



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 1, 2014 – 03:18 AM GMT

PDB ID : 2QBI  
Title : Crystal structure of the bacterial ribosome from Escherichia coli in complex with gentamicin and ribosome recycling factor (RRF). This file contains the 50S subunit of the first 70S ribosome, with gentamicin and RRF bound. The entire crystal structure contains two 70S ribosomes and is described in remark 400.  
Authors : Borovinskaya, M.A.; Pai, R.D.; Zhang, W.; Schuwirth, B.-S.; Holton, J.M.; Hirokawa, G.; Kaji, H.; Kaji, A.; Cate, J.H.D.  
Deposited on : 2007-06-17  
Resolution : 4.00 Å(reported)

This is a full wwPDB 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 <http://wwpdb.org/ValidationPDFNotes.html>

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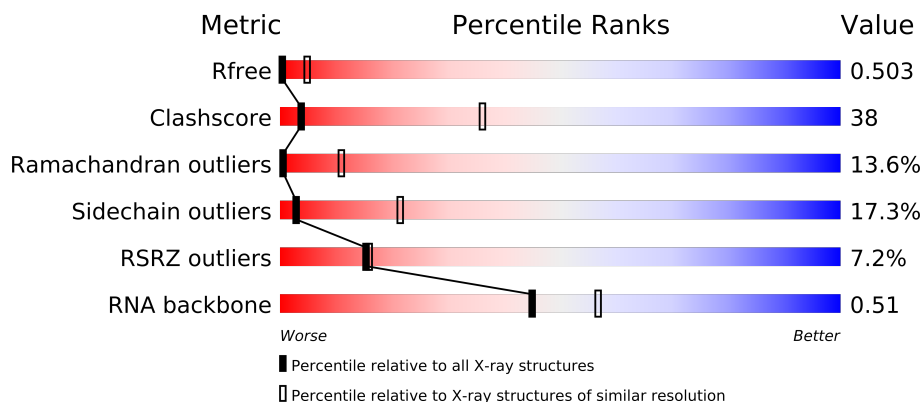
The following versions of software and data (see [references](#)) were used in the production of this report:

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

# 1 Overall quality at a glance

The reported resolution of this entry is 4.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	66092	1035 (4.52-3.46)
Clashscore	79885	1235 (4.50-3.50)
Ramachandran outliers	78287	1170 (4.50-3.50)
Sidechain outliers	78261	1156 (4.50-3.50)
RSRZ outliers	66119	1035 (4.52-3.46)
RNA backbone	1838	1018 (5.00-2.80)

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

Mol	Chain	Length	Quality of chain
1	A	120	
2	B	2904	
3	I	141	
4	C	272	
5	D	209	
6	K	123	
7	P	114	
8	E	201	
9	Y	58	
10	0	56	
11	4	38	
12	1	54	

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Mol	Chain	Length	Quality of chain
13	3	64	
14	V	94	
15	2	46	
16	L	144	
17	M	136	
18	X	63	
19	H	149	
20	J	142	
21	N	127	
22	O	117	
23	Q	117	
24	S	110	
25	U	103	
26	F	178	
27	G	176	
28	R	103	
29	T	100	
30	Z	78	
31	W	84	
32	6	185	

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

Mol	Type	Chain	Res	Geometry	Electron density
33	MG	B	2907	-	X
33	MG	B	2908	-	X
33	MG	B	2912	-	X
33	MG	B	2919	-	X
33	MG	B	2929	-	X
33	MG	B	2935	-	X
33	MG	B	2937	-	X
33	MG	B	2939	-	X
33	MG	B	2942	-	X
33	MG	B	2946	-	X
33	MG	B	2951	-	X
33	MG	B	2968	-	X
33	MG	B	2971	-	X
33	MG	B	2976	-	X
33	MG	B	2984	-	X
33	MG	B	2997	-	X
33	MG	B	3004	-	X

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Mol	Type	Chain	Res	Geometry	Electron density
33	MG	B	3010	-	X
33	MG	B	3012	-	X
34	LLL	B	3015	-	X

## 2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 91765 atoms, of which 0 are hydrogen and 0 are deuterium.

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

- Molecule 1 is a RNA chain called 5S rRNA.

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

- Molecule 2 is a RNA chain called 23S rRNA.

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

- Molecule 3 is a protein called 50S ribosomal protein L11.

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

- Molecule 4 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	C	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			

- Molecule 5 is a protein called 50S ribosomal protein L3.

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

- Molecule 6 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	K	121	Total	C	N	O	S	0	0	0
			930	582	179	164	5			

- Molecule 7 is a protein called 50S ribosomal protein L19.

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

- Molecule 8 is a protein called 50S ribosomal protein L4.

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

- Molecule 9 is a protein called 50S ribosomal protein L30.

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

- Molecule 10 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 11 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 12 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
12	1	50	Total	C	N	O	0	0	0
			409	263	75	71			

- Molecule 13 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 14 is a protein called 50S ribosomal protein L25.

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

- Molecule 15 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 16 is a protein called 50S ribosomal protein L15.

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

- Molecule 17 is a protein called 50S ribosomal protein L16.

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

- Molecule 18 is a protein called 50S ribosomal protein L29.

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

- Molecule 19 is a protein called 50S ribosomal protein L9.

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

- Molecule 20 is a protein called 50S ribosomal protein L13.

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

- Molecule 21 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	N	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			

- Molecule 22 is a protein called 50S ribosomal protein L18.

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

- Molecule 23 is a protein called 50S ribosomal protein L20.

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

- Molecule 24 is a protein called 50S ribosomal protein L22.

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

- Molecule 25 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	U	102	Total	C	N	O		0	0	0
			779	492	146	141				

- Molecule 26 is a protein called 50S ribosomal protein L5.

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

- Molecule 27 is a protein called 50S ribosomal protein L6.

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

- Molecule 28 is a protein called 50S ribosomal protein L21.



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

- Molecule 29 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	T	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			

- Molecule 30 is a protein called 50S ribosomal protein L28.

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

- Molecule 31 is a protein called 50S ribosomal protein L27.

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

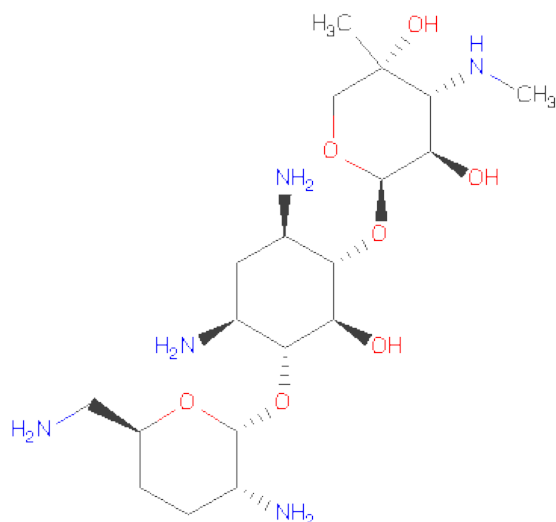
- Molecule 32 is a protein called 50S ribosomal protein RRF.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	6	185	Total	C	N	O	S	0	0	0
			1478	924	270	282	2			

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	B	110	Total	Mg	0	0
			110	110		

- Molecule 34 is (2R,3R,4R,5R)-2-((1S,2S,3R,4S,6R)-4,6-DIAMINO-3-((2R,3R,6S)-3-AMINO-6-(AMINOMETHYL)-TETRAHYDRO-2H-PYRAN-2-YLOXY)-2-HYDROXYCYCLOHEXYLOXY)-5-METHYL-4-(METHYLAMINO)-TETRAHYDRO-2H-PYRAN-3,5-DIOL (three-letter code: LLL) (formula: C<sub>19</sub>H<sub>39</sub>N<sub>5</sub>O<sub>7</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
34	B	1	Total	C	N	O	0	0
			31	19	5	7		

- Molecule 35 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	4	1	Total	Zn	0	0
			1	1		

- Molecule 36 is water.

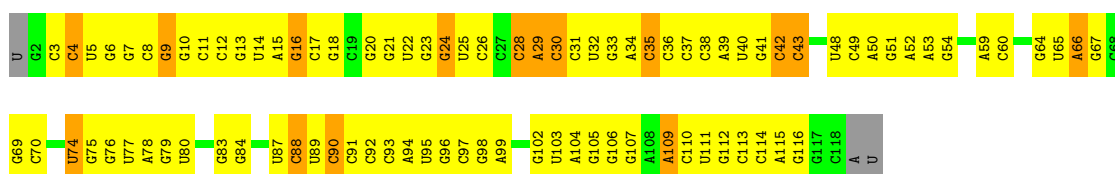
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	B	493	Total	O	0	0
			493	493		
36	C	6	Total	O	0	0
			6	6		
36	D	1	Total	O	0	0
			1	1		
36	E	2	Total	O	0	0
			2	2		
36	L	3	Total	O	0	0
			3	3		
36	T	1	Total	O	0	0
			1	1		

### 3 Residue-property plots

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

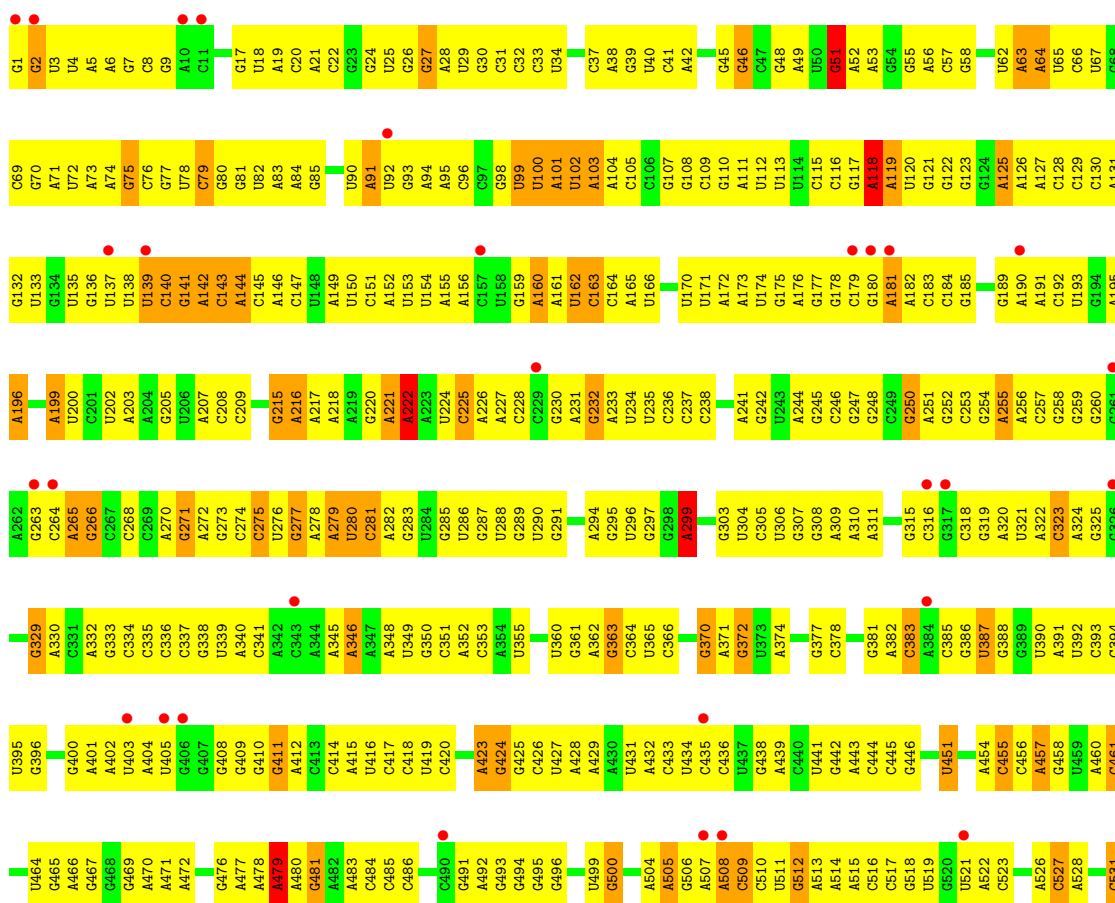
#### • Molecule 1: 5S rRNA

Chain A:



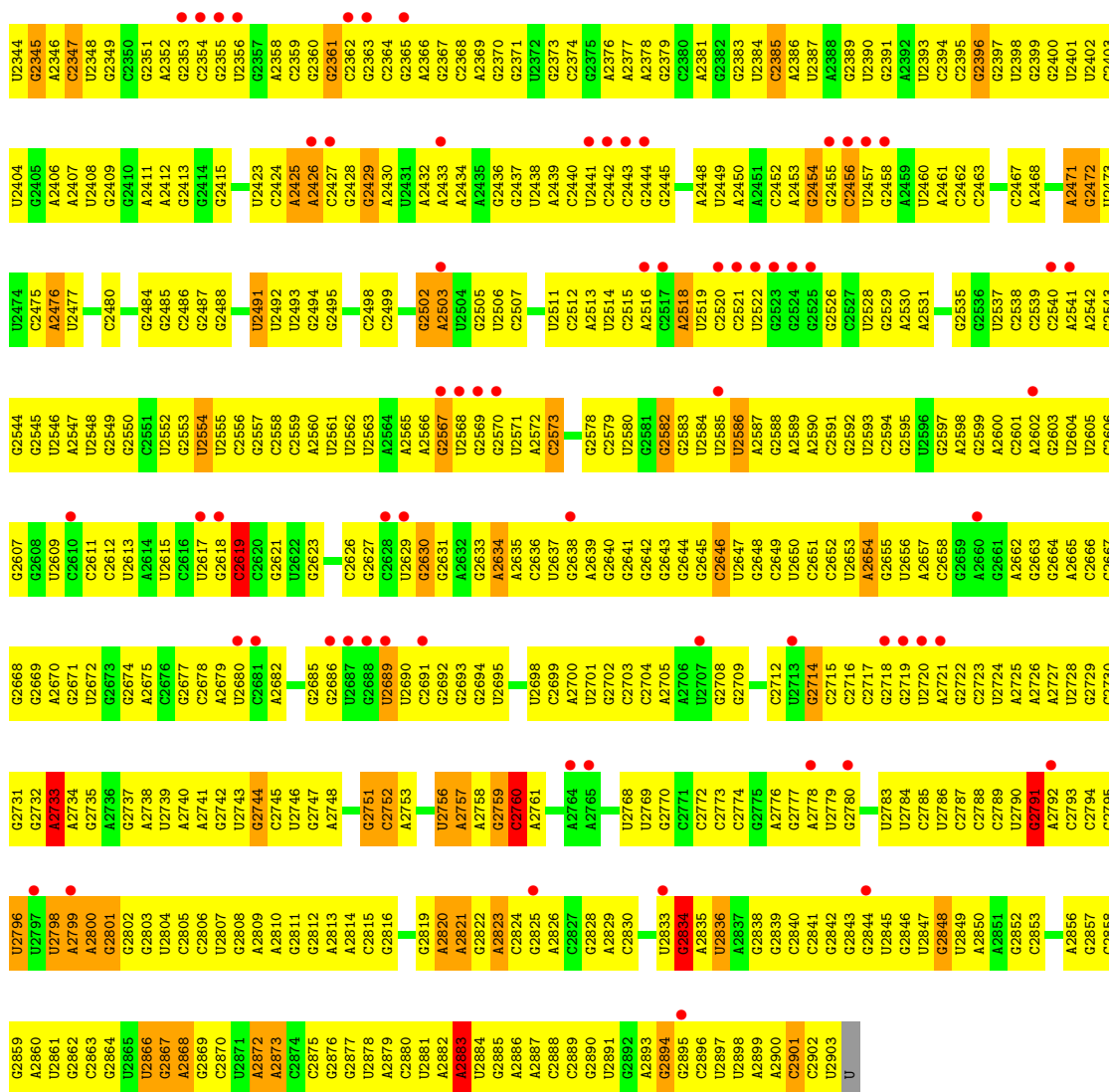
#### • Molecule 2: 23S rRNA

Chain B:



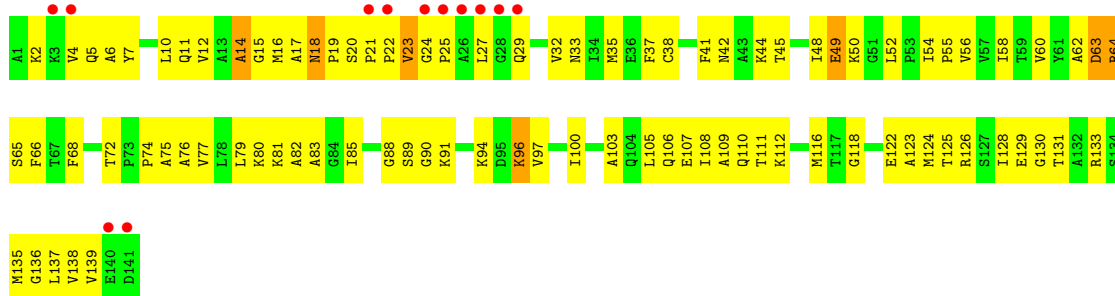
A1386	C1319	G1252	G1186	G1118	G1051	A980	A917	U850	G784	C719	U657	U596	A532
C1386	C1320	A1253	G1187	U1119	G1051	A981	A917	C851	G785	U720	U658	G597	G533
A1387	A1321	U1254	U1188	G1120	A1054	C982	U919	U852	U786	U721	U659	U598	U534
G1388	A1322	U1255	A1189	C1121	G1055	A983	U919	C853	C787	A722	C660	U599	G535
G1389	G1323	G1256	G1190	G1122	A1056	A984	A920	C854			A661	G600	
G1390	G1324	G1257	G1191	G1123	A1057	C985	C921	G855	C791	G725	G664	C601	A538
U1391	U1325	U1258	G1192	G1124	U1058	C986	C922	G856	A794	G726	U665	A602	G539
A1392	U1326	G1259	G1193	G1125	G1059	C987	C923	G857			U666	A603	C540
A1393	A1327	U1260	A1194	A1126	U1060	A988		U858			G604	A541	
U1394	G1328	C1261	G1195	U1130	U1061	A989	A927	U859			U607	C544	
A1395	U1329	C1262	G1196	G1131	G1062	A990	U928	G860			A608	U545	
U1396	G1330	G1197	U1198	U1132	G1063	C991	U929	G861			A609	U546	
U1397	G1331	U1198	U1199	A1133	G1064	C992	U930	G862			C610	A547	
C1398	G1332	U1199	U1199	A1133	U1065	C993	U931	A863			C672	G548	
C1399	G1333	U1267	U1200	A1134	G1068	C994	U932	G864			C611	G549	
U1400	G1334	U1268	U1201	C1135	C995	C995	U933	C865			G612	C550	
G1401	C1335	A1269	U1202	G1136	A1069	A996	U934	A866			G674	A613	
U1402	C1336	C1270	U1203	G1137	A1070	C935	C935	C867			A675	A614	
A1403	G1337	A1271	A1204	G1138	G1071	A1000	A936	U868			A676	U615	
A1404	G1338	A1272	A1205	G1139	C1072	A1001	C937	G869			A677	A616	
U1405	G1339	U1273	G1206	C1140	U1076	G1002	G938	U870			C678	A617	
U1406	U1340	A1274	C1207	U1141	A1077	C1007	G939	U871			C679	A556	
G1407	G1341	U1275	C1208	A1142	C1078		G940	U872			C680	A557	
G1408	G1342	A1276	U1209	A1143	U1078	A941	G941	C873			G681	U558	
	G1345	G1277	G1210	A1144	G1079	A942	G942	G874			G682	A620	
U1411	G1346	C1278	C1211	C1145	A1080	A943	A943	C875			U683	C622	
U1412	A1347	G1279	G1212	C1146	U1081	C944	C944	C876			G684	C623	
A1413	C1348	G1280	A1213	A1147	U1082	A945	A945	C877			A685	C624	
	C1349	U1281	A1214	U1148	U1083	A1014	A946	C878			G686	G625	
G1416	C1350	G1282	G1215	G1149	U1084	U1015	A947	C879			C687	A626	
C1417	G1351	G1283	G1216	C1150	A1085	G1016	C948	C880			U688	A627	
U1418	U1352	U1284	U1217	A1151	A1086	G1017	G949	C881			A689	G628	
A1419	A1353	A1285	G1218	C1152	U1087	U1018	G950	C882			G690	G629	
A1420	A1354	A1286	U1219	C1153	A1088	U1019	C951	C883			C691	G630	
G1421	G1355	A1287	G1220		A1089	A1020	G952	C884			A631	A631	
G1422	G1356	G1288	C1221	G1157	A1090	A1021	G953	U824			C692	G570	
G1423	C1357	U1222	U1222		G1091	G1022	G954	A825			U694	A633	
G1424	G1358	G1223	G1223	C1161	C1092	U1023	U955	U826			G695	C634	
G1425	A1359	U1224	U1224	G1162	G1024	G1024	G956	U827			C696	C635	
		C1291	C1292	G1163	G1025	G1025	C957	C828			G697	C636	
G1426		G1293	G1293	A1164	U1097	U1026	U958	C829			C698	A637	
A1427	A1365	U1294	C1228	C1165	G1098	A1027	A959	G830			A699	C638	
C1428	A1366	U1295	C1229	A1166	G1099	A1028	A960	C831			G700	U639	
G1429	G1367	G1296	A1230	G1167	U1100	A1029	C961	U832			G701	C640	
G1430	G1368	C1297	U1231	C1167	U1101		G962	A833			U702	U641	
A1431	G1369	C1298	U1231		G1102	A1032	U963	G834			U703	A642	
G1432	C1370	G1299	G1236	G1171	A1103	U1033	C964	C835			G704	A643	
A1433	G1371	U1300	A1237	C1172	C1104	C965	C965	G836			A705	A644	
A1434	U1372	A1301		U1173	U1105	G1038	G966	C837			C645	C584	
G1435	A1373	A1302	U1240	U1174	G1106	A1039	U967	C838			G707	U646	
G1436	G1374		A1241	A1175	G1107	A1040	C968	U839			G708	G647	
C1437	U1375		U1242	U1176	U1108	G1041	G969	C840			U709	C587	
U1438	C1376		C1243	G1177	C1109	G1042	U970	C841			G710	G649	
A1439	G1377		A1244	C1178	G1110	C1043	G971	A905			G711	C650	
U1440	A1378		G1245	G1179	A1111	G1044	A972	U842			G712	G651	
G1441	U1379		A1246	U1180	G1112	C1045	A973	A909			G713	U591	
U1442	G1380		U1247	U1181	U1113	A1046	G974	A910			U652	A592	
U1443	G1381		G1248	G1182	C1114	A1047	A975	A911			G653	A593	
G1444	C1382		U1249	U1183	G1115	G1047	G976	C912			A654	U594	
G1445	G1383		G1250	U1184	G1116		A977	U913			C717	A655	
G1446	A1384		C1251	G1185	C1117	A1050	A979	G914			A718	C595	





- Molecule 3: 50S ribosomal protein L11

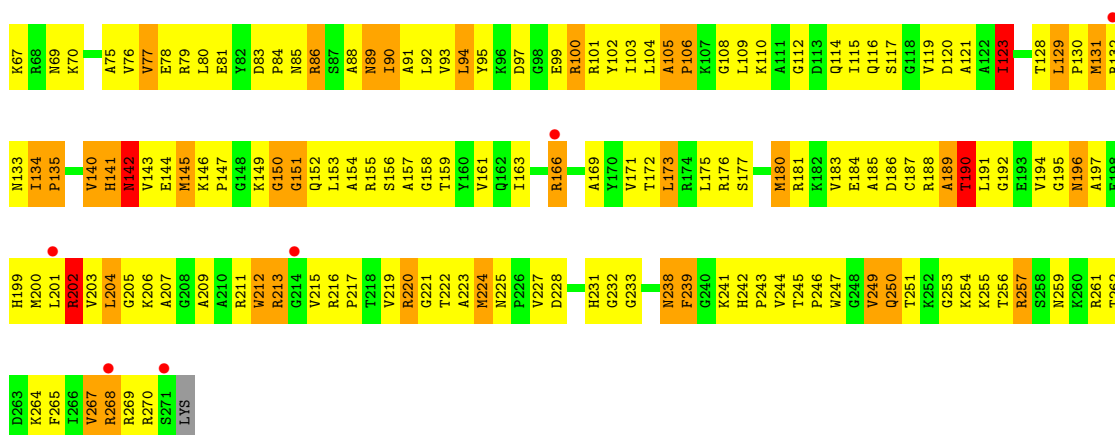
Chain I: 



- Molecule 4: 50S ribosomal protein L2

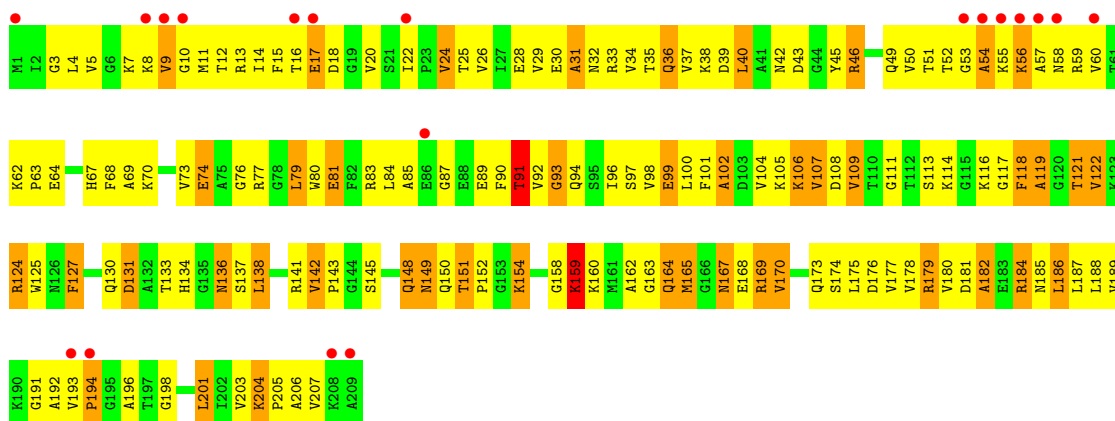
Chain C: 





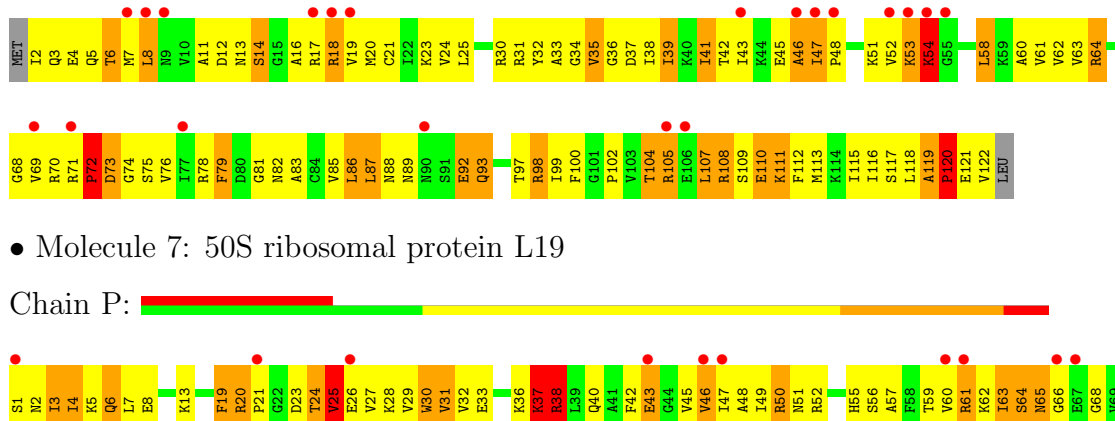
• Molecule 5: 50S ribosomal protein L3

Chain D:



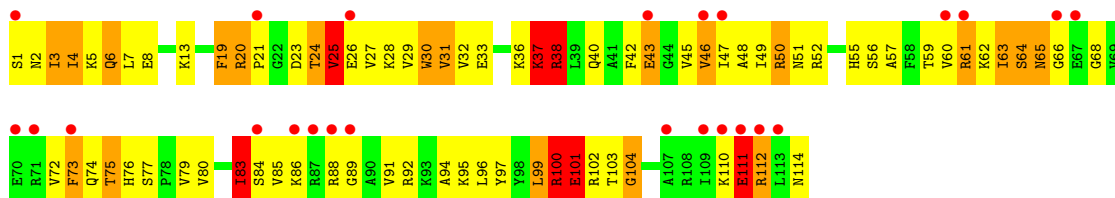
• Molecule 6: 50S ribosomal protein L14

Chain K:



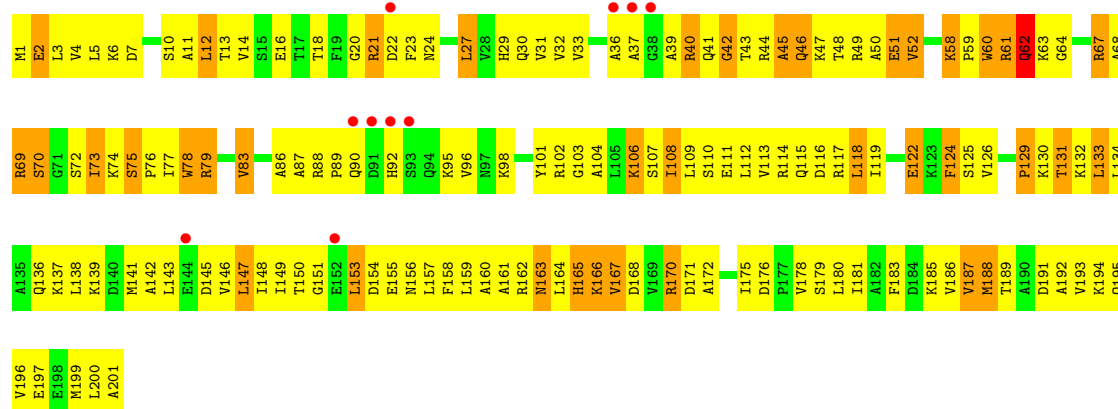
• Molecule 7: 50S ribosomal protein L19

Chain P:



• Molecule 8: 50S ribosomal protein L4

Chain E:



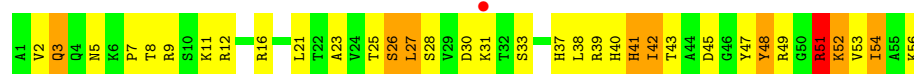
- Molecule 9: 50S ribosomal protein L30

Chain Y:



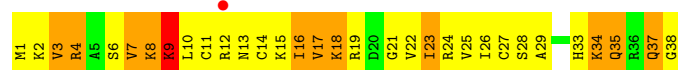
- Molecule 10: 50S ribosomal protein L32

Chain 0:



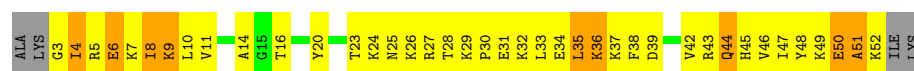
- Molecule 11: 50S ribosomal protein L36

Chain 4:



- Molecule 12: 50S ribosomal protein L33

Chain 1:



- Molecule 13: 50S ribosomal protein L35

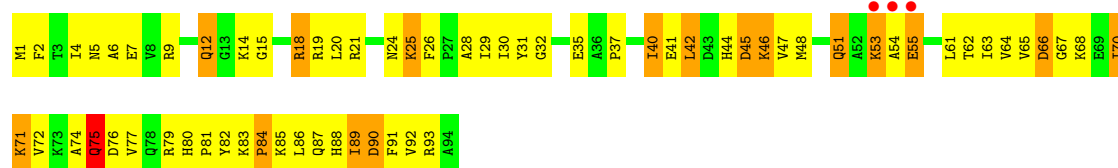
Chain 3:



- Molecule 14: 50S ribosomal protein L25

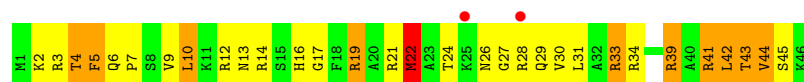
Chain V:





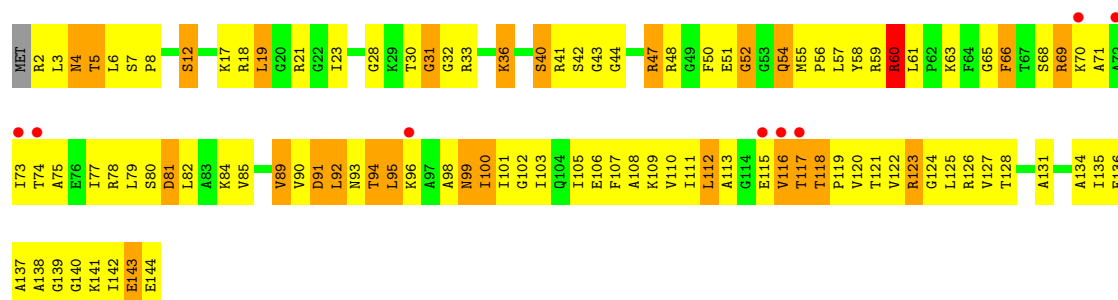
• Molecule 15: 50S ribosomal protein L34

Chain 2:



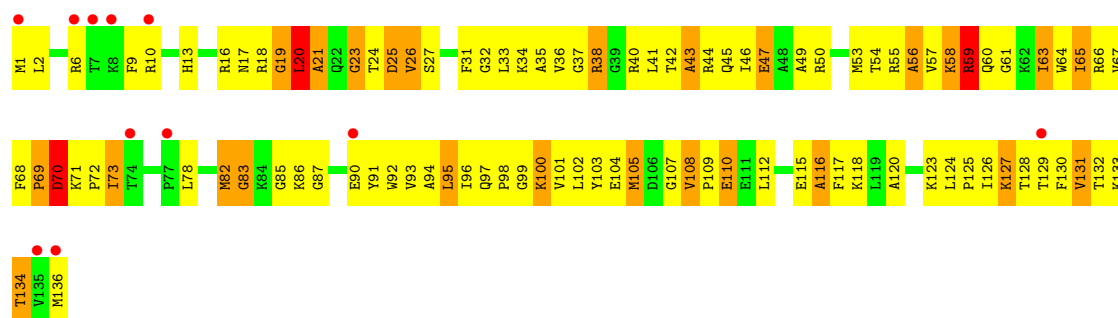
• Molecule 16: 50S ribosomal protein L15

Chain L:



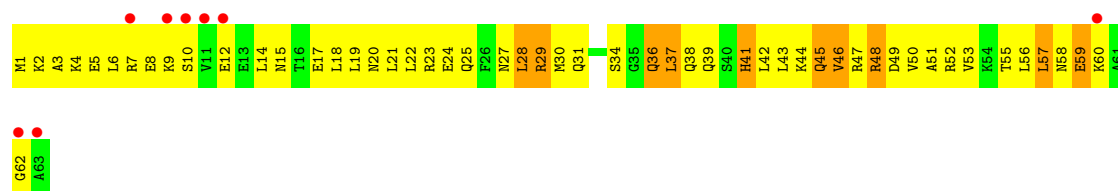
• Molecule 17: 50S ribosomal protein L16

Chain M:



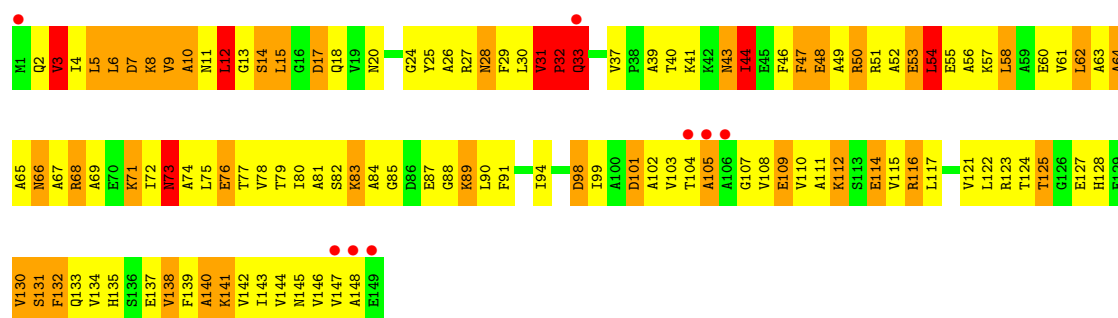
• Molecule 18: 50S ribosomal protein L29

Chain X:



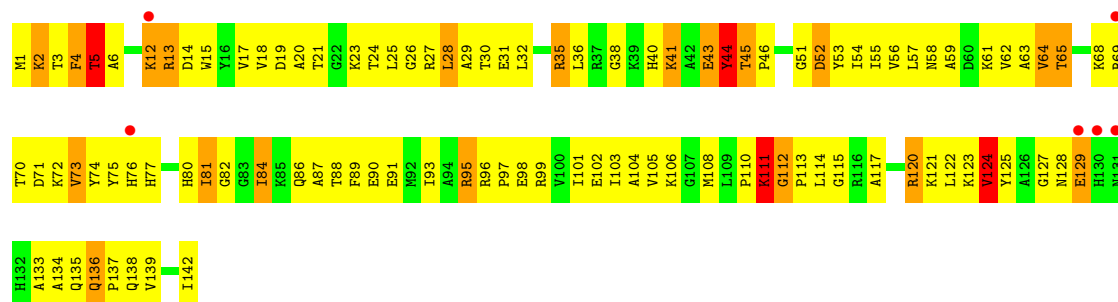
• Molecule 19: 50S ribosomal protein L9

Chain H:



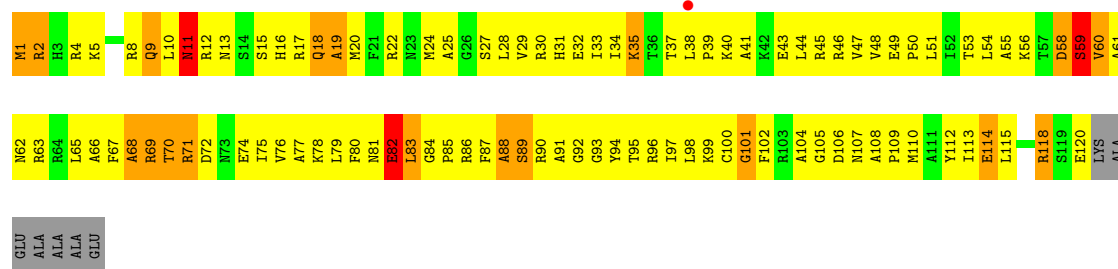
- Molecule 20: 50S ribosomal protein L13

Chain J:



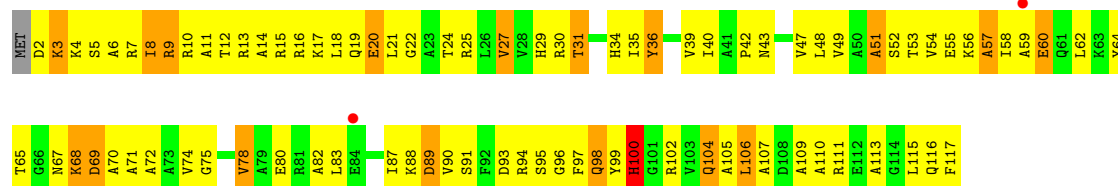
- Molecule 21: 50S ribosomal protein L17

Chain N:



- Molecule 22: 50S ribosomal protein L18

Chain O:



- Molecule 23: 50S ribosomal protein L20

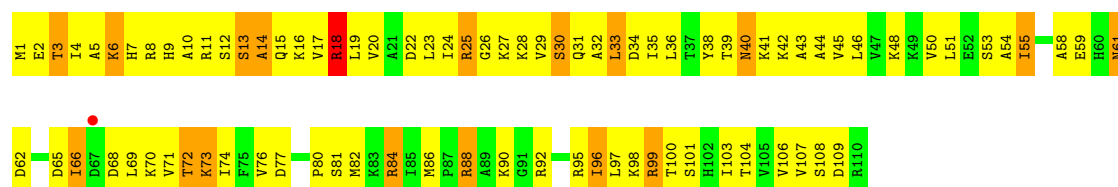
Chain Q:





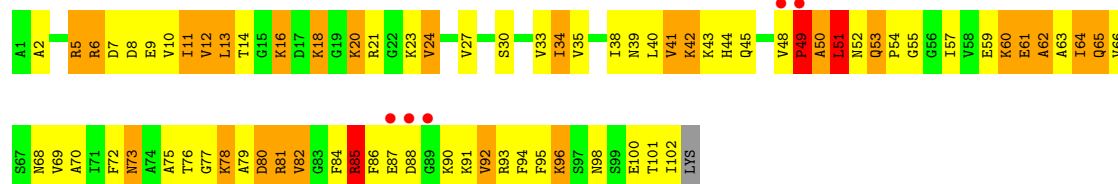
• Molecule 24: 50S ribosomal protein L22

Chain S:



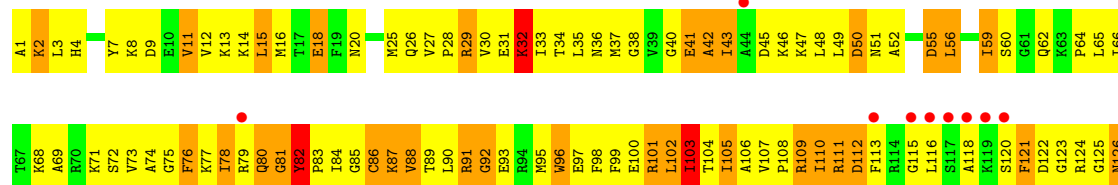
• Molecule 25: 50S ribosomal protein L24

Chain U:



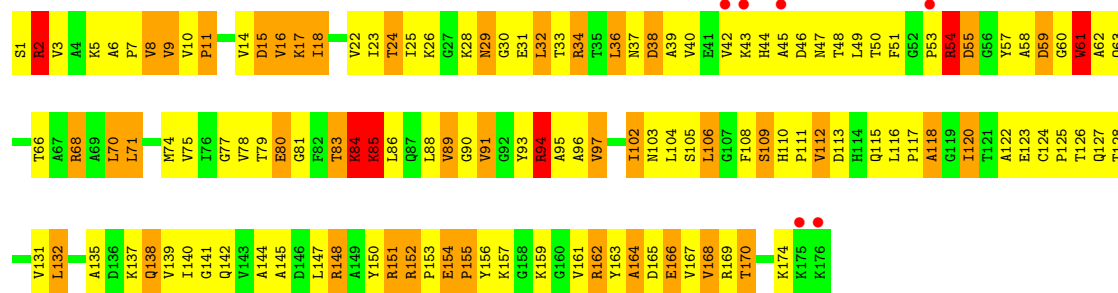
• Molecule 26: 50S ribosomal protein L5

Chain F:



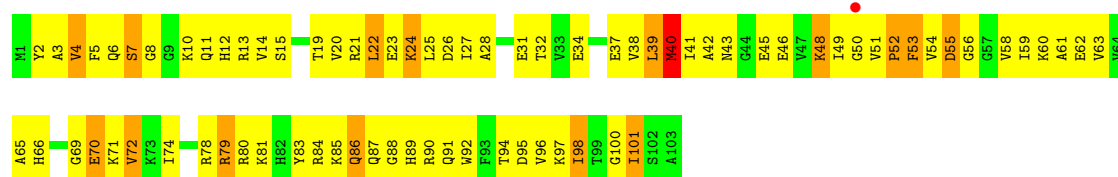
• Molecule 27: 50S ribosomal protein L6

Chain G:



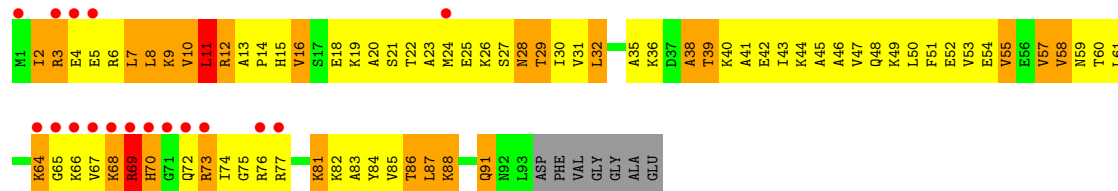
• Molecule 28: 50S ribosomal protein L21

Chain R: 



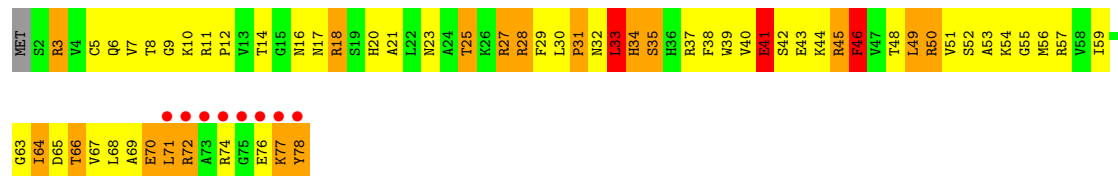
- Molecule 29: 50S ribosomal protein L23

Chain T: 



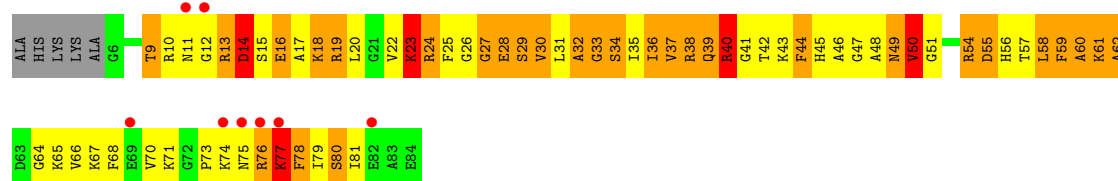
- Molecule 30: 50S ribosomal protein L28

Chain Z: 



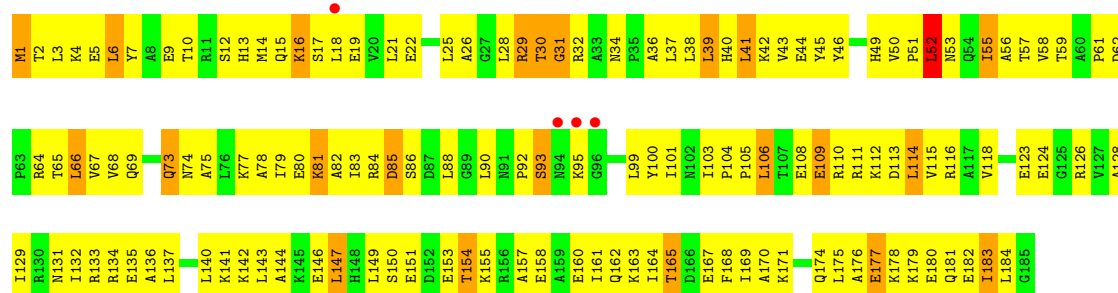
- Molecule 31: 50S ribosomal protein L27

Chain W: 



- Molecule 32: 50S ribosomal protein RRF

Chain 6: 



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	208.54Å 378.89Å 736.90Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 4.00 138.07 – 4.15	Depositor EDS
% Data completeness (in resolution range)	87.4 (40.00-4.00) 87.4 (138.07-4.15)	Depositor EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.14 (at 4.15Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.261 , 0.305 0.494 , 0.503	Depositor DCC
$R_{free}$ test set	16745 reflections (4.37%)	DCC
Wilson B-factor (Å <sup>2</sup> )	133.1	Xtriage
Anisotropy	0.323	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.20 , 20.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 382905 reflections	Xtriage
$F_o, F_c$ correlation	0.61	EDS
Total number of atoms	91765	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	75.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.69% of the height of the origin peak. No significant pseudotranslation is detected.*

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

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

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

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	0.28	0/2803	0.76	1/4371 (0.0%)
2	B	0.28	6/68314 (0.0%)	0.78	48/106569 (0.0%)
3	I	0.24	0/1046	0.47	0/1410
4	C	0.22	0/2121	0.48	0/2852
5	D	0.24	0/1586	0.49	0/2134
6	K	0.24	0/939	0.55	0/1258
7	P	0.24	0/929	0.51	0/1242
8	E	0.24	0/1571	0.51	0/2113
9	Y	0.23	0/453	0.49	0/605
10	O	0.22	0/450	0.55	0/599
11	4	0.23	0/303	0.47	0/397
12	1	0.27	0/416	0.49	0/554
13	3	0.24	0/513	0.48	0/676
14	V	0.25	0/766	0.43	0/1025
15	2	0.25	0/380	0.48	0/498
16	L	0.23	0/1054	0.48	0/1403
17	M	0.25	0/1093	0.48	0/1460
18	X	0.24	0/510	0.53	0/677
19	H	0.25	0/1122	0.48	0/1515
20	J	0.24	0/1152	0.48	0/1551
21	N	0.24	0/973	0.51	0/1301
22	O	0.23	0/902	0.49	0/1209
23	Q	0.25	0/960	0.49	0/1278
24	S	0.22	0/864	0.52	0/1156
25	U	0.25	0/787	0.47	0/1051
26	F	0.26	0/1444	0.52	0/1937
27	G	0.23	0/1343	0.47	0/1816
28	R	0.25	0/829	0.50	0/1107
29	T	0.23	0/744	0.55	0/994
30	Z	0.25	0/635	0.51	0/848
31	W	0.28	0/603	0.51	0/797
32	6	0.23	0/1497	0.52	1/2017 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.27	6/99102 (0.0%)	0.72	50/148420 (0.0%)

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
2	B	0	35

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1086	A	C5-C6	-16.56	1.26	1.41
2	B	1088	A	C6-N1	-10.52	1.28	1.35
2	B	1060	U	C2-N3	7.84	1.43	1.37
2	B	1086	A	N7-C5	-6.61	1.35	1.39
2	B	1086	A	N3-C4	-6.44	1.30	1.34
2	B	2144	G	C4'-C3'	-5.04	1.47	1.52

All (50) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2204	G	O5'-P-OP2	-28.90	76.02	110.70
2	B	2791	G	O5'-P-OP1	-28.07	77.02	110.70
2	B	2204	G	O5'-P-OP1	18.05	132.37	110.70
2	B	2791	G	O5'-P-OP2	17.97	132.26	110.70
2	B	2790	U	OP1-P-O3'	14.57	137.26	105.20
2	B	2203	U	OP2-P-O3'	14.20	136.44	105.20
2	B	1552	A	N9-C1'-C2'	-9.02	102.08	112.00
2	B	2272	U	C5-C4-O4	-8.59	120.74	125.90
2	B	1088	A	N1-C6-N6	-8.22	113.67	118.60
2	B	1439	A	N9-C1'-C2'	-7.36	103.90	112.00
2	B	1060	U	C5-C4-O4	-7.17	121.60	125.90
2	B	1086	A	C4-C5-C6	7.09	120.54	117.00
2	B	1126	A	C5'-C4'-C3'	-6.52	105.56	116.00
2	B	2283	C	O5'-P-OP2	-6.43	99.91	105.70
2	B	2733	A	N9-C1'-C2'	-6.43	104.93	112.00
2	B	1088	A	C5-C6-N6	6.42	128.84	123.70
2	B	1086	A	C6-C5-N7	-6.30	127.89	132.30
2	B	1552	A	C4'-C3'-O3'	6.14	125.29	113.00
2	B	2790	U	O3'-P-O5'	-6.11	92.38	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2480	C	C5'-C4'-C3'	5.99	125.59	116.00
2	B	2336	A	C4'-C3'-O3'	-5.88	97.05	109.40
32	6	31	GLY	N-CA-C	-5.83	98.51	113.10
2	B	690	G	C5'-C4'-C3'	-5.77	106.76	116.00
2	B	1060	U	N1-C2-O2	-5.68	118.82	122.80
2	B	2266	A	C5'-C4'-C3'	5.55	124.88	116.00
2	B	2267	A	O4'-C1'-N9	-5.53	103.77	108.20
2	B	1350	C	C5'-C4'-C3'	-5.51	107.18	116.00
2	B	2203	U	O3'-P-O5'	-5.49	93.57	104.00
2	B	573	U	C4'-C3'-O3'	-5.48	97.89	109.40
1	A	28	C	C5'-C4'-C3'	-5.46	107.26	116.00
2	B	1086	A	C2-N3-C4	-5.44	107.88	110.60
2	B	560	C	C5'-C4'-C3'	-5.38	107.38	116.00
2	B	2894	G	N9-C1'-C2'	-5.36	106.11	112.00
2	B	1060	U	N3-C2-O2	5.36	125.95	122.20
2	B	2267	A	C4-N9-C1'	5.34	135.91	126.30
2	B	2267	A	C8-N9-C1'	-5.30	118.16	127.70
2	B	2760	C	C5'-C4'-C3'	-5.30	107.52	116.00
2	B	2585	U	C4'-C3'-O3'	-5.29	98.29	109.40
2	B	2272	U	N1-C1'-C2'	-5.21	106.27	112.00
2	B	1584	U	C4'-C3'-O3'	5.15	123.30	113.00
2	B	1869	G	N9-C1'-C2'	-5.14	106.35	112.00
2	B	1054	A	N9-C1'-C2'	-5.11	106.38	112.00
2	B	1337	G	C5'-C4'-C3'	-5.10	107.85	116.00
2	B	2267	A	C5-C6-N6	-5.06	119.65	123.70
2	B	479	A	C4'-C3'-O3'	-5.06	98.78	109.40
2	B	461	C	C5'-C4'-C3'	-5.06	107.91	116.00
2	B	745	G	C5'-C4'-C3'	-5.04	107.93	116.00
2	B	2619	C	C5'-C4'-C3'	-5.03	107.96	116.00
2	B	1314	C	C5'-C4'-C3'	-5.02	107.96	116.00
2	B	2456	C	C5'-C4'-C3'	-5.02	107.97	116.00

There are no chirality outliers.

All (35) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	1047	G	Sidechain
2	B	1054	A	Sidechain
2	B	1060	U	Sidechain
2	B	1086	A	Sidechain
2	B	1088	A	Sidechain
2	B	118	A	Sidechain

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Mol	Chain	Res	Type	Group
2	B	1347	A	Sidechain
2	B	1439	A	Sidechain
2	B	1734	G	Sidechain
2	B	1738	G	Sidechain
2	B	1814	G	Sidechain
2	B	1828	G	Sidechain
2	B	1869	G	Sidechain
2	B	2062	A	Sidechain
2	B	221	A	Sidechain
2	B	222	A	Sidechain
2	B	2266	A	Sidechain
2	B	2272	U	Sidechain
2	B	232	G	Sidechain
2	B	2454	G	Sidechain
2	B	2471	A	Sidechain
2	B	2503	A	Sidechain
2	B	2638	G	Sidechain
2	B	2733	A	Sidechain
2	B	2834	G	Sidechain
2	B	2848	G	Sidechain
2	B	2868	A	Sidechain
2	B	2883	A	Sidechain
2	B	299	A	Sidechain
2	B	370	G	Sidechain
2	B	500	G	Sidechain
2	B	51	G	Sidechain
2	B	630	G	Sidechain
2	B	727	A	Sidechain
2	B	757	G	Sidechain

## 5.2 Close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2507	0	1270	106	0
2	B	60995	0	30678	2530	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	I	1032	0	1088	119	0
4	C	2082	0	2157	237	0
5	D	1565	0	1616	206	0
6	K	930	0	1000	122	0
7	P	917	0	965	98	0
8	E	1552	0	1619	194	0
9	Y	449	0	491	49	0
10	0	444	0	461	49	0
11	4	302	0	340	38	0
12	1	409	0	440	58	0
13	3	504	0	574	51	0
14	V	753	0	780	97	0
15	2	377	0	418	38	0
16	L	1045	0	1117	148	0
17	M	1074	0	1157	129	0
18	X	509	0	543	55	0
19	H	1111	0	1148	186	0
20	J	1129	0	1162	136	0
21	N	960	0	1000	130	0
22	O	892	0	923	94	0
23	Q	947	0	1022	171	0
24	S	857	0	922	101	0
25	U	779	0	834	114	0
26	F	1420	0	1460	220	0
27	G	1323	0	1374	218	0
28	R	816	0	839	113	0
29	T	738	0	807	125	0
30	Z	625	0	652	82	0
31	W	596	0	610	120	0
32	6	1478	0	1526	192	0
33	B	110	0	0	0	0
34	B	31	0	39	2	0
35	4	1	0	0	0	0
36	B	493	0	0	8	0
36	C	6	0	0	0	0
36	D	1	0	0	0	0
36	E	2	0	0	0	0
36	L	3	0	0	0	0
36	T	1	0	0	0	0
All	All	91765	0	61032	5804	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 38.

All (5804) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:31:VAL:HB	19:H:32:PRO:HD2	1.23	1.17
16:L:143:GLU:HG2	16:L:144:GLU:H	1.09	1.10
2:B:322:A:H2'	8:E:163:ASN:HD21	1.02	1.10
2:B:855:G:H21	31:W:23:LYS:HG2	1.17	1.08
2:B:1203:U:H1'	16:L:4:ASN:HD21	1.12	1.07
4:C:144:GLU:HA	4:C:151:GLY:HA2	1.36	1.05
8:E:5:LEU:HD12	8:E:10:SER:HB2	1.38	1.03
2:B:2305:U:H5''	26:F:130:GLY:HA3	1.41	1.03
22:O:67:ASN:H	22:O:70:ALA:HB3	1.24	1.02
26:F:126:ASN:HB3	26:F:156:THR:HA	1.37	1.02
6:K:35:VAL:HG23	6:K:36:GLY:H	1.24	1.01
4:C:129:LEU:HD23	4:C:130:PRO:HD2	1.42	1.00
19:H:2:GLN:HA	19:H:20:ASN:HA	1.41	1.00
31:W:39:GLN:HE21	31:W:42:THR:HB	1.27	1.00
8:E:155:GLU:HA	8:E:158:PHE:HB3	1.40	1.00
16:L:124:GLY:N	16:L:143:GLU:HG3	1.76	0.99
24:S:73:LYS:HE3	24:S:74:ILE:H	1.27	0.99
6:K:71:ARG:HB3	6:K:72:PRO:HD2	1.44	0.98
19:H:31:VAL:HB	19:H:32:PRO:CD	1.93	0.98
2:B:877:A:H2'	2:B:899:A:N1	1.80	0.97
25:U:70:ALA:HB1	25:U:79:ALA:HB3	1.47	0.95
7:P:4:ILE:HG22	7:P:5:LYS:H	1.31	0.95
32:6:32:ARG:HB2	32:6:103:ILE:HG12	1.47	0.95
27:G:8:VAL:HG11	27:G:49:LEU:HB2	1.47	0.95
14:V:62:THR:HG22	14:V:71:LYS:HG2	1.48	0.95
5:D:148:GLN:HB2	5:D:152:PRO:HG2	1.45	0.95
32:6:29:ARG:HH22	32:6:110:ARG:HD3	1.32	0.94
27:G:84:LYS:HG2	27:G:85:LYS:H	1.31	0.94
32:6:30:THR:C	32:6:32:ARG:H	1.69	0.94
18:X:28:LEU:HD13	18:X:37:LEU:HD11	1.49	0.94
29:T:53:VAL:HG11	29:T:87:LEU:HD13	1.48	0.94
23:Q:54:ARG:HB3	23:Q:58:GLN:HE22	1.33	0.93
20:J:3:THR:HG21	23:Q:60:TRP:HE1	1.32	0.93
26:F:163:GLU:HA	26:F:166:ARG:HD2	1.49	0.93
9:Y:16:LEU:HD22	9:Y:16:LEU:H	1.34	0.93
24:S:66:ILE:HD13	24:S:66:ILE:H	1.33	0.93
2:B:322:A:C2'	8:E:163:ASN:HD21	1.82	0.93
26:F:36:ASN:HA	26:F:87:LYS:HA	1.50	0.93
2:B:460:A:H4'	29:T:72:GLN:HB2	1.51	0.92
27:G:34:ARG:HH11	27:G:34:ARG:H	1.17	0.92
2:B:2471:A:HO2'	2:B:2472:G:H8	0.93	0.92
7:P:91:VAL:HG11	7:P:96:LEU:HD11	1.52	0.92

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:5:VAL:H	5:D:32:ASN:ND2	1.65	0.92
29:T:38:ALA:HB1	29:T:43:ILE:HD11	1.52	0.92
2:B:322:A:H2'	8:E:163:ASN:ND2	1.84	0.92
2:B:2751:G:H5'	27:G:2:ARG:HD3	1.52	0.92
4:C:76:VAL:HG12	4:C:114:GLN:HG2	1.50	0.92
19:H:116:ARG:HG2	19:H:131:SER:HB2	1.52	0.91
24:S:24:ILE:HG22	24:S:71:VAL:HG11	1.50	0.91
26:F:109:ARG:HB3	26:F:135:ILE:HD13	1.52	0.91
2:B:704:G:H2'	2:B:726:G:H22	1.33	0.91
5:D:5:VAL:H	5:D:32:ASN:HD21	0.95	0.91
11:4:2:LYS:HD3	11:4:4:ARG:HE	1.34	0.91
2:B:161:A:H3'	2:B:162:U:H5''	1.51	0.91
31:W:50:VAL:HG23	31:W:61:LYS:HD3	1.52	0.90
5:D:29:VAL:HB	5:D:98:VAL:HG22	1.49	0.90
12:1:33:LEU:HB3	12:1:51:ALA:HB3	1.52	0.90
5:D:24:VAL:HG21	5:D:188:LEU:HB3	1.54	0.90
2:B:2355:G:H4'	31:W:20:LEU:HD13	1.50	0.90
21:N:101:GLY:HA2	21:N:110:MET:H	1.35	0.90
2:B:858:G:N3	2:B:2268:A:H2'	1.86	0.89
4:C:103:ILE:HG22	4:C:105:ALA:H	1.37	0.89
2:B:423:A:H5'	2:B:424:G:H5'	1.51	0.89
14:V:42:LEU:HD12	14:V:47:VAL:HG21	1.55	0.89
4:C:183:VAL:HG13	4:C:185:ALA:H	1.37	0.89
27:G:15:ASP:HB3	27:G:26:LYS:H	1.33	0.89
5:D:106:LYS:HB3	5:D:206:ALA:H	1.37	0.89
2:B:1060:U:N3	2:B:1088:A:N7	2.20	0.89
2:B:1076:C:H4'	3:I:94:LYS:HE3	1.55	0.89
21:N:101:GLY:HA2	21:N:110:MET:N	1.87	0.88
31:W:43:LYS:HD2	31:W:79:ILE:HD11	1.54	0.88
2:B:45:G:H5''	2:B:46:G:H5'	1.55	0.88
19:H:7:ASP:HA	19:H:15:LEU:HD22	1.53	0.88
22:O:3:LYS:HD3	22:O:3:LYS:H	1.38	0.88
30:Z:76:GLU:HG3	30:Z:77:LYS:H	1.38	0.88
2:B:972:A:H3'	2:B:973:A:H5''	1.55	0.88
5:D:105:LYS:HD2	5:D:177:VAL:HG22	1.54	0.88
2:B:1244:A:H5''	16:L:8:PRO:HD3	1.56	0.87
32:6:38:LEU:HA	32:6:41:LEU:HD13	1.56	0.87
20:J:81:ILE:HG23	20:J:82:GLY:H	1.37	0.87
27:G:79:THR:HG22	27:G:80:GLU:HG2	1.56	0.87
2:B:855:G:N2	31:W:23:LYS:HG2	1.89	0.87
2:B:1024:G:H3'	2:B:1025:G:H5''	1.56	0.87
32:6:112:LYS:HB3	32:6:116:ARG:NH2	1.90	0.87

