.46
10:J:33:GLN:HG2	10:J:33:GLN:O	2.16	0.46
10:J:61:GLU:OE1	10:J:63:PHE:CZ	2.69	0.46
16:P:57:ARG:CZ	16:P:79:VAL:O	2.63	0.46
18:R:74:ARG:HA	18:R:79:LEU:O	2.15	0.46
1:A:79:G:H3'	1:A:80:U:C5'	2.45	0.46
1:A:100:C:C5	20:T:15:ARG:NH2	2.84	0.46
1:A:431:C:H2'	1:A:432:C:H6	1.81	0.46
1:A:523:A:OP1	12:L:114:LYS:HE2	2.15	0.46
1:A:1199:C:H2'	1:A:1200:C:O4'	2.16	0.46
1:A:1361:C:OP1	7:G:6:ARG:O	2.34	0.46
22:A:1524:KSG:C13	22:A:1524:KSG:H91	2.46	0.46
3:C:65:ALA:O	3:C:66:VAL:HB	2.16	0.46
3:C:72:LYS:C	3:C:74:GLY:N	2.68	0.46
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:23:VAL:CG1	7:G:43:PHE:CE2	2.99	0.46
8:H:4:ASP:OD2	8:H:89:PRO:HD3	2.16	0.46
11:K:48:ILE:HD11	11:K:64:ALA:CA	2.46	0.46
13:M:52:GLU:O	13:M:53:VAL:C	2.54	0.46
1:A:179:G:H2'	1:A:180:A:C8	2.44	0.46
1:A:435:A:C4	1:A:481:A:C2	3.03	0.46
1:A:495:C:HO2'	1:A:496:U:P	2.38	0.46
1:A:517:A:O2'	1:A:518:U:P	2.74	0.46
1:A:559:G:O2'	1:A:560:G:P	2.74	0.46
1:A:982:G:C5	1:A:983:A:N3	2.84	0.46
1:A:1421:G:C2	1:A:1442:G:N3	2.84	0.46
3:C:68:VAL:HG12	3:C:70:VAL:HG23	1.98	0.46
4:D:63:LYS:HG2	4:D:64:LEU:N	2.31	0.46
4:D:64:LEU:HB2	4:D:198:VAL:HG11	1.98	0.46
4:D:67:ILE:HG22	4:D:68:TYR:CD1	2.51	0.46
4:D:165:MET:HE2	4:D:176:LEU:HD11	1.98	0.46
5:E:80:ILE:HD11	5:E:91:LEU:HB2	1.96	0.46
6:F:1:MET:HG2	6:F:68:PRO:HA	1.97	0.46
8:H:58:TYR:O	8:H:59:LEU:HD23	2.16	0.46
8:H:69:ARG:HB2	8:H:74:PRO:HA	1.98	0.46
8:H:85:ARG:HD3	8:H:88:LYS:HG2	1.97	0.46
9:I:32:ASP:O	9:I:34:ASN:N	2.49	0.46
10:J:33:GLN:O	10:J:34:VAL:O	2.33	0.46
11:K:18:ARG:HB2	11:K:33:THR:CG2	2.46	0.46
12:L:59:ARG:CZ	12:L:65:GLU:HG3	2.45	0.46
1:A:86:U:H2'	1:A:87:C:C6	2.50	0.46
1:A:100:C:H2'	1:A:101:G:H8	1.81	0.46
1:A:402:G:H1'	1:A:480:A:N1	2.31	0.46
1:A:744:G:H2'	1:A:745:G:C5'	2.46	0.46
1:A:805:G:H2'	1:A:806:C:C6	2.51	0.46
1:A:859:G:P	12:L:12:ARG:HH22	2.38	0.46
1:A:863:G:C2	1:A:864:G:C8	3.04	0.46
1:A:868:G:O2'	1:A:869:U:P	2.73	0.46
1:A:1291:G:C5	1:A:1311:A:C2	3.03	0.46
1:A:1302:C:N4	19:S:36:ARG:HG3	2.31	0.46
1:A:1319:G:H5''	1:A:1320:G:OP1	2.15	0.46
1:A:1501:G:O2'	1:A:1502:C:H5'	2.16	0.46
3:C:35:GLU:OE2	3:C:59:ARG:NH1	2.47	0.46
4:D:64:LEU:HD12	4:D:75:PHE:HE1	1.80	0.46
4:D:194:LEU:H	4:D:194:LEU:CD2	2.28	0.46
8:H:111:ILE:C	8:H:134:ILE:HD12	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:29:ILE:HA	11:K:44:SER:HA	1.98	0.46
16:P:58:TYR:CD1	16:P:59:TRP:N	2.84	0.46
18:R:53:ARG:HG2	18:R:63:GLN:CG	2.44	0.46
18:R:75:ILE:O	18:R:77:GLY:N	2.44	0.46
19:S:17:GLU:HA	19:S:20:LEU:HG	1.98	0.46
19:S:17:GLU:O	19:S:21:GLU:HG3	2.16	0.46
19:S:51:VAL:HG12	19:S:52:TYR:H	1.80	0.46
20:T:61:SER:O	20:T:62:LEU:C	2.54	0.46
20:T:68:LYS:HA	20:T:68:LYS:HD2	1.72	0.46
1:A:242:A:O3'	1:A:243:G:H4'	2.16	0.45
1:A:244:C:C2'	1:A:245:U:H5'	2.46	0.45
1:A:274:G:OP2	17:Q:41:LYS:NZ	2.46	0.45
1:A:685:C:O2'	1:A:686:A:OP2	2.24	0.45
1:A:686:A:H5''	1:A:687:G:C8	2.51	0.45
1:A:850:A:C4	1:A:852:G:N7	2.84	0.45
1:A:1055:G:C6	1:A:1087:G:C2	3.04	0.45
1:A:1107:G:C8	1:A:1128:C:C5	3.04	0.45
1:A:1302:C:H42	19:S:36:ARG:HG3	1.81	0.45
1:A:1315:A:C5	1:A:1316:G:C8	3.03	0.45
1:A:1424:G:H4'	1:A:1425:G:N7	2.31	0.45
2:B:119:GLU:CD	2:B:153:ARG:HH22	2.20	0.45
4:D:50:ARG:HA	4:D:51:PRO:HD3	1.82	0.45
9:I:69:GLY:C	9:I:73:GLN:HG3	2.36	0.45
10:J:38:ILE:CG1	10:J:71:LEU:HB3	2.46	0.45
15:O:45:VAL:HG12	15:O:46:HIS:N	2.31	0.45
18:R:40:LEU:O	18:R:43:PHE:N	2.48	0.45
1:A:16:G:C2	1:A:17:A:C4	3.05	0.45
1:A:56:A:C2	1:A:57:U:C1'	2.99	0.45
1:A:56:A:C2'	1:A:57:U:H5'	2.47	0.45
1:A:405:G:H2'	1:A:406:G:O4'	2.16	0.45
1:A:846:C:H5'	1:A:851:A:N6	2.32	0.45
1:A:953:A:O2'	1:A:954:G:P	2.74	0.45
2:B:123:ALA:N	2:B:127:ILE:HD11	2.31	0.45
3:C:165:THR:CG2	3:C:166:GLU:N	2.79	0.45
4:D:209:ARG:HG2	4:D:209:ARG:NH1	2.30	0.45
5:E:101:ILE:O	5:E:101:ILE:HG22	2.16	0.45
6:F:24:GLU:O	6:F:25:ILE:C	2.53	0.45
7:G:20:ASP:OD1	7:G:22:LEU:HB3	2.15	0.45
7:G:111:ARG:NH1	7:G:122:HIS:HB3	2.32	0.45
7:G:113:GLU:O	7:G:119:ARG:NH1	2.45	0.45
7:G:122:HIS:HA	7:G:125:MET:HE3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:18:ARG:HG3	8:H:18:ARG:HH11	1.81	0.45
9:I:65:VAL:HG13	9:I:65:VAL:O	2.15	0.45
10:J:61:GLU:CD	14:N:45:ARG:NH1	2.69	0.45
12:L:68:ALA:HB1	12:L:100:ILE:HG13	1.98	0.45
18:R:48:GLY:HA3	18:R:82:THR:HA	1.99	0.45
20:T:58:LYS:O	20:T:62:LEU:HG	2.15	0.45
1:A:382:C:O2'	1:A:383:U:H5'	2.16	0.45
1:A:764:A:C2	1:A:787:G:C6	3.04	0.45
1:A:787:G:H2'	1:A:788:U:O4'	2.16	0.45
1:A:879:A:C5	1:A:880:G:H1'	2.52	0.45
1:A:964:A:C6	1:A:1202:G:C6	3.04	0.45
1:A:1169:G:C6	1:A:1170:A:C6	3.04	0.45
1:A:1332:A:H2'	1:A:1333:U:C6	2.52	0.45
1:A:1350:C:H5''	9:I:114:TYR:HB2	1.99	0.45
4:D:23:GLY:HA3	4:D:112:VAL:HG12	1.97	0.45
4:D:176:LEU:HA	4:D:183:GLY:HA2	1.96	0.45
5:E:89:ILE:HD13	5:E:90:VAL:C	2.36	0.45
5:E:115:VAL:HG11	5:E:118:ILE:CD1	2.46	0.45
6:F:45:LEU:O	6:F:46:ARG:HG2	2.16	0.45
7:G:31:MET:SD	7:G:36:LYS:HB2	2.56	0.45
9:I:63:ILE:CD1	9:I:77:ILE:HG23	2.46	0.45
10:J:7:LYS:HG3	10:J:71:LEU:CD2	2.46	0.45
11:K:94:ALA:O	11:K:97:ALA:HB3	2.16	0.45
12:L:37:CYS:HA	12:L:57:LYS:O	2.17	0.45
12:L:59:ARG:NE	12:L:65:GLU:HG3	2.31	0.45
14:N:22:THR:O	14:N:23:ARG:HB2	2.16	0.45
15:O:87:ILE:CG2	15:O:88:ARG:N	2.77	0.45
16:P:20:VAL:HG23	16:P:35:LYS:HA	1.99	0.45
19:S:17:GLU:HA	19:S:20:LEU:CD2	2.47	0.45
19:S:42:PRO:O	19:S:44:MET:N	2.49	0.45
19:S:44:MET:O	19:S:45:VAL:C	2.54	0.45
1:A:120:G:H2'	1:A:121:G:O4'	2.16	0.45
1:A:241:C:C2	1:A:280:G:C2	3.04	0.45
1:A:626:A:H2'	1:A:627:C:H6	1.82	0.45
1:A:718:G:H21	18:R:75:ILE:HD11	1.81	0.45
1:A:820:G:C6	1:A:829:G:C5	3.05	0.45
1:A:891:A:O5'	12:L:47:LYS:NZ	2.50	0.45
1:A:1043:C:OP1	14:N:45:ARG:NH2	2.50	0.45
1:A:1100:G:H4'	9:I:104:ARG:NH1	2.32	0.45
1:A:1287:G:H5''	21:U:4:GLY:C	2.36	0.45
1:A:1331:A:H5''	9:I:121:ARG:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1356:G:H5''	7:G:36:LYS:HB3	1.98	0.45
1:A:1499:G:H2'	1:A:1500:U:C6	2.51	0.45
2:B:93:VAL:HG21	2:B:97:TRP:CD1	2.51	0.45
6:F:4:TYR:CZ	6:F:72:VAL:HG21	2.51	0.45
6:F:32:ASN:N	6:F:32:ASN:HD22	2.14	0.45
7:G:42:ILE:CG2	7:G:117:ALA:HA	2.47	0.45
9:I:63:ILE:HG22	9:I:64:THR:N	2.32	0.45
9:I:95:LYS:O	9:I:98:PRO:HD2	2.17	0.45
10:J:24:VAL:HG12	10:J:28:ARG:HD2	1.98	0.45
12:L:6:THR:O	12:L:9:GLN:HB2	2.16	0.45
13:M:10:PRO:O	13:M:10:PRO:HG2	2.16	0.45
15:O:61:GLY:O	15:O:64:ARG:HG2	2.16	0.45
1:A:58:G:C5	1:A:59:C:C4	3.05	0.45
1:A:79:G:H2'	1:A:80:U:H5''	1.99	0.45
1:A:237:C:O2'	1:A:238:C:H5'	2.16	0.45
1:A:281:G:C2'	1:A:282:G:H5'	2.45	0.45
1:A:398:G:C2'	1:A:399:C:H5'	2.47	0.45
1:A:441:G:O2'	1:A:442:G:H5'	2.17	0.45
1:A:453:C:H2'	1:A:454:G:H8	1.81	0.45
1:A:491:C:H2'	1:A:492:C:H5	1.81	0.45
1:A:503:C:H2'	1:A:504:A:C8	2.51	0.45
1:A:641:G:N2	1:A:734:G:C8	2.85	0.45
1:A:744:G:C2	17:Q:103:GLY:O	2.70	0.45
1:A:1063:A:O3'	5:E:16:THR:OG1	2.35	0.45
1:A:1127:G:N2	1:A:1129:A:N6	2.61	0.45
1:A:1301:A:P	19:S:5:LEU:HD21	2.57	0.45
1:A:1379:A:H4'	1:A:1380:C:H5''	1.98	0.45
1:A:1387:C:H2'	1:A:1388:G:C8	2.52	0.45
1:A:1395:C:H2'	1:A:1396:A:H8	1.80	0.45
2:B:114:ARG:O	2:B:114:ARG:HD2	2.16	0.45
3:C:173:VAL:N	3:C:174:PRO:CD	2.80	0.45
5:E:16:THR:HG23	5:E:16:THR:O	2.17	0.45
6:F:23:LYS:HE2	6:F:23:LYS:HB3	1.75	0.45
6:F:75:LEU:HD13	6:F:75:LEU:C	2.36	0.45
11:K:106:LYS:HD3	11:K:106:LYS:HA	1.84	0.45
13:M:84:ILE:HG13	13:M:86:CYS:CB	2.46	0.45
15:O:61:GLY:O	15:O:62:GLN:C	2.54	0.45
17:Q:29:HIS:HB2	17:Q:36:ILE:CG2	2.47	0.45
20:T:38:LYS:O	20:T:41:ILE:N	2.49	0.45
1:A:100:C:H2'	1:A:101:G:C8	2.52	0.45
1:A:172:C:H2'	1:A:173:C:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190:U:C5	17:Q:72:ARG:NH2	2.85	0.45
1:A:535:U:C2	1:A:536:U:C5	3.05	0.45
1:A:548:C:N1	17:Q:31:LEU:HD11	2.31	0.45
1:A:757:G:C6	1:A:791:A:C6	3.05	0.45
1:A:758:G:O2'	1:A:759:G:H5'	2.15	0.45
1:A:845:G:HO2'	1:A:851:A:N6	2.15	0.45
1:A:985:C:O2	1:A:1003:G:H1'	2.17	0.45
1:A:1216:C:H5'	1:A:1347:U:HO2'	1.82	0.45
1:A:1259:C:HO2'	1:A:1261:A:H8	1.60	0.45
1:A:1284:U:O2'	1:A:1285:C:OP1	2.30	0.45
1:A:1410:U:H2'	1:A:1411:A:C8	2.51	0.45
2:B:206:ASP:O	2:B:207:ALA:HB3	2.17	0.45
3:C:113:ALA:N	3:C:114:PRO:CD	2.79	0.45
3:C:160:ALA:C	3:C:162:GLN:H	2.19	0.45
4:D:68:TYR:CD2	4:D:97:LEU:HB3	2.51	0.45
4:D:173:TRP:CD1	4:D:174:LEU:HD21	2.52	0.45
5:E:37:ARG:HG2	5:E:37:ARG:NH1	2.31	0.45
5:E:74:GLY:HA3	5:E:116:THR:HG22	1.99	0.45
8:H:63:LEU:HD23	8:H:65:TYR:OH	2.17	0.45
9:I:3:GLN:HE21	9:I:3:GLN:HB3	1.53	0.45
9:I:69:GLY:O	9:I:70:LYS:C	2.53	0.45
10:J:92:THR:O	10:J:92:THR:CG2	2.65	0.45
11:K:66:LEU:O	11:K:67:ASP:C	2.54	0.45
13:M:18:ALA:O	13:M:19:LEU:C	2.54	0.45
17:Q:68:ARG:O	17:Q:69:LYS:CB	2.63	0.45
18:R:51:LEU:HA	18:R:52:PRO:HD3	1.76	0.45
1:A:293:G:H4'	1:A:541:G:H4'	1.99	0.45
1:A:411:A:H2'	1:A:412:G:O4'	2.17	0.45
1:A:428:A:C8	1:A:429:C:C5	3.04	0.45
1:A:702:G:C4'	11:K:117:ASN:ND2	2.78	0.45
1:A:802:G:H3'	1:A:803:A:H5''	1.96	0.45
1:A:803:A:C5'	1:A:804:U:OP2	2.64	0.45
1:A:816:C:H2'	1:A:817:U:O4'	2.17	0.45
1:A:971:G:H4'	1:A:972:A:OP2	2.16	0.45
1:A:985:C:N3	1:A:1002:G:O6	2.50	0.45
1:A:1178:U:H4'	1:A:1179:G:OP2	2.16	0.45
1:A:1335:G:N2	1:A:1353:G:N3	2.65	0.45
3:C:39:ILE:C	3:C:41:GLY:N	2.69	0.45
3:C:152:ILE:CG2	3:C:153:VAL:N	2.80	0.45
3:C:154:SER:OG	3:C:197:GLY:N	2.47	0.45
3:C:182:ILE:HA	3:C:202:ILE:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:71:SER:O	4:D:72:GLU:C	2.54	0.45
7:G:37:ASN:O	7:G:40:ALA:N	2.50	0.45
8:H:104:ARG:NH2	8:H:138:TRP:CZ3	2.84	0.45
13:M:81:LEU:O	13:M:86:CYS:HB3	2.17	0.45
15:O:10:LYS:CG	15:O:11:VAL:N	2.80	0.45
16:P:69:THR:O	16:P:73:LEU:HG	2.16	0.45
20:T:56:MET:O	20:T:57:ARG:C	2.55	0.45
1:A:61:A:H1'	1:A:62:G:O4'	2.17	0.45
1:A:317:A:H2'	1:A:318:C:C6	2.51	0.45
1:A:360:A:H2'	1:A:361:U:O2	2.16	0.45
1:A:410:A:OP2	1:A:424:G:N2	2.50	0.45
1:A:413:C:H6	1:A:413:C:O5'	2.00	0.45
1:A:459:G:OP2	16:P:75:ARG:NH1	2.50	0.45
1:A:469:G:O2'	1:A:470:G:P	2.75	0.45
1:A:483:A:H4'	1:A:484:G:H5'	1.98	0.45
1:A:753:G:C2	1:A:754:C:C6	3.05	0.45
1:A:805:G:C2	1:A:858:C:N3	2.85	0.45
1:A:856:G:H5'	8:H:89:PRO:HG2	1.98	0.45
1:A:1110:G:N2	1:A:1129:A:H62	2.15	0.45
1:A:1232:A:H5'	9:I:68:GLY:O	2.17	0.45
1:A:1281:A:C5	1:A:1283:U:O2	2.70	0.45
1:A:1315:A:H2'	1:A:1316:G:O4'	2.16	0.45
1:A:1401:A:H3'	1:A:1402:G:H8	1.82	0.45
2:B:73:THR:CG2	2:B:96:ARG:CZ	2.95	0.45
2:B:148:TYR:N	2:B:148:TYR:HD2	2.13	0.45
3:C:151:VAL:CG1	3:C:152:ILE:N	2.80	0.45
5:E:115:VAL:HG13	5:E:116:THR:N	2.32	0.45
9:I:78:LYS:O	9:I:79:LEU:C	2.53	0.45
9:I:89:ASN:O	9:I:92:TYR:HB2	2.17	0.45
10:J:29:ARG:C	10:J:84:GLN:HE22	2.19	0.45
10:J:85:LEU:O	10:J:86:MET:C	2.55	0.45
13:M:71:ARG:O	13:M:72:ALA:C	2.55	0.45
13:M:86:CYS:SG	13:M:88:ARG:HB3	2.57	0.45
13:M:96:LEU:HB3	13:M:97:PRO:CD	2.40	0.45
17:Q:43:LEU:CD1	17:Q:68:ARG:HH12	2.28	0.45
19:S:40:ILE:HG23	19:S:44:MET:SD	2.57	0.45
1:A:51:A:N6	1:A:357:G:C4'	2.80	0.45
1:A:168:U:H6	1:A:205:G:HO2'	1.62	0.45
1:A:186:C:O2'	1:A:187:C:H5'	2.17	0.45
1:A:198:G:C5	1:A:199:U:C5	3.04	0.45
1:A:418:C:O2'	1:A:419:G:H5''	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:502:C:H5''	1:A:503:C:C6	2.52	0.45
1:A:586:A:C2	1:A:587:U:C2	3.05	0.45
1:A:641:G:H2'	1:A:642:G:H8	1.81	0.45
1:A:954:G:C8	1:A:1340:U:O2	2.70	0.45
1:A:1174:C:H2'	1:A:1175:G:O4'	2.17	0.45
1:A:1239:U:H4'	1:A:1240:G:O5'	2.16	0.45
1:A:1273:G:H4'	9:I:38:GLN:O	2.17	0.45
1:A:1423:C:O2'	1:A:1424:G:H5'	2.17	0.45
1:A:1437:C:O2'	1:A:1438:A:H5'	2.17	0.45
2:B:89:GLY:N	2:B:226:ARG:HH22	2.14	0.45
2:B:229:VAL:O	2:B:229:VAL:HG12	2.16	0.45
3:C:51:GLY:O	3:C:71:ALA:N	2.42	0.45
3:C:92:ALA:C	3:C:94:LEU:N	2.70	0.45
3:C:108:ASN:ND2	3:C:111:LEU:HG	2.31	0.45
6:F:37:VAL:HG12	6:F:39:LYS:H	1.82	0.45
7:G:27:ILE:HG13	7:G:27:ILE:H	1.64	0.45
12:L:42:THR:CG2	12:L:52:LEU:HB3	2.47	0.45
15:O:39:LEU:HD13	15:O:56:LEU:CA	2.46	0.45
15:O:46:HIS:C	15:O:48:LYS:H	2.20	0.45
20:T:29:LYS:O	20:T:32:ALA:HB3	2.17	0.45
21:U:5:ASP:O	21:U:8:THR:HG23	2.16	0.45
1:A:468:C:H2'	1:A:469:G:N7	2.32	0.45
1:A:750:A:C8	1:A:798:A:C6	3.05	0.45
1:A:970:U:HO2'	1:A:971:G:P	2.38	0.45
1:A:1030:G:O2'	1:A:1031:G:H5'	2.17	0.45
1:A:1216:C:C2	1:A:1217:U:C5	3.05	0.45
1:A:1287:G:N2	1:A:1313:G:HO2'	2.15	0.45
2:B:108:ILE:C	2:B:110:GLN:N	2.70	0.45
2:B:115:LEU:O	2:B:116:GLU:C	2.55	0.45
2:B:135:GLN:O	2:B:139:LYS:HB2	2.17	0.45
3:C:101:LEU:O	3:C:101:LEU:HD22	2.17	0.45
4:D:173:TRP:CD2	4:D:189:PRO:HB3	2.52	0.45
6:F:38:GLU:O	6:F:39:LYS:CB	2.65	0.45
12:L:51:ALA:C	12:L:52:LEU:HG	2.37	0.45
13:M:57:ARG:CG	13:M:61:GLU:OE2	2.59	0.45
14:N:29:ARG:HB3	14:N:40:CYS:HB3	1.98	0.45
15:O:17:ARG:HG3	15:O:17:ARG:NH1	2.27	0.45
15:O:32:LEU:HA	15:O:32:LEU:HD23	1.69	0.45
17:Q:17:LYS:CA	17:Q:46:ASP:O	2.63	0.45
19:S:36:ARG:NH2	19:S:75:ALA:O	2.50	0.45
1:A:10:G:OP2	5:E:121:LYS:HD2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:447:A:C2	1:A:448:A:C4	3.05	0.44
1:A:499:G:C6	1:A:500:U:N3	2.85	0.44
1:A:561:G:C2	1:A:562:C:C6	3.05	0.44
1:A:653:U:H2'	1:A:654:G:C8	2.52	0.44
1:A:726:G:H2'	1:A:727:U:H5'	1.98	0.44
1:A:951:G:H2'	1:A:952:A:OP1	2.16	0.44
1:A:1067:G:C5	1:A:1068:U:C4	3.05	0.44
1:A:1122:G:HO2'	1:A:1123:C:P	2.40	0.44
1:A:1177:C:C3'	1:A:1178:U:C5'	2.87	0.44
1:A:1313:G:HO2'	1:A:1314:A:P	2.40	0.44
1:A:1484:U:OP1	22:A:1523:KSG:N3	2.50	0.44
2:B:26:PRO:C	2:B:28:PHE:N	2.70	0.44
2:B:44:LEU:C	2:B:46:LYS:N	2.67	0.44
4:D:10:ARG:NH1	4:D:40:PRO:CB	2.79	0.44
4:D:111:ALA:HB2	4:D:120:LEU:CD1	2.43	0.44
4:D:130:GLY:O	4:D:131:ARG:C	2.55	0.44
4:D:148:VAL:HG12	4:D:149:ALA:N	2.31	0.44
5:E:93:PRO:HG3	8:H:105:ARG:HE	1.80	0.44
6:F:40:VAL:HG22	6:F:41:GLU:H	1.80	0.44
7:G:71:PRO:O	7:G:96:GLN:HG2	2.17	0.44
10:J:25:GLU:O	10:J:26:ALA:C	2.54	0.44
10:J:49:VAL:CG1	10:J:50:ILE:N	2.79	0.44
12:L:7:ILE:O	12:L:11:VAL:HG23	2.17	0.44
13:M:70:LEU:O	13:M:71:ARG:C	2.56	0.44
18:R:19:LYS:HD2	18:R:19:LYS:H	1.82	0.44
18:R:53:ARG:NH1	18:R:58:LEU:O	2.50	0.44
1:A:164:C:O2'	1:A:165:U:H5'	2.16	0.44
1:A:174:A:H2'	1:A:175:U:C6	2.52	0.44
1:A:329:G:C6	1:A:330:C:N4	2.86	0.44
1:A:502:C:C5	1:A:514:G:C4	3.05	0.44
1:A:548:C:O4'	17:Q:32:TYR:CD2	2.70	0.44
1:A:585:C:O2'	1:A:586:A:H5'	2.17	0.44
1:A:606:A:C8	1:A:607:C:C6	3.05	0.44
1:A:1196:C:H4'	1:A:1197:G:OP1	2.18	0.44
1:A:1308:C:H5''	21:U:12:LYS:HZ2	1.82	0.44
1:A:1401:A:H2'	1:A:1402:G:O4'	2.17	0.44
3:C:131:ARG:O	3:C:134:ILE:HB	2.17	0.44
3:C:154:SER:HB3	3:C:197:GLY:H	1.81	0.44
4:D:158:ILE:HG22	4:D:159:ARG:N	2.32	0.44
5:E:87:SER:HB3	5:E:131:ILE:HD13	1.99	0.44
6:F:17:SER:O	6:F:18:GLN:C	2.55	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:25:GLU:O	10:J:28:ARG:N	2.48	0.44
10:J:81:THR:O	10:J:85:LEU:HG	2.17	0.44
15:O:36:ILE:HD12	15:O:63:ARG:HD3	1.98	0.44
17:Q:97:SER:C	17:Q:98:LEU:HD12	2.37	0.44
18:R:53:ARG:HD3	18:R:63:GLN:CB	2.47	0.44
20:T:49:ALA:O	20:T:52:ALA:HB3	2.18	0.44
1:A:204:A:C5	1:A:217:C:H4'	2.52	0.44
1:A:353:G:C2	1:A:354:U:C6	3.05	0.44
1:A:447:A:HO2'	1:A:448:A:H8	1.61	0.44
1:A:490:G:C5	1:A:491:C:C4	3.05	0.44
1:A:563:G:H2'	1:A:564:U:H6	1.83	0.44
1:A:891:A:H4'	1:A:892:A:O5'	2.16	0.44
3:C:82:GLU:HG3	3:C:83:ARG:N	2.33	0.44
6:F:77:ARG:O	6:F:81:ILE:HG13	2.16	0.44
8:H:44:PHE:CE2	8:H:109:ILE:HD13	2.51	0.44
12:L:54:LYS:C	12:L:55:VAL:HG23	2.38	0.44
13:M:10:PRO:CB	13:M:18:ALA:HB1	2.42	0.44
16:P:21:VAL:HG21	16:P:59:TRP:NE1	2.31	0.44
20:T:60:GLU:CA	20:T:63:ILE:HD12	2.47	0.44
1:A:48:C:H1'	1:A:361:U:C4	2.52	0.44
1:A:373:G:C2	1:A:383:U:O2	2.70	0.44
1:A:550:G:C4'	1:A:551:G:OP1	2.55	0.44
1:A:576:G:C2	1:A:577:G:C5	3.05	0.44
1:A:762:G:O2'	1:A:763:C:H5'	2.18	0.44
1:A:1288:A:C2	1:A:1289:U:N1	2.86	0.44
1:A:1487:C:N3	1:A:1488:U:C4	2.85	0.44
1:A:1495:G:H2'	1:A:1496:A:O4'	2.17	0.44
2:B:13:ALA:C	2:B:15:VAL:H	2.21	0.44
2:B:115:LEU:HD21	2:B:153:ARG:CZ	2.48	0.44
3:C:29:TYR:C	3:C:29:TYR:HD2	2.20	0.44
3:C:50:ALA:O	3:C:70:VAL:CG1	2.65	0.44
4:D:8:VAL:CG1	4:D:21:LEU:CB	2.96	0.44
6:F:44:GLY:O	6:F:59:TYR:HA	2.17	0.44
7:G:20:ASP:OD1	7:G:22:LEU:N	2.51	0.44
9:I:100:GLY:C	9:I:102:LEU:H	2.20	0.44
9:I:126:SER:OG	9:I:127:LYS:N	2.48	0.44
12:L:58:VAL:O	12:L:65:GLU:HA	2.17	0.44
16:P:43:LYS:HB3	16:P:48:TRP:CD1	2.51	0.44
18:R:45:SER:O	18:R:47:THR:N	2.51	0.44
1:A:78:G:C2	1:A:87:C:C2	3.06	0.44
1:A:125:A:H1'	1:A:260:U:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:176:G:N2	1:A:202:A:C4	2.86	0.44
1:A:221:C:O5'	1:A:221:C:H6	2.00	0.44
1:A:299:A:C5	1:A:300:U:C5	3.06	0.44
1:A:341:C:H4'	1:A:342:G:O5'	2.18	0.44
1:A:636:U:O2'	1:A:637:A:H5''	2.17	0.44
1:A:637:A:P	8:H:56:LYS:NZ	2.91	0.44
1:A:1079:C:O5'	1:A:1079:C:H6	2.01	0.44
1:A:1128:C:H1'	1:A:1129:A:C8	2.53	0.44
1:A:1268:A:H2'	1:A:1269:A:H4'	1.99	0.44
1:A:1335:G:H2'	1:A:1336:C:C6	2.48	0.44
1:A:1443:C:O2'	1:A:1444:C:H5'	2.17	0.44
2:B:157:ARG:HG3	2:B:157:ARG:NH1	2.33	0.44
4:D:107:ARG:NH1	4:D:114:ARG:HH22	2.11	0.44
6:F:48:LEU:HD22	6:F:52:ILE:HD11	1.99	0.44
7:G:20:ASP:HB3	7:G:23:VAL:CG2	2.47	0.44
9:I:17:VAL:HG22	9:I:63:ILE:CD1	2.47	0.44
13:M:67:GLU:O	13:M:70:LEU:HB2	2.17	0.44
13:M:108:ARG:O	13:M:109:THR:C	2.54	0.44
14:N:24:CYS:N	14:N:29:ARG:O	2.44	0.44
16:P:13:HIS:C	16:P:15:PRO:CD	2.85	0.44
16:P:20:VAL:CG2	16:P:32:TYR:CD2	3.01	0.44
16:P:45:THR:C	16:P:47:ASP:N	2.71	0.44
16:P:53:VAL:O	16:P:54:GLU:C	2.56	0.44
20:T:43:LEU:CD1	20:T:52:ALA:HA	2.46	0.44
20:T:43:LEU:O	20:T:46:GLU:N	2.49	0.44
20:T:46:GLU:CB	20:T:48:LYS:HZ2	2.28	0.44
1:A:186:C:C2'	1:A:187:C:H5'	2.47	0.44
1:A:784:G:H2'	1:A:785:U:C5	2.53	0.44
1:A:829:G:H2'	1:A:830:G:H8	1.81	0.44
1:A:838:A:H3'	1:A:839:G:H8	1.83	0.44
1:A:901:A:H1'	1:A:1381:A:C2	2.53	0.44
1:A:938:U:HO2'	1:A:939:U:P	2.40	0.44
1:A:972:A:C2	1:A:973:C:C6	3.05	0.44
1:A:1192:C:C4'	1:A:1196:C:C4	3.00	0.44
1:A:1268:A:C8	1:A:1269:A:H4'	2.53	0.44
1:A:1309:C:OP1	21:U:20:LYS:N	2.50	0.44
1:A:1328:A:N1	1:A:1357:A:H5''	2.32	0.44
2:B:8:LYS:HD3	2:B:9:GLU:H	1.82	0.44
2:B:153:ARG:O	2:B:155:LEU:N	2.50	0.44
3:C:120:VAL:O	3:C:123:GLN:N	2.50	0.44
3:C:120:VAL:HG12	3:C:124:ILE:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:61:LYS:HD2	4:D:207:TYR:HH	1.82	0.44
5:E:89:ILE:CD1	5:E:91:LEU:HG	2.47	0.44
6:F:65:VAL:HG23	6:F:66:GLU:N	2.31	0.44
9:I:17:VAL:HG11	9:I:81:ILE:HG12	2.00	0.44
11:K:79:SER:OG	11:K:106:LYS:HG2	2.18	0.44
13:M:8:GLU:C	13:M:9:ILE:HG13	2.38	0.44
13:M:88:ARG:HG3	13:M:98:VAL:HG13	2.00	0.44
15:O:54:ARG:HG2	15:O:58:MET:HE2	1.99	0.44
19:S:40:ILE:O	19:S:67:VAL:HG12	2.18	0.44
19:S:51:VAL:O	19:S:58:VAL:N	2.50	0.44
1:A:14:U:O2	1:A:892:A:H3'	2.18	0.44
1:A:227:G:H2'	1:A:228:G:H8	1.81	0.44
1:A:240:U:H5'	1:A:241:C:OP1	2.18	0.44
1:A:276:C:H1'	17:Q:38:ARG:HG3	2.00	0.44
1:A:308:C:O2'	1:A:309:A:H5'	2.17	0.44
1:A:447:A:O2'	1:A:448:A:H8	2.00	0.44
1:A:664:C:O2	1:A:695:G:C2	2.70	0.44
1:A:741:U:H2'	1:A:742:G:O4'	2.17	0.44
1:A:745:G:H4'	17:Q:102:GLY:HA3	1.98	0.44
1:A:794:C:O2'	1:A:795:C:H5'	2.18	0.44
1:A:972:A:H2'	1:A:972:A:N3	2.32	0.44
1:A:982:G:C6	1:A:983:A:H1'	2.52	0.44
1:A:1051:G:C2	1:A:1052:C:C6	3.06	0.44
1:A:1168:G:N2	1:A:1169:G:H1'	2.33	0.44
1:A:1240:G:O2'	1:A:1241:C:H5'	2.18	0.44
2:B:104:ASN:OD1	2:B:107:THR:CB	2.65	0.44
3:C:162:GLN:O	3:C:163:ALA:O	2.36	0.44
4:D:55:ALA:O	4:D:58:LEU:N	2.51	0.44
4:D:148:VAL:CG1	4:D:149:ALA:N	2.81	0.44
5:E:53:LEU:O	5:E:56:GLN:HB2	2.18	0.44
6:F:97:PHE:HB2	18:R:32:ARG:NH2	2.33	0.44
7:G:76:ARG:HD2	7:G:89:MET:SD	2.58	0.44
10:J:27:ALA:C	10:J:29:ARG:H	2.20	0.44
10:J:32:ALA:HB2	10:J:76:ASN:HD22	1.82	0.44
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.98	0.44
11:K:26:ASN:O	11:K:27:ASN:HB2	2.17	0.44
11:K:99:GLN:HA	11:K:105:VAL:CG2	2.48	0.44
12:L:102:ARG:O	12:L:121:GLY:HA3	2.18	0.44
13:M:73:GLU:O	13:M:76:ALA:HB3	2.17	0.44
14:N:25:VAL:O	14:N:25:VAL:HG22	2.18	0.44
17:Q:20:THR:HA	17:Q:43:LEU:CD2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:21:LYS:O	18:R:22:VAL:C	2.56	0.44
19:S:44:MET:O	19:S:47:HIS:HB2	2.17	0.44
1:A:158:C:O2'	1:A:159:U:H5'	2.18	0.44
1:A:180:A:N3	20:T:81:LYS:NZ	2.63	0.44
1:A:240:U:O4	1:A:884:G:H1'	2.18	0.44
1:A:441:G:C2'	1:A:442:G:H5'	2.48	0.44
1:A:486:G:OP1	12:L:118:SER:N	2.50	0.44
1:A:491:C:C4	1:A:492:C:C4	3.06	0.44
1:A:631:C:O2'	1:A:632:A:H5'	2.18	0.44
1:A:853:C:O2'	8:H:14:ARG:HD2	2.17	0.44
1:A:943:A:O2'	1:A:944:G:C5'	2.64	0.44
1:A:947:A:N6	13:M:126:LYS:HD2	2.33	0.44
1:A:1140:A:N6	1:A:1160:G:H1'	2.32	0.44
1:A:1168:G:H21	14:N:61:TRP:C	2.20	0.44
1:A:1274:U:OP1	7:G:41:ARG:NH2	2.51	0.44
1:A:1330:U:H2'	1:A:1331:A:H8	1.83	0.44
1:A:1388:G:O2'	1:A:1389:U:H5'	2.18	0.44
3:C:3:ASN:HD22	3:C:3:ASN:H	1.58	0.44
3:C:74:GLY:O	3:C:75:VAL:C	2.56	0.44
3:C:165:THR:HG22	3:C:166:GLU:N	2.33	0.44
3:C:174:PRO:O	3:C:175:LEU:C	2.56	0.44
3:C:175:LEU:HD23	3:C:182:ILE:CD1	2.48	0.44
4:D:92:VAL:O	4:D:96:LEU:HD13	2.17	0.44
5:E:11:ILE:CG2	5:E:31:LEU:HB3	2.48	0.44
7:G:23:VAL:HG12	7:G:27:ILE:HD11	1.99	0.44
8:H:82:HIS:HB3	8:H:138:TRP:CD2	2.52	0.44
12:L:110:VAL:O	12:L:122:THR:CG2	2.66	0.44
14:N:5:ALA:O	14:N:7:ILE:N	2.51	0.44
15:O:11:VAL:O	15:O:15:PHE:HD1	2.01	0.44
18:R:35:ARG:O	18:R:37:VAL:N	2.46	0.44
19:S:25:LYS:HD2	19:S:25:LYS:N	2.25	0.44
1:A:27:A:N6	1:A:542:G:O2'	2.41	0.44
1:A:928:U:H2'	1:A:929:G:C8	2.52	0.44
1:A:1140:A:C2	1:A:1163:G:C4	3.06	0.44
1:A:1194:U:O4'	1:A:1194:U:OP2	2.36	0.44
1:A:1212:C:O2'	1:A:1213:G:H5'	2.18	0.44
1:A:1313:G:O2'	1:A:1314:A:P	2.76	0.44
2:B:149:LEU:C	2:B:151:GLY:H	2.21	0.44
3:C:89:GLU:O	3:C:92:ALA:N	2.48	0.44
7:G:66:VAL:HG12	7:G:67:GLU:N	2.33	0.44
9:I:70:LYS:O	9:I:74:ILE:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:6:ILE:O	10:J:71:LEU:HD13	2.17	0.44
10:J:9:ARG:HB3	10:J:9:ARG:NH1	2.33	0.44
10:J:27:ALA:HB2	10:J:85:LEU:HD21	2.00	0.44
13:M:23:TYR:HB2	13:M:67:GLU:OE2	2.17	0.44
14:N:14:PRO:O	14:N:16:PHE:N	2.50	0.44
17:Q:9:VAL:HG12	17:Q:10:VAL:N	2.32	0.44
1:A:137:G:H2'	1:A:138:A:H8	1.82	0.43
1:A:440:G:C2	1:A:475:G:C2	3.06	0.43
1:A:566:U:H2'	1:A:567:A:C8	2.53	0.43
1:A:641:G:C2	1:A:734:G:C5	3.05	0.43
1:A:989:G:O2'	1:A:990:G:H5'	2.18	0.43
1:A:989:G:H2'	1:A:990:G:H8	1.83	0.43
1:A:1220:A:C4	1:A:1285:C:O2'	2.71	0.43
1:A:1503:G:O2'	1:A:1504:G:H5'	2.17	0.43
3:C:34:LEU:C	3:C:34:LEU:CD2	2.87	0.43
3:C:121:ALA:O	3:C:122:GLU:C	2.56	0.43
3:C:179:ARG:O	3:C:180:ALA:C	2.56	0.43
5:E:9:LYS:CB	5:E:112:LEU:HD11	2.48	0.43
5:E:74:GLY:CA	5:E:116:THR:HG22	2.48	0.43
5:E:105:VAL:O	5:E:106:PRO:C	2.54	0.43
6:F:30:LEU:CD2	6:F:75:LEU:HD21	2.36	0.43
9:I:32:ASP:O	9:I:33:PHE:C	2.56	0.43
10:J:45:ARG:NH2	14:N:36:PHE:HD2	2.15	0.43
12:L:113:ARG:NH2	12:L:120:TYR:CE1	2.86	0.43
13:M:5:ALA:O	13:M:8:GLU:N	2.50	0.43
13:M:91:ARG:HB3	13:M:97:PRO:O	2.18	0.43
14:N:17:LYS:HD3	14:N:17:LYS:O	2.17	0.43
15:O:18:PHE:CE1	15:O:21:ASP:HB2	2.53	0.43
19:S:30:LEU:HD23	19:S:31:ILE:H	1.83	0.43
20:T:16:HIS:O	20:T:17:ARG:C	2.55	0.43
1:A:137:G:O2'	1:A:138:A:H5'	2.18	0.43
1:A:249:U:H2'	1:A:250:G:H8	1.84	0.43
1:A:519:A:H5''	1:A:520:C:OP2	2.18	0.43
1:A:635:C:N4	1:A:636:U:O4	2.51	0.43
1:A:736:G:H1'	1:A:738:C:H41	1.82	0.43
1:A:891:A:P	12:L:47:LYS:NZ	2.90	0.43
1:A:1140:A:N3	1:A:1163:G:C2	2.86	0.43
1:A:1301:A:H5'	19:S:70:LYS:NZ	2.33	0.43
1:A:1414:C:C2	1:A:1448:G:C2	3.06	0.43
2:B:16:HIS:NE2	2:B:214:ILE:HG12	2.34	0.43
3:C:3:ASN:O	3:C:4:LYS:O	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:139:GLN:NE2	3:C:139:GLN:CA	2.80	0.43
4:D:3:ARG:O	4:D:5:ILE:HG13	2.17	0.43
7:G:69:VAL:HG22	7:G:135:VAL:HG22	1.99	0.43
10:J:31:GLY:O	10:J:32:ALA:O	2.35	0.43
11:K:26:ASN:O	11:K:27:ASN:CB	2.65	0.43
11:K:33:THR:OG1	11:K:38:ASN:N	2.52	0.43
13:M:28:ALA:O	13:M:29:ARG:C	2.55	0.43
13:M:46:LYS:HG3	13:M:47:ASP:H	1.83	0.43
13:M:54:VAL:HG12	13:M:58:GLU:HG2	2.00	0.43
13:M:105:THR:HB	13:M:106:ASN:H	1.47	0.43
15:O:15:PHE:O	15:O:16:ALA:C	2.57	0.43
19:S:19:VAL:HG13	19:S:20:LEU:N	2.33	0.43
20:T:15:ARG:O	20:T:16:HIS:C	2.56	0.43
20:T:57:ARG:HH11	20:T:57:ARG:CB	2.31	0.43
20:T:101:GLY:O	20:T:102:GLY:O	2.35	0.43
1:A:56:A:O2'	1:A:57:U:H5'	2.17	0.43
1:A:125:A:OP2	1:A:190:U:H2'	2.18	0.43
1:A:248:U:H2'	1:A:249:U:C6	2.54	0.43
1:A:393:A:N7	1:A:531:A:O2'	2.47	0.43
1:A:932:G:H21	1:A:1209:A:N6	2.10	0.43
1:A:1063:A:H5'	5:E:14:ARG:NH2	2.33	0.43
1:A:1169:G:C4	1:A:1170:A:C8	3.06	0.43
1:A:1276:G:O2'	1:A:1277:G:H5'	2.18	0.43
1:A:1302:C:C4	1:A:1303:C:C4	3.06	0.43
1:A:1329:G:H22	1:A:1356:G:H2'	1.83	0.43
3:C:5:ILE:CD1	3:C:5:ILE:C	2.87	0.43
4:D:98:GLU:HG2	4:D:194:LEU:HD11	1.99	0.43
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.78	0.43
6:F:35:ALA:HA	6:F:67:MET:HB3	2.00	0.43
6:F:78:GLU:CD	6:F:81:ILE:HD12	2.39	0.43
8:H:24:THR:O	8:H:24:THR:CG2	2.66	0.43
9:I:7:THR:CG2	9:I:8:GLY:H	2.21	0.43
9:I:10:ARG:HD2	9:I:11:LYS:H	1.82	0.43
9:I:24:GLY:CA	9:I:60:ASP:HA	2.48	0.43
11:K:111:ASP:CG	11:K:111:ASP:O	2.57	0.43
12:L:45:PRO:HG2	12:L:50:SER:CA	2.48	0.43
13:M:66:LEU:C	13:M:70:LEU:HB2	2.37	0.43
16:P:74:LEU:O	16:P:79:VAL:CG2	2.65	0.43
17:Q:19:VAL:CG2	17:Q:44:ALA:HB3	2.48	0.43
17:Q:58:GLU:HG3	17:Q:75:ARG:HG2	2.00	0.43
18:R:46:GLU:H	18:R:46:GLU:CD	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:155:A:H1'	1:A:340:A:C5	2.54	0.43
1:A:194:G:H2'	1:A:195:U:O4'	2.17	0.43
1:A:274:G:H1'	1:A:278:A:H1'	2.01	0.43
1:A:435:A:H5''	1:A:478:G:H22	1.83	0.43
1:A:690:A:N3	11:K:31:THR:OG1	2.49	0.43
1:A:1077:G:OP2	1:A:1078:U:C5	2.71	0.43
1:A:1251:A:C2	1:A:1295:U:C1'	3.02	0.43
1:A:1328:A:C4	7:G:10:ARG:NH2	2.87	0.43
1:A:1334:C:H2'	1:A:1335:G:C8	2.54	0.43
1:A:1347:U:HO2'	1:A:1348:G:P	2.33	0.43
2:B:46:LYS:C	2:B:48:MET:N	2.70	0.43
2:B:117:GLU:O	2:B:117:GLU:HG2	2.19	0.43
2:B:168:THR:OG1	2:B:192:SER:HB3	2.18	0.43
3:C:23:TYR:CG	3:C:24:ALA:N	2.87	0.43
4:D:178:VAL:O	4:D:179:GLU:C	2.57	0.43
5:E:65:ASN:O	5:E:65:ASN:OD1	2.36	0.43
5:E:78:HIS:HD2	8:H:107:LEU:HD12	1.82	0.43
9:I:44:VAL:O	9:I:45:ALA:C	2.57	0.43
11:K:24:SER:HB3	11:K:27:ASN:O	2.19	0.43
11:K:108:ILE:O	11:K:109:VAL:HG23	2.18	0.43
13:M:87:TYR:O	13:M:90:LEU:N	2.51	0.43
13:M:90:LEU:O	13:M:93:ARG:N	2.51	0.43
15:O:14:GLU:HA	15:O:14:GLU:OE2	2.18	0.43
15:O:55:GLY:O	15:O:56:LEU:C	2.56	0.43
16:P:39:TYR:CZ	16:P:41:PRO:HA	2.53	0.43
17:Q:63:ARG:HG2	17:Q:64:PRO:N	2.33	0.43
1:A:8:G:O2'	1:A:9:A:OP1	2.32	0.43
1:A:172:C:H2'	1:A:173:C:C6	2.53	0.43
1:A:173:C:H2'	1:A:174:A:H8	1.83	0.43
1:A:646:G:O2'	1:A:647:A:H5'	2.18	0.43
1:A:674:G:C6	1:A:675:G:N1	2.86	0.43
1:A:1136:C:P	10:J:13:HIS:HE2	2.41	0.43
1:A:1208:C:H5'	13:M:96:LEU:HD13	2.00	0.43
1:A:1409:C:H2'	1:A:1410:U:C6	2.53	0.43
4:D:30:LYS:C	4:D:32:ALA:N	2.71	0.43
4:D:115:ARG:O	4:D:116:GLN:C	2.56	0.43
4:D:200:GLU:O	4:D:203:VAL:HB	2.18	0.43
6:F:2:ARG:NE	6:F:69:GLU:HG2	2.33	0.43
6:F:11:ASN:OD1	6:F:11:ASN:C	2.56	0.43
6:F:27:GLN:HA	6:F:27:GLN:HE21	1.83	0.43
8:H:20:TYR:CD1	8:H:65:TYR:CD2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:22:LYS:HE2	10:J:90:LEU:HD12	2.00	0.43
13:M:5:ALA:O	13:M:6:GLY:C	2.56	0.43
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.99	0.43
15:O:87:ILE:CG2	15:O:88:ARG:H	2.30	0.43
17:Q:81:ARG:HE	17:Q:81:ARG:HB2	1.68	0.43
17:Q:97:SER:CB	17:Q:103:GLY:N	2.82	0.43
18:R:75:ILE:C	18:R:77:GLY:H	2.21	0.43
19:S:46:GLY:N	19:S:62:ILE:HG23	2.33	0.43
1:A:36:G:H2'	1:A:37:C:H6	1.84	0.43
1:A:79:G:C2'	1:A:80:U:H5''	2.49	0.43
1:A:258:A:H5'	20:T:74:LYS:HG3	2.01	0.43
1:A:282:G:O2'	1:A:283:U:H5'	2.18	0.43
1:A:340:A:HO2'	1:A:341:C:P	2.41	0.43
1:A:400:U:H5'	4:D:122:ARG:HD2	1.99	0.43
1:A:662:U:H2'	1:A:663:C:O4'	2.19	0.43
1:A:764:A:P	11:K:122:LYS:HB2	2.59	0.43
1:A:802:G:H2'	1:A:803:A:H5''	2.01	0.43
1:A:902:C:C6	1:A:902:C:C3'	3.01	0.43
1:A:912:C:C4	1:A:1327:U:C5	3.07	0.43
1:A:934:U:O2'	1:A:935:U:H5'	2.18	0.43
1:A:939:U:H2'	1:A:940:C:H5'	2.00	0.43
1:A:1086:C:H5''	2:B:98:LEU:HD22	1.99	0.43
1:A:1180:G:H2'	1:A:1181:U:O4'	2.18	0.43
1:A:1331:A:P	9:I:118:LYS:NZ	2.92	0.43
2:B:132:LYS:HG2	2:B:135:GLN:OE1	2.19	0.43
3:C:11:ARG:HG2	3:C:15:THR:OG1	2.19	0.43
3:C:12:LEU:O	3:C:16:ARG:O	2.36	0.43
3:C:35:GLU:O	3:C:36:ASP:C	2.55	0.43
3:C:179:ARG:HG3	3:C:179:ARG:NH1	2.34	0.43
4:D:104:VAL:HG12	4:D:108:LEU:CD1	2.35	0.43
6:F:74:ASP:O	6:F:75:LEU:C	2.56	0.43
7:G:118:VAL:O	7:G:121:ALA:N	2.51	0.43
9:I:47:LEU:C	9:I:49:PRO:CD	2.84	0.43
10:J:48:THR:OG1	10:J:62:HIS:CD2	2.71	0.43
13:M:79:LYS:CD	13:M:83:ASP:OD2	2.66	0.43
15:O:27:VAL:CG1	15:O:31:LEU:HD11	2.48	0.43
15:O:82:ILE:O	15:O:83:GLU:C	2.55	0.43
17:Q:56:VAL:O	17:Q:77:VAL:HB	2.18	0.43
18:R:62:GLU:O	18:R:64:ARG:N	2.52	0.43
20:T:50:GLU:HG3	20:T:99:LEU:CD1	2.48	0.43
20:T:54:LYS:HG3	20:T:100:ILE:CD1	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:A:O2'	1:A:114:A:OP2	2.28	0.43
1:A:458:A:C6	1:A:459:G:C4	3.07	0.43
1:A:648:G:OP1	18:R:64:ARG:HD2	2.19	0.43
1:A:676:U:H5'	1:A:781:C:C5'	2.49	0.43
1:A:741:U:H4'	1:A:806:C:O2	2.19	0.43
1:A:762:G:H2'	1:A:763:C:H5'	2.00	0.43
1:A:902:C:H3'	1:A:902:C:H6	1.84	0.43
1:A:945:C:OP1	1:A:947:A:H5'	2.18	0.43
1:A:1184:G:C4	14:N:42:ILE:HD13	2.53	0.43
1:A:1287:G:C2	1:A:1313:G:N3	2.87	0.43
1:A:1507:G:C5'	1:A:1508:G:OP2	2.64	0.43
2:B:26:PRO:C	2:B:28:PHE:H	2.22	0.43
2:B:51:LEU:O	2:B:55:PHE:N	2.45	0.43
2:B:84:GLU:HB3	2:B:219:VAL:CG2	2.44	0.43
2:B:113:HIS:O	2:B:114:ARG:C	2.56	0.43
3:C:70:VAL:C	3:C:106:VAL:HG23	2.39	0.43
3:C:72:LYS:C	3:C:74:GLY:H	2.22	0.43
3:C:122:GLU:O	3:C:125:GLU:N	2.51	0.43
3:C:142:MET:HE1	3:C:146:ALA:O	2.19	0.43
4:D:78:LEU:HA	4:D:78:LEU:HD23	1.75	0.43
5:E:11:ILE:CG2	5:E:31:LEU:CB	2.96	0.43
9:I:84:ALA:O	9:I:87:GLN:N	2.52	0.43
10:J:78:ASN:O	10:J:79:ARG:C	2.57	0.43
10:J:91:PRO:HB2	10:J:94:VAL:HG23	2.01	0.43
13:M:15:VAL:O	13:M:16:ASP:C	2.57	0.43
13:M:67:GLU:O	13:M:70:LEU:N	2.50	0.43
13:M:108:ARG:O	13:M:111:LYS:N	2.50	0.43
15:O:12:ILE:O	15:O:13:GLN:C	2.56	0.43
15:O:51:HIS:O	15:O:52:SER:C	2.56	0.43
16:P:51:VAL:O	16:P:52:ASP:HB3	2.19	0.43
19:S:39:THR:HG22	19:S:40:ILE:H	1.84	0.43
19:S:63:THR:O	19:S:66:MET:HG2	2.18	0.43
20:T:11:SER:HA	20:T:13:LEU:CD1	2.49	0.43
1:A:393:A:N6	1:A:532:G:C5	2.87	0.43
1:A:419:G:H3'	1:A:419:G:N3	2.34	0.43
1:A:419:G:C2'	1:A:420:G:H5'	2.49	0.43
1:A:441:G:H2'	1:A:442:G:H5'	2.00	0.43
1:A:556:A:N3	1:A:895:G:H1'	2.34	0.43
1:A:574:C:H2'	1:A:575:U:H6	1.84	0.43
1:A:630:U:H2'	1:A:631:C:C6	2.54	0.43
1:A:878:A:N1	1:A:879:A:C2	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1024:A:H2'	1:A:1025:G:C8	2.54	0.43
1:A:1100:G:N1	1:A:1166:G:C6	2.87	0.43
1:A:1113:A:C2	1:A:1129:A:C4	3.07	0.43
1:A:1137:G:H2'	1:A:1138:G:H8	1.82	0.43
1:A:1239:U:O2'	1:A:1240:G:P	2.76	0.43
1:A:1254:G:C4	1:A:1255:G:C8	3.07	0.43
2:B:95:GLN:O	2:B:96:ARG:HD2	2.18	0.43
3:C:33:LEU:O	3:C:36:ASP:N	2.52	0.43
3:C:64:VAL:HB	3:C:99:VAL:CG2	2.48	0.43
3:C:117:ALA:O	3:C:118:GLN:C	2.56	0.43
5:E:135:THR:HG22	5:E:136:MET:N	2.34	0.43
6:F:94:GLN:O	6:F:95:GLU:C	2.54	0.43
7:G:23:VAL:HG13	7:G:43:PHE:CZ	2.54	0.43
7:G:62:PHE:O	7:G:63:LYS:C	2.56	0.43
7:G:146:GLU:CA	7:G:149:ARG:HB2	2.45	0.43
8:H:4:ASP:OD2	8:H:89:PRO:CD	2.67	0.43
9:I:14:VAL:O	9:I:65:VAL:HA	2.18	0.43
12:L:41:ARG:NH1	12:L:41:ARG:HB2	2.34	0.43
13:M:58:GLU:O	13:M:62:ASN:CB	2.67	0.43
15:O:39:LEU:O	15:O:40:SER:C	2.57	0.43
16:P:14:ASN:N	16:P:15:PRO:CD	2.81	0.43
17:Q:81:ARG:HG3	17:Q:84:LEU:HD12	2.00	0.43
1:A:56:A:C2	1:A:57:U:N1	2.87	0.43
1:A:98:G:O2'	1:A:169:C:H5'	2.18	0.43
1:A:277:G:C2'	1:A:278:A:OP2	2.67	0.43
1:A:476:G:O2'	1:A:477:G:H5'	2.19	0.43
1:A:698:G:H1'	1:A:761:A:C8	2.54	0.43
1:A:758:G:C2	1:A:790:C:N3	2.87	0.43
1:A:844:C:C5	1:A:845:G:H1'	2.53	0.43
1:A:868:G:C2'	1:A:869:U:OP2	2.66	0.43
1:A:947:A:H2'	1:A:948:C:H5'	1.99	0.43
