



Full wwPDB X-ray Structure Validation Report

Mar 1, 2014 – 04:12 AM GMT

PDB ID : 3DF2
Title : Crystal structure of the bacterial ribosome from Escherichia coli in complex with hygromycin B. This file contains the 50S subunit of the first 70S ribosome. The entire crystal structure contains two 70S ribosomes.
Authors : Borovinskaya, M.A.; Shoji, S.; Fredrick, K.; Cate, J.H.D.
Deposited on : 2008-06-11
Resolution : 3.50 Å(reported)

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

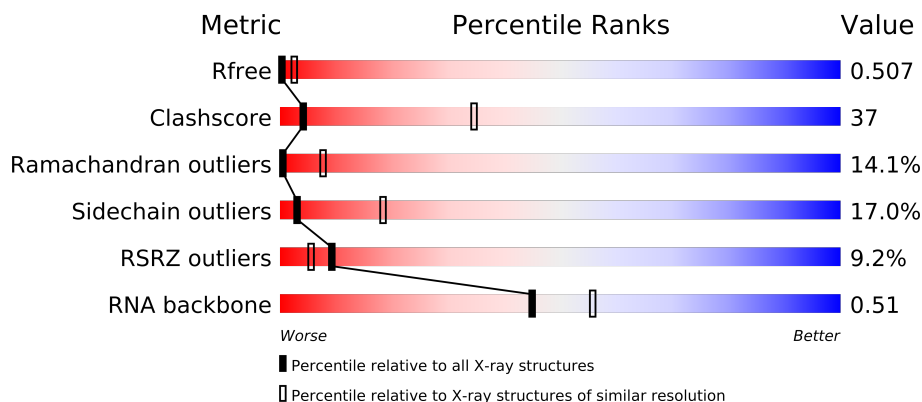
The following versions of software and data (see [references](#)) were used in the production of this report:

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

1 Overall quality at a glance

The reported resolution of this entry is 3.50 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	1243 (3.70-3.30)
Clashscore	79885	1039 (3.66-3.34)
Ramachandran outliers	78287	1000 (3.66-3.34)
Sidechain outliers	78261	1000 (3.66-3.34)
RSRZ outliers	66119	1243 (3.70-3.30)
RNA backbone	1838	1007 (4.22-2.76)

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

Mol	Chain	Length	Quality of chain
1	A	120	
2	B	2904	
3	V	94	
4	C	273	
5	D	209	
6	E	201	
7	F	178	
8	G	176	
9	H	149	
10	J	142	
11	K	123	
12	L	144	

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Mol	Chain	Length	Quality of chain
13	M	136	
14	N	127	
15	O	117	
16	P	114	
17	Q	117	
18	R	103	
19	S	110	
20	T	100	
21	U	103	
22	W	84	
23	X	63	
24	Y	58	
25	Z	78	
26	0	56	
27	1	54	
28	2	46	
29	3	64	
30	4	38	
31	I	141	

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

Mol	Type	Chain	Res	Geometry	Electron density
32	MG	B	3181	-	X
32	MG	B	3188	-	X
32	MG	B	3194	-	X
32	MG	B	3240	-	X
32	MG	B	3331	-	X
32	MG	B	3344	-	X
32	MG	B	3369	-	X
32	MG	B	3423	-	X
32	MG	B	3561	-	X
32	MG	B	3590	-	X

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 90256 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 ribosomal RNA.

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 ribosomal RNA.

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 L25.

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

- 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 L4.

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

- Molecule 7 is a protein called 50S ribosomal protein L5.

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

- Molecule 8 is a protein called 50S ribosomal protein L6.

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

- Molecule 9 is a protein called 50S ribosomal protein L9.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 22 is a protein called 50S ribosomal protein L27.

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

- Molecule 23 is a protein called 50S ribosomal protein L29.

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

- Molecule 24 is a protein called 50S ribosomal protein L30.

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

- Molecule 25 is a protein called 50S ribosomal protein L28.

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

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	0	56	Total	C	N	O	S		
			444	269	94	80	1	0	0

- Molecule 27 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
27	1	50	Total	C	N	O			
			409	263	75	71	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 31 is a protein called 50S ribosomal protein L11.

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

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

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

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

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

- Molecule 34 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	B	490	Total	O	0	0
			490	490		
34	C	8	Total	O	0	0
			8	8		
34	D	1	Total	O	0	0
			1	1		

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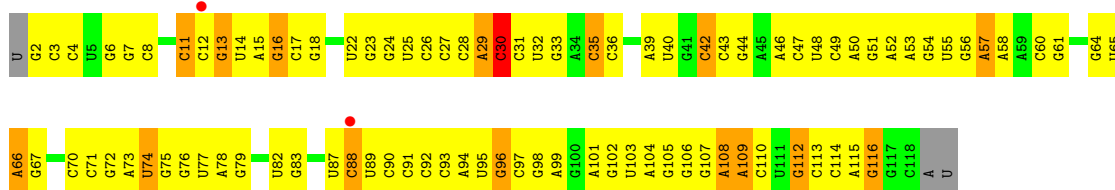
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	E	5	Total	O	0	0
			5	5		
34	2	2	Total	O	0	0
			2	2		

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.

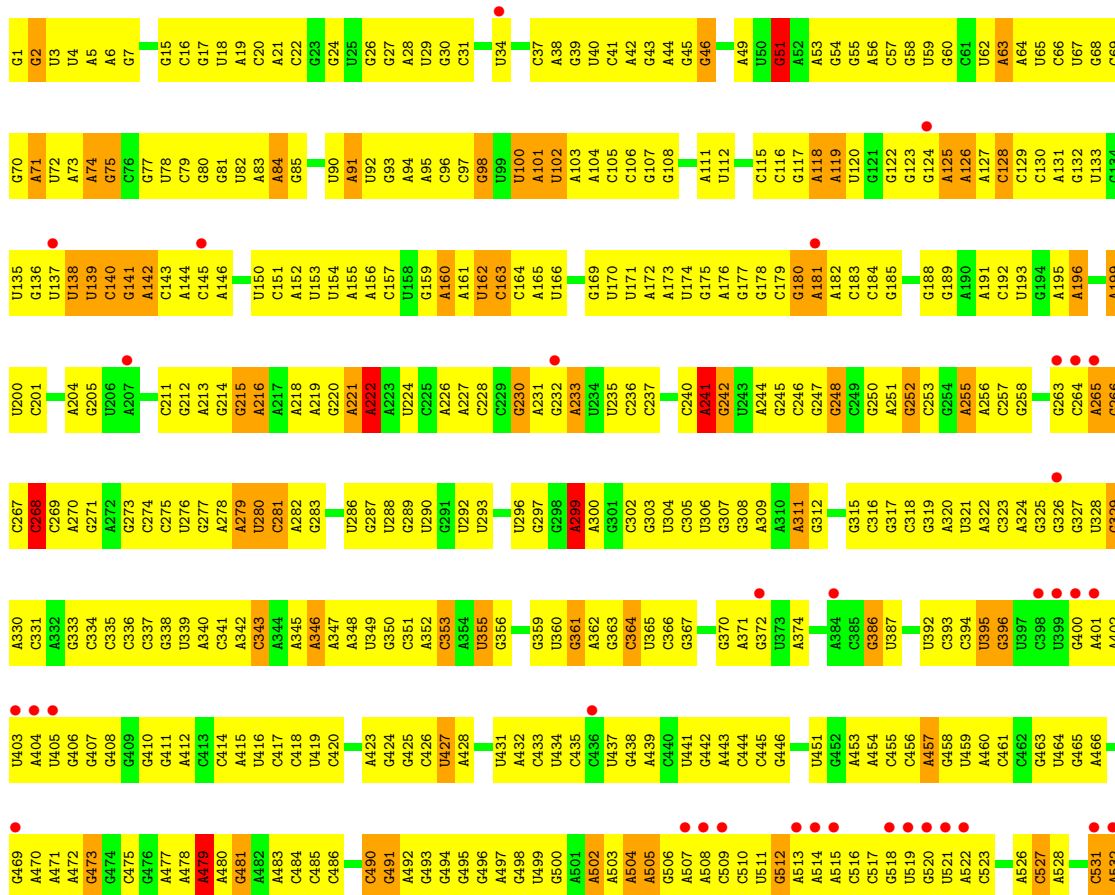
• Molecule 1: 5S ribosomal RNA

Chain A: 



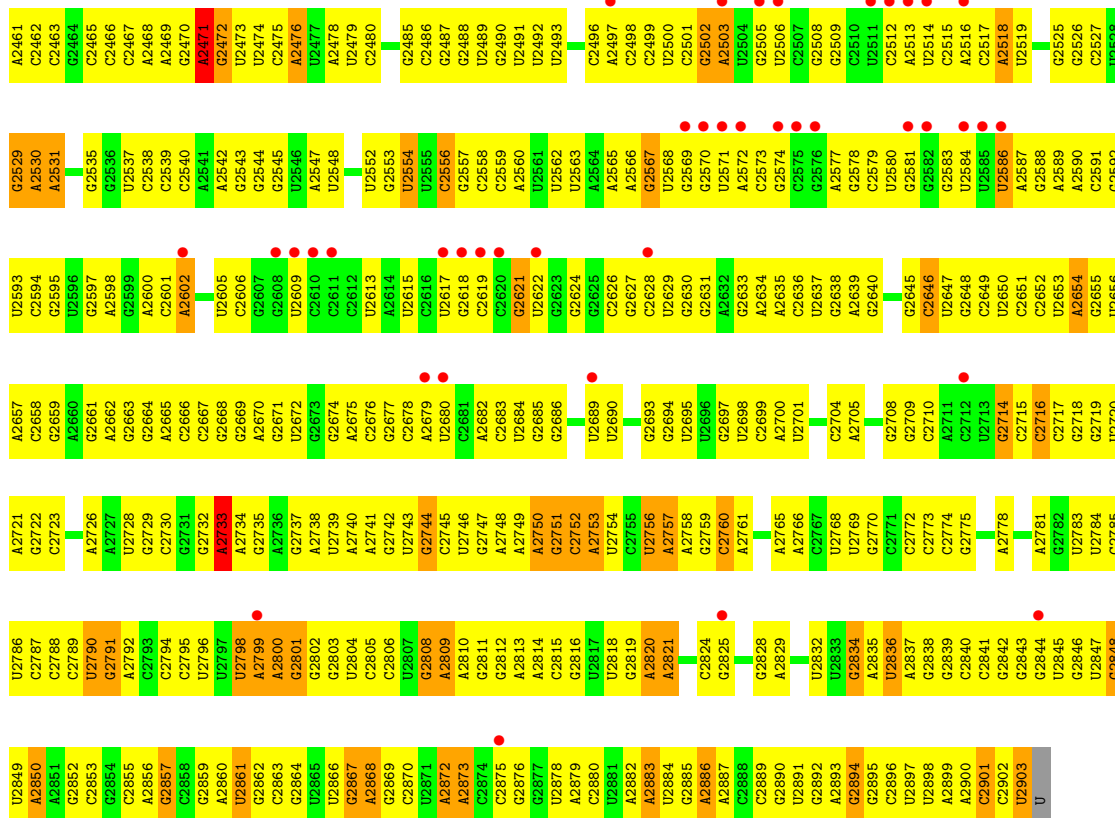
• Molecule 2: 23S ribosomal RNA

Chain B: 



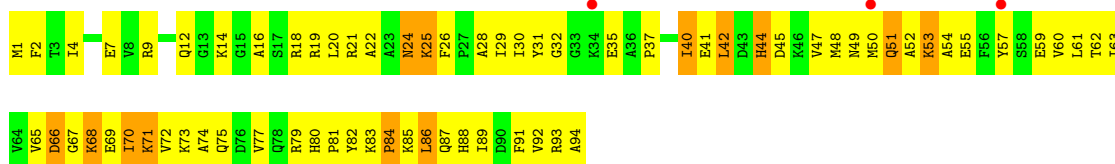
U1467	G1337	G1200	G1136	G1064	C994	G924	G862	C795	G726	G660	U598	G533
U1468	G1338	U1201	G1137	U1065	C995	A925	A863	C796	A727	A661	A599	U534
A1469	U1267	G1202	G1138	G1068	A996	G926	G864	G797	G728	G662	G600	
A1470	A1268	U1203	G1139	G1069	G997	A927	C865	G798	G729	G663	C601	A538
A1471	A1269	A1204	C1140	A1069	C998	A928	A866	C805	A730	G664	A602	G539
C1472	C1270	A1205	C1141	A1070	U999	U929	C867	G805	C731	U665	A603	C540
G1473	G1271	G1206	A1142	G1071	A1000	G930	U868	C906		A666	G604	A541
U1474	U1272	C1207		C1072	A1001	U931	C869	U807	A735	U667	G605	C542
U1475	U1273	C1208	C1145	C1076	G1002	U932	U870	G808	C736	A668	G543	
U1476	U1274	U1209	A1146	A1077	A1010	A933	U871		G737	A669	A608	C544
A1477	A1275	C1210	A1147	G1078	A1011	U934	U872	U811	G738	A670	A609	U545
G1478	A1276	C1211	U1148	U1079	U1012	C935	C873	U812	C739	C671	C610	U546
C1479		C1212	G1149	A1080	C1013	A936	G874	U813	A740	C672	C611	A547
C1480	G1280	A1213	C1150	A1081	U1014	C937	G875	C814	U741	C673	G612	G548
U1481	U1281	A1214	A1151	U1082	U1015	G938	A877	C815	A742	G674	A613	G549
G1482	A1282	G1215	C1152	U1083	G1016	G939	A877	C816	A743	A675	A614	C550
A1483	G1283	C1153	G1153	U1084	G1017	G940	A878	C817	U744	A676	U615	
U1484	A1284	C1154	C1154	A1084	G1017	A941	G	C818	U745		A616	
G1485	A1285	A1155	A1155	A1085	U1018	G942	G	A819	U746	G681	G617	G553
A1486	A1286	A1156	A1156	A1086	U1019	A943	G	A820	U747	G682	G618	U554
U1487	A1287	C1220	C1161	G1087	A1020	C944	G	A821		U683	G619	G556
C1488	G1288	U1222	G1162	A1088	A1021	A945	G	G822	A750	G684	G620	C557
C1489	C1289	G1223	G1163	A1089	G1022	C946	U	C823	A751	A685	A621	U558
A1490	C1290		C1164	A1090	U1023	A947	C	U824	A752	U686	G622	G559
G1491	G1291	C1229	A1165	G1091	G1024	C948	A	A825	U753	C687	C623	C560
G1492	G1292	A1230	A1166	C1092	G1025	G949	U	U826	U754	U688	C624	G561
C1493	C1293	U1231	G1166		G1026	G950	C	U827	U755	A689	G625	U562
A1494	U1294	G1232	C1167	U1097	A1027	C951	C	U828	A756	G690	A626	C564
A1495	C1295	C1233	G1168	A1098	A1028	C951	C	A829	G757	C691	A627	C565
A1496	G1296	U1234	A1169	G1099	A1029		C	C830	C758	G692	G628	C566
U1497	C1297	G1235	C1170	U1100	G1030		A	C831	G759	A693	G629	U566
C1498	G1298	G1236	G1171	U1101	G1031	C961	C	U832	U762	G694	G630	U567
G1501	U1299	A1237	C1172	C1102	A1032	G962	U	A833	G763	G695	A631	U568
A1502	G1300	G1238	U1173	A1103	U1033	C963	U	C834	A764	G696	A632	U569
A1503	A1301	G1239	U1174	G1104		U964	A	C835	C765	G697	A633	G570
G1504	U1302	U1240	U1175	U1105	G1038	U967	C	C836	U766	A699	C634	U571
A1505	G1306	A1241	U1176	G1106	A1039	C968	C898	C837		G700	C635	A572
A1506	A1307	U1242	G1177	G1107	A1040	C969	A899	C838	U769	G701	G636	U573
C1507	G1308	C1243	C1178	U1108	G1041	U970	C901	U839	G770	A637	U642	C581
A1508	A1384	A1244	G1179	C1109	U1042	G971	G902	C840	G771	G638	A643	A582
A1509	A1385	G1245	U1180	G1110	C1043	A972	C903	C841	C772	U639	A644	G583
G1510	C1386	A1246	U1181	A1111	C1044	G973	G904	U842	G773	G704	C645	G584
U1511	U1316	U1247	G1182	G1112	A1045	A974	A905		U774	A705	U646	G585
C1512	G1317	G1248	U1183		C1046	G974		A845	G775	G708	G647	A586
U1513	U1318	U1249	U1184	G1116	A1050	A975	A909	U846	G776	U709	G648	C587
G1514	C1319	G1250	G1185	C1117	G1051	A979	A910	U847	G777	U710	C649	U588
A1515	C1320	C1251	G1186	U1118	C1052	A980	A911	C848		G711	G650	A590
G1516	A1391	G1252	G1187	U1119	G1053	A981	C912	A849	G780	G712	U653	G591
U1517	A1392	A1253	U1188	G1120	A1054	C982	U913	U850	A781	G713	A654	U592
C1518	U1393	U1254	A1189	C1121	C1055	A983	G914	C851	G782	A716	A655	U593
U1519	U1394	U1255	G1190		A1056	A984		U852	A783	C717	G656	U594
G1520	U1395	G1256	G1191	A1126	G1057		C987	U853	G784	C718	U657	C595
A1521	U1396	C1257	G1192	A1127	G1058	C987	C915	C854	G785	C719	U658	U596
C1522	U1397	U1258	G1193	U1130	U1059	A988	A917	C855	C786	A720	G659	G597
A1523	G1398	G1259	A1194	U1131	U1060	A989	A918	C856	C787	A721	U660	
G1524	C1399	A1260	G1195	U1132	U1061	A990	U919	C857	A788	A722		
A1525	U1400	C1261	C1196	U1133	G1062	C991	A920	G858	A789	A723		
C1526	G1401	U1262	G1197	A1134	U1063	C992	C921	C859		C724		
U1527	U1402	U1263	U1198	A1135	G1063	C993	G923	U860		U725		
A1528	A1403	A1264	U1199	C1135				A861				

G2397	G2398	G2399	G2400	U2401	U2402	G2405	U2406	U2407	U2408	G2409	G2410	A2411	A2412	G2413	G2414	G2415	G2416	U2419	U2420	G2421	G2422	U2423	A2424	A2425	A2426	G2427	G2428	G2429	U2430	U2431	U2432	A2433	U2434	A2435	A2436	G2437	U2438	U2439	G2440	U2441	U2442	U2443	U2444	G2445	G2446	G2447	U2448	U2449	A2450	A2451	G2455	G2456	U2457	U2458	U2459	U2460																																																																																																																																																																																																																																																																																																																																																																																																																																																
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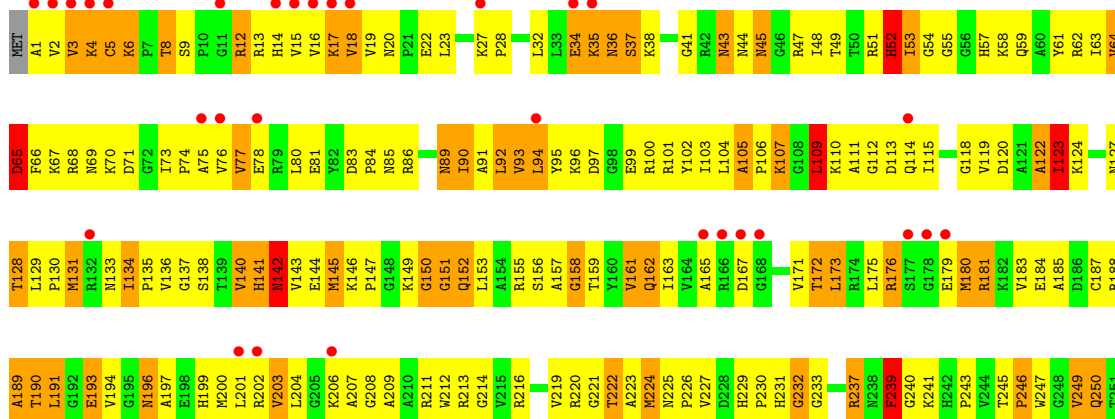
- Molecule 3: 50S ribosomal protein L25

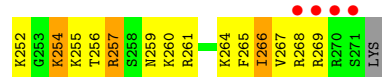
Chain V:



- Molecule 4: 50S ribosomal protein L2

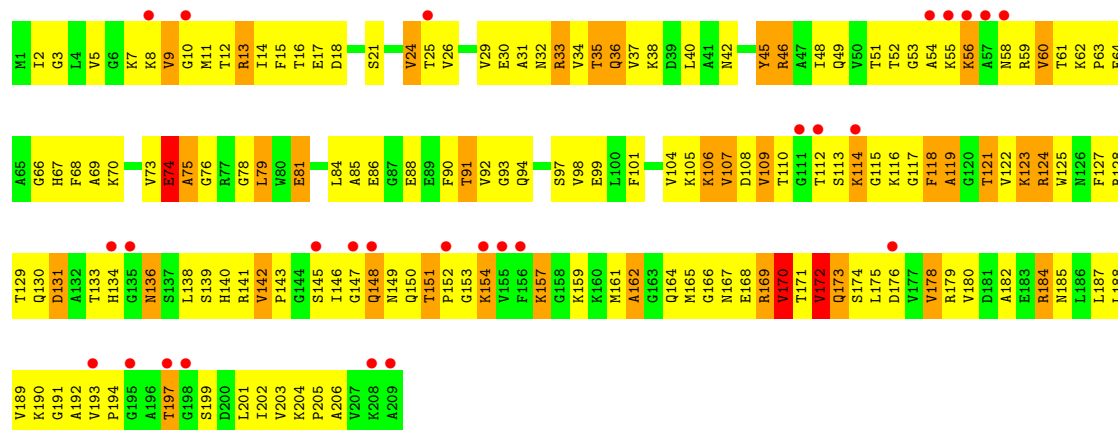
Chain C:





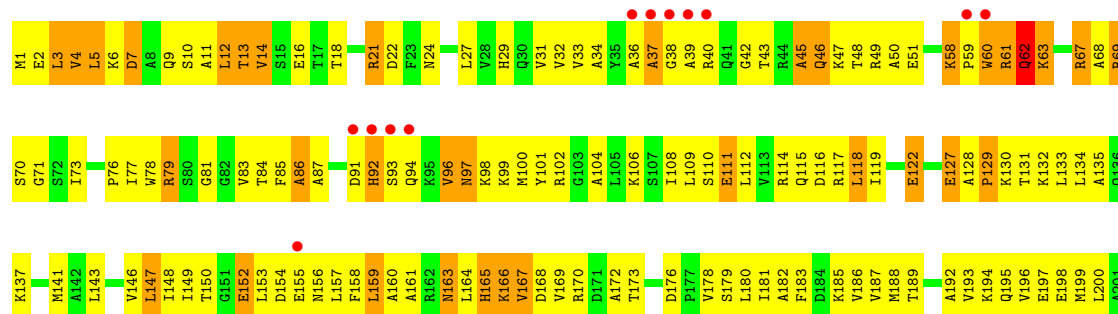
• Molecule 5: 50S ribosomal protein L3

Chain D:



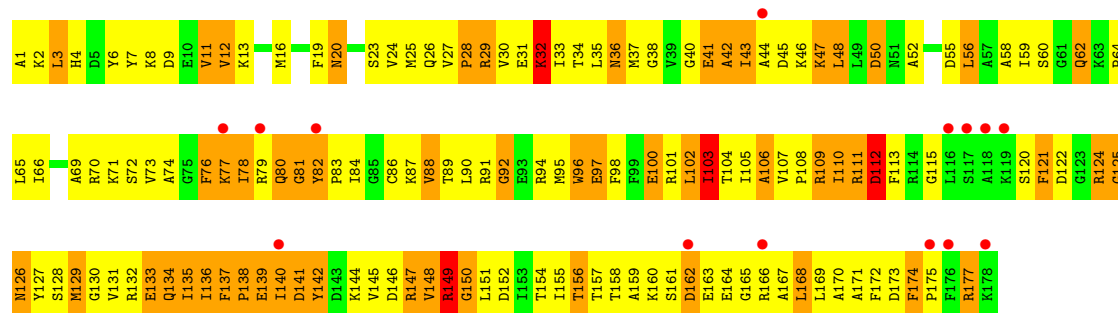
• Molecule 6: 50S ribosomal protein L4

Chain E:



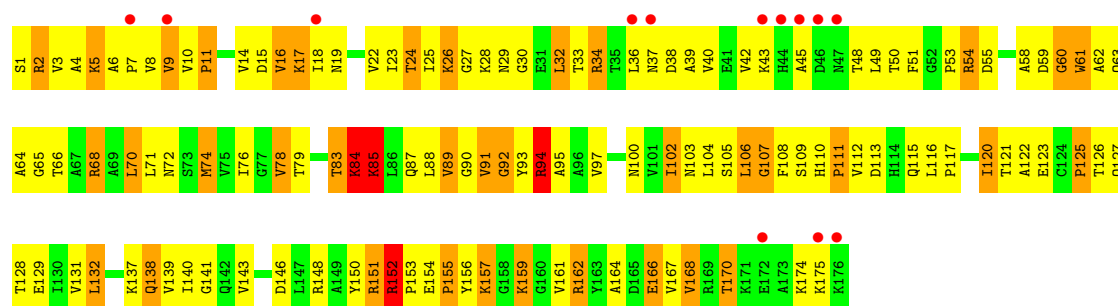
• Molecule 7: 50S ribosomal protein L5

Chain F:



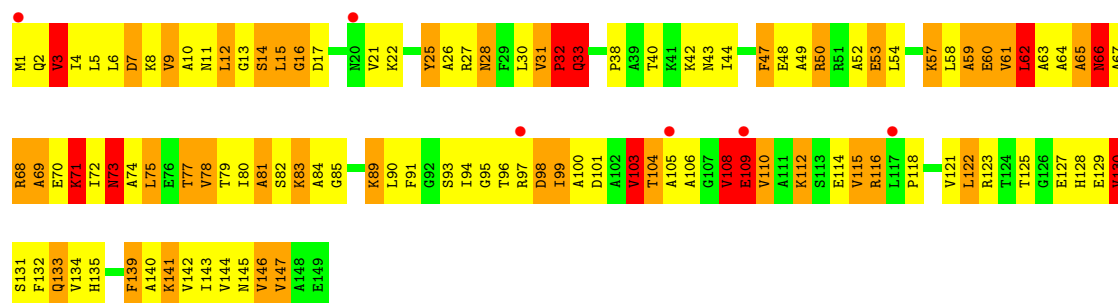
• Molecule 8: 50S ribosomal protein L6

Chain G:



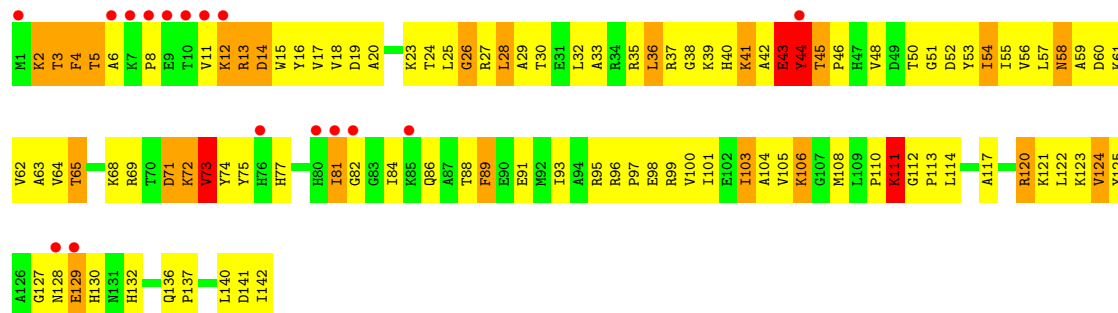
- Molecule 9: 50S ribosomal protein L9

Chain H:



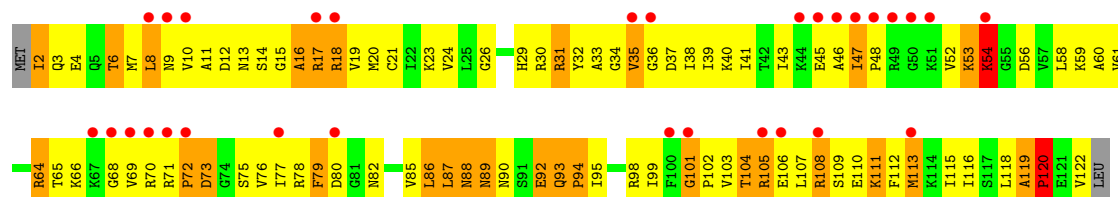
- Molecule 10: 50S ribosomal protein L13

Chain J:



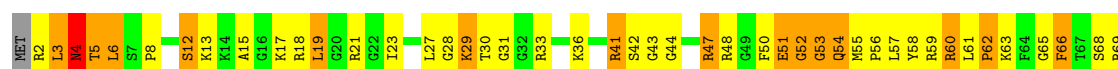
- Molecule 11: 50S ribosomal protein L14

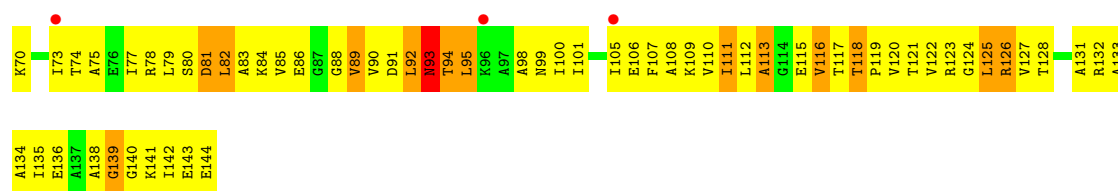
Chain K:



- Molecule 12: 50S ribosomal protein L15

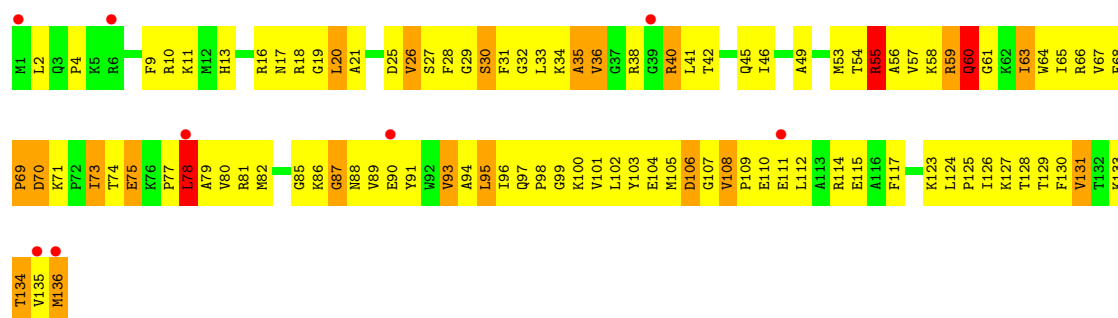
Chain L:





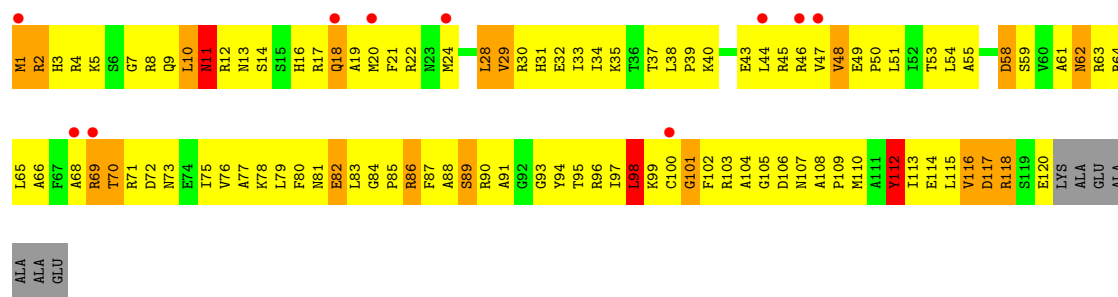
• Molecule 13: 50S ribosomal protein L16

Chain M:



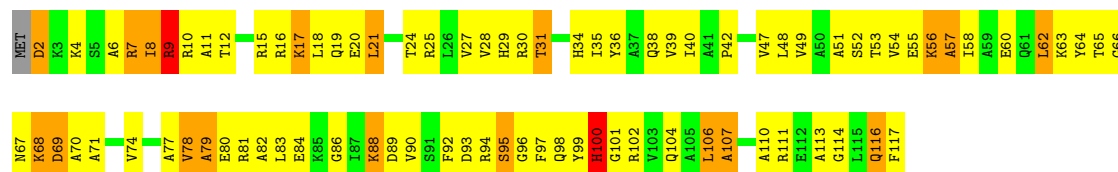
• Molecule 14: 50S ribosomal protein L17

Chain N:



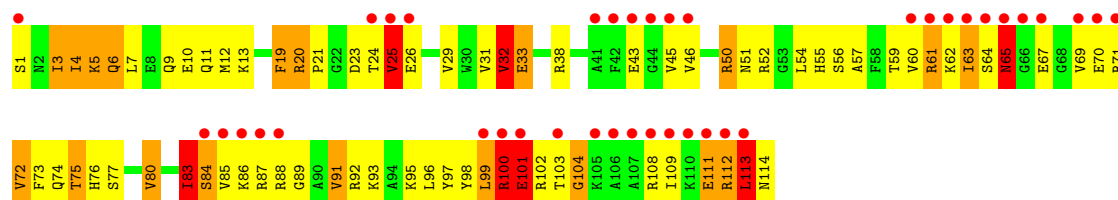
• Molecule 15: 50S ribosomal protein L18

Chain O:



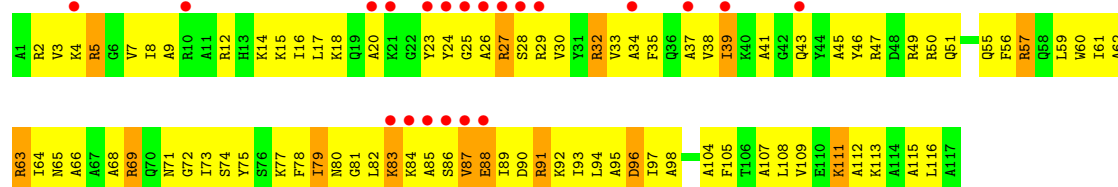
• Molecule 16: 50S ribosomal protein L19

Chain P:



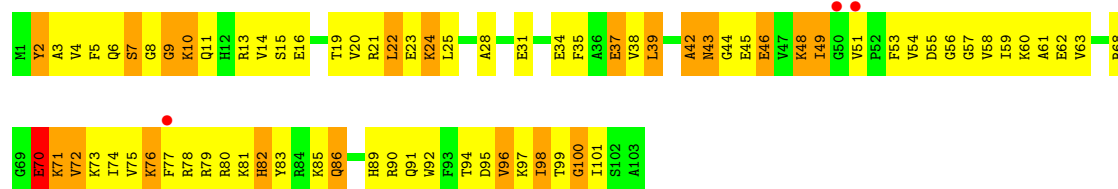
- Molecule 17: 50S ribosomal protein L20

Chain Q: 



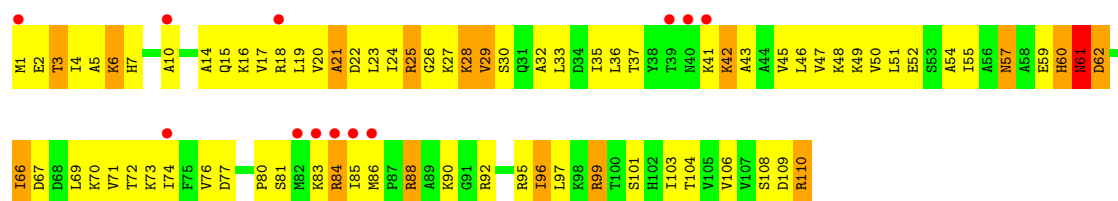
- Molecule 18: 50S ribosomal protein L21

Chain R: 



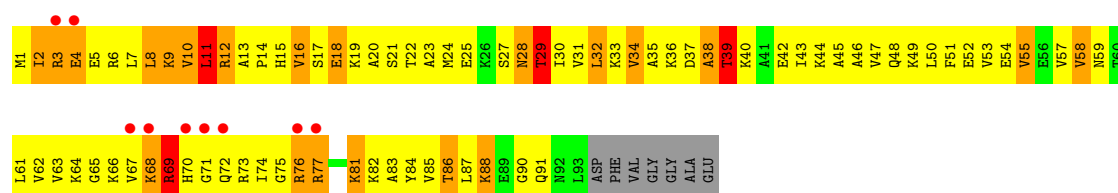
- Molecule 19: 50S ribosomal protein L22

Chain S: 



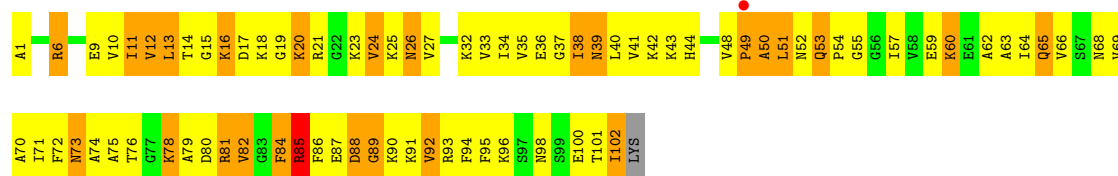
- Molecule 20: 50S ribosomal protein L23

Chain T: 



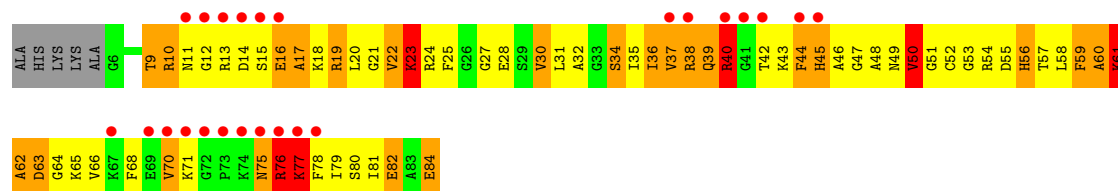
- Molecule 21: 50S ribosomal protein L24

Chain U: 



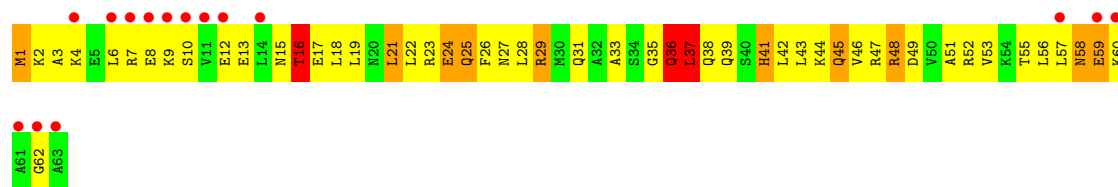
- Molecule 22: 50S ribosomal protein L27

Chain W:



- Molecule 23: 50S ribosomal protein L29

Chain X:



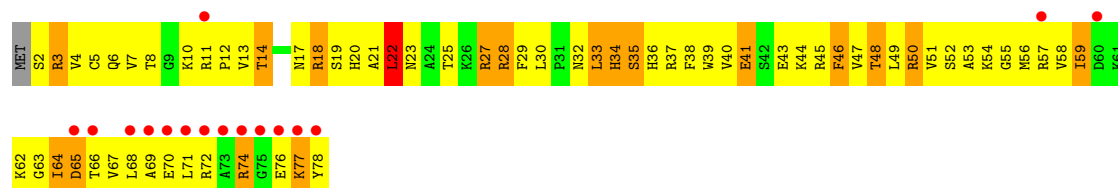
- Molecule 24: 50S ribosomal protein L30

Chain Y:



- Molecule 25: 50S ribosomal protein L28

Chain Z:



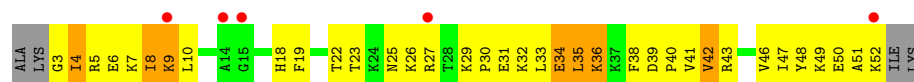
- Molecule 26: 50S ribosomal protein L32

Chain 0:



- Molecule 27: 50S ribosomal protein L33

Chain 1:



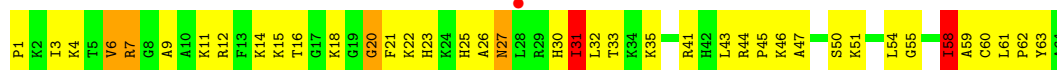
- Molecule 28: 50S ribosomal protein L34

Chain 2:



- Molecule 29: 50S ribosomal protein L35

Chain 3:



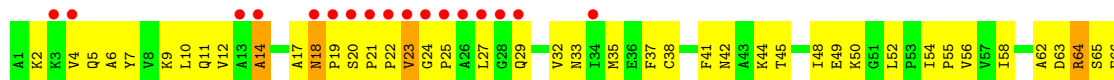
- Molecule 30: 50S ribosomal protein L36

Chain 4:



- Molecule 31: 50S ribosomal protein L11

Chain I:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	208.70Å 379.50Å 739.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 3.50 137.77 – 3.50	Depositor EDS
% Data completeness (in resolution range)	62.1 (70.00-3.50) 62.3 (137.77-3.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.88 (at 3.49Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.269 , 0.318 0.495 , 0.507	Depositor DCC
R_{free} test set	22206 reflections (4.89%)	DCC
Wilson B-factor (Å ²)	117.9	Xtriage
Anisotropy	0.294	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.20 , 11.1	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	0 of 454411 reflections	Xtriage
F_o, F_c correlation	0.64	EDS
Total number of atoms	90256	wwPDB-VP
Average B, all atoms (Å ²)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.15% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.24	0/2803	0.75	2/4371 (0.0%)
2	B	0.27	7/68314 (0.0%)	0.78	41/106569 (0.0%)
3	V	0.25	0/766	0.43	0/1025
4	C	0.22	0/2121	0.47	0/2852
5	D	0.24	0/1586	0.46	0/2134
6	E	0.23	0/1571	0.49	0/2113
7	F	0.26	0/1444	0.51	0/1937
8	G	0.23	0/1343	0.46	0/1816
9	H	0.25	0/1122	0.46	0/1515
10	J	0.23	0/1152	0.47	0/1551
11	K	0.24	0/939	0.52	0/1258
12	L	0.23	0/1054	0.47	0/1403
13	M	0.25	0/1093	0.47	0/1460
14	N	0.24	0/973	0.51	0/1301
15	O	0.23	0/902	0.47	0/1209
16	P	0.24	0/929	0.48	0/1242
17	Q	0.25	0/960	0.46	0/1278
18	R	0.25	0/829	0.48	0/1107
19	S	0.22	0/864	0.49	0/1156
20	T	0.23	0/744	0.52	0/994
21	U	0.25	0/787	0.45	0/1051
22	W	0.28	0/603	0.48	0/797
23	X	0.23	0/510	0.51	0/677
24	Y	0.23	0/453	0.49	0/605
25	Z	0.25	0/635	0.51	0/848
26	0	0.22	0/450	0.52	0/599
27	1	0.27	0/416	0.47	0/554
28	2	0.25	0/380	0.49	0/498
29	3	0.24	0/513	0.46	0/676
30	4	0.22	0/303	0.46	0/397
31	I	0.24	0/1046	0.46	0/1410
All	All	0.27	7/97605 (0.0%)	0.71	43/146403 (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	36

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1086	A	C5-C6	-16.11	1.26	1.41
2	B	1088	A	C6-N1	-10.49	1.28	1.35
2	B	1060	U	C2-N3	7.86	1.43	1.37
2	B	1086	A	N3-C4	-7.29	1.30	1.34
2	B	1086	A	N7-C5	-6.28	1.35	1.39
2	B	2272	U	C2-N3	5.34	1.41	1.37
2	B	2267	A	C6-N6	-5.14	1.29	1.33

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2791	G	O5'-P-OP1	-31.87	72.45	110.70
2	B	2204	G	O5'-P-OP2	-28.34	76.69	110.70
2	B	2204	G	O5'-P-OP1	17.70	131.94	110.70
2	B	2791	G	O5'-P-OP2	16.25	130.19	110.70
2	B	2203	U	OP2-P-O3'	14.09	136.19	105.20
2	B	2790	U	OP1-P-O3'	13.23	134.30	105.20
2	B	1552	A	N9-C1'-C2'	-9.76	101.26	112.00
2	B	1088	A	N1-C6-N6	-8.20	113.68	118.60
2	B	1439	A	N9-C1'-C2'	-7.78	103.44	112.00
2	B	773	U	C5'-C4'-C3'	-7.59	103.86	116.00
2	B	1060	U	C5-C4-O4	-7.29	121.53	125.90
2	B	1086	A	C4-C5-C6	7.13	120.56	117.00
2	B	2733	A	N9-C1'-C2'	-7.06	104.23	112.00
2	B	2272	U	N3-C4-O4	-6.98	114.51	119.40
2	B	745	G	C5'-C4'-C3'	-6.46	105.66	116.00
2	B	690	G	C5'-C4'-C3'	-6.42	105.72	116.00
2	B	1088	A	C5-C6-N6	6.39	128.81	123.70
2	B	2283	C	O5'-P-OP2	-6.38	99.95	105.70
2	B	1251	C	C5'-C4'-C3'	-6.20	106.08	116.00
2	B	1086	A	C6-C5-N7	-6.07	128.05	132.30
2	B	241	A	C5'-C4'-C3'	-6.01	106.38	116.00
2	B	1552	A	C4'-C3'-O3'	5.99	124.98	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	108	A	C5'-C4'-O4'	-5.96	101.94	109.10
2	B	1318	U	C5'-C4'-C3'	-5.77	106.77	116.00
2	B	1060	U	N1-C2-O2	-5.71	118.81	122.80
2	B	2480	C	C5'-C4'-C3'	5.67	125.08	116.00
2	B	1086	A	C2-N3-C4	-5.61	107.79	110.60
2	B	2199	A	C5'-C4'-C3'	-5.55	107.12	116.00
2	B	479	A	C4'-C3'-O3'	-5.54	97.77	109.40
2	B	2471	A	C5'-C4'-C3'	-5.44	107.30	116.00
2	B	2894	G	C5'-C4'-C3'	-5.41	107.34	116.00
2	B	1382	G	C5'-C4'-C3'	5.39	124.63	116.00
2	B	2716	C	C5'-C4'-C3'	5.37	124.59	116.00
2	B	1350	C	C5'-C4'-C3'	-5.37	107.41	116.00
2	B	242	G	C4'-C3'-O3'	-5.36	98.15	109.40
2	B	1060	U	N3-C2-O2	5.34	125.94	122.20
2	B	2203	U	O3'-P-O5'	-5.30	93.93	104.00
2	B	2272	U	N1-C2-O2	-5.30	119.09	122.80
2	B	2790	U	O3'-P-O5'	-5.29	93.95	104.00
2	B	1397	U	C5'-C4'-C3'	-5.27	107.56	116.00
2	B	2134	A	C5'-C4'-C3'	5.21	124.34	116.00
1	A	30	C	C5'-C4'-C3'	-5.18	107.71	116.00
2	B	268	C	C5'-C4'-C3'	-5.07	107.89	116.00

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	1047	G	Sidechain
2	B	1060	U	Sidechain
2	B	1086	A	Sidechain
2	B	1088	A	Sidechain
2	B	1111	A	Sidechain
2	B	1439	A	Sidechain
2	B	1533	C	Sidechain
2	B	1538	G	Sidechain
2	B	1546	G	Sidechain
2	B	1572	A	Sidechain
2	B	1645	G	Sidechain
2	B	1734	G	Sidechain
2	B	1792	G	Sidechain
2	B	1814	G	Sidechain
2	B	1828	G	Sidechain
2	B	2062	A	Sidechain

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Mol	Chain	Res	Type	Group
2	B	2108	A	Sidechain
2	B	221	A	Sidechain
2	B	222	A	Sidechain
2	B	2272	U	Sidechain
2	B	2319	G	Sidechain
2	B	2471	A	Sidechain
2	B	2503	A	Sidechain
2	B	2638	G	Sidechain
2	B	2733	A	Sidechain
2	B	2848	G	Sidechain
2	B	2857	G	Sidechain
2	B	2868	A	Sidechain
2	B	299	A	Sidechain
2	B	361	G	Sidechain
2	B	427	U	Sidechain
2	B	51	G	Sidechain
2	B	630	G	Sidechain
2	B	727	A	Sidechain
2	B	729	G	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	109	0
2	B	60995	0	30678	2404	0
3	V	753	0	780	89	0
4	C	2082	0	2157	258	0
5	D	1565	0	1616	216	0
6	E	1552	0	1619	180	0
7	F	1420	0	1460	234	0
8	G	1323	0	1374	163	0
9	H	1111	0	1148	172	0
10	J	1129	0	1162	150	0
11	K	930	0	1000	122	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	L	1045	0	1117	150	0
13	M	1074	0	1157	114	0
14	N	960	0	1000	135	0
15	O	892	0	923	97	0
16	P	917	0	965	107	0
17	Q	947	0	1022	156	0
18	R	816	0	839	123	0
19	S	857	0	922	93	0
20	T	738	0	807	127	0
21	U	779	0	834	132	0
22	W	596	0	610	128	0
23	X	509	0	543	54	0
24	Y	449	0	491	48	0
25	Z	625	0	652	89	0
26	0	444	0	461	40	0
27	1	409	0	440	57	0
28	2	377	0	418	43	0
29	3	504	0	574	40	0
30	4	302	0	340	40	0
31	I	1032	0	1088	111	0
32	B	110	0	0	0	0
33	4	1	0	0	0	0
34	2	2	0	0	0	0
34	B	490	0	0	5	0
34	C	8	0	0	0	0
34	D	1	0	0	0	0
34	E	5	0	0	0	0
All	All	90256	0	59467	5468	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 37.

All (5468) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:855:G:H21	22:W:23:LYS:HG2	1.08	1.15
21:U:85:ARG:HD3	21:U:86:PHE:H	1.11	1.12
20:T:5:GLU:HA	20:T:8:LEU:HB2	1.25	1.12
2:B:1338:G:H4'	20:T:18:GLU:HG3	1.40	1.04
5:D:106:LYS:HB3	5:D:206:ALA:H	1.23	1.03
10:J:58:ASN:HA	10:J:127:GLY:HA2	1.38	1.03
11:K:35:VAL:HG23	11:K:36:GLY:H	1.24	1.01
21:U:80:ASP:HB3	21:U:96:LYS:H	1.25	1.01