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:75:G:H4'	18:X:48:ARG:HH22	1.40	0.87
3:I:27:LEU:H	3:I:27:LEU:HD23	1.39	0.87
5:D:178:VAL:HB	5:D:188:LEU:HB2	1.57	0.86
2:B:141:G:H1	29:T:2:ILE:HD12	1.39	0.86
21:N:37:THR:HG22	21:N:39:PRO:HD2	1.57	0.86
31:W:37:VAL:HG12	31:W:38:ARG:H	1.40	0.86
29:T:57:VAL:HG22	29:T:58:VAL:H	1.39	0.86
26:F:125:GLY:HA2	26:F:162:ASP:HA	1.56	0.86
23:Q:63:ARG:HH22	23:Q:96:ASP:HA	1.38	0.86
2:B:2134:A:H2'	2:B:2135:A:H8	1.38	0.86
32:6:78:ALA:HA	32:6:81:LYS:HD2	1.57	0.86
23:Q:111:LYS:HB2	28:R:48:LYS:HZ2	1.40	0.86
20:J:29:ALA:HA	20:J:32:LEU:HD12	1.57	0.86
28:R:2:TYR:HB2	28:R:42:ALA:HB2	1.57	0.86
26:F:33:ILE:HD12	26:F:95:MET:HG2	1.54	0.86
26:F:62:GLN:HG3	26:F:91:ARG:HH11	1.40	0.86
5:D:10:GLY:HA3	5:D:26:VAL:H	1.39	0.86
28:R:8:GLY:HA3	28:R:23:GLU:HB2	1.57	0.86
2:B:558:U:OP1	20:J:113:PRO:HG2	1.75	0.86
26:F:135:ILE:HD11	26:F:137:PHE:HB3	1.57	0.86
17:M:19:GLY:H	17:M:38:ARG:HH12	1.23	0.86
2:B:181:A:H2'	2:B:182:A:C8	2.11	0.85
8:E:102:ARG:HD3	8:E:201:ALA:H	1.41	0.85
22:O:53:THR:HB	22:O:65:THR:HG22	1.58	0.85
2:B:2266:A:H4'	2:B:2267:A:N7	1.90	0.85
29:T:67:VAL:HB	29:T:76:ARG:HG3	1.55	0.85
26:F:35:LEU:HD23	26:F:153:ILE:HG12	1.56	0.85
20:J:58:ASN:HA	20:J:127:GLY:HA2	1.59	0.85
25:U:85:ARG:HD3	25:U:86:PHE:H	1.42	0.85
2:B:38:A:O2'	8:E:43:THR:HA	1.75	0.85
15:2:21:ARG:HD2	15:2:43:THR:HG21	1.58	0.85
2:B:1283:G:H22	2:B:1286:A:H5'	1.39	0.85
14:V:70:ILE:HD13	14:V:71:LYS:H	1.42	0.85
24:S:66:ILE:HA	24:S:69:LEU:HD22	1.59	0.85
2:B:962:G:H21	2:B:2250:G:H22	1.25	0.85
5:D:68:PHE:HB3	5:D:73:VAL:HG23	1.57	0.85
2:B:1141:U:H4'	2:B:1142:A:O4'	1.77	0.85
2:B:1804:C:OP1	4:C:256:THR:HB	1.76	0.84
2:B:1019:U:H2'	2:B:1020:A:H8	1.41	0.84
2:B:1287:A:OP1	21:N:104:ALA:HB3	1.76	0.84
24:S:24:ILE:HD11	24:S:36:LEU:HD11	1.57	0.84
26:F:45:ASP:HB3	26:F:48:LEU:HD22	1.58	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:R:60:LYS:H	28:R:100:GLY:HA3	1.43	0.84
2:B:873:C:H4'	17:M:64:TRP:HE1	1.42	0.84
30:Z:71:LEU:HD13	30:Z:76:GLU:HB3	1.60	0.84
2:B:2769:U:H2'	2:B:2770:G:H8	1.43	0.84
5:D:5:VAL:N	5:D:32:ASN:HD21	1.75	0.84
26:F:11:VAL:HG12	26:F:12:VAL:H	1.42	0.84
8:E:119:ILE:HD11	8:E:185:LYS:HE3	1.60	0.83
19:H:121:VAL:HG21	19:H:128:HIS:NE2	1.93	0.83
19:H:68:ARG:HB2	19:H:134:VAL:HG11	1.58	0.83
3:I:129:GLU:HB3	3:I:133:ARG:HH12	1.40	0.83
16:L:116:VAL:HG13	16:L:117:THR:H	1.41	0.83
24:S:36:LEU:HD22	24:S:36:LEU:H	1.43	0.83
8:E:110:SER:HB3	8:E:114:ARG:HH12	1.43	0.83
30:Z:38:PHE:HE2	30:Z:51:VAL:HG21	1.41	0.83
25:U:95:PHE:HE1	25:U:102:ILE:HB	1.44	0.83
27:G:94:ARG:HB2	27:G:127:GLN:HG2	1.61	0.83
31:W:17:ALA:HA	31:W:35:ILE:HG23	1.60	0.83
2:B:2144:G:N2	2:B:2147:A:H4'	1.94	0.83
2:B:189:G:H2'	2:B:205:G:H22	1.44	0.83
2:B:1060:U:C2	2:B:1088:A:N7	2.47	0.83
19:H:90:LEU:HD21	19:H:146:VAL:HG21	1.59	0.83
11:4:17:VAL:HG12	11:4:18:LYS:H	1.44	0.83
8:E:188:MET:HG2	8:E:193:VAL:HG22	1.59	0.82
5:D:34:VAL:HG12	5:D:94:GLN:H	1.42	0.82
19:H:121:VAL:HG21	19:H:128:HIS:HE2	1.44	0.82
16:L:143:GLU:HG2	16:L:144:GLU:N	1.89	0.82
2:B:2502:G:H5'	2:B:2503:A:H5''	1.58	0.82
18:X:12:GLU:HA	18:X:15:ASN:HD21	1.44	0.81
4:C:156:SER:O	4:C:194:VAL:HG11	1.80	0.81
2:B:616:A:H3'	2:B:617:G:H8	1.43	0.81
31:W:39:GLN:HG2	31:W:40:ARG:N	1.95	0.81
19:H:73:ASN:HD22	19:H:74:ALA:H	1.25	0.81
32:6:58:VAL:HG22	32:6:68:VAL:HG22	1.63	0.81
21:N:2:ARG:HG2	21:N:5:LYS:HB2	1.62	0.81
2:B:2443:C:H2'	2:B:2444:G:H8	1.45	0.81
2:B:1019:U:H2'	2:B:1020:A:C8	2.16	0.81
7:P:56:SER:HB2	7:P:75:THR:HG21	1.63	0.81
32:6:143:LEU:O	32:6:147:LEU:HG	1.80	0.81
30:Z:35:SER:HA	30:Z:50:ARG:HA	1.63	0.81
25:U:12:VAL:HG22	25:U:69:VAL:HG12	1.62	0.80
14:V:61:LEU:HD11	14:V:74:ALA:HB2	1.64	0.80
15:2:30:VAL:HA	15:2:33:ARG:NH2	1.96	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:858:G:H21	2:B:2268:A:H3'	1.45	0.80
3:I:55:PRO:HD3	3:I:74:PRO:HD3	1.63	0.80
2:B:129:C:H2'	2:B:130:C:C6	2.17	0.80
4:C:144:GLU:HG3	4:C:151:GLY:H	1.46	0.80
23:Q:63:ARG:HH12	23:Q:96:ASP:HB2	1.46	0.80
13:3:49:VAL:HG21	13:3:54:LEU:HD13	1.64	0.80
12:1:49:LYS:HG3	12:1:50:GLU:H	1.44	0.80
17:M:19:GLY:HA2	17:M:97:GLN:HB2	1.62	0.80
12:1:47:ILE:HD12	12:1:47:ILE:H	1.45	0.80
19:H:72:ILE:HD12	19:H:110:VAL:HG11	1.64	0.80
27:G:17:LYS:HZ2	27:G:18:ILE:H	1.29	0.80
2:B:1060:U:OP2	3:I:74:PRO:HA	1.80	0.80
2:B:1993:U:H4'	5:D:133:THR:HG21	1.64	0.80
24:S:10:ALA:HB3	24:S:101:SER:HB2	1.64	0.80
19:H:116:ARG:NH1	19:H:133:GLN:HB2	1.97	0.80
22:O:27:VAL:HG21	22:O:40:ILE:HD12	1.64	0.80
2:B:1459:G:H4'	2:B:1461:C:N4	1.96	0.80
26:F:110:ILE:HA	26:F:111:ARG:CZ	2.13	0.79
29:T:11:LEU:HD22	29:T:11:LEU:H	1.47	0.79
2:B:181:A:H2'	2:B:182:A:H8	1.45	0.79
7:P:75:THR:HG23	7:P:76:HIS:H	1.44	0.79
2:B:287:G:H2'	2:B:288:U:C6	2.17	0.79
17:M:37:GLY:HA3	17:M:127:LYS:NZ	1.97	0.79
29:T:15:HIS:H	29:T:32:LEU:HA	1.46	0.79
2:B:1412:U:H2'	2:B:1413:A:H8	1.46	0.79
13:3:18:LYS:HD2	13:3:20:GLY:H	1.47	0.79
29:T:69:ARG:HB3	29:T:74:ILE:HA	1.65	0.79
30:Z:30:LEU:H	30:Z:30:LEU:HD23	1.46	0.79
32:6:134:ARG:NH2	32:6:135:GLU:HG2	1.98	0.79
2:B:1082:U:C4	2:B:1086:A:C2	2.71	0.79
21:N:33:ILE:HG22	21:N:114:GLU:HB2	1.62	0.79
2:B:2039:U:H2'	2:B:2040:G:C8	2.16	0.79
2:B:1437:C:H2'	2:B:1438:U:C6	2.18	0.79
31:W:9:THR:HG23	31:W:10:ARG:HD3	1.65	0.79
2:B:135:U:H2'	2:B:136:G:C8	2.18	0.79
27:G:157:LYS:HB3	27:G:159:LYS:HG3	1.63	0.79
8:E:29:HIS:NE2	16:L:8:PRO:HG3	1.99	0.78
27:G:167:VAL:HG23	27:G:168:VAL:H	1.48	0.78
3:I:21:PRO:HB2	3:I:22:PRO:HD3	1.63	0.78
2:B:364:C:H2'	2:B:365:U:C6	2.18	0.78
14:V:31:TYR:HB3	14:V:37:PRO:HG3	1.66	0.78
2:B:163:C:H2'	2:B:164:C:O4'	1.83	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:76:GLU:HG3	30:Z:77:LYS:N	1.98	0.78
20:J:112:GLY:H	20:J:113:PRO:HD2	1.47	0.78
28:R:34:GLU:HG2	28:R:60:LYS:HG2	1.65	0.78
20:J:25:LEU:HD22	20:J:26:GLY:H	1.48	0.78
3:I:106:GLN:O	3:I:110:GLN:HG3	1.84	0.78
2:B:2798:U:H1'	2:B:2800:A:N6	1.99	0.78
2:B:2886:A:H62	10:0:39:ARG:NE	1.81	0.78
27:G:36:LEU:HD22	27:G:36:LEU:H	1.48	0.78
23:Q:111:LYS:HB2	28:R:48:LYS:NZ	1.99	0.78
1:A:66:A:H61	1:A:107:G:H2'	1.49	0.78
2:B:1199:U:H2'	2:B:1200:C:H6	1.48	0.78
31:W:49:ASN:HB2	31:W:60:ALA:HA	1.66	0.78
14:V:70:ILE:HG12	14:V:72:VAL:HG13	1.66	0.78
27:G:84:LYS:HB3	27:G:132:LEU:O	1.83	0.78
18:X:3:ALA:HA	18:X:6:LEU:HD23	1.66	0.78
27:G:71:LEU:HA	27:G:74:MET:SD	2.24	0.78
2:B:129:C:H2'	2:B:130:C:H6	1.48	0.78
2:B:2769:U:H2'	2:B:2770:G:C8	2.18	0.77
2:B:1412:U:H2'	2:B:1413:A:C8	2.18	0.77
20:J:57:LEU:HG	20:J:128:ASN:H	1.49	0.77
2:B:2039:U:H2'	2:B:2040:G:H8	1.46	0.77
14:V:44:HIS:HE1	14:V:86:LEU:H	1.31	0.77
6:K:41:ILE:HG13	6:K:42:THR:N	1.98	0.77
6:K:47:ILE:HG12	6:K:48:PRO:HD2	1.66	0.77
25:U:81:ARG:HH21	25:U:81:ARG:H	1.33	0.77
12:1:9:LYS:HD3	12:1:9:LYS:H	1.48	0.77
23:Q:87:VAL:HB	28:R:52:PRO:HG3	1.64	0.77
20:J:36:LEU:HD12	20:J:121:LYS:HE3	1.66	0.77
19:H:90:LEU:HD11	19:H:146:VAL:HG11	1.66	0.77
2:B:942:G:H2'	2:B:943:A:O4'	1.84	0.77
11:4:7:VAL:HG13	11:4:8:LYS:H	1.48	0.77
32:6:106:LEU:HD23	32:6:106:LEU:H	1.50	0.77
21:N:45:ARG:HG3	21:N:95:THR:HG21	1.66	0.77
2:B:98:G:H22	25:U:6:ARG:NH1	1.82	0.77
25:U:27:VAL:HG23	25:U:33:VAL:HG12	1.67	0.77
1:A:104:A:H2'	1:A:105:G:O4'	1.85	0.77
18:X:37:LEU:HD23	18:X:39:GLN:H	1.49	0.77
3:I:27:LEU:HD12	3:I:32:VAL:HG11	1.66	0.77
2:B:1551:A:H3'	2:B:1552:A:H5''	1.67	0.77
2:B:773:U:H5'	2:B:774:G:OP2	1.85	0.77
8:E:47:LYS:HB3	8:E:51:GLU:HB2	1.65	0.77
2:B:1203:U:H1'	16:L:4:ASN:ND2	1.95	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:6:LEU:HD23	16:L:6:LEU:H	1.46	0.77
2:B:2720:U:H5''	7:P:52:ARG:NH2	2.00	0.77
2:B:2563:U:H2'	2:B:2565:A:OP2	1.85	0.77
16:L:121:THR:HB	16:L:141:LYS:HD2	1.66	0.77
7:P:7:LEU:H	7:P:7:LEU:HD12	1.49	0.77
17:M:43:ALA:O	17:M:46:ILE:HG12	1.84	0.77
2:B:1199:U:H2'	2:B:1200:C:C6	2.20	0.76
17:M:2:LEU:HD23	17:M:46:ILE:HD11	1.65	0.76
21:N:80:PHE:O	21:N:85:PRO:HD3	1.83	0.76
6:K:112:PHE:O	6:K:115:ILE:HG22	1.84	0.76
2:B:1076:C:H4'	3:I:94:LYS:CE	2.14	0.76
28:R:28:ALA:O	28:R:63:VAL:HG21	1.85	0.76
2:B:2732:G:H3'	2:B:2733:A:H5'	1.66	0.76
23:Q:105:PHE:HA	23:Q:108:LEU:HD12	1.66	0.76
7:P:26:GLU:HB3	7:P:84:SER:HB3	1.67	0.76
2:B:2795:C:H2'	2:B:2796:U:O4'	1.85	0.76
5:D:106:LYS:HB3	5:D:206:ALA:N	2.00	0.76
2:B:90:U:H3'	2:B:91:A:H5''	1.67	0.76
17:M:134:THR:HG22	17:M:136:MET:H	1.48	0.76
2:B:2306:C:H3'	2:B:2307:G:H5'	1.68	0.76
17:M:19:GLY:HA2	17:M:98:PRO:HD2	1.67	0.76
2:B:1447:C:H2'	2:B:1448:G:H8	1.50	0.76
2:B:2591:C:H2'	2:B:2592:G:C8	2.21	0.76
4:C:132:ARG:HD3	4:C:166:ARG:HH12	1.51	0.76
2:B:590:A:H2'	2:B:591:U:C6	2.21	0.76
20:J:17:VAL:HG23	20:J:137:PRO:HB2	1.66	0.76
19:H:130:VAL:HG23	19:H:142:VAL:HB	1.67	0.76
28:R:7:SER:HB2	28:R:22:LEU:HB3	1.68	0.76
2:B:274:C:H2'	2:B:275:C:O4'	1.85	0.76
7:P:20:ARG:HG3	7:P:21:PRO:HD2	1.67	0.76
26:F:65:LEU:HD23	26:F:87:LYS:HD2	1.68	0.75
30:Z:7:VAL:HG13	30:Z:8:THR:HG23	1.68	0.75
2:B:79:C:HO2'	2:B:346:A:H1'	1.48	0.75
2:B:137:U:H2'	2:B:138:U:O4'	1.87	0.75
2:B:2144:G:H2'	2:B:2146:C:H5'	1.67	0.75
2:B:404:A:H4'	2:B:405:U:H5'	1.69	0.75
27:G:17:LYS:HA	27:G:17:LYS:HZ3	1.50	0.75
14:V:72:VAL:HG12	14:V:93:ARG:HA	1.69	0.75
2:B:2078:C:H2'	2:B:2079:U:C6	2.21	0.75
2:B:2813:A:H2'	2:B:2814:A:H8	1.51	0.75
1:A:49:C:H2'	1:A:50:A:H8	1.51	0.75
2:B:1790:C:O2'	4:C:207:ALA:HB2	1.86	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:3:37:THR:HA	13:3:40:LYS:HE2	1.68	0.75
8:E:148:ILE:HA	8:E:187:VAL:HB	1.68	0.75
5:D:34:VAL:CG1	5:D:94:GLN:H	1.99	0.75
2:B:423:A:H5'	2:B:424:G:C5'	2.16	0.75
21:N:107:ASN:HD21	24:S:40:ASN:HD22	1.33	0.75
26:F:33:ILE:HD13	26:F:98:PHE:HD2	1.50	0.75
30:Z:49:LEU:HD12	30:Z:49:LEU:H	1.51	0.75
32:6:50:VAL:HG21	32:6:55:ILE:HD13	1.68	0.75
2:B:2346:A:H3'	2:B:2347:C:H5''	1.68	0.75
14:V:77:VAL:HG23	14:V:89:ILE:HG23	1.68	0.75
29:T:55:VAL:HA	29:T:87:LEU:HA	1.69	0.75
19:H:68:ARG:HG3	19:H:134:VAL:HG21	1.68	0.75
2:B:1230:A:H2'	2:B:1231:U:C6	2.22	0.75
2:B:728:G:HO2'	2:B:730:A:H8	1.33	0.75
31:W:18:LYS:HE2	31:W:19:ARG:NH2	2.01	0.75
29:T:29:THR:H	29:T:91:GLN:HE22	1.33	0.75
29:T:39:THR:HG22	29:T:42:GLU:HG2	1.67	0.75
17:M:71:LYS:HE3	17:M:73:ILE:HD11	1.69	0.75
2:B:79:C:O2'	2:B:346:A:H1'	1.86	0.75
5:D:91:THR:HG23	5:D:92:VAL:H	1.51	0.75
2:B:1942:C:O4'	32:6:133:ARG:NH1	2.15	0.74
2:B:2800:A:H2'	2:B:2801:G:O4'	1.86	0.74
2:B:1258:U:H4'	8:E:79:ARG:HD2	1.69	0.74
14:V:72:VAL:HG21	14:V:91:PHE:HB3	1.67	0.74
16:L:124:GLY:H	16:L:143:GLU:HG3	1.51	0.74
16:L:79:LEU:HG	16:L:112:LEU:HA	1.68	0.74
2:B:1729:U:H3'	2:B:1730:C:H4'	1.69	0.74
12:1:33:LEU:HB3	12:1:51:ALA:CB	2.18	0.74
2:B:1024:G:C3'	2:B:1025:G:H5''	2.17	0.74
4:C:41:GLY:HA3	4:C:53:ILE:HG21	1.68	0.74
27:G:115:GLN:H	27:G:115:GLN:CD	1.90	0.74
3:I:33:ASN:HD21	3:I:64:ARG:HH11	1.36	0.74
8:E:145:ASP:HA	8:E:166:LYS:HB3	1.69	0.74
5:D:113:SER:HB2	5:D:168:GLU:H	1.52	0.74
2:B:280:U:H2'	2:B:281:C:C6	2.21	0.74
2:B:784:G:C6	4:C:227:VAL:HG11	2.23	0.74
26:F:41:GLU:HB2	26:F:48:LEU:HD11	1.69	0.74
21:N:85:PRO:HA	21:N:88:ALA:HB2	1.68	0.74
16:L:135:ILE:HG12	16:L:140:GLY:HA3	1.69	0.74
27:G:30:GLY:HA3	27:G:78:VAL:HA	1.68	0.74
32:6:108:GLU:O	32:6:112:LYS:HG3	1.87	0.74
7:P:50:ARG:HB2	7:P:56:SER:HB3	1.69	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:2:26:ASN:HA	15:2:29:GLN:HB3	1.69	0.74
2:B:580:U:H2'	2:B:581:C:C6	2.23	0.74
4:C:77:VAL:HG23	4:C:112:GLY:H	1.53	0.74
30:Z:54:LYS:HA	30:Z:57:ARG:HD3	1.68	0.74
16:L:121:THR:HG22	16:L:141:LYS:HB3	1.70	0.74
2:B:922:C:H1'	31:W:22:VAL:HG21	1.70	0.74
5:D:148:GLN:HG3	5:D:152:PRO:HB3	1.69	0.74
2:B:2866:U:H4'	2:B:2867:G:H4'	1.70	0.74
2:B:1241:A:H2'	2:B:1242:U:H5'	1.70	0.74
2:B:2471:A:O2'	2:B:2472:G:H8	1.70	0.74
11:4:7:VAL:HG23	11:4:35:GLN:HB2	1.70	0.74
6:K:102:PRO:HA	6:K:120:PRO:HB3	1.70	0.74
2:B:2243:U:H2'	2:B:2244:U:C6	2.23	0.74
2:B:532:A:H4'	2:B:533:G:C8	2.22	0.74
18:X:39:GLN:HB3	18:X:42:LEU:HD13	1.68	0.73
4:C:140:VAL:HG12	4:C:141:HIS:H	1.53	0.73
2:B:140:C:H4'	2:B:141:G:H21	1.52	0.73
8:E:60:TRP:O	8:E:61:ARG:HB2	1.88	0.73
8:E:108:ILE:HD11	8:E:181:ILE:HB	1.69	0.73
23:Q:63:ARG:NH2	23:Q:96:ASP:HA	2.03	0.73
27:G:89:VAL:HB	27:G:159:LYS:HA	1.70	0.73
2:B:1406:U:H2'	2:B:1407:G:C8	2.22	0.73
26:F:115:GLY:HA2	26:F:177:ARG:HH11	1.52	0.73
2:B:152:A:H2'	2:B:153:U:C6	2.23	0.73
8:E:148:ILE:HD13	8:E:187:VAL:HG21	1.70	0.73
26:F:102:LEU:HD22	26:F:103:ILE:N	2.04	0.73
1:A:83:G:OP1	9:Y:16:LEU:HD21	1.88	0.73
2:B:1338:G:H4'	29:T:18:GLU:HG3	1.70	0.73
2:B:2188:U:H2'	2:B:2189:U:C6	2.24	0.73
14:V:9:ARG:NH2	14:V:12:GLN:HA	2.02	0.73
17:M:67:VAL:HG11	17:M:102:LEU:HD13	1.69	0.73
27:G:51:PHE:HD2	27:G:68:ARG:HG2	1.53	0.73
21:N:38:LEU:HB3	21:N:39:PRO:HD3	1.71	0.73
3:I:20:SER:HB3	3:I:21:PRO:HD3	1.69	0.73
21:N:49:GLU:HB2	21:N:50:PRO:HD3	1.69	0.73
23:Q:29:ARG:HB3	23:Q:29:ARG:HH11	1.53	0.73
22:O:24:THR:HG22	22:O:42:PRO:HD3	1.70	0.73
20:J:45:THR:H	20:J:46:PRO:HD3	1.54	0.73
17:M:108:VAL:HG13	17:M:112:LEU:HB3	1.68	0.73
27:G:51:PHE:CD2	27:G:68:ARG:HG2	2.23	0.73
2:B:287:G:H2'	2:B:288:U:H6	1.51	0.73
7:P:75:THR:HG23	7:P:76:HIS:N	2.02	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:14:THR:HB	25:U:68:ASN:HB3	1.70	0.73
7:P:63:ILE:HA	7:P:68:GLY:HA2	1.69	0.73
25:U:11:ILE:HG22	25:U:70:ALA:HB3	1.71	0.73
28:R:4:VAL:O	28:R:38:VAL:HA	1.88	0.73
16:L:79:LEU:HB3	16:L:115:GLU:O	1.89	0.73
2:B:856:G:H1'	31:W:23:LYS:HB3	1.71	0.73
32:6:32:ARG:HH22	32:6:88:LEU:HA	1.54	0.73
2:B:1993:U:H4'	5:D:133:THR:CG2	2.19	0.73
2:B:2591:C:H2'	2:B:2592:G:H8	1.54	0.73
2:B:321:U:H5''	8:E:131:THR:HG23	1.71	0.72
2:B:1550:C:H2'	2:B:1551:A:H8	1.53	0.72
4:C:102:TYR:O	4:C:103:ILE:HG13	1.90	0.72
2:B:2075:U:H2'	2:B:2238:G:N2	2.04	0.72
2:B:2333:A:H5'	2:B:2335:A:H1'	1.71	0.72
2:B:2147:A:OP1	2:B:2148:G:H1'	1.90	0.72
2:B:98:G:H22	25:U:6:ARG:HH12	1.36	0.72
2:B:2787:C:H1'	5:D:63:PRO:HG3	1.71	0.72
7:P:4:ILE:C	7:P:6:GLN:H	1.92	0.72
2:B:1597:A:H5''	2:B:1598:A:H5'	1.69	0.72
25:U:85:ARG:HD3	25:U:86:PHE:N	2.04	0.72
2:B:141:G:H5''	2:B:142:A:C8	2.23	0.72
2:B:988:A:P	9:Y:11:SER:HB3	2.29	0.72
6:K:35:VAL:HG23	6:K:36:GLY:N	2.04	0.72
3:I:77:VAL:HA	3:I:80:LYS:HE2	1.72	0.72
2:B:1138:G:H2'	2:B:1139:G:O4'	1.90	0.72
26:F:11:VAL:HG21	26:F:172:PHE:CE1	2.25	0.72
15:2:30:VAL:HA	15:2:33:ARG:HH22	1.53	0.72
2:B:1459:G:H4'	2:B:1461:C:H42	1.54	0.72
21:N:107:ASN:HD21	24:S:40:ASN:ND2	1.88	0.72
2:B:709:U:H2'	2:B:710:U:C6	2.24	0.72
30:Z:17:ASN:HB2	30:Z:25:THR:HB	1.72	0.72
2:B:321:U:OP2	8:E:130:LYS:HA	1.89	0.72
2:B:2674:G:H4'	6:K:30:ARG:HG3	1.71	0.72
2:B:2073:C:H5''	4:C:227:VAL:HG12	1.70	0.72
2:B:1796:U:H2'	2:B:1797:G:H8	1.54	0.72
16:L:103:ILE:H	16:L:103:ILE:HD12	1.55	0.72
26:F:35:LEU:HD13	26:F:56:LEU:HD11	1.72	0.72
24:S:26:GLY:H	24:S:71:VAL:HG13	1.54	0.72
4:C:116:GLN:HG2	4:C:117:SER:H	1.55	0.72
2:B:142:A:H2'	2:B:143:C:C6	2.25	0.72
2:B:2741:A:H2'	2:B:2742:G:O4'	1.89	0.72
12:1:7:LYS:HD2	13:3:33:THR:HG21	1.70	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:G:37:ASN:HD21	27:G:40:VAL:HB	1.52	0.71
26:F:168:LEU:HD13	26:F:169:LEU:H	1.55	0.71
32:6:113:ASP:HA	32:6:116:ARG:HD2	1.72	0.71
2:B:320:A:H2'	8:E:131:THR:OG1	1.91	0.71
6:K:36:GLY:HA2	6:K:62:VAL:O	1.90	0.71
13:3:22:LYS:HA	13:3:48:MET:HA	1.73	0.71
2:B:1942:C:C4'	32:6:133:ARG:HH12	2.03	0.71
2:B:1119:U:OP1	14:V:83:LYS:HE3	1.89	0.71
2:B:1654:A:O2'	5:D:118:PHE:HB2	1.90	0.71
8:E:131:THR:HG22	8:E:160:ALA:HA	1.72	0.71
2:B:783:A:H8	2:B:784:G:H4'	1.53	0.71
16:L:123:ARG:HA	16:L:143:GLU:HB3	1.72	0.71
16:L:93:ASN:HD22	16:L:94:THR:H	1.36	0.71
31:W:18:LYS:HA	31:W:18:LYS:HE3	1.72	0.71
2:B:608:A:H2'	2:B:609:A:C8	2.25	0.71
16:L:82:LEU:HD23	16:L:90:VAL:HG21	1.71	0.71
24:S:27:LYS:O	24:S:32:ALA:HB2	1.89	0.71
21:N:102:PHE:H	21:N:109:PRO:HA	1.55	0.71
2:B:1283:G:N2	2:B:1286:A:H5'	2.04	0.71
21:N:83:LEU:HA	21:N:86:ARG:HG3	1.73	0.71
26:F:115:GLY:HA3	26:F:177:ARG:HD2	1.72	0.71
8:E:153:LEU:HG	8:E:154:ASP:N	2.05	0.71
14:V:53:LYS:HD3	14:V:55:GLU:H	1.54	0.71
11:4:15:LYS:O	11:4:16:ILE:HB	1.88	0.71
2:B:2579:C:H1'	5:D:130:GLN:HE22	1.55	0.71
2:B:721:A:H2'	2:B:722:A:H8	1.55	0.71
2:B:2548:U:H1'	6:K:23:LYS:NZ	2.04	0.71
32:6:123:GLU:HA	32:6:126:ARG:HH11	1.56	0.71
31:W:39:GLN:NE2	31:W:42:THR:HB	2.03	0.71
1:A:49:C:H2'	1:A:50:A:C8	2.25	0.71
2:B:2728:U:H2'	2:B:2729:G:H8	1.56	0.71
27:G:61:TRP:HA	27:G:61:TRP:CE3	2.25	0.71
2:B:1287:A:H3'	2:B:1288:G:N2	2.05	0.71
2:B:2443:C:H2'	2:B:2444:G:C8	2.26	0.71
2:B:2425:A:H5'	2:B:2427:C:O4'	1.91	0.71
19:H:53:GLU:HA	19:H:57:LYS:HG2	1.73	0.71
18:X:31:GLN:HG2	18:X:37:LEU:HB2	1.71	0.70
2:B:2814:A:H4'	10:0:25:THR:HG21	1.73	0.70
2:B:2071:A:H2'	2:B:2072:C:C6	2.25	0.70
2:B:17:G:H2'	2:B:18:U:C6	2.25	0.70
2:B:743:A:O2'	2:B:744:U:H5'	1.90	0.70
29:T:54:GLU:HB3	29:T:88:LYS:HB2	1.70	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1060:U:C4	2:B:1088:A:N6	2.59	0.70
2:B:2340:A:H2'	2:B:2341:G:H8	1.56	0.70
2:B:2356:U:H5''	31:W:16:GLU:HG3	1.72	0.70
5:D:53:GLY:HA3	5:D:77:ARG:HG3	1.70	0.70
2:B:919:U:H2'	2:B:920:A:C8	2.27	0.70
2:B:2895:G:H2'	2:B:2896:C:C6	2.25	0.70
6:K:13:ASN:HD21	6:K:98:ARG:H	1.37	0.70
4:C:143:VAL:HB	4:C:153:LEU:HB2	1.73	0.70
25:U:78:LYS:HD3	25:U:79:ALA:H	1.55	0.70
5:D:8:LYS:HB2	5:D:201:LEU:HD11	1.74	0.70
19:H:116:ARG:HH12	19:H:133:GLN:HB2	1.56	0.70
2:B:329:G:H1	25:U:16:LYS:HG2	1.56	0.70
29:T:11:LEU:HD21	29:T:46:ALA:HB1	1.74	0.70
29:T:29:THR:H	29:T:91:GLN:NE2	1.89	0.70
30:Z:33:LEU:HA	30:Z:52:SER:HA	1.72	0.70
18:X:1:MET:O	18:X:5:GLU:HG2	1.91	0.70
2:B:118:A:H5'	2:B:119:A:H8	1.57	0.70
2:B:1324:G:H1'	2:B:1616:A:N6	2.06	0.70
9:Y:6:ILE:HG22	9:Y:56:VAL:HA	1.71	0.70
5:D:37:VAL:HG23	5:D:91:THR:HA	1.71	0.70
2:B:1535:A:H3'	2:B:1536:C:H6	1.56	0.70
4:C:158:GLY:N	4:C:194:VAL:HG13	2.07	0.70
27:G:152:ARG:NH2	27:G:162:ARG:HA	2.06	0.70
2:B:62:U:H3'	2:B:63:A:C8	2.27	0.70
2:B:626:A:H2'	16:L:78:ARG:NH1	2.06	0.70
20:J:6:ALA:HB3	20:J:45:THR:HG21	1.73	0.70
19:H:14:SER:HB3	19:H:17:ASP:HB2	1.73	0.70
2:B:581:C:H2'	2:B:582:A:C8	2.26	0.70
26:F:64:PRO:HA	26:F:88:VAL:HG22	1.74	0.70
2:B:2134:A:H2'	2:B:2135:A:C8	2.24	0.70
2:B:784:G:N1	4:C:227:VAL:HG11	2.07	0.70
2:B:1843:C:H4'	4:C:253:GLY:HA3	1.74	0.70
16:L:70:LYS:O	16:L:73:ILE:HG12	1.92	0.70
20:J:13:ARG:O	20:J:52:ASP:HA	1.92	0.70
7:P:56:SER:HB2	7:P:75:THR:CG2	2.22	0.69
6:K:107:LEU:H	6:K:107:LEU:HD12	1.55	0.69
7:P:112:ARG:HB2	7:P:112:ARG:HH11	1.57	0.69
19:H:122:LEU:H	19:H:122:LEU:HD12	1.57	0.69
2:B:30:G:H2'	2:B:31:C:C6	2.27	0.69
14:V:4:ILE:HB	14:V:63:ILE:HG13	1.74	0.69
2:B:1082:U:N3	2:B:1086:A:C2	2.60	0.69
2:B:2867:G:H2'	2:B:2867:G:N3	2.07	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2875:C:H2'	2:B:2876:G:H8	1.56	0.69
4:C:209:ALA:O	4:C:213:ARG:HB2	1.92	0.69
2:B:918:A:H2'	2:B:919:U:H5'	1.73	0.69
2:B:162:U:H4'	2:B:163:C:OP1	1.93	0.69
8:E:58:LYS:HD3	8:E:58:LYS:N	2.07	0.69
14:V:40:ILE:H	14:V:40:ILE:HD13	1.56	0.69
13:3:5:THR:HG22	13:3:62:PRO:HD2	1.74	0.69
31:W:33:GLY:O	31:W:34:SER:HB2	1.92	0.69
4:C:81:GLU:HB2	4:C:90:ILE:HG22	1.75	0.69
11:4:10:LEU:HD12	11:4:33:HIS:HA	1.74	0.69
30:Z:18:ARG:HA	30:Z:23:ASN:O	1.93	0.69
2:B:1657:U:H4'	5:D:138:LEU:HB3	1.74	0.69
8:E:150:THR:HG21	8:E:153:LEU:HA	1.72	0.69
29:T:73:ARG:HH21	29:T:73:ARG:HB3	1.56	0.69
2:B:680:C:H2'	2:B:681:G:H8	1.57	0.69
2:B:2746:U:H5'	27:G:138:GLN:HA	1.73	0.69
2:B:1548:A:H2'	2:B:1549:A:C8	2.28	0.69
2:B:1406:U:H2'	2:B:1407:G:H8	1.57	0.69
2:B:721:A:H2'	2:B:722:A:C8	2.26	0.69
22:O:5:SER:HA	22:O:8:ILE:HD12	1.72	0.69
3:I:105:LEU:HD11	3:I:139:VAL:HG11	1.74	0.69
1:A:35:C:H2'	1:A:36:C:H5'	1.75	0.69
2:B:642:U:O2	2:B:644:A:H3'	1.92	0.69
2:B:2216:G:H2'	2:B:2217:G:C8	2.28	0.69
2:B:2366:A:H2'	2:B:2367:G:O4'	1.93	0.69
14:V:42:LEU:HD23	14:V:42:LEU:H	1.55	0.69
2:B:2461:A:H2'	2:B:2462:C:C6	2.27	0.69
21:N:34:ILE:O	21:N:112:TYR:HA	1.92	0.69
2:B:1552:A:H2'	2:B:1553:A:H5'	1.74	0.69
28:R:31:GLU:H	28:R:63:VAL:HG22	1.57	0.69
2:B:1709:U:H2'	2:B:1710:G:H8	1.57	0.69
27:G:10:VAL:CG2	27:G:48:THR:HA	2.22	0.69
16:L:90:VAL:HB	16:L:122:VAL:HA	1.74	0.69
32:6:30:THR:HG22	32:6:183:ILE:HG12	1.73	0.69
4:C:128:THR:HG23	4:C:190:THR:HG22	1.74	0.69
30:Z:64:ILE:HD12	30:Z:64:ILE:H	1.58	0.69
30:Z:7:VAL:HG21	30:Z:59:ILE:HD11	1.73	0.69
32:6:177:GLU:OE2	32:6:178:LYS:HG2	1.91	0.69
2:B:2309:A:H61	26:F:75:GLY:HA3	1.58	0.69
2:B:1060:U:O2	2:B:1088:A:N7	2.26	0.69
6:K:43:ILE:HG21	6:K:46:ALA:HB2	1.75	0.69
22:O:35:ILE:HG13	22:O:71:ALA:HB2	1.75	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:147:ARG:HD2	26:F:148:VAL:HG22	1.74	0.69
19:H:66:ASN:N	19:H:66:ASN:HD22	1.90	0.69
19:H:73:ASN:HD22	19:H:74:ALA:N	1.90	0.69
3:I:122:GLU:O	3:I:126:ARG:HG3	1.91	0.69
21:N:114:GLU:HG2	21:N:115:LEU:N	2.07	0.69
2:B:345:A:H1'	2:B:346:A:H2	1.57	0.69
2:B:495:G:N2	24:S:61:ASN:HD21	1.90	0.69
32:6:29:ARG:NH2	32:6:110:ARG:HH11	1.91	0.68
2:B:1812:U:H1'	4:C:43:ASN:HD21	1.56	0.68
23:Q:104:ALA:HA	28:R:46:GLU:OE1	1.92	0.68
27:G:166:GLU:HG2	27:G:168:VAL:HG23	1.75	0.68
2:B:102:U:H4'	2:B:103:A:OP2	1.91	0.68
2:B:2751:G:H2'	2:B:2751:G:N3	2.08	0.68
21:N:34:ILE:HB	21:N:113:ILE:HG22	1.74	0.68
2:B:90:U:H3'	2:B:91:A:C5'	2.21	0.68
9:Y:40:THR:O	9:Y:43:ILE:HG22	1.94	0.68
2:B:1266:G:N2	2:B:2012:G:H2'	2.09	0.68
32:6:32:ARG:NH2	32:6:88:LEU:HA	2.08	0.68
2:B:2799:A:H4'	2:B:2800:A:O4'	1.94	0.68
23:Q:30:VAL:CG1	23:Q:33:VAL:HG22	2.24	0.68
22:O:47:VAL:HG12	22:O:48:LEU:H	1.59	0.68
2:B:1309:G:H4'	15:2:7:PRO:HB2	1.74	0.68
2:B:848:C:H2'	2:B:849:A:H8	1.59	0.68
31:W:49:ASN:HB3	31:W:81:ILE:HG12	1.74	0.68
27:G:84:LYS:CB	27:G:132:LEU:H	2.06	0.68
5:D:105:LYS:HE3	5:D:176:ASP:HB3	1.76	0.68
2:B:2143:C:H2'	2:B:2144:G:O4'	1.92	0.68
19:H:90:LEU:HB2	19:H:123:ARG:HB3	1.76	0.68
22:O:49:VAL:HG11	22:O:82:ALA:HA	1.76	0.68
2:B:1260:A:H2'	2:B:1261:C:C6	2.28	0.68
23:Q:26:ALA:HA	23:Q:29:ARG:HG3	1.76	0.68
2:B:2728:U:H5'	6:K:70:ARG:NH2	2.09	0.68
2:B:782:A:N3	4:C:224:MET:HB3	2.08	0.68
28:R:19:THR:HG22	28:R:97:LYS:HG3	1.75	0.68
16:L:93:ASN:O	16:L:95:LEU:HD12	1.93	0.68
2:B:2384:U:H5''	2:B:2386:A:OP1	1.94	0.68
26:F:137:PHE:HB2	26:F:138:PRO:HD2	1.75	0.68
26:F:62:GLN:HG3	26:F:91:ARG:NH1	2.08	0.68
32:6:114:LEU:HB3	32:6:183:ILE:HG21	1.76	0.68
2:B:2748:A:H4'	27:G:3:VAL:HG21	1.76	0.68
2:B:364:C:H2'	2:B:365:U:H6	1.56	0.68
2:B:1242:U:H2'	2:B:1243:C:C6	2.29	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:Y:6:ILE:HG21	9:Y:47:ILE:HD12	1.75	0.68
32:6:14:MET:HE2	32:6:165:THR:HG23	1.76	0.68
31:W:37:VAL:HG12	31:W:38:ARG:N	2.09	0.68
5:D:149:ASN:C	5:D:152:PRO:HD2	2.14	0.68
17:M:36:VAL:HB	17:M:127:LYS:O	1.93	0.68
27:G:10:VAL:HG23	27:G:48:THR:HA	1.75	0.68
2:B:592:A:H2'	2:B:593:U:C6	2.28	0.68
24:S:17:VAL:C	24:S:19:LEU:H	1.97	0.68
2:B:833:A:H2'	2:B:834:G:C8	2.28	0.68
26:F:31:GLU:O	26:F:32:LYS:HD3	1.94	0.68
1:A:75:G:H1'	14:V:29:ILE:HG12	1.75	0.68
2:B:1657:U:O2'	5:D:138:LEU:HD12	1.93	0.68
2:B:1176:U:H2'	2:B:1177:G:O4'	1.94	0.68
2:B:1515:A:H2'	2:B:1516:G:O4'	1.94	0.68
32:6:111:ARG:O	32:6:115:VAL:HG23	1.94	0.68
19:H:80:ILE:HB	19:H:144:VAL:HG13	1.76	0.68
4:C:91:ALA:HB2	4:C:105:ALA:HB2	1.76	0.68
3:I:25:PRO:O	3:I:29:GLN:HG2	1.94	0.68
23:Q:30:VAL:HG13	23:Q:31:TYR:N	2.08	0.68
25:U:49:PRO:HA	25:U:53:GLN:HG3	1.74	0.68
2:B:1437:C:H2'	2:B:1438:U:H6	1.59	0.68
6:K:54:LYS:HD2	6:K:54:LYS:H	1.59	0.68
32:6:95:LYS:HB3	32:6:100:TYR:CE2	2.29	0.68
8:E:118:LEU:HA	8:E:186:VAL:HG13	1.76	0.67
5:D:148:GLN:HB2	5:D:152:PRO:CG	2.23	0.67
2:B:2657:A:H4'	27:G:91:VAL:HG21	1.76	0.67
2:B:28:A:H61	2:B:512:G:H1'	1.59	0.67
2:B:224:U:O4	2:B:420:C:H5'	1.94	0.67
2:B:2241:A:H2'	2:B:2242:G:C8	2.29	0.67
2:B:917:A:H5''	2:B:2268:A:H61	1.58	0.67
2:B:139:U:H3'	2:B:140:C:H5''	1.75	0.67
8:E:46:GLN:HG3	8:E:87:ALA:HB3	1.76	0.67
31:W:51:GLY:HA3	31:W:59:PHE:CB	2.24	0.67
32:6:42:LYS:HA	32:6:51:PRO:HA	1.76	0.67
6:K:19:VAL:HG12	6:K:43:ILE:HA	1.75	0.67
20:J:73:VAL:HG23	20:J:74:TYR:H	1.58	0.67
2:B:2557:G:H2'	2:B:2558:C:C6	2.30	0.67
20:J:93:ILE:O	20:J:97:PRO:HG3	1.94	0.67
8:E:21:ARG:HH11	8:E:106:LYS:HD2	1.60	0.67
26:F:107:VAL:HG11	26:F:175:PRO:HG3	1.76	0.67
32:6:30:THR:C	32:6:32:ARG:N	2.40	0.67
8:E:58:LYS:HD3	8:E:58:LYS:H	1.59	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:528:A:C2	2:B:2042:A:H2'	2.30	0.67
2:B:717:C:H3'	2:B:718:A:H5''	1.76	0.67
26:F:49:LEU:HD11	26:F:66:ILE:HD12	1.75	0.67
24:S:73:LYS:HB3	24:S:106:VAL:HB	1.75	0.67
2:B:580:U:H2'	2:B:581:C:H6	1.60	0.67
2:B:1727:C:H2'	2:B:1728:C:C6	2.30	0.67
32:6:38:LEU:HD13	32:6:83:ILE:HD12	1.76	0.67
19:H:139:PHE:O	19:H:140:ALA:HB2	1.95	0.67
28:R:66:HIS:ND1	28:R:94:THR:HG22	2.10	0.67
2:B:189:G:H2'	2:B:205:G:N2	2.10	0.67
2:B:1790:C:H2'	2:B:1791:A:C8	2.30	0.67
2:B:2875:C:H2'	2:B:2876:G:C8	2.30	0.67
22:O:11:ALA:HB2	22:O:96:GLY:N	2.09	0.67
27:G:17:LYS:NZ	27:G:18:ILE:H	1.93	0.67
20:J:4:PHE:HB3	20:J:44:TYR:CD1	2.30	0.67
19:H:73:ASN:HB3	19:H:141:LYS:NZ	2.09	0.67
2:B:78:U:H2'	2:B:79:C:C6	2.29	0.67
2:B:718:A:H3'	2:B:719:C:H6	1.59	0.67
2:B:27:G:H1'	2:B:513:A:N6	2.10	0.67
8:E:176:ASP:HB3	8:E:179:SER:HB2	1.75	0.67
2:B:2266:A:C4'	2:B:2267:A:N7	2.57	0.67
32:6:30:THR:HG22	32:6:179:LYS:HD3	1.77	0.67
28:R:3:ALA:O	28:R:13:ARG:HA	1.95	0.67
2:B:2529:G:H4'	27:G:174:LYS:HG3	1.76	0.67
12:1:26:LYS:HD3	12:1:52:LYS:HB3	1.76	0.67
20:J:58:ASN:HA	20:J:127:GLY:CA	2.24	0.67
2:B:1447:C:H2'	2:B:1448:G:C8	2.29	0.67
2:B:1655:A:H5'	5:D:118:PHE:HB2	1.76	0.67
2:B:950:G:H2'	2:B:951:C:C6	2.30	0.67
23:Q:78:PHE:CZ	23:Q:82:LEU:HD11	2.30	0.67
20:J:36:LEU:HD21	20:J:122:LEU:HB2	1.76	0.67
2:B:2813:A:H2'	2:B:2814:A:C8	2.30	0.67
2:B:849:A:H2'	2:B:850:U:C6	2.29	0.67
3:I:10:LEU:HD13	3:I:12:VAL:HG13	1.76	0.67
2:B:95:A:H4'	18:X:38:GLN:O	1.95	0.67
16:L:110:VAL:HB	16:L:127:VAL:HG23	1.75	0.67
2:B:2144:G:H5''	2:B:2146:C:OP2	1.96	0.66
24:S:6:LYS:HB2	24:S:103:ILE:O	1.95	0.66
2:B:2144:G:H3'	2:B:2145:C:H3'	1.78	0.66
32:6:42:LYS:HB3	32:6:49:HIS:O	1.93	0.66
13:3:31:ILE:HD11	13:3:34:LYS:HD3	1.77	0.66
24:S:76:VAL:HG12	24:S:103:ILE:HA	1.77	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2639:A:H2'	2:B:2640:G:O4'	1.95	0.66
2:B:2276:G:OP2	17:M:85:GLY:N	2.28	0.66
20:J:117:ALA:HA	20:J:120:ARG:HD2	1.76	0.66
2:B:458:G:N2	2:B:469:G:H2'	2.10	0.66
2:B:1826:G:H2'	2:B:1827:U:H6	1.60	0.66
5:D:20:VAL:HA	6:K:72:PRO:HB3	1.76	0.66
24:S:26:GLY:N	24:S:71:VAL:HG13	2.10	0.66
26:F:16:MET:O	26:F:20:ASN:HA	1.96	0.66
2:B:2720:U:H5''	7:P:52:ARG:HH22	1.61	0.66
2:B:594:U:H2'	2:B:595:C:C6	2.30	0.66
19:H:83:LYS:HB3	19:H:91:PHE:HB2	1.75	0.66
26:F:30:VAL:HG21	26:F:96:TRP:HE1	1.61	0.66
2:B:2286:G:H3'	12:1:29:LYS:HZ1	1.60	0.66
2:B:2286:G:H3'	12:1:29:LYS:NZ	2.11	0.66
2:B:1796:U:H2'	2:B:1797:G:C8	2.31	0.66
2:B:1681:G:N3	2:B:1762:A:H2'	2.10	0.66
4:C:2:VAL:HG23	4:C:3:VAL:H	1.59	0.66
2:B:2064:C:H2'	2:B:2065:C:C6	2.30	0.66
26:F:161:SER:OG	26:F:164:GLU:HG3	1.96	0.66
1:A:14:U:H4'	1:A:70:C:O2	1.96	0.66
2:B:2653:U:O2'	27:G:109:SER:HB2	1.95	0.66
2:B:2213:U:O2	2:B:2213:U:H2'	1.94	0.66
27:G:7:PRO:O	27:G:8:VAL:HB	1.96	0.66
2:B:2144:G:C2'	2:B:2146:C:H5'	2.24	0.66
2:B:2444:G:OP2	8:E:63:LYS:HD2	1.95	0.66
2:B:477:A:H2'	2:B:478:A:C8	2.31	0.66
23:Q:63:ARG:HH22	23:Q:96:ASP:CA	2.08	0.66
2:B:2472:G:H2'	2:B:2475:C:H42	1.59	0.66
19:H:8:LYS:O	19:H:13:GLY:HA3	1.96	0.66
18:X:48:ARG:O	18:X:51:ALA:HB3	1.95	0.66
26:F:41:GLU:O	26:F:43:ILE:HG22	1.95	0.66
2:B:1258:U:C4'	8:E:79:ARG:HD2	2.25	0.66
2:B:655:A:H4'	2:B:656:G:H5'	1.78	0.66
2:B:28:A:N6	2:B:512:G:H1'	2.11	0.66
4:C:57:HIS:CG	4:C:58:LYS:H	2.14	0.66
29:T:38:ALA:O	29:T:39:THR:HB	1.95	0.66
4:C:91:ALA:CB	4:C:105:ALA:HB2	2.26	0.66
17:M:17:ASN:HD21	17:M:95:LEU:HG	1.58	0.66
29:T:69:ARG:CZ	29:T:69:ARG:HA	2.26	0.66
2:B:1350:C:H5'	2:B:1351:C:OP2	1.95	0.66
2:B:1550:C:H2'	2:B:1551:A:C8	2.31	0.66
27:G:84:LYS:HB2	27:G:132:LEU:H	1.60	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:R:24:LYS:HA	28:R:94:THR:HG23	1.77	0.65
2:B:1442:U:H2'	2:B:1443:U:C6	2.31	0.65
7:P:89:GLY:HA2	7:P:112:ARG:N	2.10	0.65
6:K:70:ARG:HB3	6:K:76:VAL:HG22	1.77	0.65
2:B:72:U:O2'	2:B:73:A:H5'	1.96	0.65
2:B:1684:G:H2'	2:B:1685:C:C6	2.30	0.65
2:B:572:A:OP2	28:R:80:ARG:NH2	2.30	0.65
2:B:2269:G:H4'	31:W:19:ARG:NH1	2.11	0.65
29:T:5:GLU:HA	29:T:8:LEU:HB2	1.78	0.65
2:B:1324:G:H1'	2:B:1616:A:C6	2.32	0.65
5:D:124:ARG:HA	5:D:165:MET:SD	2.36	0.65
8:E:161:ALA:HA	8:E:164:LEU:HB2	1.78	0.65
2:B:2512:C:H2'	2:B:2513:A:O4'	1.95	0.65
4:C:128:THR:HA	4:C:190:THR:HA	1.78	0.65
2:B:1260:A:H2'	2:B:1261:C:H6	1.61	0.65
2:B:1709:U:H2'	2:B:1710:G:C8	2.31	0.65
2:B:1870:C:H3'	2:B:1871:A:C8	2.31	0.65
2:B:171:U:H2'	2:B:172:A:C8	2.31	0.65
7:P:4:ILE:HG22	7:P:5:LYS:N	2.10	0.65
18:X:29:ARG:HH12	29:T:12:ARG:HG2	1.62	0.65
3:I:129:GLU:HB3	3:I:133:ARG:NH1	2.10	0.65
27:G:89:VAL:HG12	27:G:90:GLY:H	1.60	0.65
17:M:37:GLY:HA3	17:M:127:LYS:HZ2	1.59	0.65
8:E:46:GLN:HB2	8:E:87:ALA:O	1.96	0.65
2:B:1842:G:H2'	2:B:1843:C:C6	2.30	0.65
2:B:27:G:H22	2:B:512:G:H2'	1.62	0.65
19:H:134:VAL:HG13	19:H:135:HIS:H	1.61	0.65
25:U:65:GLN:HB2	25:U:68:ASN:ND2	2.11	0.65
2:B:1853:A:N1	2:B:2087:G:H1'	2.11	0.65
23:Q:10:ARG:HA	23:Q:13:HIS:HB2	1.76	0.65
1:A:5:U:H2'	1:A:6:G:H8	1.62	0.65
2:B:704:G:H1'	2:B:727:A:H61	1.61	0.65
5:D:28:GLU:HG3	5:D:185:ASN:O	1.96	0.65
2:B:873:C:H2'	2:B:874:G:C8	2.32	0.65
2:B:1439:A:H1'	2:B:1553:A:N6	2.11	0.65
17:M:42:THR:OG1	17:M:45:GLN:HG3	1.97	0.65
21:N:83:LEU:HA	21:N:86:ARG:HB2	1.77	0.65
6:K:76:VAL:H	7:P:72:VAL:HG23	1.61	0.65
2:B:571:U:H3'	28:R:80:ARG:NH1	2.12	0.65
3:I:7:TYR:HB2	3:I:58:ILE:O	1.96	0.65
2:B:1131:G:H1'	2:B:1133:A:H62	1.60	0.65
2:B:855:G:H21	31:W:23:LYS:CG	2.04	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:19:GLY:N	17:M:38:ARG:HH12	1.92	0.65
2:B:1219:U:H2'	2:B:1220:G:C8	2.32	0.65
2:B:324:A:H2'	2:B:325:G:O4'	1.96	0.65
2:B:2498:C:O2'	2:B:2499:C:H5'	1.96	0.65
19:H:78:VAL:HG12	19:H:143:ILE:O	1.97	0.65
2:B:150:U:H2'	2:B:151:C:C6	2.32	0.65
20:J:124:VAL:HG23	20:J:125:TYR:H	1.61	0.65
2:B:1580:A:H2'	2:B:1581:G:O4'	1.96	0.65
2:B:2391:G:H1'	2:B:2424:C:N4	2.12	0.65
2:B:1268:A:H2'	2:B:1269:A:O4'	1.96	0.65
1:A:111:U:H2'	1:A:112:G:C8	2.31	0.65
27:G:122:ALA:HB2	27:G:132:LEU:HB3	1.79	0.65
7:P:50:ARG:CB	7:P:56:SER:HB3	2.26	0.65
20:J:17:VAL:HG22	20:J:55:ILE:HD11	1.79	0.65
2:B:1230:A:H2'	2:B:1231:U:H6	1.62	0.65
26:F:177:ARG:CZ	26:F:177:ARG:HA	2.27	0.65
9:Y:6:ILE:O	9:Y:34:THR:HA	1.97	0.65
2:B:2216:G:H2'	2:B:2217:G:H8	1.59	0.65
20:J:64:VAL:O	20:J:65:THR:HG22	1.97	0.65
2:B:176:A:H3'	2:B:177:G:N2	2.12	0.65
26:F:141:ASP:O	26:F:145:VAL:HG13	1.96	0.65
16:L:95:LEU:HA	16:L:98:ALA:HB3	1.78	0.65
2:B:1092:C:OP1	2:B:2475:C:H4'	1.97	0.65
19:H:80:ILE:HD11	19:H:102:ALA:HB2	1.77	0.65
2:B:162:U:H2'	2:B:162:U:O2	1.96	0.65
2:B:2230:G:H2'	2:B:2231:U:C6	2.31	0.65
26:F:7:TYR:O	26:F:11:VAL:HB	1.97	0.65
2:B:532:A:H2'	2:B:532:A:N3	2.12	0.65
4:C:144:GLU:HG3	4:C:151:GLY:N	2.12	0.64
2:B:1060:U:C5	3:I:131:THR:HG22	2.31	0.64
2:B:1942:C:C1'	32:6:133:ARG:HH12	2.09	0.64
2:B:2834:G:H1'	2:B:2883:A:N6	2.12	0.64
23:Q:27:ARG:HA	23:Q:33:VAL:HG23	1.79	0.64
24:S:17:VAL:HG13	24:S:43:ALA:HB1	1.79	0.64
19:H:31:VAL:CB	19:H:32:PRO:CD	2.73	0.64
16:L:90:VAL:HB	16:L:122:VAL:HG12	1.78	0.64
31:W:24:ARG:HB2	31:W:65:LYS:HB3	1.78	0.64
2:B:2331:G:H4'	31:W:39:GLN:HA	1.80	0.64
27:G:84:LYS:HG2	27:G:85:LYS:N	2.08	0.64
18:X:29:ARG:NH1	29:T:12:ARG:HG2	2.12	0.64
2:B:704:G:H1'	2:B:727:A:N6	2.12	0.64
2:B:136:G:H2'	2:B:137:U:C6	2.32	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:64:A:H2'	2:B:65:U:C6	2.32	0.64
2:B:2292:U:H2'	2:B:2293:G:C8	2.32	0.64
2:B:1203:U:H4'	16:L:3:LEU:HD12	1.79	0.64
22:O:67:ASN:N	22:O:70:ALA:HB3	2.06	0.64
28:R:34:GLU:HA	28:R:59:ILE:O	1.97	0.64
2:B:1012:U:O4	20:J:30:THR:HG21	1.96	0.64
2:B:172:A:H2'	2:B:173:A:C8	2.31	0.64
2:B:570:G:H2'	2:B:2030:A:N7	2.12	0.64
3:I:89:SER:HA	3:I:97:VAL:HG21	1.79	0.64
4:C:239:PHE:O	4:C:241:LYS:HG3	1.98	0.64
2:B:664:G:H2'	2:B:665:U:C6	2.33	0.64
6:K:71:ARG:HA	6:K:71:ARG:NE	2.11	0.64
32:6:29:ARG:NH2	32:6:110:ARG:HD3	2.07	0.64
2:B:138:U:O3'	2:B:139:U:H2'	1.98	0.64
2:B:142:A:C2	29:T:2:ILE:HG22	2.32	0.64
2:B:609:A:H2'	2:B:610:C:O4'	1.97	0.64
5:D:51:THR:HG21	5:D:76:GLY:HA3	1.80	0.64
4:C:43:ASN:ND2	4:C:44:ASN:H	1.95	0.64
2:B:417:C:H2'	2:B:418:C:C6	2.32	0.64
2:B:2537:U:H2'	2:B:2538:C:C6	2.32	0.64
2:B:904:G:H2'	2:B:905:A:H8	1.61	0.64
2:B:729:G:C8	4:C:206:LYS:HE3	2.33	0.64
17:M:59:ARG:HH11	17:M:60:GLN:HB3	1.63	0.64
2:B:2772:C:H2'	2:B:2773:C:H6	1.62	0.64
27:G:43:LYS:HB2	27:G:50:THR:HB	1.78	0.64
23:Q:93:ILE:HG23	23:Q:94:LEU:HD22	1.78	0.64
1:A:90:C:OP1	17:M:16:ARG:HB2	1.98	0.64
4:C:86:ARG:NH1	4:C:86:ARG:HB3	2.13	0.64
19:H:31:VAL:O	19:H:32:PRO:C	2.34	0.64
23:Q:57:ARG:NH1	23:Q:61:ILE:HD11	2.12	0.64
19:H:103:VAL:HG21	19:H:110:VAL:HG22	1.78	0.64
2:B:1657:U:O2'	2:B:1658:C:H5'	1.97	0.64
5:D:51:THR:CG2	5:D:76:GLY:HA3	2.28	0.64
2:B:1432:G:H2'	2:B:1433:A:C8	2.33	0.64
2:B:2400:G:O2'	2:B:2401:U:H5'	1.97	0.64
2:B:917:A:H5''	2:B:2268:A:N6	2.13	0.64
32:6:44:GLU:HG2	32:6:49:HIS:CE1	2.33	0.64
2:B:730:A:H3'	36:B:3411:HOH:O	1.96	0.64
2:B:2086:U:H2'	2:B:2087:G:C8	2.33	0.64
14:V:15:GLY:O	14:V:19:ARG:HG3	1.98	0.64
2:B:2700:A:H2'	2:B:2701:U:H6	1.63	0.64
31:W:23:LYS:HD2	31:W:24:ARG:N	2.13	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:O:51:ALA:HB3	22:O:78:VAL:HG22	1.78	0.64
29:T:32:LEU:H	29:T:83:ALA:HB3	1.63	0.64
31:W:47:GLY:HA3	31:W:80:SER:HB3	1.78	0.64
2:B:1438:U:H2'	2:B:1439:A:O4'	1.98	0.64
6:K:99:ILE:HG12	6:K:115:ILE:HG13	1.78	0.64
2:B:2675:A:N1	2:B:2732:G:O6	2.31	0.64
2:B:784:G:O2'	2:B:785:G:H5''	1.98	0.64
2:B:19:A:H2'	2:B:20:C:C6	2.32	0.64
2:B:1872:A:H2'	2:B:1873:G:O4'	1.98	0.64
2:B:2485:G:O2'	2:B:2486:C:H5'	1.98	0.64
2:B:479:A:N3	2:B:481:G:H5''	2.12	0.64
26:F:111:ARG:HH11	26:F:135:ILE:HG21	1.63	0.64
19:H:2:GLN:O	19:H:3:VAL:HG22	1.97	0.64
19:H:135:HIS:HB2	19:H:138:VAL:HG23	1.80	0.64
29:T:68:LYS:O	29:T:69:ARG:HB2	1.98	0.64
2:B:1139:G:O2'	2:B:1140:C:H5'	1.97	0.64
6:K:99:ILE:HD13	6:K:118:LEU:HD22	1.78	0.64
2:B:2537:U:H2'	2:B:2538:C:H6	1.63	0.64
2:B:2804:U:H2'	2:B:2805:C:C6	2.33	0.64
2:B:2282:G:OP1	2:B:2283:C:H1'	1.98	0.64
2:B:1166:G:H2'	2:B:1167:C:C6	2.32	0.64
20:J:1:MET:HG2	20:J:2:LYS:HG2	1.80	0.64
29:T:55:VAL:HG13	29:T:85:VAL:HG12	1.80	0.64
23:Q:54:ARG:HB3	23:Q:58:GLN:NE2	2.10	0.64
2:B:143:C:H2'	2:B:144:A:C8	2.33	0.64
28:R:66:HIS:CG	28:R:94:THR:HG22	2.33	0.64
2:B:2880:C:O4'	21:N:91:ALA:HB3	1.98	0.64
5:D:113:SER:CB	5:D:168:GLU:H	2.10	0.64
2:B:852:U:H2'	2:B:853:C:C6	2.33	0.64
2:B:64:A:H2'	2:B:65:U:H6	1.62	0.64
4:C:66:PHE:HB2	4:C:150:GLY:O	1.98	0.64
28:R:72:VAL:HG23	28:R:89:HIS:HB3	1.80	0.64
2:B:2366:A:H4'	31:W:61:LYS:HE2	1.80	0.63
32:6:90:LEU:HB3	32:6:101:ILE:CG2	2.29	0.63
27:G:83:THR:HA	27:G:84:LYS:NZ	2.13	0.63
2:B:2228:G:H2'	2:B:2229:U:C6	2.34	0.63
2:B:1240:U:O2'	2:B:1241:A:H5''	1.98	0.63
2:B:1535:A:H3'	2:B:1536:C:C6	2.33	0.63
27:G:10:VAL:O	27:G:10:VAL:HG12	1.98	0.63
6:K:8:LEU:HD12	6:K:8:LEU:N	2.13	0.63
2:B:1932:A:H2'	2:B:1933:G:O4'	1.97	0.63
2:B:2819:G:H2'	2:B:2821:A:N7	2.12	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2303:G:H4'	26:F:121:PHE:O	1.98	0.63
4:C:180:MET:O	4:C:267:VAL:HG23	1.98	0.63
27:G:26:LYS:HB2	27:G:32:LEU:HG	1.80	0.63
21:N:37:THR:HB	21:N:40:LYS:HG3	1.80	0.63
25:U:85:ARG:NE	25:U:85:ARG:HA	2.14	0.63
26:F:8:LYS:HA	26:F:12:VAL:HG21	1.79	0.63
27:G:148:ARG:HA	27:G:161:VAL:HB	1.78	0.63
7:P:52:ARG:HG2	7:P:52:ARG:HH11	1.63	0.63
16:L:110:VAL:HG23	16:L:126:ARG:O	1.98	0.63
2:B:2784:U:H2'	2:B:2785:C:H6	1.63	0.63
4:C:123:ILE:HD13	4:C:135:PRO:HG2	1.80	0.63
2:B:155:A:H2'	2:B:156:A:C8	2.33	0.63
23:Q:65:ASN:HB2	23:Q:75:TYR:HB2	1.81	0.63
2:B:2615:U:C2	10:O:3:GLN:HA	2.34	0.63
2:B:1192:G:O2'	2:B:1193:G:H5'	1.98	0.63
16:L:93:ASN:ND2	16:L:94:THR:H	1.96	0.63
23:Q:97:ILE:HD11	23:Q:108:LEU:HD11	1.79	0.63
2:B:1082:U:N3	2:B:1086:A:C6	2.67	0.63
2:B:2788:C:H2'	2:B:2789:C:C6	2.33	0.63
2:B:742:A:H2'	2:B:743:A:H8	1.63	0.63
17:M:96:ILE:HD11	17:M:126:ILE:HD13	1.79	0.63
2:B:81:G:H2'	2:B:82:U:O4'	1.98	0.63
2:B:968:C:H2'	2:B:969:G:H8	1.63	0.63
27:G:15:ASP:HB2	27:G:26:LYS:HB3	1.79	0.63
4:C:70:LYS:NZ	4:C:99:GLU:HB3	2.13	0.63
25:U:84:PHE:O	25:U:85:ARG:HB2	1.98	0.63
2:B:2284:A:OP2	12:I:5:ARG:HG3	1.99	0.63
2:B:1847:A:H4'	2:B:1848:A:C8	2.33	0.63
6:K:7:MET:SD	6:K:20:MET:HB2	2.38	0.63
26:F:168:LEU:HD13	26:F:169:LEU:N	2.12	0.63
2:B:557:C:H2'	2:B:558:U:C6	2.34	0.63
29:T:68:LYS:O	29:T:69:ARG:CB	2.46	0.63
20:J:19:ASP:HA	20:J:57:LEU:HB3	1.81	0.63
2:B:2886:A:H62	10:O:39:ARG:CD	2.11	0.63
2:B:1726:C:H2'	2:B:1727:C:C6	2.33	0.63
25:U:42:LYS:HG3	25:U:57:ILE:HG21	1.80	0.63
5:D:36:GLN:O	5:D:36:GLN:HG3	1.98	0.63
32:6:163:LYS:O	32:6:167:GLU:HG3	1.99	0.63
2:B:1562:U:H2'	2:B:1563:U:C6	2.32	0.63
19:H:67:ALA:O	19:H:71:LYS:HB2	1.99	0.63
3:I:20:SER:O	3:I:25:PRO:HD2	1.99	0.63
17:M:40:ARG:HD3	17:M:93:VAL:HG21	1.80	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2376:A:H2'	2:B:2377:A:O4'	1.98	0.63
2:B:1395:A:H4'	2:B:1397:U:C5	2.34	0.63
27:G:102:ILE:HG13	27:G:116:LEU:HD11	1.79	0.63
2:B:1060:U:O4	2:B:1088:A:N6	2.32	0.63
2:B:2645:G:H3'	2:B:2646:C:C5'	2.28	0.63
2:B:680:C:H2'	2:B:681:G:C8	2.34	0.63
2:B:1812:U:H2'	2:B:1813:G:C8	2.34	0.63
24:S:82:MET:HB2	24:S:98:LYS:HB2	1.81	0.63
25:U:12:VAL:HA	25:U:69:VAL:HA	1.79	0.63
32:6:29:ARG:HH22	32:6:110:ARG:CD	2.08	0.63
23:Q:63:ARG:HH12	23:Q:96:ASP:CB	2.11	0.63
30:Z:71:LEU:HD12	30:Z:78:TYR:HD2	1.64	0.63
22:O:89:ASP:HA	22:O:116:GLN:O	1.98	0.63
24:S:81:SER:HA	24:S:99:ARG:HA	1.80	0.63
1:A:10:G:H2'	1:A:11:C:O4'	1.98	0.63
25:U:82:VAL:HG13	25:U:93:ARG:HB3	1.79	0.63
24:S:20:VAL:O	24:S:23:LEU:HB2	1.99	0.63
2:B:2553:G:H2'	2:B:2554:U:H4'	1.81	0.63
26:F:72:SER:HA	26:F:78:ILE:HG22	1.81	0.63
3:I:11:GLN:HA	3:I:55:PRO:HA	1.80	0.63
2:B:139:U:H3'	2:B:140:C:C5'	2.28	0.63
26:F:7:TYR:O	26:F:12:VAL:HG23	1.99	0.63
23:Q:30:VAL:HG22	23:Q:31:TYR:H	1.63	0.63
8:E:109:LEU:HD13	8:E:180:LEU:HD13	1.81	0.63
2:B:2023:C:O2'	2:B:2024:G:H5'	1.99	0.63
2:B:1914:C:H2'	2:B:1915:U:O4'	1.98	0.63
26:F:31:GLU:HB3	26:F:156:THR:O	1.98	0.62
25:U:10:VAL:O	25:U:21:ARG:HA	1.99	0.62
2:B:2658:C:H5'	27:G:159:LYS:NZ	2.13	0.62
2:B:365:U:H2'	2:B:366:C:C6	2.34	0.62
21:N:79:LEU:HA	21:N:83:LEU:HD12	1.79	0.62
2:B:2185:U:H2'	2:B:2186:G:C8	2.34	0.62
2:B:2185:U:H2'	2:B:2186:G:H8	1.64	0.62
2:B:173:A:H2'	2:B:174:U:C6	2.34	0.62
2:B:479:A:O2'	2:B:481:G:H5'	1.98	0.62
2:B:969:G:H2'	2:B:970:U:C6	2.34	0.62
2:B:1939:U:H6	2:B:1939:U:H5'	1.64	0.62
2:B:1013:C:H2'	2:B:1014:A:H8	1.62	0.62
8:E:134:LEU:HD21	8:E:161:ALA:HB2	1.80	0.62
8:E:161:ALA:HA	8:E:164:LEU:HD12	1.81	0.62
1:A:39:A:O2'	1:A:40:U:H5'	1.99	0.62
5:D:186:LEU:HD21	7:P:3:ILE:HD11	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:705:A:N6	2:B:726:G:O2'	2.32	0.62
20:J:57:LEU:HD21	20:J:128:ASN:HA	1.80	0.62
32:6:55:ILE:HG23	32:6:79:ILE:HD11	1.81	0.62
2:B:2187:U:H2'	2:B:2188:U:C6	2.34	0.62
17:M:59:ARG:NH1	17:M:60:GLN:HB3	2.13	0.62
5:D:154:LYS:H	5:D:154:LYS:HD3	1.64	0.62
2:B:2605:U:H2'	2:B:2606:C:C6	2.34	0.62
2:B:979:A:H2'	2:B:982:C:N4	2.14	0.62
19:H:89:LYS:O	19:H:90:LEU:HD12	2.00	0.62
2:B:2880:C:H1'	21:N:93:GLY:H	1.63	0.62
2:B:464:U:H2'	2:B:465:G:O4'	1.98	0.62
20:J:18:VAL:HG12	20:J:54:ILE:HD11	1.80	0.62
8:E:200:LEU:O	8:E:201:ALA:HB3	1.97	0.62
2:B:1871:A:H2'	2:B:1872:A:C8	2.35	0.62
31:W:74:LYS:HA	31:W:74:LYS:HE2	1.81	0.62
2:B:647:G:H2'	2:B:648:G:C8	2.35	0.62
2:B:2328:A:H2'	2:B:2329:U:C6	2.34	0.62
24:S:66:ILE:H	24:S:66:ILE:CD1	2.10	0.62
30:Z:69:ALA:HA	30:Z:72:ARG:HH12	1.65	0.62
25:U:86:PHE:HB3	25:U:90:LYS:O	2.00	0.62
2:B:1405:U:H2'	2:B:1406:U:C6	2.34	0.62
32:6:2:THR:OG1	32:6:5:GLU:HG3	1.98	0.62
16:L:56:PRO:HD2	16:L:59:ARG:HG3	1.82	0.62
19:H:32:PRO:HG3	30:Z:39:TRP:HB3	1.82	0.62
2:B:2353:G:H1'	31:W:30:VAL:CG1	2.29	0.62
2:B:2306:C:C5	2:B:2307:G:H2'	2.34	0.62
32:6:32:ARG:HH22	32:6:88:LEU:CA	2.12	0.62
2:B:2746:U:OP1	27:G:141:GLY:HA3	1.99	0.62
18:X:1:MET:HG2	18:X:4:LYS:NZ	2.15	0.62
2:B:1788:C:O2'	2:B:1789:A:H5'	1.98	0.62
2:B:62:U:H2'	2:B:63:A:O4'	2.00	0.62
2:B:2291:U:O2'	2:B:2374:C:H1'	1.99	0.62
2:B:863:A:H2'	2:B:864:G:C8	2.35	0.62
2:B:315:G:H2'	2:B:316:C:C6	2.34	0.62
2:B:1355:G:O2'	2:B:1356:G:H5'	2.00	0.62
2:B:2267:A:H5''	2:B:2268:A:H5'	1.80	0.62
29:T:32:LEU:N	29:T:83:ALA:HB3	2.15	0.62
19:H:117:LEU:HD21	19:H:128:HIS:CE1	2.34	0.62
29:T:2:ILE:HD13	29:T:2:ILE:N	2.15	0.62
17:M:42:THR:O	17:M:44:ARG:N	2.33	0.62
2:B:1778:U:H2'	2:B:1784:A:H62	1.65	0.62
2:B:1535:A:O2'	2:B:1536:C:H5'	2.00	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:114:LYS:HD2	5:D:116:LYS:NZ	2.15	0.62
2:B:176:A:O2'	2:B:177:G:H5'	1.99	0.62
26:F:155:ILE:H	26:F:155:ILE:HD12	1.65	0.62
2:B:455:C:N3	2:B:472:A:H2'	2.15	0.62
28:R:49:ILE:HD13	28:R:51:VAL:O	2.00	0.62
5:D:68:PHE:C	5:D:73:VAL:HB	2.20	0.62
2:B:2732:G:H5'	2:B:2733:A:O4'	1.99	0.62
2:B:2027:G:O2'	2:B:2028:U:H5'	2.00	0.62
2:B:2285:C:OP2	12:1:5:ARG:HD3	1.99	0.62
6:K:24:VAL:HG13	6:K:33:ALA:HB2	1.81	0.62
2:B:2439:A:N7	2:B:2586:U:H4'	2.14	0.62
9:Y:12:ALA:HA	9:Y:15:ARG:HD3	1.80	0.62
2:B:2183:A:H2'	2:B:2184:A:C8	2.35	0.62
8:E:130:LYS:C	8:E:132:LYS:H	2.03	0.62
2:B:1203:U:H3'	2:B:1204:A:C5'	2.30	0.62
2:B:1429:G:H2'	2:B:1430:G:H8	1.64	0.62
32:6:77:LYS:O	32:6:81:LYS:HG3	2.00	0.62
2:B:2728:U:H2'	2:B:2729:G:C8	2.35	0.62
3:I:85:ILE:HD13	3:I:137:LEU:HD21	1.80	0.62
7:P:31:VAL:HG12	7:P:38:ARG:O	2.00	0.62
31:W:23:LYS:NZ	31:W:24:ARG:HG3	2.14	0.62
7:P:3:ILE:HD13	7:P:7:LEU:HD11	1.82	0.62
14:V:28:ALA:HA	14:V:88:HIS:ND1	2.15	0.62
11:4:22:VAL:HB	11:4:24:ARG:HE	1.65	0.62
2:B:2700:A:H2'	2:B:2701:U:C6	2.34	0.62
5:D:33:ARG:NE	5:D:74:GLU:HB3	2.15	0.62
23:Q:18:LYS:C	23:Q:20:ALA:H	2.02	0.62
2:B:321:U:H1'	8:E:162:ARG:HH11	1.64	0.61
26:F:32:LYS:HB2	26:F:90:LEU:O	1.99	0.61
27:G:102:ILE:HD12	27:G:147:LEU:HD21	1.81	0.61
20:J:43:GLU:O	20:J:45:THR:N	2.33	0.61
19:H:134:VAL:HG13	19:H:135:HIS:N	2.14	0.61
2:B:140:C:H4'	2:B:141:G:N2	2.14	0.61
8:E:110:SER:HB3	8:E:114:ARG:NH1	2.11	0.61
2:B:1442:U:H2'	2:B:1443:U:H6	1.63	0.61
2:B:1551:A:C3'	2:B:1552:A:H5''	2.30	0.61
2:B:2728:U:H5'	6:K:70:ARG:HH21	1.63	0.61
4:C:204:LEU:HD22	4:C:209:ALA:HB1	1.81	0.61
2:B:1684:G:H2'	2:B:1685:C:H6	1.62	0.61
4:C:32:LEU:HD22	4:C:63:ILE:HG13	1.82	0.61
2:B:165:A:H2'	2:B:166:U:H6	1.64	0.61
2:B:1716:U:H2'	2:B:1717:A:H8	1.65	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2859:G:H2'	2:B:2860:A:C8	2.34	0.61
2:B:826:U:H2'	2:B:828:U:O4'	2.00	0.61
2:B:828:U:H4'	2:B:831:G:N1	2.15	0.61
6:K:71:ARG:CB	6:K:72:PRO:HD2	2.25	0.61
2:B:2722:G:H4'	21:N:4:ARG:HB2	1.82	0.61
7:P:56:SER:O	7:P:75:THR:HG22	2.01	0.61
22:O:18:LEU:HD23	22:O:25:ARG:HD3	1.81	0.61
3:I:18:ASN:N	3:I:19:PRO:HD2	2.14	0.61
2:B:2026:U:H2'	2:B:2027:G:H8	1.65	0.61
2:B:111:A:H2'	2:B:112:U:O4'	1.99	0.61
2:B:1947:C:H2'	2:B:1948:G:H8	1.65	0.61
26:F:104:THR:C	26:F:108:PRO:HG2	2.21	0.61
29:T:39:THR:CG2	29:T:42:GLU:H	2.14	0.61
23:Q:89:ILE:HB	28:R:11:GLN:HE22	1.63	0.61
28:R:3:ALA:HB2	28:R:101:ILE:HD11	1.81	0.61
29:T:18:GLU:C	29:T:20:ALA:H	2.04	0.61
23:Q:4:LYS:NZ	23:Q:7:VAL:HG22	2.15	0.61
2:B:171:U:H2'	2:B:172:A:H8	1.66	0.61
2:B:165:A:H2'	2:B:166:U:C6	2.35	0.61
2:B:934:U:H2'	2:B:935:C:C6	2.35	0.61
15:2:3:ARG:HA	15:2:3:ARG:NE	2.16	0.61
2:B:257:C:H2'	2:B:258:G:O4'	2.00	0.61
2:B:220:G:H1	2:B:427:U:H2'	1.65	0.61
2:B:184:C:H2'	2:B:185:G:H8	1.64	0.61
2:B:2800:A:H2'	2:B:2801:G:C1'	2.30	0.61
2:B:742:A:H2'	2:B:743:A:C8	2.35	0.61
20:J:64:VAL:HG22	20:J:68:LYS:HD2	1.83	0.61
2:B:2092:U:H4'	2:B:2093:G:O5'	2.00	0.61
2:B:1742:U:H2'	2:B:1743:G:C8	2.34	0.61
6:K:72:PRO:O	6:K:74:GLY:N	2.34	0.61
32:6:29:ARG:HH22	32:6:110:ARG:HH11	1.48	0.61
27:G:120:ILE:HD11	27:G:132:LEU:HB2	1.83	0.61
23:Q:91:ARG:NH1	28:R:11:GLN:H	1.98	0.61
23:Q:57:ARG:HH22	23:Q:92:LYS:HE2	1.66	0.61
5:D:29:VAL:O	5:D:185:ASN:HB3	2.01	0.61
15:2:33:ARG:HB2	15:2:33:ARG:HH21	1.65	0.61
32:6:14:MET:SD	32:6:129:ILE:HG23	2.41	0.61
2:B:1935:G:H1'	2:B:1964:G:N2	2.14	0.61
2:B:599:A:O2'	2:B:600:G:H5'	2.00	0.61
18:X:10:SER:H	18:X:60:LYS:HE2	1.64	0.61
4:C:131:MET:HA	4:C:134:ILE:HG23	1.82	0.61
2:B:2758:A:H2'	2:B:2759:G:O4'	2.01	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:75:ALA:HB2	4:C:95:TYR:HA	1.83	0.61
19:H:5:LEU:HD12	19:H:17:ASP:HB2	1.83	0.61
30:Z:66:THR:O	30:Z:69:ALA:HB3	2.01	0.61
1:A:5:U:H2'	1:A:6:G:C8	2.36	0.61
2:B:1164:C:H2'	2:B:1165:A:H8	1.66	0.61
22:O:94:ARG:HD2	22:O:97:PHE:O	1.99	0.61
2:B:1485:U:H2'	2:B:1486:U:C6	2.35	0.61
8:E:18:THR:HG22	8:E:106:LYS:NZ	2.15	0.61
2:B:2385:C:H2'	2:B:2386:A:C8	2.35	0.61
31:W:39:GLN:HG3	31:W:42:THR:HB	1.82	0.61
14:V:29:ILE:HG13	14:V:88:HIS:HE1	1.64	0.61
19:H:75:LEU:HB3	19:H:78:VAL:CG2	2.30	0.61
2:B:116:C:H2'	2:B:117:G:O4'	2.00	0.61
2:B:2840:C:OP1	21:N:50:PRO:HA	2.01	0.61
2:B:2646:C:H2'	2:B:2647:U:O4'	1.99	0.61
4:C:77:VAL:HG23	4:C:112:GLY:N	2.14	0.61
2:B:1654:A:H2'	2:B:1655:A:H8	1.66	0.61
2:B:2895:G:H2'	2:B:2896:C:H6	1.65	0.61
2:B:2212:A:H1'	2:B:2213:U:H3	1.65	0.61
2:B:571:U:H3'	28:R:80:ARG:HH12	1.66	0.61
2:B:2704:C:H2'	2:B:2705:A:O4'	1.99	0.61
2:B:2257:U:O2'	2:B:2258:C:H5'	2.01	0.61
2:B:1505:A:H2'	2:B:1506:U:C6	2.35	0.61
2:B:2095:A:H2'	2:B:2096:C:C6	2.35	0.61
25:U:35:VAL:HB	25:U:38:ILE:CG2	2.30	0.61
16:L:95:LEU:HB2	16:L:101:ILE:HG13	1.82	0.61
2:B:2722:G:H2'	2:B:2723:C:C6	2.35	0.61
2:B:1219:U:H2'	2:B:1220:G:H8	1.65	0.61
20:J:64:VAL:O	20:J:68:LYS:HD2	1.99	0.61
27:G:9:VAL:HG12	27:G:11:PRO:HD3	1.81	0.61
20:J:72:LYS:HG3	20:J:89:PHE:HB2	1.83	0.61
2:B:806:C:O2'	2:B:807:U:H5'	2.00	0.61
2:B:1276:A:O2'	2:B:1277:G:H5'	2.00	0.61
31:W:59:PHE:CE2	31:W:61:LYS:HD2	2.34	0.61
32:6:90:LEU:HB3	32:6:101:ILE:HG21	1.83	0.61
14:V:4:ILE:HB	14:V:63:ILE:HA	1.82	0.61
29:T:40:LYS:HG2	29:T:60:THR:HG23	1.83	0.61
7:P:50:ARG:HB2	7:P:56:SER:CB	2.30	0.61
7:P:88:ARG:HB2	7:P:112:ARG:NH1	2.16	0.61
2:B:593:U:H2'	2:B:594:U:C6	2.35	0.61
26:F:72:SER:HB2	26:F:80:GLN:H	1.65	0.61
2:B:1046:A:H4'	2:B:1047:G:H5''	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:N:9:GLN:O	21:N:17:ARG:HD3	2.00	0.61
14:V:70:ILE:HD13	14:V:71:LYS:N	2.15	0.61
2:B:873:C:H2'	2:B:874:G:H8	1.66	0.61
6:K:99:ILE:H	6:K:118:LEU:HD23	1.66	0.61
2:B:581:C:H2'	2:B:582:A:H8	1.64	0.61
2:B:2341:G:H2'	2:B:2342:C:C6	2.35	0.61
2:B:458:G:H22	2:B:469:G:H2'	1.65	0.61
2:B:967:U:H2'	2:B:968:C:C6	2.36	0.61
2:B:947:A:H2'	2:B:948:C:C6	2.35	0.61
2:B:836:G:H2'	2:B:837:C:C6	2.35	0.61
19:H:24:GLY:O	19:H:28:ASN:HB2	2.01	0.60
19:H:4:ILE:HG13	19:H:18:GLN:HB2	1.82	0.60
2:B:131:A:H2'	2:B:132:G:H8	1.66	0.60
2:B:2734:A:H2'	2:B:2735:G:H5'	1.81	0.60
2:B:2730:C:H2'	2:B:2731:G:H8	1.66	0.60
32:6:93:SER:OG	32:6:100:TYR:HB2	2.01	0.60
2:B:1131:G:N2	2:B:2024:G:H21	1.99	0.60
2:B:2292:U:H2'	2:B:2293:G:H8	1.66	0.60
16:L:56:PRO:O	16:L:59:ARG:HB2	2.01	0.60
8:E:37:ALA:C	8:E:39:ALA:H	2.04	0.60
2:B:871:U:H2'	2:B:872:U:H6	1.66	0.60
2:B:1523:U:H5''	2:B:1524:G:C8	2.36	0.60
6:K:58:LEU:HD23	6:K:58:LEU:N	2.16	0.60
8:E:148:ILE:HD13	8:E:187:VAL:CG2	2.31	0.60
30:Z:70:GLU:O	30:Z:72:ARG:N	2.34	0.60
26:F:12:VAL:O	26:F:16:MET:HG2	2.01	0.60
32:6:57:THR:N	32:6:69:GLN:O	2.34	0.60
2:B:670:A:H5''	16:L:42:SER:HB2	1.82	0.60
5:D:133:THR:HG23	5:D:134:HIS:N	2.15	0.60
32:6:131:ASN:O	32:6:135:GLU:HG3	2.00	0.60
6:K:113:MET:HE1	6:K:116:ILE:HD11	1.84	0.60
2:B:664:G:H2'	2:B:665:U:H6	1.66	0.60
4:C:221:GLY:C	4:C:223:ALA:H	2.03	0.60
32:6:28:LEU:O	32:6:37:LEU:HD13	2.01	0.60
2:B:1097:U:H2'	2:B:1098:A:H5'	1.83	0.60
26:F:62:GLN:HE22	26:F:90:LEU:HD13	1.66	0.60
5:D:10:GLY:HA2	7:P:4:ILE:HD11	1.83	0.60
24:S:72:THR:CG2	24:S:108:SER:HB3	2.31	0.60
2:B:962:G:N2	2:B:2250:G:H22	1.99	0.60
2:B:616:A:H4'	8:E:101:TYR:CE2	2.37	0.60
2:B:2787:C:C1'	5:D:63:PRO:HG3	2.31	0.60
2:B:654:A:H2'	2:B:655:A:H5''	1.83	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1873:G:O2'	2:B:1874:C:H5'	2.01	0.60
2:B:172:A:H2'	2:B:173:A:H8	1.66	0.60
5:D:182:ALA:O	5:D:184:ARG:HG2	2.01	0.60
24:S:31:GLN:O	24:S:35:ILE:HG12	2.02	0.60
24:S:33:LEU:HG	24:S:51:LEU:HD23	1.82	0.60
2:B:1440:U:H2'	2:B:1441:G:C8	2.37	0.60
2:B:2841:C:H2'	2:B:2842:G:C8	2.36	0.60
2:B:374:A:N6	2:B:400:G:H1'	2.16	0.60
9:Y:37:ARG:HA	9:Y:37:ARG:HE	1.66	0.60
2:B:2553:G:H2'	2:B:2554:U:C4'	2.32	0.60
8:E:30:GLN:HG2	8:E:30:GLN:O	2.01	0.60
28:R:14:VAL:HG22	28:R:15:SER:N	2.16	0.60
2:B:1593:A:H2'	2:B:1594:U:C6	2.36	0.60
2:B:2633:G:H2'	2:B:2634:A:O4'	2.01	0.60
2:B:2415:G:H4'	16:L:66:PHE:HB2	1.83	0.60
23:Q:91:ARG:HB2	28:R:11:GLN:OE1	2.01	0.60
2:B:1076:C:H4'	3:I:94:LYS:NZ	2.17	0.60
30:Z:64:ILE:O	30:Z:68:LEU:HG	2.02	0.60
2:B:141:G:N1	29:T:2:ILE:HD12	2.13	0.60
2:B:2135:A:H3'	2:B:2136:G:H8	1.66	0.60
2:B:673:C:H5''	8:E:76:PRO:HD2	1.84	0.60
10:O:21:LEU:HD12	24:S:19:LEU:O	2.01	0.60
2:B:184:C:H2'	2:B:185:G:C8	2.36	0.60
2:B:1501:G:O2'	2:B:1502:A:H5'	2.02	0.60
32:6:38:LEU:O	32:6:41:LEU:HB2	2.01	0.60
23:Q:104:ALA:HA	28:R:46:GLU:CD	2.22	0.60
2:B:2147:A:H5'	2:B:2148:G:H4'	1.82	0.60
15:2:26:ASN:O	15:2:30:VAL:HG23	2.01	0.60
2:B:170:U:H2'	2:B:171:U:C6	2.36	0.60
25:U:35:VAL:HB	25:U:38:ILE:HB	1.83	0.60
25:U:35:VAL:HB	25:U:38:ILE:HG21	1.83	0.60
2:B:2151:U:H2'	2:B:2152:G:H8	1.66	0.60
2:B:776:G:H4'	2:B:777:G:O5'	2.02	0.60
2:B:2693:G:H2'	2:B:2694:G:H8	1.65	0.60
20:J:63:ALA:HA	20:J:69:ARG:HH12	1.67	0.60
5:D:79:LEU:HD22	5:D:79:LEU:N	2.16	0.60
32:6:15:GLN:HB3	32:6:16:LYS:NZ	2.16	0.60
4:C:245:THR:O	4:C:247:TRP:N	2.35	0.60
2:B:441:U:H2'	2:B:442:G:H8	1.65	0.60
23:Q:83:LYS:NZ	23:Q:83:LYS:HA	2.17	0.60
31:W:23:LYS:O	31:W:66:VAL:HB	2.02	0.60
2:B:1778:U:H2'	2:B:1784:A:N6	2.17	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:G:61:TRP:HA	27:G:61:TRP:HE3	1.67	0.60
2:B:27:G:H1'	2:B:513:A:H61	1.66	0.60
32:6:167:GLU:O	32:6:170:ALA:HB3	2.01	0.60
2:B:2666:C:O4'	2:B:2666:C:O2	2.20	0.60
2:B:845:A:C2	2:B:847:U:H1'	2.37	0.60
2:B:855:G:O2'	31:W:23:LYS:HD3	2.02	0.60
25:U:21:ARG:HD3	25:U:72:PHE:CD2	2.37	0.60
2:B:2528:U:HO2'	2:B:2529:G:H3'	1.66	0.60
2:B:2502:G:H5'	2:B:2503:A:C5'	2.31	0.60
13:3:49:VAL:CG2	13:3:54:LEU:HD13	2.31	0.60
2:B:2339:C:H2'	2:B:2340:A:C8	2.36	0.60
9:Y:8:GLN:HG2	9:Y:31:ILE:HA	1.83	0.60
2:B:594:U:H2'	2:B:595:C:H6	1.66	0.60
2:B:2066:C:O2'	2:B:2067:G:H5'	2.01	0.60
25:U:60:LYS:HE2	25:U:60:LYS:HA	1.84	0.60
1:A:91:C:H2'	1:A:92:C:H6	1.66	0.60
4:C:16:VAL:N	4:C:203:VAL:HG12	2.17	0.60
2:B:2269:G:H4'	31:W:19:ARG:HH12	1.67	0.60
26:F:109:ARG:HB3	26:F:135:ILE:CD1	2.30	0.60
2:B:2514:U:H2'	2:B:2515:C:C6	2.37	0.60
20:J:38:GLY:O	20:J:43:GLU:HB2	2.02	0.60
2:B:1104:C:H2'	2:B:1105:U:H6	1.67	0.60
2:B:2060:A:H3'	8:E:63:LYS:HZ1	1.67	0.60
25:U:65:GLN:HB2	25:U:68:ASN:HD22	1.67	0.60
2:B:1922:G:N7	34:B:3015:LLL:H221	2.16	0.60
24:S:5:ALA:HB3	24:S:54:ALA:HB2	1.81	0.60
2:B:1274:A:N3	2:B:1297:C:H1'	2.16	0.60
30:Z:71:LEU:O	30:Z:74:ARG:HG2	2.01	0.60
17:M:37:GLY:HA3	17:M:127:LYS:HZ3	1.66	0.60
28:R:63:VAL:HA	28:R:95:ASP:O	2.02	0.60
23:Q:79:ILE:HA	23:Q:82:LEU:HD12	1.84	0.60
2:B:2637:U:OP1	5:D:83:ARG:HD3	2.00	0.60
32:6:15:GLN:HB3	32:6:16:LYS:HZ2	1.66	0.60
2:B:1270:C:H5''	2:B:1271:G:H5'	1.84	0.60
2:B:1387:A:H2'	2:B:1388:G:H8	1.66	0.60
14:V:44:HIS:CE1	14:V:85:LYS:HB2	2.37	0.59
27:G:10:VAL:HG21	27:G:47:ASN:O	2.02	0.59
2:B:572:A:P	28:R:80:ARG:HH22	2.24	0.59
4:C:64:VAL:O	4:C:65:ASP:HB3	2.01	0.59
2:B:1041:G:H2'	2:B:1042:G:H8	1.67	0.59
17:M:34:LYS:HB3	17:M:129:THR:HG22	1.84	0.59
2:B:1722:A:H2'	2:B:1723:G:H8	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:278:A:N3	2:B:278:A:H2'	2.17	0.59
32:6:45:TYR:O	32:6:46:TYR:HB2	2.01	0.59
26:F:103:ILE:HD11	26:F:174:PHE:HA	1.83	0.59
32:6:32:ARG:HD3	32:6:103:ILE:HG23	1.84	0.59
27:G:24:THR:HG22	27:G:34:ARG:HB3	1.83	0.59
14:V:61:LEU:O	14:V:71:LYS:HA	2.01	0.59
6:K:60:ALA:HA	6:K:87:LEU:HD23	1.82	0.59
32:6:177:GLU:O	32:6:181:GLN:HG3	2.01	0.59
2:B:495:G:H21	24:S:61:ASN:HD21	1.49	0.59
19:H:83:LYS:HD2	19:H:91:PHE:CD1	2.37	0.59
2:B:2772:C:H2'	2:B:2773:C:C6	2.38	0.59
2:B:2377:A:H2'	2:B:2378:A:C8	2.37	0.59
2:B:441:U:H2'	2:B:442:G:C8	2.37	0.59
2:B:5:A:H2'	2:B:6:A:C8	2.37	0.59
2:B:2776:A:H4'	2:B:2777:G:H5''	1.84	0.59
2:B:1652:A:OP1	21:N:8:ARG:HD3	2.02	0.59
23:Q:63:ARG:HH21	23:Q:64:ILE:CD1	2.15	0.59
26:F:7:TYR:HA	26:F:11:VAL:CG2	2.33	0.59
2:B:1441:G:H4'	2:B:1628:G:OP1	2.03	0.59
6:K:118:LEU:O	6:K:120:PRO:HD2	2.01	0.59
2:B:374:A:H61	2:B:400:G:H1'	1.67	0.59
2:B:1518:C:H2'	2:B:1519:G:H8	1.66	0.59
2:B:2653:U:H3'	2:B:2654:A:H2'	1.83	0.59
5:D:31:ALA:HA	5:D:97:SER:HA	1.85	0.59
2:B:69:C:O2'	2:B:70:G:H5'	2.03	0.59
1:A:98:G:H1	14:V:14:LYS:HB2	1.67	0.59
3:I:109:ALA:HB1	3:I:124:MET:HG3	1.84	0.59
2:B:921:C:H2'	2:B:922:C:H6	1.67	0.59
32:6:88:LEU:HD23	32:6:90:LEU:HD12	1.85	0.59
14:V:1:MET:CE	14:V:2:PHE:H	2.15	0.59
29:T:50:LEU:H	29:T:50:LEU:HD22	1.67	0.59
1:A:8:C:O2'	22:O:40:ILE:HD13	2.02	0.59
2:B:19:A:H2'	2:B:20:C:H6	1.65	0.59
2:B:1812:U:H2'	2:B:1813:G:H8	1.66	0.59
2:B:419:U:H2'	2:B:420:C:C6	2.37	0.59
5:D:124:ARG:HA	5:D:165:MET:CE	2.32	0.59
2:B:550:C:OP1	20:J:2:LYS:HE3	2.03	0.59
2:B:2032:G:N2	5:D:150:GLN:HB3	2.17	0.59
2:B:350:G:H2'	2:B:351:C:O4'	2.02	0.59
5:D:46:ARG:NH1	5:D:85:ALA:HA	2.17	0.59
2:B:2718:G:H4'	7:P:95:LYS:HB2	1.83	0.59
31:W:59:PHE:CD2	31:W:61:LYS:HD2	2.38	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:Q:51:GLN:HA	23:Q:54:ARG:HD2	1.85	0.59
23:Q:63:ARG:HH21	23:Q:64:ILE:HD13	1.68	0.59
28:R:58:VAL:HG22	28:R:59:ILE:H	1.66	0.59
28:R:5:PHE:O	28:R:11:GLN:HA	2.01	0.59
3:I:27:LEU:H	3:I:27:LEU:CD2	2.14	0.59
20:J:57:LEU:CG	20:J:128:ASN:H	2.16	0.59
2:B:275:C:H2'	2:B:276:U:O4'	2.02	0.59
2:B:27:G:N2	2:B:512:G:H2'	2.17	0.59
2:B:1387:A:C4'	2:B:1469:A:H1'	2.32	0.59
25:U:2:ALA:HB3	25:U:5:ARG:NH2	2.17	0.59
2:B:2810:A:H2'	2:B:2811:G:O4'	2.03	0.59
2:B:1015:U:H2'	2:B:1016:G:C8	2.37	0.59
27:G:84:LYS:HG3	27:G:132:LEU:N	2.18	0.59
5:D:106:LYS:O	5:D:107:VAL:HB	2.03	0.59
2:B:2462:C:H2'	2:B:2463:C:C6	2.38	0.59
26:F:1:ALA:O	26:F:4:HIS:HB3	2.03	0.59
17:M:127:LYS:HD2	17:M:127:LYS:H	1.67	0.59
2:B:2881:U:O3'	21:N:96:ARG:HD3	2.03	0.59
7:P:89:GLY:HA2	7:P:111:GLU:C	2.22	0.59
2:B:1164:C:H2'	2:B:1165:A:C8	2.38	0.59
2:B:1716:U:H2'	2:B:1717:A:C8	2.37	0.59
2:B:1866:A:H2'	2:B:1867:G:O4'	2.02	0.59
2:B:1893:C:H2'	2:B:1894:C:O4'	2.01	0.59
32:6:18:LEU:O	32:6:21:LEU:HB3	2.03	0.59
5:D:16:THR:HB	5:D:18:ASP:OD1	2.03	0.59
8:E:149:ILE:HG23	8:E:188:MET:HA	1.85	0.59
8:E:194:LYS:O	8:E:197:GLU:HB3	2.03	0.59
23:Q:60:TRP:O	23:Q:64:ILE:HG12	2.01	0.59
19:H:75:LEU:HB3	19:H:78:VAL:HG21	1.84	0.59
4:C:159:THR:O	4:C:194:VAL:HG12	2.02	0.59
28:R:40:MET:O	28:R:41:ILE:HD13	2.03	0.59
2:B:2455:G:H2'	2:B:2456:C:C6	2.38	0.59
2:B:675:A:H4'	8:E:60:TRP:CZ2	2.38	0.59
30:Z:35:SER:CA	30:Z:50:ARG:HA	2.32	0.59
2:B:1381:G:C2'	2:B:1382:G:H5'	2.33	0.59
2:B:2881:U:H2'	2:B:2882:A:O4'	2.03	0.59
2:B:2484:G:OP1	17:M:44:ARG:HD3	2.03	0.59
6:K:115:ILE:HG23	6:K:116:ILE:N	2.17	0.59
2:B:2309:A:N6	26:F:75:GLY:HA3	2.17	0.59
22:O:47:VAL:HG12	22:O:48:LEU:N	2.18	0.59
2:B:969:G:H2'	2:B:970:U:H6	1.67	0.59
3:I:5:GLN:HG2	3:I:6:ALA:N	2.17	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1769:U:O2'	2:B:1770:G:H5'	2.03	0.59
2:B:823:C:H2'	2:B:824:U:C6	2.38	0.59
2:B:1475:G:H1'	2:B:1476:U:H5	1.68	0.59
22:O:70:ALA:O	22:O:74:VAL:HG23	2.02	0.59
26:F:101:ARG:CZ	26:F:138:PRO:HB2	2.33	0.59
32:6:25:LEU:HD22	32:6:179:LYS:HG2	1.85	0.59
30:Z:35:SER:HB3	30:Z:50:ARG:HG3	1.84	0.59
6:K:41:ILE:HG13	6:K:42:THR:H	1.68	0.59
2:B:848:C:H2'	2:B:849:A:C8	2.37	0.59
2:B:1013:C:H2'	2:B:1014:A:C8	2.37	0.59
2:B:121:G:H2'	2:B:122:G:H8	1.67	0.59
23:Q:35:PHE:C	23:Q:37:ALA:H	2.06	0.59
2:B:661:A:H1'	16:L:12:SER:O	2.01	0.59
2:B:394:C:O2'	2:B:395:U:H5'	2.03	0.59
8:E:134:LEU:O	8:E:138:LEU:HG	2.03	0.59
2:B:321:U:H4'	8:E:159:LEU:O	2.03	0.59
4:C:149:LYS:HG2	4:C:152:GLN:NE2	2.18	0.59
27:G:6:ALA:HB3	27:G:68:ARG:HG3	1.85	0.59
18:X:29:ARG:HG2	29:T:12:ARG:HH21	1.67	0.59
19:H:128:HIS:HE1	19:H:130:VAL:HG13	1.68	0.59
4:C:80:LEU:HD11	4:C:109:LEU:HG	1.84	0.59
2:B:1082:U:C2	2:B:1086:A:C6	2.91	0.59
2:B:2657:A:O2'	27:G:159:LYS:NZ	2.36	0.59
32:6:43:VAL:O	32:6:49:HIS:HA	2.03	0.59
2:B:780:G:H21	2:B:783:A:H62	1.49	0.59
2:B:1842:G:H2'	2:B:1843:C:H6	1.66	0.59
2:B:950:G:H2'	2:B:951:C:H6	1.67	0.59
21:N:12:ARG:HG3	21:N:13:ASN:H	1.67	0.59
2:B:2010:G:H5'	24:S:42:LYS:HB2	1.85	0.59
2:B:322:A:OP1	8:E:162:ARG:HB3	2.02	0.59
26:F:102:LEU:HD13	26:F:102:LEU:C	2.23	0.59
25:U:21:ARG:HD3	25:U:72:PHE:CG	2.37	0.59
25:U:72:PHE:HA	25:U:78:LYS:O	2.03	0.59
32:6:57:THR:O	32:6:68:VAL:HA	2.03	0.59
32:6:75:ALA:O	32:6:79:ILE:HG13	2.03	0.59
8:E:108:ILE:O	8:E:108:ILE:HD13	2.03	0.59
23:Q:30:VAL:HG12	23:Q:33:VAL:HG22	1.84	0.59
2:B:2547:A:H2'	2:B:2548:U:C6	2.38	0.59
23:Q:9:ALA:C	23:Q:11:ALA:H	2.06	0.59
12:1:3:GLY:O	12:1:4:ILE:HG12	2.03	0.59
26:F:71:LYS:O	26:F:72:SER:HB3	2.01	0.59
2:B:1505:A:H2'	2:B:1506:U:H6	1.68	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:N:12:ARG:HG2	21:N:16:HIS:ND1	2.18	0.59
2:B:1469:A:H2'	2:B:1470:A:C8	2.37	0.59
19:H:31:VAL:O	19:H:33:GLN:N	2.36	0.58
26:F:90:LEU:C	26:F:91:ARG:HD3	2.24	0.58
5:D:107:VAL:H	5:D:205:PRO:HA	1.68	0.58
18:X:52:ARG:O	18:X:55:THR:HB	2.02	0.58
19:H:125:THR:HB	19:H:146:VAL:HB	1.84	0.58
2:B:494:G:OP1	24:S:8:ARG:HD3	2.03	0.58
7:P:31:VAL:O	7:P:32:VAL:HB	2.03	0.58
2:B:3:U:H2'	2:B:4:U:C6	2.38	0.58
2:B:1930:G:H22	2:B:1969:A:P	2.26	0.58
2:B:93:G:H2'	2:B:94:A:O4'	2.01	0.58
2:B:1327:A:H2'	2:B:1328:A:O4'	2.03	0.58
2:B:921:C:H2'	2:B:922:C:C6	2.38	0.58
26:F:87:LYS:HG3	26:F:88:VAL:H	1.67	0.58
2:B:2329:U:H2'	2:B:2330:G:C8	2.39	0.58
29:T:15:HIS:O	29:T:16:VAL:C	2.42	0.58
29:T:81:LYS:HG3	29:T:82:LYS:H	1.67	0.58
31:W:46:ALA:HB2	31:W:78:PHE:HD1	1.66	0.58
2:B:2007:U:O2'	2:B:2008:C:H5'	2.03	0.58
22:O:58:ILE:O	22:O:62:LEU:HD23	2.03	0.58
2:B:1291:C:O2'	2:B:1292:G:H5'	2.02	0.58
2:B:2369:A:O2'	2:B:2370:G:H5'	2.02	0.58
2:B:2528:U:O2'	2:B:2529:G:H3'	2.03	0.58
19:H:116:ARG:CG	19:H:131:SER:HB2	2.30	0.58
3:I:91:LYS:HB2	3:I:94:LYS:HD2	1.84	0.58
28:R:4:VAL:HG23	28:R:39:LEU:H	1.68	0.58
17:M:19:GLY:N	17:M:38:ARG:HH22	2.02	0.58
2:B:182:A:O2'	2:B:183:C:H5'	2.03	0.58
2:B:131:A:H2'	2:B:132:G:C8	2.38	0.58
11:4:25:VAL:O	11:4:26:ILE:HD13	2.03	0.58
24:S:18:ARG:HB3	24:S:76:VAL:CG2	2.33	0.58
2:B:1683:U:H2'	2:B:1684:G:C8	2.38	0.58
5:D:25:THR:HG21	5:D:193:VAL:CG2	2.34	0.58
23:Q:10:ARG:CZ	23:Q:10:ARG:HB2	2.32	0.58
2:B:1354:A:H2'	2:B:1355:G:O4'	2.03	0.58
2:B:1387:A:H2'	2:B:1388:G:C8	2.37	0.58
2:B:1061:U:H4'	2:B:1070:A:O3'	2.03	0.58
5:D:141:ARG:O	5:D:142:VAL:HG13	2.04	0.58
2:B:966:G:HO2'	2:B:2267:A:H2	1.52	0.58
2:B:2569:G:O2'	2:B:2570:G:H5'	2.03	0.58
2:B:1599:U:H2'	2:B:1600:C:C6	2.37	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:N:37:THR:OG1	21:N:40:LYS:HE2	2.02	0.58
2:B:297:G:OP1	25:U:91:LYS:HD3	2.02	0.58
2:B:1571:A:H2'	2:B:1572:A:C8	2.39	0.58
10:0:43:THR:HG23	10:0:47:TYR:O	2.03	0.58
2:B:2835:A:H61	2:B:2878:U:H2'	1.68	0.58
17:M:58:LYS:N	17:M:58:LYS:HD2	2.17	0.58
2:B:1041:G:H2'	2:B:1042:G:C8	2.38	0.58
2:B:1210:G:H5'	2:B:1212:G:H5'	1.85	0.58
5:D:175:LEU:HD21	5:D:191:GLY:O	2.03	0.58
8:E:126:VAL:HG22	8:E:133:LEU:HD12	1.84	0.58
1:A:42:C:C5	26:F:65:LEU:HD22	2.37	0.58
2:B:460:A:H4'	29:T:72:GLN:CB	2.31	0.58
23:Q:107:ALA:HB1	28:R:48:LYS:HE2	1.85	0.58
20:J:59:ALA:C	20:J:61:LYS:H	2.06	0.58
14:V:80:HIS:HB3	14:V:83:LYS:O	2.03	0.58
27:G:38:ASP:CG	27:G:39:ALA:H	2.07	0.58
2:B:179:C:H2'	2:B:180:G:O4'	2.03	0.58
2:B:624:C:O2'	2:B:657:U:H5''	2.03	0.58
20:J:98:GLU:H	20:J:98:GLU:CD	2.06	0.58
2:B:506:G:H5''	2:B:509:C:O2'	2.04	0.58
23:Q:65:ASN:O	23:Q:69:ARG:HB2	2.04	0.58
4:C:173:LEU:H	4:C:173:LEU:HD13	1.68	0.58
32:6:4:LYS:O	32:6:7:TYR:HB2	2.03	0.58
16:L:93:ASN:O	16:L:95:LEU:N	2.36	0.58
8:E:189:THR:O	8:E:193:VAL:HG23	2.03	0.58
23:Q:91:ARG:HH22	28:R:10:LYS:HB3	1.68	0.58
26:F:163:GLU:HA	26:F:166:ARG:HH11	1.69	0.58
4:C:94:LEU:HA	4:C:100:ARG:HA	1.86	0.58
19:H:130:VAL:O	19:H:131:SER:C	2.42	0.58
28:R:38:VAL:O	28:R:53:PHE:HB3	2.03	0.58
17:M:68:PHE:CG	17:M:69:PRO:HD2	2.38	0.58
11:4:15:LYS:O	11:4:16:ILE:CB	2.51	0.58
32:6:123:GLU:HA	32:6:126:ARG:NH1	2.17	0.58
2:B:1678:A:H2'	2:B:1679:A:O4'	2.03	0.58
2:B:2531:A:H5''	27:G:156:TYR:CZ	2.38	0.58
2:B:251:A:H2'	2:B:252:G:O4'	2.04	0.58
2:B:922:C:H1'	31:W:22:VAL:CG2	2.33	0.58
26:F:101:ARG:NH1	26:F:138:PRO:HB2	2.18	0.58
23:Q:91:ARG:CZ	28:R:11:GLN:H	2.16	0.58
4:C:75:ALA:HB1	4:C:93:VAL:HG22	1.85	0.58
10:0:38:LEU:HD13	10:0:41:HIS:NE2	2.18	0.58
22:O:68:LYS:H	22:O:102:ARG:HD2	1.67	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1407:G:H2'	2:B:1408:G:H8	1.69	0.58
4:C:18:VAL:HG11	4:C:202:ARG:HD2	1.84	0.58
2:B:633:A:O5'	2:B:633:A:H8	1.87	0.58
2:B:477:A:H2'	2:B:478:A:H8	1.66	0.58
2:B:2680:U:OP2	5:D:114:LYS:HD3	2.03	0.58
2:B:904:G:H2'	2:B:905:A:C8	2.38	0.58
2:B:2354:C:H4'	31:W:31:LEU:HD22	1.85	0.58
13:3:41:ARG:HG3	13:3:44:ARG:HH22	1.68	0.58
23:Q:15:LYS:HD2	23:Q:16:ILE:HD12	1.84	0.58
6:K:37:ASP:O	6:K:62:VAL:HG23	2.04	0.58
19:H:79:THR:CG2	19:H:145:ASN:HB2	2.33	0.58
19:H:79:THR:HB	19:H:145:ASN:HB2	1.85	0.58
28:R:31:GLU:H	28:R:63:VAL:CG2	2.16	0.58
2:B:273:G:O2'	2:B:274:C:H5'	2.04	0.58
2:B:1339:G:N2	2:B:1603:A:H1'	2.19	0.58
32:6:155:LYS:HD3	32:6:158:GLU:OE2	2.04	0.58
18:X:17:GLU:HB3	18:X:53:VAL:HG11	1.84	0.58
26:F:64:PRO:HA	26:F:88:VAL:CG2	2.33	0.58
20:J:45:THR:N	20:J:46:PRO:HD3	2.18	0.58
23:Q:91:ARG:HG2	23:Q:93:ILE:HG22	1.85	0.58
9:Y:16:LEU:CD2	9:Y:16:LEU:H	2.12	0.58
19:H:103:VAL:HG11	19:H:110:VAL:HG22	1.86	0.58
12:1:6:GLU:HB2	12:1:52:LYS:NZ	2.18	0.58
2:B:1018:U:O2'	2:B:1019:U:H5'	2.04	0.58
25:U:80:ASP:HB2	25:U:96:LYS:N	2.19	0.58
19:H:84:ALA:HB2	19:H:146:VAL:HG12	1.86	0.58
14:V:80:HIS:HD2	14:V:82:TYR:H	1.52	0.58
17:M:50:ARG:O	17:M:53:MET:HB3	2.03	0.58
25:U:35:VAL:HB	25:U:38:ILE:CB	2.34	0.58
2:B:1172:C:H2'	2:B:1173:U:O4'	2.03	0.58
2:B:1295:C:H2'	2:B:1296:G:C8	2.39	0.58
1:A:43:C:O2'	26:F:91:ARG:HD2	2.03	0.58
26:F:33:ILE:HD13	26:F:98:PHE:CD2	2.37	0.58
27:G:17:LYS:HB3	27:G:24:THR:H	1.68	0.58
2:B:1082:U:O4	2:B:1086:A:C2	2.56	0.58
2:B:115:C:H2'	2:B:116:C:H6	1.68	0.58
2:B:1458:U:H5''	2:B:1459:G:OP1	2.01	0.58
21:N:62:ASN:O	21:N:66:ALA:HB2	2.04	0.58
21:N:72:ASP:O	21:N:75:ILE:HG13	2.04	0.58
10:0:8:THR:HG23	10:0:11:LYS:H	1.67	0.58
2:B:987:C:H2'	2:B:988:A:O4'	2.04	0.58
3:I:89:SER:HB2	3:I:136:GLY:HA3	1.85	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1594:U:H2'	2:B:1595:C:C6	2.39	0.58