1:A:1050:A:H1'	1:A:1051:G:C1'	2.49	0.43
1:A:1184:G:C2	14:N:42:ILE:CG2	3.01	0.43
1:A:1222:U:C4'	1:A:1223:G:OP2	2.62	0.43
1:A:1267:A:O2'	1:A:1268:A:OP2	2.34	0.43
2:B:97:TRP:CH2	2:B:176:GLU:OE2	2.71	0.43
2:B:124:SER:HB2	2:B:125:PRO:CD	2.43	0.43
2:B:126:GLU:HA	2:B:129:GLU:OE1	2.19	0.43
2:B:179:LYS:HA	8:H:72:PRO:HD3	2.01	0.43
3:C:33:LEU:CD2	3:C:34:LEU:N	2.81	0.43
3:C:71:ALA:HA	3:C:106:VAL:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:61:LYS:NZ	4:D:72:GLU:OE2	2.51	0.43
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.99	0.43
7:G:24:THR:C	7:G:28:ASN:ND2	2.73	0.43
9:I:63:ILE:HD13	9:I:77:ILE:HG23	2.01	0.43
9:I:126:SER:O	9:I:128:ARG:N	2.40	0.43
10:J:34:VAL:C	10:J:36:GLY:H	2.21	0.43
11:K:87:THR:HA	11:K:91:ARG:NH2	2.31	0.43
12:L:85:ILE:HG23	12:L:98:TYR:HB3	1.99	0.43
13:M:64:TRP:CB	13:M:66:LEU:HD21	2.49	0.43
18:R:28:GLU:H	18:R:28:GLU:CD	2.21	0.43
18:R:47:THR:HG23	18:R:83:GLU:H	1.83	0.43
18:R:53:ARG:NH1	18:R:59:SER:CA	2.75	0.43
20:T:53:LEU:O	20:T:54:LYS:C	2.57	0.43
1:A:109:G:H4'	1:A:110:A:O5'	2.19	0.43
1:A:292:U:O2'	1:A:293:G:H5'	2.19	0.43
1:A:814:G:H2'	1:A:815:U:O4'	2.19	0.43
1:A:845:G:HO2'	1:A:851:A:H61	1.65	0.43
1:A:960:U:H1'	1:A:961:A:C6	2.53	0.43
1:A:1111:C:H2'	1:A:1112:C:C5'	2.48	0.43
1:A:1208:C:O2'	1:A:1209:A:P	2.77	0.43
1:A:1293:G:N2	1:A:1309:C:C2	2.87	0.43
1:A:1328:A:N9	7:G:10:ARG:NH2	2.67	0.43
2:B:44:LEU:O	2:B:46:LYS:N	2.51	0.43
2:B:144:ARG:HG3	2:B:145:LEU:N	2.33	0.43
4:D:23:GLY:O	4:D:26:CYS:HB2	2.19	0.43
4:D:78:LEU:HD22	4:D:96:LEU:HD23	2.00	0.43
4:D:142:PRO:HA	4:D:185:PHE:HD2	1.84	0.43
6:F:85:VAL:O	6:F:85:VAL:HG12	2.18	0.43
7:G:21:VAL:CG2	7:G:22:LEU:N	2.81	0.43
9:I:42:ARG:O	9:I:44:VAL:N	2.52	0.43
12:L:59:ARG:HE	12:L:59:ARG:HB2	1.52	0.43
15:O:54:ARG:O	15:O:55:GLY:C	2.56	0.43
16:P:20:VAL:HG22	16:P:34:GLU:O	2.19	0.43
18:R:29:PHE:CE1	18:R:31:LEU:CD2	2.97	0.43
1:A:299:A:C6	1:A:300:U:C4	3.07	0.42
1:A:426:A:OP2	4:D:7:PRO:HA	2.19	0.42
1:A:493:A:O4'	4:D:58:LEU:HD12	2.19	0.42
1:A:526:G:O2'	1:A:527:C:H5'	2.19	0.42
1:A:676:U:OP1	11:K:124:LYS:HE3	2.18	0.42
1:A:751:A:C4	1:A:752:A:C8	3.07	0.42
1:A:813:G:N2	1:A:814:G:C4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:914:C:O2'	1:A:915:A:H5'	2.18	0.42
1:A:1208:C:H5'	13:M:96:LEU:CD1	2.49	0.42
1:A:1421:G:N2	1:A:1442:G:H1'	2.34	0.42
1:A:1425:G:N3	1:A:1425:G:C2'	2.82	0.42
2:B:187:LEU:CD1	2:B:205:ASP:HA	2.48	0.42
2:B:207:ALA:O	2:B:208:ILE:C	2.56	0.42
3:C:19:GLU:HB3	3:C:40:ARG:HH21	1.83	0.42
3:C:50:ALA:HB1	3:C:70:VAL:CG1	2.47	0.42
5:E:12:LEU:HD13	5:E:12:LEU:C	2.38	0.42
7:G:126:ASP:HB3	7:G:131:LYS:HG3	2.01	0.42
10:J:79:ARG:C	10:J:81:THR:N	2.71	0.42
11:K:21:ILE:CB	11:K:84:VAL:HG12	2.42	0.42
13:M:65:LYS:HE2	13:M:73:GLU:HB2	2.00	0.42
14:N:26:ARG:HD3	14:N:43:CYS:SG	2.59	0.42
14:N:31:ARG:HD2	14:N:31:ARG:HA	1.72	0.42
17:Q:78:GLU:HG3	17:Q:78:GLU:O	2.18	0.42
1:A:43:G:C6	1:A:44:C:N4	2.87	0.42
1:A:483:A:C1'	1:A:531:A:N6	2.81	0.42
1:A:635:C:C4	1:A:636:U:O4	2.72	0.42
1:A:672:G:C5	1:A:684:G:C2	3.07	0.42
1:A:1145:C:H2'	1:A:1146:C:C6	2.54	0.42
1:A:1255:G:C2	1:A:1256:G:H1'	2.54	0.42
1:A:1335:G:C4	1:A:1336:C:C5	3.07	0.42
1:A:1498:G:C4	1:A:1499:G:N7	2.87	0.42
3:C:23:TYR:OH	10:J:9:ARG:HD3	2.18	0.42
3:C:101:LEU:C	3:C:101:LEU:CD2	2.87	0.42
4:D:8:VAL:HG11	4:D:21:LEU:HB2	2.00	0.42
11:K:123:LYS:O	11:K:124:LYS:C	2.57	0.42
13:M:63:THR:CG2	13:M:64:TRP:N	2.82	0.42
17:Q:68:ARG:HG2	17:Q:68:ARG:HH11	1.84	0.42
20:T:38:LYS:O	20:T:40:ALA:N	2.52	0.42
1:A:10:G:C2	1:A:11:A:C4	3.07	0.42
1:A:60:A:C3'	1:A:327:G:H22	2.31	0.42
1:A:107:G:H1'	1:A:350:G:H5''	2.01	0.42
1:A:109:G:H1'	1:A:110:A:N7	2.34	0.42
1:A:122:G:C2	1:A:230:C:C2	3.07	0.42
1:A:446:A:N6	1:A:466:G:N9	2.68	0.42
1:A:934:U:H2'	1:A:935:U:O4'	2.18	0.42
1:A:947:A:H62	13:M:126:LYS:HD2	1.84	0.42
1:A:1048:U:O5'	1:A:1172:G:N2	2.51	0.42
1:A:1101:C:OP1	9:I:104:ARG:HD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1218:A:C2	1:A:1219:C:N3	2.87	0.42
1:A:1260:U:H5''	1:A:1261:A:H5'	2.01	0.42
1:A:1318:C:O2'	1:A:1319:G:C5	2.66	0.42
3:C:40:ARG:HG2	3:C:55:VAL:HG11	2.00	0.42
3:C:95:THR:C	3:C:97:LYS:N	2.71	0.42
5:E:118:ILE:HG22	5:E:119:LEU:N	2.34	0.42
8:H:8:ASP:O	8:H:9:MET:C	2.56	0.42
9:I:7:THR:HB	9:I:83:ARG:HH11	1.84	0.42
11:K:52:GLY:HA2	11:K:55:LYS:HE2	2.01	0.42
11:K:73:MET:SD	11:K:103:LEU:HD23	2.59	0.42
11:K:91:ARG:CZ	18:R:88:LYS:CE	2.97	0.42
12:L:64:TYR:CD1	12:L:64:TYR:N	2.87	0.42
13:M:64:TRP:O	13:M:66:LEU:HG	2.19	0.42
13:M:67:GLU:HB3	13:M:68:GLY:H	1.51	0.42
13:M:94:ARG:NH1	19:S:81:ARG:HD3	2.32	0.42
13:M:101:GLN:OE1	13:M:101:GLN:N	2.51	0.42
20:T:57:ARG:O	20:T:60:GLU:N	2.52	0.42
21:U:2:GLY:C	21:U:4:GLY:N	2.72	0.42
1:A:266:A:H2'	1:A:267:C:H6	1.81	0.42
1:A:486:G:H1'	1:A:534:G:H5'	2.01	0.42
1:A:495:C:O2'	1:A:496:U:C5'	2.67	0.42
1:A:661:U:O2'	1:A:662:U:H5'	2.19	0.42
1:A:699:A:H5''	1:A:789:C:H1'	2.01	0.42
1:A:706:A:O3'	1:A:707:U:C6	2.72	0.42
1:A:833:G:H8	1:A:849:U:O4	2.03	0.42
1:A:896:A:C2	1:A:897:A:C4	3.08	0.42
1:A:1094:A:N1	3:C:177:THR:CB	2.82	0.42
1:A:1274:U:O2'	1:A:1275:G:H5'	2.19	0.42
1:A:1284:U:OP2	13:M:17:VAL:HG13	2.19	0.42
1:A:1287:G:C8	1:A:1287:G:OP2	2.72	0.42
1:A:1476:U:O2'	1:A:1477:A:N7	2.52	0.42
2:B:13:ALA:O	2:B:15:VAL:N	2.52	0.42
3:C:28:GLN:O	3:C:29:TYR:C	2.57	0.42
3:C:70:VAL:HG12	3:C:72:LYS:H	1.84	0.42
3:C:204:LEU:O	3:C:205:GLY:C	2.58	0.42
4:D:32:ALA:C	4:D:34:GLU:H	2.21	0.42
4:D:78:LEU:O	4:D:81:GLU:HB3	2.19	0.42
4:D:142:PRO:HG2	4:D:187:ARG:HH11	1.84	0.42
8:H:26:VAL:O	8:H:58:TYR:HD2	2.03	0.42
9:I:31:GLN:HB3	9:I:35:GLU:HB3	2.00	0.42
9:I:111:ARG:O	9:I:119:ALA:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:23:ILE:N	10:J:23:ILE:HD12	2.35	0.42
11:K:73:MET:SD	11:K:103:LEU:CD2	3.07	0.42
12:L:27:LEU:HG	12:L:28:LYS:H	1.84	0.42
12:L:41:ARG:CB	12:L:41:ARG:HH11	2.32	0.42
16:P:32:TYR:HE2	16:P:35:LYS:HB2	1.83	0.42
16:P:38:TYR:HE2	16:P:50:LYS:HD3	1.84	0.42
17:Q:56:VAL:CG1	17:Q:77:VAL:HB	2.47	0.42
1:A:184:G:O2'	1:A:185:C:H5'	2.19	0.42
1:A:209:U:H4'	1:A:210:U:OP2	2.19	0.42
1:A:213:C:O2'	1:A:214:C:H5'	2.20	0.42
1:A:390:G:C4	1:A:391:C:C5	3.08	0.42
1:A:869:U:H2'	1:A:870:A:H8	1.84	0.42
1:A:898:U:O2	1:A:899:U:C2	2.73	0.42
1:A:939:U:C2	1:A:961:A:C5	3.07	0.42
1:A:1041:G:C6	1:A:1042:C:N3	2.87	0.42
1:A:1468:C:H5'	1:A:1468:C:C6	2.41	0.42
2:B:126:GLU:HA	2:B:129:GLU:CG	2.50	0.42
3:C:188:LEU:O	3:C:189:ALA:CB	2.63	0.42
3:C:190:ARG:HB3	3:C:190:ARG:CZ	2.49	0.42
4:D:8:VAL:HG23	4:D:115:ARG:NH1	2.34	0.42
5:E:52:PRO:O	5:E:53:LEU:C	2.56	0.42
5:E:72:GLN:O	5:E:73:ASN:CB	2.67	0.42
5:E:118:ILE:CG2	5:E:119:LEU:N	2.83	0.42
5:E:136:MET:O	5:E:137:GLU:C	2.56	0.42
6:F:2:ARG:CD	6:F:69:GLU:HG2	2.50	0.42
6:F:37:VAL:HG12	6:F:38:GLU:N	2.35	0.42
7:G:12:LEU:N	7:G:12:LEU:CD1	2.82	0.42
8:H:45:ILE:O	8:H:45:ILE:HG13	2.19	0.42
8:H:92:ARG:HB3	8:H:94:TYR:CE1	2.55	0.42
9:I:47:LEU:O	9:I:48:GLU:C	2.58	0.42
9:I:126:SER:C	9:I:128:ARG:N	2.73	0.42
11:K:84:VAL:HG21	18:R:88:LYS:HD3	2.01	0.42
12:L:8:ASN:O	12:L:9:GLN:C	2.58	0.42
12:L:71:PRO:HB2	12:L:120:TYR:HE2	1.84	0.42
12:L:87:GLY:HA2	12:L:98:TYR:HA	2.01	0.42
12:L:97:ARG:HB2	12:L:98:TYR:CE1	2.55	0.42
16:P:7:ALA:HB3	16:P:18:ARG:HB3	2.02	0.42
20:T:83:ARG:O	20:T:87:LYS:HG3	2.19	0.42
1:A:246:A:H2	1:A:270:A:C6	2.38	0.42
1:A:440:G:N1	1:A:475:G:C6	2.87	0.42
1:A:571:G:O2'	1:A:572:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:598:A:C2	1:A:611:G:C2	3.08	0.42
1:A:648:G:H2'	1:A:650:G:OP1	2.19	0.42
1:A:671:A:HO2'	1:A:672:G:P	2.42	0.42
1:A:832:G:H3'	1:A:849:U:C4	2.55	0.42
1:A:1288:A:C2	1:A:1289:U:C2	3.08	0.42
1:A:1492:C:O2'	1:A:1493:C:H5'	2.20	0.42
2:B:67:THR:N	2:B:160:ASP:OD2	2.53	0.42
2:B:77:ALA:O	2:B:79:ASP:N	2.52	0.42
3:C:58:GLU:HB2	3:C:65:ALA:CB	2.50	0.42
3:C:98:ASN:OD1	3:C:98:ASN:O	2.36	0.42
3:C:134:ILE:HG23	3:C:151:VAL:CG1	2.50	0.42
3:C:139:GLN:HE21	3:C:139:GLN:CA	2.32	0.42
4:D:96:LEU:O	4:D:97:LEU:C	2.57	0.42
4:D:117:ALA:O	4:D:118:ARG:C	2.58	0.42
6:F:2:ARG:O	6:F:4:TYR:CE2	2.72	0.42
8:H:17:THR:O	8:H:20:TYR:N	2.39	0.42
8:H:60:ARG:HG3	8:H:60:ARG:NH1	2.35	0.42
8:H:114:THR:C	8:H:116:LYS:N	2.72	0.42
9:I:40:LEU:O	9:I:43:ALA:HB2	2.20	0.42
11:K:33:THR:OG1	11:K:38:ASN:C	2.58	0.42
12:L:75:HIS:CD2	12:L:77:LEU:H	2.37	0.42
14:N:57:ARG:HG2	14:N:58:LYS:N	2.34	0.42
15:O:71:GLN:O	15:O:72:ARG:C	2.56	0.42
18:R:17:SER:OG	18:R:55:ARG:HD3	2.19	0.42
20:T:32:ALA:O	20:T:33:ILE:C	2.57	0.42
1:A:242:A:C4	1:A:275:A:C6	3.08	0.42
1:A:282:G:H2'	1:A:283:U:H6	1.85	0.42
1:A:332:C:O2'	1:A:333:C:H5'	2.20	0.42
1:A:409:G:H22	1:A:424:G:H1'	1.85	0.42
1:A:558:A:N3	1:A:861:C:H1'	2.34	0.42
1:A:610:U:H2'	1:A:611:G:H8	1.84	0.42
1:A:882:C:H2'	1:A:883:U:O4'	2.20	0.42
1:A:931:G:H1'	13:M:125:ARG:CB	2.50	0.42
1:A:1179:G:OP1	1:A:1180:G:OP2	2.37	0.42
1:A:1208:C:N4	13:M:104:ARG:HG3	2.35	0.42
1:A:1217:U:O2'	1:A:1218:A:H5'	2.20	0.42
1:A:1237:G:C2	1:A:1265:G:C2	3.07	0.42
1:A:1332:A:O2'	1:A:1333:U:H5'	2.19	0.42
1:A:1412:C:H2'	1:A:1413:C:C6	2.54	0.42
2:B:43:ASP:OD1	2:B:45:GLN:N	2.53	0.42
6:F:14:LEU:HA	6:F:18:GLN:NE2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:16:LEU:HD22	7:G:16:LEU:N	2.35	0.42
7:G:75:VAL:CG2	7:G:144:MET:HB3	2.42	0.42
7:G:76:ARG:O	7:G:156:TRP:CZ3	2.71	0.42
8:H:51:VAL:CG1	8:H:52:ASP:N	2.83	0.42
9:I:97:LYS:N	9:I:98:PRO:CD	2.83	0.42
12:L:89:ARG:HG2	12:L:97:ARG:CA	2.45	0.42
18:R:85:LEU:HD12	18:R:86:VAL:H	1.85	0.42
1:A:337:C:H6	1:A:337:C:O5'	2.03	0.42
1:A:745:G:C5	1:A:746:C:C5	3.08	0.42
1:A:1274:U:C5'	9:I:38:GLN:NE2	2.73	0.42
1:A:1482:G:H4'	1:A:1483:G:C5'	2.50	0.42
2:B:123:ALA:CA	2:B:127:ILE:HD11	2.50	0.42
3:C:73:PRO:O	3:C:74:GLY:O	2.38	0.42
3:C:139:GLN:HE21	3:C:143:GLU:HB2	1.83	0.42
3:C:188:LEU:CD1	3:C:195:VAL:HG22	2.49	0.42
5:E:8:GLU:OE2	5:E:63:ARG:NH2	2.52	0.42
5:E:13:ILE:HG22	5:E:30:ALA:CA	2.50	0.42
10:J:27:ALA:CB	10:J:74:ILE:HD13	2.49	0.42
10:J:61:GLU:CD	14:N:45:ARG:HH12	2.23	0.42
12:L:73:GLU:OE2	12:L:73:GLU:HA	2.20	0.42
13:M:8:GLU:HG3	13:M:22:ILE:HG12	2.02	0.42
14:N:58:LYS:HB3	14:N:58:LYS:HE3	1.81	0.42
17:Q:29:HIS:HE1	17:Q:31:LEU:HB3	1.84	0.42
18:R:55:ARG:HB3	18:R:55:ARG:NH1	2.27	0.42
1:A:7:G:C5	5:E:119:LEU:HD11	2.55	0.42
1:A:10:G:OP1	5:E:122:GLU:HG3	2.20	0.42
1:A:144:A:H2'	1:A:145:C:H6	1.84	0.42
1:A:403:G:O2'	4:D:116:GLN:HG3	2.20	0.42
1:A:486:G:C1'	1:A:534:G:H5'	2.50	0.42
1:A:569:G:O2'	1:A:857:C:OP1	2.30	0.42
1:A:691:C:H4'	11:K:20:TYR:CE1	2.54	0.42
1:A:762:G:H2'	1:A:763:C:C5'	2.50	0.42
1:A:951:G:H2'	1:A:952:A:C8	2.55	0.42
1:A:1103:G:O5'	1:A:1103:G:C8	2.69	0.42
1:A:1207:A:N3	1:A:1207:A:H2'	2.35	0.42
1:A:1432:A:O2'	1:A:1433:C:P	2.77	0.42
1:A:1477:A:O2'	1:A:1478:A:H5'	2.20	0.42
1:A:1506:U:O2'	1:A:1507:G:P	2.77	0.42
2:B:7:VAL:C	2:B:8:LYS:HG3	2.40	0.42
2:B:73:THR:CG2	2:B:169:LYS:HE3	2.50	0.42
2:B:108:ILE:O	2:B:110:GLN:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:231:GLU:HB2	2:B:232:PRO:HD2	2.00	0.42
6:F:21:LEU:O	6:F:24:GLU:HB3	2.20	0.42
6:F:78:GLU:OE2	6:F:81:ILE:HD12	2.20	0.42
11:K:29:ILE:HB	11:K:44:SER:CB	2.50	0.42
12:L:46:LYS:HG2	12:L:47:LYS:HG3	2.02	0.42
12:L:84:LEU:HD12	12:L:84:LEU:HA	1.87	0.42
14:N:41:ARG:HD2	14:N:41:ARG:O	2.20	0.42
14:N:42:ILE:O	14:N:46:GLU:HG3	2.20	0.42
20:T:94:ALA:O	20:T:95:ALA:HB3	2.19	0.42
20:T:103:GLY:O	20:T:104:LEU:HG	2.19	0.42
1:A:157:A:H8	1:A:157:A:O5'	2.03	0.42
1:A:255:G:H2'	1:A:256:G:O4'	2.19	0.42
1:A:261:G:H2'	1:A:263:C:H5	1.85	0.42
1:A:324:C:HO2'	1:A:325:A:P	2.43	0.42
1:A:477:G:H2'	1:A:478:G:C8	2.55	0.42
1:A:533:C:C2	1:A:534:G:C8	3.08	0.42
1:A:576:G:N2	1:A:577:G:C4	2.88	0.42
1:A:606:A:N7	1:A:607:C:C6	2.88	0.42
1:A:610:U:H2'	1:A:611:G:C8	2.55	0.42
1:A:691:C:H2'	1:A:692:C:C6	2.55	0.42
1:A:720:C:O2'	1:A:721:A:H5'	2.20	0.42
1:A:745:G:H2'	1:A:746:C:H6	1.83	0.42
1:A:1056:U:O2'	1:A:1057:G:H5'	2.20	0.42
1:A:1101:C:P	9:I:104:ARG:HH11	2.40	0.42
1:A:1111:C:C2	1:A:1127:G:N2	2.87	0.42
1:A:1341:C:O5'	1:A:1341:C:H6	2.03	0.42
1:A:1398:G:C4	1:A:1399:G:C8	3.08	0.42
2:B:140:HIS:O	2:B:143:GLU:N	2.53	0.42
2:B:215:LEU:O	2:B:216:SER:C	2.58	0.42
3:C:108:ASN:C	3:C:110:ASN:H	2.24	0.42
3:C:116:VAL:O	3:C:119:ARG:HB3	2.20	0.42
5:E:137:GLU:O	5:E:140:ARG:N	2.53	0.42
7:G:42:ILE:HG23	7:G:117:ALA:CA	2.50	0.42
8:H:19:VAL:CG2	8:H:21:LYS:HG2	2.42	0.42
9:I:25:LYS:O	9:I:60:ASP:OD1	2.38	0.42
10:J:46:ARG:NH1	10:J:64:GLU:OE2	2.52	0.42
11:K:58:PRO:HB2	11:K:93:GLN:CG	2.43	0.42
13:M:3:ARG:HA	13:M:9:ILE:HG23	2.01	0.42
13:M:9:ILE:HD12	13:M:9:ILE:H	1.84	0.42
20:T:30:LYS:O	20:T:34:LYS:HG3	2.20	0.42
21:U:10:ARG:HA	21:U:13:ILE:HB	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:103:A:H4'	1:A:104:C:OP2	2.20	0.41
1:A:171:C:H2'	1:A:172:C:C6	2.55	0.41
1:A:298:G:O2'	1:A:299:A:H5'	2.20	0.41
1:A:372:G:O3'	16:P:5:ARG:NH1	2.50	0.41
1:A:415:C:C2	1:A:421:G:C2	3.08	0.41
1:A:458:A:O2'	1:A:459:G:H5'	2.20	0.41
1:A:769:G:C6	1:A:782:G:O6	2.73	0.41
1:A:1032:U:H1'	1:A:1183:A:C8	2.55	0.41
1:A:1188:G:C5	1:A:1189:G:N7	2.88	0.41
1:A:1216:C:C4'	1:A:1347:U:H1'	2.50	0.41
1:A:1368:G:H2'	1:A:1369:G:O4'	2.20	0.41
1:A:1382:C:H4'	1:A:1383:C:H5''	2.01	0.41
1:A:1387:C:O5'	1:A:1387:C:H6	2.03	0.41
2:B:121:LEU:HD23	2:B:121:LEU:H	1.85	0.41
2:B:172:ILE:O	2:B:173:ALA:C	2.58	0.41
2:B:222:ILE:O	2:B:225:ALA:HB3	2.20	0.41
3:C:70:VAL:HG12	3:C:72:LYS:N	2.35	0.41
3:C:190:ARG:HB3	3:C:190:ARG:NH1	2.35	0.41
4:D:138:TYR:C	4:D:138:TYR:CD2	2.94	0.41
5:E:57:LYS:O	5:E:58:ALA:C	2.57	0.41
6:F:22:GLU:O	6:F:24:GLU:N	2.53	0.41
7:G:37:ASN:O	7:G:38:LEU:C	2.58	0.41
7:G:62:PHE:HD1	7:G:124:LEU:HD22	1.84	0.41
8:H:84:ARG:HD2	8:H:85:ARG:O	2.20	0.41
9:I:100:GLY:O	9:I:101:PHE:C	2.57	0.41
10:J:89:ASP:O	10:J:90:LEU:HD23	2.20	0.41
12:L:26:ALA:O	12:L:27:LEU:O	2.37	0.41
12:L:54:LYS:C	12:L:55:VAL:CG2	2.89	0.41
13:M:15:VAL:CB	13:M:34:LEU:HD11	2.50	0.41
16:P:2:VAL:HA	16:P:23:ASP:HA	2.01	0.41
1:A:9:A:H5'	5:E:120:THR:O	2.20	0.41
1:A:18:U:C4	1:A:19:C:N4	2.88	0.41
1:A:107:G:H2'	1:A:108:U:O4'	2.20	0.41
1:A:201:C:H2'	1:A:202:A:H5''	2.01	0.41
1:A:340:A:OP2	1:A:341:C:N4	2.43	0.41
1:A:661:U:O2	1:A:761:A:O2'	2.32	0.41
1:A:904:G:C6	1:A:1483:G:C5	3.08	0.41
1:A:1030:G:C2'	1:A:1031:G:H5'	2.50	0.41
1:A:1175:G:N2	1:A:1176:U:C2	2.88	0.41
1:A:1207:A:N3	1:A:1207:A:C2'	2.84	0.41
1:A:1475:G:H1'	1:A:1496:A:C2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:53:ARG:HG3	2:B:56:ARG:NH1	2.34	0.41
3:C:99:VAL:HG23	3:C:100:ALA:N	2.35	0.41
4:D:132:ARG:C	4:D:133:VAL:HG23	2.39	0.41
4:D:134:ASP:C	4:D:135:LEU:HD23	2.39	0.41
5:E:31:LEU:HG	5:E:45:PHE:HD1	1.85	0.41
5:E:33:VAL:HG11	5:E:109:ILE:HA	2.02	0.41
7:G:25:ALA:CA	7:G:28:ASN:ND2	2.79	0.41
8:H:20:TYR:HA	8:H:65:TYR:HE2	1.82	0.41
11:K:116:HIS:O	11:K:117:ASN:HB2	2.20	0.41
13:M:87:TYR:C	13:M:89:GLY:N	2.73	0.41
17:Q:29:HIS:HA	17:Q:30:PRO:HD2	1.63	0.41
17:Q:90:ILE:O	17:Q:93:GLN:N	2.53	0.41
1:A:157:A:H2'	1:A:158:C:H5'	2.02	0.41
1:A:204:A:H1'	1:A:205:G:O4'	2.20	0.41
1:A:249:U:H2'	1:A:250:G:C8	2.55	0.41
1:A:303:C:C5	1:A:304:C:H5	2.38	0.41
1:A:451:C:H2'	1:A:452:C:C6	2.55	0.41
1:A:524:G:O2'	1:A:525:G:H5'	2.19	0.41
1:A:1287:G:OP2	1:A:1287:G:H8	2.03	0.41
1:A:1369:G:H2'	1:A:1370:G:H8	1.85	0.41
1:A:1462:C:H2'	1:A:1463:U:C6	2.39	0.41
1:A:1465:G:H2'	1:A:1466:G:O4'	2.20	0.41
1:A:1486:G:C4	1:A:1487:C:C6	3.09	0.41
2:B:18:GLY:HA2	2:B:42:ILE:H	1.84	0.41
3:C:2:GLY:C	3:C:3:ASN:ND2	2.73	0.41
3:C:34:LEU:O	3:C:35:GLU:C	2.59	0.41
4:D:70:ILE:HG21	4:D:74:GLN:HB2	2.03	0.41
7:G:44:TYR:O	7:G:47:CYS:N	2.54	0.41
7:G:145:ALA:O	7:G:146:GLU:HB2	2.20	0.41
7:G:151:TYR:C	7:G:153:HIS:H	2.22	0.41
8:H:53:VAL:CB	8:H:58:TYR:CD1	2.96	0.41
9:I:7:THR:O	9:I:80:GLY:HA2	2.21	0.41
10:J:16:LEU:O	10:J:17:ASP:C	2.58	0.41
11:K:21:ILE:HB	11:K:84:VAL:CG1	2.44	0.41
12:L:54:LYS:N	12:L:54:LYS:CD	2.82	0.41
16:P:65:GLN:HA	16:P:66:PRO:HD2	1.84	0.41
17:Q:56:VAL:HG12	17:Q:77:VAL:CB	2.49	0.41
19:S:28:LYS:CG	19:S:29:ARG:N	2.63	0.41
21:U:6:ARG:O	21:U:12:LYS:HE2	2.20	0.41
1:A:22:G:N2	1:A:23:G:C2	2.89	0.41
1:A:106:G:C2	1:A:107:G:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:324:C:O2	1:A:324:C:H2'	2.21	0.41
1:A:494:A:O2'	1:A:526:G:H1'	2.21	0.41
1:A:777:U:O4	1:A:1495:G:H5'	2.19	0.41
1:A:777:U:O4	1:A:1495:G:H8	2.03	0.41
1:A:1355:U:H5''	9:I:71:SER:CB	2.48	0.41
2:B:124:SER:CB	2:B:125:PRO:CD	2.98	0.41
2:B:211:ILE:O	2:B:212:GLN:C	2.58	0.41
3:C:82:GLU:CG	3:C:83:ARG:N	2.83	0.41
4:D:64:LEU:HD23	4:D:198:VAL:HG21	2.00	0.41
4:D:76:ARG:HG2	4:D:76:ARG:NH1	2.35	0.41
5:E:80:ILE:HD12	5:E:91:LEU:HB2	2.03	0.41
13:M:50:GLU:O	13:M:53:VAL:HB	2.21	0.41
15:O:39:LEU:HD22	15:O:43:LEU:HD11	2.02	0.41
15:O:65:ARG:O	15:O:66:LEU:C	2.57	0.41
20:T:13:LEU:C	20:T:15:ARG:N	2.72	0.41
20:T:51:GLU:HA	20:T:54:LYS:HE3	2.02	0.41
1:A:199:U:C2	1:A:200:C:C5	3.08	0.41
1:A:374:G:H2'	1:A:375:C:C6	2.55	0.41
1:A:502:C:HO2'	12:L:50:SER:HB3	1.81	0.41
1:A:801:C:C4	1:A:803:A:H1'	2.56	0.41
1:A:938:U:HO2'	1:A:1205:C:H4'	1.84	0.41
1:A:985:C:O2'	1:A:986:C:H5'	2.20	0.41
1:A:1083:C:O2'	1:A:1084:A:H5'	2.21	0.41
1:A:1327:U:O2	1:A:1360:A:C6	2.73	0.41
1:A:1446:A:H2'	1:A:1447:G:H5'	2.03	0.41
1:A:1500:U:H2'	1:A:1501:G:H8	1.85	0.41
3:C:22:TRP:CH2	3:C:32:LEU:HB3	2.55	0.41
4:D:43:HIS:O	4:D:46:LYS:HB2	2.21	0.41
4:D:64:LEU:CD2	4:D:198:VAL:HG21	2.51	0.41
5:E:34:VAL:O	5:E:41:VAL:HA	2.20	0.41
5:E:79:GLU:OE1	5:E:79:GLU:N	2.46	0.41
5:E:144:THR:C	5:E:146:ALA:H	2.23	0.41
9:I:25:LYS:O	9:I:61:ALA:N	2.48	0.41
10:J:3:LYS:HG2	10:J:75:ILE:CG2	2.42	0.41
10:J:3:LYS:CG	10:J:75:ILE:HG23	2.42	0.41
11:K:38:ASN:HA	11:K:39:PRO:HD2	1.89	0.41
13:M:6:GLY:O	13:M:67:GLU:HG3	2.20	0.41
13:M:78:ILE:HA	13:M:81:LEU:HD21	2.03	0.41
13:M:81:LEU:H	13:M:81:LEU:CD2	2.33	0.41
14:N:8:GLU:O	14:N:11:LYS:HB2	2.20	0.41
14:N:36:PHE:CD1	14:N:36:PHE:C	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:3:ILE:N	15:O:3:ILE:CD1	2.81	0.41
15:O:36:ILE:HG22	15:O:37:ASN:N	2.36	0.41
15:O:70:LEU:HD12	15:O:78:TYR:CA	2.51	0.41
17:Q:104:LYS:HB3	17:Q:105:ALA:H	1.44	0.41
20:T:97:ALA:O	20:T:99:LEU:HD23	2.20	0.41
1:A:62:G:C5	1:A:101:G:N2	2.89	0.41
1:A:118:G:H2'	1:A:119:U:C6	2.56	0.41
1:A:137:G:H2'	1:A:138:A:C8	2.55	0.41
1:A:496:U:OP1	4:D:46:LYS:NZ	2.51	0.41
1:A:542:G:C4	1:A:543:A:H2	2.38	0.41
1:A:552:G:N7	12:L:5:PRO:HD3	2.36	0.41
1:A:577:G:C6	1:A:578:G:C5	3.08	0.41
1:A:591:A:H2'	1:A:592:A:H5'	2.01	0.41
1:A:758:G:N2	1:A:759:G:H1'	2.34	0.41
1:A:917:G:C5'	7:G:102:ARG:HH22	2.08	0.41
1:A:1397:U:H2'	1:A:1398:G:C8	2.54	0.41
1:A:1414:C:H2'	1:A:1415:G:O4'	2.21	0.41
1:A:1441:C:O2'	1:A:1442:G:H5'	2.20	0.41
1:A:1448:G:O2'	1:A:1449:G:H5'	2.20	0.41
2:B:51:LEU:O	2:B:52:GLU:C	2.58	0.41
4:D:17:VAL:O	4:D:19:LEU:HG	2.21	0.41
6:F:47:ARG:HH11	6:F:57:GLN:HG2	1.84	0.41
13:M:46:LYS:HG3	13:M:47:ASP:N	2.36	0.41
13:M:64:TRP:HB2	13:M:66:LEU:HD21	2.01	0.41
14:N:27:CYS:HB3	14:N:43:CYS:SG	2.60	0.41
15:O:5:LYS:HB2	15:O:6:GLU:OE2	2.20	0.41
15:O:6:GLU:CD	15:O:6:GLU:H	2.23	0.41
15:O:17:ARG:O	15:O:18:PHE:HB3	2.19	0.41
16:P:6:LEU:HD23	16:P:17:TYR:CD1	2.56	0.41
16:P:51:VAL:HG21	16:P:77:ALA:HB2	2.02	0.41
16:P:58:TYR:HE1	16:P:59:TRP:CZ3	2.38	0.41
17:Q:81:ARG:HB2	17:Q:83:ASP:OD1	2.20	0.41
19:S:20:LEU:HD12	19:S:20:LEU:C	2.41	0.41
19:S:39:THR:HG22	19:S:40:ILE:N	2.36	0.41
1:A:53:G:H2'	1:A:54:A:O4'	2.21	0.41
1:A:58:G:C6	1:A:59:C:N4	2.89	0.41
1:A:76:G:C4	1:A:89:G:N2	2.89	0.41
1:A:418:C:H4'	1:A:419:G:C5	2.55	0.41
1:A:419:G:H2'	1:A:420:G:H5'	2.02	0.41
1:A:430:U:H2'	1:A:431:C:C6	2.55	0.41
1:A:446:A:N6	1:A:466:G:C1'	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:552:G:C2	1:A:861:C:N3	2.89	0.41
1:A:764:A:N6	1:A:785:U:OP2	2.51	0.41
1:A:1095:C:O2	3:C:179:ARG:HB3	2.19	0.41
1:A:1135:A:H5''	10:J:13:HIS:CG	2.51	0.41
1:A:1215:G:H2'	1:A:1216:C:C6	2.56	0.41
1:A:1239:U:H4'	1:A:1240:G:C5'	2.51	0.41
1:A:1290:U:H2'	1:A:1291:G:C8	2.53	0.41
1:A:1303:C:H2'	1:A:1304:C:C6	2.56	0.41
1:A:1313:G:O2'	1:A:1314:A:H8	2.02	0.41
2:B:8:LYS:HD3	2:B:9:GLU:N	2.36	0.41
3:C:154:SER:OG	3:C:196:LEU:HA	2.20	0.41
4:D:202:LEU:HD23	4:D:202:LEU:HA	1.86	0.41
5:E:43:LEU:C	5:E:62:ALA:HB2	2.40	0.41
8:H:30:ARG:O	8:H:33:GLU:HB3	2.21	0.41
9:I:111:ARG:O	9:I:113:LYS:HD2	2.20	0.41
10:J:94:VAL:HG12	10:J:95:GLU:H	1.84	0.41
11:K:30:VAL:HG12	11:K:31:THR:N	2.34	0.41
11:K:70:LYS:O	11:K:71:LYS:C	2.59	0.41
15:O:81:LEU:C	15:O:81:LEU:CD2	2.89	0.41
18:R:33:ASP:OD2	18:R:36:ASN:HB2	2.20	0.41
1:A:93:U:N3	1:A:94:C:C5	2.88	0.41
1:A:110:A:H2'	1:A:111:G:O4'	2.20	0.41
1:A:275:A:H5''	1:A:276:C:H3'	2.02	0.41
1:A:412:G:C6	1:A:413:C:N3	2.89	0.41
1:A:443:A:H2'	1:A:444:C:H6	1.84	0.41
1:A:768:C:H2'	1:A:769:G:C8	2.56	0.41
1:A:873:G:H2'	1:A:874:C:C6	2.55	0.41
1:A:923:G:H2'	1:A:923:G:N3	2.36	0.41
1:A:1131:U:H2'	1:A:1132:C:O4'	2.21	0.41
1:A:1238:A:O2'	1:A:1239:U:P	2.79	0.41
1:A:1334:C:C1'	1:A:1354:G:N2	2.84	0.41
1:A:1369:G:O2'	1:A:1370:G:H5'	2.21	0.41
1:A:1476:U:H1'	1:A:1477:A:N7	2.36	0.41
2:B:81:VAL:O	2:B:82:ARG:C	2.58	0.41
3:C:49:SER:C	3:C:51:GLY:H	2.23	0.41
4:D:20:TYR:N	4:D:20:TYR:CD2	2.87	0.41
5:E:137:GLU:O	5:E:138:ALA:C	2.59	0.41
6:F:37:VAL:HG12	6:F:39:LYS:N	2.36	0.41
10:J:51:ARG:H	10:J:59:SER:CB	2.34	0.41
11:K:32:ILE:CG2	11:K:77:MET:HE2	2.50	0.41
12:L:87:GLY:H	12:L:99:HIS:H	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:122:LYS:O	13:M:123:ALA:HB2	2.20	0.41
16:P:39:TYR:CD1	16:P:40:ASP:N	2.89	0.41
16:P:53:VAL:HG23	16:P:54:GLU:H	1.83	0.41
17:Q:66:SER:OG	17:Q:69:LYS:HD3	2.20	0.41
20:T:14:LYS:O	20:T:17:ARG:HB3	2.21	0.41
20:T:81:LYS:C	20:T:83:ARG:H	2.24	0.41
21:U:10:ARG:O	21:U:11:GLY:C	2.57	0.41
1:A:53:G:H2'	1:A:54:A:C8	2.56	0.41
1:A:67:G:H4'	1:A:168:U:C4	2.56	0.41
1:A:115:C:H5'	1:A:116:G:OP1	2.21	0.41
1:A:137:G:C2	1:A:218:U:C2	3.09	0.41
1:A:168:U:H1'	1:A:204:A:C6	2.56	0.41
1:A:216:G:O2'	1:A:217:C:H5'	2.21	0.41
1:A:248:U:C2	1:A:249:U:C5	3.08	0.41
1:A:261:G:H4'	17:Q:65:ILE:O	2.21	0.41
1:A:362:C:HO2'	1:A:363:U:P	2.44	0.41
1:A:395:G:H2'	1:A:396:C:C6	2.55	0.41
1:A:677:G:H1'	22:A:1524:KSG:C6	2.50	0.41
1:A:732:C:H4'	1:A:733:C:O5'	2.21	0.41
1:A:754:C:H1'	1:A:877:C:H42	1.86	0.41
1:A:939:U:H2'	1:A:940:C:O4'	2.21	0.41
1:A:982:G:H8	1:A:982:G:O5'	2.03	0.41
1:A:1023:U:H2'	1:A:1024:A:C8	2.56	0.41
1:A:1036:G:N7	1:A:1181:U:H2'	2.36	0.41
1:A:1047:G:H4'	1:A:1048:U:OP1	2.20	0.41
1:A:1282:G:C2'	1:A:1283:U:OP2	2.68	0.41
1:A:1289:U:H5'	13:M:109:THR:HG21	2.03	0.41
1:A:1497:A:H2'	1:A:1498:G:H5'	2.02	0.41
2:B:189:ASP:HB3	2:B:203:GLY:O	2.21	0.41
3:C:64:VAL:HG12	3:C:66:VAL:HG23	2.02	0.41
3:C:65:ALA:O	3:C:66:VAL:O	2.38	0.41
3:C:79:ARG:O	3:C:81:GLY:N	2.54	0.41
3:C:154:SER:OG	3:C:196:LEU:CA	2.69	0.41
4:D:64:LEU:CD2	4:D:198:VAL:HG11	2.41	0.41
6:F:74:ASP:O	6:F:76:ALA:N	2.54	0.41
7:G:76:ARG:HD2	7:G:89:MET:CE	2.51	0.41
8:H:44:PHE:CD1	8:H:80:ILE:HG12	2.56	0.41
9:I:106:ALA:O	9:I:108:VAL:HG23	2.21	0.41
10:J:62:HIS:HB3	14:N:59:ALA:HB3	2.03	0.41
11:K:124:LYS:HB3	11:K:125:PHE:HD1	1.85	0.41
12:L:11:VAL:HG13	17:Q:29:HIS:HD2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:27:LEU:HG	12:L:28:LYS:N	2.36	0.41
13:M:66:LEU:O	13:M:70:LEU:N	2.54	0.41
14:N:12:ARG:O	14:N:14:PRO:HD3	2.21	0.41
15:O:82:ILE:HG22	15:O:83:GLU:N	2.36	0.41
16:P:1:MET:O	16:P:24:ALA:CB	2.65	0.41
16:P:56:ALA:O	16:P:58:TYR:N	2.54	0.41
17:Q:86:GLU:O	17:Q:87:LYS:O	2.39	0.41
17:Q:91:ARG:O	17:Q:93:GLN:N	2.54	0.41
18:R:36:ASN:HD22	18:R:38:GLU:HG2	1.82	0.41
19:S:5:LEU:HD23	19:S:5:LEU:HA	1.80	0.41
20:T:42:GLN:HE22	20:T:46:GLU:CG	2.34	0.41
1:A:80:U:O2	1:A:83:U:H5	2.04	0.41
1:A:372:G:OP2	16:P:67:THR:HG21	2.21	0.41
1:A:466:G:H2'	1:A:467:A:N7	2.36	0.41
1:A:512:C:H41	12:L:49:ASN:CG	2.24	0.41
1:A:606:A:C8	1:A:607:C:C5	3.08	0.41
1:A:626:A:C5	8:H:115:SER:HA	2.56	0.41
1:A:639:A:C2	1:A:738:C:C4	3.09	0.41
1:A:905:G:N3	1:A:906:G:C8	2.89	0.41
1:A:1092:C:H2'	1:A:1093:A:O4'	2.21	0.41
1:A:1135:A:C4'	10:J:13:HIS:HD2	2.34	0.41
1:A:1140:A:H4'	1:A:1141:C:O5'	2.21	0.41
1:A:1179:G:C2'	1:A:1180:G:H5'	2.51	0.41
1:A:1228:C:H2'	1:A:1229:U:C6	2.53	0.41
2:B:12:GLU:OE1	2:B:12:GLU:CA	2.67	0.41
2:B:57:PHE:CE1	2:B:199:TYR:CE1	3.09	0.41
2:B:236:TYR:HD2	2:B:239:VAL:HG21	1.86	0.41
3:C:121:ALA:O	3:C:124:ILE:N	2.54	0.41
3:C:188:LEU:HD11	3:C:195:VAL:CG2	2.49	0.41
5:E:33:VAL:HG21	5:E:108:ALA:HB1	2.03	0.41
5:E:78:HIS:CD2	5:E:143:ARG:O	2.74	0.41
5:E:144:THR:CB	5:E:146:ALA:H	2.34	0.41
5:E:148:VAL:O	5:E:151:LEU:N	2.45	0.41
6:F:55:ASP:HA	6:F:56:PRO:HD2	1.83	0.41
8:H:20:TYR:N	8:H:20:TYR:CD2	2.89	0.41
9:I:127:LYS:N	9:I:127:LYS:CD	2.84	0.41
16:P:56:ALA:O	16:P:57:ARG:C	2.60	0.41
16:P:64:ALA:O	16:P:66:PRO:HD3	2.20	0.41
17:Q:8:GLY:CA	17:Q:22:LEU:O	2.69	0.41
17:Q:68:ARG:H	17:Q:70:ARG:NH1	2.19	0.41
17:Q:97:SER:O	17:Q:98:LEU:C	2.59	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:28:G:C5	1:A:541:G:C2	3.09	0.40
1:A:70:G:H2'	1:A:71:G:C8	2.54	0.40
1:A:100:C:O2	1:A:375:C:H4'	2.21	0.40
1:A:152:G:H2'	1:A:153:G:H8	1.85	0.40
1:A:331:C:H2'	1:A:332:C:H6	1.81	0.40
1:A:470:G:O2'	1:A:471:U:H6	2.04	0.40
1:A:692:C:O2'	1:A:693:G:H5'	2.21	0.40
1:A:855:C:O2	8:H:3:THR:CG2	2.69	0.40
1:A:878:A:C6	1:A:879:A:C6	3.09	0.40
1:A:907:G:O2'	1:A:908:C:H5'	2.22	0.40
1:A:917:G:N3	1:A:1358:A:H2	2.20	0.40
1:A:932:G:H2'	1:A:933:U:H6	1.87	0.40
1:A:961:A:N3	1:A:961:A:H3'	2.35	0.40
1:A:1091:G:H5''	3:C:176:HIS:CE1	2.56	0.40
1:A:1174:C:H2'	1:A:1175:G:O5'	2.21	0.40
1:A:1212:C:O2	13:M:126:LYS:O	2.39	0.40
1:A:1327:U:OP1	9:I:120:ARG:HD3	2.22	0.40
22:A:1524:KSG:N3	22:A:1524:KSG:C9	2.84	0.40
2:B:25:ASN:O	2:B:26:PRO:C	2.59	0.40
2:B:132:LYS:HA	2:B:135:GLN:CB	2.51	0.40
2:B:170:GLU:O	2:B:173:ALA:N	2.54	0.40
2:B:231:GLU:HB2	2:B:232:PRO:CD	2.51	0.40
3:C:70:VAL:HG11	3:C:76:VAL:CG2	2.51	0.40
3:C:174:PRO:CB	3:C:177:THR:HG22	2.47	0.40
3:C:188:LEU:HD22	3:C:188:LEU:HA	1.91	0.40
4:D:173:TRP:CD1	4:D:174:LEU:CD2	3.04	0.40
4:D:200:GLU:O	4:D:203:VAL:N	2.54	0.40
5:E:12:LEU:HD22	5:E:13:ILE:N	2.35	0.40
9:I:121:ARG:HD3	9:I:121:ARG:O	2.21	0.40
10:J:54:PHE:CD2	10:J:55:LYS:HG2	2.51	0.40
10:J:56:HIS:O	10:J:58:ASP:N	2.54	0.40
11:K:125:PHE:N	11:K:125:PHE:CD1	2.88	0.40
12:L:38:THR:HB	12:L:57:LYS:HB2	2.03	0.40
13:M:13:LYS:O	13:M:14:ARG:O	2.39	0.40
13:M:53:VAL:O	13:M:56:LEU:HB2	2.21	0.40
18:R:47:THR:CG2	18:R:48:GLY:N	2.84	0.40
18:R:47:THR:OG1	18:R:49:LYS:HE3	2.20	0.40
20:T:89:ARG:HE	20:T:104:LEU:HD22	1.86	0.40
20:T:91:LEU:C	20:T:93:GLU:N	2.72	0.40
1:A:316:C:H2'	1:A:317:A:C8	2.56	0.40
1:A:319:U:OP1	20:T:26:ASN:ND2	2.48	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:549:U:C5	1:A:550:G:H2'	2.55	0.40
1:A:709:G:N3	1:A:710:C:C6	2.89	0.40
1:A:776:A:O2'	1:A:777:U:O5'	2.39	0.40
1:A:898:U:O2'	1:A:899:U:H5'	2.21	0.40
1:A:964:A:N1	1:A:1202:G:C6	2.89	0.40
1:A:1200:C:H2'	1:A:1201:U:C5	2.54	0.40
1:A:1213:G:C5	1:A:1214:U:C5	3.09	0.40
1:A:1432:A:O2'	1:A:1433:C:OP1	2.32	0.40
1:A:1482:G:O2'	1:A:1483:G:P	2.79	0.40
2:B:204:ASN:C	2:B:206:ASP:H	2.24	0.40
3:C:186:PHE:HE1	3:C:198:VAL:H	1.68	0.40
7:G:15:ASP:OD1	7:G:17:VAL:N	2.39	0.40
7:G:75:VAL:CG1	7:G:86:GLN:HB3	2.45	0.40
8:H:104:ARG:NH1	8:H:138:TRP:CH2	2.89	0.40
10:J:80:LYS:HA	10:J:83:GLU:HB2	2.03	0.40
17:Q:61:GLU:HA	17:Q:71:PHE:CE1	2.56	0.40
19:S:22:LEU:CD2	19:S:28:LYS:HD2	2.50	0.40
1:A:117:C:H6	1:A:117:C:O5'	2.04	0.40
1:A:147:A:C6	1:A:165:U:O2	2.74	0.40
1:A:268:C:C2'	1:A:269:A:H5'	2.51	0.40
1:A:276:C:C2	17:Q:38:ARG:HG3	2.56	0.40
1:A:325:A:H4'	1:A:326:C:OP1	2.21	0.40
1:A:352:A:C2	1:A:353:G:H1'	2.56	0.40
1:A:504:A:N1	1:A:520:C:H1'	2.36	0.40
1:A:598:A:H2'	1:A:599:C:O4'	2.21	0.40
1:A:756:U:C4	1:A:757:G:N7	2.90	0.40
1:A:791:A:C5	1:A:792:C:C5	3.09	0.40
1:A:901:A:C6	1:A:902:C:N3	2.89	0.40
1:A:901:A:N6	1:A:1375:G:O6	2.54	0.40
1:A:1081:C:O2'	1:A:1082:G:H5'	2.22	0.40
1:A:1111:C:C4	1:A:1122:G:C6	3.08	0.40
1:A:1132:C:C2	1:A:1133:U:C5	3.09	0.40
1:A:1228:C:O2'	1:A:1229:U:H5'	2.21	0.40
1:A:1287:G:C5'	21:U:4:GLY:CA	2.99	0.40
2:B:92:TYR:CD2	2:B:92:TYR:N	2.89	0.40
2:B:118:LEU:HD23	2:B:118:LEU:HA	1.92	0.40
3:C:125:GLU:HG3	3:C:189:ALA:HB1	2.04	0.40
3:C:190:ARG:NH1	3:C:190:ARG:CB	2.85	0.40
4:D:19:LEU:O	4:D:21:LEU:N	2.52	0.40
4:D:64:LEU:HD13	4:D:64:LEU:C	2.41	0.40
5:E:71:LEU:HD21	5:E:115:VAL:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:44:PHE:HB3	8:H:80:ILE:CG1	2.51	0.40
8:H:51:VAL:HG12	8:H:52:ASP:N	2.36	0.40
8:H:96:GLY:O	8:H:97:VAL:C	2.59	0.40
9:I:24:GLY:HA2	9:I:60:ASP:HA	2.02	0.40
9:I:93:ARG:O	9:I:95:LYS:N	2.55	0.40
10:J:12:ASP:OD1	10:J:14:LYS:HB2	2.21	0.40
10:J:49:VAL:O	10:J:61:GLU:N	2.54	0.40
11:K:16:SER:HA	11:K:79:SER:HB3	2.03	0.40
15:O:6:GLU:O	15:O:8:LYS:N	2.54	0.40
17:Q:29:HIS:O	17:Q:31:LEU:N	2.55	0.40
17:Q:59:ILE:HG23	17:Q:71:PHE:HB3	2.03	0.40
21:U:24:ARG:O	21:U:25:LYS:CB	2.69	0.40
1:A:65:G:H4'	1:A:66:U:O5'	2.21	0.40
1:A:242:A:H62	1:A:277:G:H1'	1.83	0.40
1:A:271:G:H5'	17:Q:14:LYS:CD	2.47	0.40
1:A:275:A:C6	17:Q:98:LEU:HD13	2.56	0.40
1:A:348:C:N3	1:A:352:A:N6	2.69	0.40
1:A:393:A:H5''	1:A:393:A:N3	2.37	0.40
1:A:421:G:H4'	4:D:45:GLN:HE22	1.87	0.40
1:A:732:C:O2'	1:A:733:C:P	2.79	0.40
1:A:761:A:C2	1:A:762:G:H1'	2.57	0.40
1:A:858:C:OP1	12:L:8:ASN:ND2	2.54	0.40
1:A:964:A:C6	1:A:965:G:C6	3.08	0.40
1:A:974:A:H2'	1:A:975:U:C6	2.56	0.40
1:A:981:G:O5'	1:A:981:G:H8	2.04	0.40
1:A:983:A:H3'	1:A:1004:U:O4	2.22	0.40
1:A:1192:C:C5'	1:A:1196:C:N4	2.85	0.40
1:A:1308:C:OP2	21:U:6:ARG:NH1	2.55	0.40
1:A:1342:A:O2'	1:A:1343:G:H5'	2.22	0.40
2:B:111:ARG:O	2:B:114:ARG:HB3	2.21	0.40
2:B:141:GLU:O	2:B:142:LEU:C	2.57	0.40
3:C:28:GLN:HA	3:C:31:HIS:HD2	1.85	0.40
4:D:32:ALA:O	4:D:34:GLU:N	2.54	0.40
7:G:68:ASN:HD21	7:G:128:ALA:HA	1.85	0.40
7:G:136:LYS:O	7:G:140:ASP:N	2.39	0.40
9:I:11:LYS:O	9:I:11:LYS:HG2	2.22	0.40
10:J:47:PHE:CZ	14:N:37:PHE:CE1	3.10	0.40
10:J:87:THR:O	10:J:88:LEU:HD23	2.21	0.40
11:K:87:THR:HG23	11:K:91:ARG:NH2	2.36	0.40
13:M:65:LYS:CG	13:M:69:GLU:HG2	2.52	0.40
15:O:5:LYS:O	15:O:8:LYS:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:74:ASP:HA	15:O:75:PRO:HD2	1.85	0.40
16:P:4:ILE:HA	16:P:20:VAL:O	2.21	0.40
17:Q:3:LYS:HB3	17:Q:61:GLU:HB3	2.04	0.40
17:Q:90:ILE:O	17:Q:91:ARG:C	2.59	0.40
20:T:22:ARG:O	20:T:23:ARG:C	2.59	0.40
1:A:11:A:H2'	1:A:12:G:C8	2.42	0.40
1:A:208:C:N4	1:A:212:G:H1	2.19	0.40
1:A:458:A:C2'	1:A:459:G:H5'	2.51	0.40
1:A:547:A:C8	1:A:551:G:O4'	2.75	0.40
1:A:559:G:C6	1:A:805:G:N7	2.89	0.40
1:A:694:G:H2'	1:A:695:G:O4'	2.21	0.40
1:A:757:G:H2'	1:A:758:G:H8	1.87	0.40
1:A:802:G:C3'	1:A:803:A:H5''	2.49	0.40
1:A:939:U:N3	1:A:961:A:C5	2.90	0.40
1:A:993:A:C2	19:S:34:TRP:CE2	3.10	0.40
1:A:1074:U:C2	1:A:1078:U:C4	3.10	0.40
1:A:1255:G:N2	1:A:1256:G:H1'	2.37	0.40
1:A:1296:C:H2'	1:A:1297:U:C6	2.57	0.40
1:A:1421:G:C5	1:A:1422:C:C4	3.09	0.40
1:A:1435:G:H5'	20:T:36:LEU:HD21	2.03	0.40
1:A:1481:A:O2'	1:A:1482:G:P	2.80	0.40
3:C:11:ARG:O	3:C:13:GLY:N	2.54	0.40
4:D:98:GLU:OE2	4:D:107:ARG:NE	2.55	0.40
4:D:178:VAL:O	4:D:179:GLU:O	2.39	0.40
5:E:56:GLN:O	5:E:57:LYS:C	2.60	0.40
5:E:144:THR:C	5:E:146:ALA:N	2.72	0.40
7:G:114:ARG:NH1	7:G:114:ARG:HG2	2.35	0.40
9:I:7:THR:CG2	9:I:8:GLY:N	2.71	0.40
11:K:30:VAL:CG1	11:K:31:THR:N	2.85	0.40
11:K:49:GLY:O	11:K:50:TYR:C	2.60	0.40
12:L:11:VAL:HG13	17:Q:29:HIS:CD2	2.57	0.40
12:L:40:VAL:HA	12:L:55:VAL:O	2.22	0.40
16:P:33:ILE:HG13	16:P:33:ILE:H	1.73	0.40
16:P:43:LYS:HA	16:P:48:TRP:HB3	2.03	0.40
18:R:78:LEU:HD23	18:R:78:LEU:HA	1.64	0.40
21:U:9:ARG:HD2	21:U:9:ARG:HA	1.79	0.40