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:126:ASN:HD22	7:F:156:THR:HG23	1.20	1.01
14:N:2:ARG:HA	14:N:5:LYS:HD3	1.43	1.01
2:B:1812:U:H1'	4:C:43:ASN:HD21	1.25	1.01
7:F:65:LEU:H	7:F:88:VAL:HG22	1.24	1.00
10:J:17:VAL:HG23	10:J:137:PRO:HB2	1.39	1.00
4:C:77:VAL:HG23	4:C:112:GLY:H	1.23	1.00
24:Y:8:GLN:HG2	24:Y:31:ILE:HA	1.42	1.00
7:F:36:ASN:HD22	7:F:152:ASP:HB2	1.26	1.00
14:N:96:ARG:HH11	14:N:116:VAL:HG23	1.24	1.00
21:U:38:ILE:HG23	21:U:39:ASN:H	1.25	1.00
9:H:7:ASP:HA	9:H:15:LEU:HD22	1.44	0.99
14:N:2:ARG:HG2	14:N:5:LYS:HB2	1.43	0.99
2:B:1203:U:H1'	12:L:4:ASN:HD21	1.21	0.99
19:S:24:ILE:HD11	19:S:36:LEU:HD11	1.43	0.98
17:Q:63:ARG:HH22	17:Q:96:ASP:HA	1.28	0.98
10:J:112:GLY:H	10:J:113:PRO:HD2	1.29	0.97
14:N:29:VAL:HG12	14:N:83:LEU:HD21	1.43	0.97
12:L:79:LEU:HB2	12:L:113:ALA:HB3	1.47	0.96
4:C:144:GLU:HG3	4:C:151:GLY:H	1.28	0.96
2:B:1420:A:H2'	2:B:2211:A:H62	1.28	0.96
2:B:460:A:H4'	20:T:72:GLN:HB2	1.45	0.96
2:B:2502:G:H5'	2:B:2503:A:H5''	1.49	0.95
2:B:962:G:H21	2:B:2250:G:H22	1.13	0.95
13:M:40:ARG:HD3	13:M:93:VAL:HG21	1.48	0.95
4:C:183:VAL:HG13	4:C:185:ALA:H	1.29	0.95
2:B:1244:A:H5''	12:L:8:PRO:HD3	1.48	0.95
2:B:1283:G:H22	2:B:1286:A:H5'	1.31	0.94
4:C:146:LYS:HB3	4:C:147:PRO:HD2	1.47	0.94
4:C:27:LYS:HG3	4:C:28:PRO:HD2	1.49	0.93
2:B:855:G:N2	22:W:23:LYS:HG2	1.82	0.93
12:L:29:LYS:HG3	12:L:30:THR:HG23	1.50	0.93
23:X:39:GLN:HB3	23:X:42:LEU:HD13	1.49	0.92
5:D:114:LYS:HZ2	5:D:116:LYS:HZ2	0.96	0.92
7:F:62:GLN:HE22	7:F:90:LEU:HD13	1.35	0.92
5:D:106:LYS:HB3	5:D:206:ALA:N	1.83	0.92
9:H:31:VAL:HB	9:H:32:PRO:HD3	1.50	0.91
2:B:856:G:H1'	22:W:23:LYS:HB3	1.53	0.91
4:C:128:THR:HA	4:C:190:THR:HG22	1.52	0.91
9:H:128:HIS:HB2	9:H:144:VAL:HB	1.51	0.91
5:D:5:VAL:H	5:D:32:ASN:HD21	1.13	0.91
5:D:113:SER:HB3	5:D:168:GLU:H	1.36	0.91
2:B:2787:C:H1'	5:D:63:PRO:HG3	1.50	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:72:LYS:HB2	10:J:89:PHE:HB2	1.53	0.91
2:B:470:A:H61	20:T:72:GLN:HE22	1.12	0.90
11:K:47:ILE:HG12	11:K:48:PRO:HD2	1.53	0.90
7:F:11:VAL:HG12	7:F:12:VAL:H	1.36	0.90
7:F:43:ILE:HG23	7:F:44:ALA:H	1.34	0.90
6:E:58:LYS:HD3	6:E:58:LYS:H	1.34	0.90
2:B:547:A:H3'	2:B:548:G:H8	1.35	0.90
22:W:18:LYS:HA	22:W:36:ILE:HG12	1.54	0.90
9:H:116:ARG:HB2	9:H:116:ARG:HH11	1.36	0.90
19:S:26:GLY:H	19:S:71:VAL:HG13	1.37	0.90
2:B:858:G:N3	2:B:2268:A:H2'	1.87	0.90
2:B:136:G:H2'	2:B:137:U:C6	2.07	0.89
17:Q:79:ILE:HA	17:Q:82:LEU:HD12	1.53	0.89
2:B:2356:U:H5''	22:W:16:GLU:HG3	1.54	0.89
9:H:116:ARG:HE	9:H:139:PHE:HB2	1.37	0.89
2:B:1173:U:H2'	2:B:1174:U:H4'	1.52	0.89
14:N:37:THR:HG22	14:N:39:PRO:HD2	1.53	0.89
7:F:3:LEU:HD21	7:F:172:PHE:HB3	1.54	0.89
2:B:2305:U:H5''	7:F:130:GLY:HA3	1.55	0.89
2:B:1654:A:O2'	5:D:118:PHE:HB2	1.72	0.89
2:B:1060:U:N3	2:B:1088:A:N7	2.20	0.89
12:L:57:LEU:HD12	12:L:60:ARG:HH22	1.36	0.89
25:Z:40:VAL:HG21	25:Z:43:GLU:HB3	1.53	0.88
31:I:129:GLU:HB3	31:I:133:ARG:HH12	1.35	0.88
2:B:27:G:H22	2:B:512:G:H2'	1.38	0.88
9:H:73:ASN:HD22	9:H:74:ALA:H	1.21	0.88
10:J:36:LEU:HD21	10:J:122:LEU:HB2	1.54	0.88
22:W:9:THR:HG23	22:W:10:ARG:HD3	1.53	0.87
5:D:29:VAL:HB	5:D:98:VAL:HG22	1.56	0.87
22:W:51:GLY:HA3	22:W:59:PHE:HB2	1.55	0.87
9:H:31:VAL:HB	9:H:32:PRO:CD	2.04	0.87
16:P:4:ILE:HG22	16:P:5:LYS:H	1.39	0.87
2:B:470:A:H61	20:T:72:GLN:NE2	1.72	0.86
3:V:44:HIS:HE1	3:V:86:LEU:H	1.21	0.86
27:1:7:LYS:HA	27:1:23:THR:HG22	1.54	0.86
31:I:27:LEU:H	31:I:27:LEU:HD23	1.40	0.86
3:V:72:VAL:HG12	3:V:93:ARG:HA	1.58	0.86
25:Z:6:GLN:HE22	25:Z:50:ARG:H	1.21	0.86
14:N:102:PHE:H	14:N:109:PRO:HA	1.40	0.86
21:U:81:ARG:HH21	21:U:81:ARG:H	1.23	0.85
2:B:1024:G:H3'	2:B:1025:G:H5''	1.57	0.85
2:B:2769:U:H2'	2:B:2770:G:H8	1.39	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:1:26:LYS:HD3	27:1:52:LYS:HB3	1.56	0.85
18:R:19:THR:HG22	18:R:97:LYS:HA	1.58	0.85
2:B:546:U:H4'	2:B:547:A:OP1	1.77	0.85
28:2:30:VAL:HG22	28:2:33:ARG:HH22	1.41	0.85
8:G:8:VAL:HG11	8:G:49:LEU:HB3	1.56	0.85
16:P:20:ARG:HD2	16:P:21:PRO:HD2	1.56	0.85
9:H:100:ALA:HA	9:H:110:VAL:HG22	1.56	0.85
10:J:25:LEU:HD22	10:J:26:GLY:H	1.39	0.85
4:C:180:MET:HB2	4:C:268:ARG:HB2	1.58	0.85
18:R:14:VAL:HG22	18:R:15:SER:H	1.40	0.85
11:K:71:ARG:HD2	11:K:105:ARG:HE	1.40	0.85
8:G:15:ASP:HB3	8:G:26:LYS:H	1.41	0.85
20:T:53:VAL:HG11	20:T:87:LEU:HD13	1.58	0.85
2:B:2039:U:H2'	2:B:2040:G:H8	1.43	0.84
2:B:532:A:H2'	17:Q:27:ARG:HH22	1.41	0.84
2:B:140:C:H4'	2:B:141:G:H21	1.40	0.84
2:B:1437:C:H2'	2:B:1438:U:C6	2.13	0.84
11:K:86:LEU:H	11:K:86:LEU:HD23	1.42	0.84
8:G:26:LYS:HA	8:G:32:LEU:H	1.41	0.84
28:2:10:LEU:HD21	28:2:14:ARG:HH11	1.41	0.84
13:M:19:GLY:H	13:M:38:ARG:HH12	1.26	0.83
20:T:57:VAL:HG22	20:T:58:VAL:H	1.43	0.83
2:B:1674:G:H21	2:B:1677:A:H61	1.26	0.83
7:F:42:ALA:HA	7:F:48:LEU:HD21	1.58	0.83
7:F:42:ALA:H	7:F:48:LEU:HD11	1.42	0.83
20:T:29:THR:HA	20:T:86:THR:HA	1.57	0.83
20:T:39:THR:HG22	20:T:42:GLU:H	1.41	0.83
18:R:16:GLU:HA	18:R:98:ILE:HG22	1.60	0.83
2:B:979:A:H2'	2:B:982:C:H41	1.42	0.83
23:X:17:GLU:HB3	23:X:53:VAL:HG11	1.61	0.83
13:M:55:ARG:HH21	13:M:55:ARG:HA	1.42	0.83
13:M:19:GLY:HA2	13:M:97:GLN:HB2	1.61	0.83
2:B:75:G:H4'	23:X:48:ARG:HH22	1.44	0.83
2:B:1082:U:C4	2:B:1086:A:C2	2.66	0.83
2:B:1060:U:C2	2:B:1088:A:N7	2.48	0.82
25:Z:7:VAL:HG13	25:Z:8:THR:HG23	1.61	0.82
17:Q:105:PHE:HA	17:Q:108:LEU:HD13	1.60	0.82
12:L:6:LEU:HD23	12:L:6:LEU:H	1.42	0.82
19:S:29:VAL:HG11	19:S:55:ILE:HD13	1.59	0.82
20:T:67:VAL:HB	20:T:76:ARG:HG2	1.61	0.82
15:O:11:ALA:HB3	15:O:96:GLY:H	1.43	0.82
20:T:11:LEU:HD22	20:T:11:LEU:H	1.45	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:35:VAL:HG22	24:Y:36:GLU:H	1.45	0.82
5:D:148:GLN:HB2	5:D:152:PRO:HG2	1.58	0.82
2:B:321:U:OP2	6:E:130:LYS:HA	1.80	0.82
2:B:958:U:H3	13:M:16:ARG:HB3	1.45	0.81
16:P:57:ALA:HA	16:P:73:PHE:O	1.80	0.81
2:B:704:G:H2'	2:B:726:G:H22	1.43	0.81
14:N:101:GLY:HA2	14:N:110:MET:N	1.95	0.81
4:C:161:VAL:HG12	4:C:162:GLN:H	1.46	0.81
9:H:127:GLU:HG3	9:H:143:ILE:HB	1.62	0.81
11:K:87:LEU:HB2	11:K:93:GLN:O	1.80	0.81
2:B:1594:U:H2'	2:B:1595:C:C6	2.16	0.81
2:B:322:A:H5'	2:B:340:A:H1'	1.62	0.81
2:B:2579:C:O2'	5:D:136:ASN:HA	1.79	0.81
2:B:1509:A:H5'	2:B:1510:G:H5'	1.61	0.81
2:B:1475:G:H1'	2:B:1514:G:O6	1.81	0.81
10:J:81:ILE:HG23	10:J:82:GLY:H	1.46	0.81
2:B:1729:U:H2'	2:B:1730:C:H4'	1.62	0.81
2:B:2306:C:H3'	2:B:2307:G:H5'	1.63	0.81
14:N:97:ILE:HD12	14:N:98:LEU:H	1.46	0.81
6:E:31:VAL:HG21	6:E:104:ALA:HB2	1.61	0.81
2:B:1178:C:H2'	2:B:1179:G:C8	2.14	0.81
6:E:147:LEU:HB3	6:E:186:VAL:HG23	1.61	0.81
4:C:140:VAL:HG12	4:C:141:HIS:H	1.45	0.81
9:H:84:ALA:HA	9:H:90:LEU:HA	1.63	0.80
8:G:84:LYS:HG2	8:G:85:LYS:H	1.43	0.80
9:H:83:LYS:HB3	9:H:91:PHE:HB2	1.61	0.80
1:A:104:A:H2'	1:A:105:G:O4'	1.81	0.80
21:U:85:ARG:HD3	21:U:86:PHE:N	1.94	0.80
25:Z:33:LEU:HA	25:Z:52:SER:HA	1.63	0.80
2:B:1141:U:H4'	2:B:1142:A:O4'	1.82	0.80
11:K:13:ASN:HD21	11:K:98:ARG:H	1.30	0.80
8:G:122:ALA:HB2	8:G:132:LEU:HB3	1.64	0.80
14:N:38:LEU:HB3	14:N:39:PRO:HD3	1.62	0.80
2:B:100:U:H2'	2:B:100:U:O2	1.81	0.79
6:E:161:ALA:HA	6:E:164:LEU:HB2	1.62	0.79
2:B:1925:C:H2'	2:B:1926:U:H5''	1.64	0.79
2:B:2680:U:OP2	5:D:114:LYS:HB3	1.82	0.79
2:B:2151:U:H2'	2:B:2152:G:C8	2.16	0.79
3:V:66:ASP:HB2	3:V:68:LYS:HE3	1.64	0.79
2:B:855:G:H21	22:W:23:LYS:CG	1.94	0.79
7:F:65:LEU:HD23	7:F:87:LYS:HD2	1.63	0.79
22:W:39:GLN:HG2	22:W:40:ARG:N	1.97	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:141:ASP:HB3	7:F:144:LYS:HB3	1.63	0.79
2:B:2748:A:H1'	8:G:66:THR:HB	1.63	0.79
10:J:77:HIS:HD2	10:J:84:ILE:H	1.31	0.79
31:I:21:PRO:HB2	31:I:22:PRO:HD3	1.62	0.79
1:A:75:G:H1	1:A:102:G:N2	1.79	0.79
14:N:32:GLU:HG3	14:N:115:LEU:HD12	1.64	0.79
4:C:226:PRO:HG3	4:C:233:GLY:H	1.48	0.79
4:C:144:GLU:HA	4:C:151:GLY:HA2	1.65	0.78
31:I:33:ASN:HD21	31:I:64:ARG:HH11	1.31	0.78
17:Q:65:ASN:HB2	17:Q:75:TYR:HB2	1.65	0.78
2:B:364:C:H2'	2:B:365:U:C6	2.18	0.78
2:B:1060:U:OP2	31:I:74:PRO:HA	1.84	0.78
2:B:62:U:H2'	2:B:63:A:O4'	1.83	0.78
2:B:172:A:H2'	2:B:173:A:C8	2.18	0.78
16:P:7:LEU:H	16:P:7:LEU:HD12	1.47	0.78
17:Q:63:ARG:NH2	17:Q:96:ASP:HA	1.97	0.78
16:P:97:TYR:O	16:P:100:ARG:HB2	1.84	0.78
2:B:2734:A:H2'	2:B:2735:G:H5'	1.65	0.78
2:B:479:A:O2'	2:B:481:G:H5'	1.84	0.78
31:I:55:PRO:HD3	31:I:74:PRO:HD3	1.65	0.78
8:G:126:THR:HB	8:G:129:GLU:HG3	1.64	0.78
1:A:116:G:H4'	15:O:54:VAL:HG22	1.64	0.78
16:P:23:ASP:HA	16:P:88:ARG:HA	1.64	0.78
2:B:2010:G:H5''	19:S:42:LYS:HB2	1.66	0.78
13:M:21:ALA:HB1	13:M:100:LYS:HE2	1.65	0.78
21:U:26:ASN:HD21	21:U:34:ILE:HD12	1.49	0.77
2:B:996:A:H4'	17:Q:91:ARG:HD2	1.66	0.77
27:1:33:LEU:HB3	27:1:51:ALA:HB3	1.64	0.77
8:G:40:VAL:HG22	8:G:64:ALA:HA	1.66	0.77
16:P:20:ARG:HE	16:P:91:VAL:HG21	1.47	0.77
25:Z:30:LEU:H	25:Z:30:LEU:HD23	1.47	0.77
4:C:32:LEU:O	4:C:63:ILE:HG12	1.85	0.77
8:G:148:ARG:HA	8:G:161:VAL:HB	1.67	0.77
2:B:2769:U:H2'	2:B:2770:G:C8	2.20	0.77
3:V:72:VAL:HG21	3:V:91:PHE:HB3	1.64	0.77
2:B:90:U:H3'	2:B:91:A:H5''	1.65	0.77
2:B:2185:U:H2'	2:B:2186:G:H8	1.50	0.77
2:B:1993:U:H4'	5:D:133:THR:CG2	2.14	0.77
9:H:57:LYS:HE2	9:H:58:LEU:HB2	1.66	0.77
13:M:60:GLN:NE2	13:M:60:GLN:H	1.83	0.77
22:W:17:ALA:HA	22:W:35:ILE:HG23	1.67	0.77
1:A:98:G:H1	3:V:14:LYS:HB2	1.50	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:11:LYS:HD3	13:M:86:LYS:HG2	1.67	0.77
5:D:25:THR:HG21	5:D:193:VAL:HG22	1.67	0.76
4:C:129:LEU:HD22	4:C:134:ILE:HG22	1.67	0.76
21:U:42:LYS:HG3	21:U:57:ILE:HG21	1.67	0.76
11:K:24:VAL:HA	11:K:39:ILE:HD12	1.67	0.76
2:B:62:U:H3'	2:B:63:A:C8	2.19	0.76
2:B:38:A:O2'	6:E:43:THR:HA	1.85	0.76
7:F:110:ILE:HA	7:F:111:ARG:CZ	2.15	0.76
6:E:157:LEU:HG	6:E:169:VAL:HG11	1.68	0.76
19:S:70:LYS:HD3	19:S:110:ARG:HA	1.67	0.76
24:Y:54:VAL:HB	24:Y:56:VAL:HG23	1.67	0.76
2:B:1082:U:N3	2:B:1086:A:C2	2.53	0.76
3:V:75:GLN:HG2	3:V:92:VAL:HG23	1.66	0.76
18:R:2:TYR:HB2	18:R:42:ALA:HB2	1.66	0.76
2:B:1469:A:H2'	2:B:1470:A:C8	2.21	0.76
2:B:1166:G:H2'	2:B:1167:C:C6	2.20	0.76
10:J:112:GLY:H	10:J:113:PRO:CD	1.98	0.76
2:B:2653:U:H3'	2:B:2654:A:H2'	1.67	0.76
22:W:24:ARG:HD3	22:W:65:LYS:HG2	1.68	0.75
2:B:2143:C:H2'	2:B:2144:G:O4'	1.87	0.75
4:C:91:ALA:HB2	4:C:105:ALA:HB2	1.68	0.75
17:Q:8:ILE:H	17:Q:8:ILE:HD12	1.49	0.75
7:F:168:LEU:HD13	7:F:169:LEU:H	1.52	0.75
2:B:90:U:H3'	2:B:91:A:C5'	2.16	0.75
2:B:2328:A:H2'	2:B:2329:U:C6	2.21	0.75
2:B:2269:G:H4'	22:W:19:ARG:HH12	1.50	0.75
9:H:31:VAL:O	9:H:33:GLN:N	2.20	0.75
9:H:73:ASN:HB3	9:H:141:LYS:HZ1	1.52	0.75
6:E:130:LYS:HB2	6:E:133:LEU:HG	1.67	0.75
18:R:24:LYS:HA	18:R:94:THR:HG23	1.67	0.75
11:K:38:ILE:HD13	11:K:61:VAL:HG12	1.66	0.75
13:M:78:LEU:HD12	13:M:78:LEU:H	1.50	0.75
22:W:66:VAL:HA	22:W:81:ILE:HG22	1.69	0.75
15:O:49:VAL:HG11	15:O:82:ALA:HA	1.69	0.75
7:F:65:LEU:N	7:F:88:VAL:HG22	1.99	0.75
20:T:28:ASN:HA	20:T:91:GLN:HE22	1.52	0.75
2:B:2258:C:H5'	2:B:2259:U:H5	1.52	0.75
18:R:60:LYS:H	18:R:100:GLY:HA3	1.50	0.75
22:W:37:VAL:HG12	22:W:38:ARG:H	1.51	0.75
18:R:7:SER:HB2	18:R:22:LEU:HB3	1.69	0.75
8:G:167:VAL:HG23	8:G:168:VAL:H	1.51	0.75
2:B:1283:G:N2	2:B:1286:A:H5'	2.01	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:177:ARG:CZ	7:F:177:ARG:HA	2.16	0.74
2:B:161:A:H3'	2:B:162:U:H5''	1.68	0.74
17:Q:107:ALA:HB1	18:R:48:LYS:HE2	1.67	0.74
4:C:156:SER:O	4:C:194:VAL:HG11	1.87	0.74
2:B:2882:A:H4'	14:N:97:ILE:HD11	1.67	0.74
31:I:27:LEU:HD12	31:I:32:VAL:HG11	1.69	0.74
20:T:76:ARG:NH2	20:T:77:ARG:HB2	2.01	0.74
17:Q:65:ASN:HD21	17:Q:69:ARG:HH11	1.33	0.74
20:T:82:LYS:HD3	20:T:84:TYR:HE1	1.51	0.74
19:S:66:ILE:HD13	19:S:66:ILE:H	1.51	0.74
17:Q:57:ARG:HB3	17:Q:57:ARG:HH11	1.52	0.74
9:H:116:ARG:HD2	9:H:133:GLN:HB3	1.69	0.74
8:G:26:LYS:HZ2	8:G:26:LYS:HB3	1.52	0.74
2:B:2185:U:H2'	2:B:2186:G:C8	2.23	0.74
2:B:2153:C:H2'	2:B:2154:A:C8	2.23	0.74
2:B:591:U:H1'	29:3:1:PRO:N	2.03	0.74
12:L:109:LYS:HG2	12:L:126:ARG:HB2	1.68	0.74
2:B:2333:A:H4'	2:B:2334:U:H5''	1.68	0.74
30:4:16:ILE:HG12	30:4:25:VAL:HG22	1.68	0.74
13:M:63:ILE:HG23	13:M:105:MET:HG3	1.69	0.74
1:A:75:G:H1	1:A:102:G:H22	1.34	0.74
5:D:51:THR:HG22	5:D:52:THR:H	1.51	0.74
2:B:608:A:H2'	2:B:609:A:C8	2.22	0.74
4:C:35:LYS:HG2	4:C:36:ASN:H	1.52	0.74
22:W:39:GLN:HG3	22:W:42:THR:HB	1.70	0.74
24:Y:23:LEU:HD13	24:Y:28:LEU:HB2	1.70	0.74
4:C:64:VAL:O	4:C:65:ASP:HB3	1.88	0.74
7:F:126:ASN:HB3	7:F:156:THR:HA	1.70	0.74
2:B:2834:G:H1'	2:B:2883:A:N6	2.02	0.74
31:I:77:VAL:HA	31:I:80:LYS:HE2	1.70	0.74
10:J:29:ALA:HA	10:J:32:LEU:HD12	1.69	0.74
2:B:404:A:H4'	2:B:405:U:H5'	1.68	0.74
14:N:33:ILE:HG22	14:N:114:GLU:HB2	1.69	0.73
2:B:1287:A:OP1	14:N:104:ALA:HB3	1.88	0.73
2:B:479:A:N3	2:B:481:G:H5''	2.03	0.73
2:B:1451:C:H4'	2:B:1452:G:H5'	1.68	0.73
21:U:84:PHE:O	21:U:85:ARG:HB2	1.88	0.73
7:F:48:LEU:H	7:F:48:LEU:HD23	1.53	0.73
10:J:124:VAL:HG23	10:J:125:TYR:H	1.52	0.73
14:N:116:VAL:O	14:N:117:ASP:HB3	1.88	0.73
16:P:91:VAL:HG23	16:P:92:ARG:H	1.52	0.73
8:G:37:ASN:HD22	8:G:40:VAL:HB	1.53	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1019:U:H2'	2:B:1020:A:C8	2.23	0.73
26:O:32:THR:OG1	26:O:50:GLY:HA2	1.88	0.73
2:B:616:A:H3'	2:B:617:G:H8	1.53	0.73
5:D:114:LYS:NZ	5:D:116:LYS:HZ2	1.83	0.73
2:B:2109:U:H2'	2:B:2110:G:H5'	1.70	0.73
21:U:81:ARG:HH21	21:U:81:ARG:N	1.87	0.73
2:B:532:A:H3'	17:Q:27:ARG:HH12	1.53	0.73
13:M:34:LYS:HE2	13:M:99:GLY:HA2	1.70	0.73
2:B:2241:A:H2'	2:B:2242:G:C8	2.22	0.73
9:H:81:ALA:HA	9:H:146:VAL:HA	1.70	0.73
2:B:362:A:H3'	2:B:363:G:H8	1.54	0.73
2:B:547:A:H2'	2:B:548:G:H5'	1.71	0.73
25:Z:64:ILE:HD12	25:Z:64:ILE:H	1.53	0.73
3:V:9:ARG:HH22	3:V:12:GLN:HA	1.54	0.73
13:M:40:ARG:HB2	13:M:93:VAL:HG22	1.70	0.73
2:B:125:A:H3'	2:B:126:A:H5''	1.71	0.73
2:B:2292:U:H2'	2:B:2293:G:H8	1.52	0.73
7:F:72:SER:HA	7:F:80:GLN:H	1.52	0.73
22:W:23:LYS:HD2	22:W:24:ARG:HB3	1.69	0.73
5:D:24:VAL:HG21	5:D:188:LEU:HB3	1.70	0.73
19:S:15:GLN:HA	19:S:18:ARG:HG2	1.71	0.73
14:N:72:ASP:HB3	14:N:75:ILE:HG12	1.69	0.73
3:V:79:ARG:HA	3:V:86:LEU:HA	1.69	0.73
17:Q:27:ARG:HG2	17:Q:37:ALA:HB2	1.71	0.73
24:Y:6:ILE:HA	24:Y:56:VAL:HG22	1.71	0.73
11:K:15:GLY:HA3	11:K:52:VAL:HG23	1.70	0.73
7:F:62:GLN:NE2	7:F:90:LEU:HD13	2.04	0.73
19:S:28:LYS:HD2	19:S:29:VAL:H	1.53	0.73
8:G:148:ARG:HD3	8:G:152:ARG:CZ	2.19	0.73
19:S:30:SER:HA	19:S:33:LEU:HD12	1.71	0.73
16:P:1:SER:HA	16:P:4:ILE:HB	1.69	0.72
11:K:99:ILE:HB	11:K:118:LEU:HD22	1.71	0.72
27:1:49:LYS:HG2	27:1:50:GLU:H	1.53	0.72
7:F:128:SER:HB3	7:F:154:THR:HG23	1.70	0.72
2:B:2867:G:H2'	2:B:2867:G:N3	2.04	0.72
22:W:51:GLY:CA	22:W:59:PHE:HB2	2.20	0.72
6:E:108:ILE:HG13	12:L:2:ARG:NH2	2.04	0.72
2:B:812:C:H4'	17:Q:12:ARG:HH22	1.54	0.72
13:M:66:ARG:CZ	13:M:101:VAL:HG11	2.18	0.72
20:T:73:ARG:HA	20:T:73:ARG:HH21	1.54	0.72
11:K:35:VAL:HG23	11:K:36:GLY:N	2.03	0.72
9:H:73:ASN:HB3	9:H:141:LYS:NZ	2.04	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:E:58:LYS:HE2	6:E:60:TRP:HD1	1.53	0.72
2:B:329:G:H22	21:U:16:LYS:HE3	1.54	0.72
2:B:856:G:C1'	22:W:23:LYS:HB3	2.20	0.72
2:B:1301:A:O2'	2:B:1302:A:H3'	1.89	0.72
2:B:1105:U:H2'	2:B:1106:G:C8	2.24	0.72
2:B:191:A:H2'	2:B:192:C:C6	2.24	0.72
11:K:17:ARG:HB3	11:K:45:GLU:HG3	1.71	0.72
2:B:2353:G:H1'	22:W:30:VAL:CG1	2.18	0.72
5:D:69:ALA:HA	5:D:73:VAL:HB	1.71	0.72
2:B:743:A:O2'	2:B:744:U:H5'	1.89	0.72
4:C:129:LEU:HD23	4:C:130:PRO:HD2	1.71	0.72
27:1:46:VAL:HG22	27:1:47:ILE:H	1.52	0.72
2:B:2591:C:H2'	2:B:2592:G:C8	2.25	0.72
4:C:81:GLU:HB2	4:C:90:ILE:HG22	1.70	0.72
2:B:2794:C:H2'	2:B:2795:C:C6	2.24	0.72
2:B:2331:G:H21	2:B:2336:A:H8	1.37	0.72
13:M:19:GLY:HA2	13:M:98:PRO:HD2	1.72	0.72
2:B:141:G:O6	20:T:2:ILE:HD12	1.90	0.72
2:B:28:A:H61	2:B:512:G:H1'	1.54	0.72
2:B:2886:A:H3'	2:B:2887:A:H8	1.55	0.72
22:W:43:LYS:HD2	22:W:79:ILE:HD11	1.71	0.72
22:W:49:ASN:HB3	22:W:81:ILE:HD11	1.72	0.72
3:V:21:ARG:HE	3:V:87:GLN:HB3	1.55	0.72
2:B:2091:C:H1'	25:Z:34:HIS:CD2	2.25	0.72
2:B:571:U:H3'	18:R:80:ARG:NH1	2.05	0.72
7:F:8:LYS:HA	7:F:12:VAL:HG21	1.72	0.71
27:1:32:LYS:HA	27:1:51:ALA:O	1.90	0.71
11:K:19:VAL:HG12	11:K:41:ILE:HG12	1.73	0.71
31:I:106:GLN:O	31:I:110:GLN:HG3	1.90	0.71
2:B:1868:C:H2'	2:B:1869:G:O4'	1.89	0.71
3:V:63:ILE:HB	3:V:70:ILE:HD11	1.72	0.71
17:Q:104:ALA:HA	18:R:46:GLU:CD	2.10	0.71
17:Q:68:ALA:HB1	17:Q:73:ILE:HG23	1.71	0.71
16:P:88:ARG:HB2	16:P:112:ARG:NH1	2.03	0.71
2:B:1056:G:H1'	2:B:1103:A:N6	2.06	0.71
2:B:2146:C:H1'	2:B:2147:A:H5'	1.71	0.71
31:I:20:SER:HB3	31:I:21:PRO:HD3	1.71	0.71
2:B:62:U:H3'	2:B:63:A:H8	1.54	0.71
8:G:166:GLU:HG2	8:G:168:VAL:HG23	1.71	0.71
20:T:32:LEU:H	20:T:83:ALA:HB3	1.55	0.71
2:B:2153:C:H2'	2:B:2154:A:H8	1.53	0.71
2:B:1354:A:H2'	2:B:1355:G:O4'	1.90	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:V:62:THR:HA	3:V:71:LYS:HA	1.72	0.71
2:B:2749:A:H3'	2:B:2750:A:H5''	1.71	0.71
2:B:181:A:H2'	2:B:182:A:C8	2.24	0.71
2:B:580:U:H2'	2:B:581:C:C6	2.24	0.71
2:B:742:A:H2'	2:B:743:A:C8	2.24	0.71
2:B:2880:C:O4'	14:N:91:ALA:HB3	1.91	0.71
2:B:836:G:H2'	2:B:837:C:C6	2.25	0.71
2:B:918:A:H2'	2:B:919:U:H5'	1.70	0.71
7:F:126:ASN:HA	7:F:157:THR:HG22	1.73	0.71
4:C:202:ARG:HH11	4:C:213:ARG:HE	1.36	0.71
15:O:51:ALA:HB3	15:O:78:VAL:HG22	1.72	0.71
2:B:1060:U:C4	2:B:1088:A:N6	2.58	0.71
31:I:122:GLU:O	31:I:126:ARG:HG3	1.91	0.71
2:B:27:G:N2	2:B:512:G:H2'	2.05	0.71
8:G:157:LYS:HB3	8:G:159:LYS:HG3	1.72	0.71
2:B:590:A:H2'	2:B:591:U:C6	2.26	0.71
14:N:83:LEU:HA	14:N:86:ARG:HG3	1.71	0.71
10:J:77:HIS:CD2	10:J:84:ILE:H	2.08	0.71
7:F:34:THR:HA	7:F:89:THR:HA	1.72	0.71
7:F:34:THR:HG22	7:F:89:THR:HG22	1.72	0.71
2:B:773:U:H5'	2:B:774:G:OP2	1.91	0.71
25:Z:59:ILE:HG22	25:Z:64:ILE:HA	1.72	0.71
8:G:71:LEU:HA	8:G:74:MET:SD	2.31	0.71
2:B:224:U:O4	2:B:420:C:H5'	1.91	0.71
8:G:43:LYS:HB2	8:G:50:THR:HB	1.71	0.71
7:F:126:ASN:HA	7:F:157:THR:H	1.55	0.71
10:J:93:ILE:O	10:J:97:PRO:HG3	1.90	0.71
2:B:2071:A:H2'	2:B:2072:C:C6	2.25	0.71
2:B:2872:A:O2'	2:B:2873:A:H5''	1.91	0.71
2:B:30:G:H2'	2:B:31:C:C6	2.25	0.70
2:B:171:U:H2'	2:B:172:A:C8	2.26	0.70
23:X:3:ALA:HA	23:X:6:LEU:HD23	1.73	0.70
2:B:1001:A:H2'	2:B:1002:G:O4'	1.91	0.70
10:J:29:ALA:HA	10:J:32:LEU:HB2	1.73	0.70
2:B:1437:C:H2'	2:B:1438:U:H6	1.54	0.70
2:B:2297:A:N6	2:B:2319:G:H1'	2.06	0.70
27:1:9:LYS:HD3	27:1:9:LYS:H	1.57	0.70
15:O:24:THR:HG22	15:O:42:PRO:HD3	1.72	0.70
2:B:287:G:H2'	2:B:288:U:C6	2.25	0.70
4:C:43:ASN:ND2	4:C:44:ASN:H	1.89	0.70
9:H:73:ASN:HD22	9:H:74:ALA:N	1.87	0.70
13:M:59:ARG:NH1	13:M:60:GLN:HB3	2.07	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:45:VAL:H	16:P:60:VAL:HB	1.56	0.70
2:B:2021:C:OP1	26:O:8:THR:HG21	1.91	0.70
11:K:102:PRO:HA	11:K:120:PRO:HB3	1.74	0.70
2:B:1412:U:H2'	2:B:1413:A:H8	1.56	0.70
1:A:32:U:H4'	1:A:52:A:H62	1.55	0.70
2:B:1464:G:H2'	2:B:1465:G:H8	1.55	0.70
9:H:90:LEU:HD11	9:H:146:VAL:HG11	1.71	0.70
23:X:8:GLU:O	23:X:12:GLU:HB2	1.92	0.70
2:B:1454:C:H5'	14:N:63:ARG:HE	1.55	0.70
2:B:2557:G:H2'	2:B:2558:C:C6	2.27	0.70
2:B:1447:C:H2'	2:B:1448:G:H8	1.56	0.70
3:V:62:THR:HG22	3:V:71:LYS:HG2	1.73	0.70
20:T:12:ARG:HA	23:X:29:ARG:HH22	1.57	0.70
2:B:2512:C:H2'	2:B:2513:A:O4'	1.91	0.70
2:B:1461:C:H2'	2:B:1462:C:H6	1.56	0.70
2:B:1287:A:H3'	2:B:1288:G:N2	2.07	0.70
9:H:132:PHE:H	9:H:142:VAL:HG23	1.56	0.70
2:B:1056:G:H1'	2:B:1103:A:H62	1.56	0.70
2:B:2645:G:H3'	2:B:2646:C:H5'	1.74	0.70
12:L:112:LEU:HG	12:L:113:ALA:H	1.56	0.70
2:B:2060:A:H2'	6:E:63:LYS:HE2	1.72	0.70
2:B:1440:U:H2'	2:B:1441:G:H8	1.57	0.70
2:B:643:A:N3	27:1:43:ARG:HD2	2.07	0.70
2:B:2800:A:N3	2:B:2801:G:H1'	2.07	0.70
10:J:18:VAL:HG22	10:J:19:ASP:H	1.57	0.70
2:B:1178:C:H2'	2:B:1179:G:H8	1.55	0.70
16:P:85:VAL:HG21	16:P:88:ARG:HH11	1.55	0.70
2:B:919:U:H2'	2:B:920:A:C8	2.27	0.69
7:F:62:GLN:NE2	7:F:90:LEU:HA	2.07	0.69
9:H:68:ARG:NH1	9:H:110:VAL:HG12	2.07	0.69
20:T:15:HIS:H	20:T:32:LEU:HA	1.57	0.69
14:N:17:ARG:HA	14:N:20:MET:HB3	1.72	0.69
2:B:2751:G:H2'	2:B:2751:G:N3	2.07	0.69
21:U:86:PHE:HB2	21:U:92:VAL:HB	1.73	0.69
21:U:24:VAL:HA	21:U:35:VAL:HA	1.73	0.69
2:B:580:U:H2'	2:B:581:C:H6	1.57	0.69
2:B:215:G:H4'	2:B:216:A:H4'	1.74	0.69
2:B:2619:C:H5'	5:D:157:LYS:HD3	1.72	0.69
2:B:1274:A:N3	2:B:1297:C:H1'	2.06	0.69
12:L:57:LEU:O	12:L:61:LEU:HD13	1.93	0.69
2:B:1857:G:HO2'	2:B:1858:A:H8	1.39	0.69
2:B:1038:G:H2'	2:B:1039:A:C8	2.28	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:16:GLU:H	18:R:101:ILE:HG13	1.57	0.69
16:P:29:VAL:HG12	16:P:80:VAL:HA	1.74	0.69
13:M:4:PRO:HG3	13:M:68:PHE:HE2	1.58	0.69
1:A:29:A:H3'	1:A:30:C:H6	1.58	0.69
30:4:2:LYS:HE3	30:4:4:ARG:HH21	1.58	0.69
2:B:620:G:N3	2:B:620:G:H5'	2.08	0.69
5:D:172:VAL:HG11	5:D:175:LEU:HD12	1.74	0.69
5:D:113:SER:CB	5:D:168:GLU:H	2.06	0.69
5:D:62:LYS:H	5:D:62:LYS:HD2	1.57	0.69
7:F:30:VAL:HG21	7:F:96:TRP:HE1	1.57	0.69
22:W:35:ILE:HA	22:W:57:THR:HG23	1.73	0.69
8:G:85:LYS:HB2	8:G:164:ALA:HB3	1.75	0.69
6:E:192:ALA:HA	6:E:195:GLN:HE21	1.56	0.69
2:B:1486:U:H2'	2:B:1487:U:C6	2.28	0.69
2:B:458:G:N2	2:B:469:G:H2'	2.07	0.69
19:S:24:ILE:HG22	19:S:71:VAL:HG11	1.73	0.69
2:B:1935:G:H1'	2:B:1964:G:N2	2.08	0.69
2:B:871:U:H2'	2:B:872:U:H6	1.57	0.69
16:P:19:PHE:O	16:P:20:ARG:HB2	1.92	0.69
18:R:20:VAL:HG12	18:R:21:ARG:H	1.58	0.69
2:B:2438:U:O2'	2:B:2439:A:H5''	1.93	0.69
12:L:116:VAL:HG13	12:L:117:THR:H	1.58	0.69
10:J:6:ALA:HB3	10:J:45:THR:HG21	1.75	0.69
7:F:102:LEU:HD22	7:F:103:ILE:N	2.08	0.69
2:B:2866:U:H4'	2:B:2867:G:H4'	1.75	0.69
2:B:1060:U:O2	2:B:1088:A:N7	2.26	0.68
17:Q:26:ALA:HA	17:Q:29:ARG:HG2	1.76	0.68
2:B:729:G:OP1	4:C:12:ARG:HB2	1.93	0.68
2:B:1857:G:H1'	2:B:1885:A:H61	1.56	0.68
2:B:1788:C:O2'	2:B:1789:A:H5'	1.92	0.68
4:C:4:LYS:HD2	4:C:5:CYS:N	2.09	0.68
31:I:10:LEU:HD13	31:I:12:VAL:HG13	1.74	0.68
2:B:200:U:H5''	25:Z:22:LEU:O	1.92	0.68
14:N:19:ALA:HA	14:N:22:ARG:HB3	1.75	0.68
2:B:721:A:H2'	2:B:722:A:C8	2.28	0.68
20:T:8:LEU:HD13	20:T:49:LYS:HD2	1.75	0.68
21:U:34:ILE:HG12	21:U:63:ALA:HB2	1.75	0.68
6:E:181:ILE:HG13	12:L:2:ARG:HB3	1.75	0.68
10:J:112:GLY:N	10:J:113:PRO:HD2	2.04	0.68
15:O:67:ASN:H	15:O:70:ALA:HB3	1.58	0.68
2:B:163:C:H2'	2:B:164:C:O4'	1.93	0.68
2:B:192:C:H2'	2:B:193:U:H5'	1.73	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:57:LEU:HD11	10:J:129:GLU:H	1.57	0.68
2:B:222:A:N6	2:B:232:G:H1'	2.09	0.68
9:H:96:THR:HB	9:H:112:LYS:HB2	1.75	0.68
4:C:14:HIS:O	4:C:203:VAL:HG11	1.93	0.68
2:B:1248:G:H2'	17:Q:2:ARG:HA	1.76	0.68
10:J:117:ALA:HA	10:J:120:ARG:HD2	1.75	0.68
17:Q:81:GLY:HA2	17:Q:84:LYS:HB3	1.73	0.68
2:B:27:G:H1'	2:B:513:A:N6	2.09	0.68
28:2:30:VAL:HA	28:2:33:ARG:NH2	2.08	0.68
2:B:129:C:H2'	2:B:130:C:H6	1.58	0.68
2:B:807:U:H2'	2:B:808:G:H8	1.59	0.68
18:R:71:LYS:HG2	18:R:73:LYS:NZ	2.08	0.68
4:C:76:VAL:HA	4:C:113:ASP:O	1.93	0.68
6:E:58:LYS:HE2	6:E:60:TRP:CD1	2.28	0.68
7:F:78:ILE:HA	7:F:82:TYR:CD1	2.29	0.68
10:J:55:ILE:HB	10:J:123:LYS:HB2	1.75	0.68
17:Q:97:ILE:HG13	17:Q:105:PHE:HB2	1.74	0.68
4:C:74:PRO:HG2	4:C:96:LYS:HG3	1.76	0.68
10:J:20:ALA:HB1	10:J:23:LYS:HB2	1.74	0.68
19:S:73:LYS:HE3	19:S:74:ILE:H	1.58	0.68
8:G:84:LYS:HB3	8:G:132:LEU:O	1.94	0.68
2:B:1028:A:H2'	2:B:1029:A:C8	2.29	0.68
19:S:81:SER:HA	19:S:99:ARG:HA	1.76	0.68
2:B:1041:G:H2'	2:B:1042:G:C8	2.29	0.68
3:V:40:ILE:H	3:V:40:ILE:HD13	1.59	0.68
2:B:2732:G:H5'	2:B:2733:A:O4'	1.93	0.68
2:B:2365:G:H4'	22:W:59:PHE:HE1	1.57	0.68
2:B:1021:A:H61	2:B:1142:A:N6	1.92	0.68
2:B:2340:A:H2'	2:B:2341:G:H8	1.59	0.68
16:P:13:LYS:HD3	16:P:76:HIS:HA	1.75	0.68
7:F:134:GLN:NE2	7:F:136:ILE:HD13	2.08	0.68
22:W:24:ARG:HA	22:W:66:VAL:H	1.59	0.68
10:J:17:VAL:HG22	10:J:55:ILE:HD11	1.76	0.68
19:S:52:GLU:HA	19:S:55:ILE:HG22	1.76	0.68
8:G:140:ILE:HA	8:G:143:VAL:HG22	1.76	0.68
20:T:38:ALA:HB3	20:T:81:LYS:NZ	2.09	0.68
2:B:1353:A:H2'	2:B:1354:A:C8	2.29	0.68
4:C:16:VAL:H	4:C:203:VAL:HG12	1.59	0.68
2:B:2064:C:H2'	2:B:2065:C:C6	2.29	0.68
13:M:10:ARG:HE	13:M:89:VAL:HG21	1.59	0.68
22:W:23:LYS:HD2	22:W:24:ARG:H	1.59	0.67
10:J:89:PHE:HE1	10:J:93:ILE:HD13	1.57	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:V:44:HIS:CE1	3:V:86:LEU:H	2.08	0.67
2:B:1447:C:H2'	2:B:1448:G:C8	2.29	0.67
2:B:1102:C:O2'	2:B:1103:A:H5'	1.94	0.67
2:B:2658:C:H5'	8:G:159:LYS:HZ2	1.59	0.67
13:M:64:TRP:HB2	13:M:104:GLU:HB2	1.76	0.67
2:B:742:A:H2'	2:B:743:A:H8	1.59	0.67
10:J:43:GLU:O	10:J:45:THR:N	2.27	0.67
10:J:37:ARG:HE	10:J:110:PRO:HG3	1.59	0.67
2:B:145:C:H2'	2:B:146:A:H8	1.59	0.67
2:B:152:A:H2'	2:B:153:U:C6	2.30	0.67
6:E:47:LYS:HB3	6:E:51:GLU:HB2	1.75	0.67
10:J:45:THR:H	10:J:46:PRO:HD3	1.59	0.67
2:B:460:A:H2'	2:B:461:C:O4'	1.94	0.67
2:B:545:U:H3	2:B:548:G:P	2.17	0.67
20:T:11:LEU:HD21	20:T:46:ALA:HB1	1.75	0.67
2:B:246:C:C2'	2:B:247:G:H5'	2.24	0.67
8:G:89:VAL:HB	8:G:159:LYS:HA	1.76	0.67
2:B:2292:U:H2'	2:B:2293:G:C8	2.29	0.67
2:B:571:U:H3'	18:R:80:ARG:HH12	1.59	0.67
2:B:729:G:H2'	2:B:1775:U:H1'	1.75	0.67
2:B:322:A:H3'	6:E:163:ASN:HD21	1.59	0.67
4:C:16:VAL:HB	4:C:203:VAL:HB	1.77	0.67
2:B:634:C:H2'	2:B:635:C:H6	1.60	0.67
8:G:103:ASN:HD21	8:G:111:PRO:HB3	1.58	0.67
6:E:188:MET:HG2	6:E:193:VAL:HG22	1.75	0.67
4:C:180:MET:HB3	4:C:267:VAL:HB	1.77	0.67
5:D:124:ARG:HA	5:D:165:MET:HE3	1.77	0.67
2:B:2425:A:H5'	2:B:2427:C:O4'	1.94	0.67
2:B:125:A:H3'	2:B:126:A:C5'	2.24	0.67
2:B:1050:A:H2'	2:B:1051:G:H8	1.59	0.67
2:B:575:A:O2'	2:B:576:U:H5'	1.94	0.67
2:B:1911:U:H2'	2:B:1918:A:C2	2.30	0.67
2:B:1654:A:H2'	2:B:1655:A:H8	1.59	0.67
9:H:127:GLU:HA	9:H:144:VAL:O	1.94	0.67
9:H:116:ARG:NE	9:H:139:PHE:HB2	2.10	0.67
15:O:11:ALA:CB	15:O:96:GLY:H	2.06	0.67
2:B:280:U:H2'	2:B:281:C:C6	2.29	0.67
5:D:107:VAL:HG13	5:D:203:VAL:HG23	1.76	0.67
17:Q:63:ARG:HA	17:Q:66:ALA:HB3	1.76	0.67
3:V:51:GLN:NE2	3:V:79:ARG:HH22	1.92	0.67
2:B:1032:A:H1'	30:4:23:ILE:HD13	1.77	0.67
2:B:18:U:H2'	2:B:19:A:C8	2.30	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:849:A:H2'	2:B:850:U:C6	2.30	0.67
6:E:108:ILE:HD11	6:E:181:ILE:HB	1.76	0.67
17:Q:104:ALA:HA	18:R:46:GLU:OE1	1.93	0.67
2:B:1440:U:H2'	2:B:1441:G:C8	2.30	0.67
7:F:135:ILE:HD11	7:F:137:PHE:HB3	1.77	0.67
2:B:1000:A:H2'	2:B:1001:A:C8	2.30	0.67
2:B:718:A:H2'	2:B:719:C:H5'	1.77	0.67
11:K:54:LYS:HD2	11:K:54:LYS:H	1.58	0.67
22:W:47:GLY:HA3	22:W:80:SER:HA	1.77	0.67
4:C:196:ASN:ND2	4:C:199:HIS:HB2	2.10	0.67
2:B:858:G:H21	2:B:2268:A:H3'	1.59	0.66
2:B:547:A:H3'	2:B:548:G:C8	2.25	0.66
9:H:133:GLN:HB2	9:H:139:PHE:HA	1.77	0.66
20:T:54:GLU:HG3	20:T:90:GLY:H	1.57	0.66
9:H:90:LEU:HD21	9:H:146:VAL:HG11	1.76	0.66
7:F:101:ARG:HA	7:F:105:ILE:HD13	1.76	0.66
2:B:2243:U:H2'	2:B:2244:U:C6	2.31	0.66
11:K:70:ARG:HB3	11:K:76:VAL:HG22	1.77	0.66
2:B:2400:G:O2'	2:B:2401:U:H5'	1.95	0.66
21:U:87:GLU:OE2	21:U:88:ASP:HB3	1.95	0.66
2:B:1812:U:H2'	2:B:1813:G:H8	1.61	0.66
26:O:38:LEU:HB3	26:O:41:HIS:NE2	2.11	0.66
12:L:79:LEU:HD23	12:L:82:LEU:HD11	1.76	0.66
2:B:2443:C:H2'	2:B:2444:G:H8	1.59	0.66
17:Q:34:ALA:O	17:Q:37:ALA:HB3	1.95	0.66
2:B:222:A:H61	2:B:232:G:H1'	1.57	0.66
2:B:528:A:C2	2:B:2042:A:H2'	2.29	0.66
11:K:68:GLY:HA3	11:K:78:ARG:HB3	1.77	0.66
5:D:14:ILE:HA	16:P:11:GLN:HE22	1.60	0.66
6:E:189:THR:O	6:E:193:VAL:HG23	1.96	0.66
17:Q:91:ARG:NH2	18:R:11:GLN:H	1.94	0.66
2:B:1676:A:H2'	2:B:1677:A:O4'	1.95	0.66
2:B:499:U:H5'	21:U:44:HIS:HE1	1.60	0.66
13:M:78:LEU:O	13:M:80:VAL:HG12	1.95	0.66
5:D:68:PHE:HB3	5:D:73:VAL:HA	1.77	0.66
2:B:1486:U:H2'	2:B:1487:U:H6	1.60	0.66
2:B:1866:A:H2'	2:B:1867:G:O4'	1.96	0.66
2:B:2461:A:H2'	2:B:2462:C:C6	2.30	0.66
4:C:131:MET:HE2	4:C:143:VAL:HG13	1.75	0.66
11:K:71:ARG:HD2	11:K:105:ARG:NE	2.08	0.66
2:B:2039:U:H2'	2:B:2040:G:C8	2.28	0.66
6:E:127:GLU:HB2	6:E:133:LEU:HD13	1.78	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:634:C:H2'	2:B:635:C:C6	2.30	0.66
23:X:23:ARG:HD2	23:X:27:ASN:HD21	1.60	0.66
2:B:2376:A:H61	15:O:94:ARG:HD3	1.60	0.66
2:B:857:G:O2'	22:W:19:ARG:HD2	1.96	0.66
2:B:138:U:C1'	20:T:1:MET:H2	2.08	0.66
3:V:80:HIS:CD2	3:V:83:LYS:H	2.13	0.66
1:A:6:G:H2'	1:A:7:G:H8	1.60	0.66
18:R:60:LYS:H	18:R:100:GLY:CA	2.08	0.66
17:Q:43:GLN:NE2	18:R:77:PHE:HB3	2.11	0.66
2:B:2649:C:H2'	2:B:2650:U:H6	1.61	0.66
18:R:39:LEU:HA	18:R:53:PHE:HA	1.78	0.66
2:B:45:G:H5'	2:B:46:G:H5'	1.78	0.66
14:N:101:GLY:HA2	14:N:110:MET:H	1.58	0.66
2:B:1993:U:H4'	5:D:133:THR:HG21	1.75	0.66
2:B:1387:A:C4'	2:B:1469:A:H1'	2.26	0.66
16:P:45:VAL:N	16:P:60:VAL:HB	2.10	0.66
29:3:54:LEU:O	29:3:58:ILE:HG13	1.96	0.66
12:L:101:ILE:HG22	12:L:105:ILE:HG13	1.76	0.66
5:D:5:VAL:N	5:D:32:ASN:HD21	1.90	0.66
6:E:69:ARG:O	6:E:70:SER:HB3	1.94	0.66
16:P:20:ARG:HB3	16:P:23:ASP:OD2	1.96	0.66
2:B:279:A:C2	2:B:362:A:H4'	2.30	0.66
6:E:97:ASN:HD21	6:E:100:MET:HG3	1.59	0.66
2:B:1939:U:H6	2:B:1939:U:H5'	1.59	0.66
5:D:37:VAL:HG23	5:D:91:THR:HA	1.76	0.66
14:N:34:ILE:HB	14:N:113:ILE:HG22	1.78	0.66
11:K:112:PHE:O	11:K:115:ILE:HG22	1.95	0.66
2:B:2473:U:H2'	2:B:2473:U:O2	1.96	0.66
2:B:1947:C:H2'	2:B:1948:G:H8	1.59	0.66
23:X:1:MET:HB3	23:X:4:LYS:HB3	1.78	0.66
2:B:2:G:H2'	2:B:3:U:C6	2.30	0.66
14:N:99:LYS:HB2	26:0:41:HIS:HB3	1.77	0.66
19:S:26:GLY:N	19:S:71:VAL:HG13	2.09	0.66
17:Q:94:LEU:HD21	18:R:11:GLN:HB2	1.77	0.66
6:E:58:LYS:O	6:E:60:TRP:N	2.29	0.66
7:F:111:ARG:NH2	7:F:113:PHE:HB2	2.10	0.66
2:B:1827:U:O2'	2:B:1828:G:H5'	1.95	0.66
5:D:182:ALA:O	5:D:184:ARG:HG2	1.95	0.66
5:D:109:VAL:HG11	5:D:193:VAL:HB	1.78	0.65
17:Q:60:TRP:O	17:Q:64:ILE:HG12	1.96	0.65
31:I:129:GLU:HB3	31:I:133:ARG:NH1	2.09	0.65
8:G:152:ARG:NH1	8:G:162:ARG:HA	2.11	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1386:C:H2'	2:B:1387:A:C8	2.30	0.65
2:B:2591:C:H2'	2:B:2592:G:H8	1.60	0.65
21:U:10:VAL:O	21:U:21:ARG:HA	1.95	0.65
15:O:88:LYS:HD2	15:O:89:ASP:N	2.11	0.65
2:B:1535:A:O2'	2:B:1536:C:H5'	1.96	0.65
2:B:2213:U:O2	2:B:2213:U:H2'	1.94	0.65
21:U:81:ARG:H	21:U:81:ARG:NH2	1.93	0.65
2:B:557:C:H2'	2:B:558:U:C6	2.31	0.65
20:T:2:ILE:HD13	20:T:2:ILE:N	2.11	0.65
28:2:33:ARG:HH21	28:2:33:ARG:CB	2.09	0.65
2:B:2457:U:H2'	2:B:2458:G:H5'	1.77	0.65
4:C:173:LEU:HD13	4:C:173:LEU:H	1.61	0.65
15:O:83:LEU:HD21	15:O:114:GLY:HA3	1.79	0.65
18:R:78:ARG:HH21	18:R:78:ARG:HG3	1.61	0.65
9:H:2:GLN:O	9:H:3:VAL:HG22	1.95	0.65
9:H:27:ARG:HH11	25:Z:64:ILE:HD11	1.61	0.65
2:B:532:A:H4'	2:B:533:G:C8	2.32	0.65
24:Y:6:ILE:HA	24:Y:56:VAL:HG13	1.78	0.65
7:F:107:VAL:HG11	7:F:175:PRO:HG3	1.77	0.65
8:G:53:PRO:HG3	8:G:61:TRP:HA	1.78	0.65
2:B:1993:U:H4'	5:D:133:THR:HG22	1.79	0.65
2:B:718:A:H3'	2:B:719:C:H6	1.61	0.65
2:B:2086:U:H2'	2:B:2087:G:C8	2.31	0.65
2:B:2199:A:H5'	2:B:2200:C:OP2	1.96	0.65
2:B:2472:G:H2'	2:B:2475:C:H42	1.62	0.65
22:W:18:LYS:H	22:W:35:ILE:HG23	1.61	0.65
16:P:3:ILE:HD13	16:P:7:LEU:HD11	1.77	0.65
2:B:28:A:N6	2:B:512:G:H1'	2.12	0.65
2:B:973:A:H5''	18:R:81:LYS:HD2	1.79	0.65
15:O:7:ARG:HA	15:O:10:ARG:CZ	2.25	0.65
3:V:20:LEU:HB3	3:V:25:LYS:O	1.96	0.65
2:B:2751:G:H5'	8:G:2:ARG:HD3	1.78	0.65
14:N:78:LYS:HG3	14:N:83:LEU:HG	1.76	0.65
10:J:25:LEU:HD13	10:J:26:GLY:N	2.12	0.65
2:B:1461:C:H2'	2:B:1462:C:C6	2.32	0.65
2:B:643:A:C2	27:1:43:ARG:HD2	2.31	0.65
10:J:13:ARG:O	10:J:52:ASP:HA	1.97	0.65
2:B:2502:G:H5'	2:B:2503:A:C5'	2.26	0.65
12:L:56:PRO:HD2	12:L:59:ARG:HG3	1.79	0.65
2:B:1549:A:H2'	2:B:1550:C:C6	2.32	0.65
2:B:162:U:H4'	2:B:163:C:OP1	1.96	0.65
30:4:9:LYS:H	30:4:9:LYS:HD3	1.60	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:20:MET:O	11:K:41:ILE:HG13	1.97	0.65
2:B:329:G:H1	21:U:16:LYS:HE3	1.60	0.65
2:B:1949:G:H2'	2:B:1950:G:C8	2.32	0.65
18:R:78:ARG:HB3	18:R:83:TYR:HB3	1.78	0.65
2:B:118:A:OP2	2:B:119:A:H2'	1.97	0.65
24:Y:12:ALA:HA	24:Y:15:ARG:HD3	1.79	0.65
22:W:39:GLN:NE2	22:W:43:LYS:HB2	2.12	0.65
7:F:87:LYS:HG3	7:F:88:VAL:H	1.61	0.65
2:B:962:G:H21	2:B:2250:G:N2	1.92	0.65
9:H:104:THR:HG23	9:H:105:ALA:H	1.59	0.65
11:K:60:ALA:HA	11:K:87:LEU:HD23	1.79	0.65
9:H:81:ALA:HA	9:H:147:VAL:H	1.60	0.65
7:F:139:GLU:HG2	7:F:140:ILE:N	2.11	0.65
2:B:329:G:H1	21:U:16:LYS:HG2	1.60	0.65
23:X:31:GLN:HG2	23:X:37:LEU:HB2	1.79	0.65
2:B:2834:G:H1'	2:B:2883:A:H61	1.61	0.65
16:P:61:ARG:HD3	16:P:70:GLU:HG3	1.78	0.65
13:M:66:ARG:NE	13:M:101:VAL:HG11	2.11	0.65
2:B:145:C:H2'	2:B:146:A:C8	2.32	0.65
2:B:1241:A:H2'	2:B:1242:U:H5'	1.77	0.65
19:S:4:ILE:HG22	19:S:106:VAL:HG13	1.79	0.65
10:J:32:LEU:O	10:J:36:LEU:HD23	1.97	0.65
5:D:33:ARG:NE	5:D:74:GLU:HB3	2.12	0.65
2:B:419:U:H2'	2:B:420:C:C6	2.32	0.65
2:B:496:G:H1'	19:S:61:ASN:HD21	1.62	0.65
4:C:123:ILE:HD12	4:C:191:LEU:HD13	1.79	0.65
1:A:46:A:H2'	1:A:47:C:O4'	1.96	0.65
7:F:62:GLN:OE1	7:F:94:ARG:HG2	1.96	0.65
18:R:14:VAL:HG22	18:R:15:SER:N	2.10	0.65
2:B:532:A:H3'	17:Q:27:ARG:NH1	2.12	0.65
24:Y:7:THR:HB	24:Y:55:LYS:H	1.61	0.65
13:M:96:ILE:HD11	13:M:126:ILE:HG12	1.79	0.65
10:J:56:VAL:HG12	10:J:57:LEU:H	1.62	0.65
18:R:49:ILE:HD13	18:R:53:PHE:N	2.12	0.65
2:B:1046:A:C3'	2:B:1047:G:H5''	2.27	0.65
9:H:78:VAL:HB	9:H:143:ILE:HG12	1.78	0.64
8:G:87:GLN:HE21	8:G:164:ALA:HA	1.61	0.64
2:B:720:U:H2'	2:B:721:A:C8	2.32	0.64
24:Y:16:LEU:HD22	24:Y:16:LEU:H	1.61	0.64
2:B:2188:U:H2'	2:B:2189:U:C6	2.31	0.64
5:D:141:ARG:HG3	5:D:141:ARG:O	1.95	0.64
21:U:38:ILE:HG23	21:U:39:ASN:N	2.06	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:775:G:H4'	2:B:776:G:H5'	1.77	0.64
21:U:70:ALA:HB1	21:U:79:ALA:CB	2.28	0.64
2:B:2471:A:O2'	2:B:2472:G:H8	1.79	0.64
2:B:65:U:H2'	2:B:66:C:H6	1.61	0.64
2:B:273:G:O2'	2:B:274:C:H5'	1.97	0.64
5:D:107:VAL:H	5:D:205:PRO:HA	1.62	0.64
19:S:32:ALA:O	19:S:35:ILE:HB	1.97	0.64
25:Z:40:VAL:CG2	25:Z:45:ARG:H	2.09	0.64
2:B:171:U:H2'	2:B:172:A:H8	1.61	0.64
2:B:17:G:H2'	2:B:18:U:C6	2.32	0.64
23:X:1:MET:HB3	23:X:4:LYS:HD3	1.78	0.64
2:B:2861:U:H2'	2:B:2862:G:H8	1.61	0.64
14:N:32:GLU:O	14:N:114:GLU:HA	1.97	0.64
17:Q:63:ARG:HH22	17:Q:96:ASP:CA	2.04	0.64
17:Q:91:ARG:HH12	18:R:10:LYS:HB3	1.62	0.64
5:D:113:SER:HB3	5:D:168:GLU:N	2.12	0.64
28:2:33:ARG:HB2	28:2:33:ARG:HH21	1.62	0.64
8:G:84:LYS:HG3	8:G:131:VAL:CA	2.26	0.64
2:B:1412:U:H2'	2:B:1413:A:C8	2.31	0.64
2:B:1464:G:H2'	2:B:1465:G:C8	2.33	0.64
2:B:2893:A:H5''	2:B:2894:G:H5'	1.79	0.64
21:U:25:LYS:HE3	21:U:36:GLU:HA	1.79	0.64
2:B:1060:U:O4	31:I:131:THR:HG22	1.97	0.64
31:I:25:PRO:O	31:I:29:GLN:HG2	1.98	0.64
2:B:2229:U:H2'	2:B:2230:G:H8	1.62	0.64
2:B:1485:U:H2'	2:B:1486:U:C6	2.32	0.64
2:B:587:C:O2'	12:L:19:LEU:HD13	1.98	0.64
16:P:61:ARG:HH21	16:P:61:ARG:HB3	1.61	0.64
2:B:1220:G:H2'	2:B:1221:C:C6	2.33	0.64
2:B:246:C:H2'	2:B:247:G:H5'	1.78	0.64
2:B:72:U:O2'	2:B:73:A:H5'	1.97	0.64
29:3:41:ARG:HA	29:3:44:ARG:HH21	1.60	0.64
5:D:8:LYS:HB2	5:D:201:LEU:HD21	1.78	0.64
9:H:80:ILE:HD12	9:H:144:VAL:HG22	1.79	0.64
2:B:2019:A:H2	2:B:2035:G:H22	1.42	0.64
2:B:154:U:H2'	2:B:155:A:C8	2.33	0.64
19:S:90:LYS:HD2	19:S:92:ARG:HH12	1.62	0.64
6:E:117:ARG:O	6:E:186:VAL:HG12	1.98	0.64
14:N:77:ALA:O	14:N:81:ASN:HB2	1.98	0.64
2:B:1654:A:H2'	2:B:1655:A:C8	2.33	0.64
11:K:105:ARG:HD3	11:K:106:GLU:OE1	1.98	0.64
2:B:173:A:H2'	2:B:174:U:C6	2.32	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2352:A:H2'	2:B:2353:G:O4'	1.98	0.64
2:B:1802:A:H2'	2:B:1803:A:C8	2.33	0.64
2:B:414:C:H2'	2:B:415:A:C8	2.32	0.64
1:A:56:G:H4'	1:A:57:A:H5'	1.78	0.64
16:P:5:LYS:HA	16:P:5:LYS:HE2	1.80	0.64
19:S:36:LEU:HD22	19:S:36:LEU:H	1.61	0.64
5:D:115:GLY:HA2	5:D:167:ASN:HB2	1.79	0.64
2:B:2720:U:H5''	16:P:52:ARG:HH21	1.62	0.64
5:D:91:THR:HG23	5:D:92:VAL:H	1.62	0.64
2:B:155:A:H2'	2:B:156:A:H8	1.63	0.64
2:B:2804:U:H2'	2:B:2805:C:H6	1.63	0.64
16:P:4:ILE:C	16:P:6:GLN:H	2.00	0.64
4:C:142:ASN:HA	4:C:153:LEU:O	1.98	0.64
5:D:114:LYS:HZ2	5:D:116:LYS:NZ	1.84	0.64
5:D:118:PHE:O	5:D:119:ALA:HB3	1.97	0.64
9:H:133:GLN:HB2	9:H:139:PHE:CB	2.27	0.64
9:H:131:SER:HB3	9:H:141:LYS:HA	1.79	0.64
25:Z:71:LEU:HD13	25:Z:76:GLU:HB3	1.80	0.64
5:D:51:THR:CG2	5:D:76:GLY:HA3	2.28	0.64
2:B:2749:A:C3'	2:B:2750:A:H5''	2.28	0.64
7:F:16:MET:O	7:F:20:ASN:HA	1.97	0.63
4:C:145:MET:HB2	4:C:152:GLN:HE22	1.64	0.63
2:B:547:A:C2'	2:B:548:G:H5'	2.26	0.63
12:L:60:ARG:HH21	12:L:60:ARG:HB2	1.63	0.63
20:T:67:VAL:C	20:T:68:LYS:HD3	2.19	0.63
13:M:21:ALA:CB	13:M:100:LYS:HG2	2.28	0.63
2:B:287:G:H2'	2:B:288:U:H6	1.63	0.63
2:B:401:A:H2'	2:B:402:A:C8	2.33	0.63
2:B:1324:G:H1'	2:B:1616:A:N6	2.13	0.63
23:X:39:GLN:O	23:X:42:LEU:HB2	1.98	0.63
2:B:549:G:H3'	2:B:549:G:OP2	1.98	0.63
27:1:26:LYS:HB2	27:1:52:LYS:HZ2	1.63	0.63
2:B:1439:A:C6	2:B:1552:A:N7	2.66	0.63
11:K:64:ARG:O	11:K:82:ASN:HA	1.97	0.63
4:C:77:VAL:HG22	4:C:113:ASP:H	1.63	0.63
2:B:2443:C:H2'	2:B:2444:G:C8	2.34	0.63
20:T:1:MET:HB2	20:T:2:ILE:HD13	1.80	0.63
16:P:24:THR:O	16:P:25:VAL:HG22	1.98	0.63
1:A:98:G:N1	3:V:14:LYS:HB2	2.12	0.63
2:B:1341:G:H3'	2:B:1397:U:O2	1.99	0.63
2:B:968:C:H2'	2:B:969:G:H8	1.63	0.63
2:B:98:G:H1	21:U:6:ARG:HH12	1.47	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:W:77:LYS:O	22:W:78:PHE:HB2	1.97	0.63
2:B:2393:U:H5''	12:L:62:PRO:HG3	1.80	0.63
4:C:158:GLY:N	4:C:194:VAL:HG13	2.13	0.63
2:B:2144:G:O2'	2:B:2146:C:H5'	1.99	0.63
8:G:89:VAL:HG12	8:G:90:GLY:H	1.63	0.63
2:B:2331:G:N2	2:B:2336:A:H8	1.96	0.63
11:K:7:MET:SD	11:K:20:MET:HB2	2.39	0.63
30:4:2:LYS:HG2	30:4:3:VAL:H	1.64	0.63
2:B:1346:G:O2'	2:B:1347:A:H5'	1.98	0.63
22:W:44:PHE:O	22:W:78:PHE:HA	1.99	0.63
2:B:2895:G:H2'	2:B:2896:C:C6	2.34	0.63
2:B:2313:C:H4'	7:F:87:LYS:HB3	1.80	0.63
17:Q:63:ARG:HH12	17:Q:96:ASP:HA	1.63	0.63
2:B:2658:C:H5'	8:G:159:LYS:NZ	2.14	0.63
2:B:2800:A:H2'	2:B:2801:G:O4'	1.99	0.63
2:B:155:A:H2'	2:B:156:A:C8	2.34	0.63
2:B:2752:C:H3'	2:B:2753:A:H8	1.63	0.63
4:C:20:ASN:HB3	4:C:23:LEU:HD22	1.79	0.63
20:T:7:LEU:HA	20:T:9:LYS:HZ1	1.64	0.63
17:Q:91:ARG:HG2	17:Q:93:ILE:HG22	1.79	0.63
2:B:1551:A:H3'	2:B:1552:A:H5''	1.81	0.63
2:B:1735:A:H2'	2:B:1736:U:C6	2.33	0.63
2:B:37:C:H4'	2:B:451:U:OP1	1.98	0.63
2:B:1373:A:H2'	2:B:1374:G:O4'	1.98	0.63
2:B:350:G:H2'	2:B:351:C:O4'	1.99	0.63
5:D:97:SER:HB3	5:D:99:GLU:HG2	1.80	0.63
14:N:70:THR:HB	14:N:75:ILE:HD11	1.78	0.63
12:L:141:LYS:HD3	12:L:142:ILE:H	1.63	0.63
2:B:140:C:H4'	2:B:141:G:N2	2.12	0.63
2:B:1060:U:O4	2:B:1088:A:N6	2.31	0.63
2:B:1722:A:H2'	2:B:1723:G:C8	2.34	0.63
2:B:2748:A:H5''	8:G:3:VAL:HG21	1.81	0.63
2:B:1856:U:H2'	2:B:1857:G:O4'	1.99	0.63
1:A:28:C:OP1	15:O:31:THR:HG21	1.99	0.63
2:B:654:A:H2'	2:B:655:A:H5''	1.81	0.63
24:Y:8:GLN:CG	24:Y:31:ILE:HA	2.21	0.63
2:B:2834:G:H2'	2:B:2879:A:N6	2.13	0.63
2:B:1723:G:N7	2:B:1737:G:N2	2.47	0.63
2:B:274:C:H2'	2:B:275:C:O4'	1.99	0.63
5:D:40:LEU:HA	5:D:45:TYR:N	2.14	0.63
21:U:27:VAL:HG23	21:U:33:VAL:HG12	1.79	0.63
2:B:2841:C:H2'	2:B:2842:G:C8	2.33	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:V:80:HIS:CD2	3:V:83:LYS:HB2	2.33	0.62
2:B:1309:G:OP1	28:2:9:VAL:HG12	1.99	0.62
2:B:1508:A:H5'	2:B:1509:A:N6	2.13	0.62
13:M:34:LYS:HB3	13:M:129:THR:HG22	1.80	0.62
2:B:2277:G:H5''	13:M:86:LYS:HB2	1.81	0.62
2:B:1166:G:H2'	2:B:1167:C:H6	1.64	0.62
4:C:202:ARG:HH11	4:C:213:ARG:NE	1.96	0.62
2:B:1678:A:H2'	2:B:1679:A:H8	1.64	0.62
17:Q:14:LYS:O	17:Q:18:LYS:HB2	1.98	0.62
5:D:179:ARG:HH11	5:D:179:ARG:HB3	1.64	0.62
2:B:2898:U:H2'	2:B:2899:A:H8	1.64	0.62
19:S:17:VAL:C	19:S:19:LEU:H	2.01	0.62
2:B:1244:A:H5''	12:L:8:PRO:CD	2.27	0.62
5:D:117:GLY:HA2	5:D:164:GLN:CD	2.19	0.62
7:F:102:LEU:HD22	7:F:103:ILE:H	1.65	0.62
8:G:152:ARG:HG3	8:G:153:PRO:HD2	1.81	0.62
9:H:58:LEU:O	9:H:62:LEU:HG	1.99	0.62
2:B:1341:G:N2	2:B:1398:C:H4'	2.13	0.62
2:B:1690:A:H2'	2:B:1691:C:O4'	1.98	0.62
3:V:28:ALA:HA	3:V:88:HIS:CE1	2.34	0.62
2:B:135:U:O2'	2:B:136:G:H5'	1.99	0.62
7:F:168:LEU:HD13	7:F:169:LEU:N	2.14	0.62
4:C:36:ASN:HD21	4:C:85:ASN:ND2	1.97	0.62
2:B:1847:A:H4'	2:B:1848:A:C8	2.34	0.62
31:I:105:LEU:HD11	31:I:139:VAL:HG11	1.80	0.62
2:B:988:A:H3'	24:Y:13:ILE:HD11	1.80	0.62
9:H:5:LEU:O	9:H:6:LEU:HD12	1.99	0.62
2:B:2563:U:H2'	2:B:2565:A:OP2	2.00	0.62
5:D:178:VAL:HG12	5:D:179:ARG:H	1.64	0.62
5:D:136:ASN:HD21	5:D:139:SER:C	2.03	0.62
21:U:11:ILE:HG22	21:U:70:ALA:HB3	1.80	0.62
2:B:1535:A:H5''	2:B:1536:C:H5	1.64	0.62
2:B:195:A:H1'	2:B:250:G:N2	2.14	0.62
2:B:1407:G:H2'	2:B:1408:G:H8	1.63	0.62
15:O:17:LYS:O	15:O:21:LEU:HB2	1.99	0.62
2:B:2810:A:H2'	2:B:2811:G:O4'	1.99	0.62
11:K:38:ILE:O	11:K:39:ILE:HD13	1.99	0.62
1:A:74:U:H2'	1:A:75:G:C8	2.33	0.62
1:A:7:G:H1'	15:O:38:GLN:HE22	1.63	0.62
2:B:445:C:O2'	2:B:446:G:H5'	1.99	0.62
2:B:495:G:H1'	19:S:57:ASN:ND2	2.15	0.62
2:B:946:C:H2'	2:B:947:A:H8	1.65	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2066:C:O2'	2:B:2067:G:H5'	1.98	0.62
2:B:1260:A:H2'	2:B:1261:C:C6	2.34	0.62
2:B:1593:A:H2'	2:B:1594:U:C6	2.35	0.62
7:F:104:THR:C	7:F:108:PRO:HG2	2.20	0.62
2:B:172:A:H2'	2:B:173:A:H8	1.63	0.62
11:K:43:ILE:HG21	11:K:46:ALA:HB2	1.80	0.62
10:J:23:LYS:HE2	10:J:142:ILE:HA	1.82	0.62
2:B:639:U:H2'	2:B:640:C:H6	1.64	0.62
15:O:53:THR:HB	15:O:65:THR:HG22	1.81	0.62
2:B:1704:C:O2'	2:B:1705:A:H5'	1.99	0.62
2:B:675:A:H4'	6:E:62:GLN:HE22	1.63	0.62
7:F:36:ASN:HA	7:F:87:LYS:HA	1.82	0.62
2:B:1657:U:O2'	2:B:1658:C:H5'	2.00	0.62
25:Z:6:GLN:NE2	25:Z:50:ARG:H	1.94	0.62
2:B:1674:G:H21	2:B:1677:A:N6	1.96	0.62
8:G:132:LEU:H	8:G:132:LEU:HD23	1.64	0.62
17:Q:65:ASN:CB	17:Q:75:TYR:HB2	2.29	0.62
2:B:784:G:N1	4:C:227:VAL:HG11	2.15	0.62
2:B:1133:A:H4'	2:B:1134:A:O5'	2.00	0.62
2:B:1406:U:H2'	2:B:1407:G:C8	2.35	0.62
2:B:189:G:H2'	2:B:205:G:N2	2.14	0.62
2:B:2312:U:O2	7:F:38:GLY:HA3	1.99	0.62
2:B:2772:C:H2'	2:B:2773:C:H6	1.64	0.62
7:F:41:GLU:O	7:F:43:ILE:HG22	2.00	0.62
10:J:136:GLN:N	10:J:137:PRO:HD3	2.15	0.62
2:B:2820:A:H4'	14:N:3:HIS:ND1	2.15	0.62
9:H:32:PRO:O	9:H:33:GLN:HB2	1.99	0.62
25:Z:45:ARG:HE	25:Z:47:VAL:CG1	2.13	0.62
7:F:72:SER:HA	7:F:80:GLN:N	2.15	0.62
2:B:1778:U:H2'	2:B:1784:A:H62	1.64	0.62
2:B:2073:C:H5''	4:C:227:VAL:HG12	1.80	0.62
21:U:11:ILE:O	21:U:12:VAL:HB	2.00	0.62
2:B:2737:G:H2'	2:B:2738:A:C8	2.34	0.62
2:B:1760:C:H2'	2:B:1761:C:O4'	1.99	0.62
2:B:2269:G:C4'	22:W:19:ARG:HH12	2.12	0.62
2:B:2898:U:H2'	2:B:2899:A:C8	2.35	0.62
2:B:1287:A:H3'	2:B:1288:G:H21	1.64	0.62
12:L:19:LEU:O	12:L:21:ARG:HG2	2.00	0.62
2:B:18:U:H2'	2:B:19:A:H8	1.64	0.62
31:I:85:ILE:HD13	31:I:137:LEU:HD21	1.82	0.62
2:B:1149:G:H2'	2:B:1150:C:C6	2.35	0.62
7:F:31:GLU:O	7:F:32:LYS:HD3	2.00	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:75:G:H1'	3:V:29:ILE:HG12	1.81	0.62
15:O:40:ILE:HA	15:O:47:VAL:HA	1.80	0.62
20:T:32:LEU:N	20:T:83:ALA:HB3	2.13	0.62
2:B:1109:C:H2'	2:B:1110:G:C4	2.35	0.62
2:B:2693:G:H2'	2:B:2694:G:H8	1.63	0.62
6:E:117:ARG:HH12	12:L:2:ARG:HB2	1.64	0.61
4:C:127:ASN:O	4:C:190:THR:HA	1.99	0.61
5:D:13:ARG:HD3	5:D:15:PHE:HE1	1.65	0.61
31:I:18:ASN:N	31:I:19:PRO:HD2	2.14	0.61
2:B:717:C:H3'	2:B:718:A:H5''	1.82	0.61
2:B:2264:C:H41	22:W:11:ASN:HD21	1.48	0.61
2:B:592:A:H2'	2:B:593:U:C6	2.35	0.61
2:B:2743:U:H2'	2:B:2744:G:O4'	1.99	0.61
2:B:753:A:H2'	2:B:754:U:C6	2.35	0.61
25:Z:6:GLN:HE22	25:Z:50:ARG:N	1.95	0.61
20:T:11:LEU:HD22	20:T:11:LEU:N	2.15	0.61
2:B:1591:A:H2'	2:B:1592:C:O4'	2.00	0.61
2:B:987:C:H2'	2:B:988:A:O4'	2.00	0.61
2:B:633:A:OP1	12:L:68:SER:HB2	2.00	0.61
2:B:2366:A:H2'	2:B:2367:G:O4'	2.01	0.61
21:U:81:ARG:HB2	21:U:96:LYS:CG	2.29	0.61
14:N:24:MET:HG3	14:N:44:LEU:HD22	1.82	0.61
17:Q:93:ILE:HG23	17:Q:94:LEU:HD22	1.81	0.61
4:C:136:VAL:HG12	4:C:137:GLY:H	1.64	0.61
28:2:27:GLY:O	28:2:30:VAL:HB	2.00	0.61
2:B:300:A:H2'	2:B:334:C:H1'	1.81	0.61
2:B:1535:A:H5''	2:B:1536:C:C5	2.35	0.61
2:B:670:A:H4'	12:L:42:SER:HB2	1.82	0.61
2:B:355:U:H2'	2:B:356:G:H8	1.65	0.61
4:C:94:LEU:HA	4:C:100:ARG:HB3	1.81	0.61
17:Q:79:ILE:O	17:Q:82:LEU:HB2	2.00	0.61
10:J:111:LYS:HB3	10:J:113:PRO:HD2	1.81	0.61
14:N:85:PRO:HA	14:N:88:ALA:HB2	1.82	0.61
2:B:27:G:H1'	2:B:513:A:H61	1.65	0.61
2:B:1024:G:C3'	2:B:1025:G:H5''	2.30	0.61
2:B:1592:C:H2'	2:B:1593:A:H8	1.65	0.61
4:C:103:ILE:HG22	4:C:105:ALA:H	1.64	0.61
10:J:40:HIS:ND1	10:J:41:LYS:HG3	2.15	0.61
2:B:233:A:H61	2:B:428:A:N6	1.98	0.61
29:3:54:LEU:HG	29:3:58:ILE:HD11	1.82	0.61
10:J:101:ILE:O	10:J:105:VAL:HG22	2.01	0.61
2:B:1684:G:H2'	2:B:1685:C:C6	2.35	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1518:C:H2'	2:B:1519:G:C8	2.35	0.61
20:T:45:ALA:HA	20:T:48:GLN:HB2	1.82	0.61
2:B:49:A:H5''	2:B:51:G:O4'	2.01	0.61
2:B:63:A:OP2	2:B:63:A:H8	1.83	0.61
2:B:1485:U:H2'	2:B:1486:U:H6	1.66	0.61
1:A:24:G:O2'	1:A:25:U:H5''	2.01	0.61
8:G:137:LYS:HA	8:G:140:ILE:HD11	1.81	0.61
2:B:2639:A:H2'	2:B:2640:G:O4'	1.99	0.61
4:C:70:LYS:HE2	4:C:99:GLU:HB3	1.83	0.61
12:L:70:LYS:O	12:L:73:ILE:HG12	2.01	0.61
2:B:581:C:H2'	2:B:582:A:C8	2.35	0.61
20:T:11:LEU:HA	20:T:34:VAL:HG12	1.81	0.61
31:I:20:SER:O	31:I:25:PRO:HD2	2.01	0.61
2:B:62:U:O2'	2:B:63:A:H5'	2.00	0.61
23:X:26:PHE:HD1	23:X:27:ASN:HD22	1.48	0.61
31:I:7:TYR:HB2	31:I:58:ILE:O	2.00	0.61
2:B:1013:C:H2'	2:B:1014:A:H8	1.66	0.61
28:2:1:MET:HG2	28:2:2:LYS:H	1.65	0.61
2:B:1381:G:H2'	2:B:1382:G:H5'	1.81	0.61
16:P:4:ILE:HG22	16:P:5:LYS:N	2.14	0.61
4:C:75:ALA:HB2	4:C:95:TYR:HA	1.83	0.61
10:J:8:PRO:HG3	10:J:48:VAL:HG22	1.83	0.61
13:M:71:LYS:HB3	13:M:93:VAL:HG12	1.81	0.61
2:B:1287:A:N7	14:N:105:GLY:HA3	2.15	0.61
2:B:2722:G:H2'	2:B:2723:C:C6	2.36	0.61
11:K:104:THR:H	11:K:107:LEU:HD12	1.65	0.61
2:B:1130:U:C2	2:B:2025:C:H5''	2.36	0.61
2:B:402:A:H2'	2:B:403:U:O4'	2.01	0.61
2:B:967:U:H2'	2:B:968:C:C6	2.36	0.61
2:B:1843:C:H5''	4:C:250:GLN:HE21	1.66	0.61
7:F:90:LEU:C	7:F:91:ARG:HD3	2.21	0.61
14:N:49:GLU:OE2	14:N:95:THR:HG22	2.00	0.61
16:P:52:ARG:HG2	16:P:52:ARG:HH11	1.65	0.61
26:0:8:THR:HG23	26:0:11:LYS:H	1.66	0.61
2:B:807:U:H2'	2:B:808:G:C8	2.35	0.61
2:B:975:A:H1'	2:B:990:A:C2	2.36	0.61
1:A:94:A:H2'	1:A:95:U:O4'	2.00	0.61
2:B:1597:A:H5''	2:B:1598:A:H5'	1.83	0.61
21:U:82:VAL:HG13	21:U:93:ARG:HB3	1.83	0.61
26:0:38:LEU:HD23	26:0:39:ARG:H	1.65	0.61
19:S:36:LEU:HB3	19:S:48:LYS:HB2	1.83	0.61
2:B:1592:C:H2'	2:B:1593:A:C8	2.35	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:40:HIS:CE1	10:J:41:LYS:HG3	2.36	0.61
29:3:51:LYS:HA	29:3:54:LEU:HB2	1.82	0.61
2:B:64:A:H2'	2:B:65:U:C6	2.36	0.61
2:B:1419:A:H2'	2:B:1421:G:N7	2.16	0.61
2:B:2852:G:H2'	2:B:2853:C:C6	2.36	0.61
2:B:1914:C:H2'	2:B:1915:U:O4'	2.01	0.61
22:W:37:VAL:HG11	22:W:38:ARG:HH11	1.66	0.60
7:F:125:GLY:HA2	7:F:162:ASP:HA	1.82	0.60
4:C:76:VAL:HG12	4:C:114:GLN:HG2	1.83	0.60
6:E:104:ALA:O	6:E:108:ILE:HG22	2.01	0.60
6:E:29:HIS:NE2	12:L:8:PRO:HG3	2.16	0.60
31:I:11:GLN:HA	31:I:55:PRO:HA	1.82	0.60
2:B:992:C:H4'	18:R:74:ILE:HD13	1.82	0.60
23:X:49:ASP:O	23:X:53:VAL:HG23	2.01	0.60
23:X:48:ARG:O	23:X:51:ALA:HB3	2.00	0.60
2:B:417:C:H2'	2:B:418:C:C6	2.35	0.60
2:B:2369:A:O2'	2:B:2370:G:H5'	2.00	0.60
14:N:9:GLN:HA	14:N:17:ARG:NE	2.16	0.60
6:E:176:ASP:HB3	6:E:179:SER:HB2	1.82	0.60
2:B:639:U:H2'	2:B:640:C:C6	2.35	0.60
16:P:93:LYS:HB3	16:P:96:LEU:HD12	1.82	0.60
6:E:98:LYS:HZ2	6:E:99:LYS:HG2	1.65	0.60
5:D:178:VAL:HB	5:D:188:LEU:HB2	1.82	0.60
2:B:3:U:H2'	2:B:4:U:C6	2.36	0.60
4:C:77:VAL:CG2	4:C:112:GLY:H	2.06	0.60
12:L:79:LEU:HB3	12:L:115:GLU:O	2.01	0.60
12:L:93:ASN:O	12:L:95:LEU:N	2.35	0.60
25:Z:70:GLU:C	25:Z:72:ARG:H	2.03	0.60
2:B:125:A:H5'	28:2:19:ARG:HG3	1.82	0.60
2:B:2297:A:H61	2:B:2319:G:H1'	1.66	0.60
2:B:2457:U:C2'	2:B:2458:G:H5'	2.31	0.60
15:O:94:ARG:O	15:O:97:PHE:HB2	2.00	0.60
2:B:45:G:H5'	2:B:46:G:OP1	2.02	0.60
6:E:98:LYS:HZ1	6:E:99:LYS:HE2	1.66	0.60
2:B:1771:C:H2'	2:B:1772:A:C8	2.36	0.60
2:B:2101:A:C3'	2:B:2102:G:H5''	2.31	0.60
14:N:96:ARG:NH1	14:N:116:VAL:HG23	2.08	0.60
6:E:111:GLU:HB3	12:L:2:ARG:HH12	1.66	0.60
19:S:29:VAL:HG23	19:S:70:LYS:HA	1.83	0.60
2:B:1443:U:H2'	2:B:1444:G:C8	2.37	0.60
24:Y:37:ARG:HG2	24:Y:43:ILE:HD11	1.84	0.60
1:A:6:G:H2'	1:A:7:G:C8	2.36	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:716:A:H2'	2:B:717:C:H5''	1.83	0.60
28:2:3:ARG:HE	28:2:4:THR:HG22	1.66	0.60
2:B:264:C:C2'	2:B:265:A:H5''	2.31	0.60
19:S:72:THR:OG1	19:S:108:SER:HB3	2.01	0.60
22:W:49:ASN:HB2	22:W:61:LYS:H	1.65	0.60
14:N:34:ILE:O	14:N:112:TYR:HA	2.01	0.60
2:B:136:G:H2'	2:B:137:U:H6	1.64	0.60
11:K:13:ASN:ND2	11:K:98:ARG:H	1.99	0.60
2:B:2025:C:H2'	2:B:2026:U:C6	2.36	0.60
2:B:820:A:H1'	2:B:943:A:O2'	2.01	0.60
2:B:594:U:H2'	2:B:595:C:H6	1.65	0.60
2:B:2626:C:O2'	2:B:2627:G:H5'	2.01	0.60
17:Q:86:SER:HB3	18:R:51:VAL:HA	1.82	0.60
2:B:79:C:O2'	2:B:346:A:H1'	2.01	0.60
2:B:1082:U:N3	2:B:1086:A:C6	2.70	0.60
5:D:136:ASN:HD21	5:D:140:HIS:N	1.99	0.60
2:B:2041:U:H2'	2:B:2042:A:C8	2.35	0.60
5:D:92:VAL:O	5:D:94:GLN:N	2.34	0.60
21:U:9:GLU:HG3	21:U:21:ARG:HD2	1.82	0.60
2:B:1240:U:O2'	2:B:1241:A:H5''	2.02	0.60
2:B:248:G:H5'	2:B:250:G:N7	2.16	0.60
2:B:2100:G:H2'	2:B:2101:A:O4'	2.00	0.60
31:I:89:SER:HA	31:I:97:VAL:HG21	1.83	0.60
2:B:2758:A:H2'	2:B:2759:G:O4'	2.02	0.60
2:B:184:C:H2'	2:B:185:G:H8	1.66	0.60
7:F:60:SER:HB2	7:F:62:GLN:OE1	2.01	0.60
7:F:62:GLN:CB	7:F:91:ARG:HE	2.15	0.60
4:C:161:VAL:HG12	4:C:162:GLN:N	2.16	0.60
5:D:29:VAL:O	5:D:185:ASN:HB3	2.01	0.60
3:V:24:ASN:O	3:V:44:HIS:HB2	2.01	0.60
2:B:1857:G:H1'	2:B:1885:A:N6	2.16	0.60
5:D:55:LYS:NZ	5:D:59:ARG:HD2	2.16	0.60
2:B:1292:G:H2'	2:B:1293:C:C6	2.36	0.60
22:W:24:ARG:HD3	22:W:65:LYS:CG	2.31	0.60
12:L:80:SER:HA	12:L:115:GLU:HB2	1.83	0.60
7:F:111:ARG:HH22	7:F:113:PHE:HB2	1.65	0.60
2:B:2277:G:C5'	13:M:86:LYS:HB2	2.32	0.60
2:B:2064:C:H2'	2:B:2065:C:H6	1.66	0.60
2:B:2649:C:H2'	2:B:2650:U:C6	2.37	0.60
2:B:751:A:H5'	19:S:90:LYS:HA	1.84	0.60
2:B:1842:G:H2'	2:B:1843:C:C6	2.37	0.60
2:B:1490:A:H2'	4:C:97:ASP:OD1	2.02	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1871:A:H2'	2:B:1872:A:C8	2.37	0.60
9:H:50:ARG:H	9:H:50:ARG:NE	2.00	0.60
22:W:64:GLY:HA2	22:W:84:GLU:HG2	1.84	0.60
9:H:27:ARG:NH1	25:Z:64:ILE:HD11	2.16	0.60
20:T:76:ARG:HH21	20:T:77:ARG:HB2	1.67	0.60
2:B:2654:A:N1	2:B:2665:A:H5''	2.16	0.60
20:T:14:PRO:HD2	23:X:33:ALA:HB3	1.83	0.60
20:T:31:VAL:HA	20:T:84:TYR:H	1.66	0.60
2:B:1535:A:H3'	2:B:1536:C:H6	1.65	0.60
2:B:594:U:H2'	2:B:595:C:C6	2.36	0.60
2:B:2359:C:H2'	2:B:2360:G:C8	2.37	0.60
14:N:62:ASN:HD22	14:N:62:ASN:N	2.00	0.60
3:V:30:ILE:HG13	3:V:40:ILE:HD12	1.84	0.60
11:K:118:LEU:C	11:K:120:PRO:HD2	2.22	0.60
2:B:1220:G:H2'	2:B:1221:C:H6	1.67	0.60
2:B:191:A:H2'	2:B:192:C:H6	1.66	0.60
2:B:1796:U:H2'	2:B:1797:G:H8	1.65	0.60
5:D:176:ASP:HB2	5:D:190:LYS:HG2	1.84	0.60
2:B:1054:A:H2'	2:B:1055:G:C8	2.37	0.60
8:G:155:PRO:HA	8:G:170:THR:HA	1.84	0.60
2:B:521:U:H2'	2:B:522:A:C8	2.37	0.60
10:J:45:THR:HG21	10:J:50:THR:HG21	1.83	0.60
9:H:69:ALA:C	9:H:140:ALA:HB2	2.22	0.60
2:B:1925:C:C2'	2:B:1926:U:H5''	2.31	0.60
13:M:108:VAL:HG11	13:M:112:LEU:HD12	1.84	0.60
2:B:2073:C:O2'	2:B:2074:U:H5'	2.02	0.60
2:B:784:G:O2'	2:B:785:G:H5''	2.01	0.60
2:B:1491:G:H5'	4:C:97:ASP:OD1	2.02	0.60
2:B:1501:G:O2'	2:B:1502:A:H5'	2.01	0.60
2:B:2635:A:H4'	5:D:79:LEU:HB2	1.84	0.60
2:B:2488:G:O2'	2:B:2489:U:H5'	2.02	0.60
2:B:2498:C:O2'	2:B:2499:C:H5'	2.02	0.60
2:B:1198:U:H2'	2:B:1199:U:C6	2.36	0.60
22:W:49:ASN:HD22	22:W:59:PHE:HB3	1.67	0.59
26:O:39:ARG:O	26:O:40:HIS:HB2	2.02	0.59
6:E:108:ILE:HG13	12:L:2:ARG:HH22	1.66	0.59
2:B:545:U:C4	2:B:547:A:H5''	2.37	0.59
27:1:29:LYS:HE2	27:1:31:GLU:OE1	2.02	0.59
10:J:25:LEU:HB2	10:J:62:VAL:CG2	2.32	0.59
2:B:279:A:H2'	2:B:280:U:H5'	1.84	0.59
2:B:741:U:H2'	2:B:742:A:C8	2.37	0.59
2:B:181:A:H2'	2:B:182:A:H8	1.64	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:401:A:H2'	2:B:402:A:H8	1.64	0.59
10:J:100:VAL:O	10:J:104:ALA:HB2	2.02	0.59
2:B:1425:G:H2'	2:B:1426:G:C8	2.37	0.59
2:B:150:U:H2'	2:B:151:C:C6	2.37	0.59
2:B:2728:U:H2'	2:B:2729:G:H8	1.67	0.59
2:B:2651:C:O2'	2:B:2652:C:H5'	2.02	0.59
2:B:1268:A:H2'	2:B:1269:A:O4'	2.02	0.59
2:B:282:A:H2'	2:B:283:G:H8	1.66	0.59
7:F:42:ALA:HA	7:F:48:LEU:CD2	2.31	0.59
14:N:103:ARG:HG2	14:N:104:ALA:H	1.65	0.59
10:J:72:LYS:O	10:J:73:VAL:HG13	2.02	0.59
3:V:80:HIS:HD2	3:V:83:LYS:H	1.48	0.59
8:G:15:ASP:CB	8:G:26:LYS:H	2.12	0.59
11:K:11:ALA:HB3	11:K:85:VAL:HG22	1.84	0.59
2:B:2598:A:H5''	4:C:233:GLY:CA	2.32	0.59
2:B:2229:U:H2'	2:B:2230:G:C8	2.37	0.59
7:F:71:LYS:HE2	7:F:73:VAL:HB	1.83	0.59
2:B:2884:U:H2'	2:B:2885:G:C8	2.37	0.59
2:B:1484:U:H2'	2:B:1485:U:C6	2.38	0.59
2:B:131:A:H2'	2:B:132:G:C8	2.37	0.59
2:B:1853:A:N1	2:B:2087:G:H1'	2.17	0.59
8:G:115:GLN:H	8:G:115:GLN:CD	2.06	0.59
2:B:1205:A:H4'	2:B:1206:G:OP2	2.01	0.59
2:B:1281:G:H2'	2:B:1282:U:C6	2.37	0.59
18:R:5:PHE:O	18:R:11:GLN:HA	2.01	0.59
11:K:71:ARG:HG3	11:K:105:ARG:HH21	1.67	0.59
2:B:321:U:OP2	6:E:130:LYS:HD3	2.02	0.59
2:B:365:U:H2'	2:B:366:C:C6	2.36	0.59
13:M:36:VAL:HB	13:M:127:LYS:O	2.01	0.59
2:B:2530:A:H3'	8:G:156:TYR:OH	2.01	0.59
2:B:2848:G:H22	2:B:2867:G:N2	2.00	0.59
2:B:1487:U:H2'	2:B:1488:C:C6	2.37	0.59
4:C:243:PRO:O	4:C:250:GLN:HA	2.02	0.59
2:B:2377:A:H2'	2:B:2378:A:C8	2.37	0.59
8:G:59:ASP:O	8:G:63:GLN:HB2	2.01	0.59
2:B:2015:A:N3	26:O:2:VAL:HG22	2.18	0.59
2:B:2216:G:H2'	2:B:2217:G:H8	1.68	0.59
17:Q:91:ARG:CZ	18:R:11:GLN:H	2.14	0.59
2:B:30:G:H2'	2:B:31:C:H6	1.68	0.59
10:J:25:LEU:HD22	10:J:26:GLY:N	2.16	0.59
2:B:1552:A:H2'	2:B:1553:A:H5'	1.85	0.59
9:H:53:GLU:HA	9:H:57:LYS:HG2	1.83	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1164:C:H2'	2:B:1165:A:C8	2.38	0.59
2:B:2666:C:O4'	2:B:2666:C:O2	2.20	0.59
8:G:34:ARG:HG2	8:G:34:ARG:HH11	1.67	0.59
2:B:233:A:H61	2:B:428:A:H61	1.49	0.59
2:B:969:G:OP1	24:Y:17:PRO:HG3	2.02	0.59
2:B:1063:G:O2'	31:I:88:GLY:HA3	2.02	0.59
22:W:23:LYS:HD2	22:W:24:ARG:N	2.16	0.59
21:U:26:ASN:HD22	21:U:26:ASN:N	1.98	0.59
4:C:141:HIS:CG	4:C:142:ASN:H	2.20	0.59
12:L:30:THR:O	12:L:33:ARG:HG2	2.01	0.59
8:G:72:ASN:O	8:G:76:ILE:HG12	2.03	0.59
10:J:24:THR:HA	10:J:63:ALA:HB3	1.84	0.59
2:B:1551:A:H2'	2:B:1552:A:O4'	2.01	0.59
11:K:37:ASP:O	11:K:61:VAL:HA	2.02	0.59
15:O:55:GLU:HB2	15:O:58:ILE:HD12	1.84	0.59
2:B:1061:U:H4'	2:B:1070:A:O3'	2.03	0.59
2:B:721:A:H2'	2:B:722:A:H8	1.68	0.59
2:B:528:A:N1	2:B:2042:A:H2'	2.18	0.59
2:B:2458:G:H1'	2:B:2460:U:O4	2.02	0.59
2:B:78:U:H2'	2:B:79:C:C6	2.37	0.59
4:C:71:ASP:OD2	4:C:118:GLY:HA2	2.02	0.59
1:A:43:C:H1'	7:F:91:ARG:HH21	1.66	0.59
14:N:33:ILE:HD12	14:N:33:ILE:O	2.02	0.59
14:N:76:VAL:HA	14:N:79:LEU:HD12	1.85	0.59
13:M:40:ARG:HB2	13:M:93:VAL:CG2	2.32	0.59
9:H:141:LYS:N	9:H:141:LYS:HD3	2.18	0.59
9:H:73:ASN:ND2	9:H:74:ALA:H	1.95	0.59
2:B:1550:C:H2'	2:B:1551:A:H8	1.68	0.59
2:B:704:G:H2'	2:B:726:G:N2	2.16	0.59
9:H:85:GLY:HA3	9:H:91:PHE:HE1	1.67	0.59
13:M:41:LEU:HB2	13:M:94:ALA:HB3	1.84	0.59
1:A:32:U:H4'	1:A:52:A:N6	2.17	0.59
2:B:458:G:H22	2:B:469:G:H2'	1.66	0.59
2:B:176:A:O2'	2:B:177:G:H5'	2.02	0.59
2:B:1326:U:H2'	2:B:1327:A:H8	1.66	0.59
3:V:42:LEU:HD11	3:V:89:ILE:HD11	1.85	0.59
23:X:45:GLN:O	23:X:47:ARG:N	2.34	0.59
2:B:569:U:H2'	2:B:570:G:O4'	2.03	0.59
4:C:93:VAL:HG13	4:C:94:LEU:N	2.17	0.59
25:Z:40:VAL:HG22	25:Z:45:ARG:H	1.67	0.59
2:B:2328:A:H2'	2:B:2329:U:H6	1.68	0.59
2:B:419:U:H2'	2:B:420:C:H6	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:233:A:N6	2:B:428:A:H61	2.00	0.59
16:P:13:LYS:CD	16:P:76:HIS:HA	2.32	0.59
6:E:46:GLN:HG3	6:E:87:ALA:HB3	1.83	0.59
29:3:44:ARG:N	29:3:45:PRO:HD2	2.17	0.59
2:B:345:A:H1'	2:B:346:A:C2	2.37	0.59
21:U:94:PHE:CB	21:U:101:THR:HA	2.33	0.59
2:B:2784:U:H2'	2:B:2785:C:C6	2.38	0.59
2:B:1015:U:H2'	2:B:1016:G:C8	2.37	0.59
2:B:2037:A:H2'	2:B:2038:G:C8	2.37	0.59
16:P:7:LEU:HA	16:P:10:GLU:HG2	1.85	0.59
2:B:138:U:C4	2:B:140:C:H1'	2.37	0.59
2:B:573:U:O2'	2:B:574:A:H3'	2.02	0.59
24:Y:6:ILE:O	24:Y:34:THR:HG23	2.03	0.59
16:P:56:SER:O	16:P:74:GLN:HA	2.03	0.59
2:B:1219:U:H2'	2:B:1220:G:H8	1.68	0.59
2:B:722:A:H2'	2:B:723:C:C6	2.38	0.59
10:J:20:ALA:HA	10:J:23:LYS:HG2	1.85	0.59
2:B:2376:A:N6	15:O:94:ARG:HD3	2.18	0.59
5:D:169:ARG:O	5:D:170:VAL:HG22	2.02	0.59
7:F:90:LEU:HD12	7:F:95:MET:HA	1.84	0.59
2:B:2815:C:H2'	2:B:2816:G:H8	1.67	0.59
13:M:19:GLY:N	13:M:38:ARG:HH22	2.01	0.59
2:B:1245:G:OP1	12:L:13:LYS:HE3	2.02	0.59
9:H:72:ILE:HD13	9:H:142:VAL:HG22	1.85	0.59
2:B:141:G:C6	20:T:2:ILE:HD12	2.38	0.59
4:C:66:PHE:HB2	4:C:150:GLY:O	2.02	0.59
18:R:34:GLU:HA	18:R:59:ILE:O	2.03	0.59
3:V:4:ILE:O	3:V:63:ILE:HA	2.03	0.59
7:F:30:VAL:HG21	7:F:96:TRP:NE1	2.18	0.59
2:B:282:A:H2'	2:B:283:G:C8	2.38	0.59
9:H:122:LEU:H	9:H:122:LEU:HD12	1.68	0.59
15:O:2:ASP:OD2	15:O:4:LYS:HB3	2.02	0.59
2:B:395:U:H2'	2:B:396:G:N7	2.16	0.59
2:B:1812:U:H2'	2:B:1813:G:C8	2.37	0.59
10:J:124:VAL:O	10:J:125:TYR:HB2	2.02	0.59
10:J:45:THR:OG1	10:J:48:VAL:HB	2.03	0.59
6:E:33:VAL:O	6:E:36:ALA:HB3	2.02	0.59
15:O:27:VAL:HG21	15:O:40:ILE:HD12	1.85	0.59
15:O:67:ASN:HB3	15:O:70:ALA:HB2	1.83	0.59
30:4:7:VAL:HG13	30:4:8:LYS:N	2.18	0.59
31:I:96:LYS:N	31:I:96:LYS:HD2	2.18	0.59
2:B:660:C:H2'	2:B:661:A:H8	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:H:21:VAL:HG22	9:H:22:LYS:H	1.66	0.59
27:1:34:GLU:HA	27:1:48:TYR:O	2.03	0.58
20:T:57:VAL:HG13	20:T:58:VAL:N	2.18	0.58
19:S:42:LYS:O	19:S:45:VAL:HG22	2.03	0.58
2:B:2277:G:H5''	13:M:86:LYS:CB	2.33	0.58
2:B:1406:U:H2'	2:B:1407:G:H8	1.68	0.58
20:T:48:GLN:HE21	20:T:48:GLN:HA	1.68	0.58
24:Y:2:LYS:HD3	24:Y:2:LYS:H	1.67	0.58
5:D:7:LYS:O	5:D:9:VAL:HG12	2.03	0.58
2:B:1557:C:H3'	2:B:1558:C:H5''	1.85	0.58
2:B:2384:U:H5''	2:B:2386:A:OP1	2.03	0.58
16:P:6:GLN:O	16:P:9:GLN:HG2	2.03	0.58
21:U:35:VAL:O	21:U:38:ILE:HG22	2.03	0.58
14:N:72:ASP:OD1	14:N:75:ILE:HG23	2.03	0.58
13:M:19:GLY:H	13:M:38:ARG:NH1	1.98	0.58
4:C:171:VAL:HB	4:C:183:VAL:HG12	1.85	0.58
2:B:1171:G:H2'	2:B:1172:C:C6	2.37	0.58
3:V:35:GLU:OE1	3:V:93:ARG:HD3	2.03	0.58
20:T:29:THR:CA	20:T:86:THR:HA	2.30	0.58
7:F:102:LEU:HA	7:F:106:ALA:CB	2.33	0.58
2:B:782:A:N7	4:C:219:VAL:HG21	2.18	0.58
2:B:2624:G:H1'	26:0:18:HIS:NE2	2.17	0.58
2:B:1320:C:H5	2:B:1329:U:H5''	1.68	0.58
2:B:2088:A:H2'	2:B:2089:C:C6	2.38	0.58
6:E:5:LEU:HB2	6:E:11:ALA:N	2.18	0.58
8:G:39:ALA:C	8:G:54:ARG:HB2	2.24	0.58
24:Y:5:LYS:HG3	24:Y:57:GLU:HB2	1.85	0.58
2:B:1739:A:H2'	2:B:1740:G:O4'	2.04	0.58
22:W:17:ALA:HB1	22:W:36:ILE:HA	1.85	0.58
22:W:24:ARG:HD2	22:W:25:PHE:N	2.18	0.58
2:B:470:A:N6	20:T:72:GLN:HE22	1.93	0.58
2:B:1172:C:H3'	2:B:1173:U:C5	2.38	0.58
8:G:68:ARG:HH12	8:G:72:ASN:HD22	1.51	0.58
20:T:50:LEU:C	20:T:52:GLU:H	2.06	0.58
7:F:37:MET:HB2	7:F:56:LEU:HD21	1.85	0.58
13:M:60:GLN:HG2	13:M:108:VAL:HG23	1.85	0.58
2:B:2241:A:H2'	2:B:2242:G:H8	1.65	0.58
2:B:1785:A:H2'	2:B:1787:A:N7	2.18	0.58
10:J:57:LEU:HG	10:J:128:ASN:H	1.68	0.58
8:G:2:ARG:H	8:G:5:LYS:HE2	1.67	0.58
2:B:2804:U:H2'	2:B:2805:C:C6	2.38	0.58
20:T:44:LYS:O	20:T:48:GLN:HG2	2.02	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2633:G:H2'	2:B:2634:A:O4'	2.03	0.58
1:A:15:A:H3'	1:A:15:A:OP2	2.03	0.58
2:B:1400:U:H2'	2:B:1401:G:C8	2.38	0.58
2:B:1882:U:O2'	2:B:1883:U:H5'	2.04	0.58
1:A:13:G:C2'	1:A:14:U:H5''	2.34	0.58
19:S:1:MET:SD	19:S:62:ASP:HB2	2.43	0.58
21:U:71:ILE:HD11	21:U:82:VAL:HG22	1.85	0.58
10:J:16:TYR:O	10:J:55:ILE:HG12	2.04	0.58
2:B:1203:U:O4'	12:L:3:LEU:HD12	2.03	0.58
17:Q:91:ARG:HH22	18:R:10:LYS:HB3	1.67	0.58
5:D:117:GLY:O	5:D:164:GLN:HA	2.03	0.58
2:B:1082:U:C2	2:B:1086:A:C6	2.91	0.58
2:B:182:A:H2'	2:B:183:C:C6	2.39	0.58
2:B:57:C:H2'	2:B:58:G:O4'	2.03	0.58
2:B:947:A:H2'	2:B:948:C:C6	2.38	0.58
2:B:1400:U:H2'	2:B:1401:G:H8	1.67	0.58
2:B:1097:U:H2'	2:B:1098:A:H5'	1.85	0.58
2:B:2054:A:H2'	26:O:4:GLN:OE1	2.04	0.58
5:D:179:ARG:HB2	5:D:188:LEU:HD12	1.86	0.58
9:H:80:ILE:HD13	9:H:99:ILE:HD13	1.84	0.58