4:C:16:VAL:H	4:C:203:VAL:HG12	1.68	0.58
2:B:944:C:H2'	36:B:3136:HOH:O	2.04	0.58
28:R:69:GLY:O	28:R:90:ARG:HG2	2.04	0.58
2:B:1577:C:H2'	2:B:1578:U:O4'	2.04	0.58
27:G:84:LYS:HG3	27:G:131:VAL:CA	2.34	0.57
24:S:72:THR:HG21	24:S:108:SER:HB3	1.86	0.57
2:B:2144:G:H1'	2:B:2148:G:C2	2.39	0.57
2:B:30:G:H2'	2:B:31:C:H6	1.68	0.57
2:B:30:G:OP1	23:Q:4:LYS:HG2	2.04	0.57
2:B:1812:U:H4'	4:C:44:ASN:OD1	2.03	0.57
2:B:1722:A:H2'	2:B:1723:G:C8	2.39	0.57
2:B:1171:G:C3'	2:B:1172:C:H4'	2.34	0.57
2:B:2297:A:N6	2:B:2319:G:H1'	2.18	0.57
25:U:98:ASN:OD1	25:U:100:GLU:HB2	2.04	0.57
1:A:29:A:H3'	1:A:30:C:H6	1.69	0.57
2:B:1745:A:H2'	2:B:1746:A:O4'	2.04	0.57
20:J:44:TYR:O	20:J:45:THR:HB	2.04	0.57
30:Z:5:CYS:HB3	30:Z:10:LYS:N	2.18	0.57
8:E:58:LYS:HE2	8:E:60:TRP:HD1	1.68	0.57
2:B:1440:U:H2'	2:B:1441:G:H8	1.69	0.57
27:G:37:ASN:HD21	27:G:40:VAL:CB	2.15	0.57
1:A:35:C:C2'	1:A:36:C:H5'	2.34	0.57
2:B:2286:G:H4'	2:B:2287:A:O4'	2.04	0.57
25:U:41:VAL:HG22	25:U:60:LYS:O	2.03	0.57
2:B:693:A:H2'	2:B:694:U:C6	2.39	0.57
2:B:1889:A:H2'	2:B:1890:A:C8	2.40	0.57
9:Y:4:ILE:CD1	9:Y:58:GLU:HG3	2.34	0.57
8:E:188:MET:HG2	8:E:193:VAL:CG2	2.32	0.57
31:W:39:GLN:CG	31:W:40:ARG:N	2.67	0.57
29:T:27:SER:O	29:T:28:ASN:HB3	2.04	0.57
29:T:57:VAL:HG13	29:T:58:VAL:N	2.19	0.57
2:B:2457:U:C2'	2:B:2458:G:H5'	2.35	0.57
7:P:77:SER:O	7:P:80:VAL:HG12	2.05	0.57
2:B:125:A:H5'	15:2:19:ARG:HD3	1.85	0.57
2:B:2645:G:H3'	2:B:2646:C:H5'	1.84	0.57
2:B:716:A:H2'	2:B:717:C:H5''	1.85	0.57
2:B:118:A:N3	2:B:178:G:H1'	2.20	0.57
4:C:14:HIS:O	4:C:16:VAL:HG23	2.04	0.57
25:U:11:ILE:CG2	25:U:70:ALA:HB3	2.34	0.57
27:G:30:GLY:CA	27:G:78:VAL:HA	2.34	0.57
18:X:39:GLN:O	18:X:42:LEU:HB2	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:Q:96:ASP:C	23:Q:98:ALA:H	2.07	0.57
19:H:103:VAL:HG21	19:H:110:VAL:H	1.69	0.57
2:B:702:U:H2'	2:B:703:U:C6	2.39	0.57
2:B:151:C:H2'	2:B:152:A:H8	1.69	0.57
3:I:105:LEU:HD11	3:I:139:VAL:CG1	2.34	0.57
20:J:124:VAL:O	20:J:125:TYR:HB2	2.04	0.57
5:D:33:ARG:HE	5:D:74:GLU:HB3	1.69	0.57
2:B:1045:C:H4'	2:B:1047:G:O4'	2.04	0.57
2:B:1590:A:H2'	2:B:1591:A:H8	1.68	0.57
2:B:1758:U:O4	2:B:2695:U:H4'	2.04	0.57
23:Q:77:LYS:HA	23:Q:80:ASN:HB3	1.86	0.57
17:M:131:VAL:HG12	17:M:132:THR:H	1.70	0.57
30:Z:11:ARG:HB3	30:Z:12:PRO:HD2	1.85	0.57
25:U:9:GLU:HG3	25:U:21:ARG:HD2	1.85	0.57
2:B:962:G:H21	2:B:2250:G:N2	1.99	0.57
2:B:1080:A:O2'	3:I:126:ARG:HB2	2.04	0.57
2:B:582:A:H2'	2:B:583:G:H8	1.69	0.57
2:B:2291:U:H2'	2:B:2292:U:C6	2.39	0.57
2:B:2602:A:H3'	2:B:2602:A:OP1	2.04	0.57
25:U:8:ASP:O	25:U:23:LYS:HA	2.04	0.57
2:B:2312:U:O2	26:F:38:GLY:HA3	2.03	0.57
2:B:585:G:H2'	2:B:1251:C:H42	1.69	0.57
26:F:105:ILE:C	26:F:108:PRO:HD2	2.25	0.57
27:G:34:ARG:HD3	27:G:34:ARG:N	2.20	0.57
18:X:24:GLU:O	18:X:28:LEU:HG	2.05	0.57
2:B:1076:C:H5''	3:I:94:LYS:HZ1	1.70	0.57
18:X:51:ALA:O	18:X:55:THR:N	2.38	0.57
19:H:90:LEU:CD1	19:H:146:VAL:HG11	2.34	0.57
2:B:674:G:H4'	8:E:69:ARG:HB3	1.84	0.57
21:N:54:LEU:HD11	21:N:62:ASN:HB3	1.86	0.57
12:1:7:LYS:HD3	12:1:23:THR:HG22	1.87	0.57
19:H:66:ASN:HD22	19:H:66:ASN:H	1.51	0.57
2:B:1061:U:O4'	2:B:1070:A:H1'	2.04	0.57
2:B:1171:G:H3'	2:B:1172:C:H4'	1.87	0.57
2:B:753:A:H2'	2:B:754:U:C6	2.39	0.57
31:W:35:ILE:HG12	31:W:35:ILE:O	2.04	0.57
26:F:110:ILE:CG2	26:F:113:PHE:HB3	2.34	0.57
26:F:92:GLY:HA2	26:F:95:MET:HE3	1.86	0.57
27:G:120:ILE:HG13	27:G:140:ILE:HG22	1.85	0.57
29:T:25:GLU:OE1	29:T:30:ILE:HA	2.04	0.57
3:I:76:ALA:O	3:I:80:LYS:HG3	2.05	0.57
2:B:587:C:O2'	16:L:19:LEU:HD13	2.03	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:138:U:H2'	2:B:140:C:H4'	1.86	0.57
32:6:42:LYS:HA	32:6:50:VAL:O	2.05	0.57
6:K:116:ILE:HD12	6:K:117:SER:N	2.19	0.57
6:K:87:LEU:HB2	6:K:93:GLN:O	2.04	0.57
2:B:1655:A:H2'	2:B:1656:C:O4'	2.05	0.57
2:B:2556:C:H2'	2:B:2557:G:O4'	2.05	0.57
2:B:2283:C:H2'	2:B:2284:A:H5'	1.85	0.57
2:B:947:A:H2'	2:B:948:C:H6	1.70	0.57
2:B:8:C:O2'	2:B:9:G:H5'	2.04	0.57
32:6:157:ALA:O	32:6:161:ILE:HG12	2.05	0.57
2:B:104:A:H2'	2:B:105:C:O4'	2.04	0.57
9:Y:29:ARG:H	9:Y:33:HIS:CD2	2.23	0.57
2:B:425:G:O2'	2:B:426:C:H5'	2.05	0.57
2:B:1636:U:H2'	2:B:1637:A:H8	1.69	0.57
2:B:854:C:O2'	2:B:855:G:H5'	2.05	0.57
26:F:34:THR:O	26:F:89:THR:HA	2.03	0.57
32:6:114:LEU:O	32:6:118:VAL:HG23	2.05	0.57
27:G:15:ASP:HB3	27:G:26:LYS:N	2.11	0.57
27:G:24:THR:C	27:G:25:ILE:HD12	2.25	0.57
27:G:58:ALA:C	27:G:60:GLY:H	2.07	0.57
24:S:29:VAL:HA	24:S:32:ALA:HB3	1.86	0.57
24:S:36:LEU:CD2	24:S:36:LEU:H	2.16	0.57
2:B:2472:G:C2'	2:B:2475:C:H42	2.17	0.57
12:1:8:ILE:CD1	12:1:51:ALA:HA	2.35	0.57
28:R:2:TYR:CB	28:R:42:ALA:HB2	2.33	0.57
5:D:12:THR:HG22	5:D:13:ARG:H	1.70	0.57
10:0:41:HIS:HB3	21:N:99:LYS:HB2	1.85	0.57
10:0:41:HIS:HB2	21:N:99:LYS:O	2.04	0.57
27:G:53:PRO:HG3	27:G:61:TRP:CD2	2.40	0.57
2:B:417:C:H2'	2:B:418:C:H6	1.69	0.57
2:B:639:U:H2'	2:B:640:C:C6	2.40	0.57
2:B:2652:C:O2'	2:B:2653:U:H5'	2.04	0.57
2:B:2698:U:H2'	2:B:2699:C:C6	2.39	0.57
16:L:57:LEU:HD13	16:L:60:ARG:NH1	2.20	0.57
23:Q:80:ASN:O	23:Q:83:LYS:HB3	2.04	0.57
31:W:41:GLY:HA2	31:W:44:PHE:CD2	2.40	0.57
32:6:151:GLU:O	32:6:155:LYS:HG2	2.05	0.57
7:P:24:THR:O	7:P:25:VAL:HG22	2.04	0.57
2:B:688:U:O2'	2:B:689:A:H5'	2.05	0.57
2:B:2254:C:O2	32:6:150:SER:HB2	2.04	0.57
2:B:2088:A:H2'	2:B:2089:C:C6	2.40	0.57
26:F:134:GLN:C	26:F:136:ILE:H	2.08	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:169:LEU:HB3	26:F:174:PHE:CD1	2.39	0.57
24:S:73:LYS:HE3	24:S:74:ILE:N	2.10	0.57
27:G:36:LEU:HD22	27:G:36:LEU:N	2.19	0.57
27:G:153:PRO:HA	27:G:159:LYS:O	2.05	0.57
11:4:19:ARG:C	11:4:21:GLY:H	2.07	0.57
21:N:97:ILE:HD12	21:N:98:LEU:H	1.69	0.57
2:B:2070:A:H2'	2:B:2071:A:C8	2.39	0.57
2:B:654:A:C2'	2:B:655:A:H5''	2.34	0.57
32:6:14:MET:HB3	32:6:168:PHE:CD2	2.40	0.57
2:B:170:U:H2'	2:B:171:U:H6	1.69	0.57
2:B:96:C:H4'	18:X:41:HIS:ND1	2.20	0.57
4:C:177:SER:O	4:C:270:ARG:HG3	2.05	0.57
2:B:2229:U:H2'	2:B:2230:G:H8	1.69	0.57
20:J:128:ASN:C	20:J:129:GLU:HG3	2.24	0.57
2:B:2820:A:OP1	21:N:4:ARG:HA	2.05	0.57
2:B:2041:U:H2'	2:B:2042:A:C8	2.40	0.57
2:B:17:G:H2'	2:B:18:U:H6	1.69	0.57
4:C:18:VAL:HG13	4:C:18:VAL:O	2.05	0.57
2:B:1872:A:H8	2:B:1872:A:O5'	1.87	0.57
2:B:154:U:H2'	2:B:155:A:C8	2.40	0.57
2:B:1507:C:H2'	2:B:1508:A:H4'	1.86	0.57
3:I:96:LYS:N	3:I:96:LYS:HD2	2.20	0.57
2:B:1400:U:H2'	2:B:1401:G:C8	2.40	0.57
2:B:107:G:O2'	2:B:108:G:H5'	2.05	0.57
1:A:22:U:H2'	1:A:23:G:C8	2.40	0.57
2:B:526:A:N6	2:B:2626:C:H4'	2.20	0.57
2:B:1533:C:H2'	2:B:1534:U:C6	2.40	0.57
2:B:813:U:H2'	2:B:814:C:C6	2.39	0.57
2:B:909:A:H2'	2:B:912:C:H5	1.69	0.57
2:B:736:C:H2'	2:B:737:C:C6	2.40	0.57
16:L:131:ALA:HA	16:L:134:ALA:HB3	1.85	0.57
26:F:134:GLN:NE2	26:F:136:ILE:HD13	2.20	0.56
8:E:29:HIS:HA	8:E:32:VAL:HG22	1.87	0.56
15:2:22:MET:SD	15:2:28:ARG:HG2	2.44	0.56
25:U:81:ARG:HH21	25:U:81:ARG:N	2.00	0.56
11:4:7:VAL:HG23	11:4:35:GLN:CB	2.33	0.56
2:B:418:C:H2'	2:B:419:U:C6	2.40	0.56
2:B:1826:G:H2'	2:B:1827:U:C6	2.40	0.56
4:C:104:LEU:HD12	4:C:104:LEU:H	1.70	0.56
7:P:61:ARG:NH1	7:P:100:ARG:HA	2.20	0.56
2:B:510:C:H2'	2:B:511:U:O4'	2.04	0.56
2:B:1345:C:H5'	2:B:1396:U:H5	1.70	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:383:C:H5''	2:B:385:C:OP2	2.05	0.56
26:F:107:VAL:O	26:F:110:ILE:HG22	2.04	0.56
29:T:5:GLU:HA	29:T:8:LEU:HD12	1.87	0.56
2:B:1351:C:H2'	2:B:1352:U:O4'	2.05	0.56
6:K:120:PRO:HA	7:P:65:ASN:ND2	2.19	0.56
1:A:12:C:H4'	1:A:13:G:OP1	2.06	0.56
2:B:1564:C:H2'	2:B:1565:C:C6	2.40	0.56
2:B:1353:A:H2'	2:B:1354:A:C8	2.40	0.56
2:B:1149:G:H2'	2:B:1150:C:C6	2.39	0.56
31:W:51:GLY:HA3	31:W:59:PHE:HB2	1.87	0.56
27:G:17:LYS:O	27:G:23:ILE:HG23	2.05	0.56
23:Q:93:ILE:O	23:Q:96:ASP:HB3	2.05	0.56
2:B:1141:U:H5''	20:J:27:ARG:HH21	1.71	0.56
2:B:1056:G:O5'	2:B:1056:G:H8	1.88	0.56
22:O:82:ALA:O	22:O:87:ILE:HB	2.04	0.56
2:B:1553:A:O2'	2:B:1554:U:H2'	2.05	0.56
21:N:58:ASP:O	21:N:59:SER:HB3	2.05	0.56
23:Q:26:ALA:HB1	23:Q:30:VAL:CG1	2.35	0.56
9:Y:6:ILE:N	9:Y:6:ILE:HD13	2.21	0.56
2:B:27:G:HO2'	2:B:28:A:H8	1.50	0.56
2:B:2212:A:H1'	2:B:2213:U:N3	2.19	0.56
2:B:1433:A:H2'	2:B:1434:A:O4'	2.05	0.56
5:D:38:LYS:HE2	5:D:43:ASP:OD2	2.05	0.56
2:B:828:U:H2'	2:B:829:A:C8	2.40	0.56
2:B:1386:C:H2'	2:B:1387:A:C8	2.41	0.56
2:B:392:U:O2'	2:B:393:C:H5'	2.06	0.56
2:B:564:C:H1'	23:Q:36:GLN:OE1	2.06	0.56
10:O:54:ILE:H	21:N:118:ARG:HH12	1.52	0.56
10:O:12:ARG:HD2	10:O:16:ARG:NH1	2.21	0.56
2:B:485:C:O2'	2:B:486:C:H5'	2.05	0.56
19:H:41:LYS:HA	19:H:44:ILE:HG13	1.87	0.56
29:T:7:LEU:HA	29:T:9:LYS:HE3	1.86	0.56
2:B:1000:A:H2'	2:B:1001:A:C8	2.40	0.56
27:G:85:LYS:HB2	27:G:164:ALA:HB3	1.88	0.56
2:B:2250:G:H8	2:B:2250:G:O5'	1.89	0.56
2:B:667:U:H2'	2:B:668:A:O4'	2.06	0.56
2:B:2019:A:H4'	23:Q:33:VAL:HG11	1.87	0.56
2:B:1654:A:H2'	2:B:1655:A:C8	2.40	0.56
2:B:2898:U:H2'	2:B:2899:A:H8	1.70	0.56
2:B:493:G:H2'	2:B:494:G:O4'	2.05	0.56
28:R:19:THR:HB	28:R:96:VAL:O	2.05	0.56
1:A:91:C:H2'	1:A:92:C:C6	2.41	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1028:A:H2'	2:B:1029:A:C8	2.40	0.56
2:B:2828:G:O2'	2:B:2829:A:H5'	2.05	0.56
20:J:88:THR:HG22	20:J:91:GLU:HG3	1.87	0.56
19:H:27:ARG:H	19:H:31:VAL:CG2	2.19	0.56
25:U:78:LYS:CD	25:U:79:ALA:H	2.17	0.56
23:Q:109:VAL:HG12	23:Q:113:LYS:HE3	1.88	0.56
20:J:25:LEU:HD22	20:J:26:GLY:N	2.16	0.56
2:B:2147:A:H5'	2:B:2148:G:C4'	2.36	0.56
6:K:43:ILE:CG2	6:K:46:ALA:HB2	2.35	0.56
2:B:118:A:OP2	2:B:119:A:H2'	2.06	0.56
4:C:202:ARG:NH1	4:C:213:ARG:HE	2.03	0.56
2:B:1177:G:H2'	2:B:1178:C:C6	2.40	0.56
3:I:10:LEU:HD12	3:I:10:LEU:O	2.05	0.56
2:B:2026:U:H2'	2:B:2027:G:C8	2.39	0.56
3:I:75:ALA:HB2	3:I:112:LYS:HE2	1.86	0.56
2:B:252:G:O2'	2:B:253:C:H5'	2.05	0.56
2:B:2297:A:H61	2:B:2319:G:H1'	1.71	0.56
2:B:1675:C:H2'	2:B:1676:A:O4'	2.06	0.56
2:B:1032:A:H1'	11:4:23:ILE:HD13	1.87	0.56
2:B:1454:C:H1'	21:N:60:VAL:HG13	1.87	0.56
2:B:611:C:H2'	2:B:612:G:O4'	2.05	0.56
1:A:32:U:H1'	1:A:52:A:N7	2.21	0.56
17:M:61:GLY:HA2	17:M:107:GLY:HA3	1.88	0.56
26:F:128:SER:HB3	26:F:154:THR:HG23	1.85	0.56
2:B:2491:U:H5''	2:B:2570:G:H5''	1.88	0.56
20:J:44:TYR:C	20:J:44:TYR:CD2	2.79	0.56
29:T:69:ARG:HB3	29:T:74:ILE:HD12	1.87	0.56
2:B:1283:G:N2	2:B:1285:A:H3'	2.21	0.56
7:P:77:SER:OG	7:P:79:VAL:HG22	2.04	0.56
4:C:244:VAL:HB	4:C:249:VAL:H	1.71	0.56
2:B:1373:A:H2'	2:B:1374:G:O4'	2.06	0.56
16:L:119:PRO:HA	16:L:138:ALA:O	2.05	0.56
16:L:89:VAL:HA	16:L:121:THR:O	2.05	0.56
29:T:57:VAL:HG22	29:T:58:VAL:N	2.15	0.56
30:Z:32:ASN:C	30:Z:33:LEU:HD12	2.26	0.56
23:Q:108:LEU:HA	28:R:48:LYS:HD3	1.86	0.56
20:J:30:THR:HG23	20:J:31:GLU:H	1.70	0.56
25:U:73:ASN:HD21	25:U:76:THR:H	1.53	0.56
25:U:81:ARG:H	25:U:81:ARG:NH2	2.04	0.56
2:B:2019:A:H2	2:B:2035:G:H22	1.54	0.56
2:B:2339:C:H2'	2:B:2340:A:H8	1.71	0.56
2:B:2340:A:H2'	2:B:2341:G:C8	2.38	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:569:U:H2'	2:B:570:G:O4'	2.05	0.56
2:B:2391:G:H1'	2:B:2424:C:H41	1.70	0.56
2:B:1946:U:O2'	2:B:1947:C:H5'	2.06	0.56
2:B:538:A:H2'	2:B:539:G:O4'	2.05	0.56
2:B:1649:G:O2'	2:B:1650:A:H5'	2.05	0.56
31:W:28:GLU:HG3	31:W:29:SER:H	1.71	0.56
8:E:5:LEU:CD1	8:E:10:SER:HB2	2.25	0.56
7:P:4:ILE:HA	7:P:7:LEU:HD13	1.88	0.56
30:Z:31:PRO:HB2	30:Z:33:LEU:HD11	1.87	0.56
2:B:2135:A:H61	2:B:2156:G:C2'	2.19	0.56
2:B:2462:C:H2'	2:B:2463:C:H6	1.69	0.56
23:Q:26:ALA:HB1	23:Q:30:VAL:HB	1.88	0.56
8:E:175:ILE:HD11	8:E:180:LEU:HD11	1.86	0.56
2:B:1484:U:H2'	2:B:1485:U:C6	2.41	0.56
2:B:687:C:H2'	2:B:688:U:O4'	2.06	0.56
5:D:4:LEU:HD21	5:D:100:LEU:HB3	1.87	0.56
29:T:57:VAL:HG12	29:T:86:THR:OG1	2.06	0.56
29:T:74:ILE:HG13	29:T:75:GLY:H	1.70	0.56
22:O:15:ARG:HH21	22:O:95:SER:CB	2.19	0.56
10:O:38:LEU:HD22	10:O:41:HIS:NE2	2.21	0.56
2:B:657:U:H2'	2:B:658:U:C6	2.41	0.56
25:U:24:VAL:HA	25:U:35:VAL:HA	1.86	0.56
2:B:1317:G:H2'	2:B:1318:U:O4'	2.06	0.56
2:B:234:U:H2'	2:B:235:U:H6	1.71	0.56
2:B:2822:G:H2'	2:B:2823:A:H5'	1.88	0.56
2:B:2852:G:H2'	2:B:2853:C:C6	2.40	0.56
2:B:697:G:H2'	2:B:698:C:C6	2.41	0.56
2:B:1390:U:O2'	2:B:1391:U:H5'	2.06	0.56
2:B:1263:U:O2'	10:O:7:PRO:HD2	2.05	0.56
31:W:59:PHE:O	31:W:60:ALA:HB3	2.06	0.56
19:H:139:PHE:O	19:H:140:ALA:CB	2.54	0.56
2:B:873:C:H4'	17:M:64:TRP:NE1	2.15	0.56
2:B:1080:A:H2'	2:B:1081:U:H6	1.71	0.56
2:B:125:A:H3'	2:B:126:A:H5'	1.88	0.56
2:B:282:A:H2'	2:B:283:G:C8	2.41	0.56
2:B:79:C:HO2'	2:B:346:A:C1'	2.19	0.56
24:S:7:HIS:HB3	24:S:103:ILE:HB	1.88	0.56
2:B:2803:G:H2'	2:B:2804:U:H6	1.71	0.56
25:U:40:LEU:HA	25:U:60:LYS:O	2.06	0.56
20:J:18:VAL:CG1	20:J:54:ILE:HD11	2.36	0.56
2:B:864:G:O2'	2:B:865:C:H5'	2.06	0.56
2:B:1487:U:H2'	2:B:1488:C:H6	1.71	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1590:A:H2'	2:B:1591:A:C8	2.40	0.56
16:L:74:THR:HA	16:L:107:PHE:O	2.06	0.56
8:E:155:GLU:O	8:E:159:LEU:HB2	2.06	0.55
25:U:70:ALA:HB1	25:U:79:ALA:CB	2.28	0.55
22:O:49:VAL:HG11	22:O:82:ALA:CA	2.36	0.55
2:B:2834:G:H1'	2:B:2883:A:H61	1.70	0.55
1:A:106:G:H2'	1:A:107:G:C8	2.41	0.55
2:B:2869:G:H2'	2:B:2870:C:C6	2.41	0.55
27:G:46:ASP:CG	27:G:47:ASN:H	2.10	0.55
2:B:518:G:H4'	24:S:18:ARG:NH2	2.21	0.55
2:B:5:A:H2'	2:B:6:A:H8	1.70	0.55
23:Q:34:ALA:O	23:Q:37:ALA:HB3	2.06	0.55
2:B:443:A:H1'	2:B:1201:U:O4'	2.07	0.55
3:I:14:ALA:HB1	3:I:50:LYS:HA	1.87	0.55
2:B:1987:A:H2'	2:B:1988:G:C8	2.41	0.55
23:Q:68:ALA:HB1	23:Q:73:ILE:HG23	1.88	0.55
2:B:2560:A:H2'	2:B:2561:U:C6	2.41	0.55
2:B:575:A:O2'	2:B:576:U:H5'	2.06	0.55
4:C:121:ALA:HB3	4:C:129:LEU:HD11	1.88	0.55
19:H:18:GLN:HE21	19:H:39:ALA:HB1	1.71	0.55
2:B:559:G:H1'	23:Q:55:GLN:HE21	1.71	0.55
4:C:90:ILE:CD1	4:C:102:TYR:HB3	2.37	0.55
3:I:77:VAL:HA	3:I:80:LYS:CE	2.36	0.55
32:6:39:LEU:HG	32:6:40:HIS:H	1.70	0.55
2:B:2884:U:H2'	2:B:2885:G:C8	2.41	0.55
25:U:64:ILE:HG13	25:U:65:GLN:H	1.71	0.55
16:L:59:ARG:C	16:L:61:LEU:H	2.09	0.55
16:L:57:LEU:HA	16:L:60:ARG:NE	2.21	0.55
5:D:141:ARG:HG3	5:D:141:ARG:O	2.06	0.55
2:B:1372:U:H1'	2:B:2214:C:C4	2.41	0.55
25:U:66:VAL:O	25:U:69:VAL:HG22	2.06	0.55
29:T:30:ILE:HG12	29:T:31:VAL:N	2.20	0.55
22:O:25:ARG:HG3	22:O:27:VAL:HG23	1.89	0.55
6:K:47:ILE:HG23	6:K:48:PRO:CD	2.36	0.55
2:B:151:C:H2'	2:B:152:A:C8	2.41	0.55
2:B:2743:U:H2'	2:B:2744:G:O4'	2.05	0.55
5:D:117:GLY:HA2	5:D:164:GLN:NE2	2.21	0.55
2:B:1434:A:H62	2:B:1558:C:H42	1.55	0.55
25:U:40:LEU:H	25:U:40:LEU:HD12	1.70	0.55
2:B:2860:A:O5'	2:B:2860:A:H8	1.89	0.55
2:B:870:U:O2'	2:B:871:U:H5'	2.06	0.55
2:B:2745:C:H1'	27:G:142:GLN:OE1	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1878:G:H2'	2:B:1879:C:C6	2.41	0.55
32:6:141:LYS:HE3	32:6:142:LYS:CE	2.36	0.55
2:B:2685:G:O2'	2:B:2686:G:H5'	2.07	0.55
32:6:30:THR:CG2	32:6:179:LYS:HD3	2.36	0.55
2:B:1381:G:H2'	2:B:1382:G:H5'	1.89	0.55
8:E:48:THR:HG23	8:E:88:ARG:HH12	1.71	0.55
17:M:17:ASN:ND2	17:M:95:LEU:HG	2.20	0.55
20:J:55:ILE:O	20:J:55:ILE:HG13	2.06	0.55
2:B:1843:C:O2'	2:B:1844:C:H5'	2.07	0.55
5:D:114:LYS:HD2	5:D:116:LYS:HZ1	1.70	0.55
2:B:1947:C:H2'	2:B:1948:G:C8	2.41	0.55
9:Y:28:LEU:HA	9:Y:33:HIS:HD2	1.71	0.55
2:B:994:C:H3'	23:Q:53:LYS:NZ	2.21	0.55
19:H:9:VAL:HG12	19:H:12:LEU:HG	1.87	0.55
27:G:153:PRO:CG	27:G:162:ARG:HB3	2.35	0.55
21:N:33:ILE:HD12	21:N:33:ILE:O	2.07	0.55
2:B:1779:U:C5	2:B:1784:A:N7	2.75	0.55
2:B:785:G:H2'	2:B:786:C:C6	2.41	0.55
19:H:54:LEU:HD12	19:H:55:GLU:H	1.71	0.55
16:L:57:LEU:C	16:L:59:ARG:H	2.07	0.55
2:B:863:A:H2'	2:B:864:G:H8	1.71	0.55
2:B:454:A:H3'	2:B:455:C:H5'	1.89	0.55
32:6:12:SER:O	32:6:16:LYS:HD2	2.06	0.55
24:S:42:LYS:O	24:S:45:VAL:HG22	2.06	0.55
32:6:84:ARG:HG3	32:6:85:ASP:OD1	2.07	0.55
21:N:65:LEU:O	21:N:68:ALA:HB3	2.06	0.55
5:D:121:THR:HB	5:D:127:PHE:CD1	2.41	0.55
5:D:69:ALA:N	5:D:73:VAL:HB	2.21	0.55
2:B:2843:G:O2'	2:B:2844:G:H5'	2.06	0.55
2:B:1656:C:H2'	2:B:1657:U:C6	2.42	0.55
19:H:57:LYS:NZ	19:H:58:LEU:HB2	2.21	0.55
9:Y:50:VAL:O	9:Y:54:VAL:HG22	2.07	0.55
2:B:850:U:H2'	2:B:851:C:C6	2.41	0.55
2:B:2438:U:O2'	2:B:2439:A:H5''	2.06	0.55
2:B:1486:U:H2'	2:B:1487:U:H6	1.72	0.55
1:A:32:U:H2'	1:A:33:G:O4'	2.07	0.55
25:U:34:ILE:HG12	25:U:63:ALA:HB2	1.88	0.55
2:B:320:A:H4'	2:B:322:A:N7	2.22	0.55
2:B:1203:U:H3'	2:B:1204:A:H5''	1.89	0.55
14:V:31:TYR:CB	14:V:37:PRO:HG3	2.36	0.55
2:B:38:A:N3	8:E:43:THR:HB	2.22	0.55
2:B:528:A:N1	2:B:2042:A:H2'	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:281:C:H2'	2:B:282:A:H8	1.70	0.55
6:K:64:ARG:HB2	6:K:83:ALA:HB3	1.88	0.55
3:I:100:ILE:O	3:I:139:VAL:HA	2.07	0.55
2:B:632:A:H2'	2:B:633:A:C8	2.42	0.55
14:V:14:LYS:HE2	14:V:18:ARG:HH21	1.72	0.55
2:B:350:G:H2'	2:B:351:C:C6	2.41	0.55
23:Q:50:ARG:HD2	23:Q:50:ARG:N	2.22	0.55
13:3:39:ARG:O	13:3:43:LEU:HG	2.07	0.55
18:X:45:GLN:O	18:X:47:ARG:N	2.40	0.55
4:C:20:ASN:HD22	4:C:23:LEU:HD13	1.72	0.55
2:B:855:G:C2	31:W:23:LYS:HG2	2.41	0.55
32:6:106:LEU:HD23	32:6:106:LEU:N	2.22	0.55
5:D:148:GLN:O	5:D:149:ASN:HB2	2.07	0.55
2:B:559:G:H21	23:Q:51:GLN:NE2	2.04	0.55
23:Q:91:ARG:HD3	28:R:11:GLN:OE1	2.07	0.55
19:H:72:ILE:O	19:H:72:ILE:HG23	2.07	0.55
2:B:1086:A:H4'	2:B:1103:A:N1	2.21	0.55
2:B:2144:G:H22	2:B:2147:A:H4'	1.71	0.55
6:K:102:PRO:HD3	7:P:65:ASN:HB2	1.89	0.55
3:I:89:SER:HA	3:I:97:VAL:CG2	2.36	0.55
2:B:1848:A:H2'	2:B:1849:G:C8	2.41	0.55
2:B:3:U:H2'	2:B:4:U:H6	1.71	0.55
2:B:584:C:OP1	23:Q:5:ARG:HB3	2.07	0.55
4:C:20:ASN:ND2	4:C:23:LEU:HD13	2.21	0.55
26:F:131:VAL:HG22	26:F:151:LEU:O	2.06	0.55
2:B:2199:A:H5'	2:B:2200:C:OP2	2.07	0.55
2:B:2328:A:H2'	2:B:2329:U:H6	1.71	0.55
25:U:11:ILE:HD13	25:U:11:ILE:O	2.07	0.55
14:V:29:ILE:HD13	14:V:31:TYR:HE2	1.70	0.55
24:S:29:VAL:HG23	24:S:70:LYS:HA	1.89	0.55
25:U:85:ARG:NH1	25:U:86:PHE:H	2.05	0.55
2:B:2460:U:H2'	2:B:2461:A:H8	1.71	0.55
2:B:363:G:H2'	2:B:364:C:C6	2.41	0.55
2:B:152:A:H2'	2:B:153:U:H6	1.71	0.55
4:C:18:VAL:CG1	4:C:202:ARG:HD2	2.37	0.55
4:C:2:VAL:HG23	4:C:3:VAL:N	2.22	0.55
2:B:1939:U:O2	2:B:1967:C:H4'	2.07	0.55
2:B:982:C:O2	2:B:982:C:H5'	2.06	0.55
2:B:647:G:H2'	2:B:648:G:H8	1.71	0.55
2:B:807:U:H2'	2:B:808:G:H8	1.72	0.55
2:B:693:A:H2'	2:B:694:U:H6	1.71	0.55
2:B:753:A:H2'	2:B:754:U:H6	1.72	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:Y:2:LYS:HD3	9:Y:2:LYS:H	1.72	0.55
2:B:1760:C:H2'	2:B:1761:C:O4'	2.06	0.55
2:B:1583:A:H4'	2:B:1585:C:C4	2.42	0.55
31:W:13:ARG:HG3	31:W:14:ASP:H	1.71	0.55
2:B:1252:G:N2	23:Q:32:ARG:HB3	2.20	0.55
30:Z:27:ARG:HD2	30:Z:29:PHE:CE1	2.41	0.55
31:W:50:VAL:HG23	31:W:61:LYS:CD	2.32	0.55
31:W:37:VAL:HG13	31:W:55:ASP:C	2.27	0.55
26:F:87:LYS:C	26:F:88:VAL:HG23	2.27	0.55
27:G:66:THR:O	27:G:70:LEU:HB2	2.07	0.55
27:G:25:ILE:HG22	27:G:78:VAL:HG11	1.88	0.55
14:V:63:ILE:O	14:V:70:ILE:HD12	2.07	0.55
23:Q:94:LEU:HD21	28:R:11:GLN:HB2	1.89	0.55
24:S:50:VAL:HA	24:S:53:SER:HB2	1.89	0.55
19:H:80:ILE:HD13	19:H:98:ASP:HB2	1.87	0.55
8:E:27:LEU:O	8:E:31:VAL:HG23	2.06	0.55
27:G:94:ARG:CB	27:G:127:GLN:HG2	2.35	0.55
27:G:108:PHE:HE1	27:G:151:ARG:HD3	1.72	0.55
32:6:134:ARG:CZ	32:6:135:GLU:HG2	2.37	0.55
3:I:17:ALA:O	3:I:18:ASN:HB3	2.07	0.55
1:A:113:C:H2'	1:A:114:C:H6	1.72	0.55
23:Q:79:ILE:O	23:Q:79:ILE:HD13	2.07	0.55
2:B:1848:A:H2'	2:B:1849:G:H8	1.72	0.55
2:B:1829:A:HO2'	4:C:14:HIS:CD2	2.25	0.55
23:Q:24:TYR:CG	23:Q:25:GLY:N	2.75	0.55
2:B:2872:A:O2'	2:B:2873:A:H5''	2.06	0.55
21:N:87:PHE:C	21:N:89:SER:H	2.10	0.55
2:B:755:U:H2'	2:B:756:A:H8	1.72	0.55
26:F:104:THR:C	26:F:105:ILE:HG13	2.27	0.54
14:V:63:ILE:HD12	14:V:63:ILE:N	2.22	0.54
14:V:30:ILE:HA	14:V:91:PHE:O	2.07	0.54
29:T:14:PRO:HA	29:T:32:LEU:CB	2.37	0.54
2:B:972:A:C3'	2:B:973:A:H5''	2.33	0.54
16:L:19:LEU:O	16:L:21:ARG:HG2	2.07	0.54
29:T:67:VAL:HG23	29:T:75:GLY:O	2.07	0.54
26:F:7:TYR:OH	26:F:29:ARG:HG3	2.07	0.54
19:H:89:LYS:HA	19:H:89:LYS:HZ3	1.72	0.54
18:X:8:GLU:O	18:X:12:GLU:HB2	2.07	0.54
21:N:62:ASN:HD22	21:N:62:ASN:N	2.05	0.54
2:B:2899:A:H2'	2:B:2900:A:C8	2.43	0.54
2:B:2085:U:O2'	2:B:2086:U:H5'	2.07	0.54
2:B:277:G:H1'	2:B:361:G:O6	2.06	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:49:A:H5''	2:B:51:G:O4'	2.07	0.54
2:B:2412:A:H2'	2:B:2413:G:O4'	2.07	0.54
2:B:2344:U:H4'	2:B:2345:G:OP1	2.05	0.54
17:M:21:ALA:CB	17:M:100:LYS:HG2	2.36	0.54
2:B:2662:A:H2'	2:B:2663:G:O4'	2.06	0.54
2:B:1639:C:H2'	2:B:1640:A:H5'	1.89	0.54
2:B:2266:A:C4	2:B:2272:U:H5	2.24	0.54
31:W:18:LYS:HG3	31:W:19:ARG:CZ	2.37	0.54
31:W:39:GLN:HG3	31:W:42:THR:CB	2.37	0.54
19:H:7:ASP:CG	19:H:8:LYS:H	2.10	0.54
26:F:11:VAL:HG21	26:F:172:PHE:HE1	1.72	0.54
27:G:162:ARG:NH2	27:G:168:VAL:HG21	2.22	0.54
2:B:2846:G:H2'	2:B:2847:U:C6	2.42	0.54
11:4:13:ASN:O	11:4:27:CYS:HA	2.07	0.54
2:B:2590:A:H2'	2:B:2591:C:C6	2.41	0.54
2:B:2849:U:N3	2:B:2867:G:C8	2.76	0.54
22:O:71:ALA:O	22:O:106:LEU:HB3	2.06	0.54
6:K:70:ARG:HB3	6:K:76:VAL:HG13	1.89	0.54
2:B:2898:U:H2'	2:B:2899:A:C8	2.42	0.54
2:B:228:C:O2	2:B:418:C:H4'	2.07	0.54
2:B:634:C:H2'	2:B:635:C:H6	1.72	0.54
3:I:58:ILE:HD12	3:I:58:ILE:N	2.22	0.54
2:B:2784:U:H2'	2:B:2785:C:C6	2.42	0.54
23:Q:65:ASN:CB	23:Q:75:TYR:HB2	2.38	0.54
2:B:968:C:H2'	2:B:969:G:C8	2.41	0.54
2:B:2271:G:H2'	2:B:2272:U:O4'	2.07	0.54
6:K:71:ARG:HB3	6:K:72:PRO:CD	2.28	0.54
24:S:55:ILE:O	24:S:58:ALA:HB3	2.08	0.54
5:D:108:ASP:OD2	5:D:173:GLN:HA	2.07	0.54
2:B:2037:A:H2'	2:B:2038:G:H8	1.71	0.54
2:B:1439:A:C6	2:B:1552:A:N7	2.75	0.54
14:V:24:ASN:HB3	14:V:44:HIS:HB3	1.89	0.54
27:G:5:LYS:HE3	27:G:61:TRP:CZ2	2.41	0.54
2:B:26:G:H1'	2:B:514:A:N6	2.22	0.54
15:2:3:ARG:HA	15:2:3:ARG:CZ	2.37	0.54
2:B:2312:U:H5'	26:F:84:ILE:HD12	1.89	0.54
2:B:736:C:H2'	2:B:737:C:H6	1.73	0.54
2:B:1149:G:H2'	2:B:1150:C:H6	1.71	0.54
18:X:20:ASN:N	18:X:20:ASN:HD22	2.06	0.54
27:G:96:ALA:HB3	27:G:103:ASN:HB3	1.89	0.54
2:B:1513:U:O2'	2:B:1514:G:H5'	2.07	0.54
12:1:14:ALA:HB3	12:1:16:THR:HG22	1.89	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:141:G:C2	29:T:2:ILE:HG21	2.41	0.54
25:U:84:PHE:HD2	25:U:91:LYS:HG2	1.72	0.54
15:2:16:HIS:HB3	15:2:21:ARG:NH1	2.23	0.54
22:O:15:ARG:HH21	22:O:95:SER:HB3	1.72	0.54
2:B:1443:U:H2'	2:B:1444:G:H8	1.72	0.54
2:B:1794:A:H2'	2:B:1795:C:H6	1.73	0.54
2:B:2358:A:H61	16:L:54:GLN:HE22	1.55	0.54
32:6:140:LEU:HD21	32:6:157:ALA:HB3	1.88	0.54
18:X:56:LEU:O	18:X:57:LEU:HB2	2.08	0.54
2:B:1718:G:H2'	2:B:1719:G:H8	1.72	0.54
17:M:105:MET:HB2	17:M:117:PHE:CZ	2.43	0.54
2:B:285:G:H2'	2:B:286:U:C6	2.43	0.54
28:R:39:LEU:HB3	28:R:53:PHE:HA	1.89	0.54
2:B:2144:G:H21	2:B:2147:A:H4'	1.66	0.54
8:E:61:ARG:NH1	8:E:64:GLY:HA3	2.22	0.54
2:B:91:A:H1'	2:B:92:U:C6	2.43	0.54
2:B:1936:A:H2	2:B:1943:U:O4	1.90	0.54
20:J:72:LYS:CG	20:J:89:PHE:HB2	2.38	0.54
2:B:121:G:H2'	2:B:122:G:C8	2.43	0.54
13:3:41:ARG:HG3	13:3:44:ARG:NH2	2.22	0.54
25:U:13:LEU:H	25:U:13:LEU:HD12	1.73	0.54
5:D:169:ARG:O	5:D:170:VAL:HG22	2.08	0.54
27:G:15:ASP:CB	27:G:26:LYS:HB3	2.38	0.54
14:V:4:ILE:CD1	14:V:61:LEU:HB3	2.37	0.54
20:J:136:GLN:N	20:J:137:PRO:HD3	2.22	0.54
2:B:405:U:H4'	2:B:405:U:OP2	2.08	0.54
2:B:20:C:O2'	2:B:21:A:H5'	2.08	0.54
9:Y:6:ILE:H	9:Y:6:ILE:HD13	1.72	0.54
2:B:1566:A:H5'	4:C:213:ARG:NH1	2.22	0.54
2:B:1579:A:H2'	2:B:1580:A:C8	2.43	0.54
2:B:1485:U:H2'	2:B:1486:U:H6	1.70	0.54
2:B:107:G:H2'	2:B:108:G:H8	1.73	0.54
32:6:84:ARG:O	32:6:85:ASP:C	2.45	0.54
4:C:119:VAL:HG13	4:C:133:ASN:HD21	1.72	0.54
2:B:1739:A:H2'	2:B:1740:G:O4'	2.08	0.54
2:B:340:A:H2'	2:B:341:C:O4'	2.08	0.54
2:B:2368:C:H2'	2:B:2369:A:H8	1.72	0.54
27:G:34:ARG:HH11	27:G:34:ARG:N	1.97	0.54
23:Q:90:ASP:O	23:Q:94:LEU:HB2	2.08	0.54
3:I:11:GLN:O	3:I:11:GLN:HG3	2.07	0.54
2:B:809:G:H2'	2:B:810:U:C6	2.43	0.54
2:B:142:A:H2'	2:B:143:C:C5	2.42	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:41:LEU:HD13	17:M:46:ILE:HG22	1.89	0.54
2:B:2020:A:O2'	2:B:2021:C:H5'	2.07	0.54
2:B:496:G:H1'	24:S:61:ASN:ND2	2.22	0.54
2:B:418:C:H2'	2:B:419:U:H6	1.73	0.54
2:B:630:G:H4'	2:B:640:C:O2'	2.08	0.54
5:D:25:THR:HG21	5:D:193:VAL:HG22	1.90	0.54
2:B:2285:C:OP1	12:1:25:ASN:ND2	2.40	0.54
2:B:1273:U:H4'	2:B:1275:A:OP2	2.07	0.54
2:B:7:G:H2'	2:B:8:C:C6	2.43	0.54
3:I:112:LYS:O	3:I:116:MET:HG3	2.08	0.54
2:B:1401:G:H2'	2:B:1402:U:C6	2.43	0.54
13:3:24:LYS:NZ	13:3:28:LEU:HB3	2.23	0.54
2:B:2103:C:OP1	2:B:2103:C:H4'	2.07	0.54
1:A:40:U:H1'	1:A:43:C:C5	2.43	0.54
32:6:30:THR:HA	32:6:183:ILE:HG12	1.89	0.54
18:X:34:SER:HB2	18:X:36:GLN:OE1	2.08	0.54
30:Z:68:LEU:HD22	30:Z:78:TYR:CD1	2.42	0.54
2:B:1349:C:H2'	2:B:1350:C:H6	1.73	0.54
21:N:83:LEU:HA	21:N:86:ARG:CG	2.38	0.54
2:B:150:U:H2'	2:B:151:C:H6	1.71	0.54
2:B:719:C:O2'	2:B:720:U:H5'	2.08	0.54
27:G:16:VAL:HG11	27:G:44:HIS:CE1	2.43	0.54
2:B:2636:C:H4'	5:D:81:GLU:OE2	2.07	0.54
2:B:350:G:H2'	2:B:351:C:H6	1.73	0.54
17:M:35:ALA:CB	17:M:100:LYS:H	2.20	0.54
2:B:1785:A:H2'	2:B:1787:A:N7	2.23	0.54
2:B:1465:G:H2'	2:B:1466:U:O4'	2.08	0.54
8:E:149:ILE:HG23	8:E:188:MET:CA	2.38	0.54
31:W:23:LYS:C	31:W:66:VAL:HB	2.28	0.54
14:V:63:ILE:HB	14:V:70:ILE:HD11	1.90	0.54
20:J:4:PHE:HB3	20:J:44:TYR:CE1	2.43	0.54
23:Q:57:ARG:HH12	23:Q:61:ILE:HD11	1.72	0.54
20:J:29:ALA:O	20:J:32:LEU:HB2	2.08	0.54
18:X:1:MET:HB3	18:X:5:GLU:OE1	2.07	0.54
32:6:39:LEU:HG	32:6:40:HIS:N	2.23	0.54
7:P:75:THR:CG2	7:P:76:HIS:H	2.18	0.54
13:3:20:GLY:HA3	13:3:48:MET:HE1	1.89	0.54
2:B:2674:G:H2'	2:B:2675:A:C8	2.42	0.54
2:B:591:U:H1'	13:3:1:PRO:N	2.23	0.54
8:E:108:ILE:HG12	16:L:2:ARG:HH22	1.72	0.54
27:G:37:ASN:ND2	27:G:38:ASP:H	2.05	0.54
19:H:54:LEU:O	19:H:58:LEU:N	2.34	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1841:U:H2'	2:B:1842:G:H8	1.71	0.54
1:A:113:C:H2'	1:A:114:C:C6	2.43	0.54
2:B:2699:C:H2'	2:B:2700:A:H8	1.71	0.54
2:B:1396:U:O4'	2:B:1396:U:O2	2.23	0.54
5:D:60:VAL:HA	5:D:64:GLU:OE2	2.08	0.54
2:B:338:G:N2	2:B:339:U:H1'	2.23	0.54
2:B:2386:A:H2'	2:B:2387:U:C6	2.42	0.54
31:W:18:LYS:O	31:W:34:SER:HA	2.08	0.54
26:F:65:LEU:H	26:F:88:VAL:HG22	1.72	0.54
20:J:36:LEU:O	20:J:51:GLY:HA3	2.08	0.54
4:C:93:VAL:HG13	4:C:94:LEU:N	2.22	0.54
19:H:69:ALA:HA	19:H:140:ALA:HB2	1.90	0.54
20:J:59:ALA:O	20:J:62:VAL:HG12	2.08	0.54
5:D:12:THR:HG22	5:D:13:ARG:N	2.22	0.54
18:X:3:ALA:O	18:X:6:LEU:HB2	2.08	0.54
2:B:1656:C:H2'	2:B:1657:U:H6	1.72	0.54
27:G:16:VAL:HG11	27:G:44:HIS:NE2	2.23	0.54
2:B:202:U:H2'	2:B:203:A:C8	2.43	0.54
32:6:73:GLN:HG3	32:6:74:ASN:H	1.73	0.54
5:D:7:LYS:HE2	5:D:198:GLY:HA2	1.89	0.54
32:6:6:LEU:O	32:6:9:GLU:HB3	2.07	0.54
17:M:65:ILE:HG23	17:M:103:TYR:CE2	2.43	0.54
26:F:60:SER:HB2	26:F:62:GLN:OE1	2.08	0.53
2:B:2262:U:H1'	2:B:2328:A:H1'	1.90	0.53
25:U:9:GLU:O	25:U:72:PHE:N	2.41	0.53
32:6:83:ILE:HG22	32:6:90:LEU:HB2	1.89	0.53
14:V:30:ILE:O	14:V:37:PRO:HA	2.09	0.53
20:J:4:PHE:CG	20:J:5:THR:N	2.76	0.53
4:C:78:GLU:OE1	4:C:94:LEU:HD22	2.09	0.53
2:B:1351:C:O2'	2:B:1571:A:H1'	2.08	0.53
2:B:362:A:H3'	2:B:363:G:H8	1.72	0.53
2:B:534:U:H5'	23:Q:41:ALA:HB1	1.91	0.53
2:B:1130:U:C2	2:B:2025:C:H5'	2.43	0.53
2:B:175:G:O2'	2:B:176:A:H5'	2.08	0.53
2:B:2436:G:O2'	2:B:2437:G:H5'	2.08	0.53
2:B:909:A:H2'	2:B:912:C:C5	2.43	0.53
2:B:1878:G:H2'	2:B:1879:C:H6	1.72	0.53
24:S:13:SER:OG	24:S:14:ALA:N	2.41	0.53
2:B:145:C:H2'	2:B:146:A:H8	1.73	0.53
2:B:1248:G:O2'	23:Q:2:ARG:HA	2.08	0.53
2:B:1669:A:O3'	2:B:2549:G:H5'	2.08	0.53
4:C:166:ARG:HB3	4:C:171:VAL:HG22	1.90	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:5:LEU:HG	8:E:12:LEU:HD22	1.90	0.53
26:F:101:ARG:NH2	26:F:138:PRO:HB2	2.22	0.53
2:B:2758:A:C2'	2:B:2759:G:H5'	2.39	0.53
29:T:29:THR:HA	29:T:86:THR:HA	1.89	0.53
18:X:29:ARG:HH21	18:X:29:ARG:CB	2.21	0.53
20:J:45:THR:HG23	20:J:45:THR:O	2.08	0.53
23:Q:91:ARG:HB2	23:Q:94:LEU:HD23	1.89	0.53
24:S:36:LEU:HD22	24:S:36:LEU:N	2.19	0.53
19:H:73:ASN:HD22	19:H:73:ASN:N	2.06	0.53
2:B:962:G:H2'	2:B:963:U:C6	2.43	0.53
25:U:80:ASP:OD1	25:U:95:PHE:HB3	2.08	0.53
19:H:124:THR:HG22	19:H:125:THR:N	2.23	0.53
2:B:674:G:HO2'	8:E:60:TRP:HH2	1.56	0.53
13:3:22:LYS:HB2	13:3:48:MET:SD	2.48	0.53
21:N:32:GLU:HB3	21:N:115:LEU:HG	1.90	0.53
2:B:76:C:O2'	2:B:77:G:H5'	2.08	0.53
24:S:18:ARG:HB3	24:S:76:VAL:HG22	1.89	0.53
2:B:547:A:C3'	2:B:548:G:H5'	2.38	0.53
17:M:126:ILE:HD12	17:M:126:ILE:H	1.73	0.53
2:B:2530:A:H3'	27:G:156:TYR:OH	2.08	0.53
21:N:71:ARG:HH21	21:N:71:ARG:HG2	1.73	0.53
15:2:31:LEU:HD22	15:2:42:LEU:HD12	1.90	0.53
2:B:2617:U:O2'	2:B:2618:G:H5'	2.08	0.53
26:F:124:ARG:HB3	26:F:126:ASN:OD1	2.08	0.53
2:B:2259:U:H2'	2:B:2260:C:H6	1.73	0.53
32:6:80:GLU:C	32:6:82:ALA:H	2.11	0.53
2:B:2572:A:OP2	5:D:152:PRO:HD3	2.08	0.53
18:X:39:GLN:HB2	18:X:42:LEU:HD22	1.90	0.53
16:L:19:LEU:HD23	16:L:31:GLY:HA3	1.89	0.53
28:R:4:VAL:CG2	28:R:39:LEU:HG	2.37	0.53
25:U:95:PHE:CE1	25:U:102:ILE:HB	2.34	0.53
22:O:25:ARG:O	22:O:39:VAL:HA	2.08	0.53
2:B:1552:A:H2'	2:B:1553:A:C5'	2.39	0.53
2:B:2543:G:H8	2:B:2543:G:H5'	1.74	0.53
7:P:59:THR:OG1	7:P:72:VAL:HG12	2.08	0.53
15:2:10:LEU:HD22	15:2:14:ARG:NE	2.23	0.53
6:K:2:ILE:HD12	6:K:2:ILE:N	2.24	0.53
2:B:1464:G:H2'	2:B:1465:G:H8	1.73	0.53
2:B:217:A:H2'	2:B:218:A:O4'	2.09	0.53
2:B:1799:G:N2	2:B:1818:U:O2'	2.41	0.53
2:B:2109:U:H2'	2:B:2110:G:C8	2.44	0.53
2:B:857:G:C2'	2:B:858:G:H5'	2.38	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:4:ILE:C	7:P:6:GLN:N	2.61	0.53
14:V:31:TYR:HA	14:V:93:ARG:NH2	2.24	0.53
24:S:58:ALA:HB1	24:S:69:LEU:HD21	1.89	0.53
2:B:116:C:H1'	2:B:127:A:N3	2.23	0.53
32:6:133:ARG:O	32:6:134:ARG:C	2.47	0.53
2:B:2579:C:O2'	5:D:136:ASN:HA	2.08	0.53
19:H:64:ALA:H	19:H:66:ASN:ND2	2.07	0.53
9:Y:15:ARG:O	9:Y:20:LYS:HE3	2.09	0.53
2:B:934:U:H2'	2:B:935:C:H6	1.73	0.53
21:N:11:ASN:O	21:N:12:ARG:HB2	2.08	0.53
2:B:1097:U:C2'	2:B:1098:A:H5'	2.37	0.53
32:6:4:LYS:HA	32:6:7:TYR:CD2	2.43	0.53
2:B:1712:U:H2'	2:B:1713:A:N7	2.23	0.53
2:B:1636:U:H2'	2:B:1637:A:C8	2.43	0.53
2:B:813:U:H2'	2:B:814:C:H6	1.72	0.53
22:O:111:ARG:HB2	22:O:117:PHE:CZ	2.43	0.53
21:N:92:GLY:HA2	21:N:94:TYR:CZ	2.43	0.53
2:B:1883:U:H2'	2:B:1884:G:H1'	1.90	0.53
29:T:44:LYS:O	29:T:48:GLN:HG2	2.08	0.53
2:B:839:U:H1'	2:B:1191:G:H1'	1.90	0.53
8:E:138:LEU:HB3	8:E:143:LEU:O	2.09	0.53
2:B:2267:A:N6	2:B:2272:U:C4	2.76	0.53
14:V:77:VAL:HG12	17:M:136:MET:HG2	1.90	0.53
2:B:460:A:P	15:2:41:ARG:HH12	2.31	0.53
5:D:37:VAL:CG2	5:D:91:THR:HA	2.39	0.53
2:B:819:A:N6	2:B:1189:A:H1'	2.24	0.53
20:J:23:LYS:HZ2	20:J:142:ILE:HG12	1.72	0.53
20:J:30:THR:HG23	20:J:31:GLU:N	2.23	0.53
2:B:2722:G:H2'	2:B:2723:C:H6	1.72	0.53
2:B:126:A:O2'	2:B:127:A:H5'	2.08	0.53
2:B:1460:U:H5''	2:B:1461:C:O4'	2.08	0.53
3:I:18:ASN:N	3:I:19:PRO:CD	2.71	0.53
22:O:106:LEU:CA	22:O:109:ALA:HB3	2.38	0.53
9:Y:18:LYS:O	9:Y:22:THR:HG23	2.08	0.53
3:I:81:LYS:HG3	3:I:82:ALA:N	2.23	0.53
22:O:100:HIS:C	22:O:104:GLN:HB2	2.29	0.53
2:B:1695:G:H2'	2:B:1696:G:O4'	2.08	0.53
2:B:2105:U:H2'	2:B:2106:U:C6	2.43	0.53
8:E:143:LEU:HB3	8:E:146:VAL:HG21	1.89	0.53
2:B:321:U:H1'	8:E:162:ARG:NH1	2.24	0.53
31:W:37:VAL:HG13	31:W:55:ASP:O	2.07	0.53
14:V:28:ALA:HB2	14:V:89:ILE:HD12	1.89	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2511:U:H2'	2:B:2512:C:C6	2.44	0.53
27:G:97:VAL:CG2	27:G:124:CYS:HB2	2.39	0.53
20:J:44:TYR:HD2	20:J:44:TYR:C	2.12	0.53
4:C:94:LEU:HD13	4:C:100:ARG:HD2	1.91	0.53
2:B:1060:U:O2	2:B:1088:A:C8	2.62	0.53
30:Z:5:CYS:SG	30:Z:8:THR:HG23	2.49	0.53
2:B:296:U:H2'	2:B:297:G:H8	1.73	0.53
2:B:37:C:H4'	2:B:451:U:OP1	2.07	0.53
17:M:41:LEU:O	17:M:94:ALA:N	2.42	0.53
28:R:6:GLN:HE21	28:R:7:SER:C	2.12	0.53
16:L:136:GLU:HA	16:L:140:GLY:H	1.74	0.53
2:B:513:A:H8	2:B:513:A:O5'	1.91	0.53
3:I:52:LEU:HD21	3:I:81:LYS:HZ2	1.74	0.53
5:D:39:ASP:HB3	5:D:42:ASN:HB3	1.89	0.53
19:H:82:SER:HB2	19:H:94:ILE:HG12	1.90	0.53
3:I:49:GLU:CG	3:I:54:ILE:HD11	2.39	0.53
2:B:2737:G:H2'	2:B:2738:A:C8	2.44	0.53
27:G:7:PRO:O	27:G:8:VAL:CB	2.57	0.53
1:A:74:U:H2'	1:A:75:G:O4'	2.08	0.53
26:F:163:GLU:HA	26:F:166:ARG:CD	2.32	0.53
2:B:2768:U:H2'	2:B:2769:U:O4'	2.09	0.53
3:I:122:GLU:CD	3:I:122:GLU:H	2.12	0.53
2:B:1381:G:H1'	2:B:1571:A:N1	2.23	0.53
2:B:582:A:H2'	2:B:583:G:C8	2.44	0.53
2:B:2243:U:O2'	2:B:2244:U:H5'	2.09	0.53
2:B:1794:A:H2'	2:B:1795:C:C6	2.43	0.53
26:F:69:ALA:HB2	26:F:82:TYR:HB3	1.91	0.53
2:B:1987:A:H2'	2:B:1988:G:H8	1.73	0.53
2:B:2361:G:O2'	2:B:2362:C:H5'	2.09	0.53
2:B:245:G:H2'	2:B:246:C:H6	1.72	0.53
2:B:1623:G:O2'	2:B:1624:U:H5'	2.09	0.53
19:H:27:ARG:H	19:H:31:VAL:HG23	1.74	0.53
27:G:122:ALA:HA	27:G:132:LEU:HA	1.89	0.53
29:T:59:ASN:O	29:T:84:TYR:HB2	2.09	0.53
30:Z:33:LEU:HA	30:Z:51:VAL:O	2.08	0.53
28:R:49:ILE:O	28:R:49:ILE:HD12	2.09	0.53
2:B:2144:G:H5'	2:B:2145:C:H5''	1.90	0.53
6:K:73:ASP:O	7:P:74:GLN:HG3	2.09	0.53
2:B:2880:C:C1'	21:N:91:ALA:HB3	2.39	0.53
2:B:560:C:H2'	2:B:561:G:O4'	2.09	0.53
2:B:2742:G:O2'	2:B:2743:U:H5'	2.09	0.53
2:B:1028:A:N6	2:B:1125:G:H2'	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:125:TRP:CG	5:D:160:LYS:HB3	2.44	0.53
2:B:817:C:H2'	2:B:818:G:O4'	2.08	0.53
19:H:48:GLU:HA	19:H:51:ARG:NH2	2.23	0.53
26:F:37:MET:SD	26:F:52:ALA:HB1	2.48	0.53
27:G:123:GLU:HG2	27:G:124:CYS:H	1.73	0.53
28:R:58:VAL:HG22	28:R:59:ILE:N	2.23	0.53
12:1:9:LYS:HD3	12:1:9:LYS:N	2.21	0.53
2:B:1244:A:H5''	16:L:8:PRO:CD	2.35	0.53
2:B:962:G:N2	17:M:82:MET:HE2	2.24	0.53
19:H:90:LEU:HD21	19:H:146:VAL:CG2	2.34	0.53
2:B:616:A:H3'	2:B:617:G:C8	2.34	0.53
32:6:61:PRO:HD3	32:6:67:VAL:HG22	1.91	0.53
2:B:1445:G:H2'	2:B:1446:C:C6	2.44	0.53
6:K:109:SER:HB2	6:K:111:LYS:HE2	1.91	0.53
7:P:20:ARG:HD3	7:P:112:ARG:NH2	2.24	0.53
2:B:2814:A:H2'	2:B:2815:C:H6	1.74	0.53
2:B:730:A:O2'	2:B:731:C:H5'	2.08	0.53
2:B:1777:U:O2'	2:B:1778:U:H5'	2.08	0.53
14:V:53:LYS:NZ	14:V:54:ALA:HB3	2.24	0.53
19:H:47:PHE:HA	19:H:50:ARG:HH21	1.73	0.53
15:2:10:LEU:HD21	15:2:14:ARG:HH11	1.73	0.53
2:B:2025:C:H2'	2:B:2026:U:C6	2.44	0.53
4:C:86:ARG:CZ	4:C:86:ARG:HB3	2.38	0.53
1:A:11:C:OP1	31:W:71:LYS:HG2	2.09	0.53
24:S:20:VAL:HG23	24:S:23:LEU:HD12	1.90	0.53
32:6:2:THR:HG23	32:6:5:GLU:OE1	2.09	0.53
2:B:264:C:O2'	2:B:265:A:H5''	2.09	0.53
32:6:64:ARG:N	32:6:64:ARG:HD2	2.23	0.53
2:B:41:C:H2'	2:B:42:A:O4'	2.09	0.53
2:B:2595:G:O6	4:C:238:ASN:ND2	2.42	0.53
6:K:71:ARG:HA	6:K:71:ARG:HE	1.73	0.53
29:T:13:ALA:O	29:T:32:LEU:HB2	2.08	0.53
4:C:128:THR:HA	4:C:190:THR:CA	2.38	0.53
28:R:39:LEU:HA	28:R:53:PHE:HA	1.91	0.53
27:G:94:ARG:NH2	27:G:104:LEU:HA	2.24	0.53
32:6:43:VAL:N	32:6:50:VAL:O	2.37	0.53
32:6:56:ALA:HB2	32:6:79:ILE:CD1	2.38	0.53
2:B:1346:G:O2'	2:B:1347:A:H5'	2.09	0.53
17:M:127:LYS:H	17:M:127:LYS:CD	2.19	0.53
21:N:97:ILE:HD12	21:N:98:LEU:N	2.24	0.53
2:B:2543:G:H2'	2:B:2544:G:O4'	2.08	0.53
2:B:63:A:OP2	2:B:63:A:H8	1.92	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2539:C:O2'	2:B:2540:C:H5'	2.09	0.53
2:B:1046:A:C4'	2:B:1047:G:H5''	2.39	0.53
9:Y:23:LEU:HD13	9:Y:28:LEU:HB2	1.91	0.53
2:B:1640:A:H2'	2:B:1641:A:C8	2.44	0.53
2:B:2332:C:H1'	2:B:2336:A:N7	2.23	0.53
2:B:2248:C:H2'	2:B:2249:U:O4'	2.09	0.53
13:3:50:SER:C	13:3:52:GLY:H	2.12	0.53
2:B:1083:U:H2'	2:B:1085:A:OP2	2.09	0.53
2:B:2671:G:H2'	2:B:2672:U:C6	2.43	0.53
2:B:1479:G:O2'	2:B:1480:C:H5'	2.08	0.53
31:W:35:ILE:HG13	31:W:57:THR:OG1	2.08	0.52
24:S:31:GLN:C	24:S:33:LEU:H	2.13	0.52
19:H:73:ASN:ND2	19:H:73:ASN:N	2.56	0.52
2:B:138:U:H2'	2:B:140:C:C4'	2.39	0.52
27:G:155:PRO:HA	27:G:170:THR:HA	1.90	0.52
19:H:81:ALA:HA	19:H:146:VAL:HA	1.91	0.52
6:K:19:VAL:HB	6:K:41:ILE:HD11	1.92	0.52
2:B:2841:C:H2'	2:B:2842:G:H8	1.74	0.52
21:N:78:LYS:HG3	21:N:83:LEU:HG	1.90	0.52
2:B:2867:G:C2'	2:B:2867:G:N3	2.71	0.52
2:B:738:G:H2'	2:B:739:A:C8	2.44	0.52
14:V:9:ARG:HA	14:V:41:GLU:OE2	2.09	0.52
2:B:2896:C:H2'	2:B:2897:U:C6	2.44	0.52
2:B:1516:G:O2'	2:B:1517:G:H5'	2.09	0.52
2:B:83:A:N1	2:B:101:A:H5'	2.24	0.52
2:B:1341:G:H3'	2:B:1397:U:O2	2.09	0.52
26:F:78:ILE:C	26:F:79:ARG:HG3	2.28	0.52
2:B:1936:A:OP1	2:B:1937:A:H5'	2.08	0.52
2:B:1945:G:H2'	2:B:1946:U:C6	2.44	0.52
31:W:77:LYS:O	31:W:78:PHE:HB2	2.08	0.52
2:B:1720:U:O2'	2:B:1721:G:H5'	2.09	0.52
2:B:1117:C:H2'	2:B:1118:C:C6	2.44	0.52
2:B:1145:C:O2'	2:B:1146:C:H5'	2.09	0.52
2:B:2830:C:H1'	2:B:2836:U:O4'	2.08	0.52
3:I:23:VAL:HG23	3:I:24:GLY:H	1.74	0.52
16:L:81:ASP:HA	16:L:84:LYS:HE3	1.89	0.52
2:B:2385:C:H2'	2:B:2386:A:H8	1.74	0.52
4:C:132:ARG:HD3	4:C:166:ARG:NH1	2.22	0.52
26:F:32:LYS:H	26:F:95:MET:HE1	1.74	0.52
24:S:25:ARG:HE	24:S:74:ILE:HG23	1.74	0.52
14:V:2:PHE:O	14:V:4:ILE:HG13	2.09	0.52
2:B:675:A:H4'	8:E:62:GLN:HE22	1.75	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2060:A:C3'	8:E:63:LYS:HZ1	2.23	0.52
12:1:36:LYS:HG2	12:1:47:ILE:HG13	1.91	0.52
17:M:40:ARG:HB2	17:M:93:VAL:CG2	2.39	0.52
2:B:2794:C:H2'	2:B:2795:C:C6	2.45	0.52
16:L:79:LEU:HB2	16:L:113:ALA:HB3	1.91	0.52
2:B:1654:A:H61	2:B:2049:G:P	2.32	0.52
2:B:1841:U:H2'	2:B:1842:G:C8	2.43	0.52
25:U:54:PRO:HG2	25:U:55:GLY:H	1.73	0.52
1:A:94:A:H2'	1:A:95:U:O4'	2.09	0.52
2:B:1475:G:H4'	2:B:1476:U:O5'	2.09	0.52
2:B:1930:G:H2'	2:B:1968:G:C6	2.44	0.52
1:A:116:G:H4'	22:O:54:VAL:HG22	1.91	0.52
3:I:23:VAL:HG23	3:I:24:GLY:N	2.24	0.52
2:B:401:A:H2'	2:B:402:A:C8	2.43	0.52
2:B:1965:C:H5''	2:B:1966:A:H2'	1.91	0.52
6:K:3:GLN:HG2	6:K:4:GLU:N	2.23	0.52
2:B:242:G:H5''	13:3:63:TYR:CE2	2.44	0.52
16:L:92:LEU:CD2	16:L:124:GLY:HA3	2.39	0.52
4:C:185:ALA:C	4:C:187:CYS:H	2.12	0.52
27:G:3:VAL:O	27:G:68:ARG:HG3	2.09	0.52
23:Q:63:ARG:HH12	23:Q:96:ASP:HA	1.75	0.52
19:H:112:LYS:C	19:H:114:GLU:H	2.13	0.52
20:J:58:ASN:CA	20:J:127:GLY:HA2	2.35	0.52
21:N:2:ARG:HA	21:N:5:LYS:HD3	1.91	0.52
2:B:1443:U:H2'	2:B:1444:G:C8	2.45	0.52
8:E:108:ILE:HG12	16:L:2:ARG:NH2	2.24	0.52
2:B:1657:U:C2'	2:B:1658:C:H5'	2.40	0.52
2:B:2730:C:H2'	2:B:2731:G:C8	2.45	0.52
9:Y:7:THR:HG23	9:Y:34:THR:OG1	2.09	0.52
22:O:47:VAL:O	22:O:48:LEU:HD23	2.09	0.52
2:B:765:C:O2'	2:B:766:U:H5'	2.10	0.52
6:K:105:ARG:HB3	6:K:122:VAL:HG12	1.91	0.52
2:B:2757:A:H2	27:G:63:GLN:HE22	1.56	0.52
16:L:82:LEU:O	16:L:85:VAL:HG12	2.09	0.52
26:F:125:GLY:HA2	26:F:162:ASP:CA	2.36	0.52
2:B:1441:G:H2'	2:B:1442:U:C6	2.45	0.52
2:B:279:A:N1	2:B:362:A:H4'	2.25	0.52
6:K:118:LEU:C	6:K:120:PRO:HD2	2.30	0.52
2:B:2243:U:H2'	2:B:2244:U:H6	1.71	0.52
23:Q:26:ALA:O	23:Q:30:VAL:HG12	2.09	0.52
8:E:176:ASP:OD1	8:E:178:VAL:HG12	2.09	0.52
2:B:1827:U:O2'	2:B:1828:G:H5'	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2286:G:H5'	2:B:2286:G:C8	2.44	0.52
20:J:72:LYS:CB	20:J:89:PHE:H	2.22	0.52
2:B:1831:G:O2'	2:B:1832:C:H5'	2.08	0.52
2:B:2757:A:H2	27:G:63:GLN:NE2	2.07	0.52
5:D:101:PHE:O	5:D:180:VAL:HG11	2.09	0.52
22:O:69:ASP:O	22:O:72:ALA:HB3	2.09	0.52
5:D:9:VAL:O	7:P:4:ILE:HD11	2.10	0.52
29:T:14:PRO:HA	29:T:32:LEU:HB3	1.92	0.52
29:T:40:LYS:HE2	29:T:58:VAL:O	2.09	0.52
12:1:6:GLU:HB2	12:1:52:LYS:HZ3	1.73	0.52
21:N:106:ASP:OD1	21:N:108:ALA:HB3	2.10	0.52
27:G:94:ARG:HE	27:G:94:ARG:C	2.13	0.52
32:6:58:VAL:HA	32:6:67:VAL:O	2.09	0.52
12:1:7:LYS:HA	12:1:23:THR:HG22	1.91	0.52
2:B:1266:G:H22	2:B:2012:G:H2'	1.73	0.52
2:B:1563:U:H2'	2:B:1564:C:C6	2.44	0.52
2:B:110:G:O2'	2:B:111:A:H5'	2.10	0.52
4:C:245:THR:C	4:C:247:TRP:H	2.13	0.52
2:B:6:A:H2'	2:B:7:G:H8	1.75	0.52
2:B:1210:G:H5'	2:B:1212:G:O4'	2.10	0.52
2:B:483:A:H2'	2:B:484:C:O4'	2.09	0.52
19:H:41:LYS:C	19:H:43:ASN:H	2.11	0.52
5:D:122:VAL:H	5:D:127:PHE:HB2	1.74	0.52
2:B:755:U:H2'	2:B:756:A:C8	2.44	0.52
12:1:39:ASP:OD1	12:1:42:VAL:HG23	2.10	0.52
2:B:2594:C:O2'	2:B:2595:G:H5'	2.09	0.52
13:3:32:LEU:HA	13:3:35:LYS:HD2	1.92	0.52
8:E:49:ARG:O	8:E:74:LYS:HD3	2.09	0.52
8:E:188:MET:HG3	8:E:192:ALA:HB3	1.92	0.52
2:B:2364:C:O2'	2:B:2365:G:H5'	2.10	0.52
2:B:2259:U:H2'	2:B:2260:C:C6	2.45	0.52
2:B:1429:G:H2'	2:B:1430:G:C8	2.44	0.52
28:R:49:ILE:HG21	28:R:54:VAL:CA	2.39	0.52
17:M:19:GLY:CA	17:M:97:GLN:HB2	2.37	0.52
11:4:17:VAL:HG11	11:4:19:ARG:HE	1.74	0.52
31:W:10:ARG:O	31:W:11:ASN:HB2	2.09	0.52
4:C:116:GLN:HG2	4:C:117:SER:N	2.25	0.52
2:B:2835:A:N6	2:B:2878:U:H2'	2.24	0.52
2:B:850:U:H5''	9:Y:18:LYS:HD3	1.91	0.52
2:B:912:C:H2'	2:B:913:U:C6	2.45	0.52
2:B:1316:U:H2'	2:B:1317:G:H8	1.74	0.52
2:B:1201:U:H2'	2:B:1202:G:H8	1.73	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
32:6:73:GLN:HG3	32:6:74:ASN:N	2.25	0.52
29:T:45:ALA:HA	29:T:48:GLN:CG	2.39	0.52
1:A:20:G:H2'	1:A:21:G:H8	1.75	0.52
2:B:2677:G:H2'	2:B:2678:C:C6	2.45	0.52
30:Z:40:VAL:O	30:Z:42:SER:N	2.42	0.52
30:Z:41:GLU:O	30:Z:44:LYS:HD2	2.09	0.52
8:E:141:MET:O	8:E:143:LEU:HG	2.09	0.52
26:F:134:GLN:OE1	26:F:136:ILE:HA	2.09	0.52
32:6:30:THR:HB	32:6:183:ILE:N	2.24	0.52
27:G:23:ILE:HD11	27:G:42:VAL:HG11	1.92	0.52
24:S:28:LYS:HD3	24:S:69:LEU:O	2.10	0.52
4:C:28:PRO:HB3	4:C:81:GLU:OE1	2.09	0.52
2:B:370:G:O2'	2:B:423:A:H3'	2.09	0.52
28:R:54:VAL:HG13	28:R:56:GLY:O	2.09	0.52
14:V:79:ARG:HA	14:V:86:LEU:HA	1.91	0.52
20:J:99:ARG:HA	20:J:102:GLU:HB2	1.91	0.52
1:A:13:G:H2'	1:A:14:U:H5''	1.92	0.52
2:B:2680:U:P	5:D:114:LYS:HB3	2.50	0.52
2:B:2015:A:C2	10:0:2:VAL:HG22	2.45	0.52
2:B:1376:C:H3'	36:B:3316:HOH:O	2.09	0.52
13:3:24:LYS:HZ2	13:3:28:LEU:HB3	1.74	0.52
27:G:59:ASP:O	27:G:63:GLN:HB2	2.09	0.52
2:B:2322:A:H3'	2:B:2323:G:H8	1.74	0.52
2:B:84:A:H4'	2:B:85:G:O5'	2.10	0.52
8:E:115:GLN:O	8:E:117:ARG:HG3	2.09	0.52
2:B:2353:G:H1'	31:W:30:VAL:HG13	1.91	0.52
31:W:50:VAL:O	31:W:59:PHE:HB3	2.09	0.52
26:F:137:PHE:O	26:F:139:GLU:N	2.42	0.52
5:D:178:VAL:HB	5:D:188:LEU:CB	2.36	0.52
32:6:38:LEU:HD22	32:6:83:ILE:HD12	1.92	0.52
1:A:103:U:O2'	1:A:104:A:H5'	2.09	0.52
14:V:4:ILE:HD11	14:V:61:LEU:HB3	1.92	0.52
4:C:93:VAL:HG21	4:C:115:ILE:HD11	1.92	0.52
22:O:110:ALA:O	22:O:115:LEU:HB2	2.10	0.52
5:D:113:SER:HB3	5:D:167:ASN:HA	1.92	0.52
2:B:1176:U:H6	2:B:1176:U:O5'	1.93	0.52
2:B:1178:C:H2'	2:B:1179:G:C8	2.45	0.52
2:B:1418:G:H1'	2:B:1580:A:H61	1.75	0.52
2:B:2804:U:H2'	2:B:2805:C:H6	1.74	0.52
2:B:548:G:H5''	2:B:549:G:C4	2.44	0.52
2:B:263:G:H2'	2:B:264:C:O4'	2.10	0.52
9:Y:4:ILE:HD13	9:Y:58:GLU:HG3	1.90	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2311:A:O2'	26:F:84:ILE:HG21	2.10	0.52
17:M:31:PHE:HD1	17:M:105:MET:HB3	1.74	0.52
2:B:1038:G:H2'	2:B:1039:A:C8	2.44	0.52
16:L:23:ILE:HD12	28:R:84:ARG:HE	1.74	0.52
2:B:2712:C:H2'	2:B:2714:G:O3'	2.10	0.52
2:B:433:C:H2'	2:B:434:U:C6	2.45	0.52
4:C:264:LYS:HG3	4:C:265:PHE:CD2	2.45	0.52
26:F:107:VAL:N	26:F:108:PRO:CD	2.73	0.52
14:V:63:ILE:HD12	14:V:63:ILE:H	1.75	0.52
27:G:84:LYS:H	27:G:85:LYS:HD2	1.74	0.52
19:H:131:SER:O	19:H:133:GLN:N	2.41	0.52
19:H:73:ASN:ND2	19:H:74:ALA:H	2.03	0.52
27:G:88:LEU:HD11	27:G:94:ARG:N	2.25	0.52
32:6:36:ALA:O	32:6:39:LEU:HD23	2.10	0.52
1:A:64:G:O2'	1:A:65:U:H5'	2.10	0.52
26:F:115:GLY:CA	26:F:177:ARG:HH11	2.21	0.52
2:B:21:A:H2'	2:B:22:C:C6	2.45	0.52
9:Y:56:VAL:HG12	9:Y:57:GLU:N	2.25	0.52
2:B:1843:C:H5''	4:C:250:GLN:HE21	1.73	0.52
2:B:639:U:H2'	2:B:640:C:H6	1.74	0.52
2:B:1847:A:H4'	2:B:1848:A:H8	1.75	0.52
2:B:1486:U:H2'	2:B:1487:U:C6	2.45	0.52
2:B:1487:U:H2'	2:B:1488:C:C6	2.44	0.52
2:B:2520:C:O2'	2:B:2521:C:H5'	2.10	0.52
30:Z:39:TRP:HA	30:Z:46:PHE:CD2	2.45	0.52
2:B:337:C:H2'	2:B:338:G:O4'	2.10	0.52
26:F:34:THR:HA	26:F:89:THR:HA	1.91	0.52
27:G:25:ILE:HD13	27:G:74:MET:HE2	1.92	0.52
23:Q:60:TRP:HB3	23:Q:92:LYS:O	2.10	0.52
2:B:587:C:N3	16:L:33:ARG:NH2	2.57	0.52
2:B:141:G:H3'	2:B:142:A:O4'	2.10	0.52
29:T:2:ILE:HD13	29:T:2:ILE:H	1.75	0.52
20:J:56:VAL:HG12	20:J:57:LEU:N	2.25	0.52
27:G:106:LEU:O	27:G:108:PHE:HD1	1.92	0.52
2:B:2719:G:O2'	2:B:2720:U:H5'	2.11	0.52
15:2:27:GLY:O	15:2:30:VAL:HB	2.10	0.52
2:B:773:U:H4'	4:C:45:ASN:O	2.09	0.52
21:N:72:ASP:C	21:N:74:GLU:H	2.13	0.52
2:B:2849:U:H4'	2:B:2850:A:H5'	1.92	0.52
2:B:2868:A:H2'	2:B:2869:G:C8	2.44	0.52
2:B:1789:A:P	4:C:220:ARG:HD3	2.50	0.52
6:K:75:SER:HA	7:P:72:VAL:O	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:62:U:O2'	2:B:63:A:H5'	2.10	0.52
2:B:30:G:H4'	2:B:1215:G:H5'	1.92	0.52
4:C:209:ALA:HA	4:C:212:TRP:NE1	2.25	0.52
23:Q:20:ALA:HA	23:Q:23:TYR:CE1	2.45	0.52
2:B:945:A:H3'	2:B:946:C:H5''	1.92	0.52
1:A:32:U:H4'	1:A:52:A:H62	1.75	0.52
2:B:1667:G:OP1	6:K:6:THR:HA	2.09	0.52
2:B:1429:G:O2'	2:B:1430:G:H5'	2.10	0.51
2:B:704:G:H2'	2:B:726:G:N2	2.13	0.51
3:I:74:PRO:O	3:I:77:VAL:HG22	2.10	0.51
2:B:956:G:N2	2:B:959:A:H3'	2.25	0.51
16:L:42:SER:C	16:L:44:GLY:H	2.12	0.51
22:O:89:ASP:HA	22:O:116:GLN:HB3	1.92	0.51
26:F:78:ILE:HA	26:F:82:TYR:CD1	2.44	0.51
2:B:466:A:N3	2:B:683:U:H1'	2.25	0.51
2:B:2776:A:H4'	2:B:2777:G:C5'	2.40	0.51
2:B:195:A:H1'	2:B:250:G:N2	2.26	0.51
2:B:2109:U:O2'	2:B:2110:G:H5'	2.10	0.51
13:3:7:ARG:HG3	13:3:7:ARG:HH11	1.75	0.51
20:J:40:HIS:CE1	20:J:41:LYS:HG3	2.45	0.51
2:B:2097:A:H2'	2:B:2098:U:C6	2.45	0.51
20:J:84:ILE:O	20:J:84:ILE:HG23	2.09	0.51
2:B:445:C:O2'	2:B:446:G:H5'	2.10	0.51
2:B:1735:A:H2'	2:B:1736:U:C6	2.45	0.51
31:W:66:VAL:HA	31:W:81:ILE:HG22	1.91	0.51
4:C:145:MET:SD	4:C:153:LEU:HD21	2.50	0.51
26:F:34:THR:OG1	26:F:154:THR:HB	2.10	0.51
5:D:10:GLY:HA3	5:D:26:VAL:N	2.19	0.51
27:G:33:THR:HA	27:G:34:ARG:NH1	2.25	0.51
24:S:28:LYS:HD2	24:S:29:VAL:H	1.75	0.51
2:B:143:C:H5'	29:T:3:ARG:NH1	2.26	0.51
29:T:68:LYS:N	29:T:68:LYS:HD3	2.25	0.51
22:O:83:LEU:HD12	22:O:87:ILE:O	2.09	0.51
31:W:9:THR:OG1	31:W:10:ARG:N	2.43	0.51
2:B:279:A:H2'	2:B:280:U:H5'	1.93	0.51
17:M:40:ARG:HB3	17:M:95:LEU:HD12	1.92	0.51
2:B:2078:C:H2'	2:B:2079:U:H6	1.70	0.51
2:B:2679:A:H2'	2:B:2680:U:C6	2.46	0.51
4:C:239:PHE:HD1	4:C:241:LYS:H	1.57	0.51
2:B:265:A:O2'	2:B:266:G:H4'	2.10	0.51
31:W:46:ALA:HB2	31:W:78:PHE:CD1	2.44	0.51
32:6:7:TYR:OH	32:6:157:ALA:HA	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
32:6:150:SER:O	32:6:154:THR:HG22	2.09	0.51
20:J:87:ALA:HA	20:J:91:GLU:OE1	2.10	0.51
2:B:841:G:O2'	2:B:842:U:H5'	2.11	0.51
6:K:14:SER:HB2	6:K:51:LYS:H	1.75	0.51
16:L:40:SER:OG	16:L:41:ARG:HG3	2.10	0.51
1:A:54:G:H21	26:F:25:MET:CE	2.24	0.51
16:L:99:ASN:O	16:L:100:ILE:HB	2.10	0.51
26:F:134:GLN:O	26:F:136:ILE:N	2.43	0.51
26:F:65:LEU:O	26:F:86:CYS:HA	2.09	0.51
10:0:47:TYR:CZ	10:0:52:LYS:HG3	2.45	0.51
22:O:68:LYS:H	22:O:102:ARG:CD	2.22	0.51
2:B:18:U:H2'	2:B:19:A:H8	1.76	0.51
2:B:782:A:N7	4:C:219:VAL:HG21	2.25	0.51
2:B:1559:U:H3'	2:B:1560:G:H5'	1.91	0.51
2:B:506:G:H1'	2:B:507:A:C8	2.45	0.51
2:B:548:G:H5''	2:B:549:G:O4'	2.10	0.51
2:B:1275:A:H2'	2:B:1276:A:O4'	2.10	0.51
2:B:1722:A:N6	2:B:1738:G:H1'	2.26	0.51
2:B:576:U:H2'	2:B:577:G:C8	2.45	0.51
2:B:1301:A:O2'	2:B:1302:A:H2'	2.10	0.51
2:B:1753:G:N2	2:B:1755:A:H3'	2.26	0.51
2:B:2825:G:H2'	2:B:2826:A:H5'	1.93	0.51
29:T:55:VAL:CA	29:T:87:LEU:HA	2.39	0.51
2:B:2472:G:H2'	2:B:2529:G:N2	2.25	0.51
19:H:111:ALA:N	19:H:132:PHE:HZ	2.08	0.51
30:Z:68:LEU:HD13	30:Z:78:TYR:CE1	2.46	0.51
2:B:1188:U:O2'	2:B:1189:A:H5'	2.10	0.51
20:J:23:LYS:NZ	20:J:142:ILE:HG12	2.25	0.51
21:N:45:ARG:O	21:N:49:GLU:HG3	2.10	0.51
2:B:2074:U:O2'	2:B:2075:U:H5'	2.09	0.51
23:Q:7:VAL:HG23	23:Q:8:ILE:N	2.26	0.51
1:A:111:U:H2'	1:A:112:G:H8	1.75	0.51
2:B:1042:G:H2'	2:B:1043:C:C6	2.46	0.51
18:X:23:ARG:O	18:X:27:ASN:HB2	2.10	0.51
31:W:37:VAL:CG1	31:W:38:ARG:H	2.18	0.51
19:H:4:ILE:HA	19:H:18:GLN:HA	1.93	0.51
14:V:28:ALA:CB	14:V:89:ILE:HD12	2.40	0.51
23:Q:105:PHE:HA	23:Q:108:LEU:CD1	2.38	0.51
28:R:4:VAL:HG21	28:R:40:MET:HB2	1.92	0.51
19:H:81:ALA:CB	19:H:147:VAL:H	2.24	0.51
2:B:2443:C:O2'	2:B:2444:G:H5'	2.11	0.51
5:D:15:PHE:HD1	5:D:15:PHE:H	1.54	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:29:VAL:HG12	7:P:80:VAL:HA	1.93	0.51
21:N:49:GLU:OE2	21:N:95:THR:HG22	2.10	0.51
19:H:63:ALA:O	19:H:64:ALA:HB2	2.10	0.51
24:S:6:LYS:HB3	24:S:104:THR:HG23	1.91	0.51
2:B:2358:A:H2'	2:B:2359:C:O4'	2.11	0.51
2:B:1316:U:O2'	2:B:1317:G:H5'	2.09	0.51
2:B:159:G:O2'	2:B:160:A:H5''	2.11	0.51
2:B:2351:G:H2'	2:B:2365:G:H22	1.75	0.51
27:G:23:ILE:HG21	27:G:71:LEU:HD11	1.92	0.51
14:V:4:ILE:O	14:V:63:ILE:HG23	2.10	0.51
2:B:996:A:H4'	23:Q:91:ARG:CD	2.41	0.51
5:D:90:PHE:CD2	5:D:94:GLN:HG3	2.46	0.51
19:H:68:ARG:NH2	19:H:71:LYS:HB3	2.26	0.51
2:B:143:C:H6	2:B:143:C:O5'	1.94	0.51
2:B:1103:A:H3'	2:B:1104:C:H6	1.76	0.51
19:H:124:THR:HG22	19:H:125:THR:H	1.76	0.51
14:V:80:HIS:CD2	14:V:83:LYS:HB2	2.45	0.51
8:E:47:LYS:HA	8:E:51:GLU:HG3	1.93	0.51
6:K:63:VAL:HG21	6:K:85:VAL:HG23	1.92	0.51
2:B:2190:G:H2'	2:B:2191:A:H8	1.75	0.51
2:B:986:C:O2'	2:B:987:C:H5'	2.10	0.51
8:E:150:THR:OG1	8:E:151:GLY:N	2.44	0.51
2:B:2897:U:H2'	2:B:2898:U:C6	2.46	0.51
6:K:97:THR:C	6:K:98:ARG:HE	2.14	0.51
2:B:1395:A:H4'	2:B:1397:U:H5	1.74	0.51
2:B:870:U:C2'	2:B:871:U:H5'	2.41	0.51
2:B:1773:A:H2'	2:B:1774:C:O4'	2.11	0.51
2:B:1470:A:H3'	2:B:1471:G:H8	1.75	0.51
2:B:1930:G:H2'	2:B:1968:G:O6	2.10	0.51
22:O:52:SER:O	22:O:58:ILE:HD12	2.10	0.51
2:B:1001:A:H2'	2:B:1002:G:O4'	2.10	0.51
2:B:145:C:H2'	2:B:146:A:C8	2.46	0.51
2:B:2323:G:O2'	2:B:2324:U:H5'	2.11	0.51
2:B:939:G:O2'	2:B:940:G:H5'	2.10	0.51
32:6:144:ALA:HA	32:6:149:LEU:HG	1.92	0.51
2:B:377:G:O2'	2:B:378:C:H5'	2.11	0.51
2:B:2352:A:H2'	2:B:2353:G:O4'	2.10	0.51
2:B:857:G:O2'	2:B:858:G:H5'	2.11	0.51
26:F:99:PHE:HA	26:F:102:LEU:HD12	1.93	0.51
2:B:809:G:H2'	2:B:810:U:H6	1.75	0.51
8:E:29:HIS:C	8:E:31:VAL:H	2.14	0.51
22:O:53:THR:O	22:O:59:ALA:HB2	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:37:C:O2'	2:B:38:A:H5'	2.11	0.51
2:B:2458:G:N3	2:B:2458:G:H2'	2.25	0.51
3:I:17:ALA:O	3:I:18:ASN:CB	2.59	0.51
6:K:39:ILE:HD13	6:K:39:ILE:H	1.76	0.51
6:K:88:ASN:ND2	6:K:89:ASN:N	2.59	0.51
28:R:7:SER:HB2	28:R:22:LEU:HD22	1.93	0.51
2:B:1792:G:O2'	2:B:1793:C:H5'	2.10	0.51
2:B:712:G:H2'	2:B:713:G:O4'	2.11	0.51
2:B:2290:G:H2'	2:B:2291:U:C6	2.45	0.51
1:A:95:U:H2'	1:A:96:G:C8	2.46	0.51
2:B:2415:G:C4'	16:L:66:PHE:HB2	2.40	0.51
5:D:49:GLN:HE21	5:D:79:LEU:HD12	1.75	0.51
5:D:174:SER:O	5:D:175:LEU:HB2	2.11	0.51
17:M:21:ALA:HB1	17:M:100:LYS:HG2	1.93	0.51
17:M:117:PHE:HA	17:M:120:ALA:HB3	1.93	0.51
2:B:2246:G:H2'	2:B:2247:A:C8	2.46	0.51
7:P:36:LYS:C	7:P:37:LYS:HD3	2.30	0.51
24:S:97:LEU:N	24:S:97:LEU:HD22	2.25	0.51
2:B:1050:A:H2'	2:B:1051:G:C8	2.46	0.51
2:B:2567:G:H2'	2:B:2568:U:C6	2.45	0.51
28:R:74:ILE:HB	28:R:87:GLN:O	2.11	0.51
2:B:2588:G:H2'	2:B:2589:A:O4'	2.10	0.51
2:B:2365:G:O2'	31:W:59:PHE:HE1	1.94	0.51
26:F:168:LEU:O	26:F:170:ALA:N	2.43	0.51
18:X:28:LEU:HB3	18:X:43:LEU:HD21	1.93	0.51
21:N:108:ALA:O	21:N:110:MET:HE3	2.10	0.51
4:C:140:VAL:HG12	4:C:141:HIS:N	2.24	0.51
30:Z:30:LEU:H	30:Z:30:LEU:CD2	2.21	0.51
10:O:42:ILE:HG22	10:O:43:THR:O	2.11	0.51
2:B:2884:U:O2	10:O:49:ARG:HG2	2.11	0.51
21:N:83:LEU:HA	21:N:86:ARG:CB	2.40	0.51
2:B:2188:U:H2'	2:B:2189:U:H6	1.76	0.51
12:1:3:GLY:C	12:1:5:ARG:H	2.14	0.51
2:B:2282:G:H5''	2:B:2283:C:O4'	2.11	0.51
2:B:1653:G:O6	21:N:11:ASN:ND2	2.44	0.51
2:B:1319:C:O2'	2:B:1320:C:H5'	2.11	0.51
2:B:2618:G:H2'	2:B:2619:C:H6	1.76	0.51
7:P:103:THR:HG22	7:P:104:GLY:H	1.76	0.51
2:B:2313:C:H5''	26:F:87:LYS:HE2	1.93	0.51
2:B:2314:A:H2'	2:B:2315:G:H8	1.76	0.51
29:T:32:LEU:HG	29:T:83:ALA:HB2	1.92	0.51
24:S:33:LEU:HA	24:S:36:LEU:HD23	1.92	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:91:VAL:O	7:P:92:ARG:HB3	2.11	0.51
23:Q:104:ALA:O	23:Q:106:THR:N	2.41	0.51
2:B:2037:A:H2'	2:B:2038:G:C8	2.45	0.51
1:A:48:U:H2'	1:A:49:C:C6	2.46	0.51
2:B:1229:C:H2'	2:B:1230:A:C8	2.46	0.51
19:H:49:ALA:HB3	19:H:50:ARG:NH2	2.25	0.51
19:H:83:LYS:O	19:H:91:PHE:HD1	1.93	0.51
2:B:2786:U:H5'	5:D:70:LYS:HG3	1.92	0.51
2:B:256:A:O2'	2:B:257:C:H5'	2.11	0.51
21:N:9:GLN:O	21:N:11:ASN:N	2.43	0.51
2:B:2852:G:H2'	2:B:2853:C:H6	1.75	0.51
22:O:6:ALA:O	22:O:10:ARG:HG3	2.11	0.51
2:B:858:G:H21	2:B:2268:A:C3'	2.19	0.51
2:B:1204:A:H1'	2:B:1206:G:N7	2.26	0.51
4:C:144:GLU:HB3	4:C:187:CYS:HB3	1.92	0.51
29:T:50:LEU:C	29:T:52:GLU:H	2.14	0.51
23:Q:57:ARG:HG2	23:Q:57:ARG:HH11	1.76	0.51
20:J:58:ASN:HD22	20:J:61:LYS:HD2	1.76	0.51
26:F:3:LEU:HD21	26:F:172:PHE:HB3	1.92	0.51
19:H:125:THR:CB	19:H:146:VAL:HB	2.40	0.51
2:B:2847:U:H5''	7:P:94:ALA:CB	2.41	0.51
7:P:74:GLN:O	7:P:76:HIS:N	2.44	0.51
2:B:1445:G:H2'	2:B:1446:C:H6	1.76	0.51
14:V:80:HIS:CD2	14:V:83:LYS:H	2.29	0.51
28:R:19:THR:HG22	28:R:97:LYS:HA	1.93	0.51
2:B:2289:G:O2'	2:B:2290:G:H5'	2.11	0.51
2:B:154:U:H2'	2:B:155:A:H8	1.76	0.51
21:N:13:ASN:C	21:N:15:SER:H	2.13	0.51
2:B:1387:A:H4'	2:B:1469:A:H1'	1.93	0.51
2:B:2321:U:O2	2:B:2321:U:H3'	2.10	0.51
2:B:584:C:H2'	2:B:585:G:C8	2.45	0.51
2:B:1316:U:H2'	2:B:1317:G:C8	2.46	0.51
1:A:54:G:H21	26:F:25:MET:HE3	1.75	0.51
22:O:6:ALA:CB	22:O:10:ARG:HH11	2.24	0.51
2:B:1765:U:H2'	2:B:1766:G:H8	1.76	0.51
2:B:936:A:H2'	2:B:937:C:C6	2.46	0.51
2:B:2425:A:H5''	2:B:2426:A:H3'	1.93	0.50
27:G:132:LEU:N	27:G:132:LEU:HD23	2.26	0.50
3:I:79:LEU:HD11	3:I:131:THR:OG1	2.11	0.50
8:E:29:HIS:O	8:E:32:VAL:HG22	2.11	0.50
20:J:28:LEU:HD23	20:J:29:ALA:N	2.25	0.50
28:R:24:LYS:HA	28:R:94:THR:CG2	2.40	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:73:ASN:C	25:U:75:ALA:H	2.14	0.50
27:G:108:PHE:HD1	27:G:108:PHE:H	1.57	0.50
27:G:155:PRO:CA	27:G:170:THR:HA	2.41	0.50
32:6:133:ARG:NH1	32:6:162:GLN:OE1	2.42	0.50
2:B:1942:C:C1'	32:6:133:ARG:NH1	2.73	0.50
25:U:27:VAL:CG2	25:U:33:VAL:HG12	2.39	0.50
2:B:1229:C:H2'	2:B:1230:A:H8	1.76	0.50
2:B:779:U:O2'	2:B:780:G:H5'	2.10	0.50
4:C:255:LYS:C	4:C:257:ARG:H	2.13	0.50
2:B:1515:A:H4'	2:B:1556:C:O2'	2.10	0.50
2:B:1218:G:H2'	2:B:1219:U:O4'	2.10	0.50
26:F:79:ARG:O	26:F:82:TYR:HB2	2.11	0.50
2:B:1277:G:H2'	2:B:1278:C:O4'	2.11	0.50
2:B:1829:A:N6	2:B:1977:A:N6	2.59	0.50
2:B:244:A:H1'	2:B:255:A:N6	2.27	0.50
2:B:2757:A:N3	2:B:2757:A:H2'	2.26	0.50
18:X:7:ARG:HA	18:X:7:ARG:NE	2.25	0.50
2:B:431:U:O2'	2:B:432:A:H5'	2.12	0.50
8:E:191:ASP:O	8:E:194:LYS:HB3	2.11	0.50
26:F:102:LEU:HD13	26:F:102:LEU:O	2.11	0.50
27:G:25:ILE:CG2	27:G:78:VAL:HG21	2.42	0.50
30:Z:71:LEU:HD12	30:Z:78:TYR:CD2	2.44	0.50
22:O:16:ARG:HD3	22:O:19:GLN:NE2	2.26	0.50
6:K:119:ALA:HB3	6:K:120:PRO:HD3	1.94	0.50
2:B:2341:G:H2'	2:B:2342:C:H6	1.76	0.50
2:B:506:G:H4'	2:B:509:C:O2	2.11	0.50
2:B:1640:A:H2'	2:B:1641:A:H8	1.76	0.50
2:B:285:G:H2'	2:B:286:U:H6	1.76	0.50
4:C:181:ARG:NH2	4:C:265:PHE:HB3	2.26	0.50
20:J:41:LYS:O	23:Q:66:ALA:HB1	2.10	0.50
2:B:1495:A:H2'	2:B:1496:A:C8	2.47	0.50
4:C:6:LYS:O	4:C:8:THR:HG23	2.10	0.50
13:3:9:ALA:C	13:3:11:LYS:H	2.13	0.50
1:A:59:A:H2'	1:A:60:C:O4'	2.11	0.50
31:W:49:ASN:C	31:W:50:VAL:HG22	2.32	0.50
26:F:59:ILE:HG12	26:F:137:PHE:CE2	2.46	0.50
7:P:3:ILE:HG23	7:P:4:ILE:N	2.27	0.50
32:6:31:GLY:HA2	32:6:106:LEU:HD21	1.94	0.50
8:E:31:VAL:HG21	8:E:104:ALA:HB2	1.93	0.50
2:B:2840:C:H5''	21:N:53:THR:HG21	1.93	0.50
21:N:81:ASN:O	21:N:85:PRO:HD2	2.11	0.50
5:D:62:LYS:HB2	5:D:63:PRO:HD3	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:4:LYS:HE2	4:C:5:CYS:H	1.76	0.50
1:A:114:C:H1'	22:O:47:VAL:HG21	1.94	0.50
5:D:114:LYS:HD2	5:D:116:LYS:HE3	1.92	0.50
2:B:2626:C:H2'	2:B:2627:G:C8	2.47	0.50
2:B:1248:G:OP1	8:E:44:ARG:NH1	2.44	0.50
2:B:2760:C:C2'	2:B:2761:A:H5'	2.42	0.50
2:B:1370:C:H2'	2:B:1371:G:C8	2.47	0.50
2:B:1520:U:H2'	2:B:1521:G:O4'	2.11	0.50
2:B:920:A:H2'	2:B:921:C:O4'	2.11	0.50
26:F:92:GLY:O	26:F:95:MET:HB3	2.11	0.50
26:F:99:PHE:HA	26:F:102:LEU:CD1	2.42	0.50
25:U:11:ILE:HD13	25:U:20:LYS:H	1.76	0.50
32:6:32:ARG:HH22	32:6:88:LEU:C	2.14	0.50
29:T:81:LYS:HG3	29:T:82:LYS:N	2.26	0.50
12:1:8:ILE:HG13	12:1:51:ALA:HA	1.94	0.50
2:B:2135:A:N6	2:B:2156:G:O2'	2.39	0.50
2:B:2590:A:H2'	2:B:2591:C:H6	1.76	0.50
2:B:2814:A:C4'	10:0:25:THR:HG21	2.40	0.50
2:B:1258:U:H2'	2:B:1259:G:C8	2.46	0.50
2:B:988:A:O5'	9:Y:11:SER:HB3	2.11	0.50
2:B:608:A:H2'	2:B:609:A:H8	1.76	0.50
4:C:12:ARG:HA	4:C:15:VAL:HG23	1.93	0.50
22:O:5:SER:HA	22:O:8:ILE:CD1	2.41	0.50
2:B:634:C:H2'	2:B:635:C:C6	2.46	0.50
5:D:114:LYS:HE3	5:D:116:LYS:HG2	1.93	0.50
4:C:221:GLY:O	4:C:223:ALA:N	2.45	0.50
2:B:1829:A:H2'	2:B:1830:C:H5'	1.93	0.50
2:B:6:A:O2'	2:B:7:G:H5'	2.11	0.50
13:3:7:ARG:HG3	13:3:7:ARG:NH1	2.25	0.50
2:B:225:C:O2'	2:B:226:A:H5'	2.11	0.50
8:E:106:LYS:HE2	8:E:200:LEU:HB3	1.94	0.50
2:B:2306:C:C3'	2:B:2307:G:H5'	2.38	0.50
2:B:1599:U:H2'	2:B:1600:C:H6	1.77	0.50
29:T:39:THR:HG22	29:T:42:GLU:CG	2.39	0.50
22:O:14:ALA:O	22:O:18:LEU:HB2	2.12	0.50
2:B:784:G:H5''	4:C:225:ASN:OD1	2.11	0.50
2:B:1813:G:H1'	4:C:49:THR:OG1	2.12	0.50
4:C:64:VAL:HG11	4:C:66:PHE:CE2	2.47	0.50
17:M:49:ALA:HA	17:M:123:LYS:HG3	1.94	0.50
5:D:40:LEU:HA	5:D:45:TYR:H	1.77	0.50
1:A:28:C:H5'	1:A:29:A:OP2	2.11	0.50
5:D:102:ALA:HA	5:D:180:VAL:HG21	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:96:ILE:HG23	24:S:96:ILE:O	2.11	0.50
2:B:1900:A:N1	2:B:1970:A:C6	2.80	0.50
27:G:84:LYS:HG3	27:G:131:VAL:HB	1.94	0.50
29:T:38:ALA:HB3	29:T:81:LYS:NZ	2.26	0.50
29:T:31:VAL:HA	29:T:84:TYR:H	1.76	0.50
23:Q:57:ARG:NH2	23:Q:92:LYS:HE2	2.25	0.50
2:B:181:A:H1'	2:B:435:C:H5'	1.92	0.50
26:F:3:LEU:HD11	26:F:172:PHE:CD1	2.47	0.50
3:I:29:GLN:HA	3:I:29:GLN:HE21	1.76	0.50
2:B:2592:G:H2'	2:B:2593:U:O4'	2.12	0.50
26:F:177:ARG:NE	26:F:177:ARG:HA	2.26	0.50
20:J:98:GLU:HB3	20:J:124:VAL:HG21	1.93	0.50
5:D:38:LYS:HD3	5:D:45:TYR:OH	2.12	0.50
14:V:14:LYS:CE	14:V:18:ARG:HH21	2.24	0.50
2:B:523:C:H4'	2:B:540:C:O2	2.11	0.50
26:F:131:VAL:HG23	26:F:133:GLU:H	1.77	0.50
2:B:146:A:H2'	2:B:147:C:C6	2.46	0.50
2:B:2518:A:H2'	2:B:2518:A:N3	2.27	0.50
2:B:1768:C:O2'	2:B:1958:C:H4'	2.12	0.50
16:L:77:ILE:HB	16:L:109:LYS:O	2.11	0.50
2:B:955:U:H5'	17:M:86:LYS:HE2	1.93	0.50
16:L:89:VAL:HG23	16:L:123:ARG:HB2	1.94	0.50
31:W:24:ARG:HA	31:W:66:VAL:N	2.27	0.50
26:F:102:LEU:HA	26:F:106:ALA:HB3	1.93	0.50
19:H:3:VAL:HA	19:H:39:ALA:HB2	1.94	0.50
20:J:3:THR:HB	20:J:44:TYR:OH	2.12	0.50
23:Q:96:ASP:C	23:Q:98:ALA:N	2.65	0.50
4:C:75:ALA:CB	4:C:95:TYR:HA	2.42	0.50
2:B:1244:A:O2'	2:B:1245:G:H5'	2.12	0.50
2:B:2457:U:O2'	2:B:2458:G:H5'	2.11	0.50
2:B:2458:G:H1'	2:B:2460:U:O4	2.12	0.50
10:O:39:ARG:O	10:O:40:HIS:HB2	2.11	0.50
6:K:47:ILE:HG23	6:K:48:PRO:HD2	1.94	0.50
6:K:107:LEU:C	6:K:109:SER:H	2.15	0.50
2:B:1405:U:H2'	2:B:1406:U:H6	1.74	0.50
2:B:18:U:H2'	2:B:19:A:C8	2.45	0.50
2:B:63:A:OP2	2:B:63:A:H2'	2.12	0.50
2:B:958:U:N3	17:M:16:ARG:HB3	2.27	0.50
2:B:549:G:H4'	2:B:550:C:C6	2.47	0.50
26:F:69:ALA:HB3	26:F:80:GLN:O	2.11	0.50
2:B:871:U:H2'	2:B:872:U:C6	2.45	0.50
2:B:1641:A:H2'	2:B:1642:G:O4'	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:1:44:GLN:OE1	12:1:44:GLN:HA	2.12	0.50
2:B:1113:U:H2'	2:B:1114:C:C6	2.47	0.50
8:E:75:SER:O	8:E:78:TRP:N	2.45	0.50
2:B:80:G:N3	2:B:294:A:C2	2.79	0.50
26:F:110:ILE:HG21	26:F:113:PHE:HB3	1.93	0.50
27:G:18:ILE:HA	27:G:22:VAL:O	2.12	0.50
5:D:148:GLN:HG3	5:D:152:PRO:CB	2.39	0.50
27:G:144:ALA:HB1	27:G:163:TYR:HE1	1.77	0.50
29:T:40:LYS:HA	29:T:43:ILE:HD12	1.94	0.50
9:Y:16:LEU:O	9:Y:19:HIS:HB2	2.11	0.50
2:B:2529:G:H4'	27:G:174:LYS:CG	2.39	0.50
19:H:128:HIS:HB3	19:H:144:VAL:HB	1.92	0.50
2:B:1060:U:O4	3:I:131:THR:HG22	2.12	0.50
32:6:113:ASP:HA	32:6:116:ARG:CD	2.39	0.50
20:J:25:LEU:HD13	20:J:26:GLY:N	2.26	0.50
26:F:11:VAL:O	26:F:12:VAL:HB	2.11	0.50
2:B:1080:A:O2'	2:B:1081:U:H5'	2.11	0.50
18:X:15:ASN:O	18:X:19:LEU:HD13	2.12	0.50
2:B:1461:C:H2'	2:B:1462:C:H6	1.77	0.50
2:B:1439:A:N7	2:B:1440:U:C2	2.79	0.50
2:B:2732:G:C3'	2:B:2733:A:H5'	2.39	0.50
22:O:35:ILE:HG13	22:O:71:ALA:CB	2.41	0.50
2:B:1793:C:H2'	2:B:1794:A:C8	2.47	0.50
4:C:15:VAL:HG22	4:C:205:GLY:HA3	1.93	0.50
19:H:64:ALA:H	19:H:66:ASN:HD21	1.58	0.50
2:B:852:U:H2'	2:B:853:C:H6	1.75	0.50
2:B:1683:U:H2'	2:B:1684:G:H8	1.77	0.50
2:B:572:A:H3'	2:B:573:U:O4'	2.11	0.50
13:3:44:ARG:N	13:3:45:PRO:HD2	2.27	0.50
2:B:2247:A:H3'	36:B:3081:HOH:O	2.11	0.50
2:B:1692:U:H2'	2:B:1694:C:C4	2.47	0.50
14:V:29:ILE:HD13	14:V:31:TYR:CE2	2.46	0.50
23:Q:52:ARG:C	23:Q:54:ARG:H	2.14	0.50
2:B:460:A:H2'	2:B:461:C:O4'	2.12	0.50
5:D:107:VAL:HA	5:D:204:LYS:O	2.12	0.50
23:Q:108:LEU:HD23	28:R:48:LYS:HD3	1.94	0.50
20:J:24:THR:O	20:J:25:LEU:HB3	2.12	0.50
32:6:59:THR:O	32:6:61:PRO:HD3	2.11	0.50
8:E:58:LYS:O	8:E:60:TRP:N	2.45	0.50
9:Y:7:THR:HG22	9:Y:8:GLN:N	2.27	0.50
2:B:514:A:N6	2:B:515:A:N6	2.59	0.50
27:G:10:VAL:HG13	27:G:14:VAL:HG21	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2557:G:H2'	2:B:2558:C:H6	1.76	0.50
1:A:16:G:O2'	1:A:17:C:H5'	2.12	0.50
2:B:1874:C:H2'	2:B:1875:G:O4'	2.12	0.50
2:B:1166:G:H2'	2:B:1167:C:H6	1.75	0.50
2:B:2302:U:O2'	2:B:2303:G:H5'	2.11	0.50
2:B:1488:C:O2'	2:B:1489:C:H5'	2.12	0.50
8:E:73:ILE:O	8:E:73:ILE:HG12	2.11	0.50
1:A:87:U:H2'	1:A:88:C:O5'	2.12	0.50
2:B:2649:C:H2'	2:B:2650:U:H6	1.76	0.50
8:E:124:PHE:HD1	8:E:125:SER:N	2.09	0.50
16:L:123:ARG:HA	16:L:143:GLU:CB	2.42	0.49
8:E:134:LEU:CD2	8:E:161:ALA:HB2	2.42	0.49
2:B:856:G:C1'	31:W:23:LYS:HB3	2.40	0.49
4:C:129:LEU:HB3	4:C:134:ILE:HG22	1.93	0.49
2:B:2144:G:H2'	2:B:2146:C:C5'	2.39	0.49
2:B:2834:G:O6	2:B:2879:A:H2'	2.12	0.49
6:K:88:ASN:HD22	6:K:89:ASN:N	2.09	0.49
22:O:106:LEU:HA	22:O:109:ALA:HB3	1.94	0.49
5:D:53:GLY:C	5:D:76:GLY:HA2	2.32	0.49
5:D:114:LYS:HD2	5:D:116:LYS:CE	2.42	0.49
26:F:121:PHE:HB3	26:F:127:TYR:CE1	2.47	0.49
26:F:78:ILE:HA	26:F:82:TYR:CG	2.46	0.49
2:B:2311:A:O2'	26:F:84:ILE:HD13	2.12	0.49
2:B:208:C:H2'	2:B:209:C:H6	1.76	0.49
28:R:32:THR:HA	28:R:61:ALA:O	2.11	0.49
2:B:516:C:O2'	2:B:517:C:H5'	2.12	0.49
2:B:1425:G:H2'	2:B:1426:G:C8	2.47	0.49
8:E:136:GLN:HE22	8:E:139:LYS:HD3	1.77	0.49
20:J:110:PRO:O	20:J:115:GLY:HA3	2.12	0.49
2:B:622:G:H2'	2:B:623:C:C6	2.47	0.49
22:O:70:ALA:C	22:O:72:ALA:H	2.15	0.49
5:D:9:VAL:HG22	5:D:9:VAL:O	2.12	0.49
29:T:43:ILE:O	29:T:47:VAL:HG23	2.12	0.49
5:D:90:PHE:HD2	5:D:94:GLN:HG3	1.77	0.49
12:1:49:LYS:HG3	12:1:50:GLU:N	2.22	0.49
21:N:102:PHE:HD1	21:N:102:PHE:N	2.11	0.49
5:D:68:PHE:HB3	5:D:73:VAL:CG2	2.34	0.49
19:H:84:ALA:HA	19:H:90:LEU:HD12	1.94	0.49
8:E:48:THR:C	8:E:50:ALA:H	2.15	0.49
8:E:47:LYS:HA	8:E:88:ARG:HH11	1.77	0.49
21:N:72:ASP:HB3	21:N:75:ILE:HG13	1.94	0.49
6:K:39:ILE:N	6:K:39:ILE:HD13	2.27	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:60:ALA:HA	6:K:87:LEU:CD2	2.42	0.49
4:C:202:ARG:HH11	4:C:213:ARG:HH21	1.60	0.49
28:R:62:GLU:O	28:R:96:VAL:HA	2.11	0.49
2:B:414:C:H2'	2:B:415:A:C8	2.47	0.49
23:Q:23:TYR:CD2	23:Q:23:TYR:N	2.80	0.49
32:6:16:LYS:HA	32:6:19:GLU:OE2	2.11	0.49
2:B:277:G:H5''	2:B:278:A:N7	2.28	0.49
5:D:97:SER:HB3	5:D:99:GLU:HG3	1.93	0.49
16:L:134:ALA:O	16:L:137:ALA:HB3	2.12	0.49
2:B:2362:C:OP1	13:3:39:ARG:NE	2.42	0.49
2:B:1582:C:H2'	2:B:1583:A:O4'	2.11	0.49
17:M:35:ALA:HB3	17:M:99:GLY:H	1.77	0.49
21:N:24:MET:O	21:N:27:SER:HB3	2.13	0.49
7:P:3:ILE:HD13	7:P:3:ILE:C	2.32	0.49
32:6:110:ARG:O	32:6:114:LEU:HD13	2.12	0.49