There are no symmetry-related clashes.



## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	232/256 (91%)	134 (58%)	57 (25%)	41 (18%)	0	1
3	C	204/239 (85%)	114 (56%)	55 (27%)	35 (17%)	0	1
4	D	206/209 (99%)	131 (64%)	49 (24%)	26 (13%)	0	2
5	E	148/162 (91%)	99 (67%)	38 (26%)	11 (7%)	1	7
6	F	99/101 (98%)	73 (74%)	22 (22%)	4 (4%)	3	20
7	G	153/156 (98%)	103 (67%)	37 (24%)	13 (8%)	1	5
8	H	136/138 (99%)	108 (79%)	19 (14%)	9 (7%)	1	9
9	I	125/128 (98%)	80 (64%)	29 (23%)	16 (13%)	0	2
10	J	96/105 (91%)	56 (58%)	20 (21%)	20 (21%)	0	0
11	K	117/129 (91%)	78 (67%)	29 (25%)	10 (8%)	1	5
12	L	122/135 (90%)	89 (73%)	20 (16%)	13 (11%)	0	3
13	M	123/126 (98%)	69 (56%)	33 (27%)	21 (17%)	0	1
14	N	58/61 (95%)	35 (60%)	14 (24%)	9 (16%)	0	1
15	O	86/89 (97%)	47 (55%)	28 (33%)	11 (13%)	0	2
16	P	81/88 (92%)	57 (70%)	20 (25%)	4 (5%)	2	15
17	Q	102/105 (97%)	73 (72%)	15 (15%)	14 (14%)	0	1
18	R	71/88 (81%)	46 (65%)	16 (22%)	9 (13%)	0	2
19	S	78/93 (84%)	50 (64%)	18 (23%)	10 (13%)	0	2
20	T	97/106 (92%)	44 (45%)	38 (39%)	15 (16%)	0	1
21	U	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	1	4
All	All	2356/2541 (93%)	1504 (64%)	559 (24%)	293 (12%)	0	2