2:B:1443:U:H2'	2:B:1444:G:H8	1.68	0.58
11:K:108:ARG:O	11:K:113:MET:HE3	2.04	0.58
2:B:2291:U:H2'	2:B:2292:U:C6	2.38	0.58
2:B:2370:G:H2'	2:B:2371:G:O4'	2.03	0.58
2:B:65:U:H2'	2:B:66:C:C6	2.38	0.58
6:E:137:LYS:HE2	6:E:141:MET:SD	2.43	0.58
13:M:71:LYS:HG2	13:M:73:ILE:HD11	1.85	0.58
2:B:2820:A:OP1	14:N:4:ARG:HA	2.03	0.58
31:I:27:LEU:H	31:I:27:LEU:CD2	2.15	0.58
2:B:1550:C:H2'	2:B:1551:A:C8	2.39	0.58
2:B:770:G:H5''	28:2:10:LEU:HD12	1.84	0.58
23:X:56:LEU:C	23:X:58:ASN:H	2.06	0.58
24:Y:40:THR:O	24:Y:43:ILE:HG22	2.03	0.58
9:H:89:LYS:HA	9:H:89:LYS:HE3	1.85	0.58
29:3:30:HIS:O	29:3:31:ILE:HG12	2.02	0.58
10:J:57:LEU:HD21	10:J:128:ASN:HA	1.86	0.58
6:E:48:THR:HG22	6:E:86:ALA:HB3	1.84	0.58
2:B:118:A:H5'	2:B:119:A:H8	1.68	0.58
2:B:15:G:O2'	2:B:16:C:H5'	2.03	0.58
2:B:712:G:H2'	2:B:713:G:O4'	2.04	0.58
2:B:443:A:C5	6:E:40:ARG:HD3	2.38	0.58
2:B:857:G:O2'	2:B:858:G:H5'	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:W:23:LYS:HZ3	22:W:24:ARG:HG3	1.68	0.58
22:W:35:ILE:HG13	22:W:57:THR:OG1	2.02	0.58
20:T:18:GLU:C	20:T:20:ALA:H	2.07	0.58
26:O:38:LEU:HB3	26:O:41:HIS:CD2	2.38	0.58
12:L:85:VAL:HG21	12:L:94:THR:HB	1.84	0.58
2:B:142:A:H2'	2:B:143:C:O4'	2.02	0.58
17:Q:4:LYS:HE3	17:Q:8:ILE:HD11	1.86	0.58
2:B:131:A:H2'	2:B:132:G:H8	1.69	0.58
11:K:70:ARG:CB	11:K:76:VAL:HG22	2.34	0.58
2:B:414:C:H2'	2:B:415:A:H8	1.67	0.58
2:B:593:U:H2'	2:B:594:U:C6	2.38	0.58
6:E:5:LEU:HD12	6:E:10:SER:HB2	1.86	0.58
3:V:53:LYS:HA	3:V:53:LYS:HE2	1.86	0.58
2:B:877:A:H3'	2:B:899:A:N1	2.18	0.58
2:B:2700:A:H2'	2:B:2701:U:H6	1.68	0.58
2:B:1458:U:H2'	2:B:1459:G:H5''	1.85	0.58
2:B:1747:U:H2'	2:B:1748:C:C6	2.39	0.58
2:B:1203:U:H1'	12:L:4:ASN:ND2	2.06	0.58
9:H:68:ARG:HH12	9:H:110:VAL:HG12	1.68	0.58
2:B:2060:A:H62	6:E:69:ARG:HH12	1.50	0.58
2:B:141:G:H5''	2:B:142:A:C5	2.38	0.58
2:B:279:A:N6	2:B:361:G:H1'	2.19	0.58
10:J:13:ARG:HB3	10:J:53:TYR:HD2	1.68	0.58
5:D:34:VAL:CG1	5:D:94:GLN:H	2.15	0.58
7:F:155:ILE:O	7:F:156:THR:HB	2.03	0.58
2:B:1812:U:H1'	4:C:43:ASN:ND2	2.08	0.58
24:Y:35:VAL:HG22	24:Y:36:GLU:N	2.16	0.58
14:N:9:GLN:O	14:N:11:ASN:N	2.37	0.58
11:K:70:ARG:HA	11:K:76:VAL:HA	1.84	0.58
18:R:78:ARG:NH2	18:R:78:ARG:HG3	2.18	0.58
5:D:36:GLN:HG3	5:D:36:GLN:O	2.02	0.58
8:G:9:VAL:HA	8:G:48:THR:HG22	1.86	0.58
11:K:88:ASN:HB3	11:K:92:GLU:O	2.03	0.58
2:B:1353:A:H2'	2:B:1354:A:H8	1.69	0.58
2:B:1355:G:O2'	2:B:1356:G:H5'	2.03	0.58
19:S:81:SER:HB3	19:S:99:ARG:HB3	1.85	0.58
2:B:2031:A:C6	2:B:2498:C:H1'	2.38	0.58
2:B:2015:A:C2	26:O:2:VAL:HG22	2.38	0.58
4:C:239:PHE:O	4:C:241:LYS:HG3	2.04	0.58
16:P:6:GLN:HA	16:P:9:GLN:HG2	1.85	0.57
7:F:66:ILE:HA	7:F:86:CYS:HB3	1.84	0.57
17:Q:91:ARG:HH12	18:R:10:LYS:CB	2.17	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:146:LYS:HB3	4:C:147:PRO:CD	2.28	0.57
2:B:572:A:H5''	2:B:573:U:OP2	2.04	0.57
13:M:4:PRO:HG2	13:M:70:ASP:HA	1.85	0.57
2:B:2718:G:H4'	16:P:95:LYS:HB2	1.86	0.57
2:B:2801:G:H3'	2:B:2802:G:H8	1.69	0.57
2:B:2339:C:H2'	2:B:2340:A:C8	2.39	0.57
5:D:105:LYS:HE3	5:D:176:ASP:OD1	2.03	0.57
2:B:709:U:H2'	2:B:710:U:C6	2.39	0.57
2:B:1647:U:P	2:B:1647:U:H3'	2.42	0.57
2:B:693:A:OP1	4:C:38:LYS:HG2	2.04	0.57
18:R:8:GLY:HA3	18:R:23:GLU:HB2	1.86	0.57
19:S:5:ALA:HB3	19:S:54:ALA:HB2	1.86	0.57
12:L:4:ASN:N	12:L:4:ASN:ND2	2.51	0.57
4:C:131:MET:HA	4:C:134:ILE:HG23	1.86	0.57
12:L:57:LEU:HA	12:L:60:ARG:NH2	2.19	0.57
27:1:8:ILE:HD12	27:1:51:ALA:HA	1.86	0.57
8:G:84:LYS:HG2	8:G:85:LYS:N	2.17	0.57
2:B:2149:U:O2'	2:B:2150:C:H5'	2.04	0.57
2:B:1857:G:H2'	2:B:1884:G:N2	2.19	0.57
15:O:88:LYS:HD2	15:O:89:ASP:HB2	1.85	0.57
2:B:2393:U:O2'	2:B:2394:C:H5'	2.04	0.57
21:U:40:LEU:HD23	21:U:59:GLU:HG2	1.86	0.57
6:E:155:GLU:HA	6:E:158:PHE:HB3	1.86	0.57
23:X:19:LEU:O	23:X:24:GLU:HB2	2.03	0.57
30:4:13:ASN:HB3	30:4:28:SER:H	1.69	0.57
14:N:7:GLY:HA2	14:N:46:ARG:NH1	2.19	0.57
2:B:2813:A:H2'	2:B:2814:A:C8	2.39	0.57
19:S:18:ARG:HB3	19:S:76:VAL:HG22	1.86	0.57
17:Q:71:ASN:HD22	17:Q:73:ILE:HG22	1.69	0.57
12:L:90:VAL:HB	12:L:122:VAL:HG13	1.86	0.57
6:E:29:HIS:HA	6:E:32:VAL:HG22	1.87	0.57
2:B:2621:G:P	5:D:124:ARG:HH22	2.27	0.57
9:H:72:ILE:HG13	9:H:75:LEU:HD11	1.85	0.57
7:F:106:ALA:HA	7:F:135:ILE:HD13	1.86	0.57
15:O:62:LEU:HD11	15:O:70:ALA:HA	1.86	0.57
2:B:609:A:H2'	2:B:610:C:O4'	2.04	0.57
4:C:221:GLY:C	4:C:223:ALA:H	2.07	0.57
20:T:7:LEU:HA	20:T:9:LYS:NZ	2.19	0.57
2:B:630:G:N2	2:B:632:A:H3'	2.18	0.57
2:B:1429:G:H2'	2:B:1430:G:H8	1.68	0.57
2:B:83:A:H5''	21:U:1:ALA:N	2.19	0.57
21:U:85:ARG:CD	21:U:86:PHE:H	2.01	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:45:THR:N	10:J:46:PRO:HD3	2.18	0.57
13:M:97:GLN:HB2	13:M:98:PRO:HD2	1.86	0.57
2:B:2261:C:N4	22:W:10:ARG:HB3	2.19	0.57
16:P:112:ARG:HB2	16:P:112:ARG:HH11	1.69	0.57
2:B:1139:G:O2'	2:B:1140:C:H5'	2.05	0.57
2:B:1513:U:O2'	2:B:1514:G:H5'	2.03	0.57
2:B:364:C:H2'	2:B:365:U:H6	1.70	0.57
5:D:53:GLY:C	5:D:76:GLY:HA2	2.25	0.57
2:B:192:C:C2'	2:B:193:U:H5'	2.34	0.57
2:B:1347:A:H2'	2:B:1348:C:O4'	2.04	0.57
10:J:23:LYS:HE3	10:J:142:ILE:HG12	1.87	0.57
18:R:4:VAL:HG23	18:R:39:LEU:H	1.69	0.57
2:B:2199:A:H5''	2:B:2200:C:H5	1.69	0.57
2:B:2472:G:O6	2:B:2476:A:H4'	2.03	0.57
29:3:22:LYS:HA	29:3:47:ALA:O	2.05	0.57
26:0:53:VAL:O	26:0:54:ILE:HB	2.05	0.57
22:W:18:LYS:HG3	22:W:19:ARG:NE	2.18	0.57
2:B:335:C:H5''	21:U:81:ARG:NH1	2.19	0.57
14:N:24:MET:HE1	14:N:40:LYS:HD2	1.87	0.57
2:B:591:U:H1'	29:3:1:PRO:H3	1.68	0.57
2:B:2539:C:H4'	30:4:36:ARG:NH2	2.20	0.57
4:C:222:THR:HA	4:C:231:HIS:O	2.03	0.57
2:B:2772:C:H2'	2:B:2773:C:C6	2.40	0.57
4:C:129:LEU:HD23	4:C:130:PRO:CD	2.33	0.57
4:C:143:VAL:HB	4:C:153:LEU:HB2	1.87	0.57
9:H:133:GLN:HB2	9:H:139:PHE:CA	2.35	0.57
5:D:5:VAL:H	5:D:32:ASN:ND2	1.93	0.57
3:V:70:ILE:HD13	3:V:70:ILE:H	1.69	0.57
2:B:782:A:H5'	2:B:783:A:C2	2.40	0.57
1:A:28:C:H2'	1:A:29:A:O4'	2.04	0.57
2:B:722:A:H2'	2:B:723:C:H6	1.68	0.57
2:B:129:C:H2'	2:B:130:C:C6	2.37	0.57
7:F:74:ALA:HB1	7:F:76:PHE:CD2	2.40	0.57
2:B:654:A:H2'	2:B:654:A:N3	2.20	0.57
2:B:2264:C:H41	22:W:11:ASN:ND2	2.03	0.57
1:A:95:U:H2'	1:A:96:G:C8	2.39	0.57
29:3:7:ARG:O	29:3:11:LYS:HG3	2.04	0.57
2:B:1567:G:H2'	4:C:84:PRO:HG3	1.87	0.57
4:C:1:ALA:HB3	4:C:19:VAL:HG23	1.85	0.57
1:A:106:G:H2'	1:A:107:G:O4'	2.05	0.57
2:B:856:G:H2'	2:B:857:G:C8	2.39	0.57
2:B:2899:A:H2'	2:B:2900:A:C8	2.39	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2678:C:H2'	2:B:2679:A:H8	1.69	0.57
9:H:116:ARG:CB	9:H:116:ARG:HH11	2.15	0.57
23:X:57:LEU:H	23:X:60:LYS:HG3	1.68	0.57
2:B:1082:U:O4	2:B:1086:A:C2	2.58	0.57
20:T:65:GLY:HA3	20:T:76:ARG:HH22	1.70	0.57
1:A:88:C:H2'	1:A:88:C:OP1	2.05	0.57
2:B:2151:U:H2'	2:B:2152:G:H8	1.67	0.57
2:B:2598:A:H5''	4:C:233:GLY:HA2	1.87	0.57
4:C:104:LEU:O	4:C:105:ALA:HB3	2.03	0.57
2:B:2023:C:O2'	2:B:2024:G:H5'	2.05	0.57
5:D:34:VAL:HB	5:D:48:ILE:HD11	1.85	0.57
8:G:10:VAL:O	8:G:10:VAL:HG12	2.05	0.57
2:B:1262:A:N3	26:O:6:LYS:HE3	2.20	0.57
22:W:35:ILE:O	22:W:36:ILE:C	2.43	0.57
12:L:17:LYS:HD2	12:L:19:LEU:HD11	1.86	0.57
3:V:80:HIS:HD2	3:V:82:TYR:H	1.52	0.57
11:K:60:ALA:HA	11:K:87:LEU:CD2	2.34	0.57
5:D:13:ARG:HD2	16:P:55:HIS:ND1	2.20	0.57
2:B:1105:U:H2'	2:B:1106:G:H8	1.68	0.57
2:B:2885:G:N2	26:O:31:LYS:HG2	2.19	0.57
12:L:116:VAL:HG13	12:L:117:THR:N	2.19	0.57
21:U:70:ALA:HB1	21:U:79:ALA:HB2	1.87	0.57
1:A:54:G:H21	7:F:25:MET:CE	2.17	0.57
2:B:1381:G:C2'	2:B:1382:G:H5'	2.35	0.57
5:D:46:ARG:NH1	5:D:85:ALA:HA	2.20	0.57
2:B:2745:C:H4'	8:G:141:GLY:O	2.05	0.57
17:Q:56:PHE:HA	17:Q:59:LEU:HB3	1.86	0.57
12:L:111:ILE:HG22	12:L:112:LEU:N	2.20	0.57
2:B:962:G:N2	2:B:2250:G:H22	1.95	0.57
9:H:121:VAL:HG22	9:H:128:HIS:NE2	2.19	0.57
9:H:77:THR:HG22	9:H:79:THR:HG23	1.87	0.57
6:E:58:LYS:HD3	6:E:58:LYS:N	2.14	0.57
3:V:44:HIS:NE2	3:V:85:LYS:HB2	2.20	0.57
25:Z:35:SER:HA	25:Z:50:ARG:HA	1.86	0.57
13:M:54:THR:C	13:M:56:ALA:H	2.08	0.57
5:D:133:THR:HG23	5:D:134:HIS:N	2.18	0.57
2:B:1354:A:OP1	4:C:35:LYS:HE2	2.05	0.57
2:B:2886:A:H3'	2:B:2887:A:C8	2.39	0.57
2:B:718:A:H3'	2:B:719:C:C6	2.40	0.57
11:K:54:LYS:N	11:K:54:LYS:HD2	2.19	0.57
18:R:4:VAL:HG21	18:R:39:LEU:HG	1.85	0.57
2:B:2859:G:H2'	2:B:2860:A:C8	2.40	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1842:G:H2'	2:B:1843:C:H6	1.69	0.57
2:B:522:A:H2'	2:B:523:C:C6	2.39	0.57
2:B:2078:C:O2'	2:B:2079:U:H5'	2.05	0.57
8:G:116:LEU:HD23	8:G:120:ILE:HD13	1.85	0.57
2:B:850:U:H2'	2:B:851:C:C6	2.39	0.57
7:F:11:VAL:HG21	7:F:172:PHE:CE1	2.40	0.57
2:B:2897:U:H2'	2:B:2898:U:C6	2.40	0.57
9:H:3:VAL:HG12	9:H:38:PRO:HA	1.86	0.57
9:H:47:PHE:HA	9:H:50:ARG:HE	1.70	0.57
2:B:688:U:O2'	2:B:689:A:H5'	2.05	0.57
2:B:2615:U:C2	26:O:3:GLN:HA	2.40	0.57
2:B:2398:U:H2'	2:B:2399:G:H8	1.69	0.57
13:M:67:VAL:HG11	13:M:102:LEU:HD22	1.86	0.57
2:B:296:U:H2'	2:B:297:G:H8	1.70	0.56
2:B:2774:C:H2'	2:B:2775:G:O4'	2.05	0.56
7:F:12:VAL:O	7:F:16:MET:HG2	2.05	0.56
4:C:75:ALA:O	4:C:114:GLN:HA	2.05	0.56
9:H:79:THR:HG22	9:H:145:ASN:CG	2.25	0.56
8:G:26:LYS:HG2	8:G:27:GLY:H	1.70	0.56
20:T:54:GLU:HG3	20:T:90:GLY:N	2.20	0.56
2:B:1553:A:O2'	2:B:1554:U:H2'	2.05	0.56
2:B:1508:A:H5'	2:B:1509:A:C6	2.40	0.56
11:K:2:ILE:HA	11:K:33:ALA:H	1.68	0.56
2:B:2392:A:H2'	2:B:2392:A:N3	2.19	0.56
2:B:2258:C:O2'	2:B:2426:A:H4'	2.05	0.56
2:B:988:A:C8	24:Y:13:ILE:HD12	2.39	0.56
2:B:2516:A:O2'	2:B:2517:C:H5'	2.05	0.56
2:B:1316:U:O2'	2:B:1317:G:H5'	2.05	0.56
24:Y:29:ARG:H	24:Y:33:HIS:HD2	1.53	0.56
2:B:2303:G:H4'	7:F:121:PHE:O	2.05	0.56
17:Q:105:PHE:O	17:Q:109:VAL:HG23	2.05	0.56
2:B:1056:G:H4'	2:B:1086:A:H8	1.69	0.56
2:B:1018:U:O2'	2:B:1019:U:H5'	2.05	0.56
2:B:2298:A:OP1	7:F:70:ARG:HD3	2.05	0.56
6:E:192:ALA:HA	6:E:195:GLN:NE2	2.19	0.56
2:B:2439:A:N7	2:B:2586:U:H4'	2.20	0.56
2:B:1790:C:O2'	4:C:207:ALA:HB2	2.04	0.56
2:B:974:G:OP2	18:R:78:ARG:HD3	2.05	0.56
2:B:2468:A:H2'	2:B:2476:A:C6	2.40	0.56
1:A:54:G:H21	7:F:25:MET:HE3	1.69	0.56
2:B:570:G:H2'	2:B:2030:A:N7	2.20	0.56
3:V:7:GLU:O	3:V:41:GLU:HG2	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:477:A:H2'	2:B:478:A:C8	2.40	0.56
21:U:95:PHE:CE1	21:U:102:ILE:HB	2.39	0.56
2:B:2774:C:OP1	5:D:169:ARG:HG3	2.05	0.56
4:C:75:ALA:CB	4:C:95:TYR:HA	2.35	0.56
19:S:48:LYS:HE2	19:S:52:GLU:OE1	2.05	0.56
17:Q:79:ILE:O	17:Q:79:ILE:HD13	2.06	0.56
2:B:2720:U:H5''	16:P:52:ARG:NH2	2.20	0.56
25:Z:65:ASP:HA	25:Z:68:LEU:HB2	1.86	0.56
2:B:2485:G:H5''	13:M:125:PRO:HG3	1.87	0.56
3:V:9:ARG:NH2	3:V:12:GLN:HA	2.19	0.56
2:B:784:G:H5''	4:C:225:ASN:OD1	2.05	0.56
2:B:286:U:H2'	2:B:287:G:H8	1.69	0.56
2:B:2645:G:H3'	2:B:2646:C:C5'	2.32	0.56
18:R:4:VAL:CG2	18:R:39:LEU:HG	2.35	0.56
2:B:523:C:H4'	2:B:540:C:O2	2.05	0.56
2:B:898:C:H2'	2:B:899:A:C4	2.41	0.56
30:4:13:ASN:O	30:4:27:CYS:HA	2.04	0.56
15:O:35:ILE:CG1	15:O:102:ARG:HE	2.17	0.56
2:B:1709:U:H2'	2:B:1710:G:H8	1.71	0.56
2:B:1923:U:H2'	2:B:1924:C:C6	2.40	0.56
2:B:2714:G:O2'	2:B:2715:C:H5'	2.06	0.56
21:U:81:ARG:HB2	21:U:96:LYS:HG3	1.86	0.56
10:J:58:ASN:HA	10:J:127:GLY:CA	2.26	0.56
4:C:43:ASN:HB3	4:C:45:ASN:HD22	1.70	0.56
4:C:43:ASN:HB3	4:C:45:ASN:ND2	2.21	0.56
2:B:5:A:H2'	2:B:6:A:C8	2.41	0.56
19:S:28:LYS:HD2	19:S:29:VAL:N	2.19	0.56
17:Q:71:ASN:HD21	17:Q:109:VAL:HG11	1.70	0.56
4:C:36:ASN:HD21	4:C:85:ASN:HD21	1.53	0.56
2:B:633:A:O5'	2:B:633:A:H8	1.89	0.56
31:I:58:ILE:HD12	31:I:58:ILE:N	2.20	0.56
2:B:1291:C:O2'	2:B:1292:G:H5'	2.06	0.56
8:G:10:VAL:HG13	8:G:16:VAL:HG21	1.87	0.56
1:A:50:A:OP1	15:O:68:LYS:HG3	2.04	0.56
2:B:1579:A:H2'	2:B:1580:A:C8	2.40	0.56
8:G:19:ASN:HB2	8:G:22:VAL:HB	1.87	0.56
2:B:828:U:H4'	2:B:831:G:N1	2.19	0.56
5:D:178:VAL:O	5:D:180:VAL:HG23	2.06	0.56
17:Q:71:ASN:ND2	17:Q:109:VAL:HG11	2.20	0.56
9:H:31:VAL:CB	9:H:32:PRO:CD	2.82	0.56
9:H:81:ALA:HA	9:H:147:VAL:N	2.20	0.56
1:A:76:G:O2'	1:A:77:U:H5'	2.06	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:63:ILE:H	13:M:63:ILE:HD12	1.69	0.56
2:B:2895:G:H2'	2:B:2896:C:H6	1.68	0.56
2:B:1518:C:H2'	2:B:1519:G:H8	1.70	0.56
8:G:146:ASP:O	8:G:150:TYR:HD1	1.89	0.56
29:3:3:ILE:HG21	29:3:62:PRO:HG2	1.86	0.56
2:B:664:G:H2'	2:B:665:U:C6	2.40	0.56
2:B:1838:C:N4	2:B:1898:U:H2'	2.21	0.56
11:K:10:VAL:HG21	11:K:16:ALA:HA	1.86	0.56
14:N:49:GLU:HA	14:N:94:TYR:HD2	1.70	0.56
31:I:75:ALA:HB2	31:I:112:LYS:HE2	1.85	0.56
25:Z:77:LYS:O	25:Z:78:TYR:HB3	2.05	0.56
11:K:24:VAL:HG13	11:K:33:ALA:HB2	1.88	0.56
1:A:49:C:H2'	1:A:50:A:H8	1.71	0.56
6:E:3:LEU:H	6:E:13:THR:H	1.53	0.56
2:B:2704:C:H2'	2:B:2705:A:O4'	2.06	0.56
2:B:857:G:C2'	2:B:858:G:H5'	2.36	0.56
2:B:2815:C:H2'	2:B:2816:G:C8	2.40	0.56
2:B:2841:C:H2'	2:B:2842:G:H8	1.71	0.56
12:L:85:VAL:CG2	12:L:94:THR:HB	2.35	0.56
9:H:68:ARG:HB2	9:H:134:VAL:CG2	2.34	0.56
2:B:1119:U:OP1	3:V:83:LYS:HE3	2.05	0.56
5:D:136:ASN:OD1	5:D:139:SER:HB2	2.06	0.56
23:X:23:ARG:HA	23:X:27:ASN:ND2	2.20	0.56
31:I:105:LEU:HD11	31:I:139:VAL:CG1	2.36	0.56
6:E:21:ARG:HG3	6:E:22:ASP:N	2.21	0.56
2:B:2567:G:H2'	2:B:2568:U:C6	2.41	0.56
2:B:823:C:O2'	2:B:824:U:H5'	2.05	0.56
2:B:1640:A:H2'	2:B:1641:A:C8	2.40	0.56
12:L:92:LEU:HD21	12:L:123:ARG:NH1	2.20	0.56
25:Z:70:GLU:O	25:Z:71:LEU:HB3	2.06	0.56
24:Y:37:ARG:HG3	24:Y:38:GLU:OE1	2.05	0.56
21:U:43:LYS:O	21:U:57:ILE:HA	2.06	0.56
13:M:103:TYR:O	13:M:104:GLU:HG3	2.05	0.56
2:B:1778:U:H2'	2:B:1784:A:N6	2.20	0.56
4:C:196:ASN:HD22	4:C:199:HIS:HB2	1.69	0.56
6:E:97:ASN:ND2	6:E:100:MET:HG3	2.21	0.56
2:B:2860:A:O5'	2:B:2860:A:H8	1.87	0.56
2:B:71:A:H5''	2:B:73:A:C8	2.41	0.56
2:B:2415:G:H2'	2:B:2416:C:C6	2.40	0.56
28:2:31:LEU:HD22	28:2:42:LEU:HD12	1.88	0.56
2:B:1821:A:H2'	2:B:1822:C:C6	2.41	0.56
2:B:2145:C:O2	2:B:2145:C:O4'	2.23	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:W:37:VAL:HG13	22:W:55:ASP:O	2.05	0.56
21:U:90:LYS:HB3	21:U:92:VAL:HG23	1.87	0.56
19:S:24:ILE:HD11	19:S:36:LEU:CD1	2.27	0.56
2:B:2786:U:O2'	5:D:66:GLY:HA3	2.06	0.56
2:B:1179:G:H2'	2:B:1180:U:O4'	2.06	0.56
3:V:80:HIS:HB3	3:V:83:LYS:O	2.06	0.56
14:N:102:PHE:N	14:N:109:PRO:HA	2.18	0.56
2:B:1441:G:H2'	2:B:1442:U:C6	2.39	0.56
2:B:1061:U:O4'	2:B:1070:A:H1'	2.06	0.56
2:B:222:A:N1	2:B:233:A:H5''	2.21	0.56
21:U:12:VAL:HG22	21:U:69:VAL:HG12	1.87	0.56
2:B:2213:U:O2	2:B:2213:U:C2'	2.54	0.56
9:H:38:PRO:O	9:H:40:THR:HG23	2.06	0.56
2:B:673:C:H5''	6:E:76:PRO:HD2	1.86	0.56
2:B:1351:C:H2'	2:B:1352:U:O4'	2.06	0.56
2:B:661:A:H1'	12:L:12:SER:O	2.06	0.56
2:B:832:U:H2'	2:B:833:A:C8	2.41	0.56
2:B:2469:A:H2'	2:B:2470:G:O4'	2.06	0.56
31:I:76:ALA:O	31:I:80:LYS:HG3	2.05	0.56
2:B:1021:A:H62	2:B:1141:U:H3	1.54	0.56
2:B:1086:A:H4'	2:B:1103:A:N1	2.21	0.56
2:B:730:A:O2'	2:B:731:C:H5'	2.06	0.56
15:O:47:VAL:HG12	15:O:48:LEU:H	1.72	0.56
4:C:89:ASN:O	4:C:105:ALA:HB3	2.06	0.56
20:T:38:ALA:HB3	20:T:81:LYS:HZ1	1.69	0.56
2:B:2849:U:H4'	2:B:2850:A:H5'	1.88	0.56
2:B:2102:G:C2'	2:B:2103:C:H5'	2.35	0.56
2:B:2605:U:H2'	2:B:2606:C:C6	2.41	0.56
1:A:91:C:H2'	1:A:92:C:H6	1.71	0.56
2:B:2197:U:O2'	2:B:2198:A:H2'	2.05	0.56
22:W:59:PHE:CE2	22:W:61:LYS:HG3	2.40	0.55
7:F:64:PRO:HA	7:F:88:VAL:CG2	2.35	0.55
2:B:2722:G:H2'	2:B:2723:C:H6	1.71	0.55
16:P:89:GLY:HA2	16:P:111:GLU:C	2.26	0.55
31:I:17:ALA:O	31:I:18:ASN:HB3	2.05	0.55
2:B:2186:G:H2'	2:B:2187:U:C6	2.41	0.55
2:B:500:G:N2	2:B:502:A:H3'	2.21	0.55
2:B:1450:G:H21	2:B:1452:G:H1	1.53	0.55
10:J:103:ILE:HA	10:J:106:LYS:HB3	1.88	0.55
2:B:1210:G:H5'	2:B:1212:G:H5''	1.87	0.55
2:B:2092:U:H4'	2:B:2093:G:H5''	1.88	0.55
2:B:2008:C:H2'	2:B:2009:A:H8	1.71	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:3:C:H2'	1:A:4:C:C6	2.41	0.55
17:Q:57:ARG:CB	17:Q:57:ARG:HH11	2.19	0.55
17:Q:63:ARG:NH1	17:Q:96:ASP:HA	2.22	0.55
2:B:2828:G:O2'	2:B:2829:A:H5'	2.05	0.55
5:D:116:LYS:HG3	5:D:165:MET:SD	2.46	0.55
20:T:69:ARG:CZ	20:T:69:ARG:HA	2.36	0.55
7:F:37:MET:CG	7:F:52:ALA:HB1	2.36	0.55
4:C:105:ALA:HB1	4:C:109:LEU:HD11	1.87	0.55
20:T:13:ALA:O	20:T:32:LEU:HB2	2.06	0.55
2:B:948:C:H2'	2:B:949:G:H8	1.71	0.55
4:C:250:GLN:HG2	4:C:250:GLN:O	2.06	0.55
2:B:1205:A:N1	6:E:165:HIS:HB2	2.20	0.55
9:H:122:LEU:N	9:H:122:LEU:HD12	2.21	0.55
2:B:2698:U:H2'	2:B:2699:C:C6	2.41	0.55
18:R:28:ALA:O	18:R:63:VAL:HG21	2.06	0.55
16:P:1:SER:O	16:P:5:LYS:HB2	2.07	0.55
7:F:31:GLU:O	7:F:32:LYS:O	2.24	0.55
12:L:122:VAL:HG12	12:L:143:GLU:OE2	2.07	0.55
4:C:226:PRO:CG	4:C:233:GLY:H	2.18	0.55
13:M:35:ALA:HB3	13:M:99:GLY:N	2.20	0.55
2:B:2659:G:N2	2:B:2661:G:H5'	2.22	0.55
30:4:8:LYS:HG2	30:4:9:LYS:H	1.71	0.55
2:B:2795:C:H2'	2:B:2796:U:O4'	2.07	0.55
30:4:2:LYS:HG2	30:4:3:VAL:N	2.20	0.55
2:B:2539:C:O2'	2:B:2540:C:H5'	2.07	0.55
2:B:2901:C:H2'	2:B:2902:C:H5'	1.88	0.55
2:B:2636:C:O2'	2:B:2637:U:H5'	2.05	0.55
22:W:18:LYS:N	22:W:35:ILE:HG23	2.21	0.55
21:U:85:ARG:NE	21:U:85:ARG:HA	2.22	0.55
21:U:35:VAL:HB	21:U:38:ILE:HG21	1.87	0.55
2:B:2788:C:H2'	2:B:2789:C:C6	2.41	0.55
31:I:109:ALA:HB1	31:I:124:MET:HG3	1.89	0.55
7:F:28:PRO:HG3	7:F:159:ALA:HB2	1.87	0.55
2:B:2592:G:H2'	2:B:2593:U:O4'	2.06	0.55
2:B:2466:C:OP1	30:4:4:ARG:HB3	2.07	0.55
7:F:78:ILE:HA	7:F:82:TYR:CE1	2.42	0.55
2:B:1947:C:H2'	2:B:1948:G:C8	2.42	0.55
2:B:2037:A:H2'	2:B:2038:G:H8	1.70	0.55
2:B:2285:C:OP2	27:1:5:ARG:HD3	2.06	0.55
2:B:1969:A:H2'	2:B:1972:G:H21	1.71	0.55
2:B:845:A:N1	2:B:847:U:H1'	2.21	0.55
2:B:2772:C:H4'	5:D:171:THR:HG21	1.89	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:62:LYS:HB2	5:D:63:PRO:HD3	1.88	0.55
25:Z:40:VAL:HG22	25:Z:45:ARG:O	2.07	0.55
27:1:26:LYS:HD2	27:1:30:PRO:HA	1.89	0.55
27:1:35:LEU:O	27:1:36:LYS:HB2	2.06	0.55
24:Y:6:ILE:N	24:Y:35:VAL:O	2.39	0.55
2:B:729:G:C8	4:C:206:LYS:HE3	2.42	0.55
4:C:4:LYS:HD2	4:C:5:CYS:H	1.71	0.55
2:B:2149:U:H2'	2:B:2150:C:H6	1.71	0.55
2:B:2185:U:C2	2:B:2186:G:N7	2.74	0.55
2:B:161:A:C3'	2:B:162:U:H5''	2.37	0.55
2:B:870:U:O2'	2:B:871:U:H5'	2.05	0.55
2:B:1407:G:H2'	2:B:1408:G:C8	2.40	0.55
2:B:1771:C:H2'	2:B:1772:A:H8	1.70	0.55
21:U:94:PHE:HA	21:U:101:THR:HA	1.89	0.55
9:H:1:MET:HB3	9:H:21:VAL:O	2.07	0.55
2:B:2271:G:H2'	2:B:2272:U:C6	2.41	0.55
2:B:1979:U:O2'	2:B:1980:G:H5'	2.07	0.55
2:B:2097:A:H2'	2:B:2098:U:C6	2.41	0.55
21:U:64:ILE:HG13	21:U:65:GLN:N	2.21	0.55
21:U:80:ASP:HB2	21:U:95:PHE:HD2	1.72	0.55
7:F:7:TYR:HA	7:F:11:VAL:CG2	2.37	0.55
14:N:49:GLU:HB2	14:N:50:PRO:HD3	1.89	0.55
3:V:24:ASN:HB3	3:V:44:HIS:HB3	1.89	0.55
3:V:31:TYR:HA	3:V:93:ARG:HH21	1.71	0.55
2:B:871:U:H2'	2:B:872:U:C6	2.40	0.55
2:B:1841:U:H2'	2:B:1842:G:H8	1.72	0.55
2:B:664:G:H2'	2:B:665:U:H6	1.70	0.55
2:B:1820:U:OP1	4:C:176:ARG:HD2	2.06	0.55
2:B:833:A:H2'	2:B:834:G:C8	2.42	0.55
6:E:166:LYS:O	6:E:167:VAL:HB	2.06	0.55
23:X:41:HIS:O	23:X:44:LYS:HB3	2.07	0.55
2:B:2080:A:H4'	25:Z:19:SER:OG	2.06	0.55
2:B:997:G:O2'	2:B:998:C:H5'	2.07	0.55
2:B:441:U:H2'	2:B:442:G:C8	2.41	0.55
2:B:2364:C:H2'	2:B:2365:G:O4'	2.06	0.55
2:B:917:A:H2'	2:B:918:A:O4'	2.06	0.55
7:F:126:ASN:HB3	7:F:156:THR:CA	2.36	0.55
2:B:6:A:O2'	2:B:7:G:H5'	2.06	0.55
17:Q:94:LEU:CD2	18:R:11:GLN:HB2	2.37	0.55
2:B:2678:C:H2'	2:B:2679:A:C8	2.42	0.55
9:H:99:ILE:HG13	9:H:130:VAL:HG11	1.89	0.55
20:T:69:ARG:HB2	20:T:75:GLY:N	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:5:CYS:HB2	4:C:15:VAL:O	2.06	0.55
2:B:2021:C:P	26:0:8:THR:HG21	2.47	0.55
17:Q:86:SER:O	18:R:51:VAL:HA	2.06	0.55
6:E:12:LEU:HD12	6:E:14:VAL:HG22	1.88	0.55
2:B:441:U:H2'	2:B:442:G:H8	1.72	0.55
2:B:936:A:H2'	2:B:937:C:C6	2.42	0.55
1:A:11:C:H5'	22:W:71:LYS:HG3	1.86	0.55
22:W:37:VAL:HG12	22:W:38:ARG:N	2.22	0.55
2:B:616:A:H4'	6:E:101:TYR:CE2	2.42	0.55
6:E:149:ILE:O	6:E:188:MET:HA	2.07	0.55
2:B:1152:C:O2'	2:B:1153:C:H5'	2.07	0.55
17:Q:74:SER:OG	17:Q:77:LYS:HD3	2.06	0.55
17:Q:94:LEU:C	17:Q:96:ASP:H	2.09	0.55
12:L:78:ARG:HG2	12:L:113:ALA:HB2	1.88	0.55
17:Q:26:ALA:HB1	17:Q:30:VAL:HB	1.88	0.55
2:B:1021:A:H61	2:B:1142:A:H61	1.55	0.55
2:B:1549:A:H2'	2:B:1550:C:H6	1.70	0.55
8:G:83:THR:HA	8:G:84:LYS:NZ	2.22	0.55
8:G:85:LYS:HB2	8:G:164:ALA:CB	2.37	0.55
8:G:74:MET:O	8:G:78:VAL:HG22	2.07	0.55
2:B:416:U:H2'	2:B:417:C:C6	2.42	0.55
21:U:17:ASP:HB3	21:U:20:LYS:HE3	1.88	0.55
2:B:1260:A:H2'	2:B:1261:C:H6	1.70	0.55
2:B:2537:U:H2'	2:B:2538:C:C6	2.42	0.55
29:3:7:ARG:HG3	29:3:7:ARG:HH11	1.71	0.55
2:B:1210:G:N3	2:B:1212:G:N2	2.55	0.55
31:I:14:ALA:HB1	31:I:50:LYS:HA	1.88	0.55
19:S:83:LYS:HB3	19:S:95:ARG:NH1	2.21	0.55
6:E:110:SER:O	6:E:114:ARG:HG3	2.07	0.55
12:L:135:ILE:HG12	12:L:140:GLY:CA	2.36	0.55
26:0:52:LYS:NZ	26:0:56:LYS:H	2.05	0.55
2:B:2868:A:H2'	2:B:2869:G:C8	2.42	0.55
2:B:83:A:C6	2:B:101:A:H5'	2.42	0.55
4:C:145:MET:HB2	4:C:152:GLN:NE2	2.21	0.55
9:H:73:ASN:HD22	9:H:73:ASN:N	2.04	0.55
10:J:89:PHE:CE1	10:J:93:ILE:HD13	2.40	0.55
3:V:9:ARG:CZ	3:V:20:LEU:HD11	2.37	0.55
2:B:782:A:N3	4:C:224:MET:HB3	2.21	0.55
31:I:10:LEU:HD12	31:I:10:LEU:O	2.06	0.55
31:I:5:GLN:HG2	31:I:6:ALA:N	2.22	0.55
2:B:909:A:H2'	2:B:912:C:H5	1.71	0.55
2:B:1714:U:H3'	2:B:1715:G:C5'	2.36	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1831:G:H2'	2:B:1832:C:C6	2.42	0.55
19:S:6:LYS:HB2	19:S:103:ILE:O	2.07	0.55
10:J:4:PHE:CG	10:J:5:THR:N	2.75	0.55
8:G:84:LYS:HG3	8:G:132:LEU:N	2.21	0.55
7:F:106:ALA:HA	7:F:135:ILE:CD1	2.37	0.55
2:B:126:A:O5'	28:2:19:ARG:HB2	2.07	0.55
2:B:812:C:H4'	17:Q:12:ARG:NH2	2.22	0.55
8:G:34:ARG:HG2	8:G:34:ARG:NH1	2.21	0.55
8:G:25:ILE:HG22	8:G:78:VAL:HG21	1.88	0.55
2:B:417:C:H2'	2:B:418:C:H6	1.71	0.55
2:B:1133:A:H5'	2:B:1134:A:OP1	2.07	0.55
25:Z:20:HIS:O	25:Z:21:ALA:HB3	2.07	0.55
2:B:132:G:H2'	2:B:133:U:C6	2.41	0.55
7:F:134:GLN:C	7:F:136:ILE:H	2.11	0.55
2:B:1709:U:H2'	2:B:1710:G:C8	2.42	0.55
2:B:699:A:H4'	2:B:1634:A:N7	2.22	0.55
2:B:438:G:H2'	2:B:439:A:H8	1.72	0.55
19:S:18:ARG:HB3	19:S:76:VAL:CG2	2.37	0.54
9:H:128:HIS:O	9:H:143:ILE:HA	2.07	0.54
2:B:1438:U:H2'	2:B:1439:A:O4'	2.08	0.54
13:M:60:GLN:HE21	13:M:60:GLN:H	1.51	0.54
2:B:418:C:H2'	2:B:419:U:C6	2.42	0.54
27:1:39:ASP:OD1	27:1:42:VAL:HG23	2.08	0.54
2:B:971:G:H2'	2:B:972:A:O4'	2.07	0.54
2:B:1570:A:H2'	2:B:1571:A:C8	2.42	0.54
2:B:2135:A:C2	2:B:2136:G:H1'	2.42	0.54
6:E:173:THR:HA	6:E:199:MET:HE1	1.88	0.54
21:U:80:ASP:HB3	21:U:96:LYS:N	2.08	0.54
4:C:77:VAL:CG2	4:C:113:ASP:H	2.19	0.54
4:C:78:GLU:HB2	4:C:92:LEU:HD23	1.89	0.54
6:E:188:MET:HE2	6:E:193:VAL:HG22	1.89	0.54
12:L:4:ASN:N	12:L:4:ASN:HD22	2.04	0.54
14:N:29:VAL:O	14:N:78:LYS:HE3	2.07	0.54
13:M:17:ASN:HD21	13:M:95:LEU:HG	1.72	0.54
2:B:566:U:H5''	12:L:29:LYS:NZ	2.22	0.54
2:B:513:A:H8	2:B:513:A:O5'	1.91	0.54
16:P:88:ARG:HB2	16:P:112:ARG:CZ	2.37	0.54
18:R:79:ARG:CD	18:R:80:ARG:HH21	2.20	0.54
4:C:209:ALA:O	4:C:213:ARG:HB2	2.07	0.54
12:L:42:SER:C	12:L:44:GLY:H	2.10	0.54
2:B:2196:C:O2'	2:B:2197:U:H5'	2.07	0.54
11:K:8:LEU:HD12	11:K:8:LEU:N	2.22	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1930:G:H2'	2:B:1968:G:H1	1.71	0.54
31:I:52:LEU:HD21	31:I:81:LYS:HZ2	1.72	0.54
14:N:97:ILE:HD12	14:N:98:LEU:N	2.20	0.54
19:S:24:ILE:HG23	19:S:32:ALA:HB1	1.90	0.54
3:V:72:VAL:HG21	3:V:91:PHE:CB	2.37	0.54
27:1:33:LEU:HB3	27:1:51:ALA:CB	2.36	0.54
16:P:20:ARG:HB3	16:P:23:ASP:CG	2.28	0.54
5:D:13:ARG:HH12	16:P:74:GLN:NE2	2.06	0.54
9:H:83:LYS:HD2	9:H:91:PHE:CG	2.43	0.54
2:B:2665:A:H2'	2:B:2666:C:O2	2.07	0.54
11:K:15:GLY:HA2	11:K:46:ALA:HA	1.89	0.54
8:G:24:THR:HA	8:G:33:THR:O	2.08	0.54
1:A:30:C:O2	1:A:30:C:H2'	2.07	0.54
2:B:528:A:C2	2:B:2043:C:H4'	2.42	0.54
2:B:154:U:H2'	2:B:155:A:H8	1.72	0.54
2:B:2741:A:H2'	2:B:2742:G:O4'	2.08	0.54
2:B:753:A:H2'	2:B:754:U:H6	1.70	0.54
2:B:2746:U:H5'	8:G:138:GLN:HA	1.89	0.54
2:B:934:U:H2'	2:B:935:C:C6	2.42	0.54
2:B:2547:A:H2'	2:B:2548:U:C6	2.43	0.54
2:B:1168:G:H2'	2:B:1169:A:H8	1.72	0.54
14:N:98:LEU:HG	26:O:42:ILE:HD11	1.89	0.54
9:H:130:VAL:C	9:H:142:VAL:HB	2.27	0.54
9:H:69:ALA:O	9:H:140:ALA:HB2	2.08	0.54
2:B:674:G:H1'	6:E:69:ARG:HE	1.73	0.54
31:I:112:LYS:O	31:I:116:MET:HG3	2.07	0.54
18:R:79:ARG:NE	18:R:80:ARG:HH21	2.05	0.54
2:B:1476:U:H4'	2:B:1732:C:O2'	2.08	0.54
8:G:132:LEU:N	8:G:132:LEU:HD23	2.22	0.54
6:E:161:ALA:HA	6:E:164:LEU:HD12	1.89	0.54
2:B:2186:G:H2'	2:B:2187:U:H6	1.73	0.54
18:R:68:ARG:NH2	18:R:90:ARG:HG2	2.22	0.54
7:F:72:SER:CA	7:F:80:GLN:H	2.21	0.54
23:X:6:LEU:C	23:X:8:GLU:H	2.11	0.54
2:B:642:U:O2	2:B:644:A:H3'	2.07	0.54
25:Z:18:ARG:HG3	25:Z:22:LEU:HA	1.88	0.54
2:B:2852:G:H2'	2:B:2853:C:H6	1.69	0.54
15:O:111:ARG:HD2	15:O:117:PHE:O	2.07	0.54
25:Z:41:GLU:O	25:Z:44:LYS:HD2	2.07	0.54
2:B:927:A:H2'	2:B:928:A:C8	2.43	0.54
5:D:165:MET:HG2	5:D:166:GLY:N	2.23	0.54
8:G:8:VAL:CG1	8:G:49:LEU:HB3	2.34	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:64:VAL:HG22	10:J:68:LYS:HD3	1.90	0.54
11:K:105:ARG:HD2	11:K:122:VAL:CG1	2.37	0.54
8:G:122:ALA:HA	8:G:132:LEU:HA	1.90	0.54
2:B:2074:U:H2'	2:B:2075:U:C6	2.42	0.54
2:B:784:G:C6	4:C:227:VAL:HG11	2.42	0.54
2:B:638:G:H2'	2:B:639:U:C6	2.41	0.54
29:3:55:GLY:HA2	29:3:58:ILE:HD12	1.90	0.54
2:B:2199:A:H3'	2:B:2200:C:H6	1.72	0.54
2:B:1319:C:O2'	2:B:1320:C:H5'	2.08	0.54
2:B:2412:A:H2'	2:B:2413:G:O4'	2.07	0.54
2:B:2346:A:H3'	2:B:2347:C:H5''	1.87	0.54
16:P:103:THR:HG22	16:P:104:GLY:H	1.72	0.54
2:B:1230:A:H2'	2:B:1231:U:C6	2.42	0.54
30:4:10:LEU:HD22	30:4:33:HIS:CD2	2.42	0.54
26:0:5:ASN:O	26:0:7:PRO:HD3	2.08	0.54
1:A:43:C:C4'	7:F:91:ARG:HD2	2.38	0.54
2:B:2819:G:H2'	2:B:2821:A:N7	2.23	0.54
5:D:114:LYS:HB2	5:D:116:LYS:HE3	1.89	0.54
2:B:2808:G:HO2'	2:B:2809:A:H8	1.55	0.54
2:B:545:U:H2'	2:B:547:A:OP1	2.08	0.54
2:B:138:U:C5	2:B:140:C:H1'	2.43	0.54
2:B:2570:G:H2'	2:B:2571:U:O4'	2.08	0.54
4:C:12:ARG:HA	4:C:15:VAL:HG23	1.89	0.54
19:S:41:LYS:NZ	19:S:41:LYS:HB3	2.23	0.54
2:B:1164:C:H2'	2:B:1165:A:H8	1.71	0.54
2:B:2354:C:H4'	22:W:31:LEU:HD23	1.90	0.54
8:G:17:LYS:O	8:G:23:ILE:HG23	2.08	0.54
2:B:2751:G:H5'	8:G:2:ARG:CD	2.37	0.54
2:B:1857:G:O2'	2:B:1858:A:H8	1.91	0.54
7:F:78:ILE:N	7:F:78:ILE:HD12	2.22	0.54
2:B:635:C:O2'	2:B:639:U:H5''	2.08	0.54
2:B:1401:G:H2'	2:B:1402:U:C6	2.42	0.54
15:O:100:HIS:HA	15:O:104:GLN:HE21	1.72	0.54
18:R:31:GLU:H	18:R:63:VAL:CG2	2.20	0.54
27:1:3:GLY:C	27:1:5:ARG:H	2.11	0.54
2:B:1168:G:H2'	2:B:1169:A:C8	2.43	0.54
4:C:57:HIS:ND1	4:C:58:LYS:N	2.56	0.54
2:B:1335:C:H2'	2:B:1336:A:H8	1.72	0.54
2:B:854:C:O2'	2:B:855:G:H5'	2.08	0.54
5:D:175:LEU:HD21	5:D:191:GLY:O	2.07	0.54
5:D:121:THR:C	5:D:123:LYS:H	2.11	0.54
2:B:2722:G:H4'	14:N:4:ARG:HB2	1.90	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:2:LEU:HD23	13:M:46:ILE:HD11	1.90	0.54
3:V:1:MET:O	3:V:62:THR:HG23	2.08	0.54
4:C:122:ALA:O	4:C:123:ILE:C	2.46	0.54
2:B:2803:G:H2'	2:B:2804:U:C6	2.42	0.54
2:B:1013:C:H2'	2:B:1014:A:C8	2.42	0.54
2:B:1320:C:C5	2:B:1329:U:H5''	2.42	0.54
1:A:13:G:H2'	1:A:14:U:H5''	1.89	0.54
2:B:2008:C:H2'	2:B:2009:A:C8	2.43	0.54
6:E:18:THR:O	6:E:110:SER:HB2	2.06	0.54
16:P:103:THR:HG22	16:P:104:GLY:N	2.23	0.54
2:B:497:A:H2'	2:B:498:G:O4'	2.07	0.54
2:B:2543:G:H8	2:B:2543:G:H5'	1.73	0.54
2:B:1076:C:H4'	31:I:94:LYS:HE3	1.88	0.54
2:B:917:A:C2	2:B:918:A:H1'	2.43	0.54
12:L:91:ASP:OD1	12:L:92:LEU:HG	2.07	0.54
8:G:30:GLY:CA	8:G:78:VAL:HA	2.38	0.54
2:B:1828:G:O6	4:C:220:ARG:HD2	2.08	0.54
2:B:1796:U:H2'	2:B:1797:G:C8	2.42	0.54
2:B:1242:U:H2'	2:B:1243:C:C6	2.42	0.54
2:B:278:A:N3	2:B:278:A:H2'	2.23	0.54
2:B:1259:G:H2'	2:B:1260:A:H8	1.72	0.54
2:B:2101:A:H2'	2:B:2102:G:H5''	1.90	0.54
21:U:41:VAL:HG22	21:U:60:LYS:O	2.08	0.54
31:I:91:LYS:HB2	31:I:94:LYS:HD2	1.87	0.54
15:O:30:ARG:HG3	15:O:30:ARG:HH11	1.72	0.54
2:B:1100:C:H2'	2:B:1101:U:H6	1.72	0.54
2:B:2875:C:H2'	2:B:2876:G:H8	1.72	0.54
2:B:1604:C:H5''	34:B:4216:HOH:O	2.08	0.54
2:B:2408:U:O2'	2:B:2409:G:H5'	2.08	0.54
12:L:58:TYR:HB2	29:3:9:ALA:HA	1.90	0.54
2:B:1565:C:H5''	4:C:17:LYS:HE2	1.90	0.54
10:J:3:THR:HG21	17:Q:60:TRP:HE1	1.73	0.54
2:B:1283:G:N2	2:B:1285:A:H3'	2.23	0.54
10:J:36:LEU:HD13	10:J:121:LYS:HE3	1.90	0.54
8:G:26:LYS:CA	8:G:32:LEU:H	2.17	0.54
23:X:56:LEU:O	23:X:57:LEU:HB3	2.06	0.54
5:D:12:THR:HG22	5:D:13:ARG:H	1.71	0.54
2:B:1219:U:H2'	2:B:1220:G:C8	2.42	0.54
2:B:1779:U:C5	2:B:1784:A:N7	2.76	0.54
6:E:46:GLN:HB3	6:E:86:ALA:HA	1.90	0.54
2:B:2460:U:H2'	2:B:2461:A:H8	1.73	0.54
2:B:946:C:H2'	2:B:947:A:C8	2.43	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:95:ARG:HG3	19:S:97:LEU:HD13	1.90	0.54
17:Q:111:LYS:HB2	17:Q:111:LYS:HZ2	1.73	0.54
8:G:36:LEU:N	8:G:36:LEU:HD22	2.22	0.54
12:L:47:ARG:HH21	12:L:47:ARG:HB3	1.73	0.54
2:B:475:C:H4'	2:B:509:C:H2'	1.90	0.54
22:W:36:ILE:O	22:W:39:GLN:HB3	2.08	0.54
22:W:36:ILE:HB	22:W:39:GLN:NE2	2.23	0.54
10:J:59:ALA:C	10:J:61:LYS:H	2.10	0.54
12:L:3:LEU:HA	12:L:6:LEU:HD21	1.90	0.54
19:S:15:GLN:HA	19:S:18:ARG:CG	2.38	0.54
9:H:100:ALA:HB1	9:H:110:VAL:O	2.07	0.54
31:I:77:VAL:HA	31:I:80:LYS:CE	2.38	0.54
2:B:532:A:H2'	17:Q:27:ARG:NH2	2.16	0.54
2:B:322:A:H5'	2:B:340:A:C1'	2.33	0.54
2:B:2258:C:H4'	2:B:2259:U:OP2	2.07	0.54
11:K:20:MET:C	11:K:41:ILE:HG13	2.29	0.54
3:V:70:ILE:HD13	3:V:70:ILE:N	2.23	0.54
10:J:52:ASP:O	10:J:54:ILE:HG22	2.07	0.54
2:B:21:A:H2'	2:B:22:C:C6	2.43	0.54
2:B:67:U:H2'	2:B:68:G:H8	1.73	0.54
28:2:34:ARG:HB3	28:2:39:ARG:HB2	1.88	0.54
15:O:18:LEU:HD23	15:O:25:ARG:HD2	1.91	0.54
7:F:40:GLY:HA2	7:F:84:ILE:HG23	1.89	0.53
2:B:3:U:H2'	2:B:4:U:H6	1.72	0.53
2:B:1244:A:O2'	2:B:1245:G:H5'	2.08	0.53
22:W:9:THR:OG1	22:W:10:ARG:N	2.34	0.53
25:Z:67:VAL:O	25:Z:70:GLU:HG3	2.07	0.53
16:P:89:GLY:HA2	16:P:112:ARG:N	2.23	0.53
2:B:1138:G:H2'	2:B:1139:G:O4'	2.08	0.53
1:A:88:C:H1'	1:A:89:U:C6	2.43	0.53
13:M:35:ALA:HB2	13:M:100:LYS:HB2	1.90	0.53
2:B:643:A:H61	2:B:2370:G:H1'	1.74	0.53
18:R:39:LEU:CA	18:R:49:ILE:HG12	2.37	0.53
2:B:1351:C:O2'	2:B:1571:A:H1'	2.08	0.53
1:A:49:C:H2'	1:A:50:A:C8	2.42	0.53
2:B:845:A:C2	2:B:847:U:H1'	2.42	0.53
19:S:96:ILE:HG23	19:S:96:ILE:O	2.08	0.53
19:S:10:ALA:HB3	19:S:101:SER:OG	2.08	0.53
2:B:2193:G:H2'	2:B:2194:U:H6	1.73	0.53
2:B:1257:C:O2'	6:E:79:ARG:HB2	2.08	0.53
2:B:41:C:O2'	2:B:42:A:H5'	2.08	0.53
7:F:131:VAL:O	7:F:132:ARG:HB2	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:83:A:N6	2:B:101:A:H5'	2.24	0.53
2:B:2306:C:C3'	2:B:2307:G:H5'	2.36	0.53
2:B:2840:C:H2'	2:B:2841:C:C6	2.43	0.53
2:B:2840:C:H2'	2:B:2841:C:H6	1.72	0.53
2:B:1442:U:H2'	2:B:1443:U:C6	2.44	0.53
16:P:50:ARG:HB3	16:P:57:ALA:H	1.72	0.53
15:O:36:TYR:HA	15:O:52:SER:HB3	1.90	0.53
2:B:329:G:N1	21:U:16:LYS:HG2	2.23	0.53
4:C:209:ALA:HA	4:C:212:TRP:CE2	2.44	0.53
10:J:56:VAL:HG12	10:J:57:LEU:N	2.23	0.53
2:B:2340:A:H2'	2:B:2341:G:C8	2.41	0.53
23:X:23:ARG:O	23:X:27:ASN:N	2.42	0.53
2:B:1684:G:H2'	2:B:1685:C:H6	1.74	0.53
2:B:660:C:H2'	2:B:661:A:C8	2.42	0.53
6:E:40:ARG:NH2	6:E:92:HIS:NE2	2.56	0.53
12:L:65:GLY:O	12:L:66:PHE:HB3	2.09	0.53
15:O:107:ALA:O	15:O:111:ARG:HG3	2.07	0.53
5:D:172:VAL:HG12	5:D:173:GLN:N	2.24	0.53
2:B:4:U:H2'	2:B:5:A:C8	2.43	0.53
25:Z:5:CYS:HB2	25:Z:10:LYS:HB2	1.90	0.53
20:T:28:ASN:CA	20:T:91:GLN:HE22	2.19	0.53
5:D:149:ASN:O	5:D:152:PRO:HD2	2.09	0.53
2:B:972:A:OP2	2:B:974:G:H5''	2.08	0.53
2:B:2861:U:H2'	2:B:2862:G:C8	2.41	0.53
5:D:79:LEU:HD22	5:D:79:LEU:N	2.23	0.53
13:M:134:THR:HG22	13:M:136:MET:H	1.71	0.53
2:B:1429:G:O2'	2:B:1430:G:H5'	2.08	0.53
11:K:53:LYS:HD3	11:K:56:ASP:OD2	2.09	0.53
2:B:1531:C:H2'	2:B:1532:A:C8	2.44	0.53
4:C:261:ARG:O	4:C:261:ARG:HG2	2.08	0.53
12:L:119:PRO:HA	12:L:138:ALA:O	2.09	0.53
2:B:2882:A:C3'	2:B:2883:A:H5''	2.38	0.53
2:B:138:U:O4'	20:T:1:MET:N	2.39	0.53
10:J:25:LEU:O	10:J:27:ARG:N	2.41	0.53
2:B:2152:G:N3	2:B:2152:G:H2'	2.23	0.53
2:B:2333:A:H4'	2:B:2334:U:C5'	2.39	0.53
2:B:2239:G:O2'	2:B:2240:U:H5'	2.08	0.53
30:4:3:VAL:HG23	30:4:4:ARG:H	1.74	0.53
18:R:49:ILE:HB	18:R:53:PHE:O	2.08	0.53
21:U:66:VAL:O	21:U:69:VAL:HG22	2.07	0.53
24:Y:15:ARG:HD2	24:Y:15:ARG:N	2.22	0.53
2:B:1046:A:H3'	2:B:1047:G:H5''	1.90	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:346:A:H5'	2:B:346:A:N3	2.23	0.53
2:B:1015:U:H2'	2:B:1016:G:H8	1.73	0.53
4:C:239:PHE:HD1	4:C:241:LYS:H	1.57	0.53
6:E:1:MET:HB2	6:E:16:GLU:HB2	1.89	0.53
2:B:490:C:H3'	2:B:491:G:H5''	1.91	0.53
2:B:1623:G:O2'	2:B:1624:U:H5'	2.08	0.53
18:R:72:VAL:HG23	18:R:89:HIS:O	2.08	0.53
2:B:100:U:O2	2:B:100:U:C2'	2.54	0.53
5:D:8:LYS:CG	5:D:197:THR:H	2.22	0.53
10:J:130:HIS:HD2	10:J:132:HIS:HB2	1.73	0.53
4:C:183:VAL:HG22	4:C:184:GLU:H	1.74	0.53
2:B:2809:A:H2'	2:B:2810:A:C8	2.44	0.53
22:W:9:THR:O	22:W:10:ARG:HB2	2.09	0.53
16:P:26:GLU:HB3	16:P:84:SER:HB3	1.90	0.53
10:J:25:LEU:HB2	10:J:62:VAL:HG22	1.89	0.53
11:K:105:ARG:HD2	11:K:105:ARG:H	1.72	0.53
2:B:819:A:H5'	2:B:973:A:N1	2.23	0.53
2:B:2846:G:H2'	2:B:2847:U:C6	2.44	0.53
2:B:2512:C:OP2	5:D:128:ARG:HD2	2.08	0.53
6:E:153:LEU:HG	6:E:154:ASP:N	2.24	0.53
2:B:1061:U:H5'	31:I:9:LYS:HZ1	1.73	0.53
2:B:1061:U:H5'	31:I:9:LYS:NZ	2.24	0.53
2:B:2455:G:H2'	2:B:2456:C:C6	2.44	0.53
2:B:1847:A:H4'	2:B:1848:A:H8	1.73	0.53
2:B:2742:G:P	30:4:24:ARG:HH12	2.31	0.53
2:B:2728:U:H2'	2:B:2729:G:C8	2.44	0.53
6:E:4:VAL:HG12	6:E:5:LEU:N	2.23	0.53
1:A:14:U:H5'	1:A:70:C:O2'	2.09	0.53
4:C:86:ARG:CZ	4:C:86:ARG:HB3	2.39	0.53
2:B:1930:G:H2'	2:B:1968:G:N1	2.23	0.53
1:A:51:G:OP1	15:O:63:LYS:HE3	2.08	0.53
2:B:2366:A:H4'	22:W:61:LYS:HE2	1.90	0.53
2:B:296:U:H2'	2:B:297:G:C8	2.43	0.53
1:A:43:C:H4'	7:F:91:ARG:HD2	1.89	0.53
12:L:110:VAL:HB	12:L:127:VAL:HG23	1.89	0.53
5:D:164:GLN:HG3	5:D:165:MET:N	2.23	0.53
28:2:10:LEU:HD11	28:2:14:ARG:NH1	2.23	0.53
23:X:17:GLU:HB3	23:X:53:VAL:CG1	2.36	0.53
7:F:56:LEU:HD22	7:F:59:ILE:HD12	1.89	0.53
2:B:2329:U:H2'	2:B:2330:G:C8	2.44	0.53
2:B:182:A:H2'	2:B:183:C:H6	1.74	0.53
2:B:1948:G:O2'	2:B:1949:G:H5'	2.09	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1495:A:O2'	2:B:1496:A:H5'	2.09	0.53
2:B:370:G:O2'	2:B:423:A:H3'	2.09	0.53
2:B:2478:A:OP1	30:4:32:LYS:HE2	2.08	0.53
11:K:35:VAL:CG2	11:K:36:GLY:H	2.08	0.53
14:N:37:THR:HB	14:N:40:LYS:HG3	1.91	0.53
6:E:147:LEU:HD12	6:E:149:ILE:HB	1.89	0.53
2:B:543:G:H2'	2:B:544:C:H5''	1.91	0.53
3:V:44:HIS:CE1	3:V:85:LYS:HB2	2.43	0.53
5:D:13:ARG:HD3	5:D:15:PHE:CE1	2.44	0.53
31:I:18:ASN:N	31:I:19:PRO:CD	2.71	0.53
2:B:123:G:H2'	2:B:124:G:H8	1.74	0.53
20:T:7:LEU:O	20:T:7:LEU:HD13	2.08	0.53
9:H:1:MET:HE3	9:H:26:ALA:HB3	1.90	0.53
1:A:35:C:O2	1:A:35:C:H3'	2.08	0.53
2:B:757:G:H2'	2:B:758:C:H5'	1.90	0.53
2:B:813:U:H2'	2:B:814:C:H6	1.74	0.53
16:P:31:VAL:HG12	16:P:38:ARG:O	2.09	0.53
7:F:46:LYS:NZ	7:F:83:PRO:HD2	2.24	0.53
6:E:181:ILE:HD13	12:L:3:LEU:HD23	1.90	0.53
12:L:18:ARG:C	12:L:19:LEU:HD12	2.29	0.53
2:B:143:C:H2'	2:B:144:A:H8	1.73	0.53
2:B:1731:G:O2'	2:B:1732:C:H5''	2.09	0.53
22:W:31:LEU:N	22:W:60:ALA:HB3	2.24	0.53
8:G:30:GLY:HA3	8:G:78:VAL:HA	1.90	0.53
10:J:18:VAL:HG22	10:J:19:ASP:N	2.24	0.53
2:B:2022:U:O2'	2:B:2617:U:H5'	2.09	0.53
2:B:1854:A:N6	2:B:1888:G:H1'	2.24	0.53
2:B:947:A:O2'	2:B:984:A:H2	1.92	0.53
2:B:2216:G:H2'	2:B:2217:G:C8	2.43	0.53
4:C:2:VAL:HG23	4:C:3:VAL:H	1.73	0.53
18:R:43:ASN:HD21	18:R:45:GLU:HG2	1.74	0.53
2:B:1526:C:H2'	2:B:1527:G:O4'	2.09	0.53
2:B:564:C:O2'	2:B:565:C:H5'	2.09	0.53
5:D:187:LEU:HD12	5:D:188:LEU:H	1.74	0.53
10:J:123:LYS:HG2	10:J:132:HIS:NE2	2.23	0.53
10:J:38:GLY:HA3	10:J:50:THR:O	2.09	0.53
4:C:140:VAL:HG12	4:C:141:HIS:N	2.20	0.53
4:C:159:THR:O	4:C:194:VAL:HG12	2.09	0.53
20:T:57:VAL:HG12	20:T:86:THR:OG1	2.09	0.53
11:K:107:LEU:HB2	11:K:116:ILE:CG2	2.39	0.53
2:B:2186:G:H2'	2:B:2187:U:O4'	2.09	0.53
20:T:81:LYS:HG3	20:T:82:LYS:N	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:G:25:ILE:CG2	8:G:78:VAL:HG21	2.39	0.53
2:B:2784:U:H2'	2:B:2785:C:H6	1.72	0.53
2:B:1747:U:H2'	2:B:1748:C:H6	1.72	0.53
2:B:2078:C:H2'	2:B:2079:U:C6	2.43	0.53
18:R:28:ALA:HB3	18:R:31:GLU:HB2	1.90	0.53
27:1:3:GLY:O	27:1:4:ILE:HG12	2.08	0.53
12:L:41:ARG:HH21	12:L:41:ARG:HG2	1.74	0.53
2:B:2508:G:H2'	2:B:2509:G:H8	1.73	0.53
5:D:56:LYS:HG3	5:D:58:ASN:HB2	1.91	0.53
2:B:256:A:H2'	2:B:257:C:C6	2.43	0.53
10:J:96:ARG:O	10:J:99:ARG:HG3	2.09	0.53
12:L:142:ILE:HG22	12:L:143:GLU:N	2.24	0.53
25:Z:66:THR:O	25:Z:69:ALA:HB3	2.08	0.53
15:O:7:ARG:HA	15:O:10:ARG:NH2	2.24	0.53
1:A:89:U:O2	2:B:958:U:H2'	2.08	0.53
20:T:32:LEU:O	20:T:83:ALA:HB2	2.09	0.53
4:C:209:ALA:HA	4:C:212:TRP:NE1	2.24	0.53
2:B:1792:G:O2'	2:B:1793:C:H5'	2.09	0.53
2:B:2648:G:H2'	2:B:2649:C:C6	2.43	0.53
5:D:90:PHE:N	5:D:94:GLN:OE1	2.42	0.53
2:B:2803:G:H2'	2:B:2804:U:H6	1.72	0.53
2:B:948:C:H2'	2:B:949:G:C8	2.44	0.53
2:B:1198:U:H2'	2:B:1199:U:H6	1.74	0.53
6:E:2:GLU:HA	6:E:13:THR:OG1	2.09	0.53
2:B:2415:G:H2'	2:B:2416:C:H6	1.74	0.53
2:B:1229:C:H2'	2:B:1230:A:C8	2.44	0.53
2:B:2600:A:O2'	2:B:2601:C:H5'	2.09	0.53
18:R:3:ALA:O	18:R:13:ARG:HA	2.09	0.53
4:C:115:ILE:HA	4:C:124:LYS:NZ	2.24	0.53
8:G:106:LEU:O	8:G:108:PHE:N	2.41	0.53
2:B:2386:A:H2'	2:B:2387:U:C6	2.44	0.52
7:F:11:VAL:HG12	7:F:12:VAL:N	2.15	0.52
2:B:2814:A:H2'	2:B:2815:C:H6	1.74	0.52
6:E:106:LYS:HE2	6:E:200:LEU:HB3	1.91	0.52
2:B:674:G:O3'	6:E:60:TRP:CZ2	2.62	0.52
25:Z:5:CYS:SG	25:Z:8:THR:HG23	2.49	0.52
11:K:101:GLY:HA2	16:P:65:ASN:HB2	1.90	0.52
13:M:126:ILE:N	13:M:126:ILE:HD12	2.24	0.52
2:B:123:G:H2'	2:B:124:G:C8	2.44	0.52
2:B:189:G:H2'	2:B:205:G:H22	1.72	0.52
2:B:1746:A:H2'	2:B:1747:U:C6	2.45	0.52
31:I:81:LYS:HG3	31:I:82:ALA:N	2.23	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1145:C:O2'	2:B:1146:C:H5'	2.08	0.52
2:B:2389:G:H5''	2:B:2390:U:H5'	1.91	0.52
2:B:553:G:O2'	2:B:554:U:H5'	2.10	0.52
31:I:2:LYS:NZ	31:I:2:LYS:HB3	2.24	0.52
14:N:99:LYS:O	26:O:42:ILE:HG12	2.08	0.52
17:Q:59:LEU:O	17:Q:62:ALA:HB3	2.08	0.52
9:H:110:VAL:HB	9:H:132:PHE:CZ	2.44	0.52
2:B:1170:C:H2'	2:B:1171:G:C8	2.45	0.52
11:K:71:ARG:CG	11:K:105:ARG:HH21	2.22	0.52
2:B:1733:G:H2'	2:B:1734:G:C8	2.43	0.52
2:B:37:C:O2'	6:E:45:ALA:HA	2.10	0.52
2:B:1387:A:H2'	2:B:1388:G:H8	1.74	0.52
3:V:63:ILE:HD12	3:V:63:ILE:N	2.25	0.52
2:B:247:G:H4'	2:B:386:G:C5	2.44	0.52
2:B:77:G:H5'	23:X:52:ARG:HG2	1.91	0.52
12:L:135:ILE:HG12	12:L:140:GLY:HA3	1.91	0.52
2:B:196:A:H2'	2:B:196:A:N3	2.23	0.52
2:B:1511:G:H2'	2:B:1512:C:H6	1.74	0.52
2:B:1369:G:O2'	2:B:1370:C:H5'	2.09	0.52
10:J:55:ILE:CB	10:J:123:LYS:HB2	2.37	0.52
17:Q:104:ALA:O	17:Q:105:PHE:HB3	2.08	0.52
17:Q:68:ALA:HA	17:Q:71:ASN:HB3	1.91	0.52
2:B:1287:A:P	14:N:104:ALA:HB3	2.49	0.52
9:H:132:PHE:N	9:H:142:VAL:HG23	2.24	0.52
18:R:16:GLU:H	18:R:101:ILE:CG1	2.22	0.52
18:R:14:VAL:HG21	18:R:98:ILE:HG12	1.91	0.52
2:B:1386:C:OP2	2:B:1396:U:H5	1.93	0.52
2:B:126:A:O2'	2:B:127:A:H5'	2.09	0.52
2:B:2352:A:C6	22:W:30:VAL:HG11	2.44	0.52
2:B:1000:A:H2'	2:B:1001:A:H8	1.71	0.52
14:N:59:SER:O	14:N:63:ARG:HB2	2.08	0.52
20:T:12:ARG:HG2	23:X:29:ARG:HH12	1.74	0.52
2:B:1131:G:N2	2:B:2024:G:H21	2.07	0.52
2:B:1846:G:H2'	2:B:1847:A:O4'	2.10	0.52
2:B:1571:A:H2'	2:B:1572:A:C8	2.44	0.52
2:B:936:A:H2'	2:B:937:C:H6	1.73	0.52
2:B:2411:A:H2'	2:B:2412:A:C8	2.44	0.52
30:4:10:LEU:HD13	30:4:33:HIS:HA	1.90	0.52
2:B:527:C:H5'	34:B:4269:HOH:O	2.09	0.52
5:D:16:THR:HB	5:D:18:ASP:OD1	2.09	0.52
4:C:93:VAL:HG12	4:C:101:ARG:O	2.09	0.52
17:Q:78:PHE:CE2	17:Q:82:LEU:HD11	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:109:LYS:O	12:L:111:ILE:HG12	2.09	0.52
14:N:103:ARG:CG	14:N:104:ALA:H	2.22	0.52
9:H:73:ASN:ND2	9:H:73:ASN:N	2.57	0.52
2:B:1060:U:O2	2:B:1088:A:C8	2.63	0.52
25:Z:68:LEU:HB3	25:Z:78:TYR:HE1	1.75	0.52
28:2:30:VAL:HA	28:2:33:ARG:HH21	1.73	0.52
2:B:1442:U:H2'	2:B:1443:U:H6	1.73	0.52
23:X:56:LEU:O	23:X:58:ASN:N	2.41	0.52
15:O:52:SER:OG	15:O:54:VAL:HG12	2.10	0.52
4:C:91:ALA:CB	4:C:105:ALA:HB2	2.37	0.52
7:F:177:ARG:NH1	7:F:177:ARG:HA	2.24	0.52
30:4:7:VAL:HG13	30:4:8:LYS:H	1.74	0.52
28:2:19:ARG:HG2	28:2:19:ARG:HH21	1.73	0.52
2:B:308:G:H2'	2:B:309:A:O4'	2.09	0.52
2:B:1050:A:H2'	2:B:1051:G:C8	2.42	0.52
2:B:1196:C:H2'	2:B:1197:G:C8	2.44	0.52
6:E:5:LEU:HD22	6:E:122:GLU:HG3	1.90	0.52
2:B:1097:U:C2'	2:B:1098:A:H5'	2.38	0.52
2:B:2547:A:H4'	11:K:29:HIS:CE1	2.45	0.52
2:B:1117:C:H2'	2:B:1118:C:H6	1.74	0.52
8:G:93:TYR:C	8:G:94:ARG:HG3	2.29	0.52
2:B:2365:G:H4'	22:W:59:PHE:CE1	2.41	0.52
17:Q:59:LEU:HD13	17:Q:60:TRP:N	2.25	0.52
12:L:78:ARG:HG2	12:L:113:ALA:CB	2.39	0.52
12:L:61:LEU:HD12	12:L:61:LEU:N	2.25	0.52
25:Z:68:LEU:HB3	25:Z:78:TYR:CE1	2.44	0.52
2:B:704:G:H1'	2:B:727:A:H61	1.74	0.52
11:K:109:SER:C	11:K:111:LYS:H	2.12	0.52
8:G:154:GLU:C	8:G:156:TYR:H	2.13	0.52
3:V:14:LYS:HE3	3:V:18:ARG:NH2	2.25	0.52
2:B:499:U:H5'	21:U:44:HIS:CE1	2.44	0.52
2:B:812:C:H4'	17:Q:12:ARG:HH12	1.75	0.52
2:B:394:C:H2'	2:B:395:U:O4'	2.10	0.52
2:B:1453:A:H4'	2:B:1453:A:OP1	2.09	0.52
1:A:39:A:O2'	1:A:40:U:H5'	2.10	0.52
5:D:180:VAL:HG22	5:D:187:LEU:CD1	2.40	0.52
5:D:8:LYS:HB2	5:D:201:LEU:HD11	1.91	0.52
7:F:62:GLN:HE22	7:F:90:LEU:HA	1.75	0.52
9:H:27:ARG:HG2	9:H:27:ARG:HH21	1.75	0.52
27:1:6:GLU:HB2	27:1:52:LYS:HZ3	1.75	0.52
2:B:705:A:N6	2:B:726:G:O2'	2.42	0.52
13:M:94:ALA:O	13:M:96:ILE:HG23	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1397:U:H5''	2:B:1398:C:H5	1.74	0.52
20:T:59:ASN:O	20:T:84:TYR:HB2	2.08	0.52
11:K:17:ARG:HB3	11:K:45:GLU:CG	2.38	0.52
2:B:228:C:O2	2:B:418:C:H4'	2.09	0.52
6:E:182:ALA:O	6:E:183:PHE:HB2	2.09	0.52
2:B:2487:G:H2'	2:B:2488:G:C8	2.45	0.52
2:B:2098:U:H2'	2:B:2099:U:H6	1.75	0.52
2:B:815:C:OP2	18:R:85:LYS:HE2	2.10	0.52
7:F:133:GLU:HA	7:F:150:GLY:HA2	1.90	0.52
2:B:1043:C:O2'	2:B:1044:C:H5'	2.10	0.52
2:B:2083:G:H2'	2:B:2084:C:H6	1.74	0.52
22:W:49:ASN:O	22:W:50:VAL:HG13	2.09	0.52
7:F:62:GLN:HG3	7:F:91:ARG:HH11	1.75	0.52
10:J:15:TRP:HB3	10:J:137:PRO:HG3	1.92	0.52
2:B:2814:A:H2'	2:B:2815:C:C6	2.45	0.52
3:V:57:TYR:HA	3:V:74:ALA:HB3	1.91	0.52
25:Z:69:ALA:HA	25:Z:72:ARG:NH2	2.24	0.52
16:P:20:ARG:NE	16:P:91:VAL:HG21	2.21	0.52
20:T:29:THR:HA	20:T:86:THR:CA	2.34	0.52
2:B:2598:A:OP1	4:C:233:GLY:HA3	2.10	0.52
8:G:152:ARG:HH11	8:G:162:ARG:HA	1.74	0.52
2:B:1487:U:H2'	2:B:1488:C:H6	1.74	0.52
11:K:4:GLU:OE2	11:K:23:LYS:HD2	2.10	0.52
2:B:1576:U:O2'	2:B:1577:C:H5'	2.09	0.52
2:B:93:G:H2'	2:B:94:A:O4'	2.10	0.52
2:B:1607:C:H4'	2:B:1608:A:O5'	2.10	0.52
10:J:71:ASP:HA	10:J:88:THR:OG1	2.10	0.52
13:M:31:PHE:O	13:M:131:VAL:HG23	2.09	0.52
2:B:2276:G:OP2	13:M:85:GLY:N	2.40	0.52
22:W:23:LYS:NZ	22:W:24:ARG:HG3	2.25	0.52
14:N:28:LEU:HD12	14:N:48:VAL:HG21	1.91	0.52
17:Q:78:PHE:O	17:Q:82:LEU:HG	2.10	0.52
12:L:124:GLY:N	12:L:143:GLU:HG3	2.25	0.52
20:T:27:SER:O	20:T:28:ASN:HB3	2.10	0.52
31:I:17:ALA:O	31:I:18:ASN:CB	2.58	0.52
5:D:51:THR:HG21	5:D:76:GLY:HA3	1.91	0.52
2:B:286:U:H2'	2:B:287:G:C8	2.44	0.52
2:B:1454:C:H5'	14:N:63:ARG:NE	2.22	0.52
5:D:34:VAL:HG12	5:D:94:GLN:H	1.74	0.52
2:B:1199:U:H2'	2:B:1200:C:C6	2.45	0.52
2:B:2757:A:N3	2:B:2757:A:H2'	2.23	0.52
31:I:48:ILE:HG22	31:I:49:GLU:HG2	1.91	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1774:C:H2'	2:B:1774:C:O2	2.10	0.52
2:B:781:A:OP1	4:C:216:ARG:NH2	2.42	0.52
2:B:2836:U:H2'	2:B:2837:A:C8	2.45	0.52
2:B:1080:A:H1'	31:I:127:SER:HA	1.90	0.52
25:Z:39:TRP:HB2	25:Z:46:PHE:CE2	2.44	0.52
31:I:23:VAL:HG23	31:I:24:GLY:N	2.25	0.52
3:V:16:ALA:HA	3:V:19:ARG:HE	1.74	0.52
7:F:43:ILE:HG23	7:F:44:ALA:N	2.13	0.52
9:H:31:VAL:O	9:H:32:PRO:C	2.47	0.52
8:G:6:ALA:HB3	8:G:68:ARG:NE	2.24	0.52
5:D:149:ASN:C	5:D:152:PRO:HD2	2.29	0.52
13:M:21:ALA:HB2	13:M:100:LYS:HG2	1.90	0.52
13:M:126:ILE:H	13:M:126:ILE:HD12	1.75	0.52
2:B:433:C:H2'	2:B:434:U:C6	2.45	0.52
4:C:211:ARG:C	4:C:213:ARG:H	2.12	0.52
2:B:644:A:H2'	2:B:644:A:N3	2.24	0.52
2:B:1849:G:H2'	2:B:1850:G:H8	1.75	0.52
2:B:1210:G:C5'	2:B:1212:G:H5''	2.39	0.52
3:V:65:VAL:C	3:V:67:GLY:H	2.12	0.52
2:B:1107:G:H2'	2:B:1108:U:H6	1.74	0.52
2:B:920:A:H2'	2:B:921:C:C6	2.45	0.52
7:F:29:ARG:H	7:F:29:ARG:CD	2.23	0.52
14:N:96:ARG:HH21	14:N:96:ARG:HG2	1.74	0.52
6:E:149:ILE:HG23	6:E:188:MET:CA	2.40	0.52
19:S:71:VAL:O	19:S:71:VAL:HG22	2.10	0.52
17:Q:60:TRP:C	17:Q:64:ILE:HG12	2.31	0.52
17:Q:71:ASN:ND2	17:Q:73:ILE:HG22	2.25	0.52
12:L:110:VAL:HG23	12:L:126:ARG:O	2.09	0.52
6:E:32:VAL:HG23	6:E:33:VAL:N	2.25	0.52
2:B:142:A:C2	20:T:2:ILE:HG22	2.44	0.52
2:B:1060:U:P	31:I:74:PRO:HA	2.49	0.52
10:J:84:ILE:HG23	10:J:84:ILE:O	2.09	0.52
5:D:69:ALA:CA	5:D:73:VAL:HB	2.40	0.52
18:R:39:LEU:HA	18:R:49:ILE:HG12	1.92	0.52
2:B:1373:A:H5''	2:B:2213:U:O4	2.10	0.52
2:B:265:A:O2'	2:B:266:G:H4'	2.10	0.52
2:B:2636:C:O5'	5:D:81:GLU:HB2	2.09	0.52
5:D:154:LYS:H	5:D:154:LYS:HD3	1.74	0.52
25:Z:17:ASN:HB2	25:Z:25:THR:OG1	2.08	0.52
2:B:839:U:H2'	2:B:840:C:C6	2.45	0.52
27:I:25:ASN:OD1	27:I:27:ARG:HB2	2.09	0.52
21:U:48:VAL:O	21:U:50:ALA:N	2.43	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:25:THR:HG21	5:D:193:VAL:CG2	2.39	0.51
26:0:43:THR:HG21	26:0:47:TYR:HB2	1.91	0.51
14:N:83:LEU:HA	14:N:86:ARG:HB2	1.92	0.51
12:L:73:ILE:O	12:L:105:ILE:HG23	2.10	0.51
9:H:31:VAL:CB	9:H:32:PRO:HD3	2.33	0.51
2:B:136:G:H2'	2:B:137:U:C5	2.44	0.51
17:Q:26:ALA:C	17:Q:28:SER:H	2.13	0.51
27:1:6:GLU:H	27:1:6:GLU:CD	2.13	0.51
18:R:19:THR:CG2	18:R:97:LYS:HD2	2.40	0.51
18:R:16:GLU:CA	18:R:98:ILE:HG22	2.37	0.51
2:B:299:A:N6	2:B:322:A:O2'	2.42	0.51
11:K:12:ASP:OD2	11:K:85:VAL:HG13	2.09	0.51
2:B:2653:U:O2'	8:G:109:SER:HB2	2.10	0.51
2:B:642:U:HO2'	2:B:643:A:H8	1.58	0.51
2:B:2436:G:O2'	2:B:2437:G:H5'	2.11	0.51
31:I:100:ILE:O	31:I:139:VAL:HA	2.10	0.51
2:B:947:A:H2'	2:B:948:C:H6	1.74	0.51
1:A:70:C:O2'	1:A:71:C:H5'	2.10	0.51
2:B:2543:G:H2'	2:B:2544:G:C8	2.45	0.51
2:B:41:C:H2'	2:B:42:A:H8	1.75	0.51
2:B:504:A:N3	2:B:504:A:H2'	2.24	0.51
9:H:25:TYR:CG	9:H:30:LEU:HG	2.45	0.51
12:L:81:ASP:HA	12:L:84:LYS:HD2	1.91	0.51
2:B:7:G:H4'	10:J:15:TRP:CZ2	2.46	0.51
13:M:73:ILE:HG13	13:M:93:VAL:HB	1.92	0.51
3:V:80:HIS:HA	3:V:87:GLN:OE1	2.10	0.51
25:Z:6:GLN:NE2	25:Z:50:ARG:N	2.57	0.51
27:1:29:LYS:N	27:1:30:PRO:HD3	2.26	0.51
4:C:6:LYS:HB3	4:C:8:THR:HG22	1.92	0.51
9:H:83:LYS:O	9:H:91:PHE:N	2.43	0.51
2:B:279:A:H61	2:B:361:G:H1'	1.75	0.51
19:S:57:ASN:O	19:S:61:ASN:HB2	2.10	0.51
2:B:1495:A:H2'	2:B:1496:A:C8	2.46	0.51
4:C:18:VAL:O	4:C:18:VAL:HG13	2.09	0.51
2:B:861:A:H2'	2:B:862:G:O4'	2.10	0.51
2:B:2662:A:H2'	2:B:2663:G:O4'	2.11	0.51
2:B:1203:U:H3'	2:B:1204:A:H5''	1.92	0.51
12:L:3:LEU:O	12:L:5:THR:N	2.43	0.51
13:M:97:GLN:HB2	13:M:98:PRO:CD	2.40	0.51
31:I:125:THR:O	31:I:129:GLU:HG3	2.10	0.51
7:F:104:THR:HB	7:F:105:ILE:HD12	1.92	0.51
7:F:103:ILE:HD11	7:F:174:PHE:CG	2.46	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:103:ILE:HD11	7:F:174:PHE:HA	1.92	0.51
2:B:62:U:C2'	2:B:63:A:H5'	2.39	0.51
2:B:165:A:H2'	2:B:166:U:C6	2.44	0.51
30:4:3:VAL:HB	30:4:37:GLN:HE22	1.75	0.51
2:B:1794:A:O2'	2:B:1795:C:H5'	2.10	0.51
2:B:2395:C:H2'	2:B:2396:G:O4'	2.10	0.51
6:E:98:LYS:NZ	6:E:99:LYS:HG2	2.24	0.51
9:H:26:ALA:C	9:H:28:ASN:H	2.14	0.51
2:B:1430:G:H2'	2:B:1431:A:O4'	2.10	0.51
15:O:111:ARG:HD2	15:O:117:PHE:C	2.31	0.51
2:B:60:G:C6	2:B:74:A:N6	2.78	0.51
28:2:43:THR:O	28:2:44:VAL:C	2.48	0.51
2:B:2772:C:H4'	5:D:171:THR:CG2	2.41	0.51
17:Q:56:PHE:O	17:Q:59:LEU:HB3	2.10	0.51
14:N:81:ASN:O	14:N:85:PRO:HD2	2.10	0.51
6:E:29:HIS:O	6:E:33:VAL:HG23	2.10	0.51
2:B:674:G:H5''	6:E:71:GLY:N	2.26	0.51
27:1:8:ILE:HD11	27:1:52:LYS:HG3	1.92	0.51
18:R:16:GLU:HA	18:R:98:ILE:O	2.09	0.51
16:P:50:ARG:HB3	16:P:56:SER:HB3	1.93	0.51
1:A:74:U:H2'	1:A:75:G:H8	1.73	0.51
19:S:66:ILE:HG12	19:S:67:ASP:N	2.24	0.51
2:B:329:G:N2	21:U:16:LYS:HE3	2.25	0.51
2:B:744:U:H2'	2:B:745:G:O4'	2.11	0.51
2:B:2556:C:H2'	2:B:2557:G:O4'	2.11	0.51
2:B:1793:C:H2'	2:B:1794:A:C8	2.46	0.51
2:B:2085:U:O2'	2:B:2086:U:H5'	2.11	0.51
2:B:2538:C:O2'	2:B:2539:C:H5'	2.11	0.51
2:B:2740:A:H2'	2:B:2741:A:C8	2.46	0.51
3:V:77:VAL:HA	3:V:89:ILE:HG22	1.92	0.51
30:4:27:CYS:SG	30:4:29:ALA:HB3	2.51	0.51
6:E:112:LEU:C	6:E:114:ARG:H	2.13	0.51
2:B:438:G:H2'	2:B:439:A:C8	2.46	0.51
2:B:1511:G:H2'	2:B:1512:C:C6	2.45	0.51
2:B:596:U:H2'	2:B:597:G:H8	1.75	0.51
2:B:1973:G:H2'	2:B:1974:C:C6	2.45	0.51
2:B:107:G:H2'	2:B:108:G:H8	1.76	0.51
4:C:245:THR:C	4:C:247:TRP:H	2.14	0.51
2:B:297:G:H5''	21:U:84:PHE:HB3	1.93	0.51
6:E:117:ARG:NH1	12:L:2:ARG:HB2	2.25	0.51
19:S:73:LYS:HE3	19:S:74:ILE:N	2.25	0.51
2:B:544:C:H2'	2:B:545:U:C5	2.45	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Z:7:VAL:HG21	25:Z:59:ILE:CD1	2.40	0.51
25:Z:5:CYS:SG	25:Z:7:VAL:HG12	2.50	0.51
2:B:2674:G:H2'	2:B:2675:A:C8	2.45	0.51
20:T:39:THR:O	20:T:39:THR:HG23	2.10	0.51
24:Y:50:VAL:HA	24:Y:52:PHE:CE1	2.45	0.51
5:D:51:THR:HG22	5:D:52:THR:N	2.24	0.51
18:R:39:LEU:HD23	18:R:39:LEU:N	2.26	0.51
2:B:2188:U:H2'	2:B:2189:U:H6	1.73	0.51
9:H:49:ALA:HB3	9:H:50:ARG:CZ	2.41	0.51
2:B:2745:C:O3'	8:G:141:GLY:HA3	2.10	0.51
2:B:1580:A:H2'	2:B:1581:G:O4'	2.11	0.51
6:E:1:MET:O	6:E:13:THR:HA	2.09	0.51
2:B:2869:G:H2'	2:B:2870:C:O4'	2.10	0.51
2:B:492:A:H2'	2:B:493:G:O4'	2.10	0.51
23:X:13:GLU:HA	23:X:16:THR:OG1	2.11	0.51
2:B:81:G:H2'	2:B:82:U:O4'	2.09	0.51
22:W:45:HIS:HB3	22:W:52:CYS:HB2	1.93	0.51
2:B:241:A:OP1	2:B:241:A:H8	1.93	0.51
22:W:18:LYS:HG3	22:W:19:ARG:H	1.76	0.51
1:A:42:C:C6	7:F:65:LEU:HD13	2.46	0.51
4:C:93:VAL:HG13	4:C:94:LEU:H	1.75	0.51
2:B:2882:A:H3'	2:B:2883:A:H5''	1.92	0.51
2:B:1203:U:H3'	2:B:1204:A:C5'	2.40	0.51
4:C:130:PRO:HG2	4:C:133:ASN:ND2	2.25	0.51
25:Z:63:GLY:O	25:Z:67:VAL:HG23	2.11	0.51
2:B:1022:G:N2	2:B:1142:A:C2	2.76	0.51
11:K:60:ALA:HB2	11:K:86:LEU:HA	1.93	0.51
14:N:106:ASP:C	14:N:108:ALA:H	2.13	0.51
2:B:2075:U:H2'	2:B:2238:G:N2	2.26	0.51
6:E:150:THR:HG21	6:E:153:LEU:HA	1.92	0.51
2:B:1247:A:O2'	2:B:1248:G:H5'	2.11	0.51
5:D:141:ARG:O	5:D:142:VAL:HG13	2.10	0.51
2:B:526:A:N6	2:B:2626:C:H4'	2.26	0.51
2:B:2700:A:H2'	2:B:2701:U:C6	2.46	0.51
2:B:1921:G:H2'	2:B:1922:G:H8	1.76	0.51
2:B:2098:U:H2'	2:B:2099:U:C6	2.45	0.51
17:Q:24:TYR:CG	17:Q:25:GLY:N	2.78	0.51
2:B:2246:G:H2'	2:B:2247:A:C8	2.46	0.51
2:B:1965:C:H5''	2:B:1966:A:H2'	1.92	0.51
11:K:79:PHE:CD1	11:K:79:PHE:N	2.78	0.51
2:B:1541:C:H2'	2:B:1542:U:O4'	2.11	0.51
10:J:42:ALA:O	10:J:44:TYR:N	2.43	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:44:TYR:CD2	17:Q:59:LEU:HD21	2.45	0.51
17:Q:80:ASN:ND2	17:Q:81:GLY:H	2.09	0.51
9:H:103:VAL:HG12	9:H:106:ALA:HB3	1.91	0.51
10:J:36:LEU:O	10:J:51:GLY:HA3	2.10	0.51
6:E:128:ALA:H	6:E:133:LEU:CD1	2.24	0.51
9:H:83:LYS:HD2	9:H:91:PHE:CD1	2.45	0.51
31:I:29:GLN:HA	31:I:29:GLN:HE21	1.75	0.51
16:P:98:TYR:C	16:P:100:ARG:H	2.13	0.51
2:B:836:G:H2'	2:B:837:C:H6	1.72	0.51
20:T:12:ARG:HE	23:X:29:ARG:NH1	2.09	0.51
2:B:2065:C:H1'	2:B:2449:U:O2	2.11	0.51
2:B:2449:U:H4'	2:B:2450:A:OP1	2.11	0.51
2:B:1949:G:H2'	2:B:1950:G:H8	1.75	0.51
2:B:2634:A:H2'	2:B:2635:A:C8	2.46	0.51
4:C:245:THR:OG1	4:C:249:VAL:HG23	2.10	0.51
4:C:53:ILE:O	4:C:53:ILE:HG23	2.11	0.51
2:B:1688:U:H2'	2:B:1698:A:N6	2.26	0.51
2:B:315:G:H2'	2:B:316:C:C6	2.46	0.51
2:B:794:A:H2'	2:B:795:C:H6	1.76	0.51
2:B:1256:G:H21	6:E:77:ILE:HG22	1.75	0.51
2:B:1193:G:H2'	2:B:1194:A:H5''	1.93	0.51
12:L:2:ARG:HG2	12:L:2:ARG:O	2.11	0.51
2:B:964:C:O2'	2:B:2273:A:H1'	2.11	0.51
5:D:117:GLY:O	5:D:119:ALA:N	2.44	0.51
8:G:7:PRO:O	8:G:8:VAL:HB	2.10	0.51
16:P:112:ARG:HB2	16:P:112:ARG:NH1	2.26	0.51
2:B:2258:C:H5'	2:B:2259:U:C5	2.39	0.51
11:K:18:ARG:O	11:K:45:GLU:HB2	2.11	0.51
20:T:12:ARG:CD	23:X:29:ARG:HH12	2.23	0.51
2:B:1858:A:H2'	2:B:1859:U:O4'	2.11	0.51
6:E:153:LEU:HG	6:E:154:ASP:H	1.76	0.51
2:B:199:A:O2'	2:B:200:U:H5'	2.11	0.51
4:C:14:HIS:O	4:C:16:VAL:HG23	2.10	0.51
4:C:173:LEU:HD13	4:C:173:LEU:N	2.25	0.51
2:B:1150:C:H2'	2:B:1151:A:H8	1.76	0.51
2:B:1880:U:H2'	2:B:1881:C:C6	2.45	0.51
2:B:2398:U:H2'	2:B:2399:G:C8	2.46	0.51
2:B:1642:G:O2'	2:B:1643:G:H5'	2.11	0.51
2:B:69:C:H2'	2:B:70:G:C8	2.46	0.51
28:2:39:ARG:HG3	28:2:39:ARG:HH11	1.76	0.51
8:G:91:VAL:O	8:G:93:TYR:N	2.44	0.51
2:B:596:U:H2'	2:B:597:G:C8	2.45	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2233:U:H2'	2:B:2234:G:C8	2.46	0.51
18:R:6:GLN:HE22	18:R:9:GLY:CA	2.23	0.51
2:B:2379:G:H2'	2:B:2380:C:C6	2.46	0.51
14:N:8:ARG:HG2	14:N:10:LEU:HD22	1.93	0.51
22:W:17:ALA:HB1	22:W:37:VAL:H	1.76	0.51
22:W:48:ALA:HB3	22:W:81:ILE:HG13	1.93	0.51
5:D:8:LYS:HG2	5:D:197:THR:H	1.76	0.51
7:F:122:ASP:OD2	7:F:126:ASN:HB2	2.10	0.51
7:F:91:ARG:HD3	7:F:91:ARG:N	2.26	0.51
4:C:128:THR:CA	4:C:190:THR:HG22	2.35	0.51
11:K:26:GLY:O	11:K:30:ARG:HD2	2.10	0.51
31:I:33:ASN:HD21	31:I:64:ARG:NH1	2.03	0.51
24:Y:20:LYS:HA	24:Y:23:LEU:HB2	1.93	0.51
18:R:49:ILE:O	18:R:49:ILE:HD12	2.11	0.51
2:B:263:G:H2'	2:B:264:C:O4'	2.11	0.51
2:B:1335:C:H2'	2:B:1336:A:C8	2.46	0.51
15:O:56:LYS:O	15:O:57:ALA:C	2.49	0.51
2:B:1120:G:O2'	2:B:1121:C:H5'	2.11	0.51
2:B:1863:G:H2'	2:B:1864:U:O4'	2.10	0.51
2:B:2630:G:H2'	2:B:2631:G:H8	1.76	0.51
2:B:2597:G:H5'	4:C:240:GLY:HA3	1.93	0.51
7:F:91:ARG:O	7:F:92:GLY:C	2.49	0.51
2:B:4:U:H2'	2:B:5:A:H8	1.76	0.51
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.46	0.51
5:D:116:LYS:HD2	5:D:123:LYS:HE2	1.93	0.51
2:B:674:G:H4'	6:E:69:ARG:HB3	1.92	0.51
20:T:10:VAL:HG21	20:T:42:GLU:HG3	1.92	0.51
11:K:120:PRO:HA	16:P:65:ASN:ND2	2.25	0.51
18:R:22:LEU:HD12	18:R:25:LEU:HD23	1.91	0.51
30:4:15:LYS:O	30:4:16:ILE:HB	2.11	0.51
4:C:35:LYS:HG2	4:C:36:ASN:N	2.23	0.51
18:R:4:VAL:O	18:R:38:VAL:HA	2.11	0.51
2:B:1324:G:C6	2:B:1331:G:C6	2.98	0.51
2:B:1149:G:H2'	2:B:1150:C:H6	1.75	0.51
2:B:2101:A:H3'	2:B:2102:G:H5''	1.92	0.51
15:O:111:ARG:HG2	15:O:117:PHE:CZ	2.46	0.51
2:B:2405:G:H1'	2:B:2412:A:H61	1.76	0.51
3:V:16:ALA:CA	3:V:19:ARG:HH21	2.25	0.51
11:K:79:PHE:HD2	16:P:69:VAL:HG12	1.75	0.51
15:O:84:GLU:C	15:O:86:GLY:H	2.15	0.51
2:B:2529:G:H4'	8:G:174:LYS:HB2	1.91	0.51
25:Z:2:SER:O	25:Z:4:VAL:HG13	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:60:C:H2'	1:A:61:G:H8	1.76	0.51
19:S:29:VAL:HG11	19:S:55:ILE:CD1	2.37	0.50
2:B:2721:A:H2'	2:B:2722:G:H8	1.76	0.50
9:H:130:VAL:O	9:H:142:VAL:HB	2.11	0.50
2:B:1023:U:H2'	2:B:1024:G:H5'	1.93	0.50
8:G:8:VAL:HG11	8:G:49:LEU:CB	2.34	0.50
18:R:62:GLU:O	18:R:96:VAL:HA	2.10	0.50
5:D:148:GLN:HG3	5:D:152:PRO:CB	2.41	0.50
1:A:7:G:O2'	1:A:8:C:H5'	2.10	0.50
18:R:60:LYS:N	18:R:100:GLY:HA3	2.24	0.50
2:B:307:G:N2	2:B:309:A:H3'	2.25	0.50
8:G:25:ILE:HD13	8:G:74:MET:HE2	1.93	0.50
2:B:718:A:H5'	2:B:719:C:C5	2.46	0.50
2:B:79:C:HO2'	2:B:346:A:H1'	1.75	0.50
2:B:184:C:H2'	2:B:185:G:C8	2.45	0.50
2:B:1872:A:H8	2:B:1872:A:O5'	1.95	0.50
2:B:521:U:H2'	2:B:522:A:H8	1.74	0.50
2:B:1744:A:H2'	2:B:1745:A:C8	2.46	0.50
31:I:49:GLU:CG	31:I:54:ILE:HD11	2.41	0.50
2:B:794:A:H2'	2:B:795:C:C6	2.46	0.50
1:A:43:C:O2'	7:F:91:ARG:HD2	2.11	0.50
12:L:95:LEU:HD12	12:L:95:LEU:H	1.76	0.50
2:B:1799:G:C5	4:C:175:LEU:HD13	2.46	0.50
2:B:2674:G:H4'	11:K:30:ARG:HG3	1.93	0.50
8:G:140:ILE:HA	8:G:143:VAL:CG2	2.41	0.50
11:K:115:ILE:HG23	11:K:116:ILE:N	2.26	0.50
2:B:122:G:O2'	2:B:123:G:H5'	2.11	0.50
7:F:71:LYS:O	7:F:72:SER:HB3	2.11	0.50
2:B:1857:G:H2'	2:B:1884:G:H22	1.75	0.50
2:B:200:U:O2'	25:Z:22:LEU:HD12	2.11	0.50
2:B:2460:U:O5'	2:B:2460:U:H6	1.94	0.50
2:B:1998:A:OP2	5:D:141:ARG:NH2	2.43	0.50
2:B:968:C:H2'	2:B:969:G:C8	2.44	0.50
2:B:1458:U:C2'	2:B:1459:G:H5''	2.41	0.50
2:B:693:A:H2'	2:B:694:U:C6	2.47	0.50
2:B:257:C:H2'	2:B:258:G:O4'	2.10	0.50
13:M:42:THR:O	13:M:45:GLN:HB2	2.12	0.50
12:L:131:ALA:O	12:L:134:ALA:HB3	2.12	0.50
2:B:850:U:O2'	24:Y:22:THR:HG22	2.11	0.50
22:W:17:ALA:HA	22:W:35:ILE:CG2	2.40	0.50
4:C:43:ASN:HD22	4:C:44:ASN:H	1.59	0.50
4:C:142:ASN:CG	4:C:142:ASN:O	2.49	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:161:VAL:O	4:C:162:GLN:HB2	2.11	0.50
9:H:72:ILE:HG13	9:H:75:LEU:HD21	1.92	0.50
2:B:137:U:H2'	2:B:138:U:O4'	2.10	0.50
31:I:11:GLN:HG3	31:I:11:GLN:O	2.10	0.50
3:V:51:GLN:HB2	3:V:57:TYR:OH	2.10	0.50
8:G:26:LYS:HG2	8:G:27:GLY:N	2.25	0.50
2:B:1439:A:N7	2:B:1440:U:N1	2.59	0.50
2:B:2747:G:H2'	2:B:2748:A:C8	2.46	0.50
2:B:2657:A:H2'	2:B:2658:C:O4'	2.10	0.50
2:B:163:C:O4'	2:B:163:C:O2	2.25	0.50
24:Y:23:LEU:CD1	24:Y:28:LEU:HB2	2.41	0.50
2:B:2298:A:H2'	2:B:2299:U:O4'	2.12	0.50
2:B:2867:G:C2'	2:B:2867:G:N3	2.74	0.50
10:J:57:LEU:CD2	10:J:128:ASN:HA	2.41	0.50
21:U:21:ARG:HG3	21:U:21:ARG:HH11	1.76	0.50
2:B:2189:U:O2'	2:B:2190:G:H5'	2.12	0.50
2:B:201:C:H1'	2:B:250:G:O6	2.11	0.50
2:B:1197:G:H2'	2:B:1198:U:H6	1.75	0.50
2:B:1881:C:H2'	2:B:1882:U:O4'	2.10	0.50
2:B:1838:C:H4'	2:B:1839:G:H8	1.76	0.50
2:B:41:C:H2'	2:B:42:A:C8	2.45	0.50
31:I:23:VAL:HG23	31:I:24:GLY:H	1.76	0.50
2:B:839:U:H1'	2:B:1191:G:H1'	1.94	0.50
2:B:305:C:H2'	2:B:306:U:C6	2.45	0.50
2:B:2137:U:H2'	2:B:2138:G:O4'	2.11	0.50
2:B:2684:U:H2'	2:B:2685:G:O4'	2.11	0.50
22:W:23:LYS:CG	22:W:24:ARG:N	2.75	0.50
19:S:24:ILE:CD1	19:S:36:LEU:HD21	2.41	0.50
17:Q:90:ASP:O	17:Q:94:LEU:HB2	2.10	0.50
4:C:136:VAL:HG12	4:C:137:GLY:N	2.26	0.50
2:B:2811:G:O2'	2:B:2812:G:H5'	2.10	0.50
12:L:57:LEU:C	12:L:59:ARG:H	2.14	0.50
10:J:64:VAL:O	10:J:68:LYS:HD2	2.11	0.50
2:B:2849:U:N3	2:B:2867:G:C8	2.79	0.50
4:C:221:GLY:O	4:C:224:MET:HG3	2.11	0.50
2:B:1886:U:H2'	2:B:1887:C:C6	2.46	0.50
2:B:2450:A:O2'	2:B:2451:A:H5'	2.11	0.50
21:U:78:LYS:CD	21:U:79:ALA:H	2.24	0.50
2:B:175:G:O2'	2:B:176:A:H5'	2.11	0.50
2:B:58:G:N3	2:B:73:A:H2	2.09	0.50
22:W:46:ALA:HB2	22:W:78:PHE:HD1	1.76	0.50
8:G:102:ILE:HG13	8:G:116:LEU:HD11	1.94	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1820:U:H4'	2:B:1821:A:OP2	2.12	0.50
15:O:110:ALA:HA	15:O:113:ALA:HB3	1.93	0.50
1:A:109:A:H2'	1:A:110:C:O4'	2.11	0.50
21:U:81:ARG:HB2	21:U:96:LYS:HG2	1.92	0.50
7:F:1:ALA:O	7:F:4:HIS:HB3	2.11	0.50
10:J:48:VAL:HG12	10:J:50:THR:HG23	1.94	0.50
2:B:581:C:H2'	2:B:582:A:H8	1.77	0.50
16:P:25:VAL:HA	16:P:85:VAL:C	2.32	0.50
11:K:105:ARG:H	11:K:105:ARG:CD	2.24	0.50
7:F:107:VAL:N	7:F:108:PRO:CD	2.75	0.50
1:A:76:G:H1	1:A:101:A:N6	2.10	0.50
2:B:931:U:H3	2:B:1166:G:H21	1.60	0.50
2:B:130:C:O2'	2:B:131:A:H5'	2.11	0.50
6:E:48:THR:C	6:E:50:ALA:H	2.13	0.50
2:B:1374:G:H2'	2:B:1375:U:C6	2.47	0.50
2:B:1150:C:O2'	2:B:1151:A:H5'	2.11	0.50
2:B:1199:U:H2'	2:B:1200:C:H6	1.76	0.50
3:V:89:ILE:HD12	3:V:89:ILE:O	2.12	0.50
13:M:90:GLU:OE1	13:M:90:GLU:HA	2.12	0.50
29:3:16:THR:C	29:3:18:LYS:H	2.15	0.50
2:B:406:G:O2'	2:B:407:G:H5'	2.12	0.50
2:B:519:U:H2'	2:B:520:G:H8	1.77	0.50
2:B:1083:U:H2'	2:B:1085:A:OP2	2.11	0.50
2:B:455:C:N3	2:B:473:G:H5'	2.26	0.50
5:D:104:VAL:HA	5:D:106:LYS:HZ1	1.77	0.50
14:N:38:LEU:CB	14:N:39:PRO:HD3	2.37	0.50
2:B:626:A:H2'	12:L:78:ARG:NH1	2.27	0.50
2:B:1482:G:H2'	2:B:1483:G:H8	1.76	0.50
2:B:1163:G:O2'	2:B:1164:C:H5'	2.12	0.50
4:C:90:ILE:HD12	4:C:102:TYR:HB3	1.93	0.50
2:B:2072:C:O2'	2:B:2073:C:H5'	2.12	0.50
6:E:5:LEU:CD1	6:E:10:SER:HB2	2.41	0.50
2:B:219:A:O2'	2:B:220:G:H5'	2.12	0.50
2:B:1403:A:H2'	2:B:1404:C:C6	2.46	0.50
2:B:338:G:N2	2:B:339:U:H1'	2.26	0.50
2:B:2269:G:H4'	22:W:19:ARG:NH1	2.22	0.50
5:D:106:LYS:O	5:D:107:VAL:HB	2.12	0.50
5:D:10:GLY:O	5:D:11:MET:HB2	2.11	0.50
11:K:34:GLY:O	11:K:36:GLY:N	2.44	0.50
26:O:47:TYR:O	26:O:48:TYR:HB2	2.11	0.50
17:Q:63:ARG:CZ	17:Q:96:ASP:HA	2.41	0.50
2:B:1141:U:H5''	10:J:27:ARG:HH21	1.76	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:7:ARG:O	15:O:96:GLY:HA3	2.11	0.50
2:B:2577:A:H5''	2:B:2578:G:H5'	1.94	0.50
13:M:35:ALA:O	13:M:36:VAL:HB	2.12	0.50
2:B:588:U:H2'	2:B:589:U:C6	2.46	0.50
2:B:784:G:OP1	2:B:2588:G:H5''	2.12	0.50
7:F:134:GLN:O	7:F:136:ILE:N	2.44	0.50
21:U:11:ILE:HA	21:U:21:ARG:HG2	1.94	0.50
2:B:671:C:O2'	2:B:672:C:H5'	2.12	0.50
5:D:9:VAL:O	5:D:9:VAL:HG13	2.11	0.50
3:V:53:LYS:HD2	3:V:55:GLU:OE1	2.12	0.50
2:B:692:C:H2'	2:B:693:A:H8	1.77	0.50