27:G:30:GLY:HA3	27:G:78:VAL:HG12	1.93	0.49
14:V:63:ILE:H	14:V:70:ILE:HD11	1.76	0.49
2:B:2514:U:H2'	2:B:2515:C:H6	1.77	0.49
4:C:141:HIS:CG	4:C:142:ASN:H	2.31	0.49
3:I:126:ARG:HA	3:I:129:GLU:OE2	2.12	0.49
27:G:104:LEU:HD22	27:G:106:LEU:HD22	1.93	0.49
15:2:19:ARG:O	15:2:22:MET:HB2	2.11	0.49
2:B:2812:G:H2'	2:B:2813:A:C8	2.47	0.49
19:H:54:LEU:HA	19:H:57:LYS:NZ	2.27	0.49
2:B:850:U:O2'	9:Y:22:THR:HG22	2.11	0.49
2:B:593:U:H2'	2:B:594:U:C5	2.47	0.49
32:6:95:LYS:HB3	32:6:100:TYR:HE2	1.76	0.49
2:B:665:U:H2'	2:B:666:A:H8	1.77	0.49
2:B:870:U:H5''	17:M:6:ARG:O	2.12	0.49
2:B:1523:U:H5''	2:B:1524:G:H8	1.78	0.49
2:B:1015:U:H2'	2:B:1016:G:H8	1.76	0.49
5:D:169:ARG:O	5:D:170:VAL:O	2.30	0.49
2:B:2246:G:H2'	2:B:2247:A:H8	1.77	0.49
2:B:2716:C:O2'	2:B:2717:C:H5'	2.12	0.49
28:R:20:VAL:HG12	28:R:21:ARG:N	2.27	0.49
2:B:707:G:O2'	2:B:708:G:H5'	2.11	0.49
2:B:2468:A:H2'	2:B:2476:A:C6	2.48	0.49
11:4:1:MET:HG3	11:4:34:LYS:HG2	1.95	0.49
2:B:2856:A:H2'	2:B:2857:G:C8	2.48	0.49
2:B:1548:A:H2'	2:B:1549:A:H8	1.75	0.49
2:B:2886:A:N6	10:0:39:ARG:CZ	2.75	0.49
7:P:20:ARG:HH21	7:P:20:ARG:HG2	1.76	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1654:A:O2'	5:D:118:PHE:CB	2.61	0.49
19:H:57:LYS:HZ2	19:H:58:LEU:HB2	1.76	0.49
12:1:29:LYS:N	12:1:30:PRO:HD3	2.27	0.49
1:A:93:C:O2'	1:A:94:A:H5'	2.12	0.49
32:6:7:TYR:CE1	32:6:160:GLU:HG2	2.47	0.49
27:G:139:VAL:O	27:G:142:GLN:HB3	2.12	0.49
2:B:246:C:H2'	2:B:247:G:H5'	1.94	0.49
7:P:110:LYS:HD2	7:P:110:LYS:N	2.27	0.49
2:B:1858:A:H2'	2:B:1859:U:O4'	2.13	0.49
16:L:75:ALA:HB2	16:L:105:ILE:HG21	1.94	0.49
32:6:30:THR:CG2	32:6:183:ILE:HG12	2.42	0.49
2:B:2751:G:H2'	2:B:2751:G:OP1	2.12	0.49
29:T:40:LYS:O	29:T:43:ILE:HB	2.12	0.49
19:H:65:ALA:HB1	19:H:134:VAL:HG21	1.94	0.49
12:1:24:LYS:NZ	12:1:33:LEU:HB2	2.26	0.49
21:N:106:ASP:C	21:N:108:ALA:H	2.16	0.49
2:B:1059:G:N2	3:I:130:GLY:HA3	2.28	0.49
30:Z:7:VAL:HG11	30:Z:51:VAL:HG13	1.95	0.49
23:Q:85:ALA:O	23:Q:86:SER:C	2.50	0.49
25:U:87:GLU:OE2	25:U:88:ASP:HB2	2.12	0.49
27:G:93:TYR:O	27:G:94:ARG:HG3	2.12	0.49
11:4:17:VAL:HG12	11:4:18:LYS:N	2.22	0.49
5:D:15:PHE:CD1	5:D:15:PHE:N	2.80	0.49
17:M:69:PRO:HG2	17:M:70:ASP:H	1.78	0.49
21:N:72:ASP:HB3	21:N:75:ILE:CG1	2.42	0.49
13:3:60:CYS:C	13:3:62:PRO:HD3	2.32	0.49
2:B:571:U:O2'	2:B:573:U:O5'	2.30	0.49
2:B:1220:G:H2'	2:B:1221:C:H6	1.77	0.49
2:B:1745:A:H2'	2:B:1746:A:C8	2.47	0.49
15:2:4:THR:O	15:2:5:PHE:HB2	2.11	0.49
14:V:5:ASN:HA	14:V:64:VAL:O	2.12	0.49
8:E:129:PRO:HG3	8:E:156:ASN:HA	1.95	0.49
21:N:47:VAL:O	21:N:51:LEU:HD13	2.12	0.49
31:W:30:VAL:HG21	31:W:59:PHE:CE1	2.47	0.49
26:F:37:MET:HG2	26:F:52:ALA:HB1	1.95	0.49
20:J:44:TYR:CE2	23:Q:59:LEU:HD11	2.48	0.49
28:R:40:MET:HG3	28:R:48:LYS:HA	1.95	0.49
2:B:52:A:N7	2:B:117:G:N2	2.60	0.49
2:B:129:C:H4'	2:B:1348:C:O2'	2.12	0.49
14:V:80:HIS:CD2	14:V:81:PRO:HD2	2.48	0.49
22:O:105:ALA:C	22:O:107:ALA:H	2.15	0.49
2:B:1404:C:O2'	2:B:1405:U:H5'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2893:A:H5''	2:B:2894:G:H5'	1.94	0.49
13:3:30:HIS:HD2	13:3:31:ILE:N	2.10	0.49
2:B:2580:U:H5'	5:D:136:ASN:H	1.77	0.49
2:B:741:U:H2'	2:B:742:A:C8	2.47	0.49
1:A:94:A:OP1	14:V:19:ARG:HD3	2.13	0.49
2:B:2015:A:H2'	2:B:2016:U:O4'	2.11	0.49
2:B:1562:U:H2'	2:B:1563:U:H6	1.77	0.49
16:L:65:GLY:O	16:L:66:PHE:HB3	2.13	0.49
3:I:124:MET:O	3:I:128:ILE:HG12	2.13	0.49
2:B:1251:C:H2'	23:Q:5:ARG:HH12	1.77	0.49
19:H:44:ILE:C	19:H:46:PHE:H	2.16	0.49
2:B:521:U:H2'	2:B:522:A:C8	2.47	0.49
5:D:101:PHE:O	5:D:102:ALA:HB2	2.13	0.49
20:J:40:HIS:ND1	20:J:41:LYS:HG3	2.28	0.49
7:P:103:THR:HG22	7:P:104:GLY:N	2.27	0.49
8:E:23:PHE:HA	8:E:107:SER:OG	2.12	0.49
2:B:607:U:O4	2:B:619:G:H2'	2.12	0.49
31:W:32:ALA:C	31:W:34:SER:H	2.16	0.49
31:W:39:GLN:CG	31:W:42:THR:HB	2.43	0.49
7:P:4:ILE:O	7:P:6:GLN:N	2.44	0.49
27:G:71:LEU:HD13	27:G:74:MET:SD	2.52	0.49
3:I:79:LEU:HD23	3:I:108:ILE:CD1	2.43	0.49
2:B:1023:U:H2'	2:B:1024:G:C5'	2.42	0.49
11:4:11:CYS:HB3	11:4:33:HIS:CE1	2.47	0.49
8:E:88:ARG:O	8:E:90:GLN:HG3	2.13	0.49
6:K:110:GLU:HA	6:K:113:MET:CG	2.42	0.49
16:L:135:ILE:HG23	16:L:136:GLU:N	2.27	0.49
2:B:26:G:H1'	2:B:514:A:H61	1.77	0.49
2:B:518:G:H4'	24:S:18:ARG:CZ	2.43	0.49
23:Q:65:ASN:HD21	23:Q:69:ARG:HH11	1.61	0.49
25:U:82:VAL:CG1	25:U:93:ARG:HB3	2.43	0.49
26:F:71:LYS:HE2	26:F:73:VAL:HB	1.95	0.49
3:I:135:MET:HG3	3:I:137:LEU:HG	1.95	0.49
2:B:600:G:H2'	2:B:601:C:C6	2.48	0.49
2:B:2454:G:H1'	36:B:3181:HOH:O	2.13	0.49
2:B:1150:C:H2'	2:B:1151:A:H8	1.77	0.49
2:B:1676:A:H2'	2:B:1677:A:O4'	2.13	0.49
2:B:2830:C:O4'	2:B:2836:U:H5'	2.13	0.49
2:B:100:U:OP1	2:B:100:U:H2'	2.13	0.49
2:B:1647:U:P	2:B:1647:U:H3'	2.52	0.49
2:B:2691:C:H2'	2:B:2692:G:H8	1.78	0.49
2:B:2363:G:O2'	2:B:2364:C:H5'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:98:PHE:O	26:F:102:LEU:HD12	2.12	0.49
26:F:107:VAL:HB	26:F:108:PRO:HD3	1.93	0.49
26:F:34:THR:O	26:F:35:LEU:HB2	2.12	0.49
29:T:23:ALA:C	29:T:25:GLU:H	2.15	0.49
29:T:47:VAL:HG13	29:T:51:PHE:CD1	2.48	0.49
19:H:73:ASN:HB3	19:H:141:LYS:HZ1	1.75	0.49
4:C:159:THR:N	4:C:194:VAL:CG1	2.75	0.49
16:L:30:THR:O	16:L:31:GLY:C	2.51	0.49
2:B:2136:G:H2'	2:B:2137:U:C6	2.47	0.49
23:Q:105:PHE:O	23:Q:109:VAL:HG23	2.12	0.49
17:M:38:ARG:HB3	17:M:98:PRO:HD3	1.95	0.49
2:B:2457:U:H2'	2:B:2458:G:H5'	1.93	0.49
2:B:1411:U:H2'	2:B:1412:U:C6	2.48	0.49
14:V:44:HIS:NE2	14:V:85:LYS:HB2	2.27	0.49
2:B:2849:U:H4'	2:B:2850:A:C5'	2.42	0.49
2:B:2244:U:H2'	2:B:2245:U:C6	2.48	0.49
32:6:129:ILE:O	32:6:132:ILE:HB	2.12	0.49
2:B:2680:U:OP2	5:D:114:LYS:HB3	2.13	0.49
2:B:666:A:H4'	16:L:48:ARG:HD3	1.94	0.49
2:B:2015:A:N3	10:0:2:VAL:HG22	2.27	0.49
5:D:36:GLN:OE1	5:D:38:LYS:HE3	2.13	0.49
2:B:2149:U:H2'	2:B:2150:C:C6	2.47	0.49
2:B:2519:U:C6	2:B:2542:A:N6	2.81	0.49
2:B:1806:C:C2'	2:B:1807:G:H5'	2.42	0.49
27:G:54:ARG:O	27:G:57:TYR:HD1	1.96	0.49
8:E:196:VAL:O	8:E:200:LEU:HD23	2.12	0.49
2:B:919:U:H6	2:B:919:U:O5'	1.95	0.49
4:C:171:VAL:HG23	4:C:185:ALA:HB2	1.95	0.49
26:F:102:LEU:C	26:F:104:THR:H	2.15	0.49
26:F:64:PRO:HB3	26:F:88:VAL:HG21	1.95	0.49
6:K:34:GLY:O	6:K:36:GLY:N	2.46	0.49
23:Q:56:PHE:HA	23:Q:59:LEU:HB3	1.95	0.49
17:M:97:GLN:OE1	17:M:97:GLN:N	2.46	0.49
2:B:296:U:H2'	2:B:297:G:C8	2.47	0.49
2:B:2442:C:O2'	2:B:2443:C:H5'	2.13	0.49
2:B:2886:A:H3'	2:B:2887:A:H8	1.78	0.49
9:Y:11:SER:OG	9:Y:13:ILE:HG13	2.12	0.49
27:G:38:ASP:CG	27:G:39:ALA:N	2.66	0.49
2:B:416:U:H2'	2:B:417:C:C6	2.48	0.49
2:B:1901:A:H2'	2:B:1902:C:C6	2.48	0.49
23:Q:35:PHE:O	23:Q:39:ILE:HG12	2.13	0.49
2:B:1714:U:H3'	2:B:1715:G:C5'	2.43	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:840:C:H2'	2:B:841:G:H8	1.78	0.49
2:B:246:C:N4	13:3:7:ARG:HG2	2.27	0.49
3:I:2:LYS:NZ	3:I:2:LYS:HB3	2.27	0.49
2:B:1100:C:H2'	2:B:1101:U:H6	1.77	0.49
2:B:2397:G:H2'	2:B:2398:U:H6	1.78	0.49
2:B:992:C:H2'	2:B:993:G:H8	1.78	0.49
2:B:2598:A:OP1	4:C:233:GLY:HA2	2.12	0.49
14:V:21:ARG:HE	14:V:87:GLN:HB3	1.78	0.49
2:B:299:A:N6	2:B:322:A:O2'	2.45	0.49
32:6:106:LEU:HD12	32:6:111:ARG:HD2	1.93	0.49
2:B:2751:G:H5''	27:G:3:VAL:HG13	1.95	0.49
24:S:24:ILE:CG2	24:S:71:VAL:HG11	2.34	0.49
2:B:705:A:N6	2:B:726:G:H1'	2.27	0.49
2:B:162:U:O2	2:B:162:U:C2'	2.61	0.49
2:B:2658:C:H5'	27:G:159:LYS:HZ1	1.76	0.49
2:B:718:A:H2'	2:B:719:C:H5'	1.95	0.49
2:B:720:U:H2'	2:B:721:A:C8	2.47	0.49
2:B:2548:U:H1'	6:K:23:LYS:HZ1	1.74	0.49
26:F:55:ASP:OD2	26:F:149:ARG:HG3	2.13	0.49
2:B:2449:U:H4'	2:B:2450:A:OP1	2.13	0.49
2:B:572:A:H5''	2:B:573:U:OP2	2.13	0.49
4:C:180:MET:HB3	4:C:267:VAL:HG23	1.95	0.49
2:B:1937:A:N7	2:B:1939:U:H2'	2.28	0.49
2:B:981:A:H2'	2:B:982:C:C5'	2.43	0.49
2:B:1353:A:H2'	2:B:1354:A:H8	1.78	0.49
2:B:807:U:H2'	2:B:808:G:C8	2.48	0.49
2:B:692:C:H5''	4:C:38:LYS:HB2	1.95	0.49
20:J:77:HIS:CD2	20:J:84:ILE:H	2.30	0.49
32:6:3:LEU:HD11	32:6:149:LEU:HD11	1.95	0.49
2:B:207:A:H2'	2:B:208:C:O4'	2.13	0.49
2:B:1196:C:H2'	2:B:1197:G:C8	2.48	0.49
31:W:49:ASN:HA	31:W:61:LYS:H	1.78	0.48
20:J:81:ILE:HG12	20:J:82:GLY:N	2.27	0.48
4:C:79:ARG:HD2	4:C:81:GLU:CG	2.44	0.48
2:B:1023:U:H2'	2:B:1024:G:H5'	1.94	0.48
20:J:23:LYS:HZ1	20:J:142:ILE:HA	1.79	0.48
7:P:23:ASP:HA	7:P:88:ARG:HA	1.95	0.48
2:B:1730:C:O2'	2:B:1731:G:N2	2.45	0.48
4:C:243:PRO:O	4:C:250:GLN:HA	2.12	0.48
2:B:635:C:H2'	2:B:636:G:C8	2.47	0.48
2:B:573:U:O2'	2:B:574:A:H3'	2.13	0.48
2:B:2699:C:H2'	2:B:2700:A:C8	2.48	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:946:C:H2'	2:B:947:A:H8	1.78	0.48
2:B:753:A:O2'	2:B:754:U:H5'	2.13	0.48
2:B:1640:A:O2'	2:B:1641:A:H5'	2.12	0.48
2:B:1463:C:H2'	2:B:1464:G:C8	2.48	0.48
1:A:53:A:C2'	1:A:54:G:H5'	2.43	0.48
25:U:43:LYS:HD3	25:U:44:HIS:N	2.28	0.48
2:B:796:C:H2'	2:B:797:G:C8	2.47	0.48
2:B:1010:A:N3	2:B:1153:C:H1'	2.28	0.48
24:S:41:LYS:NZ	24:S:41:LYS:HB3	2.28	0.48
2:B:2861:U:H2'	2:B:2862:G:H8	1.77	0.48
27:G:112:VAL:HG12	27:G:113:ASP:N	2.28	0.48
16:L:89:VAL:O	16:L:89:VAL:HG13	2.13	0.48
8:E:193:VAL:O	8:E:197:GLU:HB2	2.12	0.48
2:B:2367:G:O2'	2:B:2368:C:H5'	2.13	0.48
31:W:65:LYS:O	31:W:81:ILE:HA	2.14	0.48
14:V:28:ALA:HA	14:V:88:HIS:CE1	2.48	0.48
23:Q:60:TRP:CZ2	23:Q:93:ILE:HB	2.47	0.48
30:Z:63:GLY:O	30:Z:66:THR:N	2.46	0.48
3:I:125:THR:O	3:I:129:GLU:HG3	2.13	0.48
2:B:2060:A:C2'	8:E:63:LYS:HZ1	2.25	0.48
2:B:672:C:H2'	2:B:673:C:C6	2.48	0.48
8:E:61:ARG:O	8:E:62:GLN:C	2.50	0.48
2:B:820:A:H2'	2:B:821:A:O4'	2.12	0.48
2:B:2839:G:O2'	2:B:2840:C:H5'	2.13	0.48
2:B:561:G:O2'	23:Q:44:TYR:OH	2.30	0.48
13:3:30:HIS:HD2	13:3:31:ILE:H	1.61	0.48
2:B:178:G:O2'	2:B:179:C:H5'	2.13	0.48
2:B:1727:C:H2'	2:B:1728:C:O4'	2.13	0.48
20:J:114:LEU:O	20:J:117:ALA:HB3	2.14	0.48
2:B:1165:A:H2'	2:B:1166:G:H8	1.78	0.48
26:F:78:ILE:N	26:F:78:ILE:HD12	2.27	0.48
4:C:173:LEU:HD13	4:C:173:LEU:N	2.27	0.48
2:B:1400:U:H2'	2:B:1401:G:H8	1.76	0.48
2:B:2560:A:H2'	2:B:2561:U:H6	1.77	0.48
3:I:52:LEU:HD12	3:I:52:LEU:N	2.28	0.48
2:B:2323:G:C2'	2:B:2324:U:H5'	2.42	0.48
2:B:2047:C:H2'	2:B:2048:G:H8	1.78	0.48
2:B:603:A:H4'	2:B:604:G:O5'	2.13	0.48
2:B:2394:C:OP1	16:L:63:LYS:HG2	2.13	0.48
23:Q:94:LEU:HD12	28:R:13:ARG:HB2	1.94	0.48
22:O:3:LYS:HD3	22:O:3:LYS:N	2.18	0.48
26:F:4:HIS:O	26:F:7:TYR:HB3	2.12	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
32:6:134:ARG:HH22	32:6:135:GLU:HG2	1.75	0.48
2:B:1439:A:N7	2:B:1440:U:N1	2.62	0.48
3:I:21:PRO:CB	3:I:22:PRO:HD3	2.40	0.48
11:4:7:VAL:HG13	11:4:8:LYS:N	2.24	0.48
21:N:63:ARG:HD2	21:N:80:PHE:CD2	2.48	0.48
2:B:2543:G:H2'	2:B:2544:G:C8	2.48	0.48
9:Y:8:GLN:HB3	9:Y:31:ILE:C	2.33	0.48
2:B:729:G:H2'	2:B:1775:U:H1'	1.95	0.48
2:B:1353:A:O2'	2:B:1354:A:H5'	2.13	0.48
3:I:85:ILE:CD1	3:I:137:LEU:HD21	2.43	0.48
25:U:38:ILE:HG23	25:U:39:ASN:N	2.29	0.48
2:B:522:A:H2'	2:B:523:C:C6	2.47	0.48
32:6:85:ASP:O	32:6:86:SER:HB2	2.12	0.48
2:B:2247:A:H2'	2:B:2248:C:C6	2.47	0.48
2:B:1733:G:H2'	2:B:1734:G:C8	2.48	0.48
22:O:6:ALA:HB3	22:O:10:ARG:HH11	1.78	0.48
2:B:1526:C:H2'	2:B:1527:G:O4'	2.14	0.48
2:B:2667:C:H2'	2:B:2668:G:O4'	2.13	0.48
16:L:143:GLU:CG	16:L:144:GLU:H	1.98	0.48
8:E:126:VAL:CG2	8:E:133:LEU:HB2	2.43	0.48
6:K:35:VAL:HG12	6:K:69:VAL:CG2	2.43	0.48
27:G:83:THR:HA	27:G:84:LYS:HZ3	1.76	0.48
2:B:559:G:H21	23:Q:51:GLN:HE22	1.60	0.48
23:Q:91:ARG:CB	23:Q:94:LEU:HD23	2.44	0.48
19:H:89:LYS:HZ1	19:H:123:ARG:CB	2.27	0.48
2:B:2795:C:O5'	2:B:2795:C:H6	1.96	0.48
22:O:30:ARG:HG3	22:O:30:ARG:HH11	1.78	0.48
3:I:62:ALA:C	3:I:64:ARG:H	2.16	0.48
2:B:1339:G:H21	2:B:1603:A:H1'	1.78	0.48
2:B:1708:C:O2'	2:B:1709:U:H5'	2.14	0.48
2:B:1672:A:O4'	2:B:2553:G:H4'	2.13	0.48
2:B:1983:G:H4'	2:B:2606:C:H4'	1.95	0.48
2:B:1172:C:H2'	2:B:1173:U:C1'	2.43	0.48
2:B:584:C:OP2	23:Q:5:ARG:HD3	2.14	0.48
2:B:1785:A:O2'	2:B:1786:A:H2'	2.12	0.48
22:O:56:LYS:O	22:O:60:GLU:HG2	2.13	0.48
2:B:1456:G:O2'	2:B:1457:U:H5'	2.13	0.48
4:C:153:LEU:HD13	4:C:175:LEU:CD2	2.43	0.48
2:B:2305:U:H2'	2:B:2306:C:O4'	2.13	0.48
5:D:151:THR:N	5:D:152:PRO:CD	2.77	0.48
29:T:32:LEU:O	29:T:83:ALA:HB2	2.13	0.48
24:S:59:GLU:OE2	24:S:66:ILE:HG23	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:204:LYS:HB2	5:D:205:PRO:HD2	1.95	0.48
2:B:1076:C:C5'	3:I:94:LYS:NZ	2.76	0.48
2:B:1286:A:H1'	2:B:1288:G:OP2	2.13	0.48
21:N:59:SER:C	21:N:61:ALA:H	2.17	0.48
9:Y:13:ILE:HG22	9:Y:14:GLY:N	2.28	0.48
32:6:129:ILE:HA	32:6:132:ILE:HD12	1.94	0.48
2:B:2015:A:C2	10:O:2:VAL:HG13	2.47	0.48
2:B:2359:C:O2'	2:B:2360:G:H5'	2.13	0.48
2:B:836:G:H2'	2:B:837:C:H6	1.78	0.48
2:B:1865:U:HO2'	2:B:1866:A:H8	1.61	0.48
2:B:393:C:O2'	2:B:394:C:H5'	2.13	0.48
5:D:125:TRP:CD2	5:D:160:LYS:HB3	2.48	0.48
18:X:23:ARG:O	18:X:27:ASN:N	2.46	0.48
2:B:1693:U:H4'	2:B:1694:C:OP2	2.14	0.48
2:B:1951:U:H2'	2:B:1953:A:OP2	2.14	0.48
19:H:99:ILE:HG13	19:H:115:VAL:HG12	1.95	0.48
2:B:1984:G:O2'	2:B:1985:C:H5'	2.13	0.48
2:B:191:A:H2'	2:B:192:C:C6	2.48	0.48
2:B:1365:A:OP2	30:Z:3:ARG:HB2	2.13	0.48
2:B:391:A:H1'	2:B:411:G:O4'	2.13	0.48
14:V:20:LEU:HB3	14:V:25:LYS:O	2.13	0.48
2:B:322:A:P	8:E:163:ASN:HD22	2.36	0.48
8:E:103:GLY:O	8:E:106:LYS:HB2	2.13	0.48
8:E:118:LEU:HD23	8:E:186:VAL:HG13	1.95	0.48
19:H:132:PHE:HB2	19:H:142:VAL:CG2	2.43	0.48
12:1:51:ALA:O	12:1:52:LYS:C	2.51	0.48
21:N:101:GLY:O	21:N:102:PHE:HB2	2.14	0.48
19:H:5:LEU:HD22	19:H:9:VAL:HG21	1.96	0.48
2:B:1287:A:N7	21:N:105:GLY:HA3	2.28	0.48
30:Z:6:GLN:HE22	30:Z:50:ARG:H	1.61	0.48
15:2:28:ARG:C	15:2:30:VAL:H	2.16	0.48
2:B:1549:A:H2'	2:B:1550:C:C6	2.48	0.48
1:A:50:A:OP1	22:O:68:LYS:HB2	2.14	0.48
5:D:111:GLY:H	5:D:194:PRO:HG2	1.79	0.48
2:B:176:A:H3'	2:B:177:G:H21	1.78	0.48
29:T:7:LEU:C	29:T:9:LYS:H	2.17	0.48
13:3:50:SER:O	13:3:52:GLY:N	2.46	0.48
1:A:88:C:H2'	1:A:89:U:C6	2.48	0.48
17:M:33:LEU:HD22	17:M:128:THR:HB	1.96	0.48
2:B:1690:A:H2'	2:B:1691:C:O4'	2.13	0.48
9:Y:21:ALA:O	9:Y:24:LEU:HB3	2.14	0.48
16:L:68:SER:HB2	16:L:71:ALA:H	1.78	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2752:C:H3'	2:B:2753:A:H8	1.77	0.48
2:B:621:A:H2'	2:B:622:G:O4'	2.13	0.48
16:L:101:ILE:HG22	16:L:105:ILE:HG13	1.96	0.48
8:E:196:VAL:HA	8:E:199:MET:HB3	1.96	0.48
2:B:2314:A:H4'	26:F:34:THR:HG21	1.94	0.48
12:1:10:LEU:HD23	12:1:35:LEU:HD21	1.96	0.48
32:6:109:GLU:HA	32:6:112:LYS:HD2	1.95	0.48
23:Q:108:LEU:CA	28:R:48:LYS:HD3	2.44	0.48
17:M:18:ARG:HA	17:M:18:ARG:HD2	1.66	0.48
27:G:94:ARG:NH2	27:G:105:SER:N	2.62	0.48
19:H:90:LEU:CG	19:H:146:VAL:HG11	2.43	0.48
22:O:14:ALA:C	22:O:16:ARG:H	2.17	0.48
2:B:98:G:H2'	2:B:99:U:H5'	1.95	0.48
21:N:63:ARG:O	21:N:66:ALA:HB3	2.14	0.48
30:Z:17:ASN:O	30:Z:18:ARG:C	2.51	0.48
12:1:7:LYS:CD	13:3:33:THR:HG21	2.42	0.48
2:B:2215:C:H2'	2:B:2216:G:H8	1.78	0.48
8:E:109:LEU:O	8:E:112:LEU:HB2	2.12	0.48
2:B:1220:G:H2'	2:B:1221:C:C6	2.49	0.48
2:B:1737:G:H5'	2:B:1738:G:OP2	2.14	0.48
2:B:685:A:H1'	2:B:688:U:O4	2.13	0.48
3:I:52:LEU:HD21	3:I:81:LYS:NZ	2.29	0.48
2:B:1050:A:H2'	2:B:1051:G:H8	1.79	0.48
2:B:781:A:OP1	4:C:216:ARG:NH2	2.46	0.48
19:H:108:VAL:HG12	19:H:109:GLU:N	2.28	0.48
2:B:1833:C:O2'	2:B:1834:U:H5'	2.13	0.48
2:B:2365:G:H4'	31:W:59:PHE:CD1	2.49	0.48
2:B:965:C:C2'	2:B:966:G:H5'	2.43	0.48
31:W:18:LYS:HA	31:W:36:ILE:HG12	1.94	0.48
2:B:2387:U:H1'	31:W:38:ARG:CZ	2.44	0.48
31:W:49:ASN:CB	31:W:81:ILE:HG12	2.41	0.48
32:6:110:ARG:O	32:6:114:LEU:HD22	2.12	0.48
2:B:2751:G:OP2	27:G:2:ARG:HD2	2.13	0.48
9:Y:16:LEU:HD23	9:Y:19:HIS:CD2	2.48	0.48
2:B:2471:A:O2'	2:B:2472:G:O5'	2.31	0.48
21:N:102:PHE:N	21:N:102:PHE:CD1	2.81	0.48
4:C:128:THR:CG2	4:C:190:THR:HG22	2.43	0.48
4:C:189:ALA:C	4:C:190:THR:HG23	2.33	0.48
28:R:49:ILE:HG21	28:R:53:PHE:C	2.34	0.48
2:B:435:C:H2'	2:B:436:C:H5'	1.96	0.48
2:B:37:C:O2'	8:E:45:ALA:HA	2.14	0.48
26:F:15:LEU:HD12	26:F:27:VAL:HB	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:116:VAL:HG22	16:L:117:THR:N	2.29	0.48
18:X:5:GLU:O	18:X:8:GLU:HB2	2.13	0.48
10:O:48:TYR:CG	10:O:49:ARG:N	2.82	0.48
8:E:51:GLU:O	8:E:52:VAL:C	2.52	0.48
2:B:780:G:H1	4:C:228:ASP:CG	2.17	0.48
2:B:2740:A:H2'	2:B:2741:A:C8	2.49	0.48
2:B:713:G:H21	2:B:718:A:H2	1.62	0.48
2:B:1535:A:H5''	2:B:1536:C:H5	1.79	0.48
2:B:31:C:O2'	2:B:32:C:H5'	2.14	0.48
26:F:148:VAL:O	26:F:149:ARG:HG2	2.14	0.48
2:B:2635:A:C5'	5:D:79:LEU:HB2	2.43	0.48
2:B:349:U:H2'	2:B:350:G:C8	2.48	0.48
2:B:48:G:O3'	2:B:51:G:H5'	2.12	0.48
17:M:32:GLY:HA3	17:M:103:TYR:O	2.14	0.48
21:N:90:ARG:HB3	21:N:94:TYR:HE1	1.79	0.48
2:B:2207:C:H2'	2:B:2208:C:C6	2.48	0.48
22:O:29:HIS:HB3	22:O:36:TYR:HB2	1.95	0.48
8:E:18:THR:HG22	8:E:106:LYS:CE	2.44	0.48
2:B:2330:G:O2'	2:B:2331:G:H5'	2.13	0.48
32:6:32:ARG:CD	32:6:103:ILE:HG23	2.44	0.48
29:T:55:VAL:HG22	29:T:87:LEU:CD2	2.44	0.48
19:H:10:ALA:O	19:H:12:LEU:N	2.43	0.48
19:H:5:LEU:O	19:H:6:LEU:HB2	2.12	0.48
20:J:20:ALA:HA	20:J:23:LYS:HG3	1.96	0.48
20:J:26:GLY:O	20:J:30:THR:HG22	2.13	0.48
26:F:45:ASP:O	26:F:46:LYS:HB2	2.13	0.48
32:6:56:ALA:HB1	32:6:68:VAL:CG1	2.44	0.48
2:B:279:A:C2	2:B:362:A:H4'	2.48	0.48
21:N:79:LEU:O	21:N:80:PHE:HB2	2.13	0.48
2:B:1403:A:O2'	2:B:1404:C:H5'	2.14	0.48
2:B:1616:A:H4'	2:B:1617:C:OP2	2.14	0.48
25:U:48:VAL:HG22	25:U:48:VAL:O	2.12	0.48
2:B:2621:G:OP1	5:D:124:ARG:NH2	2.47	0.48
2:B:1508:A:H3'	2:B:1509:A:C4	2.49	0.48
25:U:35:VAL:O	25:U:38:ILE:HG22	2.14	0.48
3:I:116:MET:SD	3:I:124:MET:HB2	2.53	0.48
2:B:1292:G:H2'	2:B:1293:C:C6	2.49	0.48
2:B:1899:A:O2'	2:B:1900:A:H5''	2.14	0.48
27:G:54:ARG:HD3	27:G:54:ARG:C	2.34	0.48
29:T:64:LYS:H	29:T:64:LYS:HD2	1.78	0.48
2:B:318:C:O2'	2:B:319:G:H5'	2.14	0.48
2:B:1064:C:C1'	3:I:90:GLY:HA2	2.44	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:102:LEU:O	26:F:103:ILE:HG22	2.13	0.48
7:P:5:LYS:H	7:P:8:GLU:HG3	1.79	0.48
20:J:81:ILE:HG23	20:J:82:GLY:N	2.16	0.48
29:T:53:VAL:HG12	29:T:54:GLU:N	2.28	0.48
2:B:2529:G:H5'	27:G:174:LYS:HB2	1.96	0.48
4:C:94:LEU:HA	4:C:100:ARG:HB3	1.96	0.48
4:C:83:ASP:HB2	4:C:90:ILE:HB	1.96	0.48
2:B:670:A:H4'	2:B:671:C:H5'	1.96	0.48
7:P:13:LYS:HD2	7:P:76:HIS:HA	1.96	0.48
2:B:281:C:H2'	2:B:282:A:C8	2.48	0.48
2:B:1793:C:H2'	2:B:1794:A:H8	1.79	0.48
2:B:1509:A:H5'	2:B:1510:G:H5'	1.95	0.48
21:N:8:ARG:HB3	21:N:43:GLU:OE2	2.13	0.48
2:B:1585:C:H2'	2:B:1586:A:O4'	2.14	0.48
2:B:1300:G:H4'	2:B:1301:A:O5'	2.13	0.48
2:B:1495:A:O2'	2:B:1496:A:H5'	2.13	0.48
2:B:1859:U:H2'	2:B:1860:G:C8	2.48	0.48
15:2:34:ARG:HH11	15:2:34:ARG:HG2	1.78	0.48
2:B:2603:G:O2'	2:B:2604:U:H5'	2.13	0.48
30:Z:20:HIS:O	30:Z:21:ALA:HB3	2.14	0.48
8:E:192:ALA:O	8:E:196:VAL:HG23	2.13	0.47
31:W:51:GLY:HA3	31:W:59:PHE:HB3	1.94	0.47
26:F:113:PHE:HZ	26:F:175:PRO:HB2	1.79	0.47
32:6:38:LEU:HB3	32:6:41:LEU:HD22	1.95	0.47
19:H:140:ALA:C	19:H:141:LYS:HD3	2.35	0.47
2:B:1060:U:H5	3:I:131:THR:HG22	1.74	0.47
26:F:27:VAL:O	26:F:29:ARG:HD2	2.14	0.47
32:6:42:LYS:HA	32:6:51:PRO:CA	2.43	0.47
7:P:52:ARG:HB2	7:P:55:HIS:O	2.14	0.47
2:B:1571:A:H2'	2:B:1572:A:H8	1.77	0.47
13:3:18:LYS:HD2	13:3:19:GLY:N	2.29	0.47
2:B:2868:A:H2'	2:B:2869:G:H8	1.79	0.47
3:I:33:ASN:HD21	3:I:64:ARG:NH1	2.08	0.47
2:B:718:A:H3'	2:B:719:C:C6	2.46	0.47
2:B:718:A:H5'	2:B:719:C:C5	2.48	0.47
2:B:2896:C:H2'	2:B:2897:U:H6	1.78	0.47
2:B:454:A:H3'	2:B:455:C:C5'	2.44	0.47
1:A:33:G:O2'	1:A:34:A:H5'	2.14	0.47
2:B:1720:U:C2'	2:B:1721:G:H5'	2.44	0.47
27:G:29:ASN:HD21	27:G:81:GLY:HA2	1.79	0.47
19:H:52:ALA:HA	19:H:56:ALA:HB3	1.96	0.47
2:B:855:G:N3	31:W:23:LYS:HG2	2.28	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:V:65:VAL:C	14:V:67:GLY:H	2.18	0.47
29:T:50:LEU:HD22	29:T:50:LEU:N	2.28	0.47
23:Q:63:ARG:NH1	23:Q:96:ASP:HA	2.29	0.47
5:D:34:VAL:HA	5:D:50:VAL:HG12	1.95	0.47
30:Z:69:ALA:HA	30:Z:72:ARG:NH1	2.29	0.47
16:L:30:THR:O	16:L:32:GLY:N	2.47	0.47
28:R:53:PHE:CD1	28:R:53:PHE:N	2.80	0.47
2:B:309:A:H1'	2:B:329:G:N3	2.29	0.47
9:Y:5:LYS:O	9:Y:57:GLU:HB2	2.13	0.47
2:B:782:A:C2	4:C:224:MET:HB3	2.48	0.47
2:B:1558:C:H4'	2:B:1559:U:C5'	2.44	0.47
16:L:57:LEU:HA	16:L:60:ARG:HE	1.79	0.47
32:6:137:LEU:CD1	32:6:161:ILE:HG21	2.43	0.47
2:B:2354:C:H4'	31:W:31:LEU:CD2	2.43	0.47
2:B:796:C:H2'	2:B:797:G:H8	1.79	0.47
2:B:2600:A:O2'	2:B:2601:C:H5'	2.14	0.47
28:R:26:ASP:O	28:R:27:ILE:HD13	2.14	0.47
31:W:67:LYS:O	31:W:68:PHE:HB2	2.13	0.47
13:3:56:LEU:O	13:3:59:ALA:HB3	2.14	0.47
16:L:81:ASP:HA	16:L:84:LYS:CE	2.44	0.47
8:E:171:ASP:CG	8:E:172:ALA:H	2.17	0.47
26:F:169:LEU:O	26:F:174:PHE:HB2	2.14	0.47
32:6:52:LEU:HD11	32:6:83:ILE:HD11	1.95	0.47
14:V:63:ILE:HB	14:V:70:ILE:CD1	2.44	0.47
2:B:2571:U:H4'	5:D:151:THR:HG21	1.96	0.47
4:C:141:HIS:NE2	4:C:194:VAL:HA	2.29	0.47
17:M:19:GLY:C	17:M:20:LEU:HD22	2.34	0.47
2:B:2145:C:H3'	2:B:2146:C:C5'	2.44	0.47
2:B:2885:G:H2'	2:B:2886:A:O4'	2.13	0.47
14:V:53:LYS:HZ3	14:V:54:ALA:HB3	1.78	0.47
32:6:126:ARG:HG2	32:6:169:ILE:HD12	1.96	0.47
9:Y:47:ILE:HG23	9:Y:54:VAL:HG21	1.95	0.47
24:S:17:VAL:C	24:S:19:LEU:N	2.66	0.47
2:B:465:G:N2	2:B:684:G:H1'	2.29	0.47
2:B:2809:A:H2'	2:B:2810:A:C8	2.50	0.47
2:B:2008:C:H2'	2:B:2009:A:H8	1.79	0.47
32:6:141:LYS:HE3	32:6:142:LYS:HE3	1.96	0.47
4:C:264:LYS:HG3	4:C:265:PHE:HD2	1.79	0.47
15:2:34:ARG:NH1	15:2:34:ARG:HG2	2.29	0.47
29:T:6:ARG:HB3	29:T:6:ARG:NH1	2.30	0.47
17:M:26:VAL:CG2	17:M:133:LYS:HA	2.45	0.47
2:B:1545:A:H2'	2:B:1546:G:O4'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:271:G:HO2'	2:B:272:A:H8	1.62	0.47
2:B:923:G:N2	31:W:23:LYS:HE3	2.29	0.47
4:C:143:VAL:HG12	4:C:144:GLU:N	2.29	0.47
6:K:35:VAL:HG12	6:K:69:VAL:HG22	1.97	0.47
25:U:9:GLU:OE2	25:U:21:ARG:HD2	2.15	0.47
7:P:6:GLN:HE22	7:P:7:LEU:HG	1.80	0.47
23:Q:51:GLN:O	23:Q:54:ARG:HB2	2.14	0.47
24:S:29:VAL:CA	24:S:32:ALA:HB3	2.44	0.47
29:T:69:ARG:NE	29:T:70:HIS:H	2.12	0.47
25:U:92:VAL:HG11	25:U:101:THR:HG23	1.95	0.47
27:G:95:ALA:HA	27:G:104:LEU:HD23	1.97	0.47
22:O:83:LEU:HD13	22:O:115:LEU:HD22	1.96	0.47
13:3:14:LYS:O	13:3:21:PHE:O	2.32	0.47
2:B:2840:C:H5''	21:N:53:THR:CG2	2.44	0.47
13:3:36:ALA:O	13:3:40:LYS:HG3	2.15	0.47
2:B:580:U:O2'	2:B:581:C:H5'	2.15	0.47
23:Q:27:ARG:HG3	23:Q:27:ARG:HH11	1.80	0.47
2:B:2390:U:O5'	13:3:34:LYS:NZ	2.46	0.47
2:B:679:C:O2'	2:B:680:C:H5'	2.14	0.47
2:B:958:U:H3	17:M:16:ARG:HB3	1.79	0.47
4:C:245:THR:HG23	4:C:249:VAL:O	2.14	0.47
2:B:1862:G:O2'	2:B:1863:G:H5'	2.13	0.47
2:B:2349:G:OP2	13:3:41:ARG:HD3	2.15	0.47
2:B:1171:G:H3'	2:B:1172:C:C4'	2.44	0.47
2:B:1222:U:P	28:R:90:ARG:HH22	2.37	0.47
2:B:2663:G:H2'	2:B:2664:G:H8	1.79	0.47
16:L:41:ARG:HG2	16:L:41:ARG:HH21	1.78	0.47
2:B:991:C:H5''	2:B:1185:G:H2'	1.97	0.47
2:B:2901:C:H2'	2:B:2901:C:O2	2.14	0.47
7:P:83:ILE:O	7:P:83:ILE:HD13	2.14	0.47
2:B:231:A:H3'	2:B:232:G:H8	1.79	0.47
4:C:35:LYS:HD2	4:C:37:SER:OG	2.14	0.47
29:T:25:GLU:HA	29:T:28:ASN:O	2.14	0.47
23:Q:59:LEU:HD13	23:Q:59:LEU:C	2.35	0.47
31:W:43:LYS:HB2	31:W:58:LEU:HD21	1.96	0.47
2:B:2091:C:H1'	30:Z:34:HIS:CD2	2.49	0.47
3:I:56:VAL:CG2	3:I:68:PHE:HB2	2.44	0.47
2:B:1021:A:H61	2:B:1142:A:N6	2.12	0.47
2:B:2040:G:H2'	2:B:2041:U:O4'	2.15	0.47
10:O:38:LEU:HB3	10:O:41:HIS:CD2	2.49	0.47
25:U:6:ARG:HG2	25:U:6:ARG:HH21	1.80	0.47
2:B:2187:U:H2'	2:B:2188:U:H6	1.76	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2050:C:H2'	2:B:2051:A:O4'	2.14	0.47
32:6:10:THR:HG23	32:6:14:MET:HE3	1.97	0.47
1:A:13:G:O2'	1:A:15:A:H5'	2.13	0.47
1:A:6:G:H2'	1:A:7:G:C8	2.50	0.47
2:B:2300:C:O2'	2:B:2301:C:H5'	2.15	0.47
26:F:77:LYS:HD2	26:F:79:ARG:HE	1.79	0.47
4:C:245:THR:HG23	4:C:249:VAL:HB	1.95	0.47
2:B:392:U:H2'	2:B:393:C:H6	1.79	0.47
1:A:28:C:H2'	1:A:29:A:O4'	2.15	0.47
2:B:484:C:H2'	2:B:485:C:H6	1.79	0.47
18:X:23:ARG:HA	18:X:27:ASN:H	1.79	0.47
18:X:59:GLU:N	18:X:59:GLU:OE2	2.47	0.47
2:B:199:A:O2'	2:B:200:U:H5'	2.15	0.47
2:B:24:G:H2'	2:B:25:U:O4'	2.14	0.47
2:B:622:G:H2'	2:B:623:C:H6	1.79	0.47
2:B:2515:C:P	20:J:81:ILE:HD11	2.55	0.47
24:S:66:ILE:HD13	24:S:66:ILE:N	2.16	0.47
19:H:79:THR:CB	19:H:145:ASN:HB2	2.44	0.47
12:1:11:VAL:HG23	12:1:50:GLU:HB3	1.97	0.47
4:C:90:ILE:HD12	4:C:102:TYR:HB3	1.96	0.47
25:U:94:PHE:HB3	25:U:101:THR:HA	1.97	0.47
2:B:1138:G:H21	20:J:108:MET:CE	2.27	0.47
8:E:58:LYS:HE2	8:E:60:TRP:CD1	2.46	0.47
7:P:50:ARG:HB3	7:P:57:ALA:N	2.30	0.47
2:B:1241:A:H2'	2:B:1242:U:C5'	2.43	0.47
5:D:54:ALA:N	5:D:76:GLY:HA2	2.29	0.47
2:B:1843:C:H2'	2:B:1844:C:H6	1.79	0.47
2:B:1854:A:N6	2:B:1888:G:H1'	2.29	0.47
2:B:2028:U:H2'	2:B:2029:G:O4'	2.15	0.47
1:A:95:U:H2'	1:A:96:G:H8	1.79	0.47
26:F:121:PHE:HB3	26:F:127:TYR:CZ	2.50	0.47
26:F:74:ALA:CB	26:F:78:ILE:HD13	2.44	0.47
2:B:1275:A:N3	2:B:1275:A:H2'	2.30	0.47
2:B:1591:A:H2'	2:B:1592:C:O4'	2.15	0.47
2:B:349:U:H2'	2:B:350:G:H8	1.79	0.47
22:O:52:SER:OG	22:O:54:VAL:HG12	2.15	0.47
26:F:40:GLY:HA2	26:F:84:ILE:HG23	1.96	0.47
2:B:2103:C:H3'	2:B:2104:C:C2	2.50	0.47
5:D:179:ARG:CB	5:D:179:ARG:HH11	2.28	0.47
2:B:2473:U:H2'	2:B:2473:U:O2	2.15	0.47
2:B:1334:G:O2'	2:B:1335:C:H5'	2.15	0.47
8:E:130:LYS:HB2	8:E:133:LEU:HG	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:171:VAL:HG23	4:C:185:ALA:CB	2.44	0.47
26:F:106:ALA:N	26:F:108:PRO:HD2	2.30	0.47
2:B:2313:C:H4'	26:F:87:LYS:HB3	1.96	0.47
26:F:102:LEU:HB2	26:F:106:ALA:HB3	1.95	0.47
26:F:135:ILE:C	26:F:136:ILE:HG12	2.35	0.47
26:F:33:ILE:HB	26:F:90:LEU:HB2	1.97	0.47
24:S:4:ILE:HG22	24:S:106:VAL:HG13	1.96	0.47
27:G:75:VAL:O	27:G:78:VAL:HG22	2.15	0.47
2:B:2572:A:OP2	5:D:151:THR:HB	2.13	0.47
27:G:163:TYR:O	27:G:165:ASP:N	2.47	0.47
29:T:82:LYS:HD3	29:T:84:TYR:HE1	1.79	0.47
4:C:106:PRO:O	4:C:109:LEU:HB3	2.15	0.47
5:D:106:LYS:N	5:D:106:LYS:HD3	2.29	0.47
19:H:5:LEU:HD12	19:H:17:ASP:CB	2.43	0.47
30:Z:32:ASN:O	30:Z:33:LEU:O	2.32	0.47
2:B:819:A:OP2	2:B:1187:G:N2	2.47	0.47
2:B:1021:A:H61	2:B:1142:A:H61	1.61	0.47
2:B:1942:C:C1'	32:6:133:ARG:HH22	2.28	0.47
6:K:47:ILE:CG1	6:K:48:PRO:HD2	2.39	0.47
11:4:11:CYS:HB3	11:4:33:HIS:HE1	1.79	0.47
2:B:1790:C:O2'	4:C:207:ALA:CB	2.61	0.47
2:B:534:U:H1'	23:Q:44:TYR:HB3	1.95	0.47
26:F:66:ILE:HD11	26:F:83:PRO:HB3	1.97	0.47
2:B:2784:U:O2'	2:B:2785:C:H5'	2.13	0.47
2:B:1948:G:O2'	2:B:1949:G:H5'	2.14	0.47
21:N:12:ARG:HG2	21:N:16:HIS:CG	2.49	0.47
2:B:1593:A:H2'	2:B:1594:U:H6	1.76	0.47
2:B:1376:C:O2'	2:B:1377:G:H5'	2.15	0.47
1:A:115:A:O2'	1:A:116:G:H5'	2.14	0.47
2:B:1150:C:O2'	2:B:1151:A:H5'	2.15	0.47
21:N:65:LEU:HD11	21:N:69:ARG:CZ	2.44	0.47
21:N:67:PHE:O	21:N:68:ALA:C	2.52	0.47
2:B:2411:A:H2'	2:B:2412:A:C8	2.50	0.47
2:B:2663:G:H2'	2:B:2664:G:C8	2.49	0.47
32:6:9:GLU:HG3	32:6:13:HIS:NE2	2.30	0.47
2:B:244:A:H2'	2:B:245:G:O4'	2.15	0.47
2:B:1754:A:H2'	2:B:1755:A:O4'	2.13	0.47
8:E:75:SER:O	8:E:78:TRP:HB2	2.15	0.47
9:Y:9:THR:HB	9:Y:53:MET:O	2.14	0.47
4:C:157:ALA:HB1	4:C:196:ASN:HB3	1.97	0.47
4:C:61:TYR:HA	4:C:85:ASN:ND2	2.29	0.47
2:B:1541:C:H2'	2:B:1542:U:C6	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:40:ARG:NH2	8:E:92:HIS:NE2	2.62	0.47
19:H:27:ARG:O	19:H:28:ASN:ND2	2.47	0.47
4:C:183:VAL:HG22	4:C:184:GLU:H	1.80	0.47
2:B:2262:U:H2'	2:B:2263:C:H6	1.80	0.47
14:V:93:ARG:HG3	14:V:93:ARG:H	1.51	0.47
2:B:2515:C:H2'	2:B:2516:A:H8	1.80	0.47
2:B:1599:U:OP1	29:T:40:LYS:HG3	2.15	0.47
5:D:90:PHE:N	5:D:94:GLN:OE1	2.44	0.47
12:1:34:GLU:HG2	12:1:49:LYS:HD3	1.97	0.47
2:B:1060:U:C4	3:I:131:THR:HG22	2.49	0.47
30:Z:63:GLY:O	30:Z:67:VAL:N	2.41	0.47
17:M:69:PRO:HA	17:M:94:ALA:HB2	1.96	0.47
1:A:48:U:H2'	1:A:49:C:H6	1.80	0.47
22:O:24:THR:O	22:O:90:VAL:HB	2.15	0.47
19:H:62:LEU:HD12	19:H:62:LEU:N	2.29	0.47
2:B:329:G:H1	25:U:16:LYS:CG	2.24	0.47
2:B:2064:C:H2'	2:B:2065:C:H6	1.80	0.47
4:C:57:HIS:CG	4:C:58:LYS:N	2.81	0.47
23:Q:18:LYS:C	23:Q:20:ALA:N	2.67	0.47
5:D:31:ALA:HA	5:D:96:ILE:O	2.15	0.47
31:W:44:PHE:HE2	31:W:76:ARG:CZ	2.27	0.47
2:B:1576:U:O2'	2:B:1577:C:H5'	2.13	0.47
2:B:540:C:O2'	2:B:541:A:H5'	2.15	0.47
5:D:3:GLY:O	5:D:4:LEU:HD13	2.15	0.47
24:S:84:ARG:HB3	24:S:96:ILE:HG23	1.97	0.47
2:B:1468:U:H2'	2:B:1522:A:H61	1.80	0.47
2:B:438:G:O2'	2:B:439:A:H5'	2.14	0.47
2:B:322:A:C2	2:B:340:A:C6	3.03	0.47
2:B:2353:G:N3	31:W:30:VAL:HG13	2.30	0.47
26:F:101:ARG:O	26:F:105:ILE:HB	2.14	0.47
32:6:32:ARG:CB	32:6:103:ILE:HG12	2.32	0.47
2:B:2747:G:H8	2:B:2747:G:O5'	1.98	0.47
1:A:102:G:O2'	1:A:103:U:H5'	2.14	0.47
19:H:132:PHE:HB3	19:H:140:ALA:HB3	1.97	0.47
4:C:90:ILE:HD13	4:C:103:ILE:O	2.14	0.47
23:Q:108:LEU:CD2	28:R:48:LYS:HB2	2.45	0.47
2:B:962:G:H2'	2:B:963:U:H6	1.78	0.47
26:F:45:ASP:O	26:F:47:LYS:HD3	2.15	0.47
2:B:2060:A:H1'	36:B:3361:HOH:O	2.15	0.47
2:B:668:A:H2'	2:B:670:A:H62	1.78	0.47
7:P:75:THR:O	7:P:80:VAL:HG11	2.14	0.47
2:B:2882:A:H3'	2:B:2883:A:H5''	1.97	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:135:ILE:HG12	16:L:140:GLY:CA	2.40	0.47
17:M:108:VAL:HG21	17:M:112:LEU:HD12	1.96	0.47
2:B:1215:G:H2'	2:B:1216:G:H8	1.80	0.47
2:B:1824:G:O2'	2:B:1825:U:H5'	2.15	0.47
2:B:1845:G:O2'	2:B:1846:G:H5'	2.14	0.47
2:B:2636:C:O2'	2:B:2637:U:H5'	2.15	0.47
2:B:979:A:H3'	2:B:980:A:C5'	2.45	0.47
16:L:60:ARG:C	16:L:61:LEU:HD12	2.35	0.47
32:6:18:LEU:HD11	32:6:175:LEU:HD22	1.96	0.47
2:B:692:C:H2'	2:B:693:A:H8	1.80	0.47
2:B:564:C:OP2	28:R:79:ARG:NH2	2.48	0.47
2:B:1201:U:H2'	2:B:1202:G:C8	2.49	0.47
25:U:62:ALA:O	25:U:63:ALA:HB3	2.14	0.47
22:O:7:ARG:HA	22:O:10:ARG:NE	2.29	0.47
2:B:226:A:H2'	2:B:227:A:C8	2.49	0.47
2:B:1336:A:H3'	2:B:1337:G:H8	1.80	0.47
30:Z:39:TRP:HE1	30:Z:41:GLU:HG2	1.80	0.47
16:L:95:LEU:HB2	16:L:101:ILE:CG1	2.45	0.47
27:G:25:ILE:O	27:G:32:LEU:HA	2.15	0.47
17:M:20:LEU:N	17:M:20:LEU:HD13	2.30	0.47
27:G:93:TYR:C	27:G:94:ARG:HG3	2.35	0.47
11:4:19:ARG:C	11:4:21:GLY:N	2.68	0.47
2:B:1349:C:H2'	2:B:1350:C:C6	2.49	0.47
2:B:2041:U:H2'	2:B:2042:A:H8	1.79	0.47
14:V:48:MET:SD	14:V:85:LYS:HA	2.55	0.47
21:N:93:GLY:C	21:N:95:THR:H	2.18	0.47
2:B:1710:G:H4'	2:B:2858:C:O2	2.15	0.47
20:J:74:TYR:HE2	20:J:103:ILE:HD11	1.80	0.47
2:B:2028:U:H2'	2:B:2029:G:C8	2.50	0.47
2:B:2540:C:H2'	2:B:2541:A:C8	2.50	0.47
2:B:547:A:C2'	2:B:548:G:H5'	2.45	0.47
23:Q:35:PHE:C	23:Q:37:ALA:N	2.68	0.47
1:A:52:A:OP1	1:A:52:A:H4'	2.14	0.47
22:O:7:ARG:HA	22:O:10:ARG:CD	2.45	0.47
2:B:1522:A:OP1	2:B:1522:A:H8	1.98	0.47
24:S:41:LYS:O	24:S:44:ALA:HB3	2.15	0.47
2:B:24:G:H1'	24:S:77:ASP:HB3	1.96	0.47
25:U:11:ILE:O	25:U:12:VAL:HB	2.15	0.46
20:J:6:ALA:HB3	20:J:45:THR:CG2	2.44	0.46
4:C:76:VAL:HG12	4:C:114:GLN:CG	2.34	0.46
19:H:12:LEU:HD21	19:H:25:TYR:HE2	1.79	0.46
2:B:1025:G:OP1	2:B:1025:G:H8	1.98	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:135:U:H2'	2:B:136:G:H8	1.77	0.46
26:F:11:VAL:HG13	26:F:171:ALA:HB1	1.97	0.46
16:L:116:VAL:HG13	16:L:117:THR:N	2.20	0.46
12:1:36:LYS:HG2	12:1:47:ILE:HA	1.97	0.46
25:U:14:THR:O	25:U:18:LYS:HG2	2.15	0.46
2:B:654:A:O2'	2:B:655:A:H5''	2.15	0.46
2:B:2680:U:H5'	5:D:194:PRO:HA	1.97	0.46
2:B:2805:C:H2'	2:B:2806:C:C6	2.51	0.46
2:B:682:G:O2'	2:B:683:U:H5'	2.15	0.46
20:J:72:LYS:HB2	20:J:89:PHE:H	1.80	0.46
23:Q:77:LYS:O	23:Q:80:ASN:HB3	2.15	0.46
2:B:564:C:O2'	2:B:565:C:H5'	2.15	0.46
2:B:2623:G:H4'	2:B:2825:G:C8	2.51	0.46
2:B:190:A:N6	2:B:207:A:H1'	2.30	0.46
27:G:54:ARG:O	27:G:55:ASP:C	2.54	0.46
2:B:1279:G:H2'	2:B:1280:G:O4'	2.15	0.46
30:Z:45:ARG:O	30:Z:46:PHE:HB2	2.15	0.46
16:L:92:LEU:H	16:L:92:LEU:HD23	1.80	0.46
2:B:2266:A:H1'	2:B:2272:U:O4	2.15	0.46
31:W:61:LYS:HB3	31:W:62:ALA:H	1.43	0.46
8:E:1:MET:HB2	8:E:16:GLU:CA	2.45	0.46
26:F:116:LEU:HD21	26:F:174:PHE:HE2	1.81	0.46
2:B:2327:A:H2'	2:B:2328:A:C8	2.50	0.46
32:6:30:THR:HG23	32:6:179:LYS:NZ	2.31	0.46
32:6:30:THR:HA	32:6:183:ILE:CG1	2.45	0.46
19:H:68:ARG:HB2	19:H:134:VAL:CG1	2.38	0.46
25:U:86:PHE:CE1	25:U:88:ASP:HB3	2.50	0.46
27:G:93:TYR:CD1	27:G:106:LEU:HB2	2.50	0.46
2:B:2883:A:OP1	10:0:48:TYR:HE1	1.98	0.46
11:4:16:ILE:HA	11:4:24:ARG:O	2.14	0.46
32:6:16:LYS:N	32:6:16:LYS:HE3	2.31	0.46
2:B:1925:C:H42	34:B:3015:LLL:H412	1.79	0.46
32:6:150:SER:OG	32:6:153:GLU:HG3	2.15	0.46
2:B:1883:U:H2'	2:B:1884:G:C1'	2.45	0.46
2:B:1117:C:H2'	2:B:1118:C:H6	1.79	0.46
24:S:95:ARG:NE	24:S:95:ARG:HA	2.31	0.46
4:C:35:LYS:O	4:C:36:ASN:HB2	2.15	0.46
32:6:104:PRO:O	32:6:105:PRO:C	2.52	0.46
2:B:1539:U:O2	2:B:1539:U:H2'	2.15	0.46
17:M:55:ARG:NH2	17:M:55:ARG:HG3	2.30	0.46
21:N:82:GLU:C	21:N:84:GLY:H	2.18	0.46
2:B:1473:G:O2'	2:B:1474:U:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:137:LYS:O	8:E:141:MET:HG3	2.16	0.46
16:L:6:LEU:CD2	16:L:6:LEU:H	2.20	0.46
5:D:11:MET:HA	5:D:24:VAL:O	2.15	0.46
23:Q:108:LEU:HD23	28:R:48:LYS:CD	2.46	0.46
26:F:11:VAL:HG12	26:F:12:VAL:N	2.19	0.46
2:B:1441:G:H2'	2:B:1442:U:H6	1.80	0.46
2:B:345:A:H1'	2:B:346:A:C2	2.43	0.46
4:C:211:ARG:C	4:C:213:ARG:H	2.18	0.46
9:Y:37:ARG:HG3	9:Y:38:GLU:OE2	2.15	0.46
2:B:1485:U:O2'	2:B:1486:U:H5'	2.15	0.46
2:B:1270:C:H5''	2:B:1271:G:C5'	2.45	0.46
2:B:660:C:H2'	2:B:661:A:H8	1.79	0.46
2:B:225:C:H2'	2:B:226:A:O4'	2.15	0.46
2:B:2649:C:H2'	2:B:2650:U:C6	2.49	0.46
8:E:129:PRO:HD3	8:E:156:ASN:OD1	2.15	0.46
2:B:760:G:H2'	2:B:761:A:O4'	2.14	0.46
2:B:1973:G:O2'	2:B:1974:C:H5'	2.14	0.46
1:A:40:U:O2'	1:A:41:G:H5'	2.16	0.46
26:F:108:PRO:O	26:F:110:ILE:HG23	2.16	0.46
32:6:32:ARG:HB2	32:6:103:ILE:CG2	2.46	0.46
20:J:80:HIS:O	20:J:81:ILE:C	2.53	0.46
29:T:10:VAL:HG21	29:T:42:GLU:HG3	1.96	0.46
4:C:89:ASN:O	4:C:105:ALA:HB3	2.16	0.46
32:6:78:ALA:HA	32:6:81:LYS:CD	2.38	0.46
2:B:2756:U:OP2	11:4:19:ARG:HG2	2.15	0.46
2:B:2563:U:O2	2:B:2565:A:H8	1.99	0.46
21:N:29:VAL:HG13	21:N:83:LEU:HD21	1.96	0.46
22:O:30:ARG:NH1	22:O:102:ARG:HB2	2.31	0.46
16:L:79:LEU:CG	16:L:113:ALA:H	2.29	0.46
2:B:29:U:H2'	2:B:30:G:C8	2.50	0.46
27:G:10:VAL:H	27:G:48:THR:HG22	1.80	0.46
2:B:1517:G:O2'	2:B:1518:C:H5'	2.16	0.46
2:B:65:U:H2'	2:B:66:C:H6	1.80	0.46
2:B:481:G:C2	2:B:507:A:C4	3.03	0.46
2:B:82:U:H2'	2:B:83:A:C8	2.51	0.46
2:B:2407:A:H2'	2:B:2408:U:C6	2.51	0.46
6:K:68:GLY:HA3	6:K:78:ARG:HB3	1.97	0.46
2:B:927:A:H2'	2:B:928:A:C8	2.51	0.46
14:V:65:VAL:O	14:V:66:ASP:HB3	2.16	0.46
19:H:128:HIS:CG	19:H:144:VAL:HB	2.50	0.46
19:H:128:HIS:O	19:H:143:ILE:HA	2.15	0.46
19:H:68:ARG:O	19:H:72:ILE:HG22	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:33:LEU:O	30:Z:34:HIS:CG	2.69	0.46
2:B:2461:A:H2'	2:B:2462:C:H6	1.78	0.46
2:B:1056:G:H4'	2:B:1086:A:H8	1.80	0.46
19:H:89:LYS:HA	19:H:89:LYS:NZ	2.31	0.46
21:N:2:ARG:HG2	21:N:5:LYS:CB	2.40	0.46
2:B:671:C:O2'	2:B:672:C:H5'	2.15	0.46
8:E:60:TRP:HB3	8:E:61:ARG:H	1.33	0.46
2:B:2844:G:H2'	2:B:2845:U:O4'	2.16	0.46
21:N:75:ILE:HD12	21:N:76:VAL:N	2.30	0.46
2:B:532:A:O2'	2:B:2021:C:H5	1.97	0.46
20:J:13:ARG:HB3	20:J:53:TYR:CD2	2.50	0.46
2:B:419:U:H2'	2:B:420:C:H6	1.78	0.46
4:C:64:VAL:HG21	4:C:86:ARG:CZ	2.45	0.46
2:B:2281:A:O2'	2:B:2282:G:H5'	2.16	0.46
1:A:78:A:H2'	1:A:79:G:O4'	2.16	0.46
2:B:699:A:H4'	2:B:1634:A:C5	2.50	0.46
20:J:70:THR:HG22	20:J:90:GLU:OE2	2.16	0.46
2:B:2352:A:N1	31:W:30:VAL:HG11	2.31	0.46
2:B:2314:A:H2'	2:B:2315:G:C8	2.49	0.46
26:F:118:ALA:HA	26:F:176:PHE:CE2	2.51	0.46
32:6:30:THR:HB	32:6:182:GLU:C	2.36	0.46
2:B:2491:U:H5''	2:B:2570:G:C5'	2.45	0.46
29:T:61:LEU:O	29:T:81:LYS:HA	2.16	0.46
19:H:114:GLU:HB3	19:H:133:GLN:C	2.36	0.46
32:6:55:ILE:CG2	32:6:79:ILE:HD11	2.44	0.46
32:6:61:PRO:HD2	32:6:65:THR:O	2.16	0.46
21:N:31:HIS:O	21:N:33:ILE:HG13	2.16	0.46
17:M:40:ARG:HB2	17:M:93:VAL:HG21	1.98	0.46
21:N:72:ASP:C	21:N:74:GLU:N	2.68	0.46
5:D:55:LYS:C	5:D:57:ALA:H	2.19	0.46
2:B:414:C:H2'	2:B:415:A:H8	1.80	0.46
2:B:2555:U:H2'	2:B:2556:C:O4'	2.15	0.46
2:B:1418:G:H1'	2:B:1580:A:N6	2.30	0.46
2:B:548:G:H5''	2:B:549:G:N3	2.31	0.46
26:F:79:ARG:O	26:F:80:GLN:C	2.54	0.46
27:G:9:VAL:O	27:G:11:PRO:HD3	2.16	0.46
23:Q:77:LYS:HE2	23:Q:116:LEU:HD13	1.95	0.46
2:B:822:G:O2'	2:B:823:C:H5'	2.16	0.46
2:B:584:C:H2'	2:B:585:G:H8	1.79	0.46
7:P:19:PHE:CE2	7:P:25:VAL:HG11	2.51	0.46
2:B:814:C:O2'	2:B:815:C:H5'	2.16	0.46
2:B:698:C:H4'	2:B:734:A:H61	1.80	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2712:C:H3'	2:B:2714:G:H5''	1.98	0.46
2:B:1689:A:H2'	2:B:1690:A:H8	1.80	0.46
2:B:1335:C:H2'	2:B:1336:A:H8	1.80	0.46
17:M:55:ARG:HH21	17:M:55:ARG:HG3	1.81	0.46
2:B:2888:C:H2'	2:B:2889:C:H6	1.80	0.46
15:2:13:ASN:O	15:2:17:GLY:HA3	2.16	0.46
2:B:470:A:H2'	2:B:471:A:C8	2.51	0.46
2:B:856:G:H2'	2:B:857:G:C8	2.51	0.46
2:B:2352:A:C6	31:W:30:VAL:HG11	2.50	0.46
31:W:37:VAL:HG22	31:W:55:ASP:O	2.16	0.46
26:F:138:PRO:HA	26:F:142:TYR:CE2	2.50	0.46
14:V:30:ILE:HG12	14:V:91:PHE:HB2	1.98	0.46
27:G:118:ALA:C	27:G:120:ILE:H	2.19	0.46
29:T:51:PHE:HB3	29:T:53:VAL:HG23	1.97	0.46
12:1:37:LYS:O	12:1:45:HIS:HA	2.15	0.46
4:C:158:GLY:H	4:C:194:VAL:HG13	1.80	0.46
23:Q:104:ALA:O	23:Q:105:PHE:HB3	2.16	0.46
32:6:43:VAL:O	32:6:50:VAL:N	2.48	0.46
2:B:670:A:H3'	16:L:43:GLY:H	1.81	0.46
21:N:28:LEU:HD23	21:N:113:ILE:HG23	1.96	0.46
8:E:48:THR:HG22	8:E:86:ALA:HB3	1.97	0.46
25:U:14:THR:O	25:U:18:LYS:HA	2.16	0.46
13:3:33:THR:HG23	13:3:34:LYS:N	2.31	0.46
2:B:118:A:H5'	2:B:119:A:C8	2.44	0.46
32:6:128:ALA:O	32:6:132:ILE:HG13	2.15	0.46
24:S:15:GLN:O	24:S:19:LEU:HB2	2.16	0.46
25:U:40:LEU:N	25:U:40:LEU:HD12	2.31	0.46
2:B:2377:A:H2'	2:B:2378:A:H8	1.76	0.46
5:D:85:ALA:C	5:D:87:GLY:H	2.19	0.46
3:I:5:GLN:HG2	3:I:6:ALA:H	1.78	0.46
2:B:1714:U:H3'	2:B:1715:G:H5'	1.96	0.46
17:M:35:ALA:HB3	17:M:99:GLY:N	2.31	0.46
2:B:242:G:OP2	13:3:2:LYS:NZ	2.38	0.46
5:D:30:GLU:HB2	5:D:52:THR:CG2	2.46	0.46
2:B:1956:U:H2'	2:B:1957:C:H5'	1.97	0.46
2:B:2643:G:H2'	2:B:2644:G:O4'	2.15	0.46
2:B:1161:C:H2'	2:B:1162:G:H8	1.80	0.46
5:D:14:ILE:HG23	5:D:22:ILE:HB	1.96	0.46
2:B:320:A:OP1	8:E:130:LYS:HE3	2.16	0.46
8:E:147:LEU:O	8:E:168:ASP:O	2.34	0.46
4:C:169:ALA:O	4:C:185:ALA:HB3	2.16	0.46
26:F:134:GLN:HE21	26:F:134:GLN:HB3	1.53	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:31:GLU:O	26:F:32:LYS:O	2.34	0.46
29:T:55:VAL:HG22	29:T:87:LEU:HD23	1.98	0.46
30:Z:49:LEU:HD13	30:Z:51:VAL:CG2	2.46	0.46
2:B:971:G:H2'	2:B:972:A:O4'	2.15	0.46
27:G:79:THR:CG2	27:G:80:GLU:HG2	2.38	0.46
2:B:960:A:C4'	2:B:2457:U:H4'	2.46	0.46
2:B:1804:C:P	4:C:256:THR:HB	2.56	0.46
26:F:47:LYS:HA	26:F:50:ASP:OD1	2.16	0.46
3:I:129:GLU:CB	3:I:133:ARG:HH12	2.21	0.46
2:B:1438:U:O2'	2:B:1439:A:H5'	2.15	0.46
2:B:1442:U:O2'	2:B:1443:U:H5'	2.16	0.46
2:B:1547:C:H2'	2:B:1548:A:C8	2.51	0.46
2:B:1553:A:H2'	2:B:1555:G:N7	2.31	0.46
21:N:56:LYS:HD2	21:N:88:ALA:HA	1.98	0.46
2:B:2848:G:H1'	2:B:2868:A:N6	2.31	0.46
16:L:79:LEU:CG	16:L:112:LEU:HA	2.43	0.46
5:D:117:GLY:O	5:D:118:PHE:C	2.54	0.46
2:B:834:G:O2'	2:B:835:C:H5'	2.15	0.46
20:J:96:ARG:N	20:J:97:PRO:HD3	2.31	0.46
2:B:1854:A:H2	2:B:2087:G:N3	2.14	0.46
2:B:1506:U:H2'	2:B:1507:C:C6	2.50	0.46
2:B:2320:U:H4'	2:B:2321:U:C2	2.51	0.46
2:B:866:A:H61	2:B:913:U:C1'	2.29	0.46
5:D:122:VAL:HG12	5:D:122:VAL:O	2.16	0.46
2:B:402:A:H2'	2:B:403:U:O4'	2.15	0.46
2:B:2206:C:O2'	2:B:2207:C:H5'	2.16	0.46
2:B:222:A:N6	2:B:232:G:H1'	2.30	0.46
2:B:2889:C:H2'	2:B:2890:G:C8	2.50	0.46
2:B:2791:G:H2'	2:B:2792:A:O4'	2.15	0.46
31:W:26:GLY:O	31:W:27:GLY:C	2.54	0.46
2:B:2487:G:H2'	2:B:2488:G:C8	2.51	0.46
3:I:63:ASP:C	3:I:65:SER:H	2.19	0.46
2:B:2453:A:H4'	2:B:2573:C:OP2	2.16	0.46
2:B:1428:C:H2'	2:B:1569:A:OP2	2.16	0.46
8:E:148:ILE:HA	8:E:187:VAL:CB	2.43	0.46
31:W:48:ALA:O	31:W:61:LYS:HB2	2.16	0.46
25:U:20:LYS:HB2	25:U:20:LYS:HZ3	1.81	0.46
1:A:104:A:H5'	14:V:75:GLN:HE21	1.81	0.46
12:1:10:LEU:HB2	12:1:20:TYR:HB2	1.97	0.46
8:E:111:GLU:HG2	8:E:114:ARG:HH21	1.81	0.46
2:B:2845:U:O2'	2:B:2846:G:H5'	2.15	0.46
32:6:133:ARG:O	32:6:136:ALA:N	2.49	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2876:G:H2'	2:B:2877:G:O4'	2.16	0.46
4:C:43:ASN:HD22	4:C:44:ASN:N	2.13	0.46
2:B:2213:U:O2	2:B:2213:U:C2'	2.61	0.46
2:B:2025:C:H2'	2:B:2026:U:H6	1.80	0.46
18:X:10:SER:N	18:X:60:LYS:HE2	2.31	0.46
2:B:1484:U:H2'	2:B:1485:U:H6	1.78	0.46
2:B:2150:C:H2'	2:B:2151:U:O4'	2.16	0.46
21:N:69:ARG:HD3	21:N:69:ARG:H	1.81	0.46
3:I:44:LYS:O	3:I:48:ILE:HG13	2.15	0.46
1:A:88:C:H2'	1:A:89:U:C5	2.51	0.46
2:B:1007:C:O3'	20:J:110:PRO:HB3	2.15	0.46
2:B:408:G:O2'	2:B:409:G:H5'	2.16	0.46
7:P:99:LEU:HA	7:P:99:LEU:HD22	1.81	0.46
2:B:649:G:H2'	2:B:650:C:C6	2.50	0.46
2:B:289:G:H2'	2:B:290:U:O4'	2.15	0.46
30:Z:39:TRP:CE2	30:Z:41:GLU:HA	2.51	0.46
8:E:106:LYS:CE	8:E:200:LEU:HB3	2.46	0.46
31:W:35:ILE:O	31:W:37:VAL:N	2.49	0.46
26:F:102:LEU:HA	26:F:106:ALA:CB	2.46	0.46
19:H:3:VAL:HA	19:H:39:ALA:N	2.30	0.46
6:K:71:ARG:O	6:K:72:PRO:C	2.55	0.46
27:G:22:VAL:HG22	27:G:36:LEU:HD12	1.97	0.46
2:B:1597:A:C5'	2:B:1598:A:H5'	2.43	0.46
2:B:559:G:H1'	23:Q:55:GLN:NE2	2.30	0.46
23:Q:94:LEU:CD2	28:R:11:GLN:HB2	2.46	0.46
31:W:43:LYS:O	31:W:58:LEU:HD11	2.15	0.46
2:B:1244:A:C5'	16:L:7:SER:HA	2.45	0.46
3:I:32:VAL:HG13	3:I:66:PHE:CD2	2.51	0.46
26:F:41:GLU:CB	26:F:48:LEU:HD11	2.43	0.46
2:B:2658:C:H5'	27:G:159:LYS:HZ2	1.78	0.46
2:B:2147:A:C5'	2:B:2148:G:H4'	2.46	0.46
2:B:2886:A:N6	10:O:39:ARG:NE	2.58	0.46
6:K:25:LEU:HD12	6:K:39:ILE:HA	1.98	0.46
2:B:1228:G:O2'	2:B:1229:C:H5'	2.16	0.46
2:B:533:G:H2'	2:B:534:U:C6	2.50	0.46
2:B:19:A:OP1	23:Q:22:GLY:N	2.49	0.46
5:D:111:GLY:H	5:D:194:PRO:CG	2.29	0.46
2:B:170:U:O2'	2:B:171:U:H5'	2.15	0.46
12:1:4:ILE:HB	12:1:27:ARG:HG3	1.98	0.46
12:1:3:GLY:O	12:1:5:ARG:N	2.49	0.46
6:K:5:GLN:HA	6:K:20:MET:SD	2.57	0.46
3:I:109:ALA:HB1	3:I:124:MET:CG	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1864:U:O2'	2:B:1865:U:H5'	2.16	0.46
2:B:2322:A:H2'	2:B:2323:G:O4'	2.16	0.46
22:O:6:ALA:O	22:O:9:ARG:HG3	2.15	0.46
27:G:77:GLY:HA3	27:G:135:ALA:O	2.16	0.46
22:O:2:ASP:OD2	22:O:4:LYS:HB3	2.15	0.46
6:K:18:ARG:O	6:K:45:GLU:HB2	2.16	0.46
2:B:732:C:H2'	2:B:733:G:O4'	2.16	0.46
2:B:39:G:O2'	2:B:40:U:H5'	2.16	0.46
16:L:96:LYS:HE2	16:L:103:ILE:HA	1.97	0.45
8:E:134:LEU:HD23	8:E:161:ALA:N	2.31	0.45
8:E:146:VAL:HA	8:E:185:LYS:O	2.15	0.45
32:6:32:ARG:NH2	32:6:88:LEU:O	2.45	0.45
29:T:85:VAL:C	29:T:86:THR:HG23	2.37	0.45
23:Q:56:PHE:O	23:Q:59:LEU:HB3	2.16	0.45
5:D:94:GLN:HG2	5:D:94:GLN:O	2.15	0.45
19:H:110:VAL:HB	19:H:132:PHE:CZ	2.51	0.45
19:H:65:ALA:HB3	19:H:135:HIS:HE1	1.81	0.45
30:Z:38:PHE:CE2	30:Z:51:VAL:HG21	2.33	0.45
30:Z:71:LEU:HD11	30:Z:78:TYR:HB3	1.98	0.45
16:L:17:LYS:HD2	16:L:19:LEU:HD11	1.97	0.45
32:6:112:LYS:O	32:6:116:ARG:HG2	2.16	0.45
3:I:27:LEU:HB2	3:I:32:VAL:HG21	1.97	0.45
5:D:69:ALA:HA	5:D:73:VAL:HB	1.98	0.45
2:B:674:G:O2'	8:E:60:TRP:HH2	1.98	0.45
2:B:1439:A:N7	2:B:1440:U:C6	2.84	0.45
2:B:2840:C:H2'	2:B:2841:C:H6	1.81	0.45
2:B:2215:C:O2'	2:B:2216:G:H5'	2.16	0.45
2:B:1812:U:C4'	4:C:44:ASN:HD21	2.29	0.45
15:2:10:LEU:HD21	15:2:14:ARG:NH1	2.30	0.45
15:2:2:LYS:HD2	15:2:6:GLN:NE2	2.31	0.45
2:B:2428:G:N2	16:L:54:GLN:OE1	2.49	0.45
32:6:18:LEU:HD21	32:6:171:LYS:HD2	1.97	0.45
22:O:58:ILE:HG22	22:O:62:LEU:CD2	2.46	0.45
2:B:1210:G:H5'	2:B:1212:G:C5'	2.45	0.45
29:T:9:LYS:O	29:T:9:LYS:HG2	2.15	0.45
2:B:2872:A:H1'	2:B:2873:A:C8	2.51	0.45
13:3:23:HIS:ND1	13:3:24:LYS:N	2.64	0.45
2:B:2691:C:O2'	2:B:2692:G:H5'	2.16	0.45
2:B:1208:C:O2'	2:B:1209:U:H5'	2.16	0.45
7:P:45:VAL:O	7:P:47:ILE:HG23	2.16	0.45
2:B:1124:G:H1'	11:4:38:GLY:OXT	2.15	0.45
16:L:119:PRO:HB3	16:L:139:GLY:O	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:111:ARG:HH11	26:F:135:ILE:CG2	2.28	0.45
26:F:137:PHE:CD2	26:F:137:PHE:N	2.84	0.45
5:D:24:VAL:HG23	5:D:189:VAL:O	2.17	0.45
24:S:36:LEU:HB3	24:S:48:LYS:HB2	1.98	0.45
4:C:69:ASN:O	4:C:70:LYS:C	2.55	0.45
11:4:3:VAL:HG23	11:4:4:ARG:H	1.80	0.45
2:B:2144:G:H5'	2:B:2145:C:O3'	2.15	0.45
5:D:118:PHE:O	5:D:119:ALA:HB3	2.16	0.45
9:Y:57:GLU:HA	9:Y:57:GLU:OE1	2.16	0.45
2:B:572:A:H5''	28:R:80:ARG:NH2	2.31	0.45
2:B:981:A:H2'	2:B:982:C:H5''	1.98	0.45
32:6:1:MET:N	32:6:5:GLU:OE2	2.48	0.45
2:B:1774:C:H2'	2:B:1774:C:O2	2.16	0.45
17:M:31:PHE:CD1	17:M:105:MET:HB3	2.51	0.45
4:C:34:GLU:O	4:C:34:GLU:HG3	2.15	0.45
16:L:92:LEU:HD23	16:L:124:GLY:HA3	1.98	0.45
8:E:5:LEU:HD22	8:E:122:GLU:HG3	1.98	0.45
29:T:21:SER:HB3	29:T:31:VAL:CG2	2.46	0.45
29:T:50:LEU:O	29:T:52:GLU:N	2.43	0.45
24:S:107:VAL:HG22	24:S:108:SER:N	2.31	0.45
2:B:2229:U:H2'	2:B:2230:G:C8	2.51	0.45
32:6:109:GLU:HA	32:6:112:LYS:CD	2.47	0.45
25:U:86:PHE:HE1	25:U:88:ASP:HB3	1.79	0.45
2:B:1287:A:O2'	2:B:1288:G:H5'	2.15	0.45
27:G:94:ARG:HB2	27:G:127:GLN:O	2.17	0.45
2:B:2143:C:N3	2:B:2148:G:O6	2.49	0.45
18:X:5:GLU:OE2	18:X:5:GLU:HA	2.16	0.45
32:6:56:ALA:HB2	32:6:79:ILE:HD13	1.97	0.45
2:B:675:A:O2'	8:E:62:GLN:NE2	2.49	0.45
14:V:24:ASN:O	14:V:26:PHE:N	2.49	0.45
1:A:49:C:O2'	1:A:50:A:H5'	2.17	0.45
23:Q:30:VAL:CG1	23:Q:31:TYR:N	2.78	0.45
2:B:720:U:H2'	2:B:721:A:H8	1.80	0.45
3:I:138:VAL:HG12	3:I:139:VAL:N	2.31	0.45
2:B:630:G:N2	2:B:632:A:H3'	2.32	0.45
2:B:635:C:O2'	2:B:639:U:H5''	2.15	0.45
2:B:548:G:N3	2:B:548:G:H3'	2.31	0.45
26:F:120:SER:HG	26:F:127:TYR:HD2	1.63	0.45
2:B:155:A:H2'	2:B:156:A:H8	1.77	0.45
5:D:38:LYS:HD2	5:D:81:GLU:OE1	2.17	0.45
2:B:979:A:H2'	2:B:982:C:H42	1.79	0.45
2:B:2693:G:H2'	2:B:2694:G:C8	2.47	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1526:C:O2'	2:B:1527:G:H5'	2.15	0.45
29:T:36:LYS:HD3	29:T:36:LYS:O	2.16	0.45
2:B:1704:C:O2'	2:B:1705:A:H5'	2.16	0.45
4:C:146:LYS:HG2	4:C:147:PRO:HD2	1.97	0.45
19:H:3:VAL:HB	19:H:37:VAL:O	2.17	0.45
14:V:31:TYR:O	14:V:92:VAL:HG13	2.16	0.45
27:G:123:GLU:HG2	27:G:124:CYS:N	2.31	0.45
27:G:84:LYS:HG3	27:G:131:VAL:CB	2.46	0.45
2:B:973:A:H1'	2:B:1188:U:C5	2.52	0.45
23:Q:86:SER:HB3	28:R:52:PRO:HD3	1.97	0.45
20:J:127:GLY:O	20:J:128:ASN:HB2	2.16	0.45
27:G:152:ARG:HD2	27:G:152:ARG:HA	1.68	0.45
2:B:130:C:O2'	2:B:131:A:H5'	2.17	0.45
10:O:42:ILE:HD11	21:N:98:LEU:HD12	1.97	0.45
8:E:51:GLU:H	8:E:51:GLU:HG2	1.54	0.45
2:B:2734:A:C2'	2:B:2735:G:H5'	2.46	0.45
2:B:2849:U:H5'	2:B:2868:A:N1	2.31	0.45
20:J:13:ARG:HB3	20:J:53:TYR:HD2	1.80	0.45
2:B:832:U:H2'	2:B:833:A:C8	2.51	0.45
2:B:2373:G:H2'	2:B:2374:C:C6	2.51	0.45
2:B:2282:G:H5'	2:B:2389:G:H1'	1.98	0.45
2:B:315:G:H2'	2:B:316:C:H6	1.82	0.45
10:O:5:ASN:O	10:O:7:PRO:HD3	2.16	0.45
30:Z:27:ARG:HD3	30:Z:28:ARG:H	1.81	0.45
29:T:45:ALA:HA	29:T:48:GLN:HB2	1.99	0.45
1:A:87:U:C2'	1:A:88:C:O5'	2.64	0.45
2:B:2601:C:C2	2:B:2603:G:N7	2.85	0.45
16:L:122:VAL:HG23	16:L:143:GLU:OE1	2.17	0.45
31:W:37:VAL:C	31:W:38:ARG:HG2	2.37	0.45
5:D:10:GLY:O	5:D:11:MET:HB2	2.16	0.45
2:B:2751:G:C2'	2:B:2751:G:N3	2.77	0.45
27:G:36:LEU:CD2	27:G:36:LEU:H	2.24	0.45
27:G:58:ALA:C	27:G:60:GLY:N	2.70	0.45
27:G:60:GLY:O	27:G:62:ALA:N	2.50	0.45
24:S:2:GLU:O	24:S:3:THR:O	2.34	0.45
2:B:1091:G:O2'	2:B:1092:C:H5'	2.16	0.45
2:B:1460:U:H3'	2:B:1461:C:H5'	1.98	0.45
3:I:19:PRO:HG2	3:I:22:PRO:HB2	1.99	0.45
2:B:2883:A:OP1	10:O:48:TYR:CE1	2.70	0.45
14:V:80:HIS:CG	14:V:83:LYS:HB2	2.52	0.45
20:J:55:ILE:HG22	20:J:123:LYS:HB2	1.98	0.45
2:B:2814:A:O2'	2:B:2815:C:H5'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:62:LEU:HD12	19:H:62:LEU:H	1.82	0.45
2:B:329:G:O6	25:U:16:LYS:HB2	2.16	0.45
2:B:1870:C:OP2	2:B:1870:C:H4'	2.16	0.45
16:L:57:LEU:O	16:L:61:LEU:HD13	2.16	0.45
2:B:539:G:H2'	2:B:540:C:C6	2.52	0.45
26:F:151:LEU:HD12	26:F:152:ASP:N	2.32	0.45
2:B:755:U:O2'	2:B:756:A:H5'	2.16	0.45
2:B:245:G:H2'	2:B:246:C:C6	2.52	0.45
2:B:246:C:C2'	2:B:247:G:H5'	2.46	0.45
2:B:1958:C:O2'	2:B:1959:G:H5'	2.16	0.45
27:G:112:VAL:HG13	27:G:150:TYR:CE2	2.52	0.45
2:B:699:A:H4'	2:B:1634:A:N7	2.32	0.45
2:B:237:C:O2'	2:B:238:C:H5'	2.17	0.45
2:B:336:C:O2'	2:B:337:C:H5'	2.17	0.45
8:E:113:VAL:HG22	8:E:118:LEU:HD12	1.98	0.45
2:B:965:C:O2'	2:B:966:G:H5'	2.16	0.45
4:C:145:MET:HB2	4:C:152:GLN:NE2	2.31	0.45
18:X:21:LEU:HD21	18:X:50:VAL:HG11	1.98	0.45
2:B:558:U:O2'	2:B:559:G:H5'	2.17	0.45
19:H:13:GLY:O	19:H:14:SER:HB2	2.17	0.45
2:B:2227:A:H2'	2:B:2228:G:O4'	2.16	0.45
2:B:2250:G:C6	17:M:83:GLY:HA3	2.52	0.45
2:B:670:A:H4'	2:B:671:C:C5'	2.46	0.45
2:B:52:A:H2'	2:B:53:A:C8	2.51	0.45
21:N:55:ALA:HA	21:N:80:PHE:CE1	2.51	0.45
6:K:88:ASN:HD22	6:K:89:ASN:H	1.64	0.45
2:B:786:C:H5''	2:B:1780:A:N7	2.31	0.45
2:B:531:C:H5''	2:B:532:A:C5	2.51	0.45
2:B:1297:C:H2'	2:B:1298:C:H6	1.81	0.45
2:B:1374:G:H2'	2:B:1375:U:C6	2.52	0.45
26:F:132:ARG:O	26:F:133:GLU:HB2	2.16	0.45
2:B:2199:A:H3'	2:B:2200:C:H6	1.82	0.45
2:B:2103:C:H5'	2:B:2104:C:OP2	2.17	0.45
2:B:438:G:H2'	2:B:439:A:H8	1.80	0.45
2:B:2053:G:O2'	2:B:2054:A:H5'	2.16	0.45
4:C:67:LYS:O	4:C:188:ARG:HD3	2.16	0.45
2:B:2204:G:O2'	2:B:2205:A:H5'	2.16	0.45
2:B:2582:G:O2'	2:B:2583:G:H5'	2.16	0.45
16:L:105:ILE:HG22	16:L:106:GLU:N	2.31	0.45
16:L:125:LEU:HB2	16:L:143:GLU:OE2	2.17	0.45
14:V:75:GLN:HB2	14:V:90:ASP:O	2.17	0.45
29:T:11:LEU:HD22	29:T:11:LEU:N	2.23	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:T:47:VAL:HG12	29:T:47:VAL:O	2.17	0.45
2:B:460:A:C4'	29:T:72:GLN:HB2	2.36	0.45
12:1:35:LEU:N	12:1:35:LEU:CD2	2.80	0.45
4:C:90:ILE:HD11	4:C:102:TYR:HB3	1.99	0.45
2:B:1189:A:H2'	2:B:1190:G:O4'	2.16	0.45
17:M:19:GLY:H	17:M:38:ARG:NH1	2.04	0.45
25:U:85:ARG:HH11	25:U:86:PHE:H	1.64	0.45
32:6:59:THR:O	32:6:67:VAL:HG22	2.16	0.45
2:B:2886:A:H62	10:0:39:ARG:CZ	2.29	0.45
21:N:61:ALA:C	21:N:63:ARG:N	2.70	0.45
6:K:113:MET:HE1	6:K:116:ILE:CD1	2.46	0.45
2:B:2793:C:H2'	2:B:2794:C:C6	2.51	0.45
22:O:35:ILE:CG1	22:O:102:ARG:HE	2.29	0.45
16:L:80:SER:HA	16:L:115:GLU:HB2	1.98	0.45
2:B:1241:A:N3	2:B:1241:A:O4'	2.50	0.45
25:U:64:ILE:HG13	25:U:65:GLN:N	2.32	0.45
2:B:1173:U:H2'	2:B:1174:U:H4'	1.99	0.45
25:U:23:LYS:HD2	25:U:23:LYS:N	2.31	0.45
2:B:2626:C:H2'	2:B:2627:G:H8	1.82	0.45
19:H:44:ILE:C	19:H:46:PHE:N	2.70	0.45
5:D:125:TRP:CE3	5:D:160:LYS:HD3	2.52	0.45
28:R:61:ALA:HB2	28:R:98:ILE:HA	1.98	0.45
4:C:199:HIS:C	4:C:201:LEU:H	2.20	0.45
2:B:1357:C:O2'	2:B:1358:G:H5'	2.17	0.45
2:B:553:G:H2'	2:B:554:U:O4'	2.15	0.45
16:L:123:ARG:HD2	16:L:124:GLY:N	2.31	0.45
2:B:920:A:H2'	2:B:921:C:C6	2.52	0.45
23:Q:60:TRP:CE2	23:Q:93:ILE:HB	2.52	0.45
23:Q:91:ARG:HH12	28:R:10:LYS:HA	1.81	0.45
19:H:7:ASP:CA	19:H:15:LEU:HD22	2.36	0.45
28:R:40:MET:CG	28:R:48:LYS:HA	2.47	0.45
20:J:59:ALA:C	20:J:61:LYS:N	2.70	0.45
2:B:674:G:C4'	8:E:69:ARG:HB3	2.45	0.45
5:D:13:ARG:HH12	7:P:74:GLN:NE2	2.14	0.45
2:B:1350:C:N4	2:B:1382:G:O6	2.49	0.45
2:B:1119:U:H2'	2:B:1120:G:H8	1.82	0.45
6:K:19:VAL:CB	6:K:41:ILE:HD11	2.46	0.45
21:N:77:ALA:O	21:N:81:ASN:HB2	2.17	0.45
2:B:2849:U:H4'	2:B:2850:A:O5'	2.17	0.45
2:B:1338:G:O2'	2:B:1339:G:H5'	2.17	0.45
2:B:2238:G:H4'	2:B:2239:G:OP1	2.17	0.45
2:B:62:U:H3'	2:B:63:A:H8	1.76	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:209:ALA:HA	4:C:212:TRP:CE2	2.52	0.45
2:B:636:G:H3'	16:L:128:THR:HG21	1.99	0.45
2:B:2293:G:H2'	2:B:2294:G:H8	1.81	0.45
26:F:127:TYR:HB2	26:F:155:ILE:HD13	1.99	0.45
8:E:37:ALA:C	8:E:39:ALA:N	2.69	0.45
2:B:6:A:H2'	2:B:7:G:C8	2.52	0.45
5:D:191:GLY:O	5:D:192:ALA:HB3	2.16	0.45
18:X:41:HIS:O	18:X:44:LYS:HB3	2.16	0.45
2:B:539:G:H2'	2:B:540:C:H6	1.82	0.45
17:M:66:ARG:HB2	17:M:101:VAL:HG13	1.97	0.45
18:X:20:ASN:ND2	18:X:20:ASN:N	2.65	0.45
2:B:1463:C:H2'	2:B:1464:G:H8	1.81	0.45
2:B:1765:U:H2'	2:B:1766:G:C8	2.52	0.45
2:B:1495:A:H2'	2:B:1496:A:H8	1.81	0.45
7:P:101:GLU:N	7:P:101:GLU:OE2	2.50	0.45
6:K:53:LYS:HD3	6:K:53:LYS:H	1.82	0.45
20:J:95:ARG:HD3	20:J:95:ARG:O	2.17	0.45
2:B:215:G:H4'	2:B:216:A:OP1	2.16	0.45
3:I:72:THR:HG21	3:I:111:THR:O	2.17	0.45
2:B:1423:G:H2'	2:B:1424:G:H8	1.82	0.45
2:B:1449:G:O2'	2:B:1450:G:H5'	2.17	0.45
28:R:83:TYR:HE2	28:R:85:LYS:HE3	1.81	0.45
6:K:11:ALA:O	6:K:100:PHE:N	2.47	0.45
16:L:91:ASP:HA	16:L:123:ARG:HB3	1.97	0.45
31:W:23:LYS:HD2	31:W:24:ARG:H	1.79	0.45
8:E:1:MET:HB3	8:E:14:VAL:HG23	1.99	0.45
27:G:15:ASP:CB	27:G:26:LYS:H	2.16	0.45
2:B:161:A:C3'	2:B:162:U:H5''	2.35	0.45
4:C:140:VAL:CG2	4:C:163:ILE:HG12	2.47	0.45
11:4:25:VAL:HG11	11:4:35:GLN:NE2	2.32	0.45
6:K:39:ILE:HD13	6:K:60:ALA:O	2.16	0.45
2:B:780:G:N2	2:B:783:A:H62	2.15	0.45
9:Y:56:VAL:HG12	9:Y:57:GLU:H	1.82	0.45
27:G:44:HIS:O	27:G:46:ASP:N	2.49	0.45
4:C:43:ASN:HD22	4:C:44:ASN:H	1.60	0.45
2:B:1680:U:O2	2:B:1763:G:H3'	2.16	0.45
2:B:664:G:O2'	2:B:665:U:H5'	2.17	0.45
2:B:1915:U:H3'	2:B:1916:A:C8	2.52	0.45
2:B:2586:U:H2'	2:B:2587:A:H8	1.82	0.45
2:B:806:C:O2'	2:B:2445:G:H4'	2.16	0.45
27:G:154:GLU:CG	27:G:156:TYR:HB2	2.47	0.45
2:B:693:A:O2'	2:B:694:U:H5'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:14:ALA:HA	3:I:45:THR:HG21	1.97	0.45
26:F:131:VAL:C	26:F:133:GLU:H	2.19	0.45
17:M:23:GLY:O	17:M:101:VAL:HG12	2.17	0.45
5:D:159:LYS:HZ2	5:D:160:LYS:N	2.14	0.45
21:N:24:MET:CE	21:N:44:LEU:HB2	2.47	0.45
2:B:2861:U:H2'	2:B:2862:G:C8	2.50	0.45
2:B:2047:C:H2'	2:B:2048:G:C8	2.51	0.45
16:L:142:ILE:HD12	16:L:142:ILE:N	2.32	0.45
2:B:2702:G:H2'	2:B:2703:C:H6	1.82	0.45
2:B:1491:G:H5'	4:C:97:ASP:OD1	2.17	0.45
2:B:838:C:C2	2:B:941:A:C6	3.05	0.45
26:F:59:ILE:H	26:F:59:ILE:HG13	1.51	0.45
14:V:42:LEU:HD11	14:V:89:ILE:HD11	1.99	0.45
23:Q:63:ARG:CZ	23:Q:96:ASP:HA	2.47	0.45
19:H:25:TYR:CD2	19:H:30:LEU:HD11	2.52	0.45
20:J:25:LEU:O	20:J:27:ARG:N	2.46	0.45
25:U:73:ASN:HB3	25:U:95:PHE:CE2	2.52	0.45
2:B:2720:U:H2'	2:B:2721:A:C8	2.51	0.45
1:A:9:G:OP1	22:O:25:ARG:NH1	2.50	0.45
2:B:651:G:OP1	13:3:18:LYS:HG3	2.16	0.45
3:I:19:PRO:HB2	3:I:22:PRO:HD2	1.99	0.45
6:K:87:LEU:HD12	6:K:92:GLU:HA	1.99	0.45
2:B:90:U:H2'	2:B:91:A:C2	2.52	0.45
8:E:150:THR:HG21	8:E:153:LEU:CA	2.44	0.45
19:H:49:ALA:O	19:H:53:GLU:HB2	2.17	0.45
19:H:50:ARG:O	19:H:54:LEU:HD21	2.17	0.45
31:W:16:GLU:CD	31:W:16:GLU:N	2.70	0.45
4:C:15:VAL:HG22	4:C:204:LEU:O	2.16	0.45
2:B:833:A:H1'	16:L:52:GLY:N	2.31	0.45
17:M:57:VAL:O	17:M:59:ARG:N	2.45	0.45
2:B:2399:G:H2'	2:B:2400:G:H8	1.82	0.45
2:B:970:U:H1'	2:B:985:C:P	2.57	0.45
2:B:264:C:C2'	2:B:265:A:H5''	2.47	0.45
31:W:75:ASN:O	31:W:76:ARG:HB2	2.17	0.45
2:B:250:G:H2'	2:B:251:A:C8	2.52	0.45
9:Y:23:LEU:CD1	9:Y:28:LEU:HB2	2.47	0.45
5:D:4:LEU:HD22	5:D:4:LEU:N	2.32	0.45
26:F:131:VAL:O	26:F:132:ARG:HB2	2.17	0.45
2:B:1719:G:O2'	2:B:1720:U:H5'	2.17	0.45
24:S:13:SER:HB3	24:S:16:LYS:HE3	1.99	0.45
5:D:158:GLY:O	5:D:160:LYS:N	2.50	0.45
2:B:39:G:H2'	2:B:40:U:C6	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2013:A:N3	24:S:88:ARG:NH1	2.65	0.45
2:B:2708:G:O2'	2:B:2709:G:H5'	2.17	0.45
2:B:2708:G:H2'	2:B:2709:G:H8	1.82	0.45
2:B:1249:U:O4'	23:Q:3:VAL:HG21	2.16	0.45
2:B:259:G:H2'	2:B:260:G:H8	1.82	0.45
1:A:37:C:H2'	1:A:38:C:O4'	2.17	0.45
10:O:30:ASP:HB3	10:O:33:SER:O	2.17	0.45
29:T:49:LYS:HB2	29:T:50:LEU:HD22	1.98	0.44
2:B:973:A:OP1	2:B:973:A:H8	2.00	0.44
28:R:25:LEU:H	28:R:94:THR:HG21	1.82	0.44
2:B:1553:A:HO2'	2:B:1554:U:H2'	1.81	0.44
8:E:88:ARG:HB3	8:E:89:PRO:HD2	1.99	0.44
2:B:78:U:H2'	2:B:79:C:H6	1.79	0.44
11:4:22:VAL:HB	11:4:24:ARG:NE	2.31	0.44
2:B:655:A:H4'	2:B:656:G:OP1	2.16	0.44
2:B:642:U:H2'	2:B:644:A:OP2	2.17	0.44
25:U:53:GLN:N	25:U:54:PRO:CD	2.80	0.44
1:A:17:C:O2'	1:A:18:G:H5'	2.17	0.44
2:B:82:U:H2'	2:B:83:A:O4'	2.17	0.44
26:F:74:ALA:HB3	26:F:78:ILE:HD13	1.99	0.44
2:B:1510:G:O2'	2:B:1511:G:H5'	2.18	0.44
21:N:12:ARG:HG3	21:N:13:ASN:N	2.30	0.44
1:A:98:G:N1	14:V:14:LYS:HB2	2.32	0.44
5:D:16:THR:HG22	5:D:17:GLU:H	1.82	0.44
5:D:4:LEU:HD21	5:D:100:LEU:CB	2.47	0.44
17:M:35:ALA:HB3	17:M:100:LYS:H	1.82	0.44
2:B:202:U:H2'	2:B:203:A:O4'	2.16	0.44
2:B:840:C:H2'	2:B:841:G:C8	2.52	0.44
2:B:2097:A:H2'	2:B:2098:U:H6	1.82	0.44
2:B:1689:A:O2'	2:B:1690:A:H5'	2.18	0.44
19:H:105:ALA:C	19:H:107:GLY:H	2.21	0.44
2:B:1584:U:H6	2:B:1584:U:O5'	2.00	0.44
2:B:2630:G:H2'	2:B:2631:G:H8	1.82	0.44
2:B:627:A:H4'	2:B:628:G:OP1	2.17	0.44
31:W:59:PHE:HE2	31:W:61:LYS:HA	1.81	0.44
2:B:1203:U:C4'	16:L:3:LEU:HD12	2.44	0.44
32:6:30:THR:CB	32:6:183:ILE:HG12	2.47	0.44
12:1:26:LYS:HB2	12:1:52:LYS:HD2	1.99	0.44
4:C:141:HIS:HB2	4:C:192:GLY:O	2.17	0.44
5:D:107:VAL:CG1	5:D:108:ASP:N	2.80	0.44
5:D:108:ASP:OD2	5:D:206:ALA:HA	2.17	0.44
2:B:2135:A:H3'	2:B:2136:G:C8	2.49	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:85:ARG:CD	25:U:86:PHE:H	2.20	0.44
27:G:90:GLY:HA2	27:G:159:LYS:HE2	1.98	0.44
32:6:39:LEU:O	32:6:53:ASN:ND2	2.50	0.44
2:B:672:C:O2'	2:B:673:C:H5'	2.16	0.44
2:B:125:A:H3'	2:B:126:A:C5'	2.47	0.44
2:B:1993:U:H4'	5:D:133:THR:HG22	1.98	0.44
22:O:93:ASP:C	22:O:95:SER:H	2.20	0.44
2:B:1444:G:H2'	2:B:1445:G:H8	1.82	0.44
2:B:2812:G:H2'	2:B:2813:A:O4'	2.17	0.44
2:B:1258:U:H2'	2:B:1259:G:H8	1.81	0.44
2:B:151:C:O2'	2:B:152:A:H5'	2.18	0.44
32:6:123:GLU:O	32:6:124:GLU:C	2.54	0.44
2:B:626:A:OP1	2:B:654:A:N6	2.49	0.44
2:B:2217:G:O2'	2:B:2218:G:H5'	2.16	0.44
27:G:46:ASP:N	27:G:46:ASP:OD2	2.50	0.44
4:C:43:ASN:N	4:C:47:ARG:O	2.50	0.44
3:I:12:VAL:HG23	3:I:41:PHE:CE2	2.53	0.44
2:B:2030:A:H4'	2:B:2031:A:H5'	2.00	0.44
2:B:2636:C:O5'	5:D:81:GLU:HB2	2.17	0.44
2:B:828:U:H4'	2:B:831:G:H1	1.80	0.44
2:B:1109:C:H3'	2:B:1110:G:C8	2.52	0.44
2:B:2149:U:O2'	2:B:2150:C:H5'	2.17	0.44
2:B:1476:U:HO2'	2:B:1477:A:H8	1.64	0.44
2:B:2467:C:O2'	2:B:2468:A:H5'	2.17	0.44
2:B:270:A:OP1	2:B:271:G:H5'	2.17	0.44
26:F:14:LYS:O	26:F:18:GLU:HB2	2.17	0.44
2:B:975:A:H1'	2:B:990:A:C2	2.53	0.44
2:B:1528:A:H2'	2:B:1529:G:O4'	2.17	0.44
2:B:2370:G:H2'	2:B:2371:G:O4'	2.17	0.44
1:A:42:C:O2'	26:F:91:ARG:NH1	2.51	0.44
23:Q:55:GLN:O	23:Q:59:LEU:HB2	2.17	0.44
24:S:71:VAL:O	24:S:71:VAL:HG22	2.17	0.44
12:1:35:LEU:N	12:1:35:LEU:HD23	2.32	0.44
4:C:28:PRO:O	4:C:30:ALA:N	2.50	0.44
2:B:142:A:O2'	29:T:3:ARG:NH1	2.51	0.44
29:T:69:ARG:NE	29:T:69:ARG:HA	2.31	0.44
2:B:1081:U:C5'	3:I:126:ARG:HD2	2.47	0.44
2:B:1439:A:N3	2:B:1553:A:C6	2.86	0.44
14:V:80:HIS:HD2	14:V:83:LYS:H	1.66	0.44
6:K:47:ILE:HG23	6:K:48:PRO:N	2.31	0.44
2:B:2795:C:H2'	2:B:2796:U:C1'	2.47	0.44
2:B:532:A:N3	2:B:532:A:C2'	2.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:62:LYS:O	7:P:63:ILE:HB	2.18	0.44
2:B:1795:C:O2'	2:B:1796:U:H5'	2.18	0.44
2:B:741:U:H2'	2:B:742:A:H8	1.82	0.44
5:D:55:LYS:H	5:D:76:GLY:H	1.65	0.44
9:Y:7:THR:HA	9:Y:34:THR:HA	1.98	0.44
2:B:31:C:C2'	2:B:32:C:H5'	2.47	0.44
2:B:2210:U:N3	2:B:2212:A:N7	2.65	0.44
2:B:729:G:C5	4:C:206:LYS:HB2	2.52	0.44
2:B:2803:G:O2'	2:B:2804:U:H5'	2.17	0.44
5:D:83:ARG:HG3	5:D:83:ARG:HH21	1.83	0.44
4:C:245:THR:OG1	4:C:249:VAL:HG23	2.17	0.44
2:B:1210:G:N3	2:B:1212:G:N2	2.65	0.44
17:M:66:ARG:HB2	17:M:101:VAL:O	2.17	0.44
12:1:39:ASP:O	12:1:43:ARG:N	2.51	0.44
17:M:31:PHE:HB3	17:M:130:PHE:CZ	2.52	0.44
2:B:285:G:O2'	2:B:286:U:H5'	2.17	0.44
2:B:2856:A:H2'	2:B:2857:G:H8	1.83	0.44
2:B:55:G:H2'	2:B:56:A:H8	1.82	0.44
20:J:12:LYS:HG2	20:J:12:LYS:H	1.68	0.44
23:Q:40:LYS:HA	23:Q:43:GLN:OE1	2.17	0.44
2:B:1885:A:H2'	2:B:1886:U:O4'	2.18	0.44
31:W:49:ASN:O	31:W:50:VAL:HG13	2.18	0.44
26:F:174:PHE:HB3	26:F:176:PHE:CD1	2.53	0.44
25:U:20:LYS:HB2	25:U:20:LYS:NZ	2.32	0.44
27:G:43:LYS:O	27:G:50:THR:N	2.51	0.44
18:X:39:GLN:CB	18:X:42:LEU:HD22	2.48	0.44
2:B:588:U:OP2	16:L:17:LYS:HE2	2.16	0.44
20:J:28:LEU:HD23	20:J:29:ALA:H	1.83	0.44
2:B:2719:G:H4'	2:B:2846:G:O3'	2.18	0.44
11:4:11:CYS:N	11:4:14:CYS:SG	2.91	0.44
2:B:2838:G:H2'	2:B:2839:G:H8	1.82	0.44
2:B:589:U:H2'	2:B:590:A:C8	2.53	0.44
5:D:113:SER:HB3	5:D:167:ASN:CA	2.47	0.44
2:B:532:A:N1	2:B:2020:A:H1'	2.32	0.44
2:B:2186:G:H2'	2:B:2187:U:O4'	2.18	0.44
2:B:2215:C:H2'	2:B:2216:G:C8	2.53	0.44
32:6:174:GLN:CG	32:6:178:LYS:HE2	2.47	0.44
2:B:494:G:O2'	2:B:495:G:H5'	2.16	0.44
2:B:2240:U:O2'	2:B:2241:A:H5'	2.17	0.44
5:D:25:THR:HG21	5:D:193:VAL:HG21	2.00	0.44
2:B:2783:U:H2'	2:B:2784:U:C6	2.52	0.44
2:B:220:G:N1	2:B:427:U:H2'	2.29	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:394:C:C2'	2:B:395:U:H5'	2.48	0.44
2:B:584:C:P	23:Q:5:ARG:HD3	2.57	0.44
2:B:1454:C:C1'	21:N:60:VAL:HG13	2.48	0.44
2:B:2650:U:H2'	2:B:2651:C:C6	2.52	0.44
2:B:1064:C:H2'	2:B:1065:U:O4'	2.18	0.44
2:B:2432:A:O2'	2:B:2433:A:H5'	2.17	0.44
2:B:1802:A:H2'	2:B:1803:A:C8	2.52	0.44
32:6:34:ASN:O	32:6:66:LEU:HD21	2.16	0.44
31:W:23:LYS:O	31:W:24:ARG:C	2.56	0.44
8:E:122:GLU:N	8:E:122:GLU:OE1	2.51	0.44
27:G:30:GLY:H	27:G:78:VAL:HA	1.82	0.44
1:A:75:G:H1	1:A:102:G:N2	2.15	0.44
29:T:21:SER:HB3	29:T:31:VAL:HG22	1.98	0.44
20:J:44:TYR:CD2	23:Q:59:LEU:HD11	2.53	0.44
23:Q:63:ARG:HH12	23:Q:96:ASP:CA	2.30	0.44
24:S:28:LYS:O	24:S:71:VAL:HG12	2.17	0.44
12:1:32:LYS:NZ	12:1:52:LYS:HA	2.33	0.44
2:B:974:G:OP2	28:R:78:ARG:HD3	2.18	0.44
32:6:109:GLU:O	32:6:112:LYS:HB2	2.17	0.44
28:R:37:GLU:O	28:R:39:LEU:HD23	2.17	0.44
2:B:2461:A:H1'	2:B:2492:U:C2	2.52	0.44
2:B:1080:A:H2'	2:B:1081:U:C6	2.52	0.44
32:6:67:VAL:HA	32:6:99:LEU:O	2.18	0.44
6:K:54:LYS:N	6:K:54:LYS:HD2	2.29	0.44
8:E:47:LYS:CA	8:E:51:GLU:HG3	2.47	0.44
21:N:63:ARG:HA	21:N:80:PHE:CE2	2.53	0.44
6:K:99:ILE:HB	6:K:118:LEU:HD22	1.99	0.44
2:B:2309:A:H2'	2:B:2310:C:C6	2.53	0.44
26:F:66:ILE:HA	26:F:85:GLY:O	2.18	0.44
2:B:547:A:H2'	2:B:548:G:H5'	1.99	0.44
2:B:1047:G:O2'	2:B:1110:G:N2	2.44	0.44
4:C:221:GLY:C	4:C:223:ALA:N	2.70	0.44
2:B:1921:G:H2'	2:B:1922:G:O4'	2.17	0.44
25:U:5:ARG:HH21	25:U:5:ARG:HG2	1.82	0.44
5:D:18:ASP:O	7:P:30:TRP:HZ3	2.00	0.44
2:B:1295:C:H2'	2:B:1296:G:H8	1.80	0.44
2:B:2249:U:H4'	2:B:2275:C:C5	2.52	0.44
2:B:1958:C:H2'	2:B:1959:G:H8	1.82	0.44
2:B:2211:A:OP2	2:B:2211:A:H4'	2.18	0.44
2:B:767:U:O2'	2:B:768:G:H5'	2.18	0.44
2:B:305:C:H2'	2:B:306:U:C6	2.52	0.44
2:B:1322:A:OP1	24:S:11:ARG:HD2	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1416:G:O2'	2:B:1417:C:H6	2.00	0.44
31:W:30:VAL:HG13	31:W:30:VAL:O	2.18	0.44
4:C:132:ARG:HA	4:C:166:ARG:NH1	2.32	0.44
26:F:33:ILE:HG22	26:F:34:THR:N	2.32	0.44
32:6:80:GLU:HB2	32:6:92:PRO:HB2	1.99	0.44
32:6:80:GLU:CD	32:6:92:PRO:HB2	2.38	0.44
27:G:140:ILE:HD12	27:G:141:GLY:N	2.33	0.44
18:X:49:ASP:O	18:X:50:VAL:C	2.56	0.44
29:T:29:THR:CB	29:T:86:THR:HA	2.48	0.44
19:H:128:HIS:CE1	19:H:130:VAL:HG22	2.52	0.44
19:H:7:ASP:CG	19:H:8:LYS:N	2.71	0.44
28:R:39:LEU:CB	28:R:53:PHE:HA	2.47	0.44
29:T:74:ILE:HG13	29:T:75:GLY:N	2.31	0.44
8:E:58:LYS:HB2	8:E:60:TRP:CD1	2.52	0.44
13:3:22:LYS:CA	13:3:48:MET:HA	2.44	0.44
6:K:85:VAL:HG21	6:K:115:ILE:HD11	2.00	0.44
4:C:212:TRP:CD1	4:C:212:TRP:C	2.91	0.44
2:B:1518:C:H2'	2:B:1519:G:C8	2.49	0.44
2:B:2485:G:H5''	17:M:125:PRO:HG3	1.99	0.44
25:U:24:VAL:HG22	25:U:35:VAL:HG22	1.99	0.44
5:D:49:GLN:NE2	5:D:79:LEU:HD12	2.33	0.44
23:Q:83:LYS:HZ2	23:Q:83:LYS:HA	1.83	0.44
2:B:1830:C:H2'	2:B:1831:G:H8	1.80	0.44
1:A:30:C:H2'	1:A:31:C:H5'	2.00	0.44
7:P:25:VAL:HA	7:P:85:VAL:C	2.37	0.44
2:B:526:A:N6	2:B:2626:C:C4'	2.80	0.44
2:B:2408:U:O2'	2:B:2409:G:H5'	2.17	0.44
2:B:928:A:H2'	2:B:929:U:O4'	2.18	0.44
2:B:596:U:H2'	2:B:597:G:C8	2.53	0.44
2:B:1661:G:O2'	2:B:1662:U:H5'	2.17	0.44