All (293) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	8	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	17	PHE
2	B	23	ARG
2	B	24	TRP
2	B	29	ALA
2	B	30	ARG
2	B	78	GLN
2	B	171	ALA
2	B	211	ILE
3	C	4	LYS
3	C	12	LEU
3	C	75	VAL
3	C	101	LEU
3	C	168	ALA
3	C	178	LEU
3	C	179	ARG
3	C	181	ASN
3	C	189	ALA
4	D	9	CYS
4	D	29	PRO
4	D	36	ARG
4	D	110	PHE
4	D	178	VAL
4	D	179	GLU
4	D	191	ARG
5	E	16	THR
5	E	37	ARG
7	G	155	ARG
8	H	91	ARG
9	I	7	THR
9	I	43	ALA
9	I	44	VAL
9	I	45	ALA
9	I	101	PHE
10	J	32	ALA
10	J	34	VAL
10	J	39	PRO
10	J	40	LEU
10	J	54	PHE
10	J	79	ARG
10	J	82	ILE
10	J	86	MET
11	K	50	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	K	57	THR
11	K	126	ARG
12	L	45	PRO
12	L	47	LYS
12	L	116	SER
12	L	121	GLY
13	M	5	ALA
13	M	27	LYS
13	M	28	ALA
13	M	60	VAL
13	M	63	THR
13	M	67	GLU
13	M	106	ASN
13	M	123	ALA
13	M	124	PRO
14	N	12	ARG
14	N	22	THR
15	O	88	ARG
17	Q	69	LYS
17	Q	80	GLY
17	Q	83	ASP
17	Q	97	SER
17	Q	98	LEU
17	Q	104	LYS
18	R	49	LYS
18	R	58	LEU
18	R	77	GLY
18	R	87	ARG
19	S	3	ARG
19	S	6	LYS
20	T	11	SER
20	T	49	ALA
20	T	50	GLU
20	T	94	ALA
20	T	95	ALA
2	B	14	GLY
2	B	16	HIS
2	B	18	GLY
2	B	20	GLU
2	B	27	LYS
2	B	49	GLU
2	B	83	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	101	MET
2	B	121	LEU
2	B	143	GLU
2	B	150	SER
2	B	154	LEU
2	B	204	ASN
2	B	208	ILE
3	C	15	THR
3	C	16	ARG
3	C	50	ALA
3	C	53	ALA
3	C	57	ILE
3	C	66	VAL
3	C	74	GLY
3	C	100	ALA
3	C	128	PHE
3	C	130	VAL
3	C	163	ALA
3	C	180	ALA
3	C	205	GLY
4	D	3	ARG
4	D	72	GLU
5	E	96	PRO
5	E	142	LEU
5	E	153	LYS
6	F	35	ALA
6	F	39	LYS
6	F	65	VAL
7	G	7	ALA
7	G	42	ILE
7	G	90	GLU
7	G	149	ARG
8	H	29	SER
9	I	33	PHE
9	I	85	LEU
9	I	88	TYR
9	I	121	ARG
10	J	57	LYS
10	J	60	ARG
10	J	73	ASP
11	K	27	ASN
11	K	89	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	K	124	LYS
12	L	27	LEU
12	L	28	LYS
12	L	51	ALA
12	L	118	SER
12	L	126	LYS
13	M	4	ILE
13	M	6	GLY
13	M	14	ARG
13	M	18	ALA
13	M	19	LEU
13	M	53	VAL
13	M	61	GLU
13	M	74	VAL
13	M	85	GLY
14	N	6	LEU
14	N	13	THR
14	N	17	LYS
14	N	19	ARG
14	N	36	PHE
15	O	32	LEU
16	P	24	ALA
17	Q	30	PRO
17	Q	87	LYS
18	R	20	ALA
18	R	37	VAL
18	R	62	GLU
19	S	17	GLU
19	S	35	SER
19	S	43	GLU
19	S	45	VAL
20	T	39	LYS
20	T	63	ILE
20	T	92	LEU
20	T	96	GLY
20	T	102	GLY
21	U	3	LYS
21	U	9	ARG
2	B	15	VAL
2	B	60	ASP
2	B	66	GLY
2	B	74	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	135	GLN
2	B	214	ILE
3	C	47	LEU
3	C	61	ALA
3	C	121	ALA
3	C	139	GLN
3	C	206	GLU
4	D	4	TYR
4	D	92	VAL
4	D	180	GLY
5	E	71	LEU
5	E	138	ALA
7	G	66	VAL
7	G	96	GLN
7	G	146	GLU
8	H	76	PRO
8	H	121	ASP
9	I	60	ASP
9	I	71	SER
9	I	78	LYS
9	I	94	ALA
10	J	26	ALA
10	J	35	SER
10	J	59	SER
10	J	90	LEU
11	K	15	ALA
11	K	35	PRO
11	K	48	ILE
12	L	14	GLY
14	N	11	LYS
15	O	30	ALA
15	O	33	THR
15	O	71	GLN
17	Q	47	PRO
17	Q	88	TYR
18	R	34	TYR
18	R	63	GLN
19	S	68	GLY
19	S	71	LEU
2	B	95	GLN
2	B	142	LEU
3	C	77	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	84	ILE
4	D	89	THR
4	D	90	GLY
4	D	102	ASP
4	D	153	ARG
4	D	157	LEU
5	E	39	GLY
5	E	79	GLU
8	H	105	ARG
9	I	56	LEU
9	I	118	LYS
10	J	25	GLU
10	J	72	VAL
11	K	117	ASN
12	L	6	THR
12	L	48	PRO
12	L	115	LYS
13	M	73	GLU
14	N	23	ARG
15	O	34	LEU
15	O	47	LYS
15	O	82	ILE
16	P	10	GLY
17	Q	33	GLY
17	Q	48	GLU
19	S	14	HIS
19	S	16	LEU
20	T	9	ASN
2	B	9	GLU
2	B	26	PRO
2	B	47	THR
2	B	82	ARG
2	B	89	GLY
2	B	131	PRO
2	B	183	PRO
2	B	213	LEU
3	C	60	ALA
3	C	146	ALA
4	D	31	CYS
4	D	45	GLN
4	D	204	ILE
6	F	23	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	G	93	PRO
7	G	127	ALA
8	H	18	ARG
8	H	30	ARG
8	H	86	ILE
9	I	11	LYS
10	J	30	SER
15	O	12	ILE
17	Q	68	ARG
20	T	38	LYS
2	B	125	PRO
2	B	126	GLU
3	C	42	LEU
3	C	73	PRO
4	D	63	LYS
4	D	200	GLU
5	E	107	ARG
7	G	62	PHE
15	O	72	ARG
16	P	41	PRO
16	P	81	ARG
20	T	73	HIS
3	C	80	GLY
4	D	5	ILE
5	E	115	VAL
10	J	24	VAL
20	T	33	ILE
3	C	51	GLY
8	H	97	VAL
15	O	36	ILE
20	T	97	ALA
4	D	136	PRO
13	M	78	ILE
4	D	133	VAL
4	D	203	VAL
7	G	50	ILE
7	G	87	VAL
10	J	36	GLY
13	M	15	VAL
17	Q	85	VAL



### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	202/220 (92%)	183 (91%)	19 (9%)	8	31
3	C	160/188 (85%)	142 (89%)	18 (11%)	6	23
4	D	180/181 (99%)	164 (91%)	16 (9%)	9	34
5	E	115/123 (94%)	102 (89%)	13 (11%)	6	23
6	F	90/90 (100%)	84 (93%)	6 (7%)	16	47
7	G	126/127 (99%)	120 (95%)	6 (5%)	25	57
8	H	119/119 (100%)	109 (92%)	10 (8%)	11	37
9	I	98/99 (99%)	88 (90%)	10 (10%)	7	28
10	J	88/92 (96%)	81 (92%)	7 (8%)	12	39
11	K	90/99 (91%)	85 (94%)	5 (6%)	21	53
12	L	104/111 (94%)	96 (92%)	8 (8%)	13	41
13	M	100/101 (99%)	84 (84%)	16 (16%)	2	10
14	N	49/50 (98%)	44 (90%)	5 (10%)	7	28
15	O	79/80 (99%)	72 (91%)	7 (9%)	9	34
16	P	72/74 (97%)	68 (94%)	4 (6%)	21	53
17	Q	96/97 (99%)	89 (93%)	7 (7%)	14	43
18	R	64/77 (83%)	58 (91%)	6 (9%)	8	31
19	S	71/80 (89%)	68 (96%)	3 (4%)	30	60
20	T	75/82 (92%)	64 (85%)	11 (15%)	3	13
21	U	19/22 (86%)	19 (100%)	0	100	100
All	All	1997/2112 (95%)	1820 (91%)	177 (9%)	9	34