2:B:1563:U:O2'	2:B:1564:C:H5'	2.11	0.50
16:P:31:VAL:O	16:P:32:VAL:HG12	2.12	0.50
2:B:1117:C:H2'	2:B:1118:C:C6	2.46	0.50
2:B:2355:G:O3'	22:W:20:LEU:HD13	2.11	0.50
7:F:47:LYS:HA	7:F:50:ASP:OD1	2.11	0.50
10:J:44:TYR:O	10:J:45:THR:HB	2.12	0.50
10:J:64:VAL:HG11	10:J:69:ARG:HB2	1.93	0.50
2:B:2034:U:O2'	2:B:2035:G:H5'	2.12	0.50
11:K:118:LEU:O	11:K:120:PRO:HD2	2.12	0.50
7:F:102:LEU:HA	7:F:106:ALA:HB3	1.92	0.50
15:O:24:THR:O	15:O:90:VAL:HB	2.12	0.50
30:4:4:ARG:N	30:4:37:GLN:HE22	2.09	0.50
2:B:598:U:H2'	2:B:599:A:H8	1.76	0.50
2:B:1259:G:H2'	2:B:1260:A:C8	2.47	0.50
2:B:2798:U:H5''	2:B:2799:A:OP1	2.10	0.50
22:W:50:VAL:HG23	22:W:61:LYS:HE3	1.92	0.50
10:J:44:TYR:CE2	17:Q:59:LEU:HD11	2.47	0.50
4:C:119:VAL:HA	4:C:133:ASN:ND2	2.27	0.50
2:B:2720:U:H2'	2:B:2721:A:C8	2.47	0.50
2:B:1173:U:HO2'	2:B:1176:U:H3	1.60	0.50
24:Y:37:ARG:HG2	24:Y:43:ILE:CD1	2.42	0.50
2:B:1509:A:H5''	2:B:1509:A:C8	2.46	0.50
8:G:84:LYS:HG3	8:G:131:VAL:HA	1.94	0.50
8:G:148:ARG:HD3	8:G:152:ARG:NE	2.27	0.50
2:B:1395:A:H4'	2:B:1397:U:C5	2.47	0.50
2:B:2872:A:H1'	2:B:2873:A:C8	2.47	0.50
1:A:32:U:C4'	1:A:52:A:H62	2.22	0.50
2:B:1794:A:H2'	2:B:1795:C:H6	1.77	0.50
2:B:1911:U:H2'	2:B:1918:A:N1	2.27	0.50
2:B:2527:C:O3'	30:4:31:PRO:HB2	2.12	0.50
23:X:18:LEU:O	23:X:22:LEU:HB3	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1817:G:OP1	4:C:86:ARG:NH2	2.45	0.50
2:B:2405:G:H1'	2:B:2412:A:N6	2.26	0.50
15:O:56:LYS:C	15:O:60:GLU:HG2	2.32	0.50
1:A:78:A:H2'	1:A:79:G:O4'	2.12	0.50
2:B:2519:U:C6	2:B:2542:A:N6	2.80	0.50
2:B:601:C:H2'	2:B:602:A:H8	1.76	0.50
2:B:2295:C:O2'	2:B:2296:U:H5'	2.12	0.50
2:B:1742:U:H2'	2:B:1743:G:C8	2.47	0.50
2:B:24:G:H1'	19:S:77:ASP:HB3	1.94	0.50
13:M:74:THR:O	13:M:75:GLU:HB2	2.11	0.50
7:F:86:CYS:O	7:F:88:VAL:HG23	2.12	0.49
12:L:6:LEU:CD2	12:L:6:LEU:H	2.20	0.49
2:B:2786:U:C5'	5:D:70:LYS:HG3	2.42	0.49
2:B:138:U:H2'	2:B:140:C:O4'	2.11	0.49
2:B:1173:U:O5'	2:B:1173:U:H6	1.95	0.49
2:B:1175:A:H2'	2:B:1176:U:H5'	1.94	0.49
2:B:1436:G:O2'	2:B:1437:C:H5'	2.12	0.49
11:K:40:LYS:NZ	11:K:59:LYS:HE3	2.26	0.49
20:T:68:LYS:O	20:T:69:ARG:CB	2.59	0.49
11:K:113:MET:HA	11:K:116:ILE:HD11	1.94	0.49
4:C:106:PRO:O	4:C:109:LEU:HD13	2.12	0.49
7:F:71:LYS:HD3	7:F:73:VAL:O	2.12	0.49
11:K:43:ILE:CG2	11:K:46:ALA:HB2	2.42	0.49
22:W:30:VAL:HG13	22:W:30:VAL:O	2.12	0.49
2:B:2885:G:H2'	2:B:2886:A:C4'	2.42	0.49
2:B:45:G:C5'	2:B:46:G:H5'	2.40	0.49
2:B:2215:C:H2'	2:B:2216:G:H8	1.77	0.49
21:U:64:ILE:HG13	21:U:68:ASN:HD22	1.77	0.49
2:B:934:U:H2'	2:B:935:C:H6	1.77	0.49
12:L:120:VAL:HG12	12:L:121:THR:N	2.26	0.49
2:B:2760:C:O2'	2:B:2761:A:H5'	2.12	0.49
22:W:37:VAL:CG1	22:W:38:ARG:HH11	2.24	0.49
5:D:174:SER:O	5:D:175:LEU:HB2	2.11	0.49
16:P:3:ILE:CD1	16:P:7:LEU:HD11	2.42	0.49
20:T:29:THR:CG2	20:T:86:THR:HG22	2.42	0.49
23:X:55:THR:O	23:X:58:ASN:HB3	2.13	0.49
2:B:729:G:H5''	2:B:730:A:H5''	1.93	0.49
2:B:1590:A:H2'	2:B:1591:A:C8	2.48	0.49
6:E:161:ALA:CA	6:E:164:LEU:HB2	2.37	0.49
2:B:1386:C:H2'	2:B:1387:A:H8	1.72	0.49
30:4:8:LYS:O	30:4:25:VAL:HG21	2.12	0.49
14:N:63:ARG:O	14:N:66:ALA:HB3	2.11	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Z:21:ALA:HB3	25:Z:23:ASN:HD21	1.77	0.49
2:B:2805:C:O2'	2:B:2806:C:H5'	2.12	0.49
2:B:2394:C:OP1	12:L:63:LYS:HG2	2.12	0.49
4:C:20:ASN:OD1	4:C:22:GLU:HG2	2.12	0.49
2:B:1843:C:H5''	4:C:250:GLN:NE2	2.25	0.49
2:B:685:A:H1'	2:B:688:U:O4	2.13	0.49
31:I:72:THR:HG21	31:I:111:THR:O	2.12	0.49
2:B:925:A:O2'	2:B:926:G:H5'	2.12	0.49
2:B:853:C:O2'	2:B:854:C:H5'	2.11	0.49
20:T:4:GLU:OE1	20:T:5:GLU:HG2	2.12	0.49
5:D:204:LYS:HB2	5:D:205:PRO:HD2	1.93	0.49
26:O:42:ILE:HG22	26:O:43:THR:O	2.12	0.49
18:R:5:PHE:HB2	18:R:37:GLU:OE1	2.12	0.49
13:M:40:ARG:HB3	13:M:95:LEU:HD12	1.93	0.49
9:H:73:ASN:ND2	9:H:74:ALA:N	2.56	0.49
2:B:2443:C:O2'	2:B:2444:G:H5'	2.13	0.49
20:T:43:ILE:O	20:T:46:ALA:HB3	2.13	0.49
2:B:725:G:H2'	2:B:726:G:C1'	2.43	0.49
14:N:108:ALA:O	14:N:110:MET:HE3	2.12	0.49
7:F:169:LEU:HB3	7:F:174:PHE:CD1	2.47	0.49
8:G:148:ARG:HB2	8:G:152:ARG:HH11	1.76	0.49
2:B:37:C:O2'	2:B:38:A:H5'	2.13	0.49
10:J:35:ARG:HA	10:J:40:HIS:NE2	2.27	0.49
2:B:1789:A:OP1	4:C:220:ARG:HD3	2.12	0.49
1:A:55:U:H2'	1:A:56:G:C8	2.47	0.49
10:J:106:LYS:HA	10:J:106:LYS:HE3	1.94	0.49
2:B:1914:C:H2'	2:B:1915:U:C6	2.47	0.49
8:G:10:VAL:CG1	8:G:16:VAL:HG21	2.41	0.49
2:B:2247:A:H3'	34:B:4086:HOH:O	2.11	0.49
21:U:73:ASN:C	21:U:75:ALA:H	2.16	0.49
2:B:764:A:H5''	4:C:208:GLY:HA2	1.94	0.49
2:B:1893:C:H2'	2:B:1894:C:O4'	2.12	0.49
19:S:23:LEU:HD21	26:O:21:LEU:HB3	1.93	0.49
2:B:2899:A:H5'	10:J:136:GLN:OE1	2.12	0.49
17:Q:57:ARG:HA	17:Q:60:TRP:CE3	2.47	0.49
25:Z:7:VAL:HG13	25:Z:8:THR:CG2	2.39	0.49
1:A:88:C:H1'	1:A:89:U:C5	2.46	0.49
2:B:329:G:O6	21:U:16:LYS:HG2	2.11	0.49
2:B:2353:G:H1'	22:W:30:VAL:HG12	1.91	0.49
2:B:289:G:H2'	2:B:290:U:O4'	2.12	0.49
10:J:13:ARG:HB3	10:J:53:TYR:CD2	2.45	0.49
2:B:2027:G:C6	2:B:2028:U:C4	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:48:VAL:HG13	21:U:48:VAL:O	2.12	0.49
2:B:337:C:H2'	2:B:338:G:O4'	2.12	0.49
2:B:2838:G:H2'	2:B:2839:G:H8	1.77	0.49
22:W:49:ASN:HA	22:W:61:LYS:HB2	1.94	0.49
2:B:83:A:OP1	21:U:91:LYS:HD2	2.12	0.49
7:F:31:GLU:HB3	7:F:156:THR:O	2.13	0.49
2:B:2813:A:H2'	2:B:2814:A:H8	1.76	0.49
14:N:115:LEU:O	14:N:117:ASP:N	2.45	0.49
12:L:3:LEU:O	12:L:5:THR:HG23	2.13	0.49
11:K:105:ARG:HD2	11:K:122:VAL:HG11	1.94	0.49
2:B:1729:U:C2'	2:B:1730:C:H4'	2.36	0.49
9:H:53:GLU:HG3	9:H:57:LYS:HD3	1.94	0.49
10:J:12:LYS:HG3	10:J:41:LYS:NZ	2.27	0.49
10:J:35:ARG:HA	10:J:40:HIS:CD2	2.47	0.49
2:B:2088:A:H2'	2:B:2089:C:H6	1.76	0.49
1:A:14:U:H4'	1:A:70:C:O2	2.13	0.49
2:B:1229:C:H2'	2:B:1230:A:H8	1.76	0.49
2:B:1531:C:H2'	2:B:1532:A:H8	1.78	0.49
8:G:94:ARG:HG2	8:G:127:GLN:HE21	1.78	0.49
2:B:991:C:H5'	2:B:991:C:H6	1.78	0.49
2:B:211:C:O2'	2:B:212:G:H5'	2.12	0.49
21:U:62:ALA:O	21:U:63:ALA:HB3	2.12	0.49
4:C:141:HIS:NE2	4:C:194:VAL:HB	2.28	0.49
5:D:148:GLN:HG3	5:D:152:PRO:HB3	1.95	0.49
8:G:132:LEU:HD12	8:G:140:ILE:HG22	1.93	0.49
7:F:102:LEU:O	7:F:103:ILE:HB	2.11	0.49
13:M:69:PRO:HA	13:M:94:ALA:HA	1.94	0.49
2:B:418:C:H2'	2:B:419:U:H6	1.78	0.49
2:B:785:G:H2'	2:B:786:C:C6	2.46	0.49
2:B:2617:U:C2'	2:B:2618:G:H5'	2.42	0.49
2:B:230:G:H2'	2:B:231:A:H8	1.76	0.49
2:B:989:G:OP2	24:Y:13:ILE:HD11	2.12	0.49
9:H:21:VAL:HG22	9:H:22:LYS:N	2.28	0.49
15:O:66:GLY:HA2	15:O:102:ARG:NE	2.27	0.49
2:B:1230:A:H2'	2:B:1231:U:H6	1.77	0.49
15:O:93:ASP:C	15:O:95:SER:H	2.16	0.49
13:M:31:PHE:HB3	13:M:130:PHE:CZ	2.48	0.49
2:B:1080:A:O2'	2:B:1081:U:H5'	2.12	0.49
25:Z:53:ALA:O	25:Z:55:GLY:N	2.36	0.49
22:W:58:LEU:HG	22:W:79:ILE:HD12	1.94	0.49
4:C:43:ASN:HD22	4:C:44:ASN:N	2.10	0.49
31:I:74:PRO:O	31:I:77:VAL:HG22	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:582:A:H2'	2:B:583:G:H8	1.78	0.49
25:Z:7:VAL:HG11	25:Z:51:VAL:HG13	1.93	0.49
2:B:1057:A:H62	2:B:1086:A:H2'	1.78	0.49
11:K:98:ARG:C	11:K:99:ILE:HD12	2.33	0.49
31:I:21:PRO:CB	31:I:22:PRO:HD3	2.39	0.49
15:O:58:ILE:O	15:O:62:LEU:HB2	2.13	0.49
2:B:931:U:H3	2:B:1166:G:N2	2.11	0.49
2:B:2590:A:H5''	4:C:237:ARG:NH2	2.27	0.49
8:G:71:LEU:HD13	8:G:74:MET:SD	2.53	0.49
8:G:42:VAL:HG23	8:G:50:THR:O	2.12	0.49
2:B:1294:U:C2'	2:B:1295:C:H5'	2.42	0.49
2:B:1794:A:H2'	2:B:1795:C:C6	2.47	0.49
7:F:76:PHE:HD2	7:F:78:ILE:HD13	1.77	0.49
31:I:56:VAL:CG2	31:I:68:PHE:HB2	2.43	0.49
5:D:59:ARG:HD3	5:D:59:ARG:O	2.13	0.49
29:3:7:ARG:HG3	29:3:7:ARG:NH1	2.28	0.49
2:B:2836:U:H2'	2:B:2837:A:H8	1.77	0.49
2:B:1584:U:H5''	2:B:1585:C:C5	2.47	0.49
7:F:160:LYS:HG3	7:F:161:SER:N	2.28	0.49
22:W:27:GLY:O	22:W:63:ASP:HA	2.12	0.49
9:H:12:LEU:O	9:H:12:LEU:HG	2.13	0.49
5:D:107:VAL:HA	5:D:204:LYS:O	2.13	0.49
7:F:3:LEU:HD11	7:F:172:PHE:CG	2.47	0.49
7:F:45:ASP:HB3	7:F:48:LEU:CD2	2.43	0.49
17:Q:80:ASN:ND2	17:Q:81:GLY:N	2.61	0.49
25:Z:33:LEU:O	25:Z:34:HIS:CG	2.66	0.49
2:B:2734:A:H2'	2:B:2735:G:C5'	2.41	0.49
20:T:43:ILE:O	20:T:47:VAL:HG23	2.13	0.49
7:F:111:ARG:HD2	7:F:111:ARG:N	2.28	0.49
7:F:165:GLY:O	7:F:169:LEU:HD12	2.12	0.49
2:B:1470:A:H3'	2:B:1471:G:H8	1.77	0.49
18:R:35:PHE:C	18:R:58:VAL:HG23	2.33	0.49
2:B:309:A:H4'	21:U:15:GLY:CA	2.42	0.49
1:A:52:A:H3'	1:A:53:A:H8	1.76	0.49
6:E:170:ARG:NH2	6:E:176:ASP:HB2	2.28	0.49
2:B:751:A:C5'	19:S:90:LYS:HA	2.42	0.49
2:B:670:A:H4'	2:B:671:C:O5'	2.13	0.49
2:B:2015:A:H2'	2:B:2016:U:O4'	2.13	0.49
2:B:2875:C:H2'	2:B:2876:G:C8	2.47	0.49
2:B:817:C:H2'	2:B:818:G:O4'	2.13	0.49
2:B:454:A:H3'	2:B:455:C:H5'	1.95	0.49
22:W:32:ALA:C	22:W:34:SER:H	2.16	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:922:C:H1'	22:W:22:VAL:HG21	1.94	0.49
5:D:108:ASP:OD2	5:D:206:ALA:HA	2.12	0.49
7:F:62:GLN:HB2	7:F:91:ARG:HH11	1.78	0.49
1:A:42:C:C5	7:F:65:LEU:HD22	2.47	0.49
4:C:92:LEU:HG	4:C:93:VAL:H	1.78	0.49
6:E:118:LEU:O	6:E:119:ILE:HD13	2.12	0.49
4:C:153:LEU:HD13	4:C:175:LEU:HD21	1.94	0.49
3:V:30:ILE:O	3:V:37:PRO:HA	2.12	0.49
2:B:704:G:H1'	2:B:727:A:N6	2.27	0.49
8:G:84:LYS:H	8:G:85:LYS:HD2	1.77	0.49
8:G:89:VAL:HG12	8:G:90:GLY:N	2.26	0.49
20:T:15:HIS:O	20:T:16:VAL:C	2.51	0.49
2:B:2589:A:H2'	2:B:2590:A:H8	1.77	0.49
2:B:784:G:HO2'	2:B:785:G:H5''	1.77	0.49
2:B:245:G:H2'	2:B:246:C:H6	1.77	0.49
2:B:2462:C:H2'	2:B:2463:C:C6	2.48	0.49
2:B:2394:C:H2'	2:B:2395:C:C6	2.48	0.49
2:B:670:A:C4'	12:L:42:SER:HB2	2.42	0.49
15:O:106:LEU:HG	15:O:107:ALA:N	2.26	0.49
28:2:34:ARG:HE	28:2:39:ARG:HG2	1.78	0.49
2:B:256:A:H2'	2:B:257:C:H6	1.78	0.49
9:H:9:VAL:CG1	9:H:12:LEU:HG	2.43	0.49
2:B:2863:C:O2'	2:B:2864:G:H5'	2.12	0.49
4:C:77:VAL:HG23	4:C:112:GLY:N	2.08	0.49
6:E:181:ILE:HG13	12:L:2:ARG:HE	1.78	0.49
17:Q:63:ARG:HH21	17:Q:64:ILE:HD13	1.78	0.49
10:J:110:PRO:HB2	10:J:111:LYS:HE3	1.94	0.49
12:L:105:ILE:HG22	12:L:106:GLU:N	2.28	0.49
2:B:2721:A:H2'	2:B:2722:G:C8	2.48	0.49
2:B:1444:G:H2'	2:B:1445:G:C8	2.47	0.49
7:F:102:LEU:HD13	7:F:103:ILE:HB	1.93	0.49
5:D:30:GLU:OE1	5:D:53:GLY:HA2	2.13	0.49
8:G:42:VAL:HA	8:G:50:THR:O	2.13	0.49
2:B:2073:C:C5'	4:C:227:VAL:HG12	2.43	0.49
6:E:176:ASP:OD1	6:E:178:VAL:HG12	2.12	0.49
2:B:2101:A:H2'	2:B:2102:G:O4'	2.13	0.49
2:B:150:U:H2'	2:B:151:C:H6	1.76	0.49
2:B:2284:A:OP1	27:1:4:ILE:HG12	2.12	0.49
2:B:1951:U:H2'	2:B:1953:A:OP2	2.13	0.49
2:B:311:A:H3'	2:B:312:G:H8	1.78	0.49
29:3:25:HIS:HB2	29:3:43:LEU:O	2.13	0.49
2:B:392:U:H2'	2:B:393:C:H6	1.78	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:33:ILE:HB	7:F:90:LEU:HG	1.95	0.48
17:Q:80:ASN:C	17:Q:82:LEU:H	2.17	0.48
9:H:108:VAL:HG12	9:H:109:GLU:H	1.78	0.48
9:H:80:ILE:H	9:H:145:ASN:H	1.61	0.48
9:H:66:ASN:N	9:H:66:ASN:HD22	2.12	0.48
20:T:50:LEU:HD22	20:T:50:LEU:N	2.28	0.48
2:B:992:C:H2'	2:B:993:G:H8	1.78	0.48
2:B:1729:U:O4	2:B:1733:G:H1'	2.12	0.48
13:M:35:ALA:HB3	13:M:99:GLY:H	1.78	0.48
9:H:53:GLU:OE1	9:H:53:GLU:HA	2.12	0.48
13:M:86:LYS:HG3	13:M:87:GLY:N	2.27	0.48
2:B:2849:U:H4'	2:B:2850:A:C5'	2.43	0.48
2:B:2070:A:H2'	2:B:2071:A:C8	2.49	0.48
23:X:3:ALA:O	23:X:6:LEU:HB2	2.12	0.48
31:I:89:SER:HA	31:I:97:VAL:CG2	2.43	0.48
2:B:2783:U:H2'	2:B:2784:U:C6	2.47	0.48
26:O:18:HIS:HD1	26:O:18:HIS:H	1.59	0.48
8:G:116:LEU:HD23	8:G:121:THR:HA	1.94	0.48
8:G:93:TYR:O	8:G:94:ARG:HG3	2.11	0.48
2:B:2234:G:O2'	2:B:2235:G:H5'	2.13	0.48
17:Q:35:PHE:O	17:Q:39:ILE:HG12	2.13	0.48
2:B:796:C:H2'	2:B:797:G:H8	1.78	0.48
2:B:1985:C:O2'	2:B:1986:C:H5'	2.13	0.48
2:B:904:G:H2'	2:B:905:A:H8	1.77	0.48
2:B:851:C:H2'	2:B:852:U:H6	1.78	0.48
11:K:35:VAL:H	11:K:65:THR:HG21	1.78	0.48
19:S:17:VAL:HG11	19:S:103:ILE:HG12	1.93	0.48
5:D:116:LYS:HB3	5:D:118:PHE:CZ	2.47	0.48
2:B:2820:A:H4'	14:N:3:HIS:CG	2.48	0.48
9:H:64:ALA:O	9:H:65:ALA:HB2	2.13	0.48
2:B:1059:G:H2'	2:B:1060:U:C5	2.48	0.48
25:Z:76:GLU:HG3	25:Z:77:LYS:H	1.77	0.48
16:P:24:THR:N	16:P:87:ARG:O	2.47	0.48
18:R:61:ALA:HB1	18:R:96:VAL:HB	1.95	0.48
2:B:2569:G:O2'	2:B:2570:G:H5'	2.13	0.48
2:B:2531:A:H4'	8:G:156:TYR:CD1	2.48	0.48
15:O:39:VAL:HB	15:O:49:VAL:HG22	1.96	0.48
14:N:11:ASN:O	14:N:12:ARG:HB2	2.13	0.48
29:3:58:ILE:HG13	29:3:58:ILE:H	1.39	0.48
4:C:69:ASN:O	4:C:70:LYS:C	2.51	0.48
5:D:55:LYS:HB2	5:D:60:VAL:HG13	1.94	0.48
2:B:710:U:H2'	2:B:711:G:H8	1.79	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:29:ARG:H	24:Y:33:HIS:CD2	2.30	0.48
2:B:1838:C:H4'	2:B:1839:G:C8	2.48	0.48
1:A:91:C:H2'	1:A:92:C:C6	2.48	0.48
2:B:1210:G:H1'	2:B:1212:G:C2	2.48	0.48
2:B:2282:G:OP1	2:B:2283:C:H1'	2.13	0.48
10:J:75:TYR:CD1	10:J:86:GLN:HB3	2.48	0.48
2:B:1716:U:H2'	2:B:1717:A:H8	1.78	0.48
2:B:623:C:H2'	2:B:624:C:C6	2.48	0.48
2:B:2385:C:H2'	2:B:2386:A:C8	2.47	0.48
7:F:62:GLN:HG3	7:F:91:ARG:NH1	2.29	0.48
7:F:43:ILE:HA	7:F:46:LYS:HE2	1.95	0.48
21:U:26:ASN:ND2	21:U:26:ASN:N	2.62	0.48
19:S:25:ARG:HE	19:S:74:ILE:HG23	1.79	0.48
17:Q:68:ALA:O	17:Q:71:ASN:HB3	2.13	0.48
17:Q:91:ARG:HE	17:Q:94:LEU:HD23	1.77	0.48
18:R:10:LYS:N	18:R:10:LYS:HD2	2.27	0.48
25:Z:40:VAL:CG2	25:Z:43:GLU:HB3	2.34	0.48
25:Z:45:ARG:HE	25:Z:47:VAL:HG12	1.77	0.48
2:B:571:U:O2'	2:B:573:U:O5'	2.31	0.48
4:C:12:ARG:HA	4:C:15:VAL:CG2	2.44	0.48
7:F:105:ILE:C	7:F:108:PRO:HD2	2.34	0.48
8:G:154:GLU:CD	8:G:156:TYR:HB2	2.33	0.48
2:B:286:U:O2'	2:B:287:G:H5'	2.12	0.48
13:M:10:ARG:HG3	13:M:10:ARG:HH21	1.78	0.48
2:B:598:U:H2'	2:B:599:A:C8	2.47	0.48
21:U:11:ILE:HD13	21:U:11:ILE:O	2.12	0.48
2:B:2472:G:C2'	2:B:2475:C:H42	2.27	0.48
9:H:5:LEU:HD13	9:H:13:GLY:HA2	1.94	0.48
2:B:204:A:H4'	2:B:205:G:OP1	2.13	0.48
2:B:2539:C:H4'	30:4:36:ARG:HH21	1.77	0.48
21:U:41:VAL:O	21:U:59:GLU:HA	2.13	0.48
2:B:2083:G:H2'	2:B:2084:C:C6	2.48	0.48
2:B:816:C:O2'	2:B:817:C:H5'	2.13	0.48
8:G:28:LYS:HG2	8:G:79:THR:HA	1.95	0.48
2:B:320:A:H2'	6:E:131:THR:OG1	2.13	0.48
2:B:1711:A:O2'	2:B:1712:U:H5'	2.13	0.48
2:B:464:U:H2'	2:B:465:G:O4'	2.13	0.48
21:U:82:VAL:CG1	21:U:93:ARG:HB3	2.43	0.48
5:D:171:THR:HG23	5:D:172:VAL:H	1.78	0.48
7:F:126:ASN:ND2	7:F:156:THR:HG23	2.05	0.48
10:J:125:TYR:HH	10:J:132:HIS:CE1	2.32	0.48
12:L:73:ILE:HD12	12:L:106:GLU:HB2	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:77:ILE:HG12	12:L:95:LEU:HD22	1.94	0.48
3:V:72:VAL:HG21	3:V:91:PHE:CG	2.48	0.48
25:Z:56:MET:O	25:Z:59:ILE:HG12	2.13	0.48
2:B:979:A:H2'	2:B:982:C:N4	2.20	0.48
2:B:1387:A:H5'	2:B:1469:A:H1'	1.95	0.48
15:O:49:VAL:HG11	15:O:82:ALA:CA	2.41	0.48
7:F:70:ARG:HA	7:F:80:GLN:NE2	2.29	0.48
2:B:812:C:H5''	2:B:1250:G:O2'	2.12	0.48
22:W:30:VAL:HA	22:W:60:ALA:O	2.12	0.48
2:B:783:A:H2'	2:B:784:G:O5'	2.12	0.48
2:B:2557:G:H2'	2:B:2558:C:H6	1.74	0.48
3:V:77:VAL:CG1	13:M:136:MET:HB3	2.43	0.48
8:G:10:VAL:HG23	8:G:48:THR:HA	1.94	0.48
2:B:196:A:H5''	12:L:47:ARG:HH12	1.78	0.48
2:B:392:U:O2'	2:B:393:C:H5'	2.14	0.48
2:B:2716:C:H2'	2:B:2717:C:C6	2.48	0.48
2:B:235:U:H2'	2:B:236:C:C6	2.47	0.48
2:B:939:G:O2'	2:B:940:G:H5'	2.13	0.48
2:B:2286:G:H4'	2:B:2287:A:O4'	2.13	0.48
21:U:53:GLN:N	21:U:54:PRO:CD	2.76	0.48
7:F:33:ILE:O	7:F:90:LEU:HB2	2.14	0.48
4:C:43:ASN:HB2	4:C:49:THR:CG2	2.43	0.48
2:B:2305:U:H2'	2:B:2306:C:C6	2.47	0.48
2:B:1059:G:O2'	31:I:112:LYS:HE2	2.14	0.48
4:C:105:ALA:HB1	4:C:109:LEU:CD1	2.43	0.48
2:B:2025:C:H2'	2:B:2026:U:H6	1.77	0.48
2:B:2471:A:O2'	2:B:2472:G:O5'	2.30	0.48
2:B:1678:A:H2'	2:B:1679:A:C8	2.45	0.48
2:B:1848:A:H2'	2:B:1849:G:C8	2.47	0.48
9:H:48:GLU:HG2	9:H:49:ALA:N	2.29	0.48
9:H:26:ALA:C	9:H:28:ASN:N	2.66	0.48
5:D:36:GLN:HB3	5:D:67:HIS:HE1	1.79	0.48
8:G:88:LEU:O	8:G:88:LEU:HD12	2.13	0.48
2:B:1606:C:H5''	2:B:1607:C:OP1	2.14	0.48
9:H:9:VAL:HG11	9:H:12:LEU:HG	1.95	0.48
2:B:1682:G:H2'	2:B:1683:U:C6	2.49	0.48
2:B:2835:A:N6	2:B:2878:U:H2'	2.29	0.48
4:C:54:GLY:O	4:C:214:GLY:HA2	2.14	0.48
2:B:2583:G:H2'	2:B:2584:U:O4'	2.14	0.48
2:B:2385:C:H2'	2:B:2386:A:H8	1.78	0.48
5:D:107:VAL:N	5:D:206:ALA:H	2.11	0.48
7:F:31:GLU:C	7:F:32:LYS:HD3	2.34	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:98:GLU:HB3	10:J:124:VAL:HG21	1.95	0.48
2:B:2273:A:H2'	2:B:2274:A:C8	2.48	0.48
2:B:1655:A:H2'	2:B:1656:C:O4'	2.13	0.48
2:B:2723:C:H5''	14:N:1:MET:HE2	1.94	0.48
2:B:2821:A:OP2	14:N:3:HIS:NE2	2.47	0.48
9:H:131:SER:HA	9:H:142:VAL:N	2.27	0.48
2:B:543:G:H2'	2:B:544:C:C5'	2.43	0.48
31:I:124:MET:O	31:I:128:ILE:HG12	2.13	0.48
17:Q:7:VAL:HG23	17:Q:8:ILE:N	2.29	0.48
25:Z:7:VAL:HG23	25:Z:67:VAL:HG11	1.95	0.48
20:T:51:PHE:HB3	20:T:53:VAL:HG23	1.95	0.48
20:T:74:ILE:HG13	20:T:75:GLY:N	2.29	0.48
2:B:1508:A:H3'	2:B:1509:A:C2	2.48	0.48
2:B:2150:C:O2'	2:B:2151:U:H5'	2.13	0.48
7:F:55:ASP:O	7:F:59:ILE:HG13	2.13	0.48
1:A:76:G:H1	1:A:101:A:H61	1.60	0.48
2:B:2391:G:HO2'	2:B:2392:A:P	2.36	0.48
2:B:1463:C:H2'	2:B:1464:G:C8	2.49	0.48
2:B:2027:G:O2'	2:B:2028:U:H5'	2.13	0.48
6:E:172:ALA:HB2	6:E:195:GLN:NE2	2.29	0.48
2:B:1945:G:H2'	2:B:1946:U:C6	2.49	0.48
2:B:1196:C:H2'	2:B:1197:G:H8	1.78	0.48
15:O:30:ARG:HG3	15:O:30:ARG:NH1	2.29	0.48
23:X:21:LEU:H	23:X:21:LEU:HD23	1.77	0.48
11:K:77:ILE:HD11	16:P:71:ARG:CZ	2.43	0.48
12:L:125:LEU:H	12:L:143:GLU:HG3	1.78	0.48
2:B:2677:G:H2'	2:B:2678:C:C6	2.49	0.48
2:B:572:A:C2	2:B:2033:A:C2	3.02	0.48
2:B:2571:U:O3'	5:D:151:THR:HB	2.13	0.48
8:G:84:LYS:HG3	8:G:131:VAL:C	2.33	0.48
8:G:87:GLN:HG2	8:G:164:ALA:HA	1.94	0.48
11:K:99:ILE:HD13	11:K:118:LEU:HD22	1.96	0.48
11:K:11:ALA:HB3	11:K:85:VAL:CG2	2.43	0.48
7:F:113:PHE:CZ	7:F:175:PRO:HB2	2.48	0.48
13:M:101:VAL:HG22	13:M:101:VAL:O	2.13	0.48
2:B:2589:A:H2'	2:B:2590:A:C8	2.48	0.48
19:S:60:HIS:O	19:S:61:ASN:CB	2.62	0.48
2:B:942:G:O2'	2:B:943:A:H5'	2.14	0.48
21:U:13:LEU:HD12	21:U:68:ASN:O	2.13	0.48
8:G:123:GLU:O	8:G:125:PRO:HD3	2.13	0.48
2:B:1940:U:H5''	2:B:1940:U:O2	2.14	0.48
5:D:171:THR:HG23	5:D:172:VAL:N	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:29:ARG:HB2	7:F:158:THR:HG21	1.96	0.48
17:Q:64:ILE:HD12	17:Q:95:ALA:HB3	1.95	0.48
13:M:71:LYS:HG2	13:M:93:VAL:HG12	1.95	0.48
4:C:183:VAL:HG22	4:C:187:CYS:SG	2.53	0.48
2:B:566:U:H5''	12:L:29:LYS:HZ2	1.79	0.48
2:B:1551:A:C3'	2:B:1552:A:H5''	2.43	0.48
20:T:66:LYS:N	20:T:76:ARG:NH2	2.62	0.48
2:B:2572:A:OP2	5:D:151:THR:HB	2.13	0.48
8:G:37:ASN:HD22	8:G:40:VAL:CB	2.24	0.48
2:B:502:A:H5'	2:B:503:A:OP2	2.13	0.48
2:B:405:U:H4'	2:B:405:U:OP2	2.13	0.48
2:B:56:A:H2'	2:B:57:C:C6	2.48	0.48
2:B:1258:U:H2'	2:B:1259:G:C8	2.49	0.48
2:B:1841:U:C2	2:B:1842:G:C8	3.01	0.48
2:B:912:C:O2'	2:B:913:U:H5'	2.13	0.48
31:I:52:LEU:HD12	31:I:52:LEU:N	2.29	0.48
12:L:100:ILE:HG12	12:L:100:ILE:O	2.13	0.48
2:B:1720:U:O2'	2:B:1721:G:H5'	2.13	0.48
1:A:43:C:H1'	7:F:91:ARG:NH2	2.29	0.48
14:N:2:ARG:HE	14:N:2:ARG:C	2.16	0.48
19:S:17:VAL:C	19:S:19:LEU:N	2.66	0.48
9:H:66:ASN:HA	9:H:134:VAL:HG21	1.96	0.48
5:D:151:THR:HB	5:D:152:PRO:HD3	1.94	0.48
9:H:54:LEU:O	9:H:58:LEU:HB3	2.13	0.48
2:B:1789:A:P	4:C:220:ARG:HH11	2.37	0.48
2:B:226:A:H1'	2:B:230:G:N2	2.29	0.48
2:B:1349:C:H2'	2:B:1350:C:H6	1.79	0.48
21:U:10:VAL:HB	21:U:69:VAL:HB	1.96	0.48
2:B:98:G:H22	21:U:6:ARG:NH1	2.11	0.48
20:T:9:LYS:O	20:T:9:LYS:HG2	2.12	0.48
31:I:89:SER:HB2	31:I:136:GLY:HA3	1.95	0.48
2:B:2081:U:OP1	25:Z:19:SER:HB3	2.14	0.48
9:H:25:TYR:CD1	9:H:30:LEU:HG	2.49	0.48
2:B:2247:A:H2'	2:B:2248:C:C6	2.48	0.48
2:B:39:G:H2'	2:B:40:U:C6	2.49	0.48
5:D:171:THR:O	5:D:172:VAL:HG23	2.13	0.48
5:D:8:LYS:CA	5:D:201:LEU:HD11	2.43	0.48
10:J:44:TYR:CD2	10:J:44:TYR:C	2.88	0.48
2:B:558:U:OP1	10:J:113:PRO:HB2	2.13	0.48
4:C:129:LEU:HD21	4:C:133:ASN:HB2	1.95	0.48
9:H:133:GLN:HB2	9:H:139:PHE:HB3	1.95	0.48
6:E:58:LYS:CD	6:E:58:LYS:H	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Z:63:GLY:HA3	25:Z:66:THR:OG1	2.14	0.48
8:G:51:PHE:CD2	8:G:68:ARG:HG2	2.49	0.48
24:Y:4:ILE:HG22	24:Y:56:VAL:CG1	2.43	0.48
2:B:299:A:H2'	2:B:300:A:C8	2.48	0.48
7:F:139:GLU:O	7:F:141:ASP:N	2.47	0.48
8:G:156:TYR:O	8:G:157:LYS:HD2	2.14	0.48
2:B:1222:U:P	18:R:90:ARG:HH22	2.37	0.48
5:D:33:ARG:HH21	5:D:33:ARG:HG2	1.79	0.48
11:K:19:VAL:HG13	11:K:43:ILE:HA	1.96	0.48
2:B:1826:G:H2'	2:B:1827:U:H6	1.79	0.48
9:H:112:LYS:C	9:H:112:LYS:HE3	2.34	0.48
2:B:2341:G:H2'	2:B:2342:C:C6	2.49	0.48
2:B:2063:C:O2	2:B:2450:A:N1	2.46	0.48
2:B:942:G:H2'	2:B:943:A:H8	1.77	0.48
10:J:104:ALA:O	10:J:108:MET:HG2	2.14	0.48
2:B:1564:C:O2'	2:B:1565:C:H5'	2.13	0.48
15:O:25:ARG:HD2	15:O:93:ASP:HB2	1.95	0.48
2:B:2281:A:O2'	2:B:2282:G:H5'	2.13	0.48
2:B:1107:G:H2'	2:B:1108:U:C6	2.48	0.48
2:B:2663:G:H2'	2:B:2664:G:O4'	2.13	0.48
22:W:70:VAL:O	22:W:70:VAL:HG22	2.14	0.48
2:B:919:U:H2'	2:B:920:A:H8	1.73	0.47
7:F:62:GLN:HB2	7:F:91:ARG:HE	1.78	0.47
9:H:114:GLU:HB3	9:H:133:GLN:O	2.14	0.47
16:P:24:THR:HB	16:P:86:LYS:HB3	1.95	0.47
8:G:66:THR:O	8:G:70:LEU:HB2	2.14	0.47
2:B:1221:C:O2'	2:B:1222:U:H5'	2.13	0.47
2:B:2419:U:OP2	29:3:32:LEU:HD13	2.14	0.47
13:M:29:GLY:HA2	13:M:106:ASP:HB2	1.96	0.47
8:G:25:ILE:N	8:G:25:ILE:HD12	2.29	0.47
10:J:19:ASP:CG	10:J:57:LEU:HB3	2.34	0.47
2:B:2439:A:H4'	2:B:2440:C:O5'	2.13	0.47
2:B:1792:G:P	4:C:204:LEU:HD12	2.54	0.47
4:C:74:PRO:HG2	4:C:96:LYS:CG	2.42	0.47
21:U:78:LYS:CG	21:U:79:ALA:H	2.27	0.47
2:B:1745:A:H2'	2:B:1746:A:O4'	2.14	0.47
2:B:68:G:O2'	2:B:69:C:H5'	2.14	0.47
2:B:2193:G:H2'	2:B:2194:U:C6	2.48	0.47
2:B:1080:A:H2'	2:B:1081:U:H6	1.79	0.47
7:F:23:SER:O	7:F:26:GLN:HB2	2.14	0.47
2:B:1416:G:HO2'	2:B:1417:C:H6	1.60	0.47
12:L:23:ILE:HG13	18:R:82:HIS:CE1	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:64:ILE:HD12	17:Q:95:ALA:CB	2.44	0.47
31:I:32:VAL:HG13	31:I:66:PHE:CD2	2.49	0.47
17:Q:33:VAL:HG23	17:Q:34:ALA:H	1.78	0.47
2:B:2848:G:H1	2:B:2867:G:N2	2.11	0.47
22:W:30:VAL:O	22:W:30:VAL:HG22	2.13	0.47
2:B:786:C:H5''	2:B:1780:A:N7	2.28	0.47
14:N:12:ARG:HG3	14:N:13:ASN:H	1.78	0.47
2:B:1274:A:C2	2:B:1297:C:H1'	2.49	0.47
2:B:1958:C:H2'	2:B:1959:G:H8	1.79	0.47
2:B:1046:A:C4'	2:B:1047:G:H5''	2.44	0.47
1:A:55:U:H2'	1:A:56:G:H8	1.79	0.47
18:R:43:ASN:CG	18:R:45:GLU:H	2.17	0.47
2:B:2630:G:O2'	2:B:2631:G:H5'	2.14	0.47
1:A:60:C:O2'	1:A:61:G:H5'	2.13	0.47
7:F:19:PHE:CE2	7:F:164:GLU:HG2	2.48	0.47
2:B:615:U:O4	6:E:39:ALA:HB2	2.14	0.47
17:Q:51:GLN:O	17:Q:55:GLN:HG3	2.14	0.47
2:B:1726:C:H2'	2:B:1727:C:C6	2.49	0.47
2:B:297:G:OP1	21:U:91:LYS:HD3	2.14	0.47
7:F:87:LYS:CG	7:F:88:VAL:H	2.25	0.47
19:S:47:VAL:HG23	19:S:48:LYS:N	2.28	0.47
17:Q:80:ASN:O	17:Q:116:LEU:HD11	2.14	0.47
2:B:558:U:OP1	10:J:114:LEU:HB2	2.14	0.47
14:N:73:ASN:O	14:N:76:VAL:HG22	2.14	0.47
4:C:144:GLU:CA	4:C:151:GLY:HA2	2.42	0.47
2:B:2444:G:OP2	6:E:63:LYS:HD2	2.13	0.47
17:Q:23:TYR:CD2	17:Q:23:TYR:N	2.81	0.47
2:B:1593:A:H2'	2:B:1594:U:H6	1.75	0.47
23:X:26:PHE:HD1	23:X:27:ASN:ND2	2.10	0.47
29:3:54:LEU:CG	29:3:58:ILE:HD11	2.43	0.47
9:H:40:THR:O	9:H:42:LYS:N	2.40	0.47
2:B:1405:U:H2'	2:B:1406:U:C6	2.49	0.47
2:B:2101:A:C2'	2:B:2102:G:H5''	2.44	0.47
1:A:71:C:H2'	1:A:72:G:O4'	2.14	0.47
2:B:1640:A:H2'	2:B:1641:A:H8	1.79	0.47
1:A:91:C:O2'	1:A:92:C:H5'	2.14	0.47
1:A:11:C:H5'	22:W:71:LYS:CG	2.44	0.47
2:B:1100:C:H2'	2:B:1101:U:C6	2.48	0.47
2:B:758:C:O2	2:B:1981:A:H2	1.96	0.47
2:B:2709:G:H2'	2:B:2710:C:C6	2.49	0.47
2:B:696:G:O2'	2:B:697:G:H5'	2.14	0.47
2:B:648:G:O2'	2:B:649:G:H5'	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:55:ILE:CG2	10:J:123:LYS:HB2	2.44	0.47
10:J:43:GLU:O	10:J:45:THR:HG22	2.15	0.47
13:M:19:GLY:N	13:M:38:ARG:HH12	2.03	0.47
9:H:110:VAL:HB	9:H:132:PHE:CE1	2.49	0.47
2:B:2811:G:OP1	5:D:62:LYS:HD2	2.14	0.47
25:Z:33:LEU:HD23	25:Z:52:SER:HB3	1.96	0.47
2:B:533:G:H5'	17:Q:23:TYR:CD2	2.49	0.47
2:B:771:G:OP1	28:2:14:ARG:HD2	2.14	0.47
2:B:1222:U:O2'	2:B:1223:G:H5'	2.14	0.47
19:S:66:ILE:HD13	19:S:66:ILE:N	2.26	0.47
13:M:30:SER:HA	13:M:133:LYS:HB2	1.96	0.47
2:B:2070:A:C2	2:B:2442:C:C2	3.01	0.47
2:B:1130:U:O2	2:B:2025:C:H5''	2.15	0.47
2:B:1038:G:H2'	2:B:1039:A:H8	1.76	0.47
1:A:30:C:H2'	1:A:31:C:H5'	1.97	0.47
9:H:49:ALA:HB3	9:H:50:ARG:NH1	2.29	0.47
2:B:1197:G:O2'	2:B:1198:U:H5'	2.14	0.47
21:U:60:LYS:HE2	21:U:60:LYS:HA	1.95	0.47
2:B:2818:U:H4'	2:B:2837:A:O4'	2.15	0.47
2:B:1717:A:H2'	2:B:1718:G:O4'	2.15	0.47
21:U:53:GLN:CD	21:U:53:GLN:H	2.18	0.47
2:B:2602:A:H3'	2:B:2602:A:OP1	2.14	0.47
2:B:1126:A:H4'	2:B:1127:A:O5'	2.14	0.47
2:B:859:G:HO2'	2:B:916:G:H1	1.61	0.47
6:E:146:VAL:HA	6:E:185:LYS:O	2.14	0.47
16:P:6:GLN:O	16:P:10:GLU:HG2	2.13	0.47
2:B:996:A:C4'	17:Q:91:ARG:HD2	2.41	0.47
2:B:2061:G:H5''	2:B:2503:A:C2	2.50	0.47
9:H:65:ALA:C	9:H:67:ALA:H	2.16	0.47
2:B:138:U:H1'	20:T:1:MET:H2	1.78	0.47
2:B:1445:G:H2'	2:B:1446:C:O4'	2.15	0.47
11:K:119:ALA:O	11:K:120:PRO:O	2.33	0.47
2:B:2230:G:H2'	2:B:2231:U:C6	2.50	0.47
20:T:38:ALA:HB3	20:T:81:LYS:HZ3	1.79	0.47
2:B:431:U:O2'	2:B:432:A:H5'	2.14	0.47
2:B:2880:C:H1'	14:N:93:GLY:H	1.79	0.47
2:B:1790:C:H2'	2:B:1791:A:C8	2.49	0.47
7:F:134:GLN:HB3	7:F:149:ARG:HB3	1.96	0.47
19:S:4:ILE:CG2	19:S:106:VAL:HG13	2.44	0.47
17:Q:18:LYS:C	17:Q:20:ALA:H	2.17	0.47
8:G:10:VAL:CG2	8:G:48:THR:HA	2.45	0.47
2:B:2515:C:H2'	2:B:2516:A:H8	1.80	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:118:THR:O	12:L:120:VAL:HG23	2.14	0.47
2:B:1496:A:H2'	2:B:1498:C:C5	2.49	0.47
12:L:81:ASP:O	12:L:83:ALA:N	2.48	0.47
2:B:1193:G:H2'	2:B:1194:A:O4'	2.13	0.47
2:B:519:U:H2'	2:B:520:G:C8	2.50	0.47
2:B:324:A:H2'	2:B:325:G:O4'	2.14	0.47
2:B:1027:A:N6	2:B:1126:A:H1'	2.29	0.47
1:A:82:U:O2'	1:A:83:G:H5'	2.14	0.47
2:B:303:G:H2'	2:B:304:U:C6	2.50	0.47
2:B:2553:G:H2'	2:B:2554:U:C4'	2.44	0.47
2:B:2052:A:O4'	5:D:147:GLY:HA3	2.14	0.47
4:C:179:GLU:CD	4:C:266:ILE:HD11	2.35	0.47
21:U:85:ARG:HH11	21:U:86:PHE:N	2.13	0.47
7:F:155:ILE:HG22	7:F:156:THR:N	2.30	0.47
6:E:115:GLN:O	6:E:117:ARG:HG3	2.14	0.47
6:E:157:LEU:O	6:E:160:ALA:HB3	2.15	0.47
2:B:2679:A:O2'	2:B:2680:U:H5'	2.14	0.47
10:J:81:ILE:HG23	10:J:82:GLY:N	2.23	0.47
9:H:81:ALA:HB2	9:H:147:VAL:HG23	1.95	0.47
11:K:104:THR:H	11:K:107:LEU:CD1	2.26	0.47
11:K:112:PHE:O	11:K:113:MET:C	2.53	0.47
7:F:137:PHE:N	7:F:137:PHE:CD2	2.83	0.47
2:B:499:U:H2'	2:B:500:G:O4'	2.14	0.47
6:E:48:THR:HG23	6:E:51:GLU:OE2	2.15	0.47
2:B:1381:G:H1'	2:B:1571:A:N1	2.29	0.47
2:B:2697:G:H2'	2:B:2698:U:O4'	2.15	0.47
2:B:2544:G:O2'	2:B:2545:G:H5'	2.14	0.47
4:C:259:ASN:C	4:C:261:ARG:H	2.18	0.47
8:G:106:LEU:O	8:G:108:PHE:HD1	1.97	0.47
8:G:94:ARG:HA	8:G:128:THR:HG22	1.97	0.47
2:B:2233:U:H2'	2:B:2234:G:H8	1.80	0.47
2:B:2708:G:O2'	2:B:2709:G:H5'	2.14	0.47
2:B:531:C:O2'	2:B:563:A:H5''	2.14	0.47
2:B:920:A:H2'	2:B:921:C:H6	1.79	0.47
16:P:3:ILE:HD13	16:P:3:ILE:C	2.35	0.47
2:B:2897:U:H2'	2:B:2898:U:H6	1.79	0.47
10:J:16:TYR:N	10:J:137:PRO:HB3	2.29	0.47
4:C:75:ALA:HB1	4:C:93:VAL:HG22	1.97	0.47
19:S:25:ARG:HE	19:S:74:ILE:CG2	2.27	0.47
2:B:1010:A:N3	2:B:1153:C:H1'	2.29	0.47
4:C:129:LEU:CD2	4:C:133:ASN:HB2	2.45	0.47
12:L:17:LYS:O	12:L:18:ARG:HG2	2.13	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2261:C:O2'	2:B:2262:U:H5'	2.14	0.47
25:Z:64:ILE:HG22	25:Z:68:LEU:CD1	2.44	0.47
16:P:19:PHE:CE2	16:P:83:ILE:HD11	2.50	0.47
17:Q:49:ARG:HG2	17:Q:49:ARG:HH11	1.79	0.47
2:B:1438:U:C4	2:B:1552:A:N6	2.83	0.47
13:M:55:ARG:HH22	13:M:58:LYS:HA	1.80	0.47
11:K:119:ALA:HB3	11:K:120:PRO:HD3	1.97	0.47
2:B:63:A:OP2	2:B:63:A:H2'	2.15	0.47
13:M:69:PRO:HG2	13:M:70:ASP:H	1.79	0.47
29:3:32:LEU:HA	29:3:35:LYS:HD2	1.97	0.47
18:R:7:SER:HB2	18:R:22:LEU:CB	2.42	0.47
2:B:589:U:H2'	2:B:590:A:C8	2.49	0.47
2:B:2586:U:H2'	2:B:2587:A:C8	2.50	0.47
2:B:131:A:O2'	2:B:132:G:H5'	2.15	0.47
7:F:79:ARG:HB2	7:F:82:TYR:CE2	2.50	0.47
6:E:97:ASN:OD1	6:E:97:ASN:N	2.48	0.47
2:B:1374:G:O2'	2:B:1375:U:H5'	2.15	0.47
2:B:1324:G:N1	2:B:1331:G:C6	2.83	0.47
2:B:97:C:H2'	2:B:98:G:O4'	2.15	0.47
2:B:2895:G:O2'	2:B:2896:C:H5'	2.15	0.47
2:B:656:G:O2'	2:B:657:U:H5'	2.14	0.47
2:B:1419:A:H2'	2:B:1421:G:C8	2.50	0.47
5:D:55:LYS:HZ1	5:D:59:ARG:HD2	1.78	0.47
18:R:31:GLU:O	18:R:63:VAL:HG22	2.14	0.47
15:O:28:VAL:HG12	15:O:93:ASP:O	2.15	0.47
4:C:115:ILE:HA	4:C:124:LYS:HZ1	1.77	0.47
8:G:104:LEU:HB3	8:G:106:LEU:HD21	1.96	0.47
8:G:95:ALA:HA	8:G:104:LEU:HD23	1.95	0.47
2:B:538:A:N6	2:B:555:G:O2'	2.46	0.47
2:B:1607:C:N4	2:B:1622:G:OP2	2.48	0.47
2:B:115:C:O2'	2:B:116:C:H5'	2.14	0.47
19:S:20:VAL:C	19:S:22:ASP:H	2.18	0.47
2:B:1516:G:O2'	2:B:1517:G:H5'	2.14	0.47
2:B:510:C:O2'	2:B:1236:G:H5'	2.15	0.47
2:B:2179:C:H2'	2:B:2180:U:H6	1.79	0.47
22:W:51:GLY:N	22:W:59:PHE:HB2	2.29	0.47
16:P:4:ILE:C	16:P:6:GLN:N	2.67	0.47
7:F:33:ILE:HG12	7:F:155:ILE:HG13	1.97	0.47
2:B:2305:U:H2'	2:B:2306:C:O4'	2.15	0.47
17:Q:85:ALA:HB2	17:Q:115:ALA:HB1	1.96	0.47
14:N:83:LEU:O	14:N:86:ARG:HB2	2.15	0.47
12:L:123:ARG:HD2	12:L:124:GLY:N	2.30	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:V:30:ILE:HG23	3:V:72:VAL:HG11	1.97	0.47
2:B:2675:A:N1	2:B:2732:G:O6	2.47	0.47
2:B:993:G:H5'	17:Q:49:ARG:NH1	2.29	0.47
2:B:1396:U:H5'	2:B:1396:U:O2	2.15	0.47
4:C:229:HIS:ND1	4:C:230:PRO:HD2	2.29	0.47
1:A:32:U:H2'	1:A:33:G:O4'	2.14	0.47
6:E:179:SER:HA	6:E:182:ALA:HB3	1.96	0.47
2:B:971:G:OP2	2:B:974:G:N2	2.47	0.47
2:B:98:G:H1	21:U:6:ARG:NH1	2.11	0.47
15:O:4:LYS:O	15:O:8:ILE:HG13	2.14	0.47
2:B:68:G:H2'	2:B:69:C:C6	2.49	0.47
3:V:19:ARG:O	3:V:22:ALA:HB3	2.15	0.47
2:B:425:G:O2'	2:B:426:C:H5'	2.13	0.47
2:B:2553:G:H2'	2:B:2554:U:H4'	1.97	0.47
1:A:16:G:O2'	1:A:17:C:H5'	2.15	0.47
2:B:352:A:H3'	2:B:353:C:H6	1.80	0.47
18:R:75:VAL:O	18:R:76:LYS:HD2	2.15	0.47
2:B:922:C:H1'	22:W:22:VAL:CG2	2.44	0.47
7:F:121:PHE:HB3	7:F:127:TYR:CD2	2.50	0.47
12:L:93:ASN:O	12:L:95:LEU:HD12	2.14	0.47
4:C:188:ARG:HG2	4:C:188:ARG:HH21	1.80	0.47
5:D:114:LYS:HG3	5:D:116:LYS:HG2	1.97	0.47
11:K:47:ILE:CG1	11:K:48:PRO:HD2	2.35	0.47
25:Z:70:GLU:C	25:Z:72:ARG:N	2.67	0.47
2:B:1439:A:N7	2:B:1440:U:C2	2.82	0.47
7:F:168:LEU:O	7:F:170:ALA:N	2.48	0.47
2:B:2153:C:H6	2:B:2153:C:O5'	1.97	0.47
4:C:36:ASN:ND2	4:C:61:TYR:HB2	2.30	0.47
2:B:2847:U:OP1	16:P:95:LYS:HD3	2.15	0.47
2:B:1000:A:H4'	24:Y:10:ARG:HH22	1.80	0.47
2:B:1998:A:H2'	2:B:1999:C:H6	1.80	0.47
2:B:2634:A:H2'	2:B:2635:A:H8	1.78	0.47
2:B:2729:G:H2'	2:B:2730:C:C6	2.49	0.47
2:B:2271:G:H2'	2:B:2272:U:H6	1.79	0.47
20:T:23:ALA:C	20:T:25:GLU:H	2.17	0.47
2:B:1670:C:H2'	2:B:1671:U:O4'	2.15	0.47
2:B:1478:G:O2'	2:B:1479:G:H5'	2.14	0.47
1:A:73:A:H2'	1:A:73:A:N3	2.30	0.47
2:B:2386:A:C2	22:W:38:ARG:HB3	2.49	0.47
7:F:33:ILE:HG23	7:F:155:ILE:HD12	1.97	0.47
7:F:65:LEU:CD2	7:F:87:LYS:HD2	2.40	0.47
10:J:45:THR:HG23	10:J:45:THR:O	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:108:LEU:N	18:R:48:LYS:HD3	2.30	0.47
2:B:1172:C:H2'	2:B:1173:U:O5'	2.15	0.47
2:B:512:G:H4'	2:B:512:G:OP1	2.14	0.47
16:P:83:ILE:O	16:P:83:ILE:HD13	2.15	0.47
2:B:1140:C:H2'	2:B:1141:U:H5'	1.96	0.47
17:Q:45:ALA:O	17:Q:49:ARG:N	2.46	0.47
2:B:1082:U:C2	2:B:1086:A:N1	2.83	0.47
2:B:1433:A:H2'	2:B:1434:A:O4'	2.15	0.47
7:F:102:LEU:HA	7:F:106:ALA:HB2	1.97	0.47
2:B:126:A:H5'	28:2:19:ARG:CG	2.45	0.47
8:G:33:THR:HG21	8:G:74:MET:HB3	1.96	0.47
30:4:2:LYS:HD3	30:4:4:ARG:HE	1.80	0.47
2:B:720:U:H2'	2:B:721:A:H8	1.77	0.47
2:B:129:C:H4'	2:B:1348:C:O2'	2.15	0.47
17:Q:16:ILE:O	17:Q:18:LYS:N	2.43	0.47
2:B:754:U:H2'	2:B:755:U:C6	2.50	0.47
2:B:2756:U:H1'	2:B:2757:A:H5''	1.96	0.47
2:B:1922:G:H2'	2:B:1923:U:O4'	2.15	0.47
19:S:84:ARG:HB3	19:S:96:ILE:HG23	1.96	0.47
2:B:1403:A:H2'	2:B:1404:C:H6	1.80	0.47
2:B:2355:G:H4'	22:W:20:LEU:CD1	2.44	0.47
2:B:924:G:H2'	2:B:925:A:H8	1.80	0.47
12:L:23:ILE:HD12	12:L:23:ILE:N	2.30	0.47
2:B:1672:A:C6	2:B:1673:G:C6	3.03	0.47
2:B:1506:U:H2'	2:B:1507:C:C6	2.50	0.47
21:U:86:PHE:CD2	21:U:92:VAL:HG21	2.50	0.46
5:D:107:VAL:HG12	5:D:109:VAL:HG23	1.97	0.46
2:B:1812:U:O2'	4:C:43:ASN:ND2	2.48	0.46
19:S:52:GLU:HA	19:S:55:ILE:CG2	2.44	0.46
14:N:83:LEU:HA	14:N:86:ARG:CG	2.43	0.46
12:L:78:ARG:NH2	12:L:113:ALA:HB1	2.29	0.46
31:I:122:GLU:CD	31:I:122:GLU:H	2.18	0.46
27:1:6:GLU:HB2	27:1:52:LYS:CE	2.45	0.46
20:T:40:LYS:HA	20:T:43:ILE:HB	1.96	0.46
13:M:56:ALA:C	13:M:58:LYS:H	2.18	0.46
11:K:61:VAL:HG11	11:K:112:PHE:CZ	2.50	0.46
15:O:67:ASN:O	15:O:69:ASP:N	2.47	0.46
30:4:8:LYS:HG2	30:4:9:LYS:HD3	1.98	0.46
13:M:28:PHE:HB3	13:M:64:TRP:CE2	2.50	0.46
5:D:51:THR:HG23	5:D:78:GLY:O	2.15	0.46
2:B:2023:C:H4'	2:B:2617:U:O3'	2.14	0.46
2:B:1485:U:O2'	2:B:1486:U:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:H:96:THR:C	9:H:98:ASP:H	2.17	0.46
11:K:64:ARG:NH2	16:P:67:GLU:HG3	2.29	0.46
2:B:950:G:H2'	2:B:951:C:C6	2.50	0.46
2:B:1429:G:H2'	2:B:1430:G:C8	2.49	0.46
1:A:3:C:H2'	1:A:4:C:H6	1.79	0.46
2:B:1169:A:O5'	2:B:1169:A:H8	1.98	0.46
4:C:57:HIS:CG	4:C:58:LYS:H	2.32	0.46
2:B:2249:U:H4'	2:B:2275:C:C5	2.50	0.46
2:B:1687:G:O2'	2:B:1688:U:H5'	2.14	0.46
2:B:1477:A:H2'	2:B:1478:G:O4'	2.15	0.46
6:E:73:ILE:O	6:E:73:ILE:HG12	2.15	0.46
2:B:2889:C:O2'	2:B:2890:G:H5'	2.15	0.46
2:B:2628:C:O2'	2:B:2781:A:H2'	2.14	0.46
27:1:18:HIS:NE2	27:1:40:PRO:HD2	2.30	0.46
26:0:9:ARG:HB2	26:0:12:ARG:NH2	2.30	0.46
22:W:43:LYS:HB3	22:W:79:ILE:HD11	1.97	0.46
2:B:2307:G:O6	7:F:40:GLY:HA3	2.16	0.46
6:E:106:LYS:CE	6:E:200:LEU:HB3	2.45	0.46
4:C:119:VAL:HG13	4:C:133:ASN:ND2	2.30	0.46
9:H:133:GLN:HG2	9:H:133:GLN:O	2.11	0.46
28:2:30:VAL:HG22	28:2:33:ARG:NH2	2.20	0.46
20:T:50:LEU:O	20:T:52:GLU:N	2.49	0.46
20:T:55:VAL:HG22	20:T:87:LEU:CD2	2.45	0.46
31:I:19:PRO:HB2	31:I:22:PRO:HD2	1.97	0.46
13:M:68:PHE:CG	13:M:69:PRO:HD2	2.51	0.46
2:B:2230:G:H5''	25:Z:30:LEU:HD11	1.97	0.46
18:R:34:GLU:HB3	18:R:58:VAL:HG21	1.95	0.46
2:B:329:G:C6	21:U:16:LYS:HG2	2.50	0.46
2:B:785:G:H2'	2:B:786:C:H6	1.80	0.46
2:B:2845:U:O2'	2:B:2846:G:H5'	2.14	0.46
14:N:58:ASP:O	14:N:59:SER:HB3	2.15	0.46
10:J:128:ASN:O	10:J:129:GLU:HB3	2.16	0.46
2:B:1885:A:H2'	2:B:1886:U:O4'	2.14	0.46
6:E:176:ASP:O	6:E:180:LEU:HG	2.15	0.46
1:A:54:G:O2'	1:A:55:U:H5'	2.15	0.46
2:B:988:A:H3'	24:Y:13:ILE:CD1	2.44	0.46
2:B:1596:A:O2'	2:B:1597:A:H5'	2.16	0.46
2:B:1210:G:H5'	2:B:1212:G:O4'	2.15	0.46
2:B:2636:C:H2'	2:B:2637:U:C6	2.51	0.46
12:L:132:ARG:O	12:L:135:ILE:HG22	2.14	0.46
8:G:88:LEU:HD13	8:G:93:TYR:HB3	1.96	0.46
2:B:455:C:N3	2:B:472:A:H2'	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:0:9:ARG:O	26:0:12:ARG:HB3	2.16	0.46
30:4:17:VAL:HG11	30:4:19:ARG:HE	1.80	0.46
2:B:1749:A:H2'	2:B:1750:G:C8	2.50	0.46
25:Z:27:ARG:HD2	25:Z:29:PHE:CE1	2.50	0.46
2:B:242:G:N7	29:3:4:LYS:HG2	2.30	0.46
5:D:101:PHE:CZ	5:D:204:LYS:HA	2.49	0.46
4:C:45:ASN:H	4:C:45:ASN:ND2	2.12	0.46
6:E:34:ALA:HA	6:E:94:GLN:NE2	2.31	0.46
9:H:128:HIS:CB	9:H:144:VAL:HB	2.34	0.46
20:T:69:ARG:NH1	20:T:69:ARG:HA	2.31	0.46
16:P:75:THR:O	16:P:80:VAL:HG11	2.15	0.46
2:B:2149:U:H2'	2:B:2150:C:C6	2.49	0.46
7:F:135:ILE:HG13	7:F:137:PHE:H	1.80	0.46
8:G:1:SER:O	8:G:3:VAL:N	2.49	0.46
1:A:102:G:O2'	1:A:103:U:H5'	2.15	0.46
4:C:107:LYS:O	4:C:109:LEU:HD22	2.15	0.46
18:R:20:VAL:HG12	18:R:21:ARG:N	2.28	0.46
2:B:1854:A:H2	2:B:2087:G:N3	2.13	0.46
2:B:2514:U:H2'	2:B:2515:C:C6	2.50	0.46
2:B:826:U:H5''	2:B:2428:G:O3'	2.14	0.46
21:U:32:LYS:HG3	21:U:65:GLN:HA	1.97	0.46
12:L:47:ARG:HH21	12:L:47:ARG:CB	2.28	0.46
2:B:2355:G:H4'	22:W:20:LEU:HD13	1.98	0.46
2:B:2256:G:O2'	2:B:2257:U:H5'	2.15	0.46
2:B:1253:A:H4'	2:B:1254:A:OP2	2.15	0.46
2:B:159:G:O2'	2:B:160:A:H5''	2.15	0.46
2:B:1912:A:HO2'	2:B:1913:A:C5'	2.28	0.46
2:B:2212:A:C8	2:B:2214:C:N4	2.83	0.46
2:B:1759:A:N3	2:B:1759:A:H2'	2.30	0.46
2:B:945:A:OP2	2:B:945:A:H4'	2.15	0.46
2:B:923:G:N3	22:W:23:LYS:HE3	2.31	0.46
4:C:43:ASN:ND2	4:C:44:ASN:N	2.60	0.46
16:P:52:ARG:HG2	16:P:52:ARG:NH1	2.29	0.46
9:H:78:VAL:HB	9:H:143:ILE:CG1	2.44	0.46
6:E:67:ARG:HD2	6:E:68:ALA:O	2.15	0.46
3:V:21:ARG:HE	3:V:87:GLN:CB	2.24	0.46
27:1:33:LEU:HD12	27:1:34:GLU:N	2.31	0.46
2:B:1439:A:N7	2:B:1440:U:C6	2.83	0.46
2:B:1441:G:H2'	2:B:1442:U:H6	1.80	0.46
13:M:53:MET:O	13:M:57:VAL:HG23	2.16	0.46
15:O:52:SER:C	15:O:54:VAL:H	2.19	0.46
2:B:2240:U:O2'	2:B:2241:A:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:G:33:THR:C	8:G:34:ARG:HD3	2.35	0.46
2:B:2074:U:O2'	2:B:2075:U:H5'	2.16	0.46
1:A:52:A:OP1	1:A:52:A:H4'	2.15	0.46
2:B:2537:U:H2'	2:B:2538:C:H6	1.79	0.46
10:J:30:THR:O	10:J:33:ALA:HB3	2.16	0.46
2:B:2626:C:H2'	2:B:2627:G:C8	2.50	0.46
9:H:47:PHE:CA	9:H:50:ARG:HH21	2.28	0.46
12:L:51:GLU:O	12:L:53:GLY:N	2.48	0.46
2:B:1669:A:H2'	2:B:1669:A:N3	2.30	0.46
4:C:76:VAL:CG1	4:C:114:GLN:HG2	2.45	0.46
14:N:54:LEU:HD11	14:N:62:ASN:HB3	1.98	0.46
17:Q:91:ARG:HB2	18:R:11:GLN:OE1	2.16	0.46
12:L:122:VAL:HB	12:L:143:GLU:OE1	2.15	0.46
4:C:144:GLU:OE2	4:C:188:ARG:HG3	2.16	0.46
2:B:581:C:OP1	17:Q:32:ARG:HG3	2.15	0.46
3:V:80:HIS:HB2	3:V:85:LYS:HG3	1.98	0.46
8:G:49:LEU:HD23	8:G:51:PHE:CZ	2.50	0.46
20:T:85:VAL:C	20:T:86:THR:HG23	2.36	0.46
9:H:90:LEU:CB	9:H:123:ARG:HD2	2.45	0.46
1:A:116:G:H4'	15:O:54:VAL:CG2	2.39	0.46
2:B:38:A:N3	6:E:43:THR:HB	2.31	0.46
10:J:18:VAL:HG12	10:J:54:ILE:HD11	1.96	0.46
2:B:2339:C:H2'	2:B:2340:A:H8	1.78	0.46
15:O:88:LYS:HB3	15:O:88:LYS:HE3	1.66	0.46
19:S:4:ILE:CG2	19:S:106:VAL:HG22	2.45	0.46
2:B:2758:A:C2'	2:B:2759:G:H5'	2.45	0.46
2:B:1290:C:O2'	2:B:1291:C:H5'	2.15	0.46
5:D:36:GLN:HB2	5:D:36:GLN:HE21	1.53	0.46
11:K:8:LEU:HD12	11:K:8:LEU:H	1.79	0.46
2:B:1930:G:H2'	2:B:1968:G:C6	2.51	0.46
2:B:2248:C:H2'	2:B:2249:U:O4'	2.15	0.46
2:B:236:C:O2'	2:B:237:C:H5'	2.16	0.46
2:B:39:G:H2'	2:B:40:U:H6	1.80	0.46
11:K:95:ILE:O	11:K:95:ILE:HG13	2.15	0.46
2:B:111:A:H2'	2:B:112:U:C6	2.50	0.46
2:B:902:C:H2'	2:B:903:C:C6	2.50	0.46
2:B:851:C:H2'	2:B:852:U:C6	2.51	0.46
2:B:921:C:H2'	2:B:922:C:H6	1.81	0.46
22:W:61:LYS:O	22:W:62:ALA:O	2.33	0.46
5:D:106:LYS:N	5:D:106:LYS:HD3	2.31	0.46
7:F:98:PHE:C	7:F:100:GLU:N	2.69	0.46
13:M:38:ARG:HG2	13:M:38:ARG:HH11	1.81	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:138:SER:O	4:C:162:GLN:HA	2.14	0.46
16:P:77:SER:O	16:P:80:VAL:HG12	2.15	0.46
2:B:2578:G:O2'	2:B:2579:C:H5'	2.15	0.46
7:F:59:ILE:HG12	7:F:137:PHE:CE2	2.50	0.46
19:S:41:LYS:O	19:S:43:ALA:N	2.49	0.46
3:V:9:ARG:NE	3:V:20:LEU:HD11	2.30	0.46
27:1:39:ASP:OD1	27:1:41:VAL:HB	2.15	0.46
2:B:643:A:H1'	27:1:43:ARG:NH2	2.31	0.46
2:B:2617:U:O2'	2:B:2618:G:H5'	2.15	0.46
21:U:11:ILE:HG12	21:U:20:LYS:O	2.16	0.46
25:Z:36:HIS:O	25:Z:48:THR:HA	2.16	0.46
2:B:657:U:H2'	2:B:658:U:C6	2.51	0.46
4:C:83:ASP:HB3	4:C:86:ARG:HG2	1.97	0.46
15:O:84:GLU:C	15:O:86:GLY:N	2.69	0.46
21:U:23:LYS:HD2	21:U:23:LYS:H	1.80	0.46
2:B:1030:C:O2'	2:B:1031:G:H5'	2.15	0.46
2:B:2559:C:H2'	2:B:2560:A:H8	1.80	0.46
2:B:359:G:O2'	2:B:360:U:H5'	2.15	0.46
2:B:188:G:OP1	25:Z:14:THR:HG23	2.15	0.46
21:U:71:ILE:HD11	21:U:81:ARG:O	2.16	0.46
21:U:85:ARG:NH1	21:U:86:PHE:N	2.64	0.46
10:J:58:ASN:C	10:J:60:ASP:H	2.18	0.46
7:F:11:VAL:HG21	7:F:172:PHE:HE1	1.81	0.46
7:F:43:ILE:HA	7:F:46:LYS:CE	2.45	0.46
7:F:43:ILE:HG13	7:F:44:ALA:N	2.31	0.46
7:F:65:LEU:O	7:F:86:CYS:HA	2.15	0.46
10:J:16:TYR:CD2	10:J:140:LEU:HD12	2.51	0.46
13:M:19:GLY:N	13:M:38:ARG:NH2	2.63	0.46
10:J:64:VAL:O	10:J:65:THR:HG22	2.16	0.46
2:B:572:A:OP2	18:R:80:ARG:NH2	2.49	0.46
5:D:15:PHE:HD1	5:D:15:PHE:H	1.64	0.46
7:F:28:PRO:O	7:F:168:LEU:HG	2.16	0.46
1:A:32:U:H1'	1:A:52:A:N7	2.31	0.46
2:B:1460:U:H3'	2:B:1461:C:H5'	1.98	0.46
14:N:13:ASN:OD1	14:N:16:HIS:HB2	2.15	0.46
16:P:54:LEU:HD12	16:P:76:HIS:HB2	1.98	0.46
21:U:12:VAL:HA	21:U:69:VAL:HA	1.98	0.46
2:B:969:G:H2'	2:B:970:U:C6	2.50	0.46
2:B:265:A:O2'	2:B:266:G:C4'	2.64	0.46
17:Q:86:SER:HB3	18:R:51:VAL:CA	2.46	0.46
2:B:2756:U:C1'	2:B:2757:A:H5''	2.45	0.46
15:O:18:LEU:HD23	15:O:25:ARG:CD	2.44	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1505:A:H2'	2:B:1506:U:C6	2.51	0.46
2:B:1936:A:H2	2:B:1943:U:C5	2.34	0.46
6:E:148:ILE:HA	6:E:187:VAL:CG2	2.46	0.46
2:B:663:G:OP1	12:L:17:LYS:HG2	2.16	0.46
2:B:28:A:N6	2:B:512:G:O2'	2.48	0.46
2:B:583:G:H2'	2:B:584:C:H6	1.79	0.46
10:J:63:ALA:HA	10:J:69:ARG:HH22	1.80	0.46
11:K:59:LYS:HD2	11:K:89:ASN:O	2.16	0.46
2:B:1482:G:N2	2:B:1508:A:H1'	2.31	0.46
2:B:1737:G:H5'	2:B:1738:G:OP2	2.16	0.46
2:B:2658:C:H2'	2:B:2659:G:H5'	1.97	0.46
18:R:70:GLU:O	18:R:90:ARG:HD2	2.16	0.46
8:G:109:SER:O	8:G:110:HIS:HB3	2.16	0.46
20:T:14:PRO:HA	20:T:32:LEU:CB	2.46	0.46
13:M:63:ILE:N	13:M:63:ILE:HD12	2.30	0.46
2:B:309:A:H4'	21:U:15:GLY:HA2	1.97	0.46
2:B:434:U:H1'	2:B:435:C:H5	1.81	0.46
2:B:740:C:H5''	2:B:1784:A:OP1	2.15	0.46
2:B:2024:G:O2'	2:B:2025:C:H5'	2.15	0.46
2:B:974:G:H1'	2:B:975:A:C8	2.50	0.46
2:B:942:G:H2'	2:B:943:A:O4'	2.16	0.46
2:B:2635:A:H5'	5:D:79:LEU:HD23	1.98	0.46
1:A:106:G:H2'	1:A:107:G:C8	2.51	0.46
1:A:48:U:O2'	15:O:100:HIS:HE1	1.99	0.46
2:B:2655:G:O2'	2:B:2656:U:P	2.74	0.46
14:N:8:ARG:HB3	14:N:43:GLU:OE2	2.15	0.46
2:B:348:A:H2'	2:B:349:U:C6	2.51	0.46
5:D:125:TRP:HE1	5:D:161:MET:H	1.63	0.46
21:U:86:PHE:CG	21:U:87:GLU:N	2.84	0.46
5:D:8:LYS:HZ2	5:D:25:THR:CG2	2.29	0.46
17:Q:78:PHE:CZ	17:Q:82:LEU:HD11	2.51	0.46
4:C:119:VAL:HG13	4:C:133:ASN:HD21	1.81	0.46
2:B:544:C:H2'	2:B:545:U:C6	2.51	0.46
3:V:48:MET:O	3:V:51:GLN:HG3	2.16	0.46
2:B:2733:A:H2'	2:B:2734:A:O4'	2.16	0.46
2:B:2019:A:H4'	17:Q:33:VAL:HG11	1.97	0.46
2:B:730:A:H3'	34:B:4491:HOH:O	2.16	0.46
19:S:41:LYS:O	19:S:42:LYS:C	2.54	0.46
2:B:90:U:OP2	2:B:91:A:H3'	2.15	0.46
4:C:103:ILE:HG22	4:C:105:ALA:N	2.30	0.46
2:B:2392:A:OP1	29:3:30:HIS:HB3	2.16	0.46
2:B:2419:U:H2'	2:B:2420:C:C6	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:655:A:H4'	2:B:656:G:H5'	1.96	0.46
3:V:77:VAL:HG23	3:V:89:ILE:CG2	2.45	0.46
6:E:4:VAL:HG12	6:E:6:LYS:H	1.80	0.46
2:B:2868:A:H2'	2:B:2869:G:H8	1.81	0.46
2:B:1568:G:H4'	4:C:58:LYS:HB3	1.97	0.46
2:B:813:U:H2'	2:B:814:C:C6	2.50	0.46
2:B:839:U:H2'	2:B:840:C:H6	1.80	0.46
16:P:62:LYS:HB3	16:P:69:VAL:CG2	2.45	0.46
2:B:1515:A:H2'	2:B:1516:G:O4'	2.16	0.46
2:B:244:A:H1'	2:B:255:A:N6	2.31	0.46
2:B:2332:C:H1'	2:B:2336:A:C8	2.50	0.46
19:S:24:ILE:HD11	19:S:36:LEU:HD21	1.97	0.46
10:J:111:LYS:CB	10:J:113:PRO:HD2	2.46	0.46
9:H:66:ASN:O	9:H:134:VAL:HG11	2.16	0.46
2:B:2768:U:H2'	2:B:2769:U:O4'	2.16	0.46
2:B:534:U:O2'	17:Q:45:ALA:HA	2.15	0.46
18:R:80:ARG:O	18:R:81:LYS:HD3	2.15	0.46
31:I:29:GLN:HA	31:I:29:GLN:NE2	2.31	0.46
13:M:108:VAL:HG22	13:M:109:PRO:HD2	1.97	0.46
7:F:34:THR:CG2	7:F:89:THR:HG22	2.44	0.46
2:B:776:G:H4'	2:B:777:G:O5'	2.16	0.46
1:A:52:A:H3'	1:A:53:A:C8	2.51	0.46
2:B:233:A:N6	2:B:428:A:N6	2.62	0.46
2:B:20:C:H2'	2:B:21:A:H8	1.80	0.46
2:B:540:C:O2'	2:B:541:A:H5'	2.16	0.46
2:B:1401:G:H2'	2:B:1402:U:H6	1.80	0.46
12:L:133:ALA:HA	12:L:136:GLU:HB2	1.97	0.46
2:B:218:A:C2'	2:B:219:A:H5'	2.46	0.46
2:B:1417:C:O5'	2:B:1588:G:H1'	2.16	0.46
5:D:125:TRP:HA	5:D:125:TRP:CE3	2.51	0.46
7:F:162:ASP:C	7:F:166:ARG:HH11	2.19	0.45
14:N:117:ASP:OD2	14:N:117:ASP:C	2.55	0.45
4:C:171:VAL:HG23	4:C:185:ALA:HB2	1.97	0.45
9:H:68:ARG:HB2	9:H:134:VAL:HB	1.97	0.45
25:Z:35:SER:HA	25:Z:49:LEU:O	2.16	0.45
25:Z:65:ASP:O	25:Z:69:ALA:HB2	2.16	0.45
11:K:61:VAL:HG11	11:K:112:PHE:CE2	2.50	0.45
7:F:115:GLY:HA3	7:F:177:ARG:HB2	1.97	0.45
27:1:49:LYS:O	27:1:50:GLU:HB3	2.16	0.45
14:N:12:ARG:HA	14:N:12:ARG:HD2	1.71	0.45
2:B:1534:U:H2'	2:B:1536:C:C5	2.51	0.45
2:B:990:A:H1'	2:B:1156:A:C2	2.51	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1845:G:O2'	2:B:1846:G:H5'	2.16	0.45
2:B:1258:U:H2'	2:B:1259:G:H8	1.81	0.45
28:2:3:ARG:HH21	28:2:3:ARG:HG2	1.82	0.45
21:U:40:LEU:HA	21:U:60:LYS:O	2.15	0.45
12:L:120:VAL:O	12:L:135:ILE:HD11	2.16	0.45
11:K:75:SER:HA	16:P:72:VAL:O	2.16	0.45
2:B:1545:A:H2'	2:B:1546:G:O4'	2.15	0.45
2:B:83:A:H5''	21:U:1:ALA:H2	1.80	0.45
2:B:2840:C:H5''	14:N:53:THR:HG21	1.97	0.45
21:U:38:ILE:HG13	21:U:39:ASN:N	2.31	0.45
19:S:47:VAL:HG12	19:S:103:ILE:HG21	1.98	0.45
12:L:80:SER:HB3	12:L:115:GLU:CD	2.37	0.45
5:D:118:PHE:O	5:D:119:ALA:CB	2.62	0.45
12:L:54:GLN:O	12:L:56:PRO:HD3	2.16	0.45
17:Q:26:ALA:HA	17:Q:29:ARG:CG	2.45	0.45
22:W:9:THR:HG23	22:W:10:ARG:CD	2.36	0.45
25:Z:32:ASN:O	25:Z:33:LEU:O	2.34	0.45
18:R:79:ARG:NE	18:R:80:ARG:NH2	2.64	0.45
11:K:86:LEU:H	11:K:86:LEU:CD2	2.20	0.45
11:K:88:ASN:ND2	11:K:89:ASN:N	2.64	0.45
2:B:1056:G:O5'	2:B:1056:G:H8	2.00	0.45
2:B:322:A:H2'	6:E:163:ASN:OD1	2.15	0.45
11:K:99:ILE:HG12	11:K:115:ILE:HG13	1.99	0.45
1:A:74:U:H2'	1:A:75:G:O4'	2.16	0.45
2:B:1387:A:H2'	2:B:1388:G:C8	2.51	0.45
3:V:61:LEU:O	3:V:71:LYS:HA	2.16	0.45
15:O:51:ALA:CB	15:O:81:ARG:HH11	2.29	0.45
2:B:418:C:O2'	2:B:419:U:H5'	2.16	0.45
2:B:1465:G:H2'	2:B:1466:U:C6	2.50	0.45
10:J:11:VAL:HG21	10:J:13:ARG:NH1	2.32	0.45
2:B:1061:U:O4	31:I:10:LEU:HA	2.16	0.45
7:F:147:ARG:HD2	7:F:148:VAL:HG22	1.97	0.45
18:R:49:ILE:CG2	18:R:54:VAL:HB	2.47	0.45
2:B:2892:G:H5''	2:B:2894:G:N2	2.31	0.45
2:B:1324:G:H1'	2:B:1616:A:C6	2.51	0.45
28:2:4:THR:O	28:2:5:PHE:HB2	2.17	0.45
6:E:141:MET:O	6:E:143:LEU:HG	2.16	0.45
2:B:1970:A:H1'	2:B:1972:G:C8	2.51	0.45
2:B:862:G:H2'	2:B:863:A:O4'	2.16	0.45
2:B:1541:C:H2'	2:B:1542:U:H6	1.81	0.45
2:B:1541:C:H2'	2:B:1542:U:C6	2.51	0.45
7:F:19:PHE:HE1	7:F:167:ALA:HB2	1.81	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:586:A:H5'	6:E:84:THR:OG1	2.15	0.45
2:B:830:G:H1	2:B:2446:G:C4'	2.29	0.45
2:B:1249:U:C4'	17:Q:3:VAL:HG21	2.46	0.45
2:B:2227:A:H5''	4:C:260:LYS:HD2	1.98	0.45
2:B:855:G:N3	22:W:23:LYS:HE3	2.31	0.45
2:B:921:C:H2'	2:B:922:C:C6	2.51	0.45
21:U:90:LYS:O	21:U:92:VAL:HG23	2.16	0.45
5:D:26:VAL:HG13	5:D:188:LEU:CD2	2.46	0.45
21:U:26:ASN:ND2	21:U:34:ILE:HD12	2.23	0.45
4:C:140:VAL:CG2	4:C:163:ILE:HG12	2.46	0.45
9:H:127:GLU:HG3	9:H:143:ILE:CB	2.39	0.45
2:B:545:U:H6	2:B:545:U:O5'	2.00	0.45
2:B:545:U:H2'	2:B:547:A:P	2.57	0.45
2:B:1252:G:O3'	17:Q:32:ARG:NH1	2.50	0.45
2:B:584:C:N4	2:B:585:G:C6	2.84	0.45
2:B:1025:G:OP1	2:B:1025:G:H8	1.98	0.45
2:B:2674:G:H2'	2:B:2675:A:H8	1.81	0.45
18:R:95:ASP:O	18:R:96:VAL:HG13	2.16	0.45
16:P:56:SER:HB2	16:P:75:THR:HB	1.98	0.45
7:F:103:ILE:HD11	7:F:174:PHE:CD1	2.51	0.45
31:I:62:ALA:C	31:I:64:ARG:H	2.20	0.45
18:R:21:ARG:C	18:R:22:LEU:HD23	2.36	0.45
7:F:34:THR:OG1	7:F:154:THR:HB	2.15	0.45
2:B:643:A:C4	27:I:43:ARG:HD2	2.50	0.45
2:B:2751:G:C2'	2:B:2751:G:N3	2.76	0.45
1:A:30:C:H1'	1:A:58:A:N1	2.32	0.45
6:E:150:THR:O	6:E:192:ALA:HB2	2.17	0.45
2:B:1488:C:O2'	2:B:1489:C:H5'	2.17	0.45
2:B:2199:A:H3'	2:B:2200:C:C6	2.51	0.45
2:B:275:C:C2'	2:B:276:U:H5'	2.46	0.45
31:I:135:MET:HG3	31:I:137:LEU:HG	1.98	0.45
1:A:95:U:H2'	1:A:96:G:H8	1.79	0.45
2:B:345:A:H1'	2:B:346:A:H2	1.80	0.45
2:B:2729:G:H1'	5:D:192:ALA:HB3	1.98	0.45
15:O:111:ARG:HG2	15:O:117:PHE:CE2	2.50	0.45
2:B:2411:A:H2'	2:B:2412:A:H8	1.81	0.45
28:2:34:ARG:NE	28:2:39:ARG:HG2	2.30	0.45
3:V:16:ALA:HA	3:V:19:ARG:HH21	1.82	0.45
2:B:1601:G:O2'	2:B:1602:U:H5'	2.17	0.45
4:C:165:ALA:HB3	4:C:172:THR:HG23	1.99	0.45
2:B:2221:G:O2'	2:B:2222:C:H5'	2.15	0.45
6:E:91:ASP:C	6:E:93:SER:H	2.19	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:89:ILE:C	17:Q:91:ARG:H	2.19	0.45
2:B:1657:U:O2'	5:D:138:LEU:HD12	2.16	0.45
2:B:137:U:H3'	2:B:138:U:C6	2.51	0.45
20:T:2:ILE:HG13	20:T:3:ARG:CZ	2.47	0.45
20:T:67:VAL:HG22	20:T:74:ILE:HD11	1.99	0.45
2:B:1432:G:H2'	2:B:1433:A:C8	2.52	0.45
2:B:1475:G:H3'	2:B:1475:G:OP1	2.17	0.45
2:B:1734:G:O2'	2:B:1735:A:H5'	2.16	0.45
2:B:643:A:H1'	27:1:43:ARG:HH21	1.82	0.45
2:B:1484:U:H2'	2:B:1485:U:H6	1.80	0.45
9:H:112:LYS:HE3	9:H:112:LYS:O	2.16	0.45
16:P:54:LEU:HA	16:P:76:HIS:HD2	1.81	0.45
2:B:1846:G:N2	2:B:1848:A:N6	2.63	0.45
2:B:437:U:H2'	2:B:438:G:C8	2.51	0.45
29:3:15:LYS:HA	29:3:21:PHE:HA	1.97	0.45
22:W:19:ARG:CD	22:W:19:ARG:H	2.30	0.45
21:U:89:GLY:O	21:U:90:LYS:HG3	2.16	0.45
26:0:41:HIS:N	26:0:41:HIS:CD2	2.85	0.45
6:E:116:ASP:O	6:E:119:ILE:HD11	2.16	0.45
9:H:68:ARG:C	9:H:134:VAL:HB	2.36	0.45
2:B:1171:G:H2'	2:B:1172:C:H6	1.80	0.45
2:B:1173:U:H1'	2:B:1177:G:C2	2.52	0.45
17:Q:33:VAL:HG23	17:Q:34:ALA:N	2.31	0.45
11:K:87:LEU:HB2	11:K:93:GLN:C	2.35	0.45
16:P:50:ARG:CB	16:P:56:SER:HB3	2.45	0.45
11:K:107:LEU:C	11:K:109:SER:H	2.20	0.45
2:B:2148:G:H3'	2:B:2149:U:C6	2.51	0.45
7:F:109:ARG:HB3	7:F:135:ILE:HD12	1.99	0.45
7:F:111:ARG:CD	7:F:111:ARG:N	2.80	0.45
13:M:26:VAL:HG22	13:M:133:LYS:HA	1.98	0.45
5:D:33:ARG:NH1	5:D:53:GLY:O	2.49	0.45
2:B:279:A:H2'	2:B:280:U:C5'	2.46	0.45
15:O:51:ALA:HB3	15:O:78:VAL:HG13	1.98	0.45
2:B:2648:G:H2'	2:B:2649:C:H6	1.81	0.45
9:H:14:SER:C	9:H:16:GLY:H	2.20	0.45
2:B:592:A:H2'	2:B:593:U:H6	1.81	0.45
20:T:48:GLN:HA	20:T:48:GLN:NE2	2.30	0.45
2:B:77:G:O2'	2:B:78:U:H5'	2.16	0.45
6:E:4:VAL:HA	6:E:11:ALA:HA	1.99	0.45
8:G:11:PRO:O	8:G:14:VAL:HG22	2.16	0.45
2:B:2284:A:OP2	27:1:5:ARG:HG3	2.15	0.45
2:B:2236:U:O2'	2:B:2237:G:H5'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:135:ILE:HG12	12:L:140:GLY:HA2	1.99	0.45
22:W:45:HIS:ND1	22:W:45:HIS:N	2.64	0.45
2:B:1668:A:N3	2:B:1670:C:C4	2.85	0.45
2:B:1877:A:H2'	2:B:1878:G:C8	2.51	0.45
2:B:611:C:H2'	2:B:612:G:O4'	2.17	0.45
2:B:1072:C:N3	2:B:1092:C:N4	2.64	0.45
4:C:264:LYS:HG3	4:C:265:PHE:CD2	2.52	0.45
2:B:43:G:H2'	2:B:44:A:O4'	2.16	0.45
2:B:2594:C:O2'	2:B:2595:G:H5'	2.17	0.45
2:B:1472:C:H2'	2:B:1473:G:C8	2.52	0.45
22:W:23:LYS:O	22:W:66:VAL:HB	2.17	0.45
5:D:101:PHE:O	5:D:180:VAL:HG11	2.16	0.45
16:P:4:ILE:O	16:P:6:GLN:N	2.46	0.45
7:F:126:ASN:HB3	7:F:156:THR:CB	2.47	0.45
10:J:140:LEU:HD23	10:J:141:ASP:N	2.32	0.45
9:H:61:VAL:O	9:H:63:ALA:N	2.49	0.45
2:B:1177:G:H2'	2:B:1178:C:C6	2.52	0.45
2:B:1444:G:H2'	2:B:1445:G:H8	1.80	0.45
23:X:56:LEU:C	23:X:58:ASN:N	2.70	0.45
2:B:2146:C:C1'	2:B:2147:A:H5'	2.45	0.45
8:G:148:ARG:HA	8:G:161:VAL:CB	2.43	0.45
18:R:2:TYR:HB2	18:R:42:ALA:CB	2.40	0.45
20:T:83:ALA:O	20:T:84:TYR:HB2	2.17	0.45
11:K:19:VAL:C	11:K:41:ILE:HD11	2.36	0.45
15:O:51:ALA:CB	15:O:78:VAL:HG13	2.47	0.45
6:E:152:GLU:O	6:E:153:LEU:HB3	2.16	0.45
21:U:11:ILE:CG2	21:U:70:ALA:HB3	2.45	0.45
2:B:1849:G:H2'	2:B:1850:G:C8	2.51	0.45
6:E:5:LEU:HB2	6:E:11:ALA:H	1.82	0.45
8:G:39:ALA:O	8:G:54:ARG:HB2	2.17	0.45
2:B:877:A:C2	2:B:900:A:N7	2.84	0.45
15:O:68:LYS:H	15:O:102:ARG:HD3	1.82	0.45
8:G:91:VAL:HG23	8:G:92:GLY:H	1.81	0.45
2:B:1523:U:H5''	2:B:1524:G:C8	2.51	0.45
4:C:41:GLY:O	4:C:48:ILE:HA	2.16	0.45
21:U:86:PHE:HB3	21:U:90:LYS:O	2.17	0.45
11:K:35:VAL:HG12	11:K:69:VAL:CG2	2.47	0.45
7:F:94:ARG:HD3	7:F:97:GLU:OE2	2.17	0.45
14:N:31:HIS:O	14:N:32:GLU:HB2	2.15	0.45
6:E:148:ILE:HA	6:E:187:VAL:HB	1.98	0.45
9:H:114:GLU:HB2	9:H:132:PHE:CE1	2.52	0.45
2:B:2808:G:O2'	2:B:2809:A:H8	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:26:G:H1'	2:B:514:A:N6	2.31	0.45
17:Q:4:LYS:CE	17:Q:7:VAL:HG22	2.46	0.45
20:T:57:VAL:HG22	20:T:58:VAL:N	2.21	0.45
2:B:770:G:OP2	28:2:11:LYS:HE2	2.17	0.45
2:B:726:G:H5'	2:B:1432:G:O2'	2.17	0.45
2:B:705:A:N6	2:B:726:G:H1'	2.31	0.45
4:C:6:LYS:O	4:C:8:THR:HG23	2.16	0.45
2:B:1730:C:H1'	2:B:1731:G:N2	2.32	0.45
9:H:89:LYS:HE2	9:H:123:ARG:HB3	1.98	0.45
11:K:120:PRO:HA	16:P:65:ASN:HD21	1.81	0.45
7:F:169:LEU:O	7:F:174:PHE:HB2	2.16	0.45
18:R:68:ARG:HG2	18:R:92:TRP:HA	1.99	0.45
31:I:107:GLU:HA	31:I:110:GLN:OE1	2.16	0.45
2:B:1689:A:O2'	2:B:1690:A:H5'	2.17	0.45
9:H:14:SER:C	9:H:16:GLY:N	2.69	0.45
2:B:2489:U:O2'	2:B:2490:G:H5'	2.16	0.45
6:E:155:GLU:O	6:E:159:LEU:HB2	2.17	0.45
31:I:52:LEU:HD21	31:I:81:LYS:NZ	2.31	0.45
18:R:43:ASN:ND2	18:R:44:GLY:N	2.64	0.45
2:B:220:G:H1	2:B:427:U:H2'	1.82	0.45
22:W:70:VAL:O	22:W:70:VAL:HG13	2.16	0.45
2:B:242:G:H5'	29:3:63:TYR:CD1	2.52	0.45
2:B:160:A:H1'	2:B:2208:C:O2'	2.16	0.45
2:B:111:A:H2'	2:B:112:U:O4'	2.16	0.45
2:B:1207:C:H2'	2:B:1208:C:H6	1.82	0.45
3:V:49:ASN:O	3:V:52:ALA:HB3	2.17	0.45
2:B:2201:G:O2'	2:B:2202:U:H5'	2.16	0.45
22:W:49:ASN:CB	22:W:61:LYS:H	2.28	0.45
14:N:114:GLU:CD	14:N:118:ARG:HH11	2.19	0.45
14:N:116:VAL:HG13	14:N:116:VAL:O	2.17	0.45
4:C:141:HIS:O	4:C:143:VAL:HG23	2.17	0.45
2:B:587:C:N3	12:L:33:ARG:NH2	2.64	0.45
31:I:116:MET:SD	31:I:124:MET:HB2	2.56	0.45
3:V:26:PHE:CE2	3:V:44:HIS:HA	2.52	0.45
2:B:2344:U:H2'	27:1:35:LEU:O	2.16	0.45
10:J:64:VAL:HG11	10:J:69:ARG:H	1.82	0.45
18:R:61:ALA:CB	18:R:98:ILE:H	2.30	0.45
20:T:68:LYS:N	20:T:68:LYS:HD3	2.32	0.45
9:H:90:LEU:HB3	9:H:123:ARG:HD2	1.98	0.45
8:G:122:ALA:HA	8:G:131:VAL:O	2.16	0.45
7:F:102:LEU:O	7:F:103:ILE:CB	2.64	0.45
19:S:42:LYS:HG3	19:S:43:ALA:N	2.32	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:102:TYR:O	4:C:103:ILE:HG13	2.17	0.45
2:B:2391:G:HO2'	2:B:2424:C:H41	1.64	0.45
2:B:2885:G:H21	26:0:31:LYS:HG2	1.82	0.45
22:W:44:PHE:CE2	22:W:76:ARG:HD3	2.51	0.45
2:B:2215:C:H2'	2:B:2216:G:C8	2.52	0.45
15:O:68:LYS:H	15:O:102:ARG:CD	2.30	0.45
2:B:2428:G:H5''	2:B:2429:G:OP1	2.17	0.45
5:D:10:GLY:HA3	5:D:26:VAL:H	1.82	0.45
7:F:3:LEU:HD11	7:F:172:PHE:CD1	2.52	0.45
14:N:90:ARG:HB3	14:N:94:TYR:CE1	2.52	0.45
19:S:24:ILE:CG2	19:S:71:VAL:HG11	2.45	0.45
17:Q:60:TRP:O	17:Q:63:ARG:HG3	2.16	0.45
12:L:77:ILE:HD12	12:L:125:LEU:HD21	1.99	0.45
2:B:2211:A:OP2	2:B:2211:A:H4'	2.16	0.45
4:C:175:LEU:HD11	4:C:181:ARG:HG3	1.98	0.45
5:D:114:LYS:HZ1	5:D:116:LYS:HG3	1.81	0.45
2:B:584:C:OP1	17:Q:5:ARG:HB3	2.16	0.45
25:Z:49:LEU:HB2	25:Z:51:VAL:HG23	1.99	0.45
2:B:728:G:O2'	2:B:730:A:H8	2.00	0.45
7:F:141:ASP:O	7:F:144:LYS:N	2.50	0.45
2:B:2591:C:OP1	4:C:237:ARG:HG3	2.17	0.45
8:G:23:ILE:HG22	8:G:25:ILE:HD11	1.99	0.45
2:B:1796:U:O2'	2:B:1797:G:H5'	2.17	0.45
2:B:989:G:H5''	24:Y:13:ILE:HD11	1.99	0.45
2:B:632:A:H2'	2:B:633:A:C8	2.52	0.45
2:B:1064:C:H2'	2:B:1065:U:O4'	2.17	0.45
6:E:4:VAL:HG12	6:E:5:LEU:H	1.81	0.45
5:D:46:ARG:HH22	5:D:86:GLU:N	2.15	0.45
2:B:2478:A:H2'	2:B:2479:U:O4'	2.17	0.45
17:Q:38:VAL:O	17:Q:39:ILE:C	2.56	0.45
2:B:1207:C:H2'	2:B:1208:C:C6	2.52	0.45
2:B:1599:U:H2'	2:B:1600:C:C6	2.52	0.45
7:F:2:LYS:O	7:F:6:TYR:HB2	2.17	0.45
2:B:2315:G:H2'	2:B:2316:G:H8	1.82	0.45
2:B:1695:G:N7	4:C:13:ARG:NH2	2.65	0.45
2:B:911:A:N6	13:M:9:PHE:HB3	2.32	0.45
2:B:292:U:H2'	2:B:293:U:O4'	2.17	0.45
19:S:88:ARG:HH21	19:S:88:ARG:HG3	1.82	0.45
22:W:65:LYS:N	22:W:84:GLU:HB3	2.31	0.45
5:D:179:ARG:NH1	5:D:179:ARG:HB3	2.31	0.45
5:D:8:LYS:O	5:D:197:THR:HA	2.17	0.45
7:F:98:PHE:C	7:F:100:GLU:H	2.20	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:42:C:C4	7:F:65:LEU:HD22	2.51	0.45
6:E:102:ARG:O	6:E:106:LYS:HG3	2.17	0.45
19:S:73:LYS:HD2	19:S:73:LYS:HA	1.67	0.45
2:B:1010:A:OP1	17:Q:61:ILE:HG22	2.17	0.45
27:1:47:ILE:HD12	27:1:47:ILE:H	1.82	0.45
15:O:7:ARG:HH11	15:O:7:ARG:CG	2.30	0.45
2:B:322:A:C2	2:B:340:A:C6	3.05	0.45
9:H:59:ALA:O	9:H:60:GLU:HB3	2.17	0.45
2:B:1163:G:H4'	18:R:92:TRP:HE1	1.81	0.45
25:Z:21:ALA:C	25:Z:22:LEU:HG	2.37	0.45
2:B:2448:A:H4'	2:B:2449:U:OP2	2.17	0.45
2:B:1047:G:O2'	2:B:1110:G:N2	2.43	0.45
2:B:746:U:O3'	19:S:90:LYS:NZ	2.50	0.45
2:B:753:A:O2'	2:B:754:U:H5'	2.17	0.45
2:B:1872:A:H2'	2:B:1873:G:O4'	2.17	0.45
31:I:44:LYS:O	31:I:48:ILE:HG13	2.16	0.45
2:B:1076:C:H2'	2:B:1077:A:C8	2.52	0.45
2:B:2247:A:H2'	2:B:2248:C:H6	1.82	0.45
2:B:1472:C:H2'	2:B:1473:G:H8	1.82	0.45
2:B:681:G:H2'	2:B:682:G:H8	1.82	0.45
6:E:132:LYS:O	6:E:135:ALA:HB3	2.17	0.45
1:A:112:G:O2'	1:A:113:C:H5'	2.17	0.45
5:D:109:VAL:CG1	5:D:193:VAL:HB	2.47	0.44
7:F:126:ASN:CB	7:F:156:THR:HA	2.44	0.44
7:F:29:ARG:HD3	7:F:158:THR:OG1	2.16	0.44
17:Q:57:ARG:HH12	17:Q:61:ILE:CD1	2.30	0.44
12:L:125:LEU:HD23	12:L:126:ARG:N	2.32	0.44
12:L:142:ILE:HD12	12:L:142:ILE:N	2.31	0.44
9:H:143:ILE:O	9:H:144:VAL:HG23	2.17	0.44
20:T:55:VAL:HG13	20:T:85:VAL:HG12	2.00	0.44
2:B:1733:G:H5'	2:B:1733:G:H8	1.82	0.44
17:Q:65:ASN:CG	17:Q:75:TYR:HB2	2.37	0.44
4:C:221:GLY:O	4:C:223:ALA:N	2.50	0.44
10:J:35:ARG:HG3	10:J:40:HIS:HE2	1.82	0.44
2:B:2439:A:C8	2:B:2586:U:H4'	2.53	0.44
2:B:2852:G:H2'	2:B:2853:C:O4'	2.17	0.44
2:B:2102:G:H2'	2:B:2103:C:H5'	1.99	0.44
14:N:7:GLY:HA2	14:N:46:ARG:HH12	1.79	0.44
15:O:100:HIS:HA	15:O:104:GLN:NE2	2.32	0.44
2:B:1708:C:O2'	2:B:1709:U:H5'	2.17	0.44
2:B:441:U:O2'	2:B:442:G:H5'	2.17	0.44
26:O:55:ALA:C	26:O:56:LYS:HG3	2.37	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2683:C:O2'	2:B:2684:U:H5'	2.17	0.44
2:B:218:A:O2'	2:B:219:A:H5'	2.17	0.44
2:B:904:G:H2'	2:B:905:A:C8	2.50	0.44
2:B:1249:U:O4'	17:Q:3:VAL:HG21	2.17	0.44
2:B:453:A:H1'	2:B:457:A:O2'	2.18	0.44
2:B:561:G:O5'	2:B:561:G:H8	2.00	0.44
5:D:110:THR:HG21	5:D:169:ARG:HH11	1.83	0.44
2:B:2816:G:O3'	14:N:99:LYS:HE3	2.16	0.44
2:B:616:A:H5''	34:B:4310:HOH:O	2.16	0.44
6:E:149:ILE:HG23	6:E:188:MET:HA	1.99	0.44
4:C:185:ALA:C	4:C:187:CYS:H	2.20	0.44
2:B:1060:U:C4	31:I:131:THR:HG22	2.51	0.44
27:1:7:LYS:NZ	29:3:33:THR:HG22	2.32	0.44
9:H:27:ARG:HH11	25:Z:64:ILE:CD1	2.30	0.44
2:B:533:G:H2'	2:B:534:U:C6	2.53	0.44
11:K:87:LEU:HD12	11:K:92:GLU:C	2.37	0.44
2:B:729:G:C5	4:C:206:LYS:HB2	2.52	0.44
15:O:52:SER:H	15:O:55:GLU:HG3	1.82	0.44
18:R:60:LYS:H	18:R:100:GLY:N	2.15	0.44
5:D:51:THR:HG22	5:D:76:GLY:HA3	1.99	0.44
2:B:2884:U:H4'	26:0:49:ARG:NH2	2.32	0.44
2:B:786:C:H5''	2:B:1780:A:C8	2.52	0.44
2:B:19:A:H2'	2:B:20:C:C6	2.52	0.44
2:B:156:A:O2'	2:B:157:C:H5'	2.18	0.44
2:B:2743:U:H3'	2:B:2744:G:H5''	1.99	0.44
10:J:103:ILE:HG13	10:J:104:ALA:N	2.32	0.44
4:C:250:GLN:CD	4:C:254:LYS:HG2	2.37	0.44
1:A:93:C:O2'	1:A:94:A:H5'	2.16	0.44
26:0:18:HIS:N	26:0:18:HIS:HD1	2.14	0.44
1:A:35:C:H2'	1:A:36:C:O4'	2.17	0.44
5:D:16:THR:HG22	5:D:17:GLU:N	2.33	0.44
8:G:94:ARG:HB2	8:G:127:GLN:HG2	1.98	0.44
25:Z:53:ALA:C	25:Z:55:GLY:H	2.18	0.44
5:D:35:THR:OG1	5:D:49:GLN:HG2	2.17	0.44
29:3:6:VAL:HB	29:3:60:CYS:HB3	1.98	0.44
15:O:9:ARG:HA	15:O:12:THR:OG1	2.17	0.44
2:B:2300:C:H2'	2:B:2301:C:H6	1.81	0.44
13:M:32:GLY:HA2	13:M:117:PHE:CZ	2.52	0.44
22:W:18:LYS:H	22:W:35:ILE:CG2	2.29	0.44
22:W:50:VAL:HG23	22:W:51:GLY:H	1.82	0.44
5:D:108:ASP:N	5:D:204:LYS:O	2.51	0.44
5:D:11:MET:H	5:D:25:THR:HA	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:62:GLN:HE21	7:F:91:ARG:NE	2.15	0.44
2:B:2306:C:C5	2:B:2307:G:H2'	2.52	0.44
17:Q:81:GLY:HA3	17:Q:116:LEU:CD1	2.48	0.44
17:Q:96:ASP:C	17:Q:98:ALA:H	2.19	0.44
2:B:674:G:O3'	6:E:60:TRP:HZ2	2.01	0.44
20:T:54:GLU:HB3	20:T:88:LYS:HB2	1.99	0.44
11:K:85:VAL:HG21	11:K:115:ILE:HD11	1.99	0.44
3:V:66:ASP:HB2	3:V:68:LYS:CE	2.42	0.44
9:H:58:LEU:HG	9:H:62:LEU:HD23	2.00	0.44
14:N:61:ALA:C	14:N:63:ARG:N	2.71	0.44
2:B:1792:G:OP1	4:C:204:LEU:HD12	2.17	0.44
2:B:1803:A:H4'	4:C:256:THR:OG1	2.17	0.44
4:C:199:HIS:C	4:C:201:LEU:H	2.21	0.44
18:R:39:LEU:CA	18:R:53:PHE:HA	2.44	0.44
2:B:1372:U:O2'	2:B:1373:A:H5'	2.17	0.44
2:B:118:A:N3	2:B:178:G:H1'	2.31	0.44
2:B:264:C:H2'	2:B:265:A:H5''	2.00	0.44
2:B:2217:G:H2'	2:B:2218:G:H8	1.83	0.44
26:O:18:HIS:C	26:O:20:ALA:H	2.21	0.44
29:3:61:LEU:N	29:3:62:PRO:HD3	2.32	0.44
2:B:1932:A:H2'	2:B:1933:G:O4'	2.18	0.44
12:L:47:ARG:HG3	12:L:48:ARG:N	2.32	0.44
2:B:817:C:O2'	2:B:839:U:H5''	2.17	0.44
2:B:240:C:H5''	2:B:241:A:H5''	1.98	0.44
2:B:2246:G:H2'	2:B:2247:A:H8	1.81	0.44
17:Q:38:VAL:O	17:Q:41:ALA:N	2.51	0.44
2:B:1727:C:H2'	2:B:1728:C:H6	1.83	0.44
2:B:1544:A:H2'	2:B:1545:A:C8	2.52	0.44
2:B:342:A:H2'	2:B:343:C:O4'	2.17	0.44
21:U:84:PHE:O	21:U:85:ARG:CB	2.63	0.44
5:D:3:GLY:HA2	5:D:101:PHE:CZ	2.53	0.44
10:J:4:PHE:HB3	10:J:44:TYR:CD1	2.53	0.44
17:Q:91:ARG:HB2	18:R:11:GLN:CD	2.38	0.44
17:Q:108:LEU:HA	18:R:48:LYS:HD3	1.99	0.44
14:N:80:PHE:O	14:N:85:PRO:HD3	2.17	0.44
4:C:68:ARG:HB3	4:C:128:THR:OG1	2.17	0.44
2:B:143:C:H2'	2:B:144:A:C8	2.51	0.44
2:B:1173:U:N3	2:B:1174:U:H1'	2.32	0.44
2:B:1059:G:H2'	2:B:1060:U:C6	2.52	0.44
2:B:26:G:H2'	2:B:27:G:C1'	2.48	0.44
17:Q:7:VAL:O	17:Q:8:ILE:C	2.56	0.44
16:P:61:ARG:HD3	16:P:70:GLU:CG	2.47	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1387:A:H4'	2:B:1469:A:H1'	1.98	0.44