2:B:757:G:H2'	2:B:758:C:H5'	2.00	0.44
2:B:1668:A:H1'	2:B:1670:C:C5	2.52	0.44
16:L:96:LYS:HE3	16:L:102:GLY:O	2.17	0.44
2:B:335:C:O2'	2:B:336:C:H5'	2.17	0.44
2:B:2365:G:N7	13:3:38:LYS:NZ	2.61	0.44
8:E:11:ALA:O	8:E:12:LEU:HD22	2.18	0.44
22:O:75:GLY:O	22:O:78:VAL:HG23	2.18	0.44
20:J:6:ALA:CB	20:J:45:THR:HG21	2.44	0.44
2:B:1072:C:N3	2:B:1092:C:N4	2.64	0.44
2:B:704:G:O2'	2:B:727:A:N6	2.51	0.44
30:Z:68:LEU:HD22	30:Z:78:TYR:CE1	2.52	0.44
2:B:811:U:H2'	16:L:21:ARG:HA	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:32:VAL:HG22	3:I:60:VAL:CG2	2.48	0.44
17:M:38:ARG:CA	17:M:98:PRO:HD3	2.47	0.44
20:J:21:THR:O	20:J:62:VAL:HA	2.18	0.44
27:G:104:LEU:HD22	27:G:106:LEU:CD2	2.47	0.44
27:G:167:VAL:O	27:G:168:VAL:HB	2.17	0.44
10:O:43:THR:HG23	10:O:47:TYR:C	2.38	0.44
6:K:43:ILE:HG22	6:K:54:LYS:HA	2.00	0.44
17:M:42:THR:HA	17:M:93:VAL:HA	2.00	0.44
2:B:400:G:N7	30:Z:57:ARG:NH1	2.65	0.44
27:G:37:ASN:ND2	27:G:40:VAL:HB	2.26	0.44
19:H:58:LEU:HG	19:H:62:LEU:HD23	1.99	0.44
4:C:204:LEU:HB3	4:C:209:ALA:CB	2.48	0.44
4:C:4:LYS:HB3	4:C:5:CYS:H	1.57	0.44
2:B:1568:G:H4'	4:C:58:LYS:HB3	1.99	0.44
2:B:2294:G:O2'	2:B:2295:C:H5'	2.18	0.44
2:B:2303:G:H1'	26:F:122:ASP:OD2	2.17	0.44
2:B:1782:U:H2'	2:B:1783:A:H5'	1.98	0.44
2:B:265:A:O2'	2:B:266:G:C4'	2.65	0.44
17:M:100:LYS:HD3	17:M:101:VAL:H	1.83	0.44
24:S:13:SER:CB	24:S:16:LYS:HE3	2.47	0.44
2:B:2650:U:H2'	2:B:2651:C:H6	1.81	0.44
2:B:991:C:H5'	2:B:991:C:H6	1.83	0.44
29:T:6:ARG:CZ	29:T:6:ARG:HB3	2.47	0.44
3:I:63:ASP:O	3:I:65:SER:N	2.50	0.44
14:V:46:LYS:HD2	14:V:46:LYS:N	2.33	0.44
8:E:4:VAL:C	8:E:6:LYS:H	2.21	0.44
36:B:3268:HOH:O	8:E:98:LYS:HD3	2.17	0.44
19:H:27:ARG:HG2	19:H:27:ARG:HH21	1.81	0.44
8:E:149:ILE:HD11	8:E:172:ALA:HA	1.99	0.44
32:6:88:LEU:HD23	32:6:90:LEU:CD1	2.47	0.44
27:G:34:ARG:H	27:G:34:ARG:CD	2.29	0.44
14:V:32:GLY:O	14:V:93:ARG:HD2	2.16	0.44
29:T:58:VAL:O	29:T:58:VAL:HG13	2.18	0.44
28:R:59:ILE:HA	28:R:101:ILE:H	1.83	0.44
19:H:80:ILE:HD11	19:H:102:ALA:CB	2.47	0.44
31:W:79:ILE:HG22	31:W:80:SER:N	2.33	0.44
2:B:2230:G:H4'	30:Z:31:PRO:O	2.18	0.44
11:4:13:ASN:OD1	11:4:29:ALA:HB2	2.17	0.44
2:B:99:U:H5	25:U:6:ARG:HH22	1.63	0.44
17:M:47:GLU:CD	17:M:50:ARG:HH11	2.20	0.44
2:B:590:A:H2'	2:B:591:U:H6	1.75	0.44
2:B:2815:C:H2'	2:B:2816:G:H8	1.83	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:49:C:OP1	22:O:102:ARG:N	2.48	0.44
2:B:2244:U:H2'	2:B:2245:U:O4'	2.18	0.44
17:M:108:VAL:HG22	17:M:109:PRO:HD2	1.99	0.44
9:Y:37:ARG:HG2	9:Y:43:ILE:HD11	2.00	0.44
2:B:851:C:H2'	2:B:852:U:H6	1.82	0.44
1:A:6:G:H2'	1:A:7:G:H8	1.82	0.44
4:C:244:VAL:HB	4:C:249:VAL:N	2.31	0.44
2:B:360:U:O2'	2:B:361:G:H5'	2.18	0.44
2:B:1222:U:O2'	2:B:1223:G:H5'	2.18	0.44
2:B:1318:U:H2'	2:B:1319:C:C6	2.53	0.44
15:2:31:LEU:HD22	15:2:42:LEU:CD1	2.48	0.44
2:B:1752:C:H2'	2:B:1753:G:C8	2.53	0.44
2:B:2526:G:O2'	11:4:1:MET:HB2	2.18	0.44
7:P:110:LYS:HD2	7:P:110:LYS:H	1.83	0.44
28:R:55:ASP:N	28:R:55:ASP:OD2	2.50	0.44
2:B:1419:A:H2'	2:B:1421:G:C8	2.52	0.44
28:R:91:GLN:HG3	28:R:92:TRP:N	2.33	0.44
8:E:160:ALA:O	8:E:161:ALA:HB3	2.18	0.44
18:X:42:LEU:O	18:X:46:VAL:HG23	2.18	0.44
4:C:76:VAL:O	4:C:76:VAL:HG23	2.17	0.44
4:C:80:LEU:HD22	4:C:109:LEU:HD12	1.99	0.44
23:Q:86:SER:CB	28:R:51:VAL:HA	2.48	0.44
25:U:86:PHE:HB2	25:U:92:VAL:HB	2.00	0.44
2:B:1141:U:H4'	2:B:1142:A:C1'	2.47	0.44
2:B:1082:U:C2	2:B:1086:A:N1	2.86	0.44
2:B:668:A:C2	2:B:670:A:C6	3.06	0.44
3:I:29:GLN:NE2	3:I:29:GLN:HA	2.32	0.44
2:B:2840:C:O2'	2:B:2841:C:H5'	2.18	0.44
2:B:2562:U:H2'	2:B:2563:U:H5'	1.99	0.44
17:M:69:PRO:C	17:M:71:LYS:H	2.21	0.44
20:J:55:ILE:CG2	20:J:123:LYS:HB2	2.48	0.44
7:P:112:ARG:HB2	7:P:112:ARG:NH1	2.27	0.44
2:B:717:C:C3'	2:B:718:A:H5''	2.46	0.44
27:G:10:VAL:CG1	27:G:14:VAL:HG21	2.48	0.44
26:F:147:ARG:CZ	26:F:147:ARG:HB3	2.48	0.44
4:C:43:ASN:ND2	4:C:44:ASN:N	2.66	0.44
32:6:14:MET:CE	32:6:165:THR:HG23	2.47	0.44
2:B:1938:A:O2'	2:B:1939:U:H5''	2.16	0.44
2:B:2549:G:O2'	2:B:2550:G:H5'	2.17	0.44
21:N:90:ARG:HB3	21:N:94:TYR:CE1	2.53	0.44
1:A:20:G:H2'	1:A:21:G:C8	2.52	0.44
19:H:104:THR:HA	19:H:109:GLU:OE2	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:26:VAL:HG22	17:M:133:LYS:HA	2.00	0.44
28:R:91:GLN:HG3	28:R:92:TRP:H	1.81	0.44
8:E:2:GLU:OE1	8:E:13:THR:N	2.51	0.44
3:I:38:CYS:O	3:I:42:ASN:ND2	2.51	0.44
5:D:56:LYS:HD3	5:D:58:ASN:HB3	1.99	0.44
2:B:1330:C:O2'	2:B:1331:G:H5'	2.17	0.44
2:B:1809:A:H2'	2:B:1810:A:C8	2.53	0.44
4:C:42:ARG:HG3	4:C:46:GLY:O	2.18	0.44
16:L:102:GLY:O	16:L:105:ILE:HG12	2.18	0.43
16:L:92:LEU:HD22	16:L:124:GLY:HA3	2.00	0.43
26:F:165:GLY:O	26:F:169:LEU:HD12	2.17	0.43
5:D:149:ASN:N	5:D:152:PRO:HG2	2.33	0.43
2:B:2230:G:H2'	2:B:2231:U:H6	1.78	0.43
30:Z:59:ILE:HG23	30:Z:67:VAL:HG21	2.00	0.43
32:6:112:LYS:HB3	32:6:116:ARG:HH22	1.77	0.43
28:R:39:LEU:HB2	28:R:49:ILE:HD11	1.99	0.43
2:B:1021:A:H2	2:B:1122:G:H4'	1.83	0.43
2:B:1104:C:H2'	2:B:1105:U:C6	2.48	0.43
2:B:1081:U:H5'	3:I:126:ARG:HD2	1.99	0.43
25:U:73:ASN:HB3	25:U:95:PHE:CD2	2.52	0.43
27:G:167:VAL:HG21	27:G:169:ARG:HH12	1.83	0.43
27:G:168:VAL:HG12	27:G:170:THR:HG23	1.99	0.43
32:6:56:ALA:HB1	32:6:68:VAL:HG12	2.00	0.43
2:B:2723:C:H5''	21:N:1:MET:HE2	1.98	0.43
2:B:1347:A:H2'	2:B:1348:C:O4'	2.18	0.43
2:B:1461:C:H2'	2:B:1462:C:C6	2.53	0.43
14:V:44:HIS:O	14:V:45:ASP:C	2.56	0.43
8:E:46:GLN:HB3	8:E:86:ALA:CA	2.48	0.43
6:K:64:ARG:HG2	6:K:79:PHE:CD2	2.53	0.43
6:K:79:PHE:O	6:K:81:GLY:N	2.51	0.43
6:K:99:ILE:HD13	6:K:118:LEU:CD2	2.46	0.43
2:B:1788:C:C2'	2:B:1789:A:H5'	2.48	0.43
26:F:115:GLY:HA2	26:F:177:ARG:NH1	2.25	0.43
2:B:2729:G:H2'	2:B:2730:C:C6	2.53	0.43
23:Q:7:VAL:O	23:Q:11:ALA:HB2	2.18	0.43
25:U:48:VAL:H	25:U:53:GLN:HB2	1.81	0.43
8:E:109:LEU:HD12	8:E:112:LEU:HD12	1.98	0.43
2:B:2065:C:H2'	2:B:2066:C:H6	1.83	0.43
23:Q:10:ARG:HB2	23:Q:10:ARG:NH1	2.33	0.43
2:B:2428:G:H5''	2:B:2429:G:OP1	2.18	0.43
2:B:1262:A:H2'	2:B:1263:U:O4'	2.17	0.43
2:B:241:A:O2'	13:3:2:LYS:NZ	2.50	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:428:A:O2'	2:B:429:A:H5'	2.18	0.43
2:B:2545:G:O2'	2:B:2546:U:H5'	2.17	0.43
2:B:2221:G:O2'	2:B:2222:C:H5'	2.17	0.43
2:B:1665:A:O2'	2:B:1666:G:H5'	2.17	0.43
2:B:2365:G:O2'	31:W:59:PHE:CE1	2.70	0.43
1:A:75:G:H2'	1:A:76:G:C8	2.53	0.43
23:Q:59:LEU:O	23:Q:62:ALA:HB3	2.18	0.43
2:B:1430:G:H2'	2:B:1431:A:C8	2.54	0.43
2:B:1063:G:O3'	3:I:88:GLY:HA3	2.18	0.43
2:B:1076:C:C4'	3:I:94:LYS:HE3	2.39	0.43
21:N:34:ILE:HG22	21:N:35:LYS:N	2.33	0.43
2:B:2814:A:H2'	2:B:2815:C:C6	2.53	0.43
5:D:117:GLY:O	5:D:164:GLN:HA	2.18	0.43
9:Y:8:GLN:CG	9:Y:31:ILE:HA	2.46	0.43
20:J:96:ARG:CZ	20:J:99:ARG:HD2	2.49	0.43
2:B:1870:C:H5'	2:B:1871:A:N7	2.33	0.43
2:B:1903:G:H2'	2:B:1904:G:H8	1.83	0.43
2:B:1904:G:O2'	2:B:1905:C:H5'	2.19	0.43
2:B:550:C:H2'	2:B:550:C:O2	2.18	0.43
2:B:1613:G:O2'	15:2:3:ARG:HD2	2.18	0.43
2:B:1210:G:H1'	2:B:1212:G:C2	2.53	0.43
1:A:23:G:H2'	1:A:24:G:C8	2.54	0.43
32:6:84:ARG:O	32:6:86:SER:N	2.51	0.43
2:B:1718:G:H2'	2:B:1719:G:C8	2.51	0.43
2:B:1197:G:H2'	2:B:1198:U:H6	1.83	0.43
2:B:1541:C:H2'	2:B:1542:U:H6	1.83	0.43
1:A:79:G:O2'	1:A:80:U:H5'	2.18	0.43
3:I:63:ASP:C	3:I:65:SER:N	2.71	0.43
2:B:732:C:O2'	2:B:733:G:H5'	2.18	0.43
2:B:1419:A:H2'	2:B:1421:G:N7	2.32	0.43
7:P:27:VAL:O	7:P:42:PHE:N	2.51	0.43
2:B:1332:G:H5'	2:B:1332:G:N3	2.33	0.43
3:I:103:ALA:O	3:I:107:GLU:HG3	2.18	0.43
16:L:101:ILE:CG2	16:L:105:ILE:HG13	2.48	0.43
8:E:18:THR:HG22	8:E:106:LYS:HE2	2.00	0.43
8:E:130:LYS:C	8:E:132:LYS:N	2.71	0.43
8:E:18:THR:HG22	8:E:106:LYS:HZ1	1.83	0.43
2:B:2513:A:H2'	2:B:2514:U:C6	2.54	0.43
2:B:2455:G:H2'	2:B:2456:C:H6	1.81	0.43
27:G:94:ARG:HH21	27:G:105:SER:H	1.67	0.43
27:G:148:ARG:HB2	27:G:161:VAL:O	2.18	0.43
2:B:671:C:H2'	2:B:672:C:C6	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:42:SER:C	16:L:44:GLY:N	2.71	0.43
24:S:10:ALA:C	24:S:12:SER:H	2.22	0.43
2:B:1731:G:O2'	2:B:1732:C:H5''	2.18	0.43
2:B:307:G:N1	2:B:310:A:OP2	2.50	0.43
19:H:66:ASN:ND2	19:H:66:ASN:N	2.61	0.43
2:B:1726:C:H2'	2:B:1727:C:H6	1.82	0.43
2:B:2852:G:O2'	2:B:2853:C:H5'	2.17	0.43
2:B:1799:G:H4'	2:B:1800:C:O5'	2.18	0.43
2:B:2277:G:OP1	17:M:86:LYS:N	2.51	0.43
27:G:29:ASN:ND2	27:G:77:GLY:O	2.51	0.43
2:B:2888:C:H2'	2:B:2889:C:C6	2.53	0.43
2:B:596:U:H2'	2:B:597:G:H8	1.83	0.43
3:I:4:VAL:O	3:I:4:VAL:HG13	2.18	0.43
16:L:85:VAL:HG22	16:L:94:THR:HG21	1.99	0.43
8:E:118:LEU:HD21	8:E:188:MET:CE	2.48	0.43
2:B:920:A:H2'	2:B:921:C:H6	1.83	0.43
5:D:32:ASN:HB3	5:D:50:VAL:CG2	2.48	0.43
4:C:70:LYS:HD2	4:C:101:ARG:NH2	2.33	0.43
19:H:79:THR:HG22	19:H:145:ASN:HB2	1.99	0.43
19:H:72:ILE:O	19:H:141:LYS:NZ	2.52	0.43
12:1:26:LYS:HB3	12:1:52:LYS:HZ2	1.84	0.43
3:I:11:GLN:NE2	3:I:74:PRO:HG2	2.33	0.43
2:B:1076:C:H4'	3:I:94:LYS:HZ2	1.82	0.43
23:Q:108:LEU:HD23	28:R:48:LYS:HB2	2.00	0.43
15:2:33:ARG:HH21	15:2:33:ARG:CB	2.31	0.43
2:B:1351:C:H2'	2:B:1352:U:C1'	2.48	0.43
21:N:32:GLU:O	21:N:114:GLU:HA	2.18	0.43
21:N:28:LEU:O	21:N:32:GLU:HA	2.19	0.43
8:E:145:ASP:OD1	8:E:183:PHE:HA	2.18	0.43
2:B:739:A:H5''	2:B:1784:A:C2	2.54	0.43
2:B:1822:C:O2'	2:B:1823:G:H5'	2.19	0.43
19:H:57:LYS:O	19:H:61:VAL:HG12	2.18	0.43
2:B:2897:U:H2'	2:B:2898:U:H6	1.82	0.43
2:B:656:G:H2'	2:B:657:U:O4'	2.18	0.43
2:B:2877:G:O2'	2:B:2878:U:H5'	2.18	0.43
2:B:2805:C:H2'	2:B:2806:C:H6	1.81	0.43
2:B:2300:C:H2'	2:B:2301:C:C6	2.53	0.43
2:B:598:U:H2'	2:B:599:A:C8	2.53	0.43
2:B:2635:A:H5'	5:D:79:LEU:HB2	2.00	0.43
2:B:123:G:H4'	2:B:1376:C:O5'	2.19	0.43
23:Q:24:TYR:CD1	23:Q:25:GLY:N	2.83	0.43
2:B:2774:C:OP1	5:D:169:ARG:HG3	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:39:G:H2'	2:B:40:U:H6	1.83	0.43
28:R:81:LYS:HA	28:R:81:LYS:HD3	1.89	0.43
17:M:63:ILE:N	17:M:63:ILE:HD12	2.32	0.43
2:B:794:A:H2'	2:B:795:C:C6	2.53	0.43
23:Q:81:GLY:HA3	23:Q:112:ALA:HB1	2.00	0.43
2:B:622:G:O2'	2:B:623:C:H5'	2.18	0.43
8:E:146:VAL:CG1	8:E:187:VAL:HG23	2.48	0.43
26:F:111:ARG:HD2	26:F:111:ARG:N	2.33	0.43
26:F:35:LEU:HD13	26:F:56:LEU:CD1	2.46	0.43
32:6:80:GLU:CG	32:6:92:PRO:HB2	2.48	0.43
14:V:72:VAL:HG12	14:V:93:ARG:CA	2.44	0.43
29:T:8:LEU:HD22	29:T:46:ALA:HA	1.99	0.43
20:J:44:TYR:O	20:J:45:THR:CB	2.66	0.43
2:B:2472:G:H1	2:B:2477:U:P	2.42	0.43
19:H:111:ALA:HB3	19:H:114:GLU:CG	2.48	0.43
19:H:116:ARG:H	19:H:130:VAL:HG12	1.82	0.43
12:1:24:LYS:HZ2	12:1:33:LEU:HB2	1.83	0.43
2:B:1076:C:H2'	2:B:1077:A:H8	1.83	0.43
3:I:91:LYS:O	3:I:94:LYS:HB2	2.18	0.43
30:Z:56:MET:HA	30:Z:59:ILE:HG12	1.99	0.43
2:B:971:G:O2'	2:B:972:A:H5'	2.19	0.43
32:6:42:LYS:HA	32:6:50:VAL:C	2.38	0.43
1:A:106:G:H2'	1:A:107:G:O4'	2.18	0.43
16:L:79:LEU:HB2	16:L:113:ALA:H	1.84	0.43
2:B:2019:A:C4'	23:Q:33:VAL:HG11	2.48	0.43
2:B:2081:U:C5'	30:Z:25:THR:HG21	2.49	0.43
13:3:31:ILE:HD11	13:3:34:LYS:CD	2.47	0.43
2:B:2282:G:O2'	2:B:2283:C:OP2	2.28	0.43
2:B:2785:C:H2'	2:B:2786:U:C6	2.53	0.43
5:D:70:LYS:HD3	5:D:70:LYS:C	2.38	0.43
2:B:165:A:H2'	2:B:166:U:O4'	2.18	0.43
6:K:58:LEU:HD23	6:K:58:LEU:H	1.80	0.43
5:D:16:THR:HG22	5:D:17:GLU:N	2.33	0.43
2:B:1173:U:H2'	2:B:1174:U:C4'	2.47	0.43
2:B:691:C:O2'	2:B:692:C:H5'	2.17	0.43
19:H:41:LYS:C	19:H:43:ASN:N	2.71	0.43
2:B:1464:G:O2'	2:B:1465:G:H5'	2.18	0.43
8:E:72:SER:C	8:E:74:LYS:H	2.21	0.43
22:O:56:LYS:O	22:O:57:ALA:C	2.57	0.43
7:P:45:VAL:H	7:P:60:VAL:HB	1.83	0.43
2:B:332:A:O2'	2:B:334:C:OP2	2.36	0.43
20:J:75:TYR:CD1	20:J:86:GLN:HB3	2.52	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1573:G:H2'	2:B:1574:C:H5'	2.01	0.43
15:2:12:ARG:HG2	15:2:44:VAL:HG11	1.99	0.43
2:B:322:A:H1'	2:B:339:U:O2	2.18	0.43
2:B:2269:G:O3'	31:W:18:LYS:HG2	2.18	0.43
2:B:557:C:H2'	2:B:558:U:H6	1.81	0.43
19:H:137:GLU:HG3	19:H:138:VAL:N	2.33	0.43
4:C:80:LEU:HD21	4:C:109:LEU:HB2	2.00	0.43
25:U:86:PHE:CG	25:U:87:GLU:N	2.86	0.43
27:G:148:ARG:HB2	27:G:152:ARG:HH21	1.84	0.43
2:B:1444:G:H2'	2:B:1445:G:C8	2.53	0.43
1:A:65:U:C2'	1:A:66:A:H5'	2.48	0.43
17:M:46:ILE:HG13	17:M:47:GLU:N	2.32	0.43
28:R:63:VAL:HG23	28:R:63:VAL:O	2.18	0.43
2:B:2848:G:N2	2:B:2867:G:C2	2.85	0.43
16:L:115:GLU:OE1	16:L:115:GLU:N	2.52	0.43
29:T:18:GLU:O	29:T:20:ALA:N	2.48	0.43
2:B:2190:G:H2'	2:B:2191:A:C8	2.53	0.43
23:Q:26:ALA:HB1	23:Q:30:VAL:CB	2.49	0.43
6:K:75:SER:HB2	7:P:73:PHE:HA	1.99	0.43
2:B:1811:G:O2'	2:B:1812:U:H5'	2.19	0.43
20:J:73:VAL:O	20:J:74:TYR:HB2	2.18	0.43
5:D:67:HIS:O	5:D:70:LYS:HB3	2.19	0.43
2:B:1846:G:N2	2:B:1848:A:N6	2.67	0.43
26:F:79:ARG:H	26:F:82:TYR:HB2	1.84	0.43
2:B:1783:A:N1	2:B:2587:A:H2'	2.34	0.43
31:W:44:PHE:O	31:W:78:PHE:HA	2.18	0.43
32:6:142:LYS:HE2	32:6:142:LYS:HA	2.00	0.43
17:M:66:ARG:CZ	17:M:101:VAL:HG11	2.47	0.43
29:T:45:ALA:O	29:T:48:GLN:HB2	2.19	0.43
2:B:2671:G:H2'	2:B:2672:U:H6	1.82	0.43
2:B:1900:A:N1	2:B:1970:A:C5	2.86	0.43
21:N:24:MET:CG	21:N:44:LEU:HD22	2.49	0.43
27:G:54:ARG:HD2	27:G:57:TYR:CE1	2.54	0.43
2:B:1100:C:H2'	2:B:1101:U:C6	2.53	0.43
2:B:1183:U:O2'	2:B:1184:U:H5'	2.18	0.43
24:S:88:ARG:N	24:S:92:ARG:O	2.49	0.43
2:B:758:C:O2	2:B:1981:A:H2	2.02	0.43
2:B:1671:U:H2'	2:B:1673:G:OP2	2.18	0.43
2:B:771:G:O2'	2:B:772:C:H5'	2.19	0.43
2:B:2223:G:C2'	2:B:2224:G:H5'	2.48	0.43
31:W:59:PHE:O	31:W:60:ALA:CB	2.66	0.43
31:W:40:ARG:HE	31:W:45:HIS:HE1	1.66	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:24:ILE:HG23	24:S:32:ALA:HB1	2.01	0.43
2:B:1063:G:O2'	3:I:88:GLY:HA3	2.18	0.43
19:H:9:VAL:CG1	19:H:12:LEU:HG	2.48	0.43
3:I:32:VAL:HG22	3:I:60:VAL:HG21	2.01	0.43
23:Q:87:VAL:HG12	23:Q:88:GLU:N	2.33	0.43
20:J:23:LYS:HZ2	20:J:142:ILE:HG23	1.84	0.43
5:D:13:ARG:HG3	5:D:15:PHE:CE1	2.53	0.43
2:B:2348:U:OP1	13:3:37:THR:HG21	2.19	0.43
2:B:2189:U:O2'	2:B:2190:G:H5'	2.18	0.43
3:I:83:ALA:N	3:I:100:ILE:HD11	2.33	0.43
25:U:49:PRO:O	25:U:50:ALA:HB2	2.17	0.43
8:E:176:ASP:O	8:E:180:LEU:HG	2.19	0.43
2:B:518:G:H2'	2:B:519:U:C6	2.54	0.43
2:B:2065:C:H2'	2:B:2066:C:C6	2.53	0.43
2:B:1685:C:H2'	2:B:1686:C:H6	1.83	0.43
2:B:2282:G:O3'	2:B:2283:C:H4'	2.19	0.43
2:B:2636:C:H2'	2:B:2637:U:C6	2.53	0.43
8:E:37:ALA:O	8:E:39:ALA:N	2.50	0.43
32:6:26:ALA:C	32:6:28:LEU:H	2.21	0.43
2:B:1592:C:H2'	2:B:1593:A:H8	1.84	0.43
4:C:245:THR:C	4:C:247:TRP:N	2.72	0.43
2:B:1930:G:C2'	2:B:1931:U:OP2	2.67	0.43
2:B:1251:C:OP2	23:Q:5:ARG:NE	2.50	0.43
2:B:1399:C:H2'	2:B:1400:U:C6	2.54	0.43
2:B:2103:C:H3'	2:B:2104:C:O2	2.19	0.43
5:D:125:TRP:CD1	5:D:160:LYS:HB3	2.53	0.43
22:O:56:LYS:HG2	22:O:60:GLU:OE1	2.19	0.43
12:1:31:GLU:CD	12:1:31:GLU:H	2.21	0.43
9:Y:46:MET:HE2	9:Y:46:MET:HB3	1.76	0.43
20:J:101:ILE:O	20:J:105:VAL:HG22	2.19	0.43
2:B:2641:G:H2'	2:B:2642:G:H8	1.82	0.43
2:B:193:U:H4'	2:B:803:U:H5'	2.01	0.43
2:B:2313:C:H5''	26:F:87:LYS:CE	2.49	0.43
27:G:34:ARG:HG2	27:G:34:ARG:HH11	1.84	0.43
14:V:29:ILE:HG13	14:V:88:HIS:CE1	2.50	0.43
2:B:2570:G:H2'	2:B:2571:U:O4'	2.19	0.43
24:S:2:GLU:O	24:S:3:THR:C	2.57	0.43
19:H:80:ILE:CD1	19:H:102:ALA:HB2	2.44	0.43
31:W:58:LEU:HD22	31:W:58:LEU:N	2.34	0.43
19:H:10:ALA:C	19:H:12:LEU:H	2.22	0.43
30:Z:49:LEU:HD12	30:Z:49:LEU:N	2.28	0.43
2:B:2492:U:O2'	2:B:2493:U:H5'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:45:ASP:C	26:F:47:LYS:H	2.22	0.43
2:B:363:G:H2'	2:B:364:C:C5	2.53	0.43
10:O:27:LEU:HB2	10:O:28:SER:H	1.65	0.43
17:M:46:ILE:CG1	17:M:47:GLU:N	2.81	0.43
21:N:61:ALA:C	21:N:63:ARG:H	2.22	0.43
6:K:64:ARG:HD2	6:K:102:PRO:O	2.19	0.43
2:B:1797:G:C6	2:B:1823:G:C6	3.07	0.43
27:G:37:ASN:HD22	27:G:38:ASP:H	1.67	0.43
27:G:10:VAL:N	27:G:48:THR:HG22	2.34	0.43
2:B:1680:U:H2'	2:B:1681:G:O4'	2.18	0.43
2:B:2209:G:H2'	2:B:2210:U:C5	2.52	0.43
2:B:545:U:H2'	2:B:547:A:OP2	2.19	0.43
2:B:2606:C:O2'	2:B:2607:G:H5'	2.18	0.43
2:B:2439:A:H4'	2:B:2440:C:O5'	2.19	0.43
2:B:1742:U:H2'	2:B:1743:G:H8	1.82	0.43
2:B:2694:G:H2'	2:B:2695:U:C6	2.53	0.43
2:B:1863:G:H2'	2:B:1864:U:O4'	2.18	0.43
2:B:823:C:H2'	2:B:824:U:H6	1.79	0.43
2:B:1294:U:C2'	2:B:1295:C:H5'	2.48	0.43
2:B:686:U:O2'	15:2:5:PHE:HA	2.19	0.43
2:B:1315:C:H2'	2:B:1316:U:C6	2.54	0.43
2:B:1720:U:H2'	2:B:1721:G:O4'	2.19	0.43
17:M:105:MET:HB2	17:M:117:PHE:HZ	1.84	0.43
2:B:2322:A:H3'	2:B:2323:G:C8	2.52	0.43
2:B:2098:U:H2'	2:B:2099:U:C6	2.53	0.43
2:B:377:G:H2'	2:B:378:C:H6	1.84	0.43
2:B:2397:G:H2'	2:B:2398:U:C6	2.53	0.43
2:B:1197:G:O2'	2:B:1198:U:H5'	2.19	0.43
19:H:104:THR:HG23	19:H:104:THR:O	2.19	0.43
2:B:499:U:H2'	2:B:500:G:O4'	2.19	0.43
2:B:910:A:H2'	2:B:911:A:C8	2.53	0.43
16:L:118:THR:O	16:L:120:VAL:HG23	2.19	0.43
19:H:2:GLN:O	19:H:3:VAL:O	2.37	0.43
32:6:29:ARG:O	32:6:30:THR:O	2.37	0.43
32:6:90:LEU:O	32:6:92:PRO:HD3	2.19	0.43
27:G:97:VAL:HA	27:G:102:ILE:HA	2.01	0.43
29:T:11:LEU:CD2	29:T:46:ALA:HB1	2.44	0.43
24:S:51:LEU:C	24:S:53:SER:H	2.20	0.43
19:H:144:VAL:HG12	19:H:145:ASN:N	2.34	0.43
30:Z:7:VAL:HG21	30:Z:59:ILE:CD1	2.44	0.43
16:L:18:ARG:C	16:L:19:LEU:HD12	2.39	0.43
3:I:37:PHE:HB2	3:I:66:PHE:CZ	2.54	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:Q:106:THR:O	23:Q:109:VAL:HB	2.19	0.43
26:F:29:ARG:H	26:F:29:ARG:CD	2.31	0.43
27:G:162:ARG:CZ	27:G:168:VAL:HG21	2.49	0.43
12:1:46:VAL:HG22	12:1:47:ILE:H	1.84	0.43
17:M:127:LYS:HD2	17:M:127:LYS:N	2.32	0.43
11:4:9:LYS:O	11:4:10:LEU:HD23	2.19	0.43
2:B:275:C:N3	2:B:276:U:H1'	2.34	0.43
2:B:2727:A:O3'	6:K:70:ARG:NH2	2.51	0.43
2:B:1844:C:O3'	4:C:255:LYS:HE2	2.18	0.43
2:B:28:A:O2'	2:B:29:U:H5'	2.17	0.43
4:C:15:VAL:HG13	4:C:204:LEU:O	2.19	0.43
2:B:2031:A:C6	2:B:2498:C:H1'	2.53	0.43
2:B:1561:C:H2'	2:B:1562:U:H6	1.84	0.43
2:B:1455:G:H5'	21:N:60:VAL:HG21	2.00	0.43
2:B:2109:U:H2'	2:B:2110:G:O4'	2.19	0.43
2:B:1144:A:O2'	2:B:1145:C:H5'	2.19	0.43
2:B:1468:U:H2'	2:B:1522:A:N6	2.34	0.43
2:B:2752:C:O2	2:B:2752:C:H2'	2.18	0.43
4:C:196:ASN:O	4:C:197:ALA:HB3	2.19	0.43
2:B:2702:G:H2'	2:B:2703:C:C6	2.53	0.43
7:P:64:SER:O	7:P:66:GLY:N	2.47	0.43
31:W:54:ARG:C	31:W:56:HIS:H	2.22	0.43
16:L:75:ALA:HB3	16:L:108:ALA:HB2	2.01	0.43
22:O:64:TYR:HD2	22:O:67:ASN:HB2	1.84	0.43
1:A:42:C:C6	26:F:65:LEU:HD22	2.54	0.43
5:D:187:LEU:HD12	5:D:188:LEU:N	2.34	0.43
32:6:41:LEU:CD2	32:6:83:ILE:HD13	2.49	0.43
27:G:34:ARG:N	27:G:34:ARG:CD	2.81	0.43
4:C:90:ILE:HG23	4:C:91:ALA:N	2.33	0.43
2:B:960:A:H61	17:M:82:MET:CE	2.32	0.43
2:B:1081:U:H4'	3:I:123:ALA:HB1	2.00	0.43
27:G:106:LEU:N	27:G:106:LEU:HD23	2.34	0.43
27:G:91:VAL:O	27:G:93:TYR:N	2.49	0.43
2:B:2444:G:P	8:E:63:LYS:HD2	2.59	0.43
2:B:116:C:O2'	2:B:117:G:H5'	2.19	0.43
2:B:1350:C:H2'	2:B:1350:C:O2	2.19	0.43
2:B:1628:G:O2'	2:B:1629:U:H5'	2.18	0.43
10:0:41:HIS:O	10:0:42:ILE:O	2.37	0.43
17:M:93:VAL:HG22	17:M:94:ALA:H	1.83	0.43
22:O:106:LEU:HG	22:O:107:ALA:N	2.34	0.43
21:N:107:ASN:ND2	24:S:40:ASN:ND2	2.62	0.43
4:C:41:GLY:CA	4:C:53:ILE:HG21	2.42	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:48:VAL:HG13	25:U:48:VAL:O	2.19	0.43
2:B:1824:G:OP1	4:C:51:ARG:HD3	2.19	0.43
2:B:2064:C:H1'	2:B:2450:A:C5	2.54	0.43
2:B:1902:C:H2'	2:B:1903:G:O4'	2.18	0.43
2:B:1902:C:H4'	4:C:241:LYS:O	2.19	0.43
12:1:3:GLY:C	12:1:5:ARG:N	2.72	0.43
10:0:2:VAL:HG12	10:0:3:GLN:H	1.84	0.43
2:B:1561:C:H2'	2:B:1562:U:C6	2.53	0.43
2:B:2521:C:H2'	2:B:2522:U:C6	2.54	0.43
2:B:208:C:H2'	2:B:209:C:C6	2.53	0.43
2:B:1064:C:O2'	2:B:1065:U:H5'	2.19	0.43
2:B:1064:C:O4'	3:I:90:GLY:HA2	2.18	0.43
2:B:57:C:H2'	2:B:58:G:H8	1.84	0.43
2:B:1880:U:H2'	2:B:1881:C:C6	2.54	0.43
2:B:1994:C:O2'	2:B:1995:U:H5'	2.18	0.43
21:N:70:THR:O	21:N:70:THR:OG1	2.37	0.43
2:B:2779:U:H5''	2:B:2780:G:H3'	2.01	0.43
16:L:81:ASP:O	16:L:82:LEU:HB2	2.19	0.42
8:E:161:ALA:HB1	8:E:167:VAL:HG22	2.01	0.42
31:W:29:SER:O	31:W:30:VAL:HB	2.19	0.42
26:F:111:ARG:NH2	26:F:113:PHE:HB2	2.34	0.42
32:6:30:THR:HG21	32:6:182:GLU:OE2	2.19	0.42
27:G:34:ARG:HG2	27:G:34:ARG:NH1	2.33	0.42
27:G:8:VAL:HG22	27:G:51:PHE:HE2	1.84	0.42
20:J:45:THR:H	20:J:46:PRO:CD	2.25	0.42
12:1:50:GLU:O	12:1:51:ALA:HB2	2.19	0.42
30:Z:63:GLY:O	30:Z:67:VAL:HG23	2.19	0.42
2:B:956:G:H1'	17:M:82:MET:HE1	2.00	0.42
27:G:90:GLY:HA2	27:G:159:LYS:HB3	2.01	0.42
19:H:147:VAL:HG12	19:H:148:ALA:H	1.84	0.42
2:B:2020:A:H5'	10:0:8:THR:HB	2.01	0.42
2:B:2051:A:H5'	2:B:2578:G:O4'	2.19	0.42
23:Q:9:ALA:C	23:Q:11:ALA:N	2.71	0.42
23:Q:9:ALA:O	23:Q:11:ALA:N	2.52	0.42
2:B:2373:G:O2'	2:B:2374:C:H5'	2.19	0.42
2:B:2485:G:C2'	2:B:2486:C:H5'	2.48	0.42
2:B:1592:C:H2'	2:B:1593:A:C8	2.53	0.42
21:N:41:ALA:C	21:N:43:GLU:N	2.72	0.42
2:B:689:A:H2'	2:B:690:G:H8	1.84	0.42
23:Q:73:ILE:HG13	23:Q:74:SER:N	2.34	0.42
2:B:2199:A:H3'	2:B:2200:C:C6	2.54	0.42
8:E:136:GLN:NE2	8:E:139:LYS:HD3	2.34	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2526:G:N3	11:4:1:MET:N	2.62	0.42
2:B:305:C:O2'	2:B:306:U:H5'	2.19	0.42
2:B:2223:G:H2'	2:B:2224:G:H5'	2.01	0.42
26:F:68:LYS:HG3	26:F:81:GLY:O	2.19	0.42
24:S:25:ARG:NE	24:S:74:ILE:HG23	2.35	0.42
25:U:10:VAL:HA	25:U:70:ALA:O	2.19	0.42
25:U:21:ARG:HG3	25:U:21:ARG:HH11	1.83	0.42
2:B:2748:A:H1'	27:G:66:THR:HB	2.01	0.42
27:G:43:LYS:O	27:G:49:LEU:HA	2.20	0.42
14:V:35:GLU:HG3	14:V:93:ARG:CZ	2.49	0.42
29:T:43:ILE:O	29:T:46:ALA:HB3	2.18	0.42
24:S:28:LYS:HD2	24:S:30:SER:H	1.85	0.42
5:D:32:ASN:HB3	5:D:50:VAL:HG21	2.00	0.42
19:H:80:ILE:HB	19:H:144:VAL:CG1	2.48	0.42
2:B:2845:U:O3'	7:P:52:ARG:NH1	2.51	0.42
7:P:52:ARG:HG2	7:P:52:ARG:NH1	2.32	0.42
22:O:39:VAL:HB	22:O:49:VAL:HG22	2.00	0.42
10:O:28:SER:HB2	10:O:39:ARG:HG2	2.01	0.42
11:4:25:VAL:HB	11:4:35:GLN:HE21	1.84	0.42
8:E:46:GLN:HB3	8:E:86:ALA:HA	2.01	0.42
4:C:204:LEU:CD2	4:C:209:ALA:HB1	2.49	0.42
2:B:851:C:O2'	2:B:852:U:H5'	2.18	0.42
26:F:141:ASP:HB3	26:F:144:LYS:HB2	2.01	0.42
4:C:66:PHE:CD2	4:C:104:LEU:HD11	2.54	0.42
2:B:2301:C:O2'	2:B:2302:U:H5'	2.18	0.42
2:B:1713:A:H4'	2:B:1714:U:OP2	2.19	0.42
17:M:35:ALA:HB2	17:M:100:LYS:H	1.84	0.42
17:M:66:ARG:HD2	17:M:101:VAL:HG11	2.00	0.42
17:M:66:ARG:CB	17:M:101:VAL:HG13	2.49	0.42
17:M:31:PHE:CE2	17:M:110:GLU:HA	2.53	0.42
2:B:699:A:H2'	2:B:700:G:O4'	2.19	0.42
5:D:14:ILE:HG23	5:D:14:ILE:O	2.18	0.42
5:D:56:LYS:CD	5:D:58:ASN:HB3	2.49	0.42
21:N:22:ARG:HG3	21:N:70:THR:HA	2.02	0.42
2:B:2234:G:O2'	2:B:2235:G:H5'	2.18	0.42
2:B:527:C:H5'	36:B:3231:HOH:O	2.19	0.42
2:B:527:C:O2	2:B:527:C:O4'	2.34	0.42
2:B:1281:G:O2'	2:B:1282:U:H5'	2.18	0.42
19:H:32:PRO:O	19:H:33:GLN:HB2	2.18	0.42
30:Z:40:VAL:CG2	30:Z:43:GLU:HB3	2.50	0.42
8:E:187:VAL:HG12	8:E:188:MET:N	2.34	0.42
26:F:111:ARG:O	26:F:112:ASP:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:11:ILE:HA	25:U:20:LYS:O	2.19	0.42
32:6:38:LEU:HD22	32:6:83:ILE:CD1	2.49	0.42
14:V:76:ASP:O	14:V:89:ILE:HG22	2.19	0.42
27:G:116:LEU:HD23	27:G:120:ILE:HD13	2.00	0.42
24:S:66:ILE:O	24:S:69:LEU:HB2	2.19	0.42
30:Z:63:GLY:HA3	30:Z:66:THR:OG1	2.20	0.42
32:6:77:LYS:C	32:6:81:LYS:HE3	2.40	0.42
2:B:1103:A:H2'	2:B:1104:C:O4'	2.19	0.42
2:B:1079:C:O2'	3:I:133:ARG:NH2	2.52	0.42
19:H:90:LEU:HD22	19:H:123:ARG:HA	2.01	0.42
1:A:66:A:N6	1:A:107:G:H2'	2.27	0.42
17:M:40:ARG:HB2	17:M:93:VAL:HG22	2.01	0.42
28:R:7:SER:HB3	28:R:12:HIS:ND1	2.35	0.42
2:B:728:G:O2'	2:B:730:A:H8	1.96	0.42
2:B:2875:C:O2'	2:B:2876:G:H5'	2.19	0.42
4:C:211:ARG:HD2	4:C:215:VAL:O	2.19	0.42
2:B:643:A:C5	2:B:644:A:N7	2.87	0.42
5:D:193:VAL:O	5:D:194:PRO:O	2.37	0.42
4:C:231:HIS:HA	4:C:241:LYS:HE3	2.01	0.42
17:M:57:VAL:O	17:M:60:GLN:HG2	2.19	0.42
4:C:180:MET:HB2	4:C:268:ARG:CB	2.49	0.42
2:B:1192:G:C2'	2:B:1193:G:H5'	2.49	0.42
20:J:72:LYS:HB3	20:J:89:PHE:H	1.85	0.42
2:B:1387:A:H5'	2:B:1469:A:O2'	2.19	0.42
3:I:14:ALA:CB	3:I:50:LYS:HA	2.49	0.42
4:C:21:PRO:C	4:C:23:LEU:H	2.23	0.42
21:N:24:MET:HG2	21:N:44:LEU:HD13	2.00	0.42
14:V:5:ASN:N	14:V:5:ASN:OD1	2.53	0.42
19:H:104:THR:O	19:H:105:ALA:HB2	2.18	0.42
2:B:2599:G:O2'	2:B:2600:A:H5'	2.20	0.42
2:B:2403:C:O2'	2:B:2404:U:H5'	2.19	0.42
8:E:67:ARG:NH1	8:E:70:SER:OG	2.52	0.42
3:I:15:GLY:O	3:I:16:MET:HB2	2.19	0.42
2:B:388:G:N7	2:B:390:U:H2'	2.35	0.42
16:L:103:ILE:H	16:L:103:ILE:CD1	2.29	0.42
16:L:3:LEU:HA	16:L:6:LEU:HD21	2.01	0.42
32:6:114:LEU:HB3	32:6:183:ILE:CG2	2.46	0.42
27:G:30:GLY:N	27:G:78:VAL:HA	2.34	0.42
14:V:42:LEU:CD2	14:V:42:LEU:H	2.23	0.42
29:T:41:ALA:C	29:T:43:ILE:H	2.23	0.42
26:F:163:GLU:O	26:F:166:ARG:HB2	2.19	0.42
19:H:114:GLU:HB3	19:H:133:GLN:O	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:141:HIS:HB3	4:C:190:THR:OG1	2.20	0.42
2:B:1076:C:H2'	2:B:1077:A:C8	2.54	0.42
5:D:177:VAL:O	5:D:177:VAL:HG23	2.18	0.42
23:Q:111:LYS:HZ3	28:R:50:GLY:HA2	1.85	0.42
28:R:2:TYR:HB2	28:R:42:ALA:CB	2.38	0.42
1:A:8:C:H2'	1:A:9:G:O4'	2.20	0.42
2:B:1547:C:H2'	2:B:1548:A:H8	1.84	0.42
2:B:2834:G:H2'	2:B:2879:A:H61	1.85	0.42
2:B:2081:U:H2'	2:B:2082:A:C8	2.54	0.42
2:B:1796:U:O2'	2:B:1797:G:H5'	2.19	0.42
2:B:2876:G:H5''	7:P:2:ASN:HB2	2.01	0.42
32:6:10:THR:HG22	32:6:164:ILE:HG21	2.01	0.42
20:J:103:ILE:HG13	20:J:104:ALA:N	2.35	0.42
2:B:1131:G:N2	2:B:2024:G:N2	2.65	0.42
2:B:2028:U:O2'	2:B:2029:G:H5'	2.19	0.42
25:U:41:VAL:N	25:U:60:LYS:O	2.53	0.42
21:N:41:ALA:C	21:N:43:GLU:H	2.23	0.42
2:B:735:A:H2'	2:B:736:C:O4'	2.19	0.42
2:B:484:C:H2'	2:B:485:C:C6	2.54	0.42
2:B:1877:A:H2'	2:B:1878:G:O4'	2.20	0.42
2:B:839:U:H2'	2:B:840:C:C6	2.54	0.42
2:B:2106:U:H2'	2:B:2107:G:H8	1.85	0.42
6:K:121:GLU:O	6:K:122:VAL:C	2.57	0.42
2:B:2648:G:H2'	2:B:2649:C:C6	2.54	0.42
9:Y:9:THR:HB	9:Y:10:ARG:H	1.71	0.42
2:B:387:U:H4'	2:B:388:G:O4'	2.19	0.42
2:B:196:A:H2'	2:B:196:A:N3	2.35	0.42
2:B:1851:U:H2'	2:B:1852:U:C6	2.54	0.42
2:B:1107:G:H2'	2:B:1108:U:H6	1.85	0.42
23:Q:14:LYS:HA	23:Q:17:LEU:HB3	2.01	0.42
2:B:1392:A:H2'	2:B:1393:A:C8	2.54	0.42
29:T:39:THR:O	29:T:40:LYS:HB2	2.20	0.42
23:Q:91:ARG:HH12	28:R:10:LYS:CB	2.32	0.42
4:C:76:VAL:O	4:C:93:VAL:O	2.37	0.42
2:B:725:G:H2'	2:B:726:G:O4'	2.19	0.42
2:B:2228:G:N2	30:Z:34:HIS:CE1	2.87	0.42
17:M:19:GLY:N	17:M:38:ARG:NH1	2.64	0.42
2:B:960:A:H4'	2:B:2457:U:H4'	2.01	0.42
2:B:960:A:H61	17:M:82:MET:HE1	1.83	0.42
32:6:53:ASN:C	32:6:55:ILE:H	2.21	0.42
7:P:29:VAL:O	7:P:40:GLN:N	2.53	0.42
2:B:115:C:O2'	2:B:116:C:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:R:7:SER:CB	28:R:22:LEU:HD22	2.50	0.42
2:B:1789:A:OP2	4:C:220:ARG:HD3	2.18	0.42
4:C:52:HIS:O	4:C:53:ILE:HB	2.20	0.42
2:B:1779:U:H5	2:B:1784:A:N7	2.17	0.42
30:Z:53:ALA:O	30:Z:55:GLY:N	2.44	0.42
13:3:30:HIS:CD2	13:3:31:ILE:N	2.88	0.42
2:B:308:G:H2'	2:B:309:A:O4'	2.20	0.42
15:2:6:GLN:HA	15:2:7:PRO:HD2	1.89	0.42
2:B:1309:G:H4'	15:2:7:PRO:CB	2.48	0.42
1:A:15:A:O2'	1:A:16:G:H5'	2.20	0.42
2:B:2654:A:N1	2:B:2665:A:H5''	2.34	0.42
2:B:1130:U:O2'	2:B:1131:G:H2'	2.18	0.42
2:B:598:U:H2'	2:B:599:A:H8	1.84	0.42
28:R:14:VAL:CG2	28:R:15:SER:N	2.82	0.42
2:B:253:C:H2'	2:B:254:G:O4'	2.19	0.42
13:3:7:ARG:O	13:3:8:GLY:C	2.58	0.42
18:X:27:ASN:HA	18:X:27:ASN:HD22	1.62	0.42
27:G:112:VAL:HG13	27:G:150:TYR:HE2	1.84	0.42
2:B:2393:U:H2'	2:B:2394:C:C6	2.54	0.42
2:B:1544:A:H2'	2:B:1545:A:C8	2.54	0.42
2:B:1322:A:C2'	2:B:1323:C:H5'	2.49	0.42
2:B:2724:U:H2'	2:B:2725:A:C8	2.54	0.42
32:6:176:ALA:O	32:6:180:GLU:HB2	2.19	0.42
4:C:149:LYS:HD3	4:C:152:GLN:HE22	1.83	0.42
6:K:71:ARG:CZ	6:K:72:PRO:HD3	2.50	0.42
2:B:877:A:H2'	2:B:899:A:C6	2.51	0.42
14:V:70:ILE:CD1	14:V:71:LYS:N	2.82	0.42
29:T:31:VAL:C	29:T:32:LEU:HD23	2.40	0.42
29:T:50:LEU:O	29:T:51:PHE:HB2	2.19	0.42
24:S:108:SER:OG	24:S:109:ASP:N	2.52	0.42
30:Z:5:CYS:HB3	30:Z:10:LYS:H	1.84	0.42
17:M:18:ARG:C	17:M:38:ARG:HH22	2.23	0.42
25:U:73:ASN:ND2	25:U:76:THR:H	2.16	0.42
2:B:1439:A:C5	2:B:1552:A:N6	2.86	0.42
21:N:55:ALA:HB1	21:N:80:PHE:H	1.83	0.42
6:K:104:THR:OG1	6:K:107:LEU:HD11	2.18	0.42
2:B:372:G:N7	30:Z:57:ARG:HB3	2.34	0.42
2:B:1516:G:H2'	2:B:1517:G:H8	1.85	0.42
2:B:415:A:H2'	2:B:416:U:C6	2.55	0.42
16:L:127:VAL:HG22	16:L:128:THR:N	2.34	0.42
19:H:85:GLY:HA3	19:H:91:PHE:CE1	2.54	0.42
1:A:13:G:C5	1:A:70:C:H4'	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:546:U:H5'	2:B:548:G:O6	2.20	0.42
24:S:99:ARG:HG2	24:S:99:ARG:H	1.44	0.42
26:F:74:ALA:HB1	26:F:76:PHE:CD2	2.54	0.42
2:B:826:U:H5''	2:B:2428:G:O3'	2.19	0.42
2:B:2032:G:N7	2:B:2454:G:H1'	2.33	0.42
31:W:44:PHE:HE2	31:W:76:ARG:NE	2.17	0.42
31:W:77:LYS:HZ3	31:W:77:LYS:HB2	1.85	0.42
27:G:154:GLU:O	27:G:156:TYR:N	2.42	0.42
2:B:522:A:H2'	2:B:523:C:H6	1.84	0.42
2:B:2745:C:O2'	27:G:142:GLN:HB2	2.20	0.42
2:B:816:C:O2'	2:B:817:C:H5'	2.19	0.42
4:C:262:THR:O	4:C:265:PHE:N	2.49	0.42
2:B:1734:G:O2'	2:B:1735:A:H5'	2.20	0.42
24:S:95:ARG:HG3	24:S:97:LEU:HD21	2.02	0.42
4:C:216:ARG:HE	4:C:217:PRO:HD2	1.83	0.42
22:O:36:TYR:CD2	22:O:36:TYR:N	2.87	0.42
2:B:1027:A:N3	2:B:2488:G:H5''	2.34	0.42
17:M:63:ILE:HD12	17:M:63:ILE:H	1.85	0.42
16:L:47:ARG:HH21	16:L:47:ARG:CB	2.32	0.42
2:B:1702:G:H2'	2:B:1703:G:O4'	2.19	0.42
8:E:149:ILE:O	8:E:188:MET:HA	2.20	0.42
2:B:2315:G:H2'	2:B:2316:G:H8	1.85	0.42
26:F:91:ARG:HD3	26:F:91:ARG:N	2.35	0.42
25:U:72:PHE:CZ	25:U:77:GLY:HA2	2.55	0.42
14:V:1:MET:HE2	14:V:2:PHE:H	1.84	0.42
14:V:66:ASP:CG	14:V:68:LYS:HE2	2.40	0.42
23:Q:91:ARG:HH12	28:R:10:LYS:HB3	1.84	0.42
1:A:83:G:O2'	1:A:84:G:H5'	2.20	0.42
19:H:114:GLU:O	19:H:132:PHE:HA	2.19	0.42
12:1:34:GLU:HA	12:1:48:TYR:O	2.19	0.42
2:B:1060:U:C1'	2:B:1062:G:H5'	2.50	0.42
2:B:1245:G:OP1	16:L:8:PRO:HG2	2.19	0.42
2:B:143:C:H1'	29:T:2:ILE:O	2.19	0.42
2:B:2155:U:H3'	2:B:2156:G:C8	2.55	0.42
25:U:73:ASN:OD1	25:U:75:ALA:HB3	2.20	0.42
27:G:145:ALA:O	27:G:148:ARG:HD2	2.20	0.42
27:G:166:GLU:HG2	27:G:167:VAL:N	2.35	0.42
27:G:167:VAL:HG23	27:G:168:VAL:N	2.26	0.42
2:B:1348:C:H2'	2:B:1349:C:H5'	2.00	0.42
10:0:38:LEU:HD23	10:0:39:ARG:N	2.35	0.42
2:B:2886:A:N7	10:0:39:ARG:NE	2.67	0.42
2:B:820:A:H1'	2:B:943:A:O2'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:109:SER:C	6:K:111:LYS:H	2.23	0.42
2:B:2018:G:O2'	2:B:2019:A:H5'	2.19	0.42
2:B:1820:U:H4'	2:B:1821:A:OP2	2.20	0.42
2:B:711:G:O2'	2:B:712:G:H5'	2.20	0.42
19:H:49:ALA:O	19:H:53:GLU:N	2.53	0.42
2:B:629:G:H2'	2:B:630:G:C8	2.55	0.42
2:B:2300:C:H2'	2:B:2301:C:H6	1.84	0.42
17:M:126:ILE:N	17:M:126:ILE:HD12	2.35	0.42
2:B:1847:A:H1'	2:B:1848:A:N7	2.35	0.42
2:B:1651:G:H2'	2:B:1652:A:O4'	2.19	0.42
27:G:154:GLU:C	27:G:156:TYR:H	2.21	0.42
2:B:1639:C:C2'	2:B:1640:A:H5'	2.50	0.42
2:B:1882:U:O2'	2:B:1883:U:H5'	2.19	0.42
2:B:1521:G:O5'	2:B:1522:A:H2'	2.20	0.42
2:B:2001:C:H4'	2:B:2689:U:O2'	2.20	0.42
2:B:1833:C:H2'	2:B:1834:U:H6	1.85	0.42
23:Q:17:LEU:HG	23:Q:17:LEU:O	2.19	0.42
19:H:28:ASN:HA	19:H:28:ASN:HD22	1.62	0.42
8:E:171:ASP:CG	8:E:172:ALA:N	2.73	0.42
8:E:20:GLY:O	8:E:21:ARG:C	2.58	0.42
2:B:2352:A:H8	2:B:2352:A:O5'	2.03	0.42
2:B:2352:A:N6	2:B:2365:G:O2'	2.51	0.42
26:F:134:GLN:C	26:F:136:ILE:N	2.72	0.42
25:U:10:VAL:O	25:U:21:ARG:HG2	2.20	0.42
5:D:186:LEU:CD2	7:P:3:ILE:HD11	2.46	0.42
7:P:4:ILE:HA	7:P:7:LEU:CD1	2.48	0.42
27:G:42:VAL:HA	27:G:50:THR:O	2.20	0.42
14:V:63:ILE:HG22	14:V:65:VAL:HG13	2.00	0.42
2:B:2511:U:O5'	2:B:2511:U:H6	2.02	0.42
27:G:137:LYS:O	27:G:140:ILE:HG13	2.20	0.42
18:X:36:GLN:HB2	18:X:37:LEU:H	1.65	0.42
18:X:46:VAL:O	18:X:49:ASP:HB2	2.20	0.42
2:B:559:G:H22	23:Q:48:ASP:CG	2.23	0.42
28:R:60:LYS:N	28:R:100:GLY:HA3	2.22	0.42
19:H:134:VAL:CG1	19:H:135:HIS:H	2.31	0.42
4:C:140:VAL:O	4:C:141:HIS:HB2	2.19	0.42
27:G:94:ARG:NE	27:G:94:ARG:C	2.72	0.42
2:B:2142:A:H2'	2:B:2143:C:N1	2.34	0.42
2:B:2038:G:H2'	2:B:2039:U:O4'	2.20	0.42
10:O:38:LEU:HB3	10:O:41:HIS:NE2	2.35	0.42
14:V:83:LYS:HA	14:V:84:PRO:HD3	1.95	0.42
6:K:19:VAL:HG23	6:K:41:ILE:HD11	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:79:PHE:HZ	6:K:104:THR:HG23	1.85	0.42
6:K:115:ILE:CG2	6:K:116:ILE:N	2.82	0.42
2:B:2544:G:H1'	2:B:2646:C:H5'	2.01	0.42
8:E:165:HIS:CD2	8:E:166:LYS:HG2	2.55	0.42
25:U:65:GLN:HB3	25:U:65:GLN:HE21	1.52	0.42
15:2:9:VAL:HG13	15:2:10:LEU:N	2.34	0.42
2:B:1178:C:H2'	2:B:1179:G:H8	1.84	0.42
2:B:2293:G:H2'	2:B:2294:G:C8	2.55	0.42
2:B:984:A:HO2'	2:B:985:C:C5'	2.33	0.42
2:B:1773:A:N7	2:B:1829:A:H1'	2.34	0.42
2:B:7:G:H4'	20:J:15:TRP:CZ2	2.55	0.42
2:B:2809:A:N6	2:B:2891:U:H4'	2.35	0.42
2:B:1292:G:O2'	2:B:1293:C:H5'	2.20	0.42
2:B:1714:U:O5'	2:B:1714:U:H6	2.03	0.42
2:B:1401:G:H2'	2:B:1402:U:H6	1.81	0.42
3:I:48:ILE:HG22	3:I:49:GLU:HG2	2.00	0.42
2:B:2677:G:H2'	2:B:2678:C:H6	1.83	0.42
2:B:1541:C:H2'	2:B:1542:U:O4'	2.20	0.42
2:B:1668:A:N3	2:B:1670:C:C4	2.87	0.42
2:B:1666:G:OP1	6:K:82:ASN:ND2	2.50	0.42
20:J:75:TYR:HD1	20:J:86:GLN:HB3	1.85	0.42
19:H:76:GLU:O	19:H:77:THR:C	2.57	0.42
2:B:659:G:H4'	8:E:95:LYS:HB3	2.01	0.42
2:B:2266:A:H4'	2:B:2267:A:C8	2.52	0.42
2:B:922:C:H2'	2:B:923:G:H8	1.85	0.42
32:6:88:LEU:HB3	32:6:90:LEU:HG	2.01	0.42
27:G:28:LYS:O	27:G:30:GLY:N	2.53	0.42
1:A:75:G:N1	1:A:102:G:N2	2.68	0.42
14:V:31:TYR:O	14:V:92:VAL:HA	2.20	0.42
2:B:1598:A:H2'	2:B:1599:U:O4'	2.19	0.42
19:H:116:ARG:HB2	19:H:131:SER:N	2.35	0.42
2:B:705:A:H2'	2:B:706:A:H8	1.85	0.42
12:1:38:PHE:HB2	12:1:45:HIS:CE1	2.55	0.42
12:1:8:ILE:HD12	12:1:51:ALA:HA	2.01	0.42
30:Z:59:ILE:HG22	30:Z:64:ILE:HG13	2.02	0.42
2:B:810:U:O4	16:L:30:THR:HG22	2.20	0.42
2:B:143:C:H2'	2:B:144:A:H8	1.81	0.42
28:R:23:GLU:O	28:R:24:LYS:C	2.58	0.42
2:B:963:U:O2'	2:B:964:C:H5'	2.20	0.42
2:B:1141:U:P	20:J:27:ARG:HE	2.42	0.42
26:F:2:LYS:HD2	26:F:100:GLU:HG2	2.01	0.42
2:B:2721:A:H2'	2:B:2722:G:H8	1.84	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:49:ILE:HG12	7:P:50:ARG:N	2.34	0.42
14:V:79:ARG:H	14:V:79:ARG:HG2	1.63	0.42
6:K:38:ILE:HD11	6:K:112:PHE:HZ	1.84	0.42
6:K:61:VAL:HG13	6:K:87:LEU:CD2	2.50	0.42
2:B:1789:A:H2'	2:B:1790:C:O4'	2.19	0.42
5:D:163:GLY:O	5:D:164:GLN:C	2.59	0.42
8:E:154:ASP:OD2	8:E:157:LEU:HB3	2.19	0.42
2:B:679:C:H2'	2:B:680:C:H6	1.85	0.42
2:B:1726:C:O5'	2:B:1726:C:H6	2.03	0.42
2:B:1728:C:O2	2:B:1728:C:H2'	2.19	0.42
12:1:28:THR:C	12:1:30:PRO:HD3	2.40	0.42
1:A:94:A:O2'	1:A:95:U:H5'	2.20	0.42
31:W:73:PRO:O	31:W:74:LYS:HB2	2.20	0.42
16:L:60:ARG:O	16:L:61:LEU:HD12	2.20	0.42
27:G:9:VAL:C	27:G:11:PRO:HD3	2.40	0.42
10:0:9:ARG:O	10:0:12:ARG:HB3	2.20	0.42
2:B:994:C:H3'	23:Q:53:LYS:HZ2	1.84	0.42
2:B:840:C:O2'	2:B:841:G:H5'	2.20	0.42
6:K:3:GLN:CG	6:K:4:GLU:N	2.83	0.42
2:B:1754:A:N1	2:B:2716:C:O2'	2.53	0.42
2:B:954:G:H5'	2:B:955:U:OP2	2.19	0.42
2:B:2597:G:C6	2:B:2598:A:N6	2.87	0.42
2:B:2583:G:H2'	2:B:2584:U:O4'	2.20	0.42
2:B:2197:U:O4	2:B:2224:G:H2'	2.20	0.42
21:N:30:ARG:HG2	21:N:30:ARG:HH11	1.85	0.42
21:N:18:GLN:O	21:N:19:ALA:HB2	2.20	0.42
2:B:1366:A:H2'	2:B:1367:A:O4'	2.20	0.42
16:L:101:ILE:HG22	16:L:102:GLY:N	2.35	0.42
16:L:118:THR:HA	16:L:119:PRO:HD3	1.90	0.42
2:B:917:A:H3'	2:B:918:A:H8	1.84	0.42
7:P:1:SER:H2	7:P:4:ILE:HG13	1.84	0.42
29:T:10:VAL:O	29:T:12:ARG:N	2.53	0.42
29:T:29:THR:N	29:T:91:GLN:HE22	2.10	0.42
23:Q:89:ILE:C	23:Q:91:ARG:H	2.24	0.42
2:B:703:U:H2'	2:B:704:G:O4'	2.20	0.42
19:H:14:SER:HB3	19:H:17:ASP:CB	2.48	0.42
30:Z:65:ASP:O	30:Z:69:ALA:HB2	2.20	0.42
2:B:142:A:HO2'	29:T:3:ARG:NH1	2.17	0.42
20:J:57:LEU:HD11	20:J:129:GLU:H	1.85	0.42
26:F:26:GLN:O	26:F:27:VAL:C	2.57	0.42
25:U:73:ASN:HD22	25:U:73:ASN:N	2.17	0.42
27:G:88:LEU:HD11	27:G:94:ARG:H	1.83	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:69:ARG:HG2	8:E:69:ARG:HH11	1.85	0.42
2:B:2834:G:H2'	2:B:2879:A:N6	2.35	0.42
11:4:12:ARG:HG3	11:4:13:ASN:ND2	2.35	0.42
17:M:71:LYS:HD3	17:M:95:LEU:HD13	2.02	0.42
6:K:12:ASP:HB3	6:K:85:VAL:HG13	2.01	0.42
2:B:1789:A:H2'	2:B:1790:C:C6	2.55	0.42
2:B:2346:A:C3'	2:B:2347:C:H5''	2.43	0.42
23:Q:4:LYS:HZ3	23:Q:7:VAL:HG22	1.82	0.42
26:F:51:ASN:O	26:F:55:ASP:HB2	2.20	0.42
20:J:102:GLU:O	20:J:106:LYS:HB2	2.20	0.42
2:B:1682:G:H2'	2:B:1683:U:C6	2.54	0.42
25:U:42:LYS:O	25:U:57:ILE:HG23	2.20	0.42
23:Q:20:ALA:O	23:Q:21:LYS:C	2.58	0.42
2:B:807:U:P	16:L:36:LYS:HD3	2.60	0.42
2:B:1045:C:O5'	2:B:1046:A:H5''	2.19	0.42
2:B:1476:U:O2'	2:B:1477:A:P	2.78	0.42
1:A:24:G:O2'	1:A:25:U:H5''	2.20	0.42
16:L:131:ALA:HA	16:L:134:ALA:CB	2.49	0.42
2:B:1818:U:HO2'	2:B:1819:A:P	2.43	0.42
29:T:48:GLN:HA	29:T:48:GLN:NE2	2.35	0.42
2:B:2714:G:O2'	2:B:2715:C:H5'	2.20	0.42
2:B:1310:G:H1'	2:B:1611:C:H5'	2.02	0.42
2:B:1236:G:H2'	2:B:1237:A:H8	1.85	0.42
2:B:1664:A:H1'	2:B:2726:A:C2	2.54	0.42
2:B:1435:G:H2'	2:B:1436:G:C8	2.54	0.42
2:B:1814:G:H2'	2:B:1815:A:C8	2.55	0.42
2:B:745:G:O2'	2:B:748:G:H1'	2.20	0.42
2:B:562:U:C4	2:B:2036:C:O4'	2.73	0.42
16:L:101:ILE:HG22	16:L:105:ILE:CG1	2.50	0.41
16:L:120:VAL:HG12	16:L:121:THR:N	2.35	0.41
31:W:28:GLU:O	31:W:30:VAL:N	2.53	0.41
4:C:75:ALA:CB	4:C:93:VAL:HG22	2.50	0.41
2:B:727:A:OP1	2:B:1431:A:O2'	2.34	0.41
5:D:107:VAL:HG13	5:D:203:VAL:HG23	2.02	0.41
2:B:1058:U:O2'	2:B:1059:G:H5'	2.20	0.41
28:R:39:LEU:CA	28:R:53:PHE:HA	2.49	0.41
2:B:673:C:C2'	2:B:674:G:H5'	2.49	0.41
2:B:1441:G:O2'	2:B:1442:U:H5'	2.19	0.41
6:K:38:ILE:HD13	6:K:61:VAL:HG12	2.02	0.41
6:K:88:ASN:HB3	6:K:92:GLU:O	2.20	0.41
22:O:109:ALA:O	22:O:113:ALA:N	2.52	0.41
2:B:1260:A:O2'	2:B:1261:C:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:108:VAL:CG1	17:M:112:LEU:HB3	2.45	0.41
27:G:10:VAL:HG13	27:G:14:VAL:CG2	2.50	0.41
1:A:15:A:N3	1:A:15:A:O4'	2.53	0.41
5:D:109:VAL:HG11	5:D:193:VAL:HG11	2.02	0.41
7:P:97:TYR:O	7:P:100:ARG:HD3	2.20	0.41
19:H:40:THR:O	19:H:41:LYS:HB2	2.20	0.41
2:B:1877:A:H2'	2:B:1878:G:C8	2.55	0.41
17:M:105:MET:HB2	17:M:117:PHE:CE2	2.56	0.41
3:I:48:ILE:O	3:I:49:GLU:HB3	2.20	0.41
2:B:457:A:N1	2:B:470:A:H5''	2.35	0.41
7:P:47:ILE:HG13	7:P:48:ALA:N	2.35	0.41
2:B:2076:U:O2	2:B:2076:U:O4'	2.38	0.41
23:Q:70:GLN:HA	23:Q:70:GLN:NE2	2.34	0.41
2:B:303:G:H2'	2:B:304:U:C6	2.55	0.41
2:B:1256:G:H21	8:E:77:ILE:HG22	1.85	0.41
21:N:25:ALA:HB1	21:N:48:VAL:CG1	2.50	0.41
2:B:2863:C:O2'	2:B:2864:G:H5'	2.19	0.41
19:H:24:GLY:C	19:H:26:ALA:N	2.73	0.41
16:L:3:LEU:O	16:L:5:THR:HG23	2.21	0.41
32:6:31:GLY:N	32:6:183:ILE:HA	2.35	0.41
27:G:84:LYS:HG3	27:G:131:VAL:C	2.40	0.41
2:B:2472:G:H3'	2:B:2475:C:N4	2.35	0.41
4:C:69:ASN:HB3	4:C:70:LYS:H	1.58	0.41
4:C:76:VAL:O	4:C:78:GLU:N	2.53	0.41
19:H:73:ASN:ND2	19:H:74:ALA:N	2.62	0.41
4:C:106:PRO:HB3	4:C:141:HIS:CE1	2.56	0.41
4:C:156:SER:HB3	4:C:159:THR:HG21	2.02	0.41
2:B:1059:G:H2'	2:B:1060:U:C5	2.55	0.41
19:H:9:VAL:O	19:H:10:ALA:O	2.38	0.41
2:B:2456:C:H2'	2:B:2457:U:O4'	2.20	0.41
2:B:1081:U:O2'	3:I:118:GLY:HA2	2.21	0.41
2:B:2142:A:H2'	2:B:2143:C:C1'	2.49	0.41
19:H:124:THR:O	19:H:125:THR:HB	2.20	0.41
11:4:7:VAL:O	11:4:8:LYS:O	2.38	0.41
6:K:115:ILE:HG23	6:K:116:ILE:H	1.83	0.41
2:B:2733:A:O2'	2:B:2734:A:H5'	2.19	0.41
2:B:1241:A:H5'	2:B:1241:A:N3	2.35	0.41
2:B:534:U:H5'	23:Q:41:ALA:CB	2.50	0.41
2:B:709:U:H2'	2:B:710:U:H6	1.77	0.41
2:B:26:G:H1'	2:B:515:A:N6	2.35	0.41
25:U:51:LEU:N	25:U:53:GLN:NE2	2.68	0.41
2:B:2698:U:H2'	2:B:2699:C:H6	1.83	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:76:PHE:HD2	26:F:78:ILE:HD13	1.84	0.41
4:C:32:LEU:CD2	4:C:63:ILE:HG13	2.50	0.41
2:B:1508:A:H2'	2:B:1509:A:C2	2.55	0.41
32:6:142:LYS:O	32:6:146:GLU:HB2	2.20	0.41
4:C:23:LEU:HD12	4:C:23:LEU:HA	1.86	0.41
26:F:133:GLU:HA	26:F:150:GLY:HA2	2.02	0.41
27:G:96:ALA:HB3	27:G:103:ASN:O	2.20	0.41
17:M:31:PHE:CZ	17:M:110:GLU:HA	2.55	0.41
18:X:27:ASN:HA	18:X:30:MET:HG2	2.02	0.41
2:B:936:A:H2'	2:B:937:C:H6	1.84	0.41
1:A:109:A:H2'	1:A:110:C:O4'	2.20	0.41
8:E:3:LEU:O	8:E:12:LEU:HB2	2.20	0.41
26:F:31:GLU:O	26:F:31:GLU:HG3	2.19	0.41
2:B:2472:G:C3'	2:B:2475:C:H42	2.33	0.41
19:H:133:GLN:HA	19:H:139:PHE:HA	2.01	0.41
2:B:2456:C:H6	2:B:2456:C:O5'	2.03	0.41
2:B:1139:G:H2'	2:B:1140:C:H6	1.86	0.41
26:F:42:ALA:O	26:F:43:ILE:C	2.59	0.41
7:P:50:ARG:HB3	7:P:57:ALA:O	2.19	0.41
22:O:25:ARG:HH21	22:O:25:ARG:HG2	1.84	0.41
17:M:69:PRO:HB2	17:M:92:TRP:HB3	2.02	0.41
21:N:62:ASN:ND2	21:N:62:ASN:N	2.68	0.41
7:P:26:GLU:HG3	7:P:43:GLU:HG2	2.02	0.41
2:B:2021:C:OP1	10:O:8:THR:HG21	2.20	0.41
2:B:1404:C:H2'	2:B:1405:U:H6	1.85	0.41
6:K:70:ARG:CB	6:K:76:VAL:HG22	2.45	0.41
2:B:308:G:O2'	25:U:16:LYS:NZ	2.45	0.41
9:Y:7:THR:O	9:Y:54:VAL:HA	2.20	0.41
4:C:12:ARG:HA	4:C:15:VAL:CG2	2.50	0.41
2:B:1220:G:O2'	2:B:1221:C:H5'	2.21	0.41
17:M:123:LYS:O	17:M:124:LEU:C	2.58	0.41
2:B:2806:C:H2'	2:B:2807:U:O4'	2.20	0.41
2:B:465:G:H2'	2:B:466:A:C8	2.55	0.41
7:P:31:VAL:HG13	7:P:32:VAL:N	2.35	0.41
4:C:14:HIS:O	4:C:203:VAL:HG11	2.20	0.41
25:U:23:LYS:HD2	25:U:23:LYS:H	1.85	0.41
2:B:812:C:O2'	2:B:813:U:H5'	2.20	0.41
2:B:1314:C:O2'	2:B:1315:C:H5'	2.20	0.41
2:B:1146:C:H2'	2:B:1147:A:C8	2.56	0.41
2:B:1805:A:H2'	2:B:1806:C:C6	2.55	0.41
2:B:911:A:N6	17:M:9:PHE:HB3	2.35	0.41
2:B:109:C:C5'	2:B:348:A:H4'	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:43:GLU:C	30:Z:45:ARG:H	2.22	0.41
8:E:3:LEU:HD23	8:E:14:VAL:CG2	2.50	0.41
20:J:43:GLU:O	20:J:44:TYR:C	2.57	0.41
23:Q:91:ARG:HH12	28:R:10:LYS:CA	2.34	0.41
19:H:65:ALA:HB3	19:H:135:HIS:CE1	2.54	0.41
5:D:108:ASP:N	5:D:204:LYS:O	2.53	0.41
30:Z:64:ILE:H	30:Z:64:ILE:CD1	2.24	0.41
30:Z:72:ARG:HB3	30:Z:78:TYR:HE2	1.86	0.41
2:B:972:A:OP2	2:B:974:G:H5''	2.20	0.41
26:F:41:GLU:O	26:F:43:ILE:N	2.53	0.41
19:H:124:THR:CG2	19:H:125:THR:H	2.32	0.41
19:H:89:LYS:HB3	19:H:90:LEU:H	1.58	0.41
10:O:41:HIS:N	10:O:41:HIS:CD2	2.86	0.41
2:B:2882:A:OP1	21:N:96:ARG:HD2	2.21	0.41
21:N:96:ARG:HG2	21:N:98:LEU:HD22	2.02	0.41
1:A:64:G:H2'	1:A:65:U:H6	1.85	0.41
14:V:83:LYS:O	14:V:85:LYS:N	2.53	0.41
2:B:273:G:C2'	2:B:274:C:H5'	2.50	0.41
2:B:307:G:N2	2:B:309:A:H3'	2.34	0.41
16:L:78:ARG:HB3	16:L:78:ARG:NH2	2.35	0.41
20:J:35:ARG:HG3	20:J:52:ASP:OD1	2.21	0.41
4:C:5:CYS:HB2	4:C:15:VAL:O	2.21	0.41
2:B:851:C:H2'	2:B:852:U:C6	2.55	0.41
2:B:638:G:H2'	2:B:639:U:C6	2.55	0.41
5:D:116:LYS:HB2	5:D:165:MET:HB3	2.02	0.41
2:B:665:U:H2'	2:B:666:A:C8	2.53	0.41
2:B:1559:U:H3'	2:B:1560:G:C5'	2.50	0.41
2:B:1930:G:N2	2:B:1969:A:O5'	2.53	0.41
1:A:51:G:H2'	1:A:52:A:O5'	2.21	0.41
5:D:122:VAL:N	5:D:127:PHE:HB2	2.35	0.41
2:B:2395:C:H2'	2:B:2396:G:O4'	2.21	0.41
2:B:1940:U:H5''	2:B:1940:U:O2	2.20	0.41
17:M:25:ASP:OD2	17:M:25:ASP:N	2.53	0.41
3:I:35:MET:SD	3:I:35:MET:C	2.98	0.41
2:B:323:C:H6	2:B:1205:A:N1	2.18	0.41
2:B:381:G:H5''	30:Z:16:ASN:ND2	2.35	0.41
20:J:133:ALA:C	20:J:135:GLN:H	2.23	0.41
1:A:3:C:H2'	1:A:4:C:O4'	2.20	0.41
16:L:93:ASN:ND2	16:L:94:THR:N	2.66	0.41
8:E:146:VAL:HG12	8:E:147:LEU:N	2.35	0.41
2:B:2352:A:C2'	2:B:2353:G:H5'	2.51	0.41
31:W:64:GLY:C	31:W:65:LYS:HG3	2.41	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2263:C:H4'	2:B:2329:U:H4'	2.02	0.41
5:D:8:LYS:O	5:D:9:VAL:HB	2.20	0.41
32:6:29:ARG:HE	32:6:32:ARG:NH2	2.18	0.41
27:G:51:PHE:CE2	27:G:68:ARG:HA	2.55	0.41
1:A:76:G:O2'	1:A:77:U:H5'	2.21	0.41
14:V:1:MET:O	14:V:62:THR:HG23	2.20	0.41
29:T:39:THR:HG22	29:T:42:GLU:H	1.83	0.41
8:E:29:HIS:C	8:E:31:VAL:N	2.74	0.41
2:B:2144:G:H3'	2:B:2145:C:C3'	2.48	0.41
19:H:89:LYS:NZ	19:H:123:ARG:HB3	2.35	0.41
7:P:50:ARG:CD	7:P:56:SER:HB3	2.51	0.41
2:B:1348:C:C3'	2:B:1349:C:H5'	2.50	0.41
2:B:2848:G:N3	2:B:2849:U:H5	2.19	0.41
2:B:2049:G:O2'	2:B:2050:C:H5'	2.21	0.41
19:H:54:LEU:HA	19:H:57:LYS:HZ2	1.84	0.41
9:Y:5:LYS:HG2	9:Y:36:GLU:HB2	2.03	0.41
2:B:1535:A:H5''	2:B:1536:C:C5	2.55	0.41
2:B:1309:G:OP1	15:2:9:VAL:N	2.48	0.41
2:B:635:C:H2'	2:B:636:G:H8	1.86	0.41
2:B:1434:A:N6	2:B:1558:C:H42	2.18	0.41
2:B:2785:C:H2'	2:B:2786:U:H6	1.86	0.41
31:W:77:LYS:HD3	31:W:77:LYS:HA	1.88	0.41
2:B:1577:C:H2'	2:B:1578:U:C6	2.55	0.41
30:Z:9:GLY:O	30:Z:11:ARG:HG3	2.19	0.41
2:B:612:G:H2'	2:B:614:A:H5''	2.02	0.41
2:B:765:C:H2'	2:B:766:U:H6	1.85	0.41
18:X:22:LEU:HG	18:X:23:ARG:HG2	2.03	0.41
2:B:2667:C:O2	27:G:110:HIS:CE1	2.74	0.41
7:P:99:LEU:HA	7:P:102:ARG:HG3	2.03	0.41
1:A:3:C:H6	1:A:3:C:O5'	2.04	0.41
8:E:7:ASP:N	8:E:7:ASP:OD2	2.54	0.41
2:B:2055:C:H5'	2:B:2056:G:O5'	2.20	0.41
8:E:41:GLN:O	8:E:42:GLY:O	2.39	0.41
8:E:138:LEU:O	8:E:142:ALA:N	2.54	0.41
26:F:62:GLN:NE2	26:F:90:LEU:HD13	2.33	0.41
32:6:111:ARG:NH2	32:6:184:LEU:HA	2.36	0.41
14:V:89:ILE:HD13	14:V:91:PHE:CZ	2.56	0.41
12:1:20:TYR:CD2	12:1:37:LYS:HD3	2.55	0.41
3:I:91:LYS:HG3	3:I:91:LYS:O	2.20	0.41
2:B:2145:C:H2'	2:B:2145:C:O2	2.21	0.41
2:B:675:A:N3	2:B:2443:C:O2'	2.52	0.41
2:B:2645:G:H4'	2:B:2732:G:H2'	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2893:A:H4'	2:B:2894:G:H5'	2.02	0.41
2:B:2080:A:H2'	2:B:2081:U:C6	2.56	0.41
8:E:151:GLY:CA	8:E:195:GLN:HE22	2.34	0.41
2:B:2063:C:O2	2:B:2450:A:N1	2.54	0.41
2:B:2212:A:O3'	2:B:2213:U:C4	2.73	0.41
2:B:2016:U:H1'	10:O:2:VAL:HG11	2.02	0.41
25:U:41:VAL:HG23	25:U:42:LYS:N	2.36	0.41
16:L:55:MET:HG3	16:L:59:ARG:CB	2.51	0.41
6:K:2:ILE:HG13	6:K:33:ALA:O	2.20	0.41
2:B:2358:A:N6	16:L:54:GLN:HE22	2.18	0.41
32:6:15:GLN:HG2	32:6:16:LYS:HZ1	1.85	0.41
2:B:1722:A:H61	2:B:1738:G:H1'	1.85	0.41
2:B:1892:C:O2'	2:B:1893:C:H5'	2.20	0.41
2:B:2010:G:H2'	2:B:2011:U:C6	2.56	0.41
2:B:692:C:H2'	2:B:693:A:C8	2.55	0.41
2:B:382:A:H2'	2:B:383:C:O4'	2.20	0.41
30:Z:14:THR:HA	30:Z:28:ARG:HA	2.03	0.41
12:1:16:THR:HG21	12:1:39:ASP:OD2	2.21	0.41
2:B:765:C:H2'	2:B:766:U:C6	2.56	0.41
24:S:95:ARG:O	24:S:96:ILE:HG22	2.21	0.41
22:O:7:ARG:HA	22:O:10:ARG:CZ	2.51	0.41
22:O:55:GLU:O	22:O:56:LYS:C	2.59	0.41
4:C:196:ASN:OD1	4:C:199:HIS:N	2.54	0.41
2:B:2641:G:H2'	2:B:2642:G:C8	2.56	0.41
2:B:798:G:O2'	2:B:799:G:H5'	2.21	0.41
2:B:1253:A:H4'	2:B:1254:A:OP2	2.20	0.41
17:M:116:ALA:C	17:M:118:LYS:N	2.74	0.41
2:B:566:U:H2'	2:B:567:U:O4'	2.20	0.41
22:O:51:ALA:CB	22:O:78:VAL:HG22	2.48	0.41
26:F:105:ILE:O	26:F:109:ARG:HB2	2.21	0.41
26:F:64:PRO:CA	26:F:88:VAL:HG22	2.48	0.41
7:P:3:ILE:CD1	7:P:7:LEU:HD11	2.50	0.41
32:6:41:LEU:O	32:6:52:LEU:HB2	2.21	0.41
27:G:97:VAL:HG21	27:G:124:CYS:HB2	2.03	0.41
27:G:144:ALA:O	27:G:147:LEU:HB2	2.20	0.41
4:C:99:GLU:HG2	4:C:100:ARG:N	2.35	0.41
5:D:104:VAL:HG11	5:D:205:PRO:HB3	2.02	0.41
19:H:9:VAL:HB	19:H:13:GLY:CA	2.51	0.41
2:B:1056:G:H1'	2:B:1103:A:H62	1.86	0.41
27:G:168:VAL:HG12	27:G:170:THR:CG2	2.49	0.41
2:B:2846:G:OP1	7:P:51:ASN:HB2	2.21	0.41
2:B:364:C:O2'	2:B:365:U:H5'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:V:51:GLN:NE2	14:V:79:ARG:HH22	2.18	0.41
2:B:2849:U:O4	7:P:20:ARG:NH1	2.54	0.41
2:B:329:G:N1	25:U:16:LYS:HG2	2.30	0.41
2:B:1595:C:O2'	2:B:1596:A:H5'	2.21	0.41
2:B:2008:C:H2'	2:B:2009:A:C8	2.54	0.41
2:B:1534:U:H6	2:B:1534:U:O5'	2.03	0.41
2:B:2361:G:H2'	2:B:2362:C:O4'	2.20	0.41
19:H:82:SER:HB2	19:H:94:ILE:CG1	2.49	0.41
2:B:2394:C:O2'	2:B:2395:C:H5'	2.20	0.41
17:M:33:LEU:HA	17:M:33:LEU:HD23	1.90	0.41
19:H:101:ASP:HA	19:H:104:THR:HG22	2.03	0.41
4:C:108:GLY:C	4:C:110:LYS:H	2.24	0.41
2:B:1224:U:H4'	28:R:88:GLY:O	2.21	0.41
2:B:508:A:N6	24:S:9:HIS:CD2	2.89	0.41
4:C:29:PHE:C	4:C:31:PRO:HD2	2.41	0.41
2:B:622:G:OP1	16:L:103:ILE:HD13	2.20	0.41
4:C:130:PRO:O	4:C:132:ARG:N	2.53	0.41
26:F:37:MET:SD	26:F:56:LEU:HD23	2.61	0.41
2:B:2260:C:H2'	2:B:2261:C:H6	1.85	0.41
2:B:2746:U:C5'	27:G:138:GLN:HA	2.45	0.41
2:B:996:A:H4'	23:Q:91:ARG:HD2	2.02	0.41
20:J:45:THR:N	20:J:46:PRO:CD	2.84	0.41
24:S:2:GLU:O	24:S:107:VAL:O	2.38	0.41
2:B:2657:A:H2'	2:B:2658:C:O4'	2.20	0.41
22:O:12:THR:HG23	22:O:16:ARG:HH11	1.84	0.41
2:B:2880:C:O2'	21:N:93:GLY:HA3	2.20	0.41
17:M:41:LEU:HA	17:M:45:GLN:OE1	2.21	0.41
6:K:110:GLU:HA	6:K:113:MET:HG2	2.02	0.41
2:B:740:C:OP1	2:B:1784:A:H2'	2.20	0.41
2:B:532:A:O2'	2:B:2021:C:C5	2.74	0.41
5:D:77:ARG:HB2	5:D:80:TRP:HH2	1.86	0.41
2:B:66:C:O2'	2:B:67:U:H5'	2.21	0.41
4:C:180:MET:HB2	4:C:268:ARG:HB2	2.03	0.41
10:O:2:VAL:HG12	10:O:3:GLN:N	2.36	0.41
2:B:2437:G:H2'	2:B:2438:U:C6	2.55	0.41
2:B:1273:U:H4'	2:B:1275:A:P	2.60	0.41
2:B:1830:C:H2'	2:B:1831:G:C8	2.55	0.41
5:D:96:ILE:HD12	5:D:96:ILE:N	2.36	0.41
32:6:7:TYR:CD1	32:6:160:GLU:HG2	2.56	0.41
2:B:234:U:H2'	2:B:235:U:O4'	2.20	0.41
2:B:602:A:H4'	2:B:604:G:O3'	2.20	0.41
2:B:1689:A:H2'	2:B:1690:A:C8	2.56	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:649:G:H2'	2:B:650:C:H6	1.86	0.41
2:B:2196:C:O2'	2:B:2197:U:H5'	2.21	0.41
4:C:29:PHE:CE2	4:C:31:PRO:HG2	2.55	0.41
32:6:22:GLU:HG3	32:6:22:GLU:H	1.63	0.41
2:B:1068:G:C6	2:B:1069:A:N6	2.88	0.41
29:T:22:THR:O	29:T:26:LYS:N	2.36	0.41
17:M:54:THR:O	17:M:56:ALA:N	2.54	0.41
2:B:2494:G:H2'	2:B:2495:G:H8	1.86	0.41
22:O:31:THR:HG23	22:O:34:HIS:C	2.41	0.41
2:B:476:G:O4'	2:B:505:A:H2	2.03	0.41
16:L:91:ASP:HB2	16:L:94:THR:OG1	2.20	0.41
2:B:2266:A:N3	2:B:2272:U:H5	2.18	0.41
4:C:151:GLY:C	4:C:152:GLN:HG3	2.40	0.41
26:F:118:ALA:HA	26:F:176:PHE:HE2	1.86	0.41
6:K:35:VAL:CG2	6:K:36:GLY:H	2.08	0.41
2:B:2259:U:H1'	2:B:2427:C:C2	2.56	0.41
24:S:4:ILE:HG22	24:S:106:VAL:HA	2.02	0.41
2:B:2747:G:H2'	2:B:2748:A:C8	2.55	0.41
14:V:77:VAL:HG11	17:M:136:MET:O	2.20	0.41
2:B:2515:C:O2'	2:B:2516:A:H5'	2.20	0.41
18:X:31:GLN:HG2	18:X:37:LEU:H	1.86	0.41
18:X:29:ARG:CZ	29:T:12:ARG:HE	2.34	0.41
2:B:996:A:H4'	23:Q:91:ARG:CZ	2.51	0.41
24:S:3:THR:HG21	24:S:58:ALA:HA	2.02	0.41
1:A:83:G:P	9:Y:16:LEU:HD21	2.60	0.41
24:S:33:LEU:HG	24:S:51:LEU:CD2	2.50	0.41
5:D:90:PHE:O	5:D:91:THR:C	2.59	0.41
4:C:80:LEU:HD23	4:C:91:ALA:HB2	2.02	0.41
2:B:1062:G:H2'	2:B:1063:G:H8	1.85	0.41
2:B:974:G:O5'	2:B:1186:G:N2	2.50	0.41
2:B:809:G:O2'	2:B:810:U:H5'	2.21	0.41
2:B:1244:A:C5'	16:L:8:PRO:HD3	2.40	0.41
3:I:37:PHE:HZ	3:I:56:VAL:HG11	1.86	0.41
23:Q:111:LYS:HB2	23:Q:111:LYS:HZ2	1.86	0.41
28:R:49:ILE:HD13	28:R:53:PHE:N	2.36	0.41
20:J:21:THR:C	20:J:23:LYS:N	2.74	0.41
20:J:30:THR:HA	20:J:108:MET:SD	2.60	0.41
26:F:3:LEU:HD13	26:F:3:LEU:O	2.21	0.41
2:B:1056:G:H1'	2:B:1103:A:N6	2.36	0.41
27:G:148:ARG:HD3	27:G:152:ARG:HD3	2.03	0.41
2:B:2145:C:H3'	2:B:2146:C:H5'	2.02	0.41
32:6:39:LEU:CG	32:6:40:HIS:N	2.83	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
32:6:68:VAL:HG11	32:6:79:ILE:HG21	2.02	0.41
5:D:13:ARG:HD2	7:P:55:HIS:ND1	2.35	0.41
15:2:28:ARG:C	15:2:30:VAL:N	2.73	0.41
2:B:132:G:O2'	2:B:133:U:H5'	2.21	0.41
22:O:18:LEU:HD11	22:O:91:SER:HB3	2.02	0.41
13:3:21:PHE:O	13:3:22:LYS:HB3	2.20	0.41
2:B:1551:A:H5''	2:B:1552:A:OP2	2.20	0.41
21:N:34:ILE:HB	21:N:113:ILE:CG2	2.46	0.41
2:B:2800:A:C2'	2:B:2801:G:O4'	2.65	0.41
10:0:38:LEU:HD13	10:0:41:HIS:CE1	2.56	0.41
11:4:33:HIS:O	11:4:35:GLN:N	2.54	0.41
6:K:109:SER:O	6:K:113:MET:HG2	2.21	0.41
2:B:2734:A:H2'	2:B:2735:G:C5'	2.51	0.41
2:B:1259:G:H2'	2:B:1260:A:C8	2.56	0.41
2:B:1821:A:H2'	2:B:1822:C:C6	2.56	0.41
2:B:1657:U:H4'	5:D:138:LEU:CB	2.49	0.41
5:D:117:GLY:O	5:D:119:ALA:N	2.54	0.41
2:B:26:G:H2'	2:B:27:G:O4'	2.21	0.41
16:L:50:PHE:O	16:L:52:GLY:N	2.54	0.41
26:F:49:LEU:C	26:F:49:LEU:HD13	2.40	0.41
2:B:633:A:H2'	2:B:634:C:O4'	2.20	0.41
2:B:2291:U:OP1	2:B:2381:A:H5'	2.21	0.41
2:B:665:U:O2'	2:B:666:A:H5'	2.21	0.41
17:M:58:LYS:O	17:M:59:ARG:HB3	2.21	0.41
17:M:124:LEU:HA	17:M:125:PRO:HD3	1.89	0.41
2:B:2636:C:H2'	2:B:2637:U:H6	1.86	0.41
2:B:2586:U:H2'	2:B:2587:A:C8	2.56	0.41
2:B:1945:G:C4	2:B:1946:U:C5	3.09	0.41
2:B:1508:A:H3'	2:B:1509:A:C5	2.55	0.41
6:K:58:LEU:CD1	6:K:86:LEU:HB3	2.50	0.41
21:N:8:ARG:HB2	21:N:8:ARG:HE	1.61	0.41
2:B:2010:G:H2'	2:B:2011:U:H6	1.85	0.41
2:B:1212:G:HO2'	2:B:1213:A:P	2.43	0.41
2:B:2361:G:OP1	13:3:25:HIS:HA	2.21	0.41
18:X:56:LEU:O	18:X:57:LEU:CB	2.67	0.41
4:C:154:ALA:HB2	4:C:161:VAL:HG23	2.02	0.41
20:J:40:HIS:ND1	20:J:41:LYS:N	2.68	0.41
2:B:1733:G:H2'	2:B:1734:G:H8	1.85	0.41
2:B:991:C:H2'	2:B:992:C:H6	1.86	0.41
2:B:2408:U:H2'	2:B:2409:G:C8	2.55	0.41
2:B:928:A:H2'	2:B:929:U:C6	2.55	0.41
2:B:1956:U:C2'	2:B:1957:C:H5'	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1161:C:H2'	2:B:1162:G:C8	2.56	0.41
2:B:1802:A:C6	2:B:1817:G:N2	2.89	0.41
2:B:57:C:H2'	2:B:58:G:C8	2.55	0.41
2:B:2233:U:H2'	2:B:2234:G:C8	2.55	0.41
2:B:1106:G:H2'	2:B:1107:G:H8	1.85	0.41
4:C:17:LYS:H	4:C:17:LYS:HG3	1.58	0.41
2:B:2669:G:O2'	2:B:2670:A:H5'	2.21	0.41
28:R:86:GLN:HE21	28:R:86:GLN:HB2	1.54	0.41
2:B:747:U:OP2	24:S:90:LYS:HD2	2.21	0.41
4:C:259:ASN:C	4:C:261:ARG:H	2.23	0.41
22:O:20:GLU:OE2	22:O:21:LEU:N	2.54	0.41
8:E:172:ALA:O	8:E:199:MET:HE3	2.20	0.41
2:B:2261:C:O2'	2:B:2262:U:H5'	2.21	0.41
2:B:2571:U:O3'	5:D:151:THR:HB	2.20	0.41
29:T:39:THR:HG23	29:T:42:GLU:H	1.86	0.41
24:S:46:LEU:O	24:S:50:VAL:HG23	2.21	0.41
5:D:91:THR:HG23	5:D:92:VAL:N	2.28	0.41
5:D:107:VAL:N	5:D:206:ALA:H	2.19	0.41
19:H:5:LEU:HD11	19:H:12:LEU:O	2.21	0.41
30:Z:77:LYS:O	30:Z:78:TYR:HB3	2.21	0.41
28:R:78:ARG:HH21	28:R:78:ARG:HG3	1.86	0.41
26:F:7:TYR:HA	26:F:11:VAL:HB	2.02	0.41
26:F:1:ALA:O	26:F:2:LYS:C	2.59	0.41
2:B:1079:C:C2	2:B:1080:A:C8	3.09	0.41
2:B:1081:U:O2'	2:B:1082:U:H5'	2.21	0.41
2:B:616:A:H4'	8:E:101:TYR:CZ	2.56	0.41
2:B:675:A:P	8:E:60:TRP:HZ2	2.44	0.41
2:B:1411:U:O2'	2:B:1412:U:H5'	2.21	0.41
17:M:17:ASN:HD22	17:M:17:ASN:HA	1.70	0.41
21:N:74:GLU:O	21:N:77:ALA:HB3	2.21	0.41
2:B:77:G:H2'	2:B:78:U:O4'	2.21	0.41
2:B:2049:G:C2'	2:B:2050:C:H5'	2.51	0.41
2:B:2338:C:O2'	2:B:2339:C:H5'	2.20	0.41
20:J:102:GLU:HG3	20:J:124:VAL:HG11	2.02	0.41
2:B:729:G:H2'	2:B:729:G:N3	2.35	0.41
5:D:40:LEU:HA	5:D:45:TYR:N	2.36	0.41
18:X:41:HIS:CD2	18:X:41:HIS:N	2.89	0.41
2:B:2823:A:O2'	2:B:2824:C:H5'	2.21	0.41
20:J:110:PRO:HB2	20:J:111:LYS:HE3	2.02	0.41
2:B:2452:C:H2'	2:B:2453:A:C8	2.56	0.41
2:B:2507:C:C2	2:B:2583:G:C2	3.08	0.41
2:B:794:A:H2'	2:B:795:C:H6	1.85	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:33:VAL:O	8:E:36:ALA:HB3	2.21	0.41
29:T:21:SER:O	29:T:25:GLU:HB2	2.21	0.40
20:J:43:GLU:O	20:J:45:THR:HG22	2.21	0.40
23:Q:93:ILE:HG23	23:Q:94:LEU:CD2	2.50	0.40
2:B:2231:U:H2'	2:B:2232:C:C6	2.56	0.40
2:B:2722:G:O2'	2:B:2723:C:H5'	2.21	0.40
2:B:651:G:O2'	2:B:652:U:H5'	2.21	0.40
11:4:11:CYS:SG	11:4:12:ARG:N	2.94	0.40
6:K:111:LYS:HD3	6:K:111:LYS:N	2.36	0.40
6:K:99:ILE:N	6:K:118:LEU:HD23	2.34	0.40
11:4:22:VAL:O	11:4:24:ARG:HG3	2.21	0.40
2:B:2579:C:H1'	5:D:130:GLN:NE2	2.28	0.40
2:B:2557:G:C6	2:B:2558:C:N4	2.89	0.40
2:B:1825:U:H2'	2:B:1826:G:C8	2.56	0.40
1:A:16:G:C5	1:A:69:G:C2	3.09	0.40
2:B:2538:C:O2'	2:B:2539:C:H5'	2.21	0.40
25:U:60:LYS:HG3	25:U:61:GLU:H	1.87	0.40
2:B:278:A:C2'	2:B:278:A:N3	2.83	0.40
2:B:70:G:O2'	2:B:113:U:H4'	2.21	0.40
1:A:97:C:H2'	1:A:98:G:H5'	2.03	0.40
2:B:122:G:O2'	2:B:123:G:H5'	2.21	0.40
2:B:1171:G:C4	2:B:1172:C:H1'	2.55	0.40
2:B:41:C:O2'	2:B:42:A:H5'	2.21	0.40
2:B:2760:C:H2'	2:B:2761:A:H5'	2.03	0.40
2:B:1184:U:O2'	2:B:1185:G:H5'	2.20	0.40
22:O:36:TYR:N	22:O:36:TYR:HD2	2.19	0.40
2:B:1:G:C2	2:B:2:G:N7	2.89	0.40
16:L:90:VAL:CB	16:L:122:VAL:HG12	2.49	0.40
16:L:81:ASP:CG	16:L:100:ILE:HD11	2.41	0.40
2:B:858:G:N2	2:B:2269:G:OP2	2.54	0.40
2:B:2353:G:H1'	31:W:30:VAL:HG12	2.01	0.40
22:O:74:VAL:O	22:O:78:VAL:HG22	2.21	0.40
29:T:59:ASN:O	29:T:83:ALA:O	2.38	0.40
20:J:112:GLY:N	20:J:113:PRO:HD2	2.23	0.40
20:J:38:GLY:CA	20:J:51:GLY:HA2	2.51	0.40
23:Q:91:ARG:HE	23:Q:94:LEU:CD2	2.34	0.40
2:B:2231:U:H2'	2:B:2232:C:O4'	2.21	0.40
17:M:38:ARG:HA	17:M:98:PRO:HD3	2.02	0.40
20:J:19:ASP:OD2	20:J:58:ASN:HB2	2.21	0.40
10:O:51:ARG:O	10:O:52:LYS:HB2	2.22	0.40
6:K:113:MET:O	6:K:116:ILE:HG13	2.22	0.40
30:Z:54:LYS:HA	30:Z:57:ARG:CD	2.46	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:53:ALA:O	30:Z:54:LYS:HB3	2.21	0.40
2:B:679:C:H2'	2:B:680:C:C6	2.56	0.40
8:E:170:ARG:HH22	8:E:176:ASP:HB3	1.86	0.40
2:B:2026:U:C2	2:B:2027:G:C8	3.09	0.40
4:C:64:VAL:HG11	4:C:66:PHE:CZ	2.56	0.40
2:B:547:A:H2'	2:B:547:A:N3	2.36	0.40
22:O:88:LYS:HG2	22:O:89:ASP:N	2.37	0.40
1:A:116:G:H4'	22:O:54:VAL:HG13	2.02	0.40
2:B:1210:G:C5'	2:B:1212:G:H5'	2.50	0.40
2:B:1586:A:O5'	2:B:1586:A:H8	2.04	0.40
2:B:1819:A:OP1	4:C:154:ALA:HA	2.22	0.40
2:B:409:G:H2'	2:B:410:G:C8	2.56	0.40
7:P:46:VAL:HA	7:P:60:VAL:HG12	2.02	0.40
16:L:69:ARG:HD3	16:L:69:ARG:O	2.20	0.40
24:S:68:ASP:OD1	24:S:68:ASP:N	2.53	0.40
30:Z:39:TRP:HA	30:Z:46:PHE:HD2	1.83	0.40
16:L:4:ASN:O	16:L:6:LEU:N	2.54	0.40
4:C:120:ASP:OD2	4:C:120:ASP:N	2.54	0.40
4:C:166:ARG:CB	4:C:171:VAL:HG22	2.50	0.40
22:O:67:ASN:HB3	22:O:70:ALA:HB2	2.02	0.40
1:A:43:C:H1'	26:F:91:ARG:NH2	2.36	0.40
27:G:26:LYS:HA	27:G:32:LEU:H	1.86	0.40
27:G:43:LYS:N	27:G:50:THR:O	2.48	0.40
27:G:62:ALA:O	27:G:66:THR:HG22	2.21	0.40
2:B:2513:A:C2	5:D:148:GLN:OE1	2.75	0.40
2:B:535:G:O4'	23:Q:48:ASP:HB3	2.21	0.40
20:J:3:THR:CB	20:J:44:TYR:OH	2.70	0.40
2:B:2528:U:HO2'	2:B:2529:G:H8	1.68	0.40
2:B:1551:A:H3'	2:B:1552:A:C5'	2.42	0.40
21:N:62:ASN:O	21:N:80:PHE:HZ	2.04	0.40
6:K:112:PHE:O	6:K:113:MET:C	2.59	0.40
2:B:2071:A:H2'	2:B:2072:C:H6	1.78	0.40
2:B:951:C:O2'	2:B:952:G:H5'	2.22	0.40
3:I:7:TYR:C	3:I:7:TYR:CD1	2.95	0.40
2:B:686:U:H4'	2:B:687:C:OP2	2.20	0.40
2:B:1151:A:H2'	2:B:1152:C:O4'	2.22	0.40
2:B:2362:C:OP2	13:3:43:LEU:HD21	2.22	0.40
17:M:33:LEU:HD22	17:M:128:THR:CB	2.51	0.40
2:B:1335:C:H2'	2:B:1336:A:C8	2.55	0.40
10:O:30:ASP:OD2	10:O:31:LYS:N	2.53	0.40
8:E:2:GLU:HA	8:E:2:GLU:OE1	2.21	0.40
2:B:1687:G:O2'	2:B:1688:U:H5'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1605:C:H1'	2:B:1610:A:C8	2.57	0.40
2:B:2655:G:H1'	2:B:2656:U:H5	1.86	0.40
2:B:2655:G:O2'	2:B:2656:U:P	2.80	0.40
2:B:2386:A:N3	31:W:38:ARG:HD2	2.37	0.40
31:W:57:THR:O	31:W:59:PHE:N	2.55	0.40
4:C:120:ASP:CG	4:C:121:ALA:H	2.25	0.40
26:F:135:ILE:O	26:F:135:ILE:HD12	2.21	0.40
24:S:25:ARG:HE	24:S:74:ILE:CG2	2.34	0.40
5:D:24:VAL:HG23	5:D:189:VAL:H	1.86	0.40
5:D:24:VAL:HG23	5:D:189:VAL:N	2.37	0.40
27:G:83:THR:C	27:G:84:LYS:HD3	2.42	0.40
20:J:44:TYR:HB2	23:Q:63:ARG:HD2	2.02	0.40
24:S:29:VAL:HG23	24:S:70:LYS:CA	2.50	0.40
4:C:92:LEU:HD12	4:C:101:ARG:O	2.22	0.40
12:I:9:LYS:O	12:I:50:GLU:O	2.39	0.40
22:O:3:LYS:CD	22:O:3:LYS:H	2.19	0.40
2:B:2135:A:H61	2:B:2156:G:H1'	1.86	0.40
20:J:21:THR:C	20:J:23:LYS:H	2.25	0.40
27:G:93:TYR:CD2	27:G:93:TYR:N	2.90	0.40
27:G:94:ARG:HG2	27:G:127:GLN:NE2	2.36	0.40
32:6:36:ALA:HB1	32:6:39:LEU:HD23	2.03	0.40
2:B:673:C:H2'	2:B:674:G:H5'	2.02	0.40
2:B:675:A:H4'	8:E:60:TRP:HZ2	1.85	0.40
2:B:125:A:C3'	2:B:126:A:H5'	2.52	0.40
22:O:14:ALA:C	22:O:16:ARG:N	2.75	0.40
22:O:25:ARG:HD2	22:O:93:ASP:HB2	2.02	0.40
2:B:90:U:OP2	2:B:91:A:H3'	2.21	0.40
2:B:783:A:H4'	2:B:1779:U:O2	2.22	0.40
2:B:783:A:C8	2:B:784:G:H4'	2.43	0.40
2:B:2787:C:H2'	2:B:2788:C:C6	2.56	0.40
8:E:176:ASP:OD1	8:E:176:ASP:C	2.60	0.40
26:F:141:ASP:CB	26:F:144:LYS:HB2	2.51	0.40
2:B:263:G:H2'	2:B:264:C:C6	2.55	0.40
28:R:14:VAL:HG22	28:R:15:SER:H	1.84	0.40
4:C:242:HIS:O	4:C:244:VAL:HG13	2.21	0.40
2:B:2010:G:O2'	2:B:2011:U:H5'	2.21	0.40
2:B:2297:A:C2	2:B:2320:U:H1'	2.56	0.40
21:N:118:ARG:HE	21:N:118:ARG:HB3	1.46	0.40
2:B:540:C:H2'	2:B:541:A:H8	1.85	0.40
2:B:2559:C:O2'	2:B:2560:A:H5'	2.22	0.40
17:M:101:VAL:HG13	17:M:101:VAL:O	2.21	0.40
4:C:188:ARG:HG2	4:C:188:ARG:NH2	2.37	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1281:G:H2'	2:B:1282:U:C6	2.56	0.40
2:B:2611:C:O2'	2:B:2612:C:H5'	2.20	0.40
2:B:787:C:H3'	2:B:791:C:H41	1.86	0.40
2:B:2364:C:C2'	2:B:2365:G:H5'	2.52	0.40
2:B:918:A:C2'	2:B:919:U:H5'	2.47	0.40
22:O:67:ASN:O	22:O:69:ASP:N	2.54	0.40
26:F:137:PHE:O	26:F:138:PRO:C	2.60	0.40
27:G:74:MET:O	27:G:78:VAL:HG13	2.22	0.40
1:A:102:G:H2'	1:A:103:U:H6	1.86	0.40
23:Q:60:TRP:CZ2	23:Q:93:ILE:HD12	2.56	0.40
5:D:92:VAL:O	5:D:93:GLY:C	2.60	0.40
12:1:37:LYS:HB2	12:1:48:TYR:CD2	2.57	0.40
12:1:8:ILE:CG1	12:1:51:ALA:HA	2.51	0.40
4:C:91:ALA:HB3	4:C:105:ALA:HB2	2.00	0.40
4:C:89:ASN:HD22	4:C:89:ASN:HA	1.52	0.40
2:B:1190:G:O5'	16:L:32:GLY:HA2	2.22	0.40
2:B:1024:G:P	2:B:1025:G:H3'	2.62	0.40
23:Q:109:VAL:O	23:Q:113:LYS:HG3	2.21	0.40
28:R:49:ILE:HG21	28:R:54:VAL:HA	2.03	0.40
5:D:69:ALA:CA	5:D:73:VAL:HB	2.51	0.40
2:B:2820:A:C8	21:N:4:ARG:HD3	2.56	0.40
15:2:26:ASN:HA	15:2:29:GLN:CB	2.46	0.40
15:2:30:VAL:HG22	15:2:33:ARG:HH22	1.87	0.40
13:3:21:PHE:CE1	13:3:58:ILE:HG12	2.57	0.40
8:E:83:VAL:HG12	8:E:86:ALA:HA	2.03	0.40
2:B:738:G:H1'	2:B:759:G:N2	2.37	0.40
2:B:2789:C:H2'	2:B:2893:A:N7	2.36	0.40
11:4:22:VAL:O	11:4:24:ARG:N	2.54	0.40
6:K:98:ARG:N	6:K:98:ARG:HE	2.20	0.40
4:C:66:PHE:CD1	4:C:66:PHE:N	2.89	0.40
28:R:72:VAL:CG2	28:R:89:HIS:HB3	2.49	0.40
2:B:265:A:N6	2:B:427:U:O2'	2.54	0.40
2:B:1507:C:C2'	2:B:1508:A:H4'	2.51	0.40
2:B:2095:A:H2'	2:B:2096:C:H6	1.83	0.40
32:6:137:LEU:HD13	32:6:161:ILE:HG21	2.03	0.40
2:B:2321:U:O2	2:B:2321:U:C3'	2.69	0.40
2:B:1000:A:H2'	2:B:1001:A:H8	1.83	0.40
2:B:538:A:N6	2:B:555:G:O2'	2.53	0.40
2:B:235:U:H2'	2:B:236:C:C6	2.56	0.40
2:B:2618:G:H2'	2:B:2619:C:C6	2.57	0.40
2:B:1693:U:H1'	4:C:13:ARG:HH21	1.87	0.40
28:R:98:ILE:N	28:R:98:ILE:HD12	2.36	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:191:A:O2'	2:B:192:C:H5'	2.22	0.40
2:B:457:A:H61	2:B:470:A:H5''	1.87	0.40
2:B:2235:G:H2'	2:B:2236:U:C6	2.56	0.40
2:B:467:G:N7	15:2:39:ARG:NH2	2.69	0.40
2:B:861:A:H2'	2:B:862:G:O4'	2.22	0.40
27:G:126:THR:O	27:G:128:THR:N	2.55	0.40
24:S:34:ASP:O	24:S:38:TYR:HD1	2.04	0.40
2:B:1181:U:H2'	2:B:1182:G:H8	1.86	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	I	139/141 (99%)	120 (86%)	14 (10%)	5 (4%)	5	54
4	C	269/272 (99%)	155 (58%)	66 (24%)	48 (18%)	0	5
5	D	207/209 (99%)	122 (59%)	54 (26%)	31 (15%)	0	8
6	K	119/123 (97%)	78 (66%)	24 (20%)	17 (14%)	0	10
7	P	112/114 (98%)	61 (54%)	32 (29%)	19 (17%)	0	6
8	E	199/201 (99%)	125 (63%)	50 (25%)	24 (12%)	1	14
9	Y	56/58 (97%)	39 (70%)	12 (21%)	5 (9%)	1	25
10	0	54/56 (96%)	39 (72%)	8 (15%)	7 (13%)	0	12
11	4	36/38 (95%)	16 (44%)	10 (28%)	10 (28%)	0	1
12	1	48/54 (89%)	37 (77%)	7 (15%)	4 (8%)	1	27
13	3	62/64 (97%)	35 (56%)	21 (34%)	6 (10%)	1	21
14	V	92/94 (98%)	64 (70%)	22 (24%)	6 (6%)	2	36
15	2	44/46 (96%)	30 (68%)	10 (23%)	4 (9%)	1	24
16	L	141/144 (98%)	89 (63%)	31 (22%)	21 (15%)	0	8
17	M	134/136 (98%)	84 (63%)	29 (22%)	21 (16%)	0	7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	X	61/63 (97%)	36 (59%)	17 (28%)	8 (13%)	0	12
19	H	147/149 (99%)	76 (52%)	46 (31%)	25 (17%)	0	6
20	J	140/142 (99%)	85 (61%)	37 (26%)	18 (13%)	0	12
21	N	118/127 (93%)	76 (64%)	29 (25%)	13 (11%)	1	16
22	O	114/117 (97%)	74 (65%)	29 (25%)	11 (10%)	1	21
23	Q	115/117 (98%)	75 (65%)	31 (27%)	9 (8%)	1	28
24	S	108/110 (98%)	68 (63%)	29 (27%)	11 (10%)	1	19
25	U	100/103 (97%)	58 (58%)	23 (23%)	19 (19%)	0	4
26	F	176/178 (99%)	103 (58%)	44 (25%)	29 (16%)	0	7
27	G	174/176 (99%)	99 (57%)	42 (24%)	33 (19%)	0	4
28	R	101/103 (98%)	72 (71%)	20 (20%)	9 (9%)	1	25
29	T	91/100 (91%)	48 (53%)	23 (25%)	20 (22%)	0	2
30	Z	75/78 (96%)	50 (67%)	13 (17%)	12 (16%)	0	7
31	W	77/84 (92%)	28 (36%)	23 (30%)	26 (34%)	0	0
32	6	183/185 (99%)	162 (88%)	16 (9%)	5 (3%)	8	61
All	All	3492/3582 (98%)	2204 (63%)	812 (23%)	476 (14%)	0	11