All (177) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	8	LYS
2	B	12	GLU
2	B	17	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	23	ARG
2	B	24	TRP
2	B	25	ASN
2	B	26	PRO
2	B	69	LEU
2	B	91	PRO
2	B	96	ARG
2	B	114	ARG
2	B	144	ARG
2	B	147	LYS
2	B	153	ARG
2	B	157	ARG
2	B	170	GLU
2	B	181	PHE
2	B	204	ASN
2	B	231	GLU
3	C	3	ASN
3	C	15	THR
3	C	26	LYS
3	C	29	TYR
3	C	32	LEU
3	C	37	GLN
3	C	82	GLU
3	C	91	LEU
3	C	98	ASN
3	C	99	VAL
3	C	101	LEU
3	C	139	GLN
3	C	162	GLN
3	C	167	TRP
3	C	179	ARG
3	C	188	LEU
3	C	193	TYR
3	C	201	TYR
4	D	9	CYS
4	D	10	ARG
4	D	15	GLU
4	D	25	ARG
4	D	29	PRO
4	D	36	ARG
4	D	53	ASP
4	D	58	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	D	65	ARG
4	D	92	VAL
4	D	106	TYR
4	D	122	ARG
4	D	138	TYR
4	D	157	LEU
4	D	176	LEU
4	D	199	ASN
5	E	10	MET
5	E	11	ILE
5	E	12	LEU
5	E	15	ARG
5	E	26	PHE
5	E	64	ARG
5	E	68	GLU
5	E	73	ASN
5	E	75	THR
5	E	89	ILE
5	E	120	THR
5	E	147	ASP
5	E	150	ARG
6	F	10	LEU
6	F	24	GLU
6	F	32	ASN
6	F	65	VAL
6	F	69	GLU
6	F	95	GLU
7	G	8	GLU
7	G	12	LEU
7	G	36	LYS
7	G	51	GLN
7	G	113	GLU
7	G	140	ASP
8	H	18	ARG
8	H	25	ASP
8	H	52	ASP
8	H	57	PRO
8	H	63	LEU
8	H	85	ARG
8	H	91	ARG
8	H	92	ARG
8	H	104	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	H	105	ARG
9	I	2	GLU
9	I	3	GLN
9	I	12	GLU
9	I	23	ASN
9	I	38	GLN
9	I	58	ARG
9	I	91	ASP
9	I	104	ARG
9	I	111	ARG
9	I	121	ARG
10	J	15	THR
10	J	38	ILE
10	J	45	ARG
10	J	71	LEU
10	J	73	ASP
10	J	83	GLU
10	J	95	GLU
11	K	29	ILE
11	K	31	THR
11	K	36	ASP
11	K	51	LYS
11	K	91	ARG
12	L	17	LYS
12	L	53	ARG
12	L	59	ARG
12	L	64	TYR
12	L	81	SER
12	L	98	TYR
12	L	113	ARG
12	L	126	LYS
13	M	9	ILE
13	M	14	ARG
13	M	16	ASP
13	M	40	ASN
13	M	44	ARG
13	M	46	LYS
13	M	63	THR
13	M	70	LEU
13	M	81	LEU
13	M	102	ARG
13	M	105	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	M	106	ASN
13	M	109	THR
13	M	110	ARG
13	M	124	PRO
13	M	125	ARG
14	N	3	ARG
14	N	17	LYS
14	N	31	ARG
14	N	41	ARG
14	N	44	LEU
15	O	6	GLU
15	O	32	LEU
15	O	39	LEU
15	O	40	SER
15	O	70	LEU
15	O	81	LEU
15	O	83	GLU
16	P	18	ARG
16	P	39	TYR
16	P	55	ARG
16	P	61	SER
17	Q	34	LYS
17	Q	35	VAL
17	Q	38	ARG
17	Q	60	ILE
17	Q	68	ARG
17	Q	98	LEU
17	Q	101	ARG
18	R	28	GLU
18	R	36	ASN
18	R	38	GLU
18	R	55	ARG
18	R	82	THR
18	R	87	ARG
19	S	10	PHE
19	S	15	LEU
19	S	30	LEU
20	T	10	LEU
20	T	13	LEU
20	T	24	LEU
20	T	42	GLN
20	T	57	ARG