2:B:1341:G:O4'	20:T:61:LEU:HD23	2.16	0.44
2:B:591:U:H1'	29:3:1:PRO:H2	1.77	0.44
7:F:69:ALA:HB3	7:F:80:GLN:O	2.18	0.44
2:B:329:G:N1	21:U:16:LYS:HE3	2.30	0.44
2:B:2886:A:H2'	2:B:2887:A:O4'	2.16	0.44
2:B:2880:C:C1'	14:N:91:ALA:HB3	2.46	0.44
18:R:71:LYS:HG2	18:R:73:LYS:HZ3	1.79	0.44
18:R:38:VAL:O	18:R:53:PHE:HB3	2.17	0.44
2:B:84:A:H4'	2:B:85:G:O5'	2.16	0.44
2:B:2526:G:H5'	2:B:2742:G:O2'	2.16	0.44
2:B:1870:C:H3'	2:B:1871:A:C8	2.52	0.44
2:B:1640:A:O2'	2:B:1641:A:H5'	2.18	0.44
12:L:132:ARG:O	12:L:136:GLU:HG2	2.17	0.44
16:P:33:GLU:OE2	16:P:38:ARG:NE	2.49	0.44
16:P:31:VAL:CG1	16:P:38:ARG:HB2	2.47	0.44
8:G:94:ARG:HH21	8:G:105:SER:H	1.63	0.44
2:B:1541:C:O2'	2:B:1542:U:H5'	2.17	0.44
23:X:7:ARG:HA	23:X:7:ARG:HD2	1.83	0.44
2:B:841:G:O2'	2:B:842:U:H5'	2.17	0.44
10:J:44:TYR:HB2	17:Q:63:ARG:HD2	1.99	0.44
17:Q:91:ARG:HE	17:Q:94:LEU:CD2	2.30	0.44
6:E:29:HIS:CD2	12:L:8:PRO:HA	2.52	0.44
9:H:114:GLU:O	9:H:115:VAL:HG13	2.17	0.44
2:B:1439:A:H1'	2:B:1553:A:N6	2.33	0.44
2:B:1309:G:H4'	28:2:7:PRO:HB2	1.99	0.44
2:B:1163:G:H4'	18:R:92:TRP:NE1	2.31	0.44
28:2:19:ARG:O	28:2:22:MET:HB2	2.18	0.44
2:B:124:G:C5	28:2:19:ARG:NH1	2.85	0.44
10:J:57:LEU:HG	10:J:128:ASN:N	2.31	0.44
14:N:9:GLN:O	14:N:17:ARG:HD3	2.17	0.44
18:R:39:LEU:HD22	18:R:53:PHE:CD1	2.53	0.44
21:U:11:ILE:N	21:U:70:ALA:O	2.45	0.44
2:B:629:G:O2'	2:B:630:G:H5'	2.18	0.44
2:B:264:C:O2'	2:B:265:A:H5''	2.18	0.44
21:U:94:PHE:HB2	21:U:101:THR:HA	2.00	0.44
2:B:935:C:H2'	2:B:936:A:C8	2.52	0.44
2:B:601:C:O2	2:B:605:G:H4'	2.17	0.44
2:B:1091:G:O2'	2:B:1092:C:H5'	2.17	0.44
2:B:2300:C:H2'	2:B:2301:C:C6	2.52	0.44
2:B:1183:U:O2'	2:B:1184:U:H5'	2.17	0.44
17:Q:94:LEU:C	17:Q:96:ASP:N	2.71	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1286:A:H1'	2:B:1288:G:OP2	2.18	0.44
25:Z:68:LEU:HD22	25:Z:78:TYR:CE1	2.53	0.44
4:C:180:MET:O	4:C:267:VAL:HG23	2.17	0.44
11:K:106:GLU:N	11:K:106:GLU:OE1	2.47	0.44
20:T:54:GLU:CB	20:T:88:LYS:HB2	2.48	0.44
20:T:11:LEU:CD2	20:T:46:ALA:HB1	2.44	0.44
2:B:2571:U:O2'	5:D:152:PRO:HG3	2.18	0.44
15:O:36:TYR:CD2	15:O:36:TYR:N	2.86	0.44
18:R:59:ILE:HA	18:R:100:GLY:HA3	1.99	0.44
2:B:309:A:N3	2:B:329:G:O2'	2.48	0.44
2:B:182:A:H1'	2:B:434:U:H5'	2.00	0.44
2:B:2646:C:H2'	2:B:2647:U:O4'	2.18	0.44
2:B:599:A:H2'	2:B:600:G:H8	1.82	0.44
20:T:7:LEU:C	20:T:9:LYS:H	2.20	0.44
2:B:1637:A:H5'	2:B:1760:C:O2'	2.17	0.44
27:1:3:GLY:O	27:1:5:ARG:N	2.50	0.44
28:2:39:ARG:HG3	28:2:39:ARG:NH1	2.32	0.44
2:B:2389:G:H5''	2:B:2390:U:O4'	2.18	0.44
2:B:538:A:H2'	2:B:539:G:O4'	2.17	0.44
21:U:49:PRO:O	21:U:50:ALA:HB2	2.16	0.44
18:R:6:GLN:HE22	18:R:9:GLY:N	2.16	0.44
21:U:73:ASN:HD21	21:U:76:THR:H	1.66	0.44
2:B:212:G:H2'	2:B:213:A:H8	1.81	0.44
2:B:311:A:H3'	2:B:312:G:C8	2.52	0.44
22:W:70:VAL:CG2	22:W:75:ASN:HD21	2.31	0.44
2:B:2301:C:H2'	2:B:2302:U:H6	1.82	0.44
2:B:483:A:H2'	2:B:484:C:H5'	2.00	0.44
22:W:18:LYS:HA	22:W:18:LYS:HD2	1.72	0.44
22:W:37:VAL:HB	22:W:38:ARG:HD3	1.98	0.44
2:B:83:A:N1	2:B:101:A:H5'	2.32	0.44
5:D:8:LYS:HA	5:D:201:LEU:HD11	1.99	0.44
7:F:43:ILE:CG2	7:F:44:ALA:H	2.16	0.44
26:O:26:SER:HB3	26:O:39:ARG:NH2	2.33	0.44
17:Q:104:ALA:HA	18:R:46:GLU:OE2	2.18	0.44
12:L:93:ASN:HB2	12:L:94:THR:H	1.66	0.44
2:B:1656:C:H2'	2:B:1657:U:H6	1.82	0.44
2:B:137:U:H2'	20:T:1:MET:N	2.33	0.44
2:B:28:A:O2'	2:B:583:G:H5'	2.17	0.44
16:P:26:GLU:HB2	16:P:86:LYS:HD3	2.00	0.44
2:B:1439:A:C5	2:B:1552:A:N6	2.85	0.44
24:Y:50:VAL:O	24:Y:54:VAL:HG22	2.17	0.44
2:B:1591:A:O2'	2:B:1592:C:H5'	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:140:ILE:O	7:F:141:ASP:C	2.56	0.44
2:B:364:C:H6	2:B:364:C:O5'	2.01	0.44
20:T:61:LEU:HG	20:T:82:LYS:HB2	1.99	0.44
2:B:2848:G:N2	2:B:2867:G:C2	2.86	0.44
3:V:2:PHE:HD1	3:V:50:MET:HE2	1.83	0.44
20:T:12:ARG:HA	23:X:29:ARG:NH2	2.26	0.44
2:B:2618:G:H2'	2:B:2619:C:H6	1.83	0.44
2:B:2466:C:O2'	2:B:2467:C:H5'	2.18	0.44
2:B:1826:G:H2'	2:B:1827:U:C6	2.51	0.44
5:D:14:ILE:HG23	5:D:14:ILE:O	2.18	0.44
2:B:64:A:H2'	2:B:65:U:H6	1.81	0.44
31:I:102:ARG:HA	31:I:105:LEU:HD12	1.99	0.44
12:L:89:VAL:O	12:L:89:VAL:HG13	2.17	0.44
2:B:1076:C:H2'	2:B:1077:A:H8	1.82	0.44
4:C:52:HIS:O	4:C:53:ILE:HB	2.17	0.44
2:B:613:A:H4'	2:B:614:A:OP2	2.18	0.44
2:B:2459:A:H2'	2:B:2459:A:N3	2.33	0.44
2:B:765:C:H2'	2:B:766:U:H6	1.83	0.44
7:F:24:VAL:O	7:F:27:VAL:HG22	2.18	0.44
2:B:1147:A:O2'	2:B:1148:U:H5'	2.18	0.44
21:U:51:LEU:HD22	21:U:52:ASN:OD1	2.17	0.44
7:F:64:PRO:HA	7:F:88:VAL:HG22	1.99	0.44
14:N:90:ARG:HB3	14:N:94:TYR:HE1	1.82	0.44
25:Z:49:LEU:HD11	25:Z:68:LEU:HD21	2.00	0.44
16:P:88:ARG:HB2	16:P:112:ARG:HH12	1.78	0.44
7:F:135:ILE:CD1	7:F:137:PHE:HB3	2.45	0.44
19:S:66:ILE:H	19:S:66:ILE:CD1	2.26	0.44
2:B:1463:C:H2'	2:B:1464:G:H8	1.82	0.44
2:B:2369:A:H2'	2:B:2370:G:H8	1.83	0.44
2:B:231:A:H3'	2:B:232:G:C8	2.53	0.44
7:F:74:ALA:C	7:F:76:PHE:H	2.21	0.44
13:M:10:ARG:HH11	13:M:89:VAL:HG23	1.83	0.44
2:B:2462:C:H2'	2:B:2463:C:H6	1.82	0.44
2:B:1998:A:H2'	2:B:1999:C:C6	2.53	0.44
2:B:59:U:H5'	2:B:73:A:N1	2.33	0.44
2:B:2487:G:H2'	2:B:2488:G:H8	1.83	0.44
2:B:2699:C:H2'	2:B:2700:A:C8	2.53	0.44
2:B:1821:A:H2'	2:B:1822:C:H6	1.81	0.44
2:B:1210:G:H5'	2:B:1212:G:C4'	2.47	0.44
2:B:866:A:O2'	2:B:867:C:H5'	2.18	0.44
2:B:1933:G:H2'	2:B:1934:C:C6	2.53	0.44
2:B:1336:A:H3'	2:B:1337:G:H8	1.81	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:2:6:GLN:HA	28:2:6:GLN:NE2	2.33	0.44
23:X:59:GLU:N	23:X:59:GLU:OE2	2.51	0.44
2:B:1338:G:H4'	20:T:18:GLU:CG	2.29	0.44
7:F:65:LEU:HD23	7:F:87:LYS:CD	2.43	0.44
2:B:4:U:O2'	2:B:5:A:H5'	2.18	0.44
2:B:470:A:H2'	2:B:471:A:C8	2.53	0.44
9:H:141:LYS:HE2	9:H:141:LYS:HB2	1.75	0.44
2:B:1171:G:H2'	2:B:1172:C:O4'	2.18	0.44
31:I:129:GLU:CB	31:I:133:ARG:HH12	2.18	0.44
2:B:30:G:OP1	17:Q:4:LYS:HG2	2.18	0.44
8:G:154:GLU:O	8:G:156:TYR:N	2.51	0.44
8:G:89:VAL:HG21	8:G:162:ARG:HH11	1.83	0.44
4:C:64:VAL:HG22	4:C:90:ILE:HD11	2.00	0.44
13:M:101:VAL:HG13	13:M:101:VAL:O	2.18	0.44
7:F:74:ALA:HB3	7:F:77:LYS:O	2.17	0.44
2:B:152:A:H2'	2:B:153:U:C5	2.53	0.44
21:U:11:ILE:HB	21:U:72:PHE:HD1	1.83	0.44
2:B:177:G:H3'	2:B:178:G:H8	1.83	0.44
2:B:2860:A:H2'	2:B:2861:U:O4'	2.18	0.44
2:B:1292:G:H2'	2:B:1293:C:H6	1.82	0.44
2:B:1708:C:H2'	2:B:1709:U:H6	1.82	0.44
2:B:69:C:H2'	2:B:70:G:H8	1.83	0.44
23:X:21:LEU:N	23:X:21:LEU:HD23	2.33	0.44
10:J:59:ALA:C	10:J:61:LYS:N	2.71	0.43
7:F:33:ILE:H	7:F:95:MET:HG3	1.83	0.43
7:F:87:LYS:C	7:F:88:VAL:HG23	2.38	0.43
14:N:33:ILE:C	14:N:34:ILE:HG13	2.37	0.43
6:E:104:ALA:C	6:E:106:LYS:H	2.21	0.43
2:B:1244:A:C5'	12:L:8:PRO:HD3	2.34	0.43
18:R:19:THR:HG22	18:R:97:LYS:HD2	2.00	0.43
24:Y:35:VAL:HG21	24:Y:37:ARG:NH2	2.33	0.43
6:E:134:LEU:HD21	6:E:161:ALA:HB2	2.00	0.43
1:A:75:G:N1	1:A:102:G:N2	2.47	0.43
4:C:226:PRO:HA	4:C:232:GLY:HA3	2.00	0.43
1:A:115:A:O2'	1:A:116:G:H5'	2.17	0.43
2:B:588:U:H1'	6:E:85:PHE:CG	2.53	0.43
7:F:71:LYS:HG2	7:F:71:LYS:O	2.18	0.43
2:B:643:A:C5	2:B:644:A:N7	2.86	0.43
1:A:27:C:C2'	1:A:28:C:H5'	2.48	0.43
31:I:12:VAL:HG23	31:I:41:PHE:CE2	2.54	0.43
19:S:81:SER:CA	19:S:99:ARG:HA	2.46	0.43
7:F:148:VAL:O	7:F:149:ARG:HG2	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1241:A:N3	2:B:1241:A:O4'	2.51	0.43
2:B:55:G:H2'	2:B:56:A:H8	1.83	0.43
2:B:67:U:H2'	2:B:68:G:C8	2.53	0.43
2:B:596:U:O2'	2:B:597:G:H5'	2.18	0.43
2:B:1912:A:H4'	2:B:1913:A:OP1	2.18	0.43
2:B:560:C:H2'	2:B:561:G:O4'	2.19	0.43
23:X:35:GLY:O	23:X:36:GLN:C	2.57	0.43
1:A:22:U:H2'	1:A:23:G:C8	2.53	0.43
2:B:1902:C:H2'	2:B:1903:G:O4'	2.18	0.43
8:G:58:ALA:C	8:G:60:GLY:H	2.21	0.43
2:B:1904:G:H1'	2:B:1927:A:N1	2.32	0.43
2:B:1299:G:H5''	2:B:1300:G:OP1	2.17	0.43
2:B:2133:G:N3	2:B:2133:G:C2'	2.80	0.43
2:B:2140:G:OP2	2:B:2140:G:H8	2.01	0.43
31:I:4:VAL:O	31:I:4:VAL:HG13	2.17	0.43
5:D:171:THR:OG1	5:D:172:VAL:N	2.50	0.43
5:D:201:LEU:C	5:D:202:ILE:HD12	2.38	0.43
12:L:143:GLU:O	12:L:144:GLU:HB2	2.18	0.43
4:C:131:MET:HE3	4:C:187:CYS:O	2.17	0.43
25:Z:68:LEU:HD22	25:Z:78:TYR:HE1	1.83	0.43
27:1:6:GLU:HB2	27:1:52:LYS:NZ	2.32	0.43
20:T:62:VAL:HG12	20:T:63:VAL:H	1.83	0.43
15:O:74:VAL:O	15:O:77:ALA:HB3	2.18	0.43
2:B:2485:G:O2'	2:B:2486:C:H5'	2.18	0.43
2:B:1387:A:C5'	2:B:1469:A:H1'	2.48	0.43
4:C:64:VAL:HG11	4:C:66:PHE:CE2	2.52	0.43
2:B:127:A:H5''	2:B:128:C:C6	2.54	0.43
11:K:19:VAL:HG12	11:K:41:ILE:CG1	2.44	0.43
1:A:28:C:H2'	1:A:29:A:C8	2.53	0.43
6:E:192:ALA:O	6:E:196:VAL:HG23	2.18	0.43
21:U:21:ARG:HD3	21:U:72:PHE:CG	2.53	0.43
2:B:1745:A:H2'	2:B:1746:A:C8	2.53	0.43
27:1:3:GLY:C	27:1:5:ARG:N	2.71	0.43
2:B:2667:C:H1'	8:G:108:PHE:CD2	2.53	0.43
2:B:1973:G:O2'	2:B:1974:C:H5'	2.18	0.43
2:B:623:C:H2'	2:B:624:C:H6	1.83	0.43
2:B:1182:G:H2'	2:B:1183:U:O4'	2.18	0.43
6:E:24:ASN:OD1	6:E:27:LEU:HB2	2.19	0.43
2:B:2773:C:O2'	2:B:2774:C:H5'	2.18	0.43
5:D:24:VAL:HG23	5:D:189:VAL:N	2.34	0.43
14:N:48:VAL:O	14:N:51:LEU:N	2.52	0.43
21:U:38:ILE:CG2	21:U:39:ASN:H	2.07	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:24:ILE:HG23	19:S:32:ALA:CB	2.48	0.43
2:B:566:U:H2'	2:B:567:U:O4'	2.18	0.43
9:H:133:GLN:CB	9:H:139:PHE:HA	2.45	0.43
25:Z:43:GLU:HG2	25:Z:43:GLU:O	2.18	0.43
2:B:27:G:HO2'	2:B:28:A:H8	1.60	0.43
3:V:21:ARG:NE	3:V:87:GLN:HB3	2.28	0.43
27:1:26:LYS:HB2	27:1:52:LYS:NZ	2.33	0.43
2:B:1432:G:O2'	2:B:1433:A:H5'	2.17	0.43
5:D:130:GLN:HB2	5:D:139:SER:O	2.17	0.43
13:M:21:ALA:HB3	13:M:99:GLY:O	2.18	0.43
8:G:154:GLU:OE1	8:G:157:LYS:HB2	2.18	0.43
5:D:33:ARG:NH2	5:D:33:ARG:HG2	2.33	0.43
2:B:743:A:C2'	2:B:744:U:H5'	2.47	0.43
2:B:643:A:N3	27:1:43:ARG:NH2	2.65	0.43
7:F:74:ALA:CB	7:F:78:ILE:HD13	2.48	0.43
18:R:49:ILE:HD13	18:R:53:PHE:H	1.81	0.43
2:B:1946:U:O2'	2:B:1947:C:H5'	2.18	0.43
4:C:123:ILE:O	4:C:123:ILE:HG13	2.17	0.43
2:B:672:C:H2'	2:B:673:C:C6	2.54	0.43
10:J:101:ILE:O	10:J:104:ALA:HB3	2.18	0.43
5:D:55:LYS:HE3	5:D:59:ARG:HB3	2.00	0.43
21:U:94:PHE:CA	21:U:101:THR:HA	2.48	0.43
2:B:2037:A:C6	2:B:2038:G:C6	3.07	0.43
2:B:443:A:H1'	2:B:1201:U:O4'	2.18	0.43
29:3:11:LYS:C	29:3:12:ARG:HG3	2.39	0.43
2:B:1820:U:H3	4:C:197:ALA:HA	1.83	0.43
2:B:2096:C:H2'	2:B:2097:A:H8	1.84	0.43
7:F:19:PHE:CE1	7:F:167:ALA:HB2	2.54	0.43
21:U:23:LYS:HD2	21:U:23:LYS:N	2.34	0.43
8:G:60:GLY:O	8:G:62:ALA:N	2.51	0.43
2:B:686:U:O4	28:2:12:ARG:HB2	2.18	0.43
19:S:14:ALA:C	19:S:16:LYS:H	2.22	0.43
2:B:2492:U:O2'	2:B:2493:U:H5'	2.18	0.43
2:B:2500:U:H5'	2:B:2501:C:OP2	2.18	0.43
5:D:109:VAL:HG11	5:D:193:VAL:CB	2.48	0.43
5:D:202:ILE:O	5:D:202:ILE:HG22	2.17	0.43
14:N:24:MET:CG	14:N:44:LEU:HD22	2.48	0.43
14:N:29:VAL:HG21	14:N:75:ILE:HB	2.01	0.43
9:H:67:ALA:C	9:H:69:ALA:H	2.21	0.43
2:B:514:A:N6	2:B:515:A:N6	2.66	0.43
2:B:416:U:H2'	2:B:417:C:H6	1.82	0.43
2:B:1411:U:H2'	2:B:1412:U:C6	2.54	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2800:A:H2'	2:B:2801:G:C1'	2.49	0.43
30:4:3:VAL:O	30:4:4:ARG:HB2	2.19	0.43
4:C:255:LYS:C	4:C:256:THR:HG23	2.38	0.43
2:B:967:U:H2'	2:B:968:C:H6	1.82	0.43
31:I:138:VAL:HG12	31:I:139:VAL:N	2.33	0.43
31:I:85:ILE:CD1	31:I:137:LEU:HD21	2.47	0.43
2:B:673:C:C5'	6:E:76:PRO:HD2	2.47	0.43
2:B:1053:C:H2'	2:B:1054:A:C8	2.53	0.43
23:X:22:LEU:O	23:X:24:GLU:N	2.51	0.43
2:B:826:U:H2'	2:B:828:U:O4'	2.18	0.43
6:E:1:MET:HB3	6:E:14:VAL:O	2.19	0.43
2:B:2547:A:H2'	2:B:2548:U:H6	1.82	0.43
11:K:79:PHE:CD2	16:P:69:VAL:HG12	2.52	0.43
4:C:120:ASP:OD2	4:C:120:ASP:N	2.50	0.43
2:B:2304:G:H2'	2:B:2304:G:N3	2.33	0.43
3:V:60:VAL:HG22	3:V:73:LYS:HE2	2.00	0.43
2:B:95:A:H4'	23:X:38:GLN:O	2.18	0.43
2:B:1706:C:H2'	2:B:1757:A:OP2	2.18	0.43
2:B:252:G:O2'	2:B:253:C:H5'	2.18	0.43
12:L:74:THR:HA	12:L:107:PHE:O	2.19	0.43
7:F:3:LEU:HD13	7:F:3:LEU:O	2.18	0.43
4:C:77:VAL:HG23	4:C:77:VAL:O	2.19	0.43
2:B:1203:U:C4'	12:L:3:LEU:HD12	2.49	0.43
17:Q:63:ARG:H	17:Q:63:ARG:HG3	1.60	0.43
17:Q:93:ILE:O	17:Q:96:ASP:HB3	2.18	0.43
4:C:149:LYS:HD3	4:C:152:GLN:HE22	1.81	0.43
9:H:104:THR:HA	9:H:109:GLU:OE2	2.18	0.43
2:B:674:G:C4'	6:E:69:ARG:HB3	2.48	0.43
23:X:51:ALA:O	23:X:55:THR:N	2.46	0.43
5:D:13:ARG:HH12	16:P:74:GLN:HE21	1.67	0.43
2:B:2147:A:H5''	2:B:2148:G:O4'	2.18	0.43
8:G:152:ARG:NE	8:G:152:ARG:HA	2.33	0.43
8:G:152:ARG:HE	8:G:152:ARG:HA	1.83	0.43
20:T:14:PRO:HA	20:T:32:LEU:HB2	1.99	0.43
30:4:9:LYS:N	30:4:9:LYS:HD3	2.31	0.43
11:K:54:LYS:CD	11:K:54:LYS:H	2.29	0.43
2:B:1704:C:H2'	2:B:1705:A:H8	1.84	0.43
4:C:71:ASP:O	4:C:73:ILE:HG12	2.18	0.43
2:B:2784:U:H4'	5:D:42:ASN:O	2.18	0.43
2:B:1933:G:H2'	2:B:1934:C:H6	1.82	0.43
4:C:259:ASN:OD1	4:C:261:ARG:HB3	2.18	0.43
2:B:1496:A:H1'	2:B:1577:C:O2'	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1525:A:H2'	2:B:1526:C:O4'	2.18	0.43
2:B:1369:G:H2'	2:B:1370:C:O4'	2.19	0.43
2:B:1749:A:H2'	2:B:1750:G:H8	1.84	0.43
2:B:612:G:H2'	2:B:614:A:H5''	2.00	0.43
22:W:54:ARG:NH1	22:W:54:ARG:HB3	2.34	0.43
13:M:33:LEU:HD22	13:M:128:THR:HB	2.00	0.43
2:B:1874:C:H2'	2:B:1875:G:O4'	2.17	0.43
2:B:1573:G:H2'	2:B:1574:C:H5'	2.01	0.43
2:B:2496:C:H2'	2:B:2497:A:H5'	2.01	0.43
22:W:55:ASP:C	22:W:57:THR:H	2.21	0.43
6:E:188:MET:HG2	6:E:193:VAL:CG2	2.44	0.43
17:Q:77:LYS:O	17:Q:80:ASN:HB3	2.19	0.43
4:C:156:SER:HB3	4:C:159:THR:HG21	2.00	0.43
9:H:131:SER:CB	9:H:141:LYS:HA	2.46	0.43
25:Z:70:GLU:O	25:Z:72:ARG:N	2.42	0.43
25:Z:77:LYS:HG3	25:Z:78:TYR:H	1.84	0.43
16:P:19:PHE:O	16:P:20:ARG:CB	2.66	0.43
10:J:64:VAL:HG22	10:J:68:LYS:CD	2.49	0.43
20:T:58:VAL:O	20:T:58:VAL:HG13	2.19	0.43
20:T:40:LYS:O	20:T:43:ILE:HB	2.18	0.43
24:Y:6:ILE:HG23	24:Y:56:VAL:HG22	2.01	0.43
2:B:705:A:O2'	4:C:6:LYS:HD2	2.18	0.43
11:K:2:ILE:HD12	11:K:2:ILE:N	2.33	0.43
7:F:107:VAL:HB	7:F:108:PRO:HD3	2.01	0.43
16:P:100:ARG:HB3	16:P:101:GLU:OE2	2.19	0.43
11:K:7:MET:CE	11:K:18:ARG:HB3	2.49	0.43
22:W:28:GLU:H	22:W:31:LEU:HG	1.84	0.43
4:C:224:MET:SD	4:C:229:HIS:HB2	2.58	0.43
2:B:2026:U:H2'	2:B:2027:G:H8	1.83	0.43
18:R:39:LEU:H	18:R:39:LEU:HD23	1.82	0.43
2:B:2694:G:H2'	2:B:2695:U:C6	2.54	0.43
2:B:2742:G:O2'	2:B:2743:U:H5'	2.19	0.43
31:I:56:VAL:HG13	31:I:58:ILE:HD11	2.01	0.43
2:B:1708:C:H2'	2:B:1709:U:C6	2.53	0.43
1:A:51:G:H5''	15:O:64:TYR:CD2	2.53	0.43
2:B:1805:A:H5''	4:C:247:TRP:CE2	2.54	0.43
21:U:73:ASN:ND2	21:U:74:ALA:N	2.67	0.43
2:B:2716:C:H2'	2:B:2717:C:H6	1.82	0.43
13:M:49:ALA:HA	13:M:123:LYS:HG3	2.00	0.43
2:B:1270:C:H5''	2:B:1271:G:O5'	2.17	0.43
2:B:1467:U:O2'	2:B:1468:U:H5'	2.18	0.43
2:B:852:U:H2'	2:B:853:C:C6	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:187:LEU:O	5:D:188:LEU:HD23	2.19	0.43
7:F:121:PHE:HE1	7:F:162:ASP:CB	2.32	0.43
2:B:5:A:H2'	2:B:6:A:H8	1.82	0.43
17:Q:96:ASP:C	17:Q:98:ALA:N	2.71	0.43
12:L:109:LYS:HE3	12:L:111:ILE:HD11	2.01	0.43
12:L:29:LYS:C	12:L:31:GLY:H	2.22	0.43
9:H:78:VAL:HG11	9:H:142:VAL:CG1	2.49	0.43
2:B:2786:U:H5'	5:D:70:LYS:HG3	2.00	0.43
27:1:7:LYS:HD3	29:3:33:THR:HG21	2.00	0.43
2:B:771:G:O2'	2:B:772:C:H5'	2.19	0.43
4:C:226:PRO:HG3	4:C:233:GLY:N	2.26	0.43
4:C:36:ASN:ND2	4:C:85:ASN:HD21	2.15	0.43
2:B:741:U:H2'	2:B:742:A:H8	1.84	0.43
30:4:2:LYS:HD3	30:4:4:ARG:HG3	2.01	0.43
14:N:19:ALA:HA	14:N:22:ARG:CB	2.47	0.43
2:B:1797:G:O3'	4:C:255:LYS:O	2.37	0.43
2:B:1798:U:H5''	4:C:257:ARG:HB2	2.01	0.43
2:B:1939:U:C6	2:B:1939:U:H5'	2.47	0.43
2:B:1405:U:H2'	2:B:1406:U:H6	1.83	0.43
2:B:950:G:H2'	2:B:951:C:H6	1.84	0.43
2:B:2526:G:H2'	2:B:2527:C:H6	1.83	0.43
2:B:1490:A:H2'	4:C:97:ASP:CG	2.39	0.43
2:B:1459:G:N3	2:B:1459:G:O5'	2.52	0.43
8:G:9:VAL:HA	8:G:48:THR:CG2	2.47	0.43
2:B:2869:G:H2'	2:B:2870:C:C6	2.53	0.43
31:I:49:GLU:HG3	31:I:54:ILE:HD11	2.00	0.43
2:B:1563:U:H2'	2:B:1564:C:C6	2.53	0.43
10:J:88:THR:HG22	10:J:91:GLU:OE1	2.19	0.43
2:B:504:A:HO2'	2:B:505:A:P	2.41	0.43
2:B:1973:G:H2'	2:B:1974:C:H6	1.84	0.43
2:B:1742:U:H2'	2:B:1743:G:H8	1.83	0.43
2:B:697:G:O2'	2:B:698:C:H5'	2.18	0.43
2:B:510:C:H2'	2:B:511:U:O4'	2.19	0.43
2:B:1233:C:O2'	2:B:1234:U:H5'	2.18	0.43
2:B:1528:A:H2'	2:B:1529:G:H5'	2.00	0.43
7:F:36:ASN:ND2	7:F:152:ASP:HB2	2.10	0.43
2:B:1153:C:H2'	2:B:1154:G:O4'	2.19	0.43
5:D:117:GLY:HA2	5:D:164:GLN:NE2	2.34	0.43
9:H:68:ARG:HB3	9:H:132:PHE:HE2	1.84	0.43
2:B:582:A:H2'	2:B:583:G:C8	2.54	0.43
3:V:80:HIS:CD2	3:V:81:PRO:HD2	2.54	0.43
3:V:40:ILE:H	3:V:40:ILE:CD1	2.30	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:Z:65:ASP:N	25:Z:65:ASP:OD2	2.52	0.43
10:J:24:THR:O	10:J:25:LEU:HB3	2.19	0.43
7:F:111:ARG:O	7:F:112:ASP:HB2	2.18	0.43
2:B:63:A:OP2	2:B:63:A:C8	2.69	0.43
15:O:34:HIS:HB3	15:O:36:TYR:CE2	2.54	0.43
8:G:148:ARG:HD3	8:G:152:ARG:NH1	2.33	0.43
3:V:71:LYS:HB2	3:V:94:ALA:OXT	2.19	0.43
15:O:78:VAL:HA	15:O:81:ARG:HB3	2.00	0.43
2:B:1454:C:C5	14:N:64:ARG:HG2	2.54	0.43
9:H:82:SER:HB2	9:H:94:ILE:HG12	2.01	0.43
2:B:19:A:O2'	2:B:20:C:H5'	2.19	0.43
23:X:1:MET:CG	23:X:4:LYS:HD3	2.49	0.43
17:Q:16:ILE:C	17:Q:18:LYS:H	2.20	0.43
2:B:1636:U:O2'	2:B:1637:A:H5'	2.18	0.43
2:B:754:U:H2'	2:B:755:U:H6	1.84	0.43
2:B:2219:U:O2'	2:B:2220:U:H5'	2.17	0.43
12:L:50:PHE:CE2	12:L:53:GLY:HA2	2.54	0.43
17:Q:24:TYR:CD1	17:Q:25:GLY:N	2.86	0.43
2:B:1332:G:HO2'	2:B:1609:A:H2	1.65	0.43
26:O:27:LEU:H	26:O:27:LEU:HD12	1.83	0.43
8:G:107:GLY:HA3	8:G:151:ARG:NH2	2.34	0.43
5:D:202:ILE:HD12	5:D:202:ILE:N	2.34	0.43
2:B:2840:C:O2'	2:B:2841:C:H5'	2.18	0.43
9:H:65:ALA:O	9:H:67:ALA:N	2.49	0.43
2:B:1474:U:H2'	2:B:1475:G:H5''	2.00	0.43
31:I:19:PRO:HG2	31:I:22:PRO:HB2	2.01	0.43
2:B:2231:U:O2'	2:B:2232:C:H5'	2.19	0.43
2:B:91:A:H1'	2:B:92:U:C6	2.54	0.43
2:B:2258:C:O2'	2:B:2427:C:OP2	2.35	0.43
8:G:166:GLU:CG	8:G:168:VAL:HG23	2.43	0.43
9:H:94:ILE:HG23	9:H:98:ASP:OD2	2.19	0.43
2:B:2456:C:H2'	2:B:2457:U:O4'	2.19	0.43
23:X:1:MET:HG2	23:X:4:LYS:HD3	2.00	0.43
2:B:2891:U:O2'	2:B:2892:G:H5'	2.19	0.43
28:2:3:ARG:HA	28:2:3:ARG:CZ	2.48	0.43
2:B:2219:U:H2'	2:B:2220:U:C6	2.54	0.43
2:B:2515:C:O2'	2:B:2516:A:H5'	2.19	0.43
2:B:2902:C:O2'	2:B:2903:U:H5'	2.19	0.43
2:B:2548:U:H1'	11:K:23:LYS:NZ	2.34	0.43
17:Q:47:ARG:O	17:Q:51:GLN:HG3	2.18	0.43
5:D:35:THR:N	5:D:49:GLN:O	2.50	0.43
31:I:63:ASP:O	31:I:65:SER:N	2.52	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:G:4:ALA:HA	8:G:65:GLY:HA2	1.99	0.43
6:E:101:TYR:O	6:E:104:ALA:HB3	2.19	0.43
2:B:2819:G:C6	2:B:2828:G:C6	3.07	0.43
2:B:2821:A:OP2	5:D:115:GLY:HA3	2.19	0.43
22:W:16:GLU:CD	22:W:16:GLU:H	2.21	0.43
17:Q:26:ALA:C	17:Q:28:SER:N	2.72	0.43
27:1:36:LYS:HG2	27:1:47:ILE:HA	2.01	0.43
20:T:39:THR:HG22	20:T:42:GLU:HG2	2.01	0.43
2:B:1131:G:O2'	2:B:1133:A:N7	2.52	0.43
2:B:2461:A:H2'	2:B:2462:C:H6	1.80	0.43
2:B:1939:U:O2	2:B:1967:C:H4'	2.19	0.43
2:B:2473:U:C2'	2:B:2473:U:O2	2.65	0.43
19:S:60:HIS:ND1	19:S:60:HIS:O	2.50	0.43
17:Q:18:LYS:C	17:Q:20:ALA:N	2.72	0.43
2:B:2757:A:H2	8:G:63:GLN:HE22	1.67	0.43
23:X:43:LEU:O	23:X:47:ARG:HG3	2.17	0.43
2:B:1557:C:H3'	2:B:1558:C:C5'	2.46	0.43
8:G:14:VAL:O	8:G:16:VAL:HG23	2.19	0.43
2:B:687:C:H2'	2:B:688:U:O4'	2.19	0.43
2:B:1641:A:H2'	2:B:1642:G:O4'	2.19	0.43
2:B:2282:G:O2'	2:B:2283:C:OP2	2.32	0.43
2:B:915:C:H3'	2:B:916:G:H8	1.83	0.43
2:B:2052:A:N7	5:D:146:ILE:HD11	2.34	0.43
26:O:27:LEU:HB2	26:O:28:SER:H	1.63	0.43
2:B:506:G:H1'	2:B:507:A:C8	2.54	0.43
2:B:2668:G:O2'	2:B:2669:G:H5'	2.19	0.43
7:F:120:SER:OG	7:F:129:MET:HB3	2.19	0.43
22:W:35:ILE:HA	22:W:57:THR:HA	2.01	0.42
21:U:80:ASP:HB2	21:U:95:PHE:CD2	2.54	0.42
21:U:85:ARG:HH11	21:U:86:PHE:H	1.65	0.42
21:U:84:PHE:HE2	21:U:93:ARG:HG2	1.84	0.42
5:D:197:THR:C	5:D:199:SER:H	2.21	0.42
14:N:116:VAL:O	14:N:117:ASP:CB	2.59	0.42
6:E:148:ILE:O	6:E:148:ILE:HG22	2.18	0.42
2:B:962:G:H2'	2:B:963:U:H6	1.84	0.42
20:T:29:THR:HB	20:T:86:THR:HG22	2.01	0.42
5:D:150:GLN:O	5:D:153:GLY:N	2.52	0.42
2:B:2146:C:O2'	2:B:2147:A:H5'	2.17	0.42
8:G:1:SER:HA	8:G:61:TRP:CZ3	2.54	0.42
16:P:100:ARG:O	16:P:102:ARG:N	2.52	0.42
13:M:124:LEU:HA	13:M:125:PRO:HD3	1.87	0.42
2:B:2590:A:O2'	2:B:2591:C:H5'	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:V:2:PHE:HD2	3:V:59:GLU:OE1	2.02	0.42
7:F:76:PHE:O	7:F:77:LYS:HB2	2.19	0.42
18:R:54:VAL:HG13	18:R:56:GLY:O	2.18	0.42
15:O:88:LYS:HD2	15:O:89:ASP:CB	2.48	0.42
2:B:1535:A:C5'	2:B:1536:C:H5	2.30	0.42
2:B:1637:A:H2'	2:B:1638:C:C6	2.54	0.42
3:V:77:VAL:HG12	13:M:136:MET:HG2	2.00	0.42
2:B:692:C:H2'	2:B:693:A:C8	2.54	0.42
1:A:49:C:OP1	15:O:101:GLY:HA3	2.19	0.42
6:E:12:LEU:HD11	6:E:14:VAL:HG13	2.00	0.42
18:R:63:VAL:HG23	18:R:63:VAL:O	2.19	0.42
2:B:937:C:H2'	2:B:938:G:H8	1.84	0.42
2:B:909:A:H2'	2:B:912:C:C5	2.53	0.42
15:O:92:PHE:HB2	15:O:117:PHE:CE1	2.53	0.42
2:B:1565:C:H5''	4:C:17:LYS:HZ1	1.83	0.42
2:B:554:U:H2'	2:B:555:G:O4'	2.19	0.42
2:B:2655:G:N2	2:B:2664:G:H2'	2.34	0.42
2:B:302:C:H2'	2:B:303:G:H8	1.84	0.42
27:1:18:HIS:CG	27:1:19:PHE:N	2.87	0.42
2:B:1208:C:C2'	2:B:1209:U:H5'	2.49	0.42
2:B:327:G:O2'	2:B:328:U:H5'	2.19	0.42
2:B:1238:G:O2'	2:B:1239:G:H5'	2.19	0.42
25:Z:11:ARG:HB3	25:Z:12:PRO:HD2	2.00	0.42
2:B:621:A:H2'	2:B:622:G:O4'	2.19	0.42
22:W:18:LYS:HE3	22:W:19:ARG:NH2	2.34	0.42
14:N:118:ARG:HE	14:N:118:ARG:HB3	1.52	0.42
14:N:24:MET:CE	14:N:40:LYS:HB3	2.49	0.42
12:L:95:LEU:HB2	12:L:101:ILE:CG1	2.48	0.42
2:B:962:G:H2'	2:B:963:U:C6	2.54	0.42
2:B:2722:G:O2'	2:B:2723:C:H5'	2.18	0.42
9:H:121:VAL:O	9:H:121:VAL:HG23	2.19	0.42
9:H:68:ARG:CB	9:H:134:VAL:HB	2.49	0.42
2:B:725:G:H2'	2:B:726:G:O4'	2.19	0.42
15:O:52:SER:HA	15:O:74:VAL:CG1	2.48	0.42
2:B:2311:A:H3'	2:B:2312:U:C6	2.54	0.42
1:A:94:A:O2'	1:A:95:U:H5'	2.18	0.42
2:B:346:A:H2'	2:B:347:A:O4'	2.19	0.42
2:B:693:A:H2'	2:B:694:U:H6	1.84	0.42
31:I:5:GLN:HG2	31:I:6:ALA:H	1.81	0.42
31:I:52:LEU:O	31:I:54:ILE:HG13	2.19	0.42
2:B:407:G:O2'	2:B:408:G:H5'	2.20	0.42
2:B:649:G:H2'	2:B:650:C:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:I:63:ASP:C	31:I:65:SER:H	2.22	0.42
6:E:194:LYS:O	6:E:197:GLU:HB3	2.19	0.42
14:N:14:SER:O	14:N:18:GLN:HB2	2.20	0.42
2:B:463:G:N2	2:B:466:A:OP2	2.52	0.42
2:B:2363:G:O2'	2:B:2364:C:H5'	2.19	0.42
21:U:98:ASN:OD1	21:U:100:GLU:HB2	2.19	0.42
21:U:86:PHE:HE1	21:U:88:ASP:OD1	2.02	0.42
7:F:7:TYR:O	7:F:11:VAL:HB	2.20	0.42
7:F:42:ALA:O	7:F:43:ILE:C	2.57	0.42
14:N:28:LEU:HD23	14:N:28:LEU:HA	1.85	0.42
6:E:148:ILE:HB	6:E:169:VAL:HG12	2.01	0.42
6:E:29:HIS:O	6:E:32:VAL:HG22	2.19	0.42
9:H:80:ILE:CD1	9:H:99:ILE:HG23	2.49	0.42
2:B:992:C:H2'	2:B:993:G:C8	2.54	0.42
20:T:39:THR:O	20:T:40:LYS:HB3	2.19	0.42
24:Y:40:THR:HG22	24:Y:42:ALA:H	1.84	0.42
16:P:61:ARG:HE	16:P:100:ARG:HD2	1.83	0.42
8:G:167:VAL:HG23	8:G:168:VAL:N	2.26	0.42
13:M:26:VAL:HB	13:M:104:GLU:OE2	2.19	0.42
13:M:26:VAL:CG2	13:M:133:LYS:HA	2.50	0.42
2:B:182:A:O2'	2:B:183:C:H5'	2.19	0.42
2:B:1803:A:O3'	4:C:256:THR:HB	2.19	0.42
23:X:1:MET:CB	23:X:4:LYS:HD3	2.47	0.42
2:B:673:C:OP1	6:E:49:ARG:HD2	2.19	0.42
2:B:1197:G:H2'	2:B:1198:U:C6	2.53	0.42
2:B:1565:C:H5''	4:C:17:LYS:CE	2.49	0.42
2:B:107:G:O2'	2:B:108:G:H5'	2.20	0.42
18:R:6:GLN:HE21	18:R:6:GLN:C	2.23	0.42
2:B:465:G:N2	2:B:684:G:H1'	2.34	0.42
2:B:1727:C:H2'	2:B:1728:C:O4'	2.20	0.42
2:B:2552:U:C2	2:B:2554:U:H5'	2.55	0.42
16:P:99:LEU:HA	16:P:99:LEU:HD22	1.92	0.42
2:B:1767:G:O2'	2:B:1768:C:H5'	2.18	0.42
2:B:1547:C:H2'	2:B:1548:A:C8	2.54	0.42
2:B:1366:A:H2'	2:B:1367:A:O4'	2.19	0.42
11:K:35:VAL:HG12	11:K:69:VAL:HG22	2.01	0.42
7:F:94:ARG:O	7:F:98:PHE:N	2.45	0.42
6:E:147:LEU:O	6:E:168:ASP:O	2.37	0.42
4:C:138:SER:O	4:C:140:VAL:HG23	2.20	0.42
31:I:109:ALA:HB1	31:I:124:MET:CG	2.49	0.42
3:V:35:GLU:HG2	3:V:93:ARG:NH1	2.35	0.42
25:Z:76:GLU:HG3	25:Z:77:LYS:N	2.35	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:1:46:VAL:HG13	27:1:47:ILE:N	2.34	0.42
2:B:2572:A:P	5:D:151:THR:HB	2.59	0.42
3:V:75:GLN:OE1	3:V:75:GLN:HA	2.18	0.42
2:B:404:A:H4'	2:B:405:U:C5'	2.45	0.42
2:B:1666:G:H4'	11:K:6:THR:HG23	2.00	0.42
2:B:2885:G:H2'	2:B:2886:A:H4'	2.02	0.42
31:I:103:ALA:O	31:I:107:GLU:HG3	2.20	0.42
8:G:34:ARG:HD3	8:G:34:ARG:N	2.34	0.42
10:J:12:LYS:O	10:J:13:ARG:HB2	2.19	0.42
9:H:96:THR:OG1	9:H:112:LYS:HD2	2.19	0.42
2:B:246:C:O2'	2:B:247:G:H5'	2.20	0.42
2:B:276:U:O2'	2:B:278:A:N7	2.51	0.42
2:B:750:A:H2'	2:B:751:A:H5''	2.00	0.42
2:B:570:G:C4	2:B:2030:A:N7	2.87	0.42
9:H:122:LEU:H	9:H:122:LEU:CD1	2.31	0.42
2:B:912:C:H2'	2:B:913:U:C6	2.54	0.42
2:B:1930:G:C2'	2:B:1931:U:OP2	2.67	0.42
2:B:1931:U:H2'	2:B:1932:A:H8	1.84	0.42
12:L:138:ALA:O	12:L:139:GLY:C	2.57	0.42
2:B:1688:U:N3	2:B:1698:A:C2	2.88	0.42
7:F:124:ARG:HG2	7:F:124:ARG:HH11	1.84	0.42
2:B:1:G:H2'	2:B:1:G:N3	2.35	0.42
28:2:26:ASN:HA	28:2:29:GLN:HB3	2.01	0.42
2:B:80:G:N7	2:B:102:U:O4	2.52	0.42
16:P:113:LEU:C	16:P:114:ASN:HD22	2.22	0.42
2:B:2331:G:O2'	2:B:2332:C:H5'	2.19	0.42
22:W:19:ARG:NE	22:W:19:ARG:H	2.17	0.42
5:D:178:VAL:HB	5:D:188:LEU:CB	2.47	0.42
5:D:3:GLY:HA2	5:D:101:PHE:HZ	1.84	0.42
19:S:76:VAL:HG12	19:S:103:ILE:HA	2.01	0.42
17:Q:109:VAL:HG12	17:Q:113:LYS:HE3	2.02	0.42
14:N:75:ILE:O	14:N:79:LEU:HD12	2.19	0.42
13:M:19:GLY:N	13:M:38:ARG:NH1	2.65	0.42
9:H:73:ASN:HD22	9:H:73:ASN:H	1.67	0.42
18:R:15:SER:O	18:R:16:GLU:C	2.58	0.42
1:A:75:G:H2'	1:A:76:G:C8	2.55	0.42
2:B:307:G:H2'	2:B:309:A:OP2	2.19	0.42
2:B:1784:A:H4'	2:B:1785:A:O5'	2.18	0.42
2:B:780:G:H2'	2:B:782:A:N7	2.34	0.42
4:C:221:GLY:C	4:C:223:ALA:N	2.72	0.42
2:B:2028:U:H2'	2:B:2029:G:C8	2.54	0.42
2:B:1296:G:O2'	2:B:1297:C:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:54:LEU:HA	16:P:76:HIS:CD2	2.55	0.42
23:X:23:ARG:O	23:X:27:ASN:HB2	2.19	0.42
2:B:2526:G:N3	30:4:1:MET:N	2.67	0.42
2:B:1771:C:O2'	2:B:1772:A:H5'	2.19	0.42
8:G:9:VAL:HG12	8:G:11:PRO:HD3	2.00	0.42
2:B:2636:C:H2'	2:B:2637:U:H6	1.85	0.42
2:B:2095:A:H2'	2:B:2096:C:C6	2.54	0.42
2:B:1633:G:O2'	2:B:1634:A:H5''	2.19	0.42
18:R:72:VAL:CG2	18:R:89:HIS:HB3	2.49	0.42
4:C:264:LYS:HG3	4:C:265:PHE:HD2	1.84	0.42
2:B:2301:C:O2'	2:B:2302:U:H5'	2.20	0.42
2:B:2432:A:H2'	2:B:2433:A:C8	2.55	0.42
2:B:1662:U:H2'	2:B:1663:G:O4'	2.20	0.42
2:B:179:C:H2'	2:B:180:G:O4'	2.19	0.42
2:B:2855:C:O2'	2:B:2856:A:H5'	2.19	0.42
2:B:1824:G:O2'	2:B:1825:U:H5'	2.19	0.42
22:W:23:LYS:C	22:W:66:VAL:HB	2.40	0.42
2:B:335:C:O2'	2:B:336:C:H5'	2.19	0.42
12:L:4:ASN:HB2	12:L:5:THR:H	1.71	0.42
19:S:6:LYS:HB3	19:S:104:THR:HA	2.02	0.42
4:C:157:ALA:C	4:C:159:THR:H	2.22	0.42
9:H:100:ALA:HA	9:H:110:VAL:CG2	2.39	0.42
31:I:79:LEU:HD23	31:I:108:ILE:CD1	2.50	0.42
12:L:55:MET:HE2	12:L:59:ARG:HB3	2.02	0.42
11:K:105:ARG:HH11	11:K:122:VAL:CG1	2.33	0.42
2:B:1552:A:H2'	2:B:1553:A:C5'	2.49	0.42
5:D:150:GLN:O	5:D:151:THR:C	2.58	0.42
2:B:125:A:H5'	28:2:19:ARG:CG	2.49	0.42
2:B:2352:A:N1	22:W:30:VAL:HG11	2.34	0.42
2:B:786:C:O2'	2:B:787:C:H5'	2.20	0.42
16:P:46:VAL:HA	16:P:60:VAL:HG12	2.01	0.42
2:B:2751:G:H2'	2:B:2751:G:OP1	2.20	0.42
2:B:1789:A:H2'	2:B:1790:C:O4'	2.19	0.42
21:U:18:LYS:HB3	21:U:19:GLY:H	1.68	0.42
2:B:282:A:O2'	2:B:283:G:H5'	2.19	0.42
3:V:42:LEU:N	3:V:42:LEU:HD23	2.34	0.42
26:O:53:VAL:O	26:O:54:ILE:CB	2.68	0.42
2:B:827:U:H5'	2:B:828:U:O5'	2.18	0.42
12:L:88:GLY:HA2	12:L:120:VAL:HG13	2.02	0.42
4:C:245:THR:HG23	4:C:249:VAL:O	2.19	0.42
6:E:37:ALA:C	6:E:39:ALA:H	2.20	0.42
2:B:1479:G:O2'	2:B:1480:C:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2314:A:H2'	2:B:2315:G:H8	1.85	0.42
2:B:2766:A:N3	2:B:2766:A:H2'	2.35	0.42
2:B:929:U:O2	24:Y:25:GLY:HA2	2.20	0.42
2:B:2773:C:H5''	5:D:169:ARG:HB3	2.01	0.42
5:D:10:GLY:HA2	16:P:4:ILE:HD11	2.01	0.42
2:B:2305:U:H5'	7:F:152:ASP:OD2	2.19	0.42
7:F:42:ALA:O	7:F:44:ALA:N	2.53	0.42
6:E:187:VAL:HG12	6:E:188:MET:N	2.34	0.42
12:L:75:ALA:HB3	12:L:108:ALA:HB2	2.00	0.42
4:C:188:ARG:HG2	4:C:188:ARG:NH2	2.35	0.42
5:D:123:LYS:HD3	5:D:165:MET:SD	2.59	0.42
31:I:78:LEU:HD13	31:I:108:ILE:HG23	2.00	0.42
16:P:86:LYS:HB3	16:P:87:ARG:H	1.54	0.42
2:B:1553:A:H2'	2:B:1555:G:N7	2.35	0.42
2:B:1736:U:H2'	2:B:1737:G:O4'	2.19	0.42
10:J:84:ILE:HG13	10:J:84:ILE:O	2.19	0.42
2:B:2231:U:H2'	2:B:2232:C:H6	1.85	0.42
2:B:37:C:H1'	6:E:45:ALA:HB2	2.02	0.42
2:B:2654:A:N6	2:B:2666:C:OP2	2.51	0.42
30:4:7:VAL:HG23	30:4:35:GLN:CB	2.50	0.42
22:W:28:GLU:H	22:W:31:LEU:CD1	2.33	0.42
3:V:1:MET:HG3	3:V:2:PHE:CD2	2.54	0.42
2:B:644:A:H2	2:B:646:U:O4	2.03	0.42
4:C:255:LYS:C	4:C:257:ARG:H	2.23	0.42
2:B:1348:C:H2'	2:B:1349:C:H5'	2.01	0.42
7:F:79:ARG:O	7:F:81:GLY:N	2.53	0.42
2:B:1041:G:H2'	2:B:1042:G:H8	1.77	0.42
3:V:28:ALA:HA	3:V:88:HIS:ND1	2.34	0.42
9:H:14:SER:HB2	9:H:17:ASP:HB3	2.01	0.42
2:B:2742:G:OP2	30:4:24:ARG:NH1	2.52	0.42
2:B:2489:U:H2'	2:B:2490:G:O4'	2.19	0.42
15:O:8:ILE:H	15:O:8:ILE:HG13	1.70	0.42
2:B:2699:C:H2'	2:B:2700:A:H8	1.85	0.42
6:E:3:LEU:O	6:E:12:LEU:N	2.53	0.42
2:B:814:C:OP1	18:R:85:LYS:HA	2.19	0.42
2:B:493:G:H2'	2:B:494:G:O4'	2.19	0.42
25:Z:54:LYS:O	25:Z:57:ARG:HB2	2.20	0.42
2:B:1505:A:H2'	2:B:1506:U:H6	1.85	0.42
27:1:18:HIS:ND1	27:1:19:PHE:N	2.68	0.42
2:B:485:C:O2'	2:B:486:C:H5'	2.20	0.42
5:D:21:SER:HB2	11:K:73:ASP:HA	2.00	0.42
22:W:59:PHE:CD2	22:W:61:LYS:HG3	2.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:F:31:GLU:HB2	7:F:158:THR:HG22	2.00	0.42
6:E:102:ARG:HG3	6:E:102:ARG:HH21	1.84	0.42
6:E:200:LEU:N	6:E:200:LEU:HD22	2.35	0.42
14:N:30:ARG:NH2	14:N:72:ASP:OD1	2.53	0.42
2:B:625:G:O2'	2:B:626:A:H5'	2.20	0.42
4:C:141:HIS:CG	4:C:142:ASN:N	2.87	0.42
6:E:128:ALA:O	6:E:133:LEU:HD12	2.19	0.42
11:K:111:LYS:HD3	11:K:111:LYS:N	2.35	0.42
10:J:77:HIS:HD2	10:J:84:ILE:N	2.09	0.42
2:B:170:U:O2'	2:B:171:U:H5'	2.19	0.42
29:3:31:ILE:C	29:3:32:LEU:HG	2.40	0.42
2:B:183:C:O2	2:B:432:A:H2	2.02	0.42
2:B:2846:G:H2'	2:B:2847:U:O4'	2.20	0.42
10:J:57:LEU:HD11	10:J:129:GLU:N	2.29	0.42
6:E:109:LEU:HD13	6:E:180:LEU:HD13	2.02	0.42
25:Z:18:ARG:HA	25:Z:23:ASN:O	2.19	0.42
2:B:230:G:H2'	2:B:231:A:C8	2.55	0.42
2:B:19:A:H2'	2:B:20:C:H6	1.85	0.42
10:J:74:TYR:HE2	10:J:103:ILE:HD11	1.84	0.42
2:B:2082:A:N6	2:B:2237:G:H1'	2.35	0.42
2:B:68:G:H2'	2:B:69:C:H6	1.85	0.42
2:B:924:G:H2'	2:B:925:A:C8	2.54	0.42
20:T:22:THR:O	20:T:25:GLU:HB3	2.19	0.42
2:B:1234:U:H2'	2:B:1235:G:O4'	2.20	0.42
17:Q:83:LYS:HA	17:Q:87:VAL:O	2.19	0.42
2:B:708:G:N2	2:B:724:U:H1'	2.34	0.42
22:W:35:ILE:O	22:W:37:VAL:N	2.53	0.42
2:B:335:C:H2'	2:B:336:C:H6	1.85	0.42
7:F:1:ALA:HB1	7:F:4:HIS:HB3	2.01	0.42
7:F:33:ILE:HB	7:F:90:LEU:CG	2.50	0.42
7:F:83:PRO:O	7:F:84:ILE:HD12	2.20	0.42
10:J:38:GLY:O	10:J:43:GLU:HB2	2.20	0.42
12:L:75:ALA:HB2	12:L:101:ILE:HG23	2.02	0.42
13:M:18:ARG:C	13:M:38:ARG:HH22	2.23	0.42
2:B:2676:C:O2'	2:B:2677:G:H5'	2.20	0.42
9:H:68:ARG:HB2	9:H:134:VAL:HG23	2.02	0.42
2:B:1060:U:C1'	2:B:1062:G:H5'	2.50	0.42
31:I:11:GLN:NE2	31:I:74:PRO:HG2	2.35	0.42
2:B:2733:A:C8	2:B:2733:A:H3'	2.54	0.42
28:2:9:VAL:HG13	28:2:10:LEU:N	2.34	0.42
20:T:62:VAL:HG12	20:T:63:VAL:N	2.34	0.42
20:T:66:LYS:N	20:T:76:ARG:HH21	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:50:ARG:O	16:P:51:ASN:HB2	2.19	0.42
7:F:137:PHE:O	7:F:139:GLU:N	2.53	0.42
21:U:43:LYS:HD3	21:U:44:HIS:N	2.33	0.42
21:U:14:THR:HG23	21:U:15:GLY:N	2.35	0.42
2:B:2795:C:O5'	2:B:2795:C:H6	2.03	0.42
8:G:33:THR:HB	8:G:74:MET:HG2	2.02	0.42
10:J:14:ASP:O	10:J:53:TYR:N	2.51	0.42
6:E:150:THR:HG22	6:E:170:ARG:O	2.20	0.42
2:B:717:C:C3'	2:B:718:A:H5''	2.48	0.42
2:B:1910:G:H2'	2:B:1911:U:O4'	2.19	0.42
2:B:20:C:H2'	2:B:21:A:C8	2.54	0.42
23:X:23:ARG:HD2	23:X:27:ASN:ND2	2.32	0.42
19:S:60:HIS:O	19:S:61:ASN:HB2	2.19	0.42
2:B:670:A:H5''	12:L:42:SER:HB2	2.01	0.42
10:J:30:THR:N	10:J:108:MET:HE3	2.35	0.42
2:B:2081:U:H2'	2:B:2082:A:C8	2.55	0.42
2:B:1714:U:HO2'	2:B:1715:G:P	2.43	0.42
2:B:2409:G:H2'	2:B:2410:G:O4'	2.19	0.42
2:B:106:C:H2'	2:B:107:G:C8	2.54	0.42
2:B:212:G:H2'	2:B:213:A:C8	2.54	0.42
2:B:560:C:H3'	2:B:561:G:C8	2.55	0.42
18:R:86:GLN:HB2	18:R:86:GLN:HE21	1.54	0.42
2:B:1214:A:H2'	2:B:1215:G:H8	1.85	0.42
14:N:87:PHE:C	14:N:89:SER:H	2.23	0.42
2:B:104:A:H2'	2:B:105:C:O4'	2.19	0.42
2:B:1161:C:H2'	2:B:1162:G:H8	1.85	0.42
25:Z:58:VAL:O	25:Z:62:LYS:N	2.43	0.42
2:B:1344:U:O2'	2:B:1385:A:H2'	2.20	0.42
19:S:85:ILE:HD12	19:S:85:ILE:N	2.34	0.42
21:U:96:LYS:C	21:U:98:ASN:H	2.23	0.42
2:B:2899:A:H2'	2:B:2900:A:H8	1.84	0.42
2:B:7:G:OP1	10:J:132:HIS:HE1	2.02	0.42
2:B:2840:C:H5''	14:N:53:THR:CG2	2.50	0.42
2:B:616:A:H3'	2:B:617:G:C8	2.43	0.42
6:E:118:LEU:HA	6:E:186:VAL:HG13	2.02	0.42
6:E:31:VAL:O	6:E:34:ALA:HB3	2.20	0.42
19:S:55:ILE:HD12	19:S:69:LEU:HD23	2.00	0.42
17:Q:107:ALA:C	18:R:48:LYS:HD3	2.40	0.42
12:L:123:ARG:HD2	12:L:123:ARG:C	2.40	0.42
9:H:69:ALA:C	9:H:71:LYS:N	2.73	0.42
22:W:15:SER:O	22:W:16:GLU:C	2.58	0.42
10:J:36:LEU:HD11	10:J:121:LYS:HB2	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:727:A:H2'	2:B:728:G:C8	2.55	0.42
7:F:37:MET:HG3	7:F:52:ALA:HB1	2.01	0.42
2:B:1028:A:N3	2:B:2486:C:O2'	2.39	0.42
13:M:126:ILE:HG22	13:M:127:LYS:N	2.35	0.42
2:B:279:A:H8	2:B:279:A:P	2.43	0.42
19:S:33:LEU:HD23	19:S:51:LEU:HD23	2.01	0.42
2:B:2069:G:O2'	2:B:2070:A:H5'	2.20	0.42
2:B:1795:C:H2'	2:B:1796:U:C6	2.55	0.42
18:R:71:LYS:HG2	18:R:73:LYS:HZ1	1.81	0.42
2:B:2000:C:O2'	2:B:2001:C:H5'	2.19	0.42
6:E:61:ARG:O	6:E:62:GLN:C	2.58	0.42
2:B:709:U:H2'	2:B:710:U:H6	1.85	0.42
6:E:38:GLY:C	6:E:40:ARG:H	2.22	0.42
30:4:11:CYS:HB3	30:4:33:HIS:HE1	1.84	0.42
2:B:1116:G:H2'	2:B:1117:C:H6	1.85	0.42
12:L:81:ASP:HA	12:L:84:LYS:CD	2.49	0.42
4:C:245:THR:O	4:C:247:TRP:N	2.53	0.42
25:Z:53:ALA:O	25:Z:54:LYS:HB3	2.19	0.42
2:B:1936:A:H2	2:B:1943:U:O4	2.03	0.42
2:B:2669:G:O2'	2:B:2670:A:H5'	2.20	0.42
2:B:995:C:H42	10:J:2:LYS:HB2	1.84	0.42
12:L:98:ALA:O	12:L:99:ASN:C	2.58	0.42
1:A:97:C:O2	2:B:918:A:H4'	2.20	0.41
2:B:2335:A:H2'	2:B:2336:A:H5''	2.02	0.41
2:B:100:U:H2'	2:B:101:A:C8	2.55	0.41
7:F:29:ARG:H	7:F:29:ARG:HD3	1.85	0.41
6:E:34:ALA:CB	6:E:96:VAL:HG21	2.50	0.41
19:S:24:ILE:O	19:S:25:ARG:C	2.58	0.41
17:Q:112:ALA:O	17:Q:113:LYS:C	2.58	0.41
17:Q:92:LYS:O	17:Q:95:ALA:HB3	2.20	0.41
17:Q:93:ILE:HG23	17:Q:94:LEU:H	1.85	0.41
5:D:121:THR:C	5:D:123:LYS:N	2.73	0.41
9:H:129:GLU:C	9:H:131:SER:H	2.24	0.41
2:B:135:U:H2'	2:B:136:G:C8	2.55	0.41
12:L:61:LEU:HD23	29:3:23:HIS:CG	2.55	0.41
16:P:91:VAL:HG23	16:P:92:ARG:N	2.26	0.41
24:Y:6:ILE:HD13	24:Y:56:VAL:CG1	2.50	0.41
11:K:13:ASN:HD21	11:K:98:ARG:N	2.07	0.41
7:F:105:ILE:O	7:F:109:ARG:HB2	2.20	0.41
13:M:59:ARG:CZ	13:M:60:GLN:HB3	2.49	0.41
28:2:19:ARG:HG2	28:2:19:ARG:NH2	2.34	0.41
2:B:1827:U:C2'	2:B:1828:G:H5'	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:445:C:H4'	2:B:1248:G:O6	2.20	0.41
6:E:48:THR:C	6:E:50:ALA:N	2.73	0.41
2:B:1046:A:H3'	2:B:1047:G:C5'	2.49	0.41
2:B:2349:G:OP2	29:3:41:ARG:HD3	2.19	0.41
2:B:96:C:H2'	2:B:97:C:H6	1.85	0.41
9:H:4:ILE:HG23	9:H:17:ASP:N	2.35	0.41
2:B:1409:U:O2'	2:B:1410:G:H5'	2.19	0.41
2:B:2745:C:H3'	2:B:2746:U:C5	2.54	0.41
15:O:35:ILE:HG21	15:O:71:ALA:HB1	2.02	0.41
2:B:2655:G:H1'	2:B:2656:U:H5	1.84	0.41
2:B:235:U:H2'	2:B:236:C:H6	1.84	0.41
2:B:116:C:H2'	2:B:117:G:C8	2.55	0.41
27:1:38:PHE:O	27:1:40:PRO:HD3	2.20	0.41
2:B:1306:C:O2'	2:B:1307:A:H5'	2.19	0.41
2:B:1681:G:N3	2:B:1762:A:H2'	2.34	0.41
31:I:38:CYS:O	31:I:42:ASN:ND2	2.53	0.41
5:D:61:THR:OG1	5:D:64:GLU:HB2	2.19	0.41
14:N:65:LEU:HD11	14:N:69:ARG:NH2	2.35	0.41
5:D:110:THR:O	5:D:201:LEU:HA	2.19	0.41
26:O:41:HIS:O	26:O:42:ILE:O	2.38	0.41
14:N:49:GLU:N	14:N:50:PRO:CD	2.83	0.41
14:N:51:LEU:O	14:N:54:LEU:HB3	2.20	0.41
4:C:189:ALA:C	4:C:190:THR:HG23	2.40	0.41
6:E:68:ALA:O	6:E:69:ARG:C	2.58	0.41
18:R:79:ARG:O	18:R:81:LYS:HG2	2.20	0.41
2:B:993:G:H1'	18:R:91:GLN:NE2	2.35	0.41
24:Y:7:THR:O	24:Y:54:VAL:HG12	2.19	0.41
8:G:84:LYS:HG3	8:G:131:VAL:CB	2.50	0.41
2:B:1222:U:OP2	18:R:90:ARG:NH2	2.53	0.41
2:B:191:A:O2'	2:B:192:C:H5'	2.20	0.41
2:B:288:U:O2'	2:B:289:G:H5'	2.19	0.41
2:B:1248:G:C5	17:Q:2:ARG:HD2	2.54	0.41
2:B:2857:G:N2	2:B:2859:G:H3'	2.34	0.41
5:D:38:LYS:HD3	5:D:45:TYR:OH	2.20	0.41
2:B:250:G:H2'	2:B:251:A:C8	2.55	0.41
31:I:37:PHE:HZ	31:I:56:VAL:HG11	1.85	0.41
2:B:2218:G:O2'	2:B:2219:U:H5'	2.20	0.41
3:V:42:LEU:HB2	3:V:47:VAL:HG21	2.02	0.41
2:B:829:A:H5'	2:B:831:G:N7	2.34	0.41
2:B:1210:G:H4'	2:B:1211:C:OP2	2.21	0.41
2:B:1184:U:O2'	2:B:1185:G:H5'	2.20	0.41
2:B:1904:G:O2'	2:B:1905:C:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:I:63:ASP:C	31:I:65:SER:N	2.73	0.41
14:N:65:LEU:O	14:N:68:ALA:HB3	2.21	0.41
8:G:175:LYS:HA	8:G:175:LYS:HD3	1.83	0.41
2:B:2223:G:C2'	2:B:2224:G:H5'	2.49	0.41
2:B:317:G:H2'	2:B:318:C:H6	1.85	0.41
1:A:65:U:C2'	1:A:66:A:H5'	2.49	0.41
13:M:135:VAL:HG12	13:M:135:VAL:O	2.20	0.41
2:B:922:C:H2'	2:B:923:G:H8	1.85	0.41
10:J:58:ASN:O	10:J:59:ALA:HB3	2.20	0.41
7:F:121:PHE:HB2	7:F:126:ASN:O	2.20	0.41
14:N:31:HIS:C	14:N:33:ILE:H	2.22	0.41
21:U:26:ASN:ND2	21:U:26:ASN:O	2.54	0.41
17:Q:93:ILE:HG23	17:Q:94:LEU:N	2.35	0.41
17:Q:91:ARG:NH1	18:R:10:LYS:HB3	2.33	0.41
2:B:567:U:H2'	2:B:568:U:O4'	2.20	0.41
23:X:39:GLN:HB2	23:X:42:LEU:HD22	2.02	0.41
9:H:63:ALA:HA	9:H:66:ASN:HD21	1.85	0.41
10:J:72:LYS:HB3	10:J:73:VAL:H	1.52	0.41
12:L:61:LEU:CD1	12:L:61:LEU:N	2.82	0.41
3:V:48:MET:SD	3:V:85:LYS:HA	2.60	0.41
25:Z:38:PHE:CE2	25:Z:51:VAL:HG21	2.56	0.41
13:M:53:MET:O	13:M:56:ALA:HB3	2.21	0.41
20:T:65:GLY:HA3	20:T:76:ARG:NH2	2.34	0.41
24:Y:3:THR:HB	24:Y:36:GLU:CG	2.51	0.41
13:M:69:PRO:HA	13:M:94:ALA:CA	2.49	0.41
9:H:58:LEU:O	9:H:60:GLU:N	2.53	0.41
2:B:2353:G:H1'	22:W:30:VAL:HG13	2.01	0.41
10:J:18:VAL:CG1	10:J:54:ILE:HD11	2.50	0.41
2:B:619:G:H2'	2:B:620:G:H5''	2.02	0.41
10:J:20:ALA:HA	10:J:23:LYS:CG	2.51	0.41
2:B:600:G:H1'	6:E:100:MET:CG	2.50	0.41
2:B:177:G:H3'	2:B:178:G:C8	2.55	0.41
2:B:85:G:OP1	21:U:6:ARG:N	2.53	0.41
9:H:14:SER:HB2	9:H:17:ASP:CB	2.50	0.41
2:B:1408:G:H2'	2:B:1409:U:C6	2.55	0.41
2:B:675:A:C6	2:B:676:A:C6	3.08	0.41
12:L:89:VAL:HA	12:L:121:THR:OG1	2.21	0.41
2:B:1370:C:H2'	2:B:1371:G:O4'	2.20	0.41
14:N:10:LEU:HD21	14:N:43:GLU:HG3	2.01	0.41
2:B:939:G:C2'	2:B:940:G:H5'	2.50	0.41
29:3:14:LYS:O	29:3:15:LYS:C	2.58	0.41
2:B:484:C:H2'	2:B:485:C:H6	1.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:550:C:H2'	2:B:550:C:O2	2.20	0.41
7:F:31:GLU:HB2	7:F:158:THR:CG2	2.50	0.41
21:U:39:ASN:HB3	21:U:62:ALA:HB3	2.02	0.41
2:B:1283:G:H22	2:B:1286:A:C5'	2.15	0.41
5:D:113:SER:HB3	5:D:167:ASN:CA	2.51	0.41
2:B:2787:C:O2'	2:B:2788:C:H5'	2.20	0.41
2:B:548:G:H4'	2:B:549:G:N1	2.35	0.41
2:B:583:G:H2'	2:B:584:C:C6	2.55	0.41
25:Z:71:LEU:HA	25:Z:74:ARG:HE	1.85	0.41
16:P:89:GLY:N	16:P:112:ARG:NH1	2.67	0.41
13:M:41:LEU:CD2	13:M:124:LEU:HD22	2.50	0.41
13:M:108:VAL:CG1	13:M:112:LEU:HD12	2.51	0.41
29:3:30:HIS:O	29:3:31:ILE:O	2.38	0.41
13:M:29:GLY:O	13:M:133:LYS:HD2	2.21	0.41
8:G:43:LYS:CB	8:G:50:THR:HB	2.46	0.41
14:N:12:ARG:HG2	14:N:16:HIS:ND1	2.36	0.41
2:B:214:G:N2	2:B:216:A:N3	2.64	0.41
2:B:2617:U:H2'	2:B:2618:G:H5'	2.02	0.41
4:C:203:VAL:O	4:C:204:LEU:HB2	2.20	0.41
7:F:134:GLN:HE22	7:F:136:ILE:HD13	1.81	0.41
19:S:57:ASN:HD22	19:S:57:ASN:HA	1.59	0.41
2:B:1848:A:H2'	2:B:1849:G:H8	1.84	0.41
2:B:2562:U:H2'	2:B:2563:U:H5'	2.03	0.41
2:B:866:A:H61	2:B:913:U:C1'	2.34	0.41
15:O:16:ARG:C	15:O:18:LEU:N	2.74	0.41
2:B:518:G:H2'	2:B:519:U:C6	2.56	0.41
25:Z:27:ARG:CG	25:Z:28:ARG:N	2.82	0.41
2:B:1547:C:H2'	2:B:1548:A:H8	1.86	0.41
6:E:9:GLN:HG3	6:E:9:GLN:O	2.20	0.41
2:B:269:C:H2'	2:B:270:A:H8	1.86	0.41
8:G:112:VAL:O	8:G:113:ASP:HB2	2.19	0.41
16:P:4:ILE:O	16:P:5:LYS:HB2	2.20	0.41
7:F:4:HIS:O	7:F:7:TYR:HB3	2.21	0.41
17:Q:94:LEU:O	17:Q:97:ILE:HG23	2.20	0.41
4:C:146:LYS:HB2	4:C:149:LYS:HB2	2.02	0.41
9:H:132:PHE:O	9:H:140:ALA:HB3	2.20	0.41
9:H:77:THR:CG2	9:H:79:THR:HG23	2.49	0.41
20:T:1:MET:C	20:T:2:ILE:HD13	2.40	0.41
31:I:126:ARG:HA	31:I:129:GLU:OE2	2.20	0.41
3:V:24:ASN:O	3:V:26:PHE:N	2.54	0.41
25:Z:64:ILE:HG22	25:Z:68:LEU:HD11	2.01	0.41
16:P:89:GLY:N	16:P:112:ARG:HH12	2.18	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:973:A:O4'	2:B:1188:U:C6	2.74	0.41
9:H:90:LEU:CD1	9:H:146:VAL:HG11	2.45	0.41
4:C:107:LYS:N	4:C:193:GLU:O	2.51	0.41
20:T:13:ALA:O	20:T:33:LYS:N	2.54	0.41
17:Q:9:ALA:O	17:Q:12:ARG:N	2.53	0.41
2:B:2794:C:H2'	2:B:2795:C:C5	2.55	0.41
2:B:2751:G:OP2	8:G:2:ARG:HD2	2.20	0.41
2:B:215:G:C4'	2:B:216:A:H4'	2.47	0.41
2:B:1054:A:H2'	2:B:1055:G:H8	1.82	0.41
2:B:522:A:H2'	2:B:523:C:H6	1.84	0.41
2:B:935:C:H2'	2:B:936:A:H8	1.85	0.41
16:P:38:ARG:HB3	16:P:38:ARG:NH2	2.35	0.41
25:Z:2:SER:O	25:Z:3:ARG:C	2.58	0.41
2:B:2685:G:O2'	2:B:2686:G:H5'	2.20	0.41
29:3:18:LYS:HE3	29:3:20:GLY:H	1.85	0.41
2:B:2496:C:C2'	2:B:2497:A:H5'	2.50	0.41
2:B:2518:A:N3	2:B:2518:A:H5'	2.35	0.41
2:B:1806:C:O2'	2:B:1807:G:H5'	2.20	0.41
2:B:1266:G:N2	2:B:2012:G:H2'	2.36	0.41
2:B:1389:G:O2'	2:B:1390:U:H5'	2.21	0.41
14:N:114:GLU:HG2	14:N:115:LEU:N	2.34	0.41
14:N:47:VAL:O	14:N:51:LEU:HD13	2.21	0.41
2:B:963:U:H2'	2:B:964:C:C6	2.55	0.41
2:B:2734:A:C2'	2:B:2735:G:H5'	2.43	0.41
2:B:1481:U:H2'	2:B:1482:G:H4'	2.03	0.41
2:B:2747:G:H1	2:B:2754:U:H2'	1.86	0.41
1:A:8:C:O2'	15:O:40:ILE:HD13	2.20	0.41
15:O:67:ASN:H	15:O:70:ALA:CB	2.29	0.41
15:O:67:ASN:N	15:O:70:ALA:HB3	2.32	0.41
18:R:2:TYR:N	18:R:42:ALA:HB2	2.35	0.41
5:D:51:THR:HG21	5:D:75:ALA:O	2.20	0.41
11:K:15:GLY:HA3	11:K:52:VAL:CG2	2.47	0.41
1:A:32:U:H2'	1:A:33:G:C8	2.55	0.41
1:A:29:A:H3'	1:A:30:C:C6	2.47	0.41
2:B:245:G:H2'	2:B:246:C:C6	2.56	0.41
21:U:78:LYS:HD3	21:U:79:ALA:H	1.85	0.41
2:B:1259:G:O2'	2:B:1260:A:H5'	2.21	0.41
2:B:755:U:H2'	2:B:756:A:C8	2.56	0.41
2:B:1870:C:H2'	2:B:1871:A:C8	2.56	0.41
6:E:137:LYS:HG3	6:E:141:MET:SD	2.60	0.41
2:B:1979:U:C2'	2:B:1980:G:H5'	2.51	0.41
6:E:112:LEU:C	6:E:114:ARG:N	2.74	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:E:198:GLU:O	6:E:199:MET:C	2.59	0.41
15:O:116:GLN:O	15:O:117:PHE:HB3	2.19	0.41
2:B:757:G:C2'	2:B:758:C:H5'	2.51	0.41
2:B:493:G:O2'	19:S:7:HIS:HA	2.21	0.41
16:P:62:LYS:O	16:P:63:ILE:HB	2.20	0.41
2:B:426:C:O2'	2:B:427:U:H5'	2.20	0.41
2:B:910:A:C6	2:B:911:A:C6	3.09	0.41
1:A:64:G:O2'	1:A:65:U:H5'	2.21	0.41
5:D:2:ILE:O	5:D:2:ILE:HD12	2.21	0.41
19:S:46:LEU:O	19:S:50:VAL:HG23	2.20	0.41
2:B:2336:A:H61	22:W:40:ARG:CD	2.34	0.41
22:W:66:VAL:HG22	22:W:81:ILE:HG22	2.03	0.41
24:Y:18:LYS:O	24:Y:22:THR:HG23	2.21	0.41
10:J:58:ASN:CA	10:J:127:GLY:HA2	2.26	0.41
10:J:55:ILE:O	10:J:55:ILE:HG13	2.19	0.41
14:N:94:TYR:C	14:N:116:VAL:HG12	2.41	0.41
14:N:28:LEU:HD21	14:N:113:ILE:HG23	2.01	0.41
21:U:25:LYS:N	21:U:34:ILE:O	2.54	0.41
14:N:79:LEU:C	14:N:81:ASN:H	2.24	0.41
2:B:2720:U:H2'	2:B:2721:A:H8	1.86	0.41
9:H:70:GLU:O	9:H:72:ILE:N	2.54	0.41
2:B:2356:U:H2'	2:B:2357:G:O4'	2.21	0.41
17:Q:4:LYS:HE3	17:Q:8:ILE:CD1	2.49	0.41
20:T:50:LEU:O	20:T:51:PHE:HB2	2.21	0.41
2:B:2018:G:O2'	2:B:2019:A:H5'	2.21	0.41
16:P:50:ARG:HB3	16:P:57:ALA:N	2.36	0.41
2:B:704:G:O2'	2:B:727:A:N6	2.53	0.41
11:K:99:ILE:CB	11:K:118:LEU:HD22	2.47	0.41
4:C:90:ILE:HA	4:C:90:ILE:HD13	1.93	0.41
14:N:61:ALA:C	14:N:63:ARG:H	2.22	0.41
6:E:46:GLN:HB2	6:E:87:ALA:O	2.20	0.41
15:O:79:ALA:O	15:O:83:LEU:HD13	2.20	0.41
4:C:20:ASN:O	4:C:23:LEU:HB2	2.21	0.41
9:H:5:LEU:HD12	9:H:17:ASP:HB3	2.03	0.41
2:B:820:A:H2'	2:B:821:A:O4'	2.20	0.41
8:G:18:ILE:HA	8:G:22:VAL:O	2.21	0.41
2:B:1577:C:H2'	2:B:1578:U:C6	2.55	0.41
2:B:839:U:O2'	2:B:1191:G:H1'	2.20	0.41
15:O:56:LYS:O	15:O:60:GLU:HG2	2.19	0.41
2:B:1716:U:H2'	2:B:1717:A:C8	2.55	0.41
12:L:23:ILE:H	12:L:23:ILE:HD12	1.84	0.41
2:B:765:C:H2'	2:B:766:U:C6	2.55	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:327:G:H2'	2:B:328:U:C6	2.56	0.41
2:B:2076:U:O2	2:B:2076:U:O4'	2.39	0.41
28:2:13:ASN:O	28:2:17:GLY:HA3	2.20	0.41
2:B:2671:G:H2'	2:B:2672:U:C6	2.56	0.41
2:B:1829:A:N6	2:B:1977:A:N6	2.68	0.41
5:D:24:VAL:HG23	5:D:189:VAL:H	1.85	0.41
7:F:163:GLU:HA	7:F:166:ARG:NH1	2.36	0.41
2:B:7:G:H4'	10:J:15:TRP:HZ2	1.85	0.41
17:Q:81:GLY:O	17:Q:85:ALA:N	2.52	0.41
13:M:73:ILE:HG21	13:M:91:TYR:CE2	2.55	0.41
4:C:153:LEU:HD22	4:C:175:LEU:HD22	2.02	0.41
2:B:2786:U:H2'	2:B:2787:C:H6	1.85	0.41
27:1:22:THR:OG1	27:1:23:THR:N	2.53	0.41
3:V:32:GLY:O	3:V:93:ARG:HB2	2.21	0.41
20:T:53:VAL:HG12	20:T:54:GLU:N	2.36	0.41
2:B:705:A:H8	2:B:705:A:O5'	2.02	0.41
8:G:40:VAL:CG2	8:G:64:ALA:HA	2.45	0.41
8:G:89:VAL:CG1	8:G:90:GLY:H	2.27	0.41
3:V:75:GLN:HG2	3:V:92:VAL:CG2	2.44	0.41
2:B:2391:G:O6	2:B:2427:C:H1'	2.21	0.41
2:B:164:C:H2'	2:B:165:A:H5'	2.03	0.41
11:K:6:THR:HG22	11:K:7:MET:H	1.85	0.41
2:B:181:A:H1'	2:B:435:C:H5'	2.03	0.41
2:B:776:G:N1	2:B:2072:C:OP1	2.43	0.41
2:B:2465:C:O2'	2:B:2466:C:H5'	2.19	0.41
6:E:154:ASP:C	6:E:156:ASN:H	2.24	0.41
2:B:528:A:H3'	2:B:528:A:H8	1.85	0.41
2:B:974:G:H2'	2:B:974:G:N3	2.35	0.41
29:3:44:ARG:N	29:3:45:PRO:CD	2.82	0.41
2:B:988:A:H5''	24:Y:11:SER:HB3	2.02	0.41
2:B:2693:G:H2'	2:B:2694:G:C8	2.50	0.41
2:B:2526:G:O2'	30:4:34:LYS:HE3	2.21	0.41
2:B:689:A:H2'	2:B:690:G:H8	1.86	0.41
28:2:21:ARG:HG2	28:2:31:LEU:HD21	2.02	0.41
2:B:833:A:H1'	12:L:52:GLY:N	2.35	0.41
31:I:91:LYS:O	31:I:94:LYS:HB2	2.21	0.41
17:Q:111:LYS:HB2	17:Q:111:LYS:NZ	2.34	0.41
15:O:15:ARG:HH21	15:O:95:SER:HB3	1.85	0.41
15:O:63:LYS:HD2	15:O:64:TYR:HB2	2.03	0.41
1:A:113:C:H2'	1:A:114:C:C6	2.56	0.41
2:B:1423:G:H2'	2:B:1424:G:H8	1.86	0.41
20:T:17:SER:N	20:T:21:SER:OG	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:3:THR:O	19:S:3:THR:HG23	2.21	0.41
22:W:56:HIS:O	22:W:57:THR:C	2.59	0.41
7:F:11:VAL:HG13	7:F:171:ALA:HB1	2.03	0.41
6:E:181:ILE:CG1	12:L:2:ARG:HB3	2.46	0.41
10:J:43:GLU:O	10:J:44:TYR:C	2.58	0.41
14:N:79:LEU:HA	14:N:83:LEU:HD12	2.03	0.41
14:N:80:PHE:N	14:N:84:GLY:HA3	2.36	0.41
4:C:128:THR:HG22	4:C:188:ARG:HB3	2.03	0.41
9:H:141:LYS:N	9:H:141:LYS:CD	2.83	0.41
2:B:141:G:H5''	2:B:142:A:C6	2.56	0.41
12:L:56:PRO:O	12:L:59:ARG:HB2	2.21	0.41
27:1:35:LEU:N	27:1:35:LEU:CD2	2.84	0.41
27:1:46:VAL:HG22	27:1:47:ILE:N	2.28	0.41
20:T:28:ASN:C	20:T:29:THR:HG23	2.41	0.41
2:B:1188:U:O2'	2:B:1189:A:H5'	2.21	0.41
2:B:769:U:H2'	2:B:770:G:C8	2.55	0.41
20:T:63:VAL:HG12	20:T:65:GLY:H	1.86	0.41
2:B:2580:U:H5'	5:D:136:ASN:H	1.86	0.41
8:G:84:LYS:HB2	8:G:132:LEU:H	1.86	0.41
11:K:33:ALA:CB	11:K:39:ILE:HD11	2.51	0.41
7:F:107:VAL:O	7:F:110:ILE:HG22	2.20	0.41
2:B:2531:A:H5''	8:G:156:TYR:CE2	2.56	0.41
9:H:58:LEU:HB3	9:H:59:ALA:H	1.73	0.41
3:V:14:LYS:HE3	3:V:18:ARG:HH21	1.85	0.41
4:C:80:LEU:HD21	4:C:109:LEU:HG	2.03	0.41
2:B:1341:G:C2	2:B:1398:C:H4'	2.56	0.41
2:B:2848:G:N3	2:B:2849:U:H5	2.18	0.41
3:V:4:ILE:HB	3:V:63:ILE:HA	2.02	0.41
27:1:39:ASP:O	27:1:43:ARG:N	2.53	0.41
2:B:2800:A:H2'	2:B:2801:G:C4'	2.51	0.41
2:B:2800:A:C2	2:B:2801:G:H1'	2.56	0.41
2:B:1859:U:H2'	2:B:1860:G:H8	1.86	0.41
6:E:46:GLN:HB3	6:E:86:ALA:CA	2.51	0.41
2:B:1948:G:C6	2:B:1959:G:C6	3.09	0.41
9:H:40:THR:C	9:H:42:LYS:H	2.21	0.41
2:B:2471:A:O2'	2:B:2472:G:C8	2.60	0.41
31:I:83:ALA:N	31:I:100:ILE:HD11	2.35	0.41
2:B:949:G:O2'	2:B:950:G:H5'	2.21	0.41
2:B:670:A:H3'	12:L:43:GLY:H	1.86	0.41
2:B:2635:A:C5'	5:D:79:LEU:HB2	2.51	0.41
4:C:83:ASP:HA	4:C:84:PRO:HD3	1.89	0.41
6:E:166:LYS:O	6:E:167:VAL:CB	2.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:I:14:ALA:CB	31:I:50:LYS:HA	2.50	0.41
2:B:1831:G:C6	2:B:1832:C:N4	2.89	0.41
2:B:699:A:H2'	2:B:700:G:O4'	2.21	0.41
2:B:1076:C:H4'	31:I:94:LYS:CE	2.50	0.41
2:B:1562:U:H2'	2:B:1563:U:C6	2.55	0.41
7:F:133:GLU:HA	7:F:150:GLY:CA	2.50	0.41
2:B:1773:A:H2'	2:B:1774:C:O4'	2.20	0.41
2:B:325:G:O2'	2:B:326:G:H5'	2.20	0.41
2:B:319:G:H2'	2:B:320:A:O4'	2.21	0.41
2:B:2835:A:H61	2:B:2878:U:H2'	1.86	0.41
19:S:20:VAL:HG13	19:S:21:ALA:N	2.36	0.41
31:I:35:MET:SD	31:I:35:MET:C	2.99	0.41
2:B:227:A:H61	2:B:410:G:H1'	1.85	0.41
13:M:61:GLY:HA2	13:M:107:GLY:C	2.41	0.41
23:X:25:GLN:HE21	23:X:25:GLN:HB3	1.53	0.41
2:B:1537:G:H5''	2:B:1537:G:N3	2.36	0.41
2:B:268:C:O2	2:B:268:C:H2'	2.21	0.41
2:B:83:A:H2	2:B:103:A:N7	2.19	0.41
7:F:46:LYS:HZ2	7:F:83:PRO:HD2	1.85	0.41
4:C:92:LEU:HD12	4:C:101:ARG:O	2.21	0.41
19:S:26:GLY:O	19:S:28:LYS:N	2.53	0.41
10:J:45:THR:N	10:J:46:PRO:CD	2.84	0.41
10:J:6:ALA:HB3	10:J:45:THR:CG2	2.48	0.41
17:Q:73:ILE:HD11	17:Q:77:LYS:HB3	2.03	0.41
5:D:138:LEU:N	5:D:138:LEU:HD22	2.36	0.41
2:B:142:A:O5'	2:B:142:A:C8	2.74	0.41
2:B:1079:C:O2'	31:I:133:ARG:NH2	2.53	0.41
28:2:10:LEU:HD11	28:2:14:ARG:CZ	2.51	0.41
24:Y:6:ILE:HA	24:Y:56:VAL:CG2	2.48	0.41
2:B:729:G:H5''	2:B:730:A:C5'	2.51	0.41
2:B:1723:G:H2'	2:B:1724:G:H5'	2.02	0.41
11:K:24:VAL:CG1	11:K:33:ALA:HB2	2.51	0.41
16:P:101:GLU:N	16:P:101:GLU:OE2	2.54	0.41
13:M:63:ILE:HA	13:M:104:GLU:O	2.20	0.41
5:D:54:ALA:HA	5:D:76:GLY:N	2.36	0.41
2:B:1859:U:H2'	2:B:1860:G:C8	2.56	0.41
30:4:2:LYS:CE	30:4:4:ARG:HE	2.34	0.41
10:J:20:ALA:CB	10:J:23:LYS:HB2	2.45	0.41
5:D:90:PHE:HD2	5:D:94:GLN:HG3	1.86	0.41
2:B:1841:U:O2'	2:B:1842:G:H5'	2.21	0.41
2:B:345:A:N3	2:B:346:A:N1	2.69	0.41
2:B:1064:C:O2'	2:B:1065:U:H5'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:H:26:ALA:O	9:H:28:ASN:N	2.54	0.41
6:E:137:LYS:O	6:E:141:MET:HG3	2.21	0.41
4:C:18:VAL:O	4:C:18:VAL:HG22	2.21	0.41
13:M:42:THR:H	13:M:45:GLN:HB2	1.86	0.41
2:B:940:G:H2'	2:B:941:A:O4'	2.21	0.41
5:D:161:MET:O	5:D:162:ALA:C	2.58	0.41
2:B:2314:A:H2'	2:B:2315:G:C8	2.56	0.41
2:B:1528:A:H2'	2:B:1529:G:O4'	2.21	0.41
16:P:109:ILE:O	16:P:109:ILE:HD12	2.21	0.41
2:B:2317:A:C2'	2:B:2318:G:H5'	2.51	0.41
2:B:1889:A:H2'	2:B:1890:A:C8	2.56	0.41
2:B:1392:A:H2'	2:B:1393:A:C8	2.56	0.41
2:B:2306:C:O5'	2:B:2306:C:H6	2.04	0.40
7:F:35:LEU:HD12	7:F:88:VAL:O	2.21	0.40
14:N:96:ARG:CG	14:N:98:LEU:HD13	2.51	0.40
17:Q:68:ALA:C	17:Q:71:ASN:HB3	2.41	0.40
12:L:111:ILE:HG22	12:L:112:LEU:H	1.86	0.40
12:L:115:GLU:OE1	12:L:115:GLU:N	2.54	0.40
13:M:18:ARG:HA	13:M:18:ARG:HD2	1.95	0.40
4:C:137:GLY:N	4:C:163:ILE:O	2.54	0.40
9:H:103:VAL:HG21	9:H:110:VAL:HG13	2.03	0.40
2:B:29:U:H2'	2:B:30:G:C8	2.56	0.40
27:1:33:LEU:HD12	27:1:34:GLU:H	1.86	0.40
11:K:71:ARG:HG3	11:K:105:ARG:NH2	2.34	0.40
20:T:30:ILE:O	20:T:85:VAL:HG23	2.21	0.40
5:D:148:GLN:CB	5:D:152:PRO:HG2	2.41	0.40
1:A:87:U:H2'	1:A:88:C:O5'	2.21	0.40
2:B:340:A:H2'	2:B:341:C:O4'	2.21	0.40
13:M:2:LEU:O	13:M:69:PRO:HG3	2.21	0.40
20:T:61:LEU:HD12	20:T:61:LEU:C	2.40	0.40
2:B:2341:G:H2'	2:B:2342:C:H6	1.85	0.40
16:P:12:MET:HG2	16:P:76:HIS:CD2	2.56	0.40
2:B:575:A:C2'	2:B:576:U:H5'	2.51	0.40
2:B:1999:C:H2'	2:B:2000:C:O4'	2.21	0.40
12:L:42:SER:C	12:L:44:GLY:N	2.74	0.40
20:T:45:ALA:HA	20:T:48:GLN:CB	2.51	0.40
12:L:65:GLY:O	12:L:66:PHE:CB	2.69	0.40
28:2:41:ARG:O	28:2:42:LEU:C	2.59	0.40
2:B:2098:U:O2'	2:B:2099:U:H5'	2.21	0.40
2:B:2345:G:H4'	2:B:2346:A:O5'	2.21	0.40
2:B:2282:G:H5'	2:B:2389:G:H1'	2.03	0.40
4:C:246:PRO:HB2	4:C:247:TRP:CZ3	2.57	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2838:G:H1'	14:N:45:ARG:CZ	2.51	0.40
2:B:116:C:O2'	2:B:117:G:H5'	2.21	0.40
1:A:17:C:O2'	1:A:18:G:H5'	2.21	0.40
17:Q:46:TYR:CE1	18:R:76:LYS:HE3	2.56	0.40
2:B:1878:G:H2'	2:B:1879:C:O4'	2.22	0.40
2:B:317:G:H2'	2:B:318:C:C6	2.55	0.40
2:B:2317:A:H2'	2:B:2318:G:O4'	2.21	0.40
2:B:516:C:O2'	2:B:517:C:H5'	2.21	0.40
2:B:2843:G:O2'	2:B:2844:G:H5'	2.20	0.40
2:B:2843:G:H2'	2:B:2844:G:O4'	2.20	0.40
2:B:2013:A:H2'	2:B:2014:A:H5'	2.04	0.40
2:B:53:A:H2'	2:B:54:G:O4'	2.21	0.40
2:B:858:G:C2	2:B:2268:A:C4	3.08	0.40
22:W:17:ALA:CA	22:W:35:ILE:HG23	2.46	0.40
7:F:3:LEU:HB2	7:F:100:GLU:OE1	2.21	0.40
9:H:70:GLU:O	9:H:71:LYS:C	2.59	0.40
2:B:137:U:H2'	20:T:1:MET:H2	1.86	0.40
31:I:116:MET:HE1	31:I:124:MET:O	2.20	0.40
31:I:73:PRO:HA	31:I:74:PRO:HD3	1.99	0.40
31:I:79:LEU:HD11	31:I:131:THR:OG1	2.20	0.40
10:J:29:ALA:O	10:J:32:LEU:HB2	2.21	0.40
11:K:93:GLN:CD	11:K:94:PRO:HD2	2.41	0.40
13:M:56:ALA:C	13:M:58:LYS:N	2.74	0.40
2:B:2580:U:H3'	2:B:2581:G:C2	2.57	0.40
2:B:1513:U:H2'	2:B:1514:G:O4'	2.22	0.40
2:B:2143:C:O5'	2:B:2143:C:H6	2.04	0.40
7:F:108:PRO:O	7:F:110:ILE:HG23	2.22	0.40
2:B:169:G:O2'	2:B:170:U:H5'	2.21	0.40
4:C:63:ILE:HD13	4:C:63:ILE:HA	1.79	0.40
2:B:1165:A:O2'	2:B:1166:G:H5'	2.22	0.40
2:B:2591:C:O2'	2:B:2592:G:H5'	2.20	0.40
2:B:999:U:O2'	2:B:1000:A:H5'	2.21	0.40
6:E:129:PRO:HG3	6:E:156:ASN:OD1	2.21	0.40
2:B:2199:A:O2'	25:Z:36:HIS:CE1	2.74	0.40
2:B:65:U:C2	2:B:66:C:C5	3.09	0.40
30:4:22:VAL:O	30:4:24:ARG:HG3	2.21	0.40
30:4:1:MET:SD	30:4:36:ARG:HG3	2.61	0.40
2:B:2758:A:H2'	2:B:2759:G:H5'	2.03	0.40
2:B:1280:G:C2'	2:B:1281:G:H5'	2.51	0.40
11:K:10:VAL:CG2	11:K:16:ALA:HA	2.52	0.40
6:E:21:ARG:HG3	6:E:22:ASP:O	2.22	0.40
2:B:2415:G:H4'	12:L:66:PHE:HB2	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2667:C:H1'	8:G:108:PHE:HD2	1.87	0.40
2:B:1190:G:O2'	2:B:1191:G:H5'	2.21	0.40
4:C:245:THR:C	4:C:247:TRP:N	2.75	0.40
2:B:2248:C:C2'	2:B:2249:U:H5'	2.52	0.40
18:R:6:GLN:HE22	18:R:9:GLY:C	2.25	0.40
21:U:54:PRO:HG2	21:U:55:GLY:H	1.87	0.40
11:K:31:ARG:HH11	11:K:31:ARG:HG3	1.85	0.40
2:B:139:U:H2'	2:B:139:U:OP1	2.21	0.40
20:T:36:LYS:HD3	20:T:36:LYS:C	2.42	0.40
1:A:2:G:H2'	1:A:2:G:N3	2.37	0.40
2:B:864:G:O2'	2:B:865:C:H5'	2.21	0.40
30:4:18:LYS:HE3	30:4:21:GLY:HA2	2.02	0.40
2:B:858:G:H21	2:B:2268:A:C3'	2.29	0.40
22:W:18:LYS:CA	22:W:36:ILE:HG12	2.38	0.40
2:B:2387:U:H1'	22:W:38:ARG:CZ	2.52	0.40
7:F:8:LYS:HA	7:F:12:VAL:CG2	2.46	0.40
14:N:21:PHE:HA	14:N:24:MET:HB2	2.04	0.40
14:N:49:GLU:HA	14:N:94:TYR:CD2	2.55	0.40
2:B:2840:C:OP1	14:N:50:PRO:HA	2.21	0.40
19:S:49:LYS:HA	19:S:52:GLU:HG2	2.04	0.40
13:M:38:ARG:HG3	13:M:98:PRO:HD3	2.02	0.40
2:B:548:G:OP2	2:B:548:G:C8	2.74	0.40
2:B:1179:G:C2'	2:B:1180:U:H5'	2.51	0.40
2:B:580:U:O3'	17:Q:30:VAL:HG13	2.21	0.40
2:B:2769:U:O2'	2:B:2770:G:H5'	2.21	0.40
27:1:10:LEU:HD23	27:1:35:LEU:HD21	2.03	0.40
11:K:105:ARG:N	11:K:105:ARG:CD	2.84	0.40
2:B:1446:C:H2'	2:B:1447:C:C6	2.56	0.40
7:F:139:GLU:OE2	7:F:142:TYR:HA	2.20	0.40
15:O:36:TYR:HA	15:O:52:SER:CB	2.51	0.40
2:B:783:A:H4'	2:B:1779:U:O2	2.22	0.40
20:T:12:ARG:CG	23:X:29:ARG:HH12	2.33	0.40
2:B:2437:G:H2'	2:B:2438:U:C6	2.57	0.40
21:U:21:ARG:HD3	21:U:72:PHE:CB	2.51	0.40
2:B:1616:A:H4'	2:B:1617:C:OP2	2.22	0.40
2:B:755:U:H2'	2:B:756:A:H8	1.86	0.40
26:0:18:HIS:ND1	26:0:18:HIS:N	2.70	0.40
2:B:711:G:O2'	2:B:712:G:H5'	2.22	0.40
31:I:49:GLU:OE1	31:I:52:LEU:HD22	2.21	0.40
8:G:106:LEU:N	8:G:106:LEU:HD23	2.37	0.40
2:B:1688:U:O2	2:B:1700:A:H8	2.05	0.40
2:B:1390:U:O2'	2:B:1391:U:H5'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:2:GLU:O	19:S:3:THR:C	2.60	0.40
13:M:61:GLY:HA2	13:M:107:GLY:HA3	2.04	0.40
4:C:34:GLU:O	4:C:34:GLU:HG3	2.22	0.40
28:2:32:ALA:HA	28:2:35:ARG:HB2	2.03	0.40
29:3:26:ALA:O	29:3:27:ASN:C	2.59	0.40
4:C:110:LYS:O	4:C:111:ALA:C	2.59	0.40
2:B:2622:U:O2'	2:B:2825:G:N7	2.54	0.40
2:B:1992:G:N2	2:B:1996:C:O2'	2.54	0.40
2:B:1997:C:OP2	5:D:129:THR:HB	2.21	0.40
21:U:90:LYS:O	21:U:91:LYS:C	2.59	0.40
7:F:42:ALA:O	7:F:45:ASP:N	2.48	0.40
6:E:102:ARG:NH2	6:E:102:ARG:HG3	2.36	0.40
2:B:996:A:H4'	17:Q:91:ARG:CD	2.43	0.40
2:B:459:U:O2'	2:B:460:A:H5'	2.21	0.40
13:M:17:ASN:HB3	13:M:38:ARG:NH1	2.36	0.40
5:D:118:PHE:HE2	14:N:1:MET:SD	2.44	0.40
2:B:28:A:O2'	2:B:29:U:H5'	2.20	0.40
10:J:36:LEU:CD1	10:J:121:LYS:HE3	2.50	0.40
31:I:27:LEU:HB2	31:I:32:VAL:HG21	2.02	0.40
25:Z:51:VAL:HG12	25:Z:52:SER:N	2.36	0.40
25:Z:5:CYS:HB3	25:Z:10:LYS:N	2.36	0.40
20:T:68:LYS:HB2	20:T:68:LYS:HE3	1.79	0.40
15:O:6:ALA:HB3	15:O:10:ARG:HH11	1.86	0.40
24:Y:55:LYS:O	24:Y:56:VAL:C	2.59	0.40
2:B:2027:G:C2	2:B:2028:U:C2	3.09	0.40
2:B:1295:C:H2'	2:B:1296:G:C8	2.56	0.40
6:E:176:ASP:OD1	6:E:176:ASP:C	2.59	0.40
2:B:719:C:O2'	2:B:720:U:H5'	2.20	0.40
7:F:81:GLY:O	7:F:82:TYR:C	2.60	0.40
10:J:20:ALA:CB	10:J:28:LEU:HD22	2.51	0.40
21:U:19:GLY:O	21:U:20:LYS:HD3	2.22	0.40
2:B:2525:G:C2	2:B:2539:C:C2	3.10	0.40
9:H:48:GLU:CG	9:H:49:ALA:N	2.84	0.40
2:B:981:A:H4'	2:B:2037:A:H5'	2.03	0.40
2:B:1316:U:H2'	2:B:1317:G:C8	2.57	0.40
15:O:100:HIS:ND1	15:O:101:GLY:N	2.69	0.40
12:L:50:PHE:O	12:L:52:GLY:N	2.54	0.40
21:U:32:LYS:HD3	21:U:32:LYS:H	1.87	0.40
31:I:14:ALA:HA	31:I:45:THR:HG21	2.02	0.40
2:B:1495:A:H2'	2:B:1496:A:H8	1.85	0.40
2:B:2818:U:O5'	2:B:2837:A:H1'	2.21	0.40
2:B:2208:C:O2'	2:B:2209:G:H5'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:14:ALA:C	19:S:16:LYS:N	2.75	0.40
2:B:2104:C:H3'	2:B:2104:C:H6	1.87	0.40
22:W:37:VAL:C	22:W:38:ARG:HG2	2.42	0.40
5:D:109:VAL:HG11	5:D:193:VAL:CG1	2.51	0.40
14:N:24:MET:HE3	14:N:40:LYS:HB3	2.02	0.40
14:N:44:LEU:O	14:N:48:VAL:HG23	2.22	0.40
14:N:96:ARG:HG3	14:N:98:LEU:HD13	2.04	0.40
12:L:111:ILE:CG2	12:L:112:LEU:N	2.85	0.40
6:E:29:HIS:CA	6:E:32:VAL:HG22	2.52	0.40
2:B:1654:A:O2'	2:B:1655:A:H5'	2.22	0.40
9:H:103:VAL:CG2	9:H:109:GLU:HA	2.52	0.40
2:B:1180:U:H2'	2:B:1181:U:C6	2.56	0.40
3:V:83:LYS:HA	3:V:84:PRO:HD3	1.93	0.40
27:1:10:LEU:HB3	27:1:48:TYR:HB3	2.04	0.40
27:1:33:LEU:CB	27:1:51:ALA:HB3	2.44	0.40
2:B:2033:A:H1'	2:B:2035:G:OP2	2.22	0.40
24:Y:51:SER:HA	24:Y:54:VAL:CG2	2.52	0.40
7:F:139:GLU:O	7:F:140:ILE:C	2.60	0.40
7:F:55:ASP:O	7:F:58:ALA:HB3	2.21	0.40
1:A:7:G:H5''	15:O:29:HIS:CD2	2.57	0.40
15:O:29:HIS:HB3	15:O:36:TYR:HB2	2.03	0.40
2:B:2719:G:O2'	2:B:2846:G:H4'	2.21	0.40
2:B:2438:U:O3'	2:B:2439:A:H3'	2.22	0.40
29:3:51:LYS:HD2	29:3:54:LEU:HD22	2.04	0.40
2:B:275:C:H2'	2:B:276:U:O4'	2.21	0.40
2:B:821:A:H2'	2:B:946:C:O4'	2.21	0.40
2:B:2737:G:H2'	2:B:2738:A:H8	1.85	0.40
20:T:45:ALA:HA	20:T:48:GLN:CG	2.51	0.40
2:B:78:U:H2'	2:B:79:C:H6	1.83	0.40
2:B:1063:G:O2'	2:B:1064:C:H5'	2.22	0.40
24:Y:2:LYS:H	24:Y:2:LYS:CD	2.30	0.40
15:O:35:ILE:HD11	15:O:102:ARG:NE	2.36	0.40
2:B:1923:U:H2'	2:B:1924:C:C5	2.56	0.40
2:B:1210:G:H5'	2:B:1212:G:C5'	2.50	0.40
4:C:115:ILE:O	4:C:115:ILE:HG13	2.21	0.40
2:B:324:A:H61	2:B:338:G:C2'	2.35	0.40
5:D:2:ILE:H	5:D:2:ILE:HG13	1.69	0.40
2:B:2824:C:C4	2:B:2825:G:C5	3.10	0.40
2:B:1539:U:O2	2:B:1539:U:H2'	2.19	0.40
2:B:1068:G:C6	2:B:1069:A:N6	2.89	0.40
2:B:667:U:H2'	2:B:668:A:O4'	2.22	0.40
2:B:374:A:N6	2:B:400:G:H1'	2.36	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	V	92/94 (98%)	63 (68%)	23 (25%)	6 (6%)	2	29
4	C	269/273 (98%)	158 (59%)	65 (24%)	46 (17%)	0	4
5	D	207/209 (99%)	121 (58%)	56 (27%)	30 (14%)	0	7
6	E	199/201 (99%)	120 (60%)	56 (28%)	23 (12%)	1	12
7	F	176/178 (99%)	103 (58%)	39 (22%)	34 (19%)	0	3
8	G	174/176 (99%)	105 (60%)	37 (21%)	32 (18%)	0	3
9	H	147/149 (99%)	68 (46%)	43 (29%)	36 (24%)	0	1
10	J	140/142 (99%)	85 (61%)	39 (28%)	16 (11%)	1	12
11	K	119/123 (97%)	70 (59%)	28 (24%)	21 (18%)	0	4
12	L	141/144 (98%)	75 (53%)	40 (28%)	26 (18%)	0	3
13	M	134/136 (98%)	77 (58%)	38 (28%)	19 (14%)	0	7
14	N	118/127 (93%)	73 (62%)	33 (28%)	12 (10%)	1	14
15	O	114/117 (97%)	83 (73%)	21 (18%)	10 (9%)	1	19
16	P	112/114 (98%)	59 (53%)	35 (31%)	18 (16%)	0	5
17	Q	115/117 (98%)	79 (69%)	27 (24%)	9 (8%)	1	22
18	R	101/103 (98%)	60 (59%)	31 (31%)	10 (10%)	1	15
19	S	108/110 (98%)	75 (69%)	21 (19%)	12 (11%)	1	13
20	T	91/100 (91%)	47 (52%)	25 (28%)	19 (21%)	0	2
21	U	100/103 (97%)	53 (53%)	35 (35%)	12 (12%)	1	11
22	W	77/84 (92%)	29 (38%)	23 (30%)	25 (32%)	0	0
23	X	61/63 (97%)	37 (61%)	14 (23%)	10 (16%)	0	5
24	Y	56/58 (97%)	40 (71%)	11 (20%)	5 (9%)	1	18
25	Z	75/78 (96%)	47 (63%)	20 (27%)	8 (11%)	1	13
26	0	54/56 (96%)	33 (61%)	16 (30%)	5 (9%)	1	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	1	48/54 (89%)	34 (71%)	12 (25%)	2 (4%)	4	43
28	2	44/46 (96%)	31 (70%)	9 (20%)	4 (9%)	1	18
29	3	62/64 (97%)	41 (66%)	15 (24%)	6 (10%)	1	16
30	4	36/38 (95%)	21 (58%)	10 (28%)	5 (14%)	0	8
31	I	139/141 (99%)	119 (86%)	16 (12%)	4 (3%)	7	54
All	All	3309/3398 (97%)	2006 (61%)	838 (25%)	465 (14%)	0	8