All (476) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	I	18	ASN
4	C	17	LYS
4	C	51	ARG
4	C	59	GLN
4	C	77	VAL
4	C	141	HIS
5	D	9	VAL
5	D	74	GLU
5	D	91	THR
5	D	102	ALA
5	D	106	LYS
5	D	107	VAL
5	D	159	LYS
5	D	169	ARG
5	D	170	VAL
5	D	194	PRO
5	D	196	ALA

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Mol	Chain	Res	Type
6	K	17	ARG
6	K	18	ARG
6	K	31	ARG
6	K	35	VAL
6	K	72	PRO
6	K	73	ASP
6	K	119	ALA
6	K	120	PRO
7	P	25	VAL
7	P	50	ARG
7	P	64	SER
7	P	75	THR
7	P	100	ARG
8	E	62	GLN
8	E	79	ARG
8	E	165	HIS
9	Y	2	LYS
10	0	23	ALA
10	0	42	ILE
11	4	16	ILE
12	1	51	ALA
14	V	25	LYS
15	2	5	PHE
16	L	31	GLY
16	L	54	GLN
16	L	89	VAL
16	L	100	ILE
16	L	111	ILE
16	L	116	VAL
17	M	56	ALA
17	M	59	ARG
17	M	78	LEU
18	X	2	LYS
19	H	3	VAL
19	H	6	LEU
19	H	10	ALA
19	H	14	SER
19	H	31	VAL
19	H	32	PRO
19	H	33	GLN
19	H	64	ALA
19	H	125	THR