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Mol	Chain	Res	Type
20	T	68	LYS
20	T	72	LEU
20	T	73	HIS
20	T	75	ASN
20	T	84	LEU
20	T	86	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	25	ASN
2	B	40	HIS
2	B	94	ASN
2	B	146	GLN
2	B	204	ASN
2	B	212	GLN
3	C	3	ASN
3	C	6	HIS
3	C	63	ASN
3	C	69	HIS
3	C	98	ASN
3	C	110	ASN
3	C	118	GLN
3	C	123	GLN
3	C	139	GLN
4	D	42	GLN
4	D	45	GLN
4	D	62	GLN
4	D	77	ASN
4	D	123	HIS
4	D	160	GLN
4	D	199	ASN
5	E	73	ASN
6	F	13	ASN
6	F	18	GLN
6	F	27	GLN
6	F	32	ASN
6	F	57	GLN
6	F	64	GLN
6	F	94	GLN
6	F	100	ASN
7	G	28	ASN

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Mol	Chain	Res	Type
7	G	37	ASN
7	G	64	GLN
7	G	68	ASN
7	G	86	GLN
7	G	106	GLN
7	G	122	HIS
8	H	82	HIS
9	I	3	GLN
9	I	23	ASN
9	I	31	GLN
9	I	73	GLN
10	J	62	HIS
10	J	76	ASN
10	J	84	GLN
11	K	13	GLN
11	K	93	GLN
11	K	117	ASN
12	L	49	ASN
12	L	75	HIS
13	M	12	ASN
13	M	40	ASN
13	M	62	ASN
15	O	13	GLN
15	O	37	ASN
16	P	16	HIS
16	P	82	GLN
17	Q	16	GLN
18	R	36	ASN
19	S	14	HIS
19	S	23	ASN
19	S	47	HIS
19	S	53	ASN
19	S	56	GLN
20	T	42	GLN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1505/1522 (98%)	286 (19%)	164 (10%)

All (286) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G
1	A	8	G
1	A	9	A
1	A	10	G
1	A	14	U
1	A	15	U
1	A	32	G
1	A	33	A
1	A	40	G
1	A	48	C
1	A	49	C
1	A	50	U
1	A	51	A
1	A	52	A
1	A	53	G
1	A	62	G
1	A	65	G
1	A	66	U
1	A	67	G
1	A	80	U
1	A	103	A
1	A	104	C
1	A	110	A
1	A	114	A
1	A	115	C
1	A	116	G
1	A	124	G
1	A	125	A
1	A	177	U
1	A	190	U
1	A	191	G
1	A	192	G
1	A	202	A
1	A	204	A
1	A	205	G
1	A	210	U
1	A	211	U
1	A	212	G
1	A	240	U
1	A	241	C
1	A	243	G
1	A	247	G
1	A	248	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	262	G
1	A	263	C
1	A	271	G
1	A	275	A
1	A	276	C
1	A	277	G
1	A	278	A
1	A	285	G
1	A	301	G
1	A	302	G
1	A	312	G
1	A	324	C
1	A	325	A
1	A	326	C
1	A	328	G
1	A	340	A
1	A	341	C
1	A	342	G
1	A	348	C
1	A	349	A
1	A	350	G
1	A	363	U
1	A	364	U
1	A	369	A
1	A	385	A
1	A	393	A
1	A	394	C
1	A	402	G
1	A	408	A
1	A	409	G
1	A	417	U
1	A	418	C
1	A	419	G
1	A	424	G
1	A	425	U
1	A	426	A
1	A	435	A
1	A	446	A
1	A	447	A
1	A	455	A
1	A	456	C
1	A	457	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	466	G
1	A	469	G
1	A	470	G
1	A	471	U
1	A	480	A
1	A	481	A
1	A	482	U
1	A	484	G
1	A	492	C
1	A	493	A
1	A	494	A
1	A	495	C
1	A	502	C
1	A	503	C
1	A	511	G
1	A	516	A
1	A	517	A
1	A	518	U
1	A	520	C
1	A	532	G
1	A	543	A
1	A	544	U
1	A	545	U
1	A	546	C
1	A	547	A
1	A	550	G
1	A	551	G
1	A	556	A
1	A	557	A
1	A	559	G
1	A	560	G
1	A	561	G
1	A	580	C
1	A	626	A
1	A	636	U
1	A	637	A
1	A	649	A
1	A	670	U
1	A	672	G
1	A	679	A
1	A	685	C
1	A	686	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	687	G
1	A	688	A
1	A	701	C
1	A	702	G
1	A	705	G
1	A	706	A
1	A	707	U
1	A	715	G
1	A	733	C
1	A	737	A
1	A	738	C
1	A	739	G
1	A	761	A
1	A	765	A
1	A	776	A
1	A	777	U
1	A	796	C
1	A	797	U
1	A	799	A
1	A	800	A
1	A	801	C
1	A	802	G
1	A	803	A
1	A	804	U
1	A	805	G
1	A	812	A
1	A	823	U
1	A	824	C
1	A	825	U
1	A	849	U
1	A	850	A
1	A	851	A
1	A	852	G
1	A	862	U
1	A	863	G
1	A	867	A
1	A	868	G
1	A	869	U
1	A	880	G
1	A	892	A
1	A	904	G
1	A	905	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	912	C
1	A	913	A
1	A	923	G
1	A	938	U
1	A	939	U
1	A	944	G
1	A	946	A
1	A	947	A
1	A	949	G
1	A	950	C
1	A	952	A
1	A	953	A
1	A	954	G
1	A	955	A
1	A	960	U
1	A	961	A
1	A	969	U
1	A	970	U
1	A	971	G
1	A	972	A
1	A	983	A
1	A	984	A
1	A	1002	G
1	A	1003	G
1	A	1005	G
1	A	1007	C
1	A	1033	G
1	A	1037	C
1	A	1047	G
1	A	1048	U
1	A	1049	C
1	A	1051	G
1	A	1068	U
1	A	1069	U
1	A	1077	G
1	A	1084	A
1	A	1085	A
1	A	1100	G
1	A	1107	G
1	A	1108	U
1	A	1109	U
1	A	1112	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1113	A
1	A	1114	G
1	A	1120	C
1	A	1121	G
1	A	1122	G
1	A	1128	C
1	A	1129	A
1	A	1141	C
1	A	1142	U
1	A	1143	G
1	A	1165	A
1	A	1166	G
1	A	1173	A
1	A	1174	C
1	A	1178	U
1	A	1179	G
1	A	1183	A
1	A	1184	G
1	A	1194	U
1	A	1197	G
1	A	1207	A
1	A	1208	C
1	A	1209	A
1	A	1220	A
1	A	1221	A
1	A	1222	U
1	A	1223	G
1	A	1239	U
1	A	1240	G
1	A	1261	A
1	A	1264	C
1	A	1267	A
1	A	1268	A
1	A	1269	A
1	A	1281	A
1	A	1282	G
1	A	1283	U
1	A	1285	C
1	A	1287	G
1	A	1302	C
1	A	1304	C
1	A	1314	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1319	G
1	A	1327	U
1	A	1328	A
1	A	1329	G
1	A	1330	U
1	A	1346	A
1	A	1347	U
1	A	1348	G
1	A	1353	G
1	A	1364	U
1	A	1378	C
1	A	1379	A
1	A	1380	C
1	A	1381	A
1	A	1383	C
1	A	1384	G
1	A	1425	G
1	A	1427	A
1	A	1428	G
1	A	1433	C
1	A	1434	G
1	A	1468	C
1	A	1477	A
1	A	1480	A
1	A	1481	A
1	A	1482	G
1	A	1483	G
1	A	1484	U
1	A	1485	A
1	A	1495	G
1	A	1498	G
1	A	1507	G
1	A	1508	G