All (465) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	C	18	VAL
4	C	53	ILE
4	C	107	LYS
4	C	109	LEU
4	C	123	ILE
5	D	9	VAL
5	D	74	GLU
5	D	93	GLY
5	D	106	LYS
5	D	112	THR
5	D	118	PHE
5	D	122	VAL
5	D	169	ARG
5	D	170	VAL
5	D	172	VAL
6	E	7	ASP
6	E	62	GLN
6	E	69	ARG
6	E	79	ARG
6	E	167	VAL
7	F	32	LYS
7	F	43	ILE
7	F	77	LYS
7	F	78	ILE
7	F	92	GLY
7	F	112	ASP
7	F	135	ILE
7	F	138	PRO
7	F	140	ILE
7	F	148	VAL

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Mol	Chain	Res	Type
8	G	9	VAL
8	G	85	LYS
8	G	91	VAL
8	G	94	ARG
8	G	117	PRO
8	G	125	PRO
9	H	3	VAL
9	H	8	LYS
9	H	10	ALA
9	H	31	VAL
9	H	32	PRO
9	H	33	GLN
9	H	60	GLU
9	H	62	LEU
9	H	65	ALA
9	H	69	ALA
9	H	125	THR
10	J	4	PHE
10	J	44	TYR
10	J	45	THR
10	J	73	VAL
11	K	18	ARG
11	K	31	ARG
11	K	35	VAL
11	K	89	ASN
11	K	92	GLU
11	K	119	ALA
11	K	120	PRO
12	L	36	LYS
12	L	81	ASP
12	L	89	VAL
12	L	94	THR
12	L	111	ILE
12	L	116	VAL
13	M	30	SER
13	M	78	LEU
14	N	11	ASN
14	N	58	ASP
14	N	82	GLU
14	N	116	VAL
14	N	117	ASP
15	O	56	LYS