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Mol	Chain	Res	Type
19	H	140	ALA
20	J	4	PHE
20	J	5	THR
20	J	44	TYR
20	J	45	THR
20	J	81	ILE
20	J	111	LYS
20	J	124	VAL
21	N	11	ASN
21	N	58	ASP
21	N	82	GLU
24	S	3	THR
24	S	14	ALA
24	S	40	ASN
25	U	6	ARG
25	U	18	LYS
25	U	50	ALA
26	F	32	LYS
26	F	80	GLN
26	F	112	ASP
26	F	138	PRO
26	F	148	VAL
26	F	149	ARG
27	G	11	PRO
27	G	83	THR
27	G	91	VAL
27	G	94	ARG
28	R	7	SER
29	T	16	VAL
29	T	38	ALA
29	T	39	THR
29	T	69	ARG
29	T	88	LYS
30	Z	33	LEU
30	Z	45	ARG
30	Z	46	PHE
30	Z	77	LYS
31	W	14	ASP
31	W	30	VAL
31	W	50	VAL
31	W	61	LYS
32	6	30	THR

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Mol	Chain	Res	Type
3	I	14	ALA
3	I	64	ARG
4	C	4	LYS
4	C	29	PHE
4	C	35	LYS
4	C	36	ASN
4	C	52	HIS
4	C	94	LEU
4	C	140	VAL
4	C	151	GLY
4	C	222	THR
4	C	232	GLY
5	D	93	GLY
5	D	122	VAL
5	D	145	SER
5	D	149	ASN
5	D	181	ASP
5	D	182	ALA
5	D	184	ARG
6	K	92	GLU
7	P	31	VAL
7	P	37	LYS
7	P	38	ARG
7	P	101	GLU
7	P	111	GLU
8	E	42	GLY
8	E	45	ALA
8	E	167	VAL
9	Y	4	ILE
9	Y	34	THR
10	0	51	ARG
10	0	52	LYS
11	4	4	ARG
11	4	7	VAL
11	4	8	LYS
11	4	23	ILE
11	4	34	LYS
11	4	37	GLN
12	1	4	ILE
13	3	31	ILE
13	3	50	SER
16	L	5	THR