All (164) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	6	U
1	A	8	G
1	A	9	A
1	A	14	U
1	A	31	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	32	G
1	A	48	C
1	A	49	C
1	A	50	U
1	A	51	A
1	A	52	A
1	A	61	A
1	A	65	G
1	A	103	A
1	A	109	G
1	A	113	A
1	A	115	C
1	A	124	G
1	A	168	U
1	A	176	G
1	A	190	U
1	A	191	G
1	A	204	A
1	A	209	U
1	A	211	U
1	A	239	A
1	A	240	U
1	A	242	A
1	A	246	A
1	A	247	G
1	A	262	G
1	A	270	A
1	A	275	A
1	A	276	C
1	A	277	G
1	A	301	G
1	A	323	A
1	A	324	C
1	A	325	A
1	A	340	A
1	A	341	C
1	A	347	G
1	A	362	C
1	A	363	U
1	A	368	C
1	A	384	G
1	A	417	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	424	G
1	A	425	U
1	A	434	G
1	A	446	A
1	A	469	G
1	A	470	G
1	A	480	A
1	A	481	A
1	A	483	A
1	A	492	C
1	A	493	A
1	A	495	C
1	A	502	C
1	A	515	U
1	A	517	A
1	A	519	A
1	A	531	A
1	A	543	A
1	A	544	U
1	A	545	U
1	A	546	C
1	A	550	G
1	A	559	G
1	A	560	G
1	A	579	G
1	A	625	U
1	A	636	U
1	A	637	A
1	A	671	A
1	A	685	C
1	A	687	G
1	A	701	C
1	A	705	G
1	A	732	C
1	A	736	G
1	A	737	A
1	A	776	A
1	A	796	C
1	A	799	A
1	A	801	C
1	A	802	G
1	A	803	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	804	U
1	A	824	C
1	A	848	U
1	A	849	U
1	A	850	A
1	A	851	A
1	A	862	U
1	A	867	A
1	A	868	G
1	A	891	A
1	A	912	C
1	A	938	U
1	A	943	A
1	A	946	A
1	A	949	G
1	A	952	A
1	A	953	A
1	A	954	G
1	A	960	U
1	A	970	U
1	A	971	G
1	A	1032	U
1	A	1047	G
1	A	1048	U
1	A	1050	A
1	A	1068	U
1	A	1077	G
1	A	1084	A
1	A	1112	C
1	A	1128	C
1	A	1134	A
1	A	1140	A
1	A	1142	U
1	A	1164	G
1	A	1165	A
1	A	1172	G
1	A	1178	U
1	A	1183	A
1	A	1196	C
1	A	1206	G
1	A	1208	C
1	A	1221	A

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Mol	Chain	Res	Type
1	A	1222	U
1	A	1238	A
1	A	1239	U
1	A	1260	U
1	A	1262	A
1	A	1263	U
1	A	1267	A
1	A	1282	G
1	A	1284	U
1	A	1301	A
1	A	1304	C
1	A	1313	G
1	A	1327	U
1	A	1328	A
1	A	1329	G
1	A	1346	A
1	A	1347	U
1	A	1363	U
1	A	1377	A
1	A	1379	A
1	A	1380	C
1	A	1382	C
1	A	1383	C
1	A	1432	A
1	A	1433	C
1	A	1476	U
1	A	1480	A
1	A	1481	A
1	A	1482	G
1	A	1483	G
1	A	1484	U
1	A	1506	U
1	A	1507	G

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

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

#### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry

2 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
22	KSG	A	1523	-	25,27,27	1.20	2 (8%)	30,40,40	1.25	2 (6%)
22	KSG	A	1524	-	25,27,27	1.20	2 (8%)	30,40,40	1.25	2 (6%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	KSG	A	1523	-	-	3/10/52/52	0/2/2/2
22	KSG	A	1524	-	-	1/10/52/52	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1524	KSG	O8-C14	4.70	1.35	1.22
22	A	1523	KSG	O8-C14	4.68	1.35	1.22
22	A	1524	KSG	O9-C14	-3.00	1.21	1.30
22	A	1523	KSG	O9-C14	-3.00	1.21	1.30

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1524	KSG	C1-O1-C2	-4.51	106.80	117.96
22	A	1523	KSG	C1-O1-C2	-4.50	106.83	117.96
22	A	1524	KSG	C1-O7-C8	-3.56	107.55	113.67
22	A	1523	KSG	C1-O7-C8	-3.54	107.58	113.67

There are no chirality outliers.

All (4) torsion outliers are listed below:

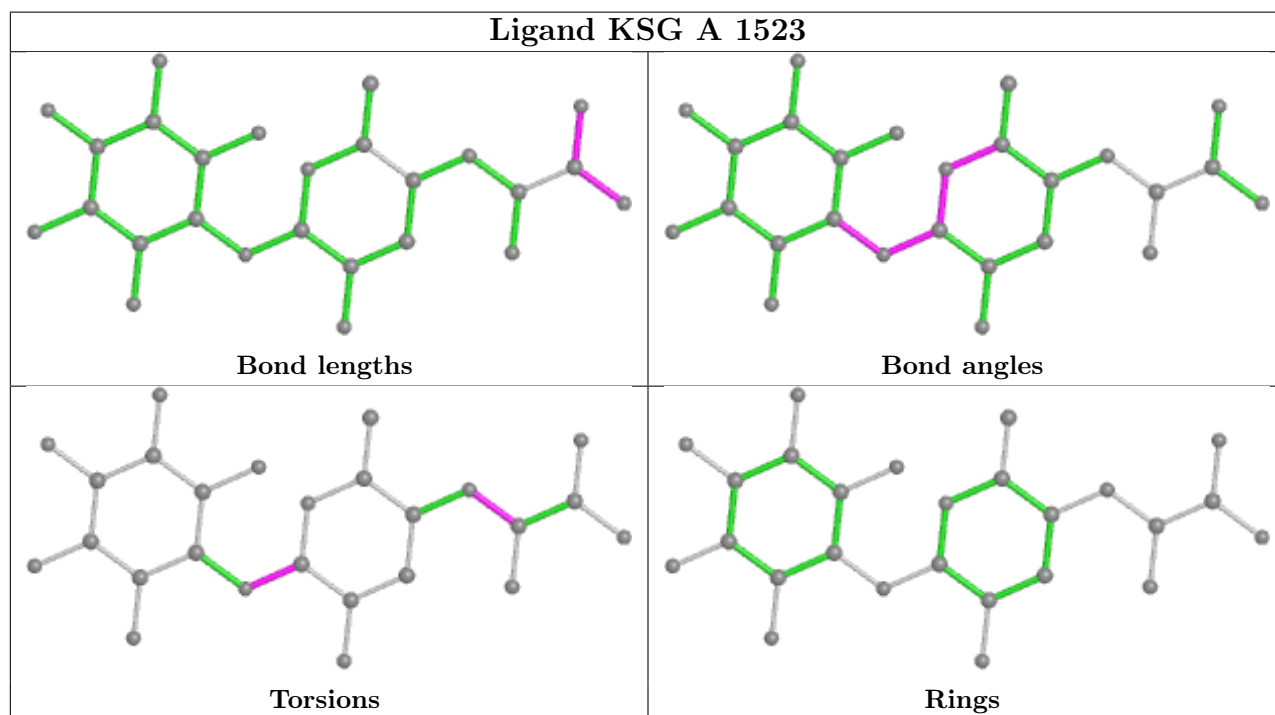
Mol	Chain	Res	Type	Atoms
22	A	1523	KSG	C14-C13-N2-C10
22	A	1523	KSG	N3-C13-N2-C10
22	A	1523	KSG	O7-C1-O1-C2
22	A	1524	KSG	O7-C1-O1-C2

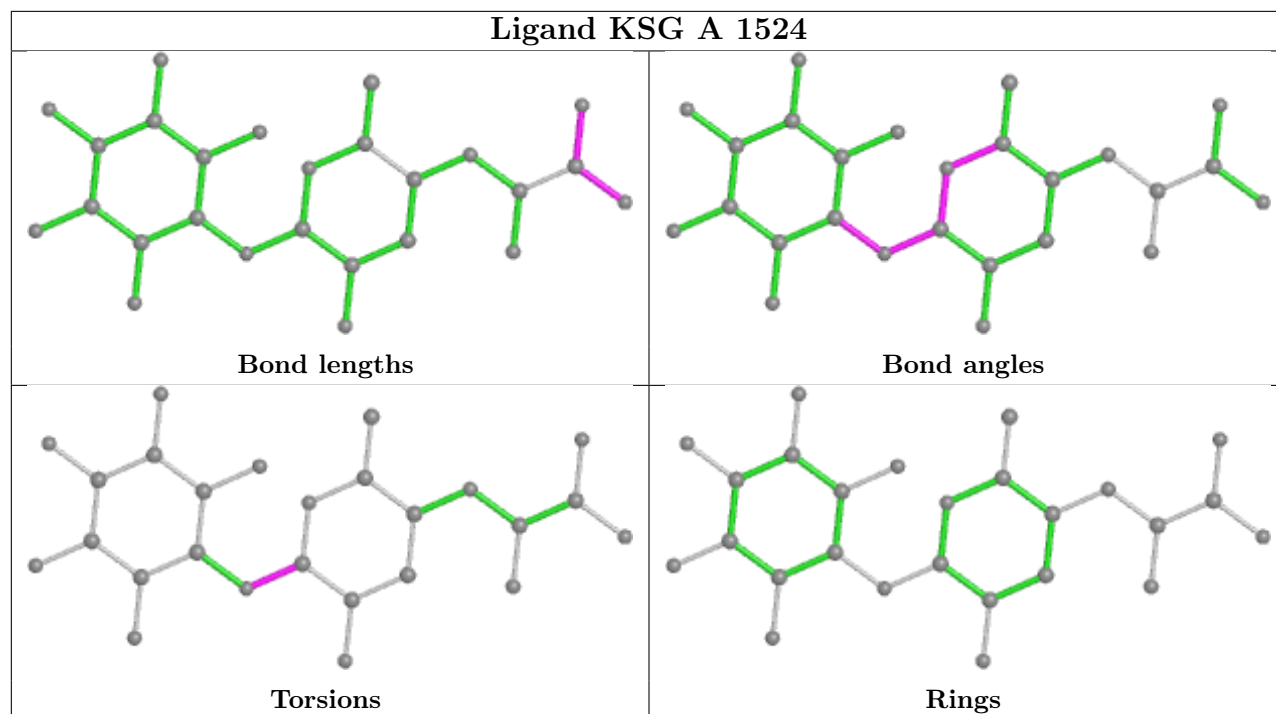
There are no ring outliers.

2 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	1523	KSG	5	0
22	A	1524	KSG	7	0

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





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	1503/1522 (98%)	-0.55	12 (0%) 86 89	1, 29, 110, 161	0
2	B	234/256 (91%)	-0.25	12 (5%) 28 30	4, 41, 109, 134	0
3	C	206/239 (86%)	-0.60	0 100 100	7, 46, 83, 93	0
4	D	208/209 (99%)	-0.57	3 (1%) 75 78	1, 27, 57, 70	0
5	E	150/162 (92%)	-0.78	0 100 100	1, 10, 35, 60	0
6	F	101/101 (100%)	-0.57	0 100 100	25, 52, 71, 80	0
7	G	155/156 (99%)	-0.44	4 (2%) 56 58	27, 54, 85, 102	0
8	H	138/138 (100%)	-0.84	0 100 100	1, 6, 34, 41	0
9	I	127/128 (99%)	-0.36	1 (0%) 86 89	9, 59, 87, 96	0
10	J	98/105 (93%)	-0.09	4 (4%) 37 39	15, 78, 118, 124	0
11	K	119/129 (92%)	-0.42	2 (1%) 70 73	18, 39, 66, 110	0
12	L	124/135 (91%)	-0.59	0 100 100	1, 32, 55, 98	0
13	M	125/126 (99%)	-0.05	7 (5%) 24 26	32, 53, 94, 133	0
14	N	60/61 (98%)	-0.44	0 100 100	15, 37, 78, 93	0
15	O	88/89 (98%)	-0.78	0 100 100	2, 30, 61, 95	0
16	P	83/88 (94%)	-0.76	0 100 100	3, 22, 42, 75	0
17	Q	104/105 (99%)	-0.55	4 (3%) 40 42	1, 22, 93, 153	0
18	R	73/88 (82%)	-0.43	2 (2%) 54 57	10, 33, 95, 136	0
19	S	80/93 (86%)	-0.10	2 (2%) 57 59	47, 64, 106, 120	0
20	T	99/106 (93%)	-0.51	1 (1%) 82 86	22, 37, 80, 87	0
21	U	24/27 (88%)	-0.19	0 100 100	27, 38, 62, 78	0
All	All	3899/4063 (95%)	-0.51	54 (1%) 75 78	1, 35, 95, 161	0

All (54) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
13	M	123	ALA	10.6
11	K	129	SER	8.9
2	B	234	PRO	8.7
13	M	124	PRO	8.2
13	M	121	LYS	7.3
17	Q	102	GLY	6.3
2	B	235	SER	6.1
2	B	233	SER	6.1
17	Q	104	LYS	5.8
17	Q	103	GLY	5.4
13	M	122	LYS	5.4
18	R	16	PRO	5.3
17	Q	105	ALA	5.2
2	B	231	GLU	5.2
2	B	236	TYR	5.0
18	R	17	SER	4.9
1	A	1013	A	4.9
19	S	2	PRO	4.5
7	G	156	TRP	4.5
1	A	1011	C	4.5
11	K	128	ALA	4.4
19	S	3	ARG	4.4
2	B	232	PRO	4.2
2	B	230	VAL	4.1
13	M	120	LYS	4.1
1	A	1112	C	4.0
2	B	239	VAL	3.9
10	J	73	ASP	3.2
2	B	229	VAL	3.2
2	B	237	ALA	3.1
1	A	982	G	3.1
1	A	456	C	3.0
1	A	1014	G	2.9
7	G	5	ARG	2.9
2	B	238	LEU	2.9
9	I	128	ARG	2.9
1	A	1006	C	2.9
1	A	1402	G	2.8
10	J	72	VAL	2.7
4	D	26	CYS	2.6
20	T	103	GLY	2.6
7	G	155	ARG	2.6
1	A	81	U	2.5

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Mol	Chain	Res	Type	RSRZ
4	D	31	CYS	2.5
13	M	126	LYS	2.3
2	B	240	GLN	2.3
10	J	71	LEU	2.3
10	J	33	GLN	2.3
1	A	1010	G	2.3
13	M	125	ARG	2.2
7	G	81	GLY	2.2
4	D	9	CYS	2.1
1	A	1399	G	2.1
1	A	1009	C	2.1

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

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

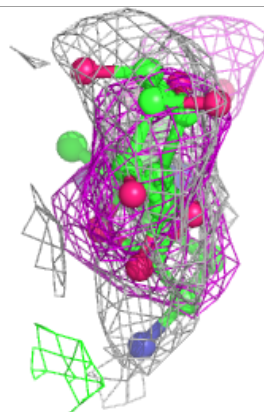
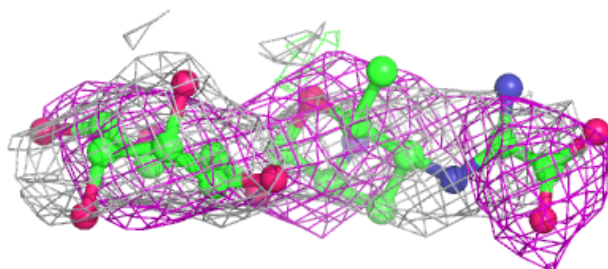
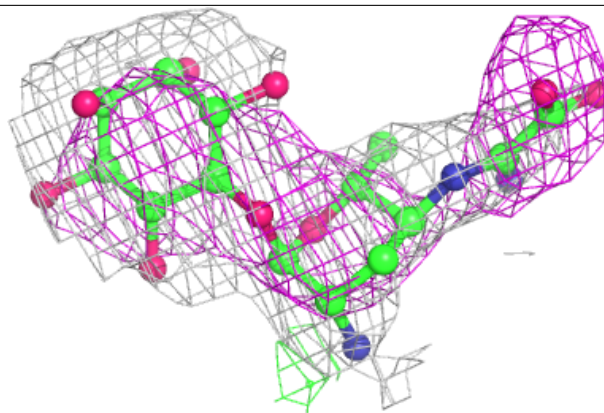
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
22	KSG	A	1524	26/26	0.80	0.62	28,32,34,36	0
22	KSG	A	1523	26/26	0.88	0.40	27,31,32,33	0

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

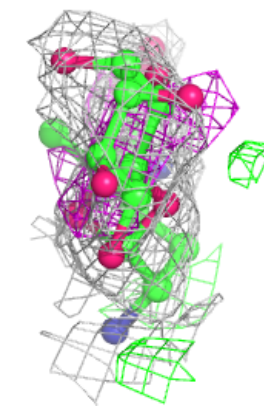
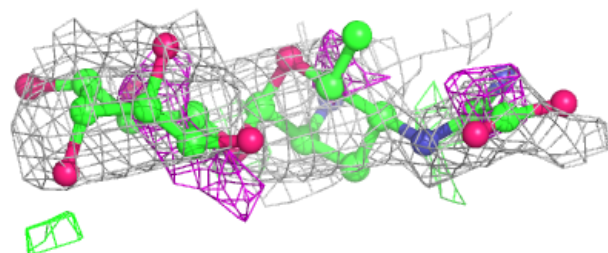
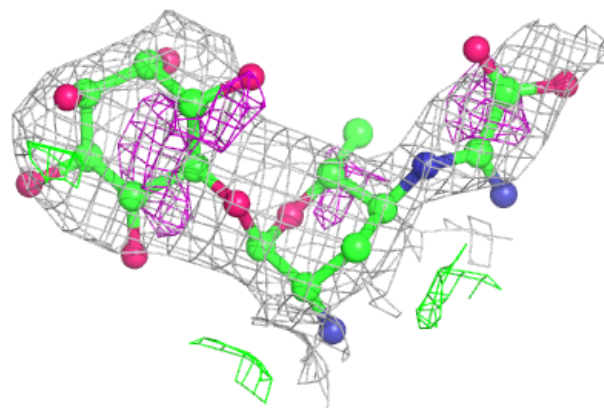


**Electron density around KSG A 1524:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

**Electron density around KSG A 1523:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



## 6.5 Other polymers [i](#)

There are no such residues in this entry.