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Mol	Chain	Res	Type
16	P	20	ARG
16	P	25	VAL
16	P	50	ARG
16	P	75	THR
16	P	100	ARG
18	R	7	SER
18	R	70	GLU
19	S	3	THR
19	S	27	LYS
19	S	42	LYS
19	S	59	GLU
19	S	61	ASN
20	T	16	VAL
20	T	39	THR
20	T	58	VAL
20	T	77	ARG
20	T	88	LYS
21	U	6	ARG
21	U	38	ILE
21	U	49	PRO
21	U	50	ALA
22	W	30	VAL
22	W	36	ILE
22	W	50	VAL
22	W	59	PHE
22	W	60	ALA
22	W	62	ALA
23	X	2	LYS
24	Y	56	VAL
25	Z	33	LEU
26	0	42	ILE
26	0	48	TYR
28	2	44	VAL
31	I	18	ASN
3	V	25	LYS
4	C	3	VAL
4	C	93	VAL
4	C	135	PRO
4	C	140	VAL
4	C	142	ASN
4	C	151	GLY
4	C	162	GLN

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Mol	Chain	Res	Type
4	C	222	THR
4	C	232	GLY
4	C	239	PHE
5	D	24	VAL
5	D	107	VAL
5	D	119	ALA
5	D	121	THR
5	D	136	ASN
5	D	184	ARG
5	D	197	THR
6	E	42	GLY
6	E	45	ALA
6	E	165	HIS
7	F	11	VAL
7	F	36	ASN
7	F	80	GLN
7	F	141	ASP
7	F	149	ARG
8	G	2	ARG
8	G	32	LEU
8	G	84	LYS
8	G	89	VAL
8	G	92	GLY
8	G	107	GLY
9	H	52	ALA
9	H	59	ALA
9	H	130	VAL
10	J	5	THR
10	J	41	LYS
10	J	43	GLU
10	J	81	ILE
10	J	124	VAL
10	J	129	GLU
11	K	108	ARG
11	K	113	MET
12	L	3	LEU
12	L	5	THR
12	L	28	GLY
12	L	29	LYS
12	L	51	GLU
12	L	52	GLY
12	L	93	ASN