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Mol	Chain	Res	Type
16	L	36	LYS
16	L	51	GLU
16	L	60	ARG
17	M	13	HIS
17	M	69	PRO
17	M	83	GLY
17	M	87	GLY
17	M	116	ALA
18	X	9	LYS
18	X	45	GLN
18	X	58	ASN
19	H	5	LEU
19	H	8	LYS
19	H	11	ASN
19	H	12	LEU
19	H	29	PHE
19	H	54	LEU
19	H	105	ALA
19	H	132	PHE
20	J	41	LYS
20	J	43	GLU
20	J	52	ASP
20	J	73	VAL
20	J	84	ILE
21	N	10	LEU
21	N	19	ALA
21	N	60	VAL
21	N	101	GLY
22	O	13	ARG
22	O	22	GLY
22	O	100	HIS
23	Q	86	SER
23	Q	87	VAL
23	Q	91	ARG
24	S	25	ARG
24	S	65	ASP
24	S	96	ILE
25	U	5	ARG
25	U	42	LYS
25	U	49	PRO
25	U	61	GLU
25	U	62	ALA

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Mol	Chain	Res	Type
25	U	85	ARG
25	U	92	VAL
26	F	78	ILE
26	F	87	LYS
26	F	92	GLY
26	F	103	ILE
26	F	135	ILE
27	G	8	VAL
27	G	61	TRP
27	G	84	LYS
27	G	85	LYS
27	G	102	ILE
27	G	117	PRO
27	G	125	PRO
27	G	164	ALA
27	G	170	THR
28	R	24	LYS
28	R	43	ASN
28	R	70	GLU
28	R	101	ILE
29	T	19	LYS
29	T	58	VAL
30	Z	31	PRO
30	Z	41	GLU
30	Z	71	LEU
31	W	9	THR
31	W	34	SER
31	W	36	ILE
31	W	58	LEU
31	W	62	ALA
31	W	70	VAL
32	6	41	LEU
32	6	52	LEU
32	6	85	ASP
3	I	23	VAL
4	C	3	VAL
4	C	37	SER
4	C	53	ILE
4	C	88	ALA
4	C	131	MET
4	C	135	PRO
4	C	142	ASN

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Mol	Chain	Res	Type
4	C	145	MET
4	C	195	GLY
4	C	220	ARG
4	C	246	PRO
4	C	250	GLN
5	D	31	ALA
5	D	118	PHE
5	D	127	PHE
5	D	136	ASN
5	D	164	GLN
6	K	6	THR
6	K	16	ALA
6	K	46	ALA
7	P	30	TRP
7	P	65	ASN
7	P	73	PHE
8	E	46	GLN
8	E	52	VAL
8	E	61	ARG
8	E	69	ARG
8	E	106	LYS
8	E	166	LYS
8	E	188	MET
10	O	48	TYR
10	O	54	ILE
11	4	9	LYS
11	4	18	LYS
12	1	36	LYS
13	3	10	ALA
13	3	29	ARG
14	V	71	LYS
14	V	75	GLN
15	2	45	SER
16	L	52	GLY
16	L	94	THR
17	M	43	ALA
17	M	72	PRO
17	M	134	THR
18	X	36	GLN
18	X	46	VAL
19	H	73	ASN
19	H	131	SER

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Mol	Chain	Res	Type
21	N	68	ALA
21	N	88	ALA
21	N	100	CYS
22	O	51	ALA
22	O	60	GLU
22	O	68	LYS
22	O	99	TYR
23	Q	10	ARG
23	Q	76	SER
24	S	13	SER
24	S	80	PRO
26	F	9	ASP
26	F	11	VAL
26	F	28	PRO
26	F	42	ALA
26	F	133	GLU
26	F	142	TYR
27	G	2	ARG
27	G	29	ASN
27	G	32	LEU
27	G	45	ALA
27	G	111	PRO
27	G	112	VAL
27	G	118	ALA
27	G	151	ARG
27	G	152	ARG
28	R	65	ALA
29	T	11	LEU
29	T	28	ASN
29	T	35	ALA
30	Z	34	HIS
30	Z	35	SER
30	Z	70	GLU
31	W	15	SER
31	W	27	GLY
31	W	29	SER
31	W	32	ALA
31	W	59	PHE
31	W	60	ALA
31	W	77	LYS
4	C	34	GLU
4	C	105	ALA

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Mol	Chain	Res	Type
4	C	186	ASP
4	C	190	THR
4	C	196	ASN
4	C	200	MET
4	C	202	ARG
4	C	204	LEU
5	D	109	VAL
5	D	121	THR
6	K	14	SER
6	K	54	LYS
6	K	110	GLU
8	E	21	ARG
8	E	70	SER
9	Y	9	THR
10	O	26	SER
13	3	22	LYS
14	V	6	ALA
14	V	45	ASP
16	L	4	ASN
16	L	19	LEU
16	L	81	ASP
16	L	99	ASN
16	L	117	THR
17	M	20	LEU
17	M	21	ALA
17	M	70	ASP
19	H	7	ASP
19	H	9	VAL
20	J	13	ARG
20	J	134	ALA
21	N	70	THR
22	O	98	GLN
23	Q	15	LYS
23	Q	88	GLU
24	S	18	ARG
24	S	61	ASN
25	U	24	VAL
25	U	96	LYS
26	F	41	GLU
26	F	43	ILE
26	F	81	GLY
27	G	9	VAL

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Mol	Chain	Res	Type
27	G	16	VAL
27	G	59	ASP
27	G	97	VAL
28	R	40	MET
29	T	8	LEU
29	T	29	THR
29	T	66	LYS
30	Z	3	ARG
31	W	28	GLU
31	W	40	ARG
3	I	49	GLU
4	C	5	CYS
4	C	84	PRO
4	C	189	ALA
4	C	238	ASN
4	C	254	LYS
5	D	54	ALA
5	D	131	ASP
5	D	162	ALA
6	K	93	GLN
6	K	108	ARG
7	P	4	ILE
7	P	86	LYS
8	E	27	LEU
8	E	68	ALA
8	E	73	ILE
8	E	83	VAL
8	E	96	VAL
12	1	50	GLU
15	2	22	MET
16	L	58	TYR
16	L	66	PHE
17	M	27	SER
17	M	82	MET
18	X	37	LEU
19	H	83	LYS
20	J	14	ASP
21	N	89	SER
24	S	30	SER
25	U	12	VAL
25	U	16	LYS
25	U	41	VAL

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Mol	Chain	Res	Type
25	U	45	GLN
25	U	51	LEU
25	U	59	GLU
26	F	93	GLU
26	F	110	ILE
26	F	156	THR
27	G	54	ARG
27	G	109	SER
28	R	52	PRO
28	R	98	ILE
29	T	77	ARG
29	T	86	THR
29	T	91	GLN
30	Z	18	ARG
31	W	12	GLY
31	W	23	LYS
31	W	37	VAL
31	W	78	PHE
32	6	81	LYS
5	D	119	ALA
8	E	129	PRO
8	E	131	THR
13	3	58	ILE
14	V	84	PRO
16	L	143	GLU
17	M	24	THR
17	M	26	VAL
17	M	73	ILE
19	H	44	ILE
21	N	59	SER
22	O	27	VAL
22	O	57	ALA
26	F	136	ILE
27	G	38	ASP
27	G	168	VAL
29	T	55	VAL
31	W	55	ASP
31	W	76	ARG
5	D	143	PRO
7	P	104	GLY
20	J	64	VAL
20	J	112	GLY

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Mol	Chain	Res	Type
23	Q	89	ILE
26	F	82	TYR
27	G	89	VAL
27	G	155	PRO
4	C	63	ILE
4	C	64	VAL
4	C	106	PRO
4	C	150	GLY
5	D	24	VAL
7	P	63	ILE
7	P	83	ILE
9	Y	13	ILE
11	4	17	VAL
18	X	62	GLY
20	J	139	VAL
22	O	8	ILE
26	F	88	VAL
29	T	10	VAL
4	C	123	ILE
7	P	46	VAL
17	M	19	GLY
17	M	23	GLY
25	U	82	VAL
26	F	105	ILE
4	C	15	VAL
4	C	18	VAL
8	E	59	PRO
8	E	187	VAL
15	2	44	VAL
16	L	28	GLY
19	H	88	GLY
26	F	145	VAL
27	G	18	ILE
4	C	31	PRO
23	Q	30	VAL
26	F	123	GLY
29	T	57	VAL
29	T	65	GLY
31	W	33	GLY

### 5.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	I	109/109 (100%)	107 (98%)	2 (2%)	71	93
4	C	216/217 (100%)	179 (83%)	37 (17%)	3	22
5	D	164/164 (100%)	135 (82%)	29 (18%)	3	20
6	K	102/104 (98%)	80 (78%)	22 (22%)	1	11
7	P	99/99 (100%)	80 (81%)	19 (19%)	2	16
8	E	165/165 (100%)	143 (87%)	22 (13%)	6	37
9	Y	48/48 (100%)	38 (79%)	10 (21%)	2	13
10	0	47/47 (100%)	38 (81%)	9 (19%)	2	16
11	4	34/34 (100%)	28 (82%)	6 (18%)	3	20
12	1	45/48 (94%)	40 (89%)	5 (11%)	9	46
13	3	51/51 (100%)	45 (88%)	6 (12%)	8	42
14	V	78/78 (100%)	64 (82%)	14 (18%)	2	19
15	2	38/38 (100%)	28 (74%)	10 (26%)	1	7
16	L	102/103 (99%)	91 (89%)	11 (11%)	9	48
17	M	109/109 (100%)	87 (80%)	22 (20%)	2	14
18	X	55/55 (100%)	46 (84%)	9 (16%)	3	25
19	H	114/114 (100%)	79 (69%)	35 (31%)	0	5
20	J	116/116 (100%)	100 (86%)	16 (14%)	5	34
21	N	100/103 (97%)	84 (84%)	16 (16%)	3	27
22	O	86/87 (99%)	71 (83%)	15 (17%)	3	21
23	Q	89/89 (100%)	79 (89%)	10 (11%)	9	45
24	S	93/93 (100%)	77 (83%)	16 (17%)	3	22
25	U	83/84 (99%)	65 (78%)	18 (22%)	1	11
26	F	149/149 (100%)	117 (78%)	32 (22%)	1	11
27	G	137/137 (100%)	110 (80%)	27 (20%)	2	15
28	R	84/84 (100%)	71 (84%)	13 (16%)	4	28
29	T	80/84 (95%)	64 (80%)	16 (20%)	2	14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	Z	67/68 (98%)	53 (79%)	14 (21%)	1	12
31	W	59/62 (95%)	42 (71%)	17 (29%)	0	5
32	6	157/157 (100%)	137 (87%)	20 (13%)	6	39
All	All	2876/2896 (99%)	2378 (83%)	498 (17%)	3	21

All (498) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	I	63	ASP
3	I	96	LYS
4	C	4	LYS
4	C	5	CYS
4	C	12	ARG
4	C	23	LEU
4	C	43	ASN
4	C	45	ASN
4	C	52	HIS
4	C	53	ILE
4	C	62	ARG
4	C	65	ASP
4	C	86	ARG
4	C	89	ASN
4	C	90	ILE
4	C	100	ARG
4	C	123	ILE
4	C	129	LEU
4	C	134	ILE
4	C	142	ASN
4	C	155	ARG
4	C	166	ARG
4	C	172	THR
4	C	173	LEU
4	C	176	ARG
4	C	180	MET
4	C	190	THR
4	C	191	LEU
4	C	202	ARG
4	C	212	TRP
4	C	213	ARG
4	C	224	MET
4	C	239	PHE

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Mol	Chain	Res	Type
4	C	249	VAL
4	C	251	THR
4	C	257	ARG
4	C	267	VAL
4	C	268	ARG
4	C	269	ARG
5	D	17	GLU
5	D	35	THR
5	D	36	GLN
5	D	40	LEU
5	D	46	ARG
5	D	56	LYS
5	D	59	ARG
5	D	79	LEU
5	D	81	GLU
5	D	84	LEU
5	D	89	GLU
5	D	91	THR
5	D	99	GLU
5	D	124	ARG
5	D	131	ASP
5	D	137	SER
5	D	138	LEU
5	D	142	VAL
5	D	148	GLN
5	D	151	THR
5	D	154	LYS
5	D	159	LYS
5	D	165	MET
5	D	167	ASN
5	D	179	ARG
5	D	186	LEU
5	D	201	LEU
5	D	204	LYS
5	D	207	VAL
6	K	8	LEU
6	K	21	CYS
6	K	32	TYR
6	K	39	ILE
6	K	41	ILE
6	K	47	ILE
6	K	52	VAL

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Mol	Chain	Res	Type
6	K	53	LYS
6	K	54	LYS
6	K	58	LEU
6	K	64	ARG
6	K	72	PRO
6	K	79	PHE
6	K	86	LEU
6	K	87	LEU
6	K	98	ARG
6	K	104	THR
6	K	105	ARG
6	K	107	LEU
6	K	108	ARG
6	K	111	LYS
6	K	120	PRO
7	P	3	ILE
7	P	6	GLN
7	P	19	PHE
7	P	20	ARG
7	P	24	THR
7	P	25	VAL
7	P	28	LYS
7	P	33	GLU
7	P	37	LYS
7	P	38	ARG
7	P	43	GLU
7	P	61	ARG
7	P	83	ILE
7	P	99	LEU
7	P	100	ARG
7	P	101	GLU
7	P	111	GLU
7	P	112	ARG
7	P	114	ASN
8	E	2	GLU
8	E	12	LEU
8	E	22	ASP
8	E	24	ASN
8	E	40	ARG
8	E	51	GLU
8	E	58	LYS
8	E	60	TRP

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Mol	Chain	Res	Type
8	E	62	GLN
8	E	67	ARG
8	E	75	SER
8	E	78	TRP
8	E	108	ILE
8	E	116	ASP
8	E	118	LEU
8	E	122	GLU
8	E	124	PHE
8	E	133	LEU
8	E	147	LEU
8	E	153	LEU
8	E	163	ASN
8	E	170	ARG
9	Y	2	LYS
9	Y	3	THR
9	Y	6	ILE
9	Y	15	ARG
9	Y	16	LEU
9	Y	19	HIS
9	Y	23	LEU
9	Y	30	ARG
9	Y	37	ARG
9	Y	57	GLU
10	0	3	GLN
10	0	26	SER
10	0	27	LEU
10	0	37	HIS
10	0	41	HIS
10	0	45	ASP
10	0	51	ARG
10	0	53	VAL
10	0	56	LYS
11	4	3	VAL
11	4	6	SER
11	4	9	LYS
11	4	28	SER
11	4	35	GLN
11	4	37	GLN
12	1	6	GLU
12	1	8	ILE
12	1	9	LYS

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Mol	Chain	Res	Type
12	1	35	LEU
12	1	44	GLN
13	3	7	ARG
13	3	14	LYS
13	3	18	LYS
13	3	27	ASN
13	3	42	HIS
13	3	61	LEU
14	V	7	GLU
14	V	12	GLN
14	V	18	ARG
14	V	40	ILE
14	V	42	LEU
14	V	46	LYS
14	V	51	GLN
14	V	53	LYS
14	V	55	GLU
14	V	66	ASP
14	V	70	ILE
14	V	75	GLN
14	V	89	ILE
14	V	90	ASP
15	2	4	THR
15	2	10	LEU
15	2	19	ARG
15	2	22	MET
15	2	24	THR
15	2	33	ARG
15	2	39	ARG
15	2	41	ARG
15	2	42	LEU
15	2	43	THR
16	L	12	SER
16	L	40	SER
16	L	47	ARG
16	L	60	ARG
16	L	69	ARG
16	L	91	ASP
16	L	92	LEU
16	L	95	LEU
16	L	112	LEU
16	L	118	THR

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Mol	Chain	Res	Type
16	L	123	ARG
17	M	1	MET
17	M	10	ARG
17	M	20	LEU
17	M	25	ASP
17	M	38	ARG
17	M	47	GLU
17	M	58	LYS
17	M	59	ARG
17	M	63	ILE
17	M	65	ILE
17	M	70	ASP
17	M	90	GLU
17	M	91	TYR
17	M	95	LEU
17	M	100	LYS
17	M	104	GLU
17	M	105	MET
17	M	108	VAL
17	M	110	GLU
17	M	115	GLU
17	M	127	LYS
17	M	131	VAL
18	X	14	LEU
18	X	18	LEU
18	X	25	GLN
18	X	28	LEU
18	X	29	ARG
18	X	41	HIS
18	X	48	ARG
18	X	57	LEU
18	X	59	GLU
19	H	3	VAL
19	H	12	LEU
19	H	15	LEU
19	H	17	ASP
19	H	28	ASN
19	H	31	VAL
19	H	32	PRO
19	H	33	GLN
19	H	43	ASN
19	H	44	ILE

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Mol	Chain	Res	Type
19	H	47	PHE
19	H	48	GLU
19	H	50	ARG
19	H	53	GLU
19	H	54	LEU
19	H	58	LEU
19	H	60	GLU
19	H	62	LEU
19	H	66	ASN
19	H	68	ARG
19	H	71	LYS
19	H	73	ASN
19	H	76	GLU
19	H	87	GLU
19	H	89	LYS
19	H	98	ASP
19	H	101	ASP
19	H	109	GLU
19	H	112	LYS
19	H	114	GLU
19	H	116	ARG
19	H	127	GLU
19	H	130	VAL
19	H	138	VAL
19	H	141	LYS
20	J	2	LYS
20	J	5	THR
20	J	12	LYS
20	J	28	LEU
20	J	35	ARG
20	J	44	TYR
20	J	65	THR
20	J	71	ASP
20	J	76	HIS
20	J	95	ARG
20	J	111	LYS
20	J	120	ARG
20	J	124	VAL
20	J	129	GLU
20	J	136	GLN
20	J	138	GLN
21	N	1	MET

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Mol	Chain	Res	Type
21	N	2	ARG
21	N	9	GLN
21	N	11	ASN
21	N	18	GLN
21	N	20	MET
21	N	35	LYS
21	N	46	ARG
21	N	59	SER
21	N	69	ARG
21	N	71	ARG
21	N	82	GLU
21	N	83	LEU
21	N	114	GLU
21	N	118	ARG
21	N	120	GLU
22	O	3	LYS
22	O	9	ARG
22	O	17	LYS
22	O	20	GLU
22	O	31	THR
22	O	36	TYR
22	O	43	ASN
22	O	69	ASP
22	O	78	VAL
22	O	80	GLU
22	O	89	ASP
22	O	98	GLN
22	O	100	HIS
22	O	104	GLN
22	O	106	LEU
23	Q	5	ARG
23	Q	10	ARG
23	Q	13	HIS
23	Q	29	ARG
23	Q	63	ARG
23	Q	79	ILE
23	Q	83	LYS
23	Q	84	LYS
23	Q	90	ASP
23	Q	96	ASP
24	S	1	MET
24	S	6	LYS

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Mol	Chain	Res	Type
24	S	18	ARG
24	S	22	ASP
24	S	33	LEU
24	S	39	THR
24	S	55	ILE
24	S	62	ASP
24	S	66	ILE
24	S	72	THR
24	S	73	LYS
24	S	84	ARG
24	S	86	MET
24	S	88	ARG
24	S	99	ARG
24	S	100	THR
25	U	7	ASP
25	U	11	ILE
25	U	13	LEU
25	U	20	LYS
25	U	30	SER
25	U	34	ILE
25	U	49	PRO
25	U	51	LEU
25	U	52	ASN
25	U	53	GLN
25	U	60	LYS
25	U	64	ILE
25	U	65	GLN
25	U	73	ASN
25	U	78	LYS
25	U	80	ASP
25	U	81	ARG
25	U	85	ARG
26	F	2	LYS
26	F	13	LYS
26	F	15	LEU
26	F	18	GLU
26	F	29	ARG
26	F	32	LYS
26	F	50	ASP
26	F	55	ASP
26	F	56	LEU
26	F	59	ILE

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Mol	Chain	Res	Type
26	F	76	PHE
26	F	82	TYR
26	F	86	CYS
26	F	91	ARG
26	F	96	TRP
26	F	97	GLU
26	F	101	ARG
26	F	102	LEU
26	F	103	ILE
26	F	109	ARG
26	F	111	ARG
26	F	121	PHE
26	F	126	ASN
26	F	129	MET
26	F	134	GLN
26	F	137	PHE
26	F	138	PRO
26	F	147	ARG
26	F	149	ARG
26	F	174	PHE
26	F	177	ARG
26	F	178	LYS
27	G	1	SER
27	G	2	ARG
27	G	15	ASP
27	G	17	LYS
27	G	24	THR
27	G	31	GLU
27	G	34	ARG
27	G	36	LEU
27	G	54	ARG
27	G	55	ASP
27	G	61	TRP
27	G	68	ARG
27	G	70	LEU
27	G	71	LEU
27	G	80	GLU
27	G	84	LYS
27	G	85	LYS
27	G	86	LEU
27	G	94	ARG
27	G	106	LEU

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Mol	Chain	Res	Type
27	G	120	ILE
27	G	132	LEU
27	G	138	GLN
27	G	148	ARG
27	G	154	GLU
27	G	162	ARG
27	G	166	GLU
28	R	4	VAL
28	R	22	LEU
28	R	39	LEU
28	R	40	MET
28	R	45	GLU
28	R	48	LYS
28	R	53	PHE
28	R	55	ASP
28	R	70	GLU
28	R	71	LYS
28	R	72	VAL
28	R	79	ARG
28	R	86	GLN
29	T	2	ILE
29	T	3	ARG
29	T	4	GLU
29	T	7	LEU
29	T	9	LYS
29	T	11	LEU
29	T	12	ARG
29	T	24	MET
29	T	32	LEU
29	T	64	LYS
29	T	68	LYS
29	T	69	ARG
29	T	70	HIS
29	T	73	ARG
29	T	81	LYS
29	T	87	LEU
30	Z	25	THR
30	Z	27	ARG
30	Z	28	ARG
30	Z	33	LEU
30	Z	37	ARG
30	Z	41	GLU

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Mol	Chain	Res	Type
30	Z	46	PHE
30	Z	48	THR
30	Z	49	LEU
30	Z	50	ARG
30	Z	64	ILE
30	Z	66	THR
30	Z	72	ARG
30	Z	78	TYR
31	W	13	ARG
31	W	14	ASP
31	W	16	GLU
31	W	18	LYS
31	W	19	ARG
31	W	23	LYS
31	W	24	ARG
31	W	25	PHE
31	W	38	ARG
31	W	39	GLN
31	W	40	ARG
31	W	44	PHE
31	W	49	ASN
31	W	50	VAL
31	W	54	ARG
31	W	77	LYS
31	W	80	SER
32	6	1	MET
32	6	6	LEU
32	6	16	LYS
32	6	17	SER
32	6	29	ARG
32	6	39	LEU
32	6	52	LEU
32	6	55	ILE
32	6	62	ASP
32	6	66	LEU
32	6	73	GLN
32	6	93	SER
32	6	106	LEU
32	6	109	GLU
32	6	114	LEU
32	6	147	LEU
32	6	154	THR

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Mol	Chain	Res	Type
32	6	165	THR
32	6	177	GLU
32	6	183	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
3	I	11	GLN
3	I	29	GLN
3	I	33	ASN
3	I	93	ASN
4	C	20	ASN
4	C	43	ASN
4	C	59	GLN
4	C	89	ASN
4	C	133	ASN
4	C	152	GLN
4	C	162	GLN
4	C	225	ASN
5	D	32	ASN
5	D	36	GLN
5	D	49	GLN
5	D	126	ASN
5	D	130	GLN
5	D	136	ASN
5	D	173	GLN
6	K	5	GLN
6	K	13	ASN
6	K	88	ASN
6	K	89	ASN
7	P	6	GLN
7	P	40	GLN
7	P	114	ASN
8	E	24	ASN
8	E	30	GLN
8	E	62	GLN
8	E	97	ASN
8	E	136	GLN
8	E	163	ASN
8	E	195	GLN
9	Y	33	HIS
9	Y	48	ASN

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Mol	Chain	Res	Type
10	0	3	GLN
11	4	35	GLN
13	3	30	HIS
14	V	44	HIS
14	V	51	GLN
14	V	75	GLN
14	V	80	HIS
14	V	88	HIS
15	2	13	ASN
15	2	29	GLN
16	L	4	ASN
16	L	93	ASN
16	L	104	GLN
17	M	13	HIS
17	M	17	ASN
17	M	60	GLN
18	X	15	ASN
18	X	20	ASN
18	X	25	GLN
18	X	27	ASN
18	X	31	GLN
18	X	45	GLN
19	H	18	GLN
19	H	20	ASN
19	H	28	ASN
19	H	43	ASN
19	H	66	ASN
19	H	73	ASN
19	H	128	HIS
19	H	133	GLN
19	H	135	HIS
19	H	145	ASN
20	J	138	GLN
21	N	11	ASN
21	N	62	ASN
21	N	107	ASN
22	O	19	GLN
22	O	38	GLN
22	O	61	GLN
23	Q	19	GLN
23	Q	51	GLN
23	Q	55	GLN

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Mol	Chain	Res	Type
23	Q	58	GLN
23	Q	70	GLN
23	Q	80	ASN
24	S	40	ASN
24	S	57	ASN
24	S	61	ASN
25	U	65	GLN
25	U	68	ASN
25	U	73	ASN
26	F	51	ASN
26	F	134	GLN
27	G	29	ASN
27	G	37	ASN
27	G	63	GLN
27	G	110	HIS
27	G	127	GLN
28	R	6	GLN
28	R	86	GLN
28	R	91	GLN
29	T	48	GLN
29	T	91	GLN
29	T	92	ASN
30	Z	17	ASN
30	Z	23	ASN
30	Z	36	HIS
31	W	39	GLN
31	W	56	HIS
31	W	75	ASN
32	6	120	GLN
32	6	131	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	116/120 (96%)	17 (14%)	0
2	B	2837/2904 (97%)	457 (16%)	17 (0%)
All	All	2953/3024 (97%)	474 (16%)	17 (0%)

All (474) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	4	C
1	A	9	G
1	A	16	G
1	A	24	G
1	A	26	C
1	A	29	A
1	A	30	C
1	A	35	C
1	A	42	C
1	A	43	C
1	A	66	A
1	A	67	G
1	A	74	U
1	A	88	C
1	A	90	C
1	A	99	A
1	A	109	A
2	B	2	G
2	B	27	G
2	B	33	C
2	B	34	U
2	B	46	G
2	B	51	G
2	B	63	A
2	B	64	A
2	B	71	A
2	B	74	A
2	B	75	G
2	B	79	C
2	B	91	A
2	B	99	U
2	B	100	U
2	B	101	A
2	B	102	U
2	B	103	A
2	B	118	A
2	B	119	A
2	B	120	U
2	B	125	A
2	B	128	C
2	B	139	U
2	B	140	C
2	B	141	G

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Mol	Chain	Res	Type
2	B	142	A
2	B	143	C
2	B	144	A
2	B	149	A
2	B	160	A
2	B	162	U
2	B	163	C
2	B	181	A
2	B	196	A
2	B	199	A
2	B	215	G
2	B	216	A
2	B	221	A
2	B	222	A
2	B	225	C
2	B	230	G
2	B	233	A
2	B	248	G
2	B	250	G
2	B	255	A
2	B	265	A
2	B	266	G
2	B	268	C
2	B	271	G
2	B	275	C
2	B	277	G
2	B	279	A
2	B	280	U
2	B	281	C
2	B	291	G
2	B	295	G
2	B	299	A
2	B	311	A
2	B	323	C
2	B	329	G
2	B	330	A
2	B	333	G
2	B	346	A
2	B	352	A
2	B	353	C
2	B	355	U
2	B	363	G

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Mol	Chain	Res	Type
2	B	371	A
2	B	372	G
2	B	383	C
2	B	386	G
2	B	387	U
2	B	396	G
2	B	411	G
2	B	412	A
2	B	423	A
2	B	424	G
2	B	444	C
2	B	451	U
2	B	455	C
2	B	456	C
2	B	457	A
2	B	479	A
2	B	480	A
2	B	481	G
2	B	491	G
2	B	492	A
2	B	504	A
2	B	505	A
2	B	508	A
2	B	509	C
2	B	512	G
2	B	527	C
2	B	531	C
2	B	532	A
2	B	533	G
2	B	544	C
2	B	546	U
2	B	547	A
2	B	548	G
2	B	563	A
2	B	573	U
2	B	575	A
2	B	586	A
2	B	588	U
2	B	603	A
2	B	613	A
2	B	614	A
2	B	615	U

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Mol	Chain	Res	Type
2	B	616	A
2	B	627	A
2	B	637	A
2	B	645	C
2	B	646	U
2	B	653	U
2	B	654	A
2	B	655	A
2	B	656	G
2	B	671	C
2	B	686	U
2	B	717	C
2	B	718	A
2	B	719	C
2	B	727	A
2	B	730	A
2	B	746	U
2	B	747	U
2	B	764	A
2	B	775	G
2	B	782	A
2	B	784	G
2	B	785	G
2	B	805	G
2	B	812	C
2	B	819	A
2	B	827	U
2	B	828	U
2	B	846	U
2	B	847	U
2	B	859	G
2	B	869	G
2	B	874	G
2	B	875	G
2	B	876	C
2	B	877	A
2	B	878	A
2	B	899	A
2	B	910	A
2	B	912	C
2	B	931	U
2	B	932	U

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Mol	Chain	Res	Type
2	B	933	A
2	B	941	A
2	B	946	C
2	B	953	G
2	B	955	U
2	B	961	C
2	B	973	A
2	B	974	G
2	B	982	C
2	B	983	A
2	B	985	C
2	B	991	C
2	B	995	C
2	B	996	A
2	B	1012	U
2	B	1013	C
2	B	1022	G
2	B	1025	G
2	B	1033	U
2	B	1046	A
2	B	1047	G
2	B	1055	G
2	B	1062	G
2	B	1070	A
2	B	1088	A
2	B	1090	A
2	B	1110	G
2	B	1112	G
2	B	1115	G
2	B	1116	G
2	B	1126	A
2	B	1132	U
2	B	1133	A
2	B	1134	A
2	B	1135	C
2	B	1136	G
2	B	1139	G
2	B	1141	U
2	B	1142	A
2	B	1143	A
2	B	1157	G
2	B	1172	C

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Mol	Chain	Res	Type
2	B	1173	U
2	B	1174	U
2	B	1176	U
2	B	1179	G
2	B	1186	G
2	B	1195	G
2	B	1204	A
2	B	1205	A
2	B	1206	G
2	B	1211	C
2	B	1212	G
2	B	1237	A
2	B	1241	A
2	B	1242	U
2	B	1247	A
2	B	1248	G
2	B	1250	G
2	B	1253	A
2	B	1256	G
2	B	1266	G
2	B	1271	G
2	B	1272	A
2	B	1273	U
2	B	1275	A
2	B	1276	A
2	B	1301	A
2	B	1302	A
2	B	1321	A
2	B	1325	U
2	B	1337	G
2	B	1341	G
2	B	1359	A
2	B	1365	A
2	B	1368	G
2	B	1379	U
2	B	1383	A
2	B	1384	A
2	B	1396	U
2	B	1397	U
2	B	1416	G
2	B	1419	A
2	B	1420	A

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Mol	Chain	Res	Type
2	B	1426	G
2	B	1427	A
2	B	1428	C
2	B	1434	A
2	B	1451	C
2	B	1453	A
2	B	1454	C
2	B	1459	G
2	B	1461	C
2	B	1470	A
2	B	1471	G
2	B	1476	U
2	B	1477	A
2	B	1478	G
2	B	1482	G
2	B	1490	A
2	B	1493	C
2	B	1497	U
2	B	1504	A
2	B	1507	C
2	B	1508	A
2	B	1509	A
2	B	1510	G
2	B	1524	G
2	B	1535	A
2	B	1540	G
2	B	1552	A
2	B	1558	C
2	B	1559	U
2	B	1567	G
2	B	1569	A
2	B	1578	U
2	B	1583	A
2	B	1585	C
2	B	1588	G
2	B	1607	C
2	B	1608	A
2	B	1610	A
2	B	1613	G
2	B	1619	G
2	B	1634	A
2	B	1635	A

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Mol	Chain	Res	Type
2	B	1640	A
2	B	1647	U
2	B	1648	U
2	B	1674	G
2	B	1681	G
2	B	1700	A
2	B	1703	G
2	B	1713	A
2	B	1714	U
2	B	1715	G
2	B	1730	C
2	B	1731	G
2	B	1733	G
2	B	1738	G
2	B	1764	C
2	B	1773	A
2	B	1782	U
2	B	1800	C
2	B	1816	C
2	B	1829	A
2	B	1870	C
2	B	1876	A
2	B	1884	G
2	B	1906	G
2	B	1913	A
2	B	1927	A
2	B	1929	G
2	B	1930	G
2	B	1937	A
2	B	1938	A
2	B	1939	U
2	B	1940	U
2	B	1944	U
2	B	1955	U
2	B	1963	U
2	B	1966	A
2	B	1967	C
2	B	1970	A
2	B	1971	U
2	B	1972	G
2	B	1991	U
2	B	1993	U

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Mol	Chain	Res	Type
2	B	1996	C
2	B	1997	C
2	B	2020	A
2	B	2022	U
2	B	2023	C
2	B	2031	A
2	B	2043	C
2	B	2055	C
2	B	2056	G
2	B	2060	A
2	B	2061	G
2	B	2062	A
2	B	2069	G
2	B	2096	C
2	B	2102	G
2	B	2103	C
2	B	2108	A
2	B	2134	A
2	B	2136	G
2	B	2137	U
2	B	2138	G
2	B	2144	G
2	B	2145	C
2	B	2146	C
2	B	2147	A
2	B	2148	G
2	B	2149	U
2	B	2152	G
2	B	2153	C
2	B	2154	A
2	B	2156	G
2	B	2157	G
2	B	2180	U
2	B	2181	U
2	B	2182	U
2	B	2183	A
2	B	2184	A
2	B	2187	U
2	B	2188	U
2	B	2192	U
2	B	2198	A
2	B	2199	A

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Mol	Chain	Res	Type
2	B	2203	U
2	B	2204	G
2	B	2212	A
2	B	2225	A
2	B	2238	G
2	B	2239	G
2	B	2250	G
2	B	2266	A
2	B	2268	A
2	B	2279	G
2	B	2283	C
2	B	2287	A
2	B	2288	A
2	B	2305	U
2	B	2307	G
2	B	2308	G
2	B	2311	A
2	B	2321	U
2	B	2322	A
2	B	2325	G
2	B	2335	A
2	B	2337	G
2	B	2345	G
2	B	2347	C
2	B	2361	G
2	B	2379	G
2	B	2383	G
2	B	2385	C
2	B	2396	G
2	B	2402	U
2	B	2406	A
2	B	2423	U
2	B	2425	A
2	B	2426	A
2	B	2429	G
2	B	2430	A
2	B	2434	A
2	B	2441	U
2	B	2448	A
2	B	2472	G
2	B	2476	A
2	B	2491	U

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Mol	Chain	Res	Type
2	B	2502	G
2	B	2505	G
2	B	2506	U
2	B	2518	A
2	B	2535	G
2	B	2552	U
2	B	2554	U
2	B	2566	A
2	B	2567	G
2	B	2573	C
2	B	2582	G
2	B	2586	U
2	B	2609	U
2	B	2613	U
2	B	2619	C
2	B	2629	U
2	B	2630	G
2	B	2634	A
2	B	2646	C
2	B	2654	A
2	B	2682	A
2	B	2689	U
2	B	2690	U
2	B	2714	G
2	B	2739	U
2	B	2744	G
2	B	2751	G
2	B	2752	C
2	B	2757	A
2	B	2759	G
2	B	2760	C
2	B	2778	A
2	B	2791	G
2	B	2796	U
2	B	2799	A
2	B	2800	A
2	B	2801	G
2	B	2802	G
2	B	2808	G
2	B	2820	A
2	B	2821	A
2	B	2823	A

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Mol	Chain	Res	Type
2	B	2833	U
2	B	2834	G
2	B	2836	U
2	B	2866	U
2	B	2867	G
2	B	2872	A
2	B	2873	A
2	B	2883	A
2	B	2901	C
2	B	2902	C
2	B	2903	U

All (17) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	63	A
2	B	102	U
2	B	162	U
2	B	508	A
2	B	546	U
2	B	670	A
2	B	1205	A
2	B	1210	G
2	B	1301	A
2	B	1419	A
2	B	1943	U
2	B	2062	A
2	B	2282	G
2	B	2336	A
2	B	2425	A
2	B	2756	U
2	B	2798	U

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

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

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 112 ligands modelled in this entry, 111 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
34	LLL	B	3015	-	33,33,33	3.08	13 (39%)	49,49,49	1.54	5 (10%)

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
34	LLL	B	3015	-	-	0/12/65/65	0/3/3/3

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	B	3015	LLL	C22-C32	8.45	1.58	1.52
34	B	3015	LLL	C22-C12	6.82	1.57	1.52
34	B	3015	LLL	O53-C53	6.00	1.52	1.43
34	B	3015	LLL	C43-C33	4.98	1.63	1.54
34	B	3015	LLL	C42-C32	4.52	1.59	1.52
34	B	3015	LLL	O53-C13	4.39	1.51	1.41
34	B	3015	LLL	C53-C43	3.72	1.56	1.52
34	B	3015	LLL	C41-C51	3.49	1.60	1.51
34	B	3015	LLL	O51-C11	3.41	1.50	1.41
34	B	3015	LLL	C23-C33	2.70	1.59	1.52
34	B	3015	LLL	C31-C21	2.59	1.59	1.52
34	B	3015	LLL	C52-C42	2.53	1.59	1.52
34	B	3015	LLL	C52-C62	2.26	1.58	1.52

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	B	3015	LLL	C93-N33-C33	6.50	117.55	113.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	B	3015	LLL	C53-O53-C13	4.37	117.45	111.22
34	B	3015	LLL	C83-C43-C33	2.61	116.49	112.15
34	B	3015	LLL	C11-O51-C51	2.56	115.79	113.19
34	B	3015	LLL	O43-C43-C83	-2.46	102.66	108.08

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.7 Other polymers ⓘ

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	117/120 (97%)	-0.26	0 100 100	49, 85, 136, 180	0
2	B	2841/2904 (97%)	0.41	253 (8%) 10 12	6, 60, 150, 180	0
3	I	141/141 (100%)	-0.02	12 (8%) 11 13	72, 166, 180, 180	0
4	C	271/272 (99%)	0.29	15 (5%) 24 21	5, 47, 107, 156	0
5	D	209/209 (100%)	0.43	19 (9%) 9 12	8, 72, 145, 180	0
6	K	121/123 (98%)	0.70	20 (16%) 2 4	16, 62, 142, 180	0
7	P	114/114 (100%)	0.98	24 (21%) 1 3	28, 86, 155, 173	0
8	E	201/201 (100%)	0.14	10 (4%) 28 24	5, 76, 143, 180	0
9	Y	58/58 (100%)	0.11	2 (3%) 43 35	22, 84, 137, 180	0
10	0	56/56 (100%)	0.42	1 (1%) 65 52	5, 81, 149, 180	0
11	4	38/38 (100%)	0.29	1 (2%) 53 42	5, 71, 153, 168	0
12	1	50/54 (92%)	-0.25	0 100 100	32, 87, 132, 174	0
13	3	64/64 (100%)	0.71	7 (10%) 6 9	19, 64, 105, 133	0
14	V	94/94 (100%)	0.00	3 (3%) 45 36	37, 92, 143, 180	0
15	2	46/46 (100%)	0.55	2 (4%) 34 28	5, 50, 123, 143	0
16	L	143/144 (99%)	0.39	8 (5%) 24 21	7, 72, 131, 180	0
17	M	136/136 (100%)	0.36	11 (8%) 12 14	16, 68, 144, 165	0
18	X	63/63 (100%)	0.38	8 (12%) 4 6	24, 92, 169, 180	0
19	H	149/149 (100%)	0.21	8 (5%) 25 22	13, 125, 180, 180	0
20	J	142/142 (100%)	0.20	6 (4%) 35 29	13, 77, 132, 166	0
21	N	120/127 (94%)	0.02	1 (0%) 83 70	5, 68, 136, 180	0
22	O	116/117 (99%)	-0.28	2 (1%) 67 53	29, 94, 144, 180	0
23	Q	117/117 (100%)	-0.07	1 (0%) 81 68	5, 72, 134, 171	0
24	S	110/110 (100%)	0.08	1 (0%) 81 68	5, 67, 129, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å <sup>2</sup> )	Q<0.9
25	U	102/103 (99%)	-0.06	5 (4%)	28 25	13, 88, 148, 177	0
26	F	178/178 (100%)	0.02	14 (7%)	13 14	39, 115, 174, 180	0
27	G	176/176 (100%)	0.08	6 (3%)	43 35	8, 102, 172, 180	0
28	R	103/103 (100%)	-0.09	1 (0%)	79 65	18, 99, 151, 173	0
29	T	93/100 (93%)	0.76	17 (18%)	2 4	13, 83, 160, 180	0
30	Z	77/78 (98%)	0.70	8 (10%)	7 9	12, 57, 112, 152	0
31	W	79/84 (94%)	0.54	8 (10%)	7 10	19, 88, 139, 180	0
32	6	185/185 (100%)	0.15	4 (2%)	59 46	23, 123, 180, 180	0
All	All	6510/6606 (98%)	0.30	478 (7%)	15 15	5, 71, 163, 180	0

All (478) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
18	X	63	ALA	8.3
2	B	1293	C	8.1
2	B	2523	G	7.6
2	B	1537	G	7.2
30	Z	76	GLU	7.2
18	X	62	GLY	6.9
2	B	1538	G	6.7
32	6	96	GLY	6.6
26	F	116	LEU	6.6
2	B	2457	U	6.5
2	B	2071	A	6.5
2	B	2520	C	6.5
2	B	1046	A	6.4
2	B	2069	G	6.3
2	B	2070	A	6.0
2	B	1017	G	5.9
2	B	2355	G	5.9
2	B	2524	G	5.8
29	T	65	GLY	5.7
7	P	43	GLU	5.7
2	B	1019	U	5.7
2	B	405	U	5.5
2	B	137	U	5.4
26	F	118	ALA	5.4
29	T	66	LYS	5.4
7	P	86	LYS	5.3

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Mol	Chain	Res	Type	RSRZ
5	D	56	LYS	5.3
29	T	71	GLY	5.3
2	B	2456	C	5.2
17	M	6	ARG	5.2
2	B	1020	A	5.1
2	B	1	G	5.1
29	T	1	MET	5.0
16	L	116	VAL	5.0
11	4	12	ARG	4.9
8	E	91	ASP	4.9
29	T	67	VAL	4.9
29	T	76	ARG	4.9
2	B	2354	C	4.9
2	B	2321	U	4.9
27	G	45	ALA	4.8
5	D	57	ALA	4.8
30	Z	75	GLY	4.7
5	D	54	ALA	4.7
7	P	26	GLU	4.7
2	B	2844	G	4.7
2	B	2146	C	4.6
2	B	2264	C	4.6
2	B	2443	C	4.6
26	F	117	SER	4.6
2	B	11	C	4.6
30	Z	73	ALA	4.6
30	Z	74	ARG	4.5
2	B	1714	U	4.5
4	C	17	LYS	4.5
3	I	26	ALA	4.5
29	T	70	HIS	4.5
2	B	1145	C	4.4
31	W	69	GLU	4.3
2	B	2442	C	4.3
30	Z	71	LEU	4.3
2	B	2569	G	4.3
2	B	1274	A	4.3
16	L	73	ILE	4.3
5	D	55	LYS	4.3
2	B	653	U	4.3
17	M	136	MET	4.2
18	X	7	ARG	4.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	X	9	LYS	4.2
2	B	755	U	4.2
2	B	1662	U	4.2
2	B	1729	U	4.2
2	B	1792	G	4.2
3	I	27	LEU	4.2
2	B	2799	A	4.1
32	6	95	LYS	4.1
2	B	546	U	4.1
8	E	144	GLU	4.1
2	B	1045	C	4.1
2	B	508	A	4.1
30	Z	78	TYR	4.1
2	B	2517	C	4.1
7	P	87	ARG	4.1
29	T	68	LYS	4.1
2	B	967	U	4.0
2	B	2248	C	4.0
2	B	2249	U	4.0
6	K	18	ARG	4.0
2	B	2719	G	4.0
2	B	1109	C	4.0
2	B	2145	C	4.0
5	D	209	ALA	4.0
6	K	71	ARG	4.0
29	T	77	ARG	3.9
2	B	2681	C	3.9
4	C	1	ALA	3.9
3	I	21	PRO	3.9
26	F	119	LYS	3.9
20	J	76	HIS	3.9
2	B	1750	G	3.9
2	B	1292	G	3.9
2	B	2721	A	3.9
32	6	94	ASN	3.9
2	B	697	G	3.9
2	B	2444	G	3.9
6	K	17	ARG	3.8
19	H	106	ALA	3.8
2	B	2	G	3.8
5	D	86	GLU	3.8
2	B	2521	C	3.8

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Mol	Chain	Res	Type	RSRZ
2	B	2602	A	3.8
2	B	2067	G	3.8
2	B	2072	C	3.8
2	B	316	C	3.8
26	F	176	PHE	3.7
2	B	2059	A	3.7
2	B	756	A	3.7
19	H	33	GLN	3.7
20	J	12	LYS	3.7
17	M	1	MET	3.7
2	B	696	G	3.7
2	B	2618	G	3.7
2	B	1205	A	3.6
5	D	58	ASN	3.6
2	B	2353	G	3.6
2	B	2516	A	3.6
4	C	4	LYS	3.6
29	T	64	LYS	3.6
2	B	2147	A	3.6
6	K	43	ILE	3.6
2	B	10	A	3.6
22	O	84	GLU	3.6
20	J	69	ARG	3.6
7	P	113	LEU	3.5
3	I	29	GLN	3.5
2	B	1981	A	3.5
2	B	2688	G	3.5
6	K	54	LYS	3.5
2	B	1730	C	3.5
2	B	2503	A	3.5
4	C	268	ARG	3.5
2	B	2522	U	3.5
2	B	2691	C	3.5
26	F	115	GLY	3.5
2	B	1122	G	3.4
3	I	25	PRO	3.4
2	B	766	U	3.4
26	F	44	ALA	3.4
2	B	1110	G	3.4
29	T	72	GLN	3.4
2	B	1373	A	3.4
2	B	2247	A	3.3

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Mol	Chain	Res	Type	RSRZ
2	B	403	U	3.3
2	B	762	U	3.3
2	B	2720	U	3.3
16	L	96	LYS	3.3
2	B	2610	C	3.3
17	M	90	GLU	3.3
2	B	1728	C	3.3
2	B	2797	U	3.3
17	M	7	THR	3.3
2	B	139	U	3.3
2	B	181	A	3.3
5	D	208	LYS	3.3
2	B	2152	G	3.3
2	B	1047	G	3.2
2	B	1663	G	3.2
2	B	2181	U	3.2
2	B	757	G	3.2
26	F	178	LYS	3.2
2	B	679	C	3.2
19	H	148	ALA	3.2
30	Z	77	LYS	3.2
17	M	135	VAL	3.2
2	B	2182	U	3.2
2	B	2426	A	3.1
14	V	55	GLU	3.1
4	C	18	VAL	3.1
17	M	8	LYS	3.1
2	B	960	A	3.1
13	3	38	LYS	3.1
4	C	19	VAL	3.1
2	B	179	C	3.1
2	B	2718	G	3.1
2	B	1294	U	3.1
2	B	2141	G	3.1
2	B	764	A	3.1
2	B	968	C	3.1
2	B	1536	C	3.1
4	C	16	VAL	3.1
2	B	1312	U	3.1
2	B	1548	A	3.1
2	B	1632	A	3.1
2	B	676	A	3.0

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Mol	Chain	Res	Type	RSRZ
2	B	965	C	3.0
2	B	2628	C	3.0
4	C	166	ARG	3.0
2	B	1982	U	3.0
2	B	2319	G	3.0
8	E	90	GLN	3.0
31	W	12	GLY	3.0
25	U	87	GLU	3.0
25	U	89	GLY	3.0
6	K	69	VAL	3.0
7	P	66	GLY	3.0
2	B	2525	G	3.0
8	E	92	HIS	3.0
7	P	109	ILE	3.0
2	B	654	A	3.0
2	B	2258	C	3.0
2	B	677	A	3.0
2	B	2541	A	3.0
4	C	132	ARG	3.0
2	B	682	G	3.0
2	B	2140	G	2.9
2	B	937	C	2.9
17	M	129	THR	2.9
6	K	8	LEU	2.9
7	P	111	GLU	2.9
8	E	37	ALA	2.9
2	B	2585	U	2.9
2	B	2108	A	2.9
2	B	1108	U	2.9
2	B	180	G	2.9
2	B	435	C	2.9
2	B	678	C	2.9
2	B	742	A	2.9
7	P	70	GLU	2.9
2	B	1979	U	2.9
19	H	105	ALA	2.9
18	X	11	VAL	2.9
8	E	93	SER	2.9
15	2	28	ARG	2.8
2	B	2455	G	2.8
2	B	2778	A	2.8
2	B	765	C	2.8

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Mol	Chain	Res	Type	RSRZ
2	B	1659	G	2.8
2	B	1980	G	2.8
7	P	110	LYS	2.8
29	T	69	ARG	2.8
2	B	2617	U	2.8
5	D	60	VAL	2.8
31	W	11	ASN	2.8
2	B	1332	G	2.8
4	C	214	GLY	2.8
29	T	4	GLU	2.8
14	V	54	ALA	2.8
3	I	28	GLY	2.8
5	D	10	GLY	2.8
6	K	90	ASN	2.8
31	W	75	ASN	2.8
2	B	1533	C	2.8
6	K	19	VAL	2.8
16	L	74	THR	2.7
29	T	3	ARG	2.7
2	B	1335	C	2.7
2	B	2427	C	2.7
2	B	1774	C	2.7
6	K	55	GLY	2.7
2	B	2139	U	2.7
2	B	1111	A	2.7
7	P	73	PHE	2.7
13	3	36	ALA	2.7
4	C	2	VAL	2.7
5	D	1	MET	2.7
27	G	43	LYS	2.7
2	B	961	C	2.7
2	B	850	U	2.7
2	B	2833	U	2.7
7	P	112	ARG	2.7
2	B	878	A	2.7
2	B	2568	U	2.7
7	P	1	SER	2.7
2	B	2031	A	2.7
2	B	2540	C	2.7
3	I	24	GLY	2.7
3	I	22	PRO	2.7
7	P	84	SER	2.7

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Mol	Chain	Res	Type	RSRZ
17	M	74	THR	2.6
3	I	141	ASP	2.6
2	B	1749	A	2.6
2	B	1323	C	2.6
2	B	1311	G	2.6
7	P	60	VAL	2.6
2	B	1021	A	2.6
2	B	2211	A	2.6
2	B	2153	C	2.6
6	K	9	ASN	2.6
6	K	106	GLU	2.6
7	P	61	ARG	2.6
2	B	2253	G	2.6
2	B	2061	G	2.6
17	M	77	PRO	2.6
2	B	2065	C	2.6
2	B	2365	G	2.6
2	B	2638	G	2.6
29	T	73	ARG	2.6
7	P	67	GLU	2.6
2	B	1334	G	2.6
4	C	201	LEU	2.6
2	B	317	G	2.6
2	B	1442	U	2.6
2	B	2707	U	2.6
2	B	2895	G	2.6
2	B	2680	U	2.6
2	B	2363	G	2.5
2	B	2055	C	2.5
2	B	1272	A	2.5
2	B	1319	C	2.5
31	W	76	ARG	2.5
2	B	1032	A	2.5
4	C	271	SER	2.5
2	B	2433	A	2.5
13	3	19	GLY	2.5
2	B	2234	G	2.5
2	B	1793	C	2.5
2	B	2058	A	2.5
2	B	2629	U	2.5
2	B	2689	U	2.5
25	U	88	ASP	2.5

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Mol	Chain	Res	Type	RSRZ
7	P	47	ILE	2.5
2	B	1296	G	2.5
16	L	117	THR	2.5
2	B	229	C	2.5
16	L	72	ALA	2.5
2	B	2825	G	2.5
26	F	79	ARG	2.4
26	F	113	PHE	2.4
13	3	35	LYS	2.4
10	0	31	LYS	2.4
19	H	149	GLU	2.4
2	B	326	G	2.4
19	H	104	THR	2.4
17	M	10	ARG	2.4
28	R	50	GLY	2.4
2	B	343	C	2.4
2	B	869	G	2.4
2	B	2241	A	2.4
2	B	157	C	2.4
2	B	1358	G	2.4
6	K	52	VAL	2.4
8	E	38	GLY	2.4
2	B	1144	A	2.4
2	B	2764	A	2.4
2	B	1295	C	2.4
4	C	3	VAL	2.4
2	B	2252	G	2.4
3	I	140	GLU	2.4
29	T	24	MET	2.4
26	F	166	ARG	2.3
2	B	1683	U	2.3
18	X	60	LYS	2.3
20	J	131	ASN	2.3
2	B	1645	G	2.3
20	J	129	GLU	2.3
2	B	1134	A	2.3
2	B	544	C	2.3
7	P	71	ARG	2.3
18	X	10	SER	2.3
2	B	1459	G	2.3
5	D	8	LYS	2.3
2	B	92	U	2.3

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Mol	Chain	Res	Type	RSRZ
2	B	2246	G	2.3
2	B	507	A	2.3
13	3	28	LEU	2.3
6	K	46	ALA	2.3
2	B	264	C	2.3
2	B	1660	G	2.3
25	U	49	PRO	2.3
19	H	1	MET	2.3
32	6	18	LEU	2.3
5	D	17	GLU	2.3
2	B	263	G	2.3
6	K	105	ARG	2.3
2	B	1539	U	2.3
7	P	107	ALA	2.3
4	C	25	LYS	2.3
23	Q	84	LYS	2.3
31	W	77	LYS	2.3
2	B	1374	G	2.2
5	D	193	VAL	2.2
2	B	1547	C	2.2
2	B	1644	C	2.2
5	D	53	GLY	2.2
2	B	2107	G	2.2
5	D	194	PRO	2.2
6	K	48	PRO	2.2
2	B	1620	G	2.2
26	F	120	SER	2.2
8	E	22	ASP	2.2
6	K	47	ILE	2.2
8	E	152	GLU	2.2
16	L	115	GLU	2.2
18	X	12	GLU	2.2
2	B	2458	G	2.2
13	3	41	ARG	2.2
2	B	2320	U	2.2
7	P	21	PRO	2.2
6	K	7	MET	2.2
8	E	36	ALA	2.2
2	B	406	G	2.2
31	W	82	GLU	2.2
2	B	739	A	2.2
26	F	175	PRO	2.2

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Mol	Chain	Res	Type	RSRZ
2	B	2151	U	2.2
2	B	1658	C	2.2
2	B	971	G	2.2
2	B	261	G	2.2
2	B	776	G	2.2
2	B	1336	A	2.2
9	Y	21	ALA	2.2
2	B	1775	U	2.2
27	G	175	LYS	2.2
7	P	46	VAL	2.2
2	B	384	A	2.2
2	B	2356	U	2.2
2	B	2780	G	2.2
6	K	53	LYS	2.2
27	G	176	LYS	2.2
7	P	88	ARG	2.1
2	B	868	U	2.1
19	H	147	VAL	2.1
2	B	1337	G	2.1
2	B	2274	A	2.1
31	W	74	LYS	2.1
3	I	4	VAL	2.1
2	B	804	A	2.1
5	D	16	THR	2.1
2	B	1146	C	2.1
14	V	53	LYS	2.1
2	B	2212	A	2.1
3	I	3	LYS	2.1
2	B	490	C	2.1
15	2	25	LYS	2.1
2	B	827	U	2.1
2	B	2713	U	2.1
30	Z	72	ARG	2.1
2	B	681	G	2.1
7	P	89	GLY	2.1
2	B	538	A	2.1
2	B	2570	G	2.1
2	B	2660	A	2.1
2	B	1687	G	2.1
9	Y	41	PRO	2.1
13	3	37	THR	2.1
2	B	589	U	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	2686	G	2.1
2	B	1990	C	2.1
24	S	67	ASP	2.1
22	O	59	ALA	2.1
27	G	42	VAL	2.1
6	K	77	ILE	2.0
21	N	38	LEU	2.0
2	B	849	A	2.0
2	B	2052	A	2.0
27	G	53	PRO	2.0
2	B	738	G	2.0
2	B	2567	G	2.0
2	B	521	U	2.0
2	B	2009	A	2.0
26	F	177	ARG	2.0
2	B	1018	U	2.0
2	B	2275	C	2.0
2	B	2362	C	2.0
2	B	2441	U	2.0
2	B	2687	U	2.0
16	L	70	LYS	2.0
2	B	2792	A	2.0
29	T	5	GLU	2.0
2	B	914	G	2.0
2	B	1026	G	2.0
5	D	9	VAL	2.0
5	D	22	ILE	2.0
25	U	48	VAL	2.0
2	B	190	A	2.0
2	B	1142	A	2.0
2	B	2765	A	2.0
20	J	130	HIS	2.0

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

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

## 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.



## 6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 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	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
33	MG	B	2937	1/1	0.81	103.73	141,141,141,141	0
33	MG	B	2908	1/1	0.45	23.12	73,73,73,73	0
33	MG	B	2935	1/1	0.71	15.66	63,63,63,63	0
33	MG	B	2912	1/1	1.37	12.19	75,75,75,75	0
33	MG	B	3010	1/1	0.67	7.13	39,39,39,39	0
33	MG	B	2946	1/1	0.23	7.10	135,135,135,135	0
33	MG	B	2968	1/1	0.61	6.84	37,37,37,37	0
33	MG	B	2939	1/1	0.59	5.38	82,82,82,82	0
33	MG	B	2951	1/1	0.32	5.07	116,116,116,116	0
33	MG	B	2976	1/1	0.45	4.96	79,79,79,79	0
33	MG	B	3004	1/1	0.54	3.64	151,151,151,151	0
33	MG	B	2907	1/1	0.32	3.26	51,51,51,51	0
33	MG	B	2971	1/1	0.29	3.05	24,24,24,24	0
33	MG	B	3012	1/1	0.43	2.99	44,44,44,44	0
33	MG	B	2997	1/1	0.23	2.96	131,131,131,131	0
33	MG	B	2929	1/1	0.53	2.50	42,42,42,42	0
34	LLL	B	3015	31/31	0.27	2.36	107,107,107,107	0
33	MG	B	2984	1/1	0.22	2.28	77,77,77,77	0
33	MG	B	2942	1/1	0.31	2.20	152,152,152,152	0
33	MG	B	2950	1/1	0.27	1.87	64,64,64,64	0
33	MG	B	2920	1/1	0.33	1.81	91,91,91,91	0
33	MG	B	2998	1/1	0.24	1.79	47,47,47,47	0
33	MG	B	2982	1/1	0.23	1.48	101,101,101,101	0
33	MG	B	3002	1/1	0.34	1.36	16,16,16,16	0
33	MG	B	2991	1/1	0.45	1.31	114,114,114,114	0
33	MG	B	2919	1/1	0.56	1.16	42,42,42,42	0
33	MG	B	2973	1/1	0.37	1.08	10,10,10,10	0
33	MG	B	2933	1/1	0.25	0.90	17,17,17,17	0
33	MG	B	2955	1/1	0.21	0.78	65,65,65,65	0
33	MG	B	2931	1/1	0.21	0.53	42,42,42,42	0
33	MG	B	2934	1/1	0.27	0.51	70,70,70,70	0
33	MG	B	2964	1/1	0.28	0.39	22,22,22,22	0
33	MG	B	2960	1/1	0.23	0.38	31,31,31,31	0
33	MG	B	2961	1/1	0.28	0.24	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
33	MG	B	2996	1/1	0.29	0.19	45,45,45,45	0
33	MG	B	2977	1/1	0.32	0.07	38,38,38,38	0
33	MG	B	2923	1/1	0.18	0.06	40,40,40,40	0
33	MG	B	2924	1/1	0.43	0.06	36,36,36,36	0
33	MG	B	2922	1/1	0.25	0.05	50,50,50,50	0
33	MG	B	2915	1/1	0.23	-0.01	29,29,29,29	0
33	MG	B	2947	1/1	0.21	-0.03	122,122,122,122	0
33	MG	B	3000	1/1	0.19	-0.06	67,67,67,67	0
33	MG	B	2921	1/1	0.29	-0.07	73,73,73,73	0
33	MG	B	3003	1/1	0.21	-0.07	56,56,56,56	0
33	MG	B	3013	1/1	0.26	-0.07	59,59,59,59	0
33	MG	B	2954	1/1	0.24	-0.17	33,33,33,33	0
33	MG	B	2983	1/1	0.27	-0.20	63,63,63,63	0
33	MG	B	2918	1/1	0.20	-0.26	58,58,58,58	0
33	MG	B	3009	1/1	0.27	-0.30	60,60,60,60	0
33	MG	B	2994	1/1	0.27	-0.34	91,91,91,91	0
33	MG	B	2956	1/1	0.21	-0.38	36,36,36,36	0
33	MG	B	2999	1/1	0.17	-0.43	81,81,81,81	0
33	MG	B	2967	1/1	0.23	-0.64	28,28,28,28	0
33	MG	B	2913	1/1	0.10	-0.83	96,96,96,96	0
33	MG	B	3008	1/1	0.18	-0.90	28,28,28,28	0
33	MG	B	2979	1/1	0.31	-0.95	29,29,29,29	0
33	MG	B	2958	1/1	0.10	-0.99	46,46,46,46	0
33	MG	B	2952	1/1	0.12	-1.11	7,7,7,7	0
33	MG	B	2948	1/1	0.15	-1.15	52,52,52,52	0
33	MG	B	2936	1/1	0.20	-1.17	49,49,49,49	0
33	MG	B	2969	1/1	0.09	-1.19	5,5,5,5	0
33	MG	B	2985	1/1	0.13	-1.22	16,16,16,16	0
33	MG	B	2928	1/1	0.15	-1.24	44,44,44,44	0
33	MG	B	2978	1/1	0.21	-1.28	13,13,13,13	0
33	MG	B	2938	1/1	0.07	-1.33	59,59,59,59	0
33	MG	B	2906	1/1	0.10	-1.36	30,30,30,30	0
33	MG	B	2993	1/1	0.22	-1.36	25,25,25,25	0
35	ZN	4	617	1/1	0.05	-1.38	64,64,64,64	0
33	MG	B	2989	1/1	0.15	-1.39	43,43,43,43	0
33	MG	B	2974	1/1	0.23	-1.40	59,59,59,59	0
33	MG	B	2953	1/1	0.13	-1.57	35,35,35,35	0
33	MG	B	2916	1/1	0.12	-1.63	53,53,53,53	0
33	MG	B	2909	1/1	0.20	-1.65	20,20,20,20	0
33	MG	B	2944	1/1	0.04	-1.69	27,27,27,27	0
33	MG	B	3001	1/1	0.16	-1.69	88,88,88,88	0
33	MG	B	2957	1/1	0.10	-1.84	79,79,79,79	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
33	MG	B	2995	1/1	0.21	-1.87	37,37,37,37	0
33	MG	B	2932	1/1	0.08	-1.89	61,61,61,61	0
33	MG	B	2927	1/1	0.12	-1.89	11,11,11,11	0
33	MG	B	3005	1/1	0.13	-1.90	5,5,5,5	0
33	MG	B	2980	1/1	0.10	-1.90	20,20,20,20	0
33	MG	B	2981	1/1	0.12	-1.92	83,83,83,83	0
33	MG	B	2986	1/1	0.21	-1.95	5,5,5,5	0
33	MG	B	2917	1/1	0.27	-1.97	92,92,92,92	0
33	MG	B	3007	1/1	0.12	-2.12	20,20,20,20	0
33	MG	B	2975	1/1	0.15	-2.17	89,89,89,89	0
33	MG	B	2940	1/1	0.08	-2.24	62,62,62,62	0
33	MG	B	2925	1/1	0.13	-2.24	51,51,51,51	0
33	MG	B	3006	1/1	0.04	-2.26	31,31,31,31	0
33	MG	B	2987	1/1	0.13	-2.34	28,28,28,28	0
33	MG	B	2992	1/1	0.09	-2.38	36,36,36,36	0
33	MG	B	2949	1/1	0.14	-2.40	38,38,38,38	0
33	MG	B	2911	1/1	0.06	-2.42	53,53,53,53	0
33	MG	B	2941	1/1	0.04	-2.42	44,44,44,44	0
33	MG	B	2914	1/1	0.12	-2.59	40,40,40,40	0
33	MG	B	2963	1/1	0.11	-2.63	60,60,60,60	0
33	MG	B	2930	1/1	0.14	-2.71	43,43,43,43	0
33	MG	B	2910	1/1	0.11	-2.78	20,20,20,20	0
33	MG	B	2965	1/1	0.12	-2.83	56,56,56,56	0
33	MG	B	2943	1/1	0.10	-2.87	5,5,5,5	0
33	MG	B	2990	1/1	0.08	-3.00	18,18,18,18	0
33	MG	B	2972	1/1	0.17	-3.16	61,61,61,61	0
33	MG	B	2962	1/1	0.12	-3.26	11,11,11,11	0
33	MG	B	2959	1/1	0.14	-3.89	53,53,53,53	0
33	MG	B	3011	1/1	0.03	-4.13	30,30,30,30	0
33	MG	B	2905	1/1	0.07	-4.19	29,29,29,29	0
33	MG	B	2970	1/1	0.07	-4.32	25,25,25,25	0
33	MG	B	2988	1/1	0.09	-4.49	77,77,77,77	0
33	MG	B	2926	1/1	0.06	-4.76	37,37,37,37	0
33	MG	B	3014	1/1	0.06	-4.79	40,40,40,40	0
33	MG	B	2966	1/1	0.06	-7.34	27,27,27,27	0
33	MG	B	2945	1/1	0.07	-9.90	8,8,8,8	0

## 6.5 Other polymers ⓘ

There are no such residues in this entry.