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Mol	Chain	Res	Type
12	L	113	ALA
13	M	20	LEU
13	M	36	VAL
13	M	59	ARG
13	M	69	PRO
13	M	79	ALA
14	N	89	SER
14	N	100	CYS
14	N	101	GLY
15	O	57	ALA
15	O	79	ALA
15	O	107	ALA
16	P	32	VAL
16	P	84	SER
16	P	101	GLU
16	P	108	ARG
17	Q	87	VAL
17	Q	91	ARG
18	R	42	ALA
18	R	49	ILE
18	R	100	GLY
19	S	25	ARG
19	S	96	ILE
19	S	109	ASP
20	T	28	ASN
20	T	35	ALA
20	T	38	ALA
20	T	69	ARG
21	U	12	VAL
21	U	85	ARG
21	U	92	VAL
22	W	12	GLY
22	W	14	ASP
22	W	23	LYS
22	W	40	ARG
22	W	61	LYS
22	W	70	VAL
22	W	76	ARG
22	W	77	LYS
23	X	10	SER
23	X	36	GLN
24	Y	2	LYS

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Mol	Chain	Res	Type
25	Z	3	ARG
25	Z	77	LYS
26	0	51	ARG
27	1	4	ILE
28	2	42	LEU
29	3	31	ILE
31	I	14	ALA
31	I	23	VAL
31	I	64	ARG
3	V	71	LYS
4	C	17	LYS
4	C	34	GLU
4	C	35	LYS
4	C	37	SER
4	C	52	HIS
4	C	94	LEU
4	C	122	ALA
4	C	141	HIS
4	C	145	MET
4	C	190	THR
4	C	200	MET
4	C	250	GLN
4	C	254	LYS
5	D	127	PHE
5	D	143	PRO
5	D	145	SER
5	D	159	LYS
5	D	162	ALA
5	D	194	PRO
6	E	13	THR
6	E	81	GLY
6	E	86	ALA
6	E	97	ASN
6	E	127	GLU
6	E	166	LYS
7	F	9	ASP
7	F	28	PRO
7	F	42	ALA
7	F	81	GLY
7	F	110	ILE
7	F	125	GLY
7	F	142	TYR

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Mol	Chain	Res	Type
8	G	11	PRO
8	G	38	ASP
8	G	61	TRP
8	G	102	ILE
8	G	170	THR
9	H	7	ASP
9	H	11	ASN
9	H	66	ASN
9	H	71	LYS
9	H	77	THR
9	H	83	LYS
9	H	108	VAL
9	H	122	LEU
10	J	14	ASP
10	J	72	LYS
10	J	111	LYS
11	K	72	PRO
11	K	101	GLY
11	K	110	GLU
12	L	4	ASN
12	L	54	GLN
12	L	82	LEU
13	M	13	HIS
13	M	60	GLN
13	M	77	PRO
13	M	134	THR
14	N	10	LEU
14	N	70	THR
14	N	98	LEU
15	O	9	ARG
15	O	68	LYS
15	O	95	SER
15	O	100	HIS
16	P	64	SER
16	P	104	GLY
16	P	113	LEU
17	Q	17	LEU
17	Q	32	ARG
17	Q	69	ARG
17	Q	72	GLY
17	Q	88	GLU
18	R	24	LYS

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Mol	Chain	Res	Type
18	R	57	GLY
19	S	60	HIS
19	S	80	PRO
20	T	10	VAL
20	T	19	LYS
21	U	16	LYS
21	U	89	GLY
22	W	9	THR
22	W	13	ARG
22	W	17	ALA
22	W	82	GLU
23	X	45	GLN
23	X	62	GLY
25	Z	35	SER
28	2	5	PHE
30	4	8	LYS
4	C	51	ARG
4	C	59	GLN
4	C	64	VAL
4	C	92	LEU
4	C	131	MET
4	C	189	ALA
4	C	196	ASN
5	D	31	ALA
6	E	92	HIS
7	F	82	TYR
7	F	103	ILE
7	F	106	ALA
7	F	124	ARG
8	G	45	ALA
8	G	83	THR
8	G	100	ASN
8	G	111	PRO
9	H	9	VAL
9	H	12	LEU
9	H	73	ASN
9	H	97	ARG
9	H	109	GLU
9	H	118	PRO
9	H	146	VAL
10	J	26	GLY
10	J	58	ASN

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Mol	Chain	Res	Type
11	K	14	SER
11	K	54	LYS
11	K	90	ASN
11	K	94	PRO
12	L	12	SER
12	L	15	ALA
12	L	19	LEU
12	L	53	GLY
13	M	27	SER
13	M	35	ALA
13	M	55	ARG
13	M	75	GLU
13	M	106	ASP
14	N	112	TYR
15	O	99	TYR
16	P	65	ASN
18	R	98	ILE
20	T	8	LEU
20	T	11	LEU
20	T	37	ASP
20	T	86	THR
22	W	21	GLY
22	W	34	SER
22	W	75	ASN
23	X	16	THR
23	X	37	LEU
23	X	58	ASN
24	Y	4	ILE
24	Y	34	THR
25	Z	22	LEU
25	Z	34	HIS
27	1	36	LYS
29	3	6	VAL
29	3	20	GLY
29	3	50	SER
29	3	58	ILE
29	3	59	ALA
30	4	4	ARG
3	V	44	HIS
3	V	54	ALA
4	C	5	CYS
4	C	36	ASN

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Mol	Chain	Res	Type
4	C	105	ALA
4	C	150	GLY
4	C	161	VAL
4	C	237	ARG
5	D	75	ALA
5	D	109	VAL
5	D	131	ASP
6	E	4	VAL
6	E	12	LEU
6	E	46	GLN
6	E	59	PRO
6	E	129	PRO
7	F	20	ASN
7	F	41	GLU
7	F	156	THR
8	G	78	VAL
8	G	97	VAL
8	G	151	ARG
8	G	157	LYS
8	G	159	LYS
8	G	168	VAL
9	H	14	SER
9	H	16	GLY
9	H	81	ALA
9	H	95	GLY
10	J	13	ARG
11	K	3	GLN
11	K	16	ALA
11	K	17	ARG
11	K	93	GLN
12	L	41	ARG
12	L	66	PHE
12	L	86	GLU
13	M	73	ILE
13	M	87	GLY
15	O	8	ILE
16	P	59	THR
17	Q	27	ARG
18	R	46	GLU
20	T	18	GLU
20	T	29	THR
21	U	37	GLY

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Mol	Chain	Res	Type
22	W	56	HIS
23	X	9	LYS
25	Z	18	ARG
26	0	19	ASP
26	0	54	ILE
28	2	45	SER
30	4	16	ILE
30	4	23	ILE
3	V	45	ASP
3	V	84	PRO
4	C	65	ASP
5	D	173	GLN
6	E	37	ALA
6	E	83	VAL
7	F	88	VAL
8	G	155	PRO
11	K	73	ASP
16	P	4	ILE
18	R	9	GLY
19	S	21	ALA
19	S	29	VAL
20	T	55	VAL
20	T	71	GLY
4	C	55	GLY
4	C	77	VAL
6	E	96	VAL
7	F	12	VAL
9	H	61	VAL
9	H	103	VAL
12	L	62	PRO
13	M	26	VAL
16	P	63	ILE
21	U	24	VAL
22	W	53	GLY
24	Y	50	VAL
30	4	3	VAL
4	C	158	GLY
4	C	246	PRO
7	F	136	ILE
7	F	145	VAL
8	G	60	GLY
8	G	16	VAL

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Mol	Chain	Res	Type
8	G	152	ARG
9	H	78	VAL
16	P	91	VAL
22	W	22	VAL
25	Z	64	ILE
5	D	60	VAL
5	D	178	VAL
8	G	139	VAL
12	L	139	GLY
16	P	83	ILE
21	U	82	VAL
22	W	37	VAL
23	X	46	VAL
7	F	150	GLY
17	Q	39	ILE

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	V	78/78 (100%)	68 (87%)	10 (13%)	6	33
4	C	216/218 (99%)	178 (82%)	38 (18%)	3	16
5	D	164/164 (100%)	140 (85%)	24 (15%)	5	27
6	E	165/165 (100%)	146 (88%)	19 (12%)	8	39
7	F	149/149 (100%)	114 (76%)	35 (24%)	1	7
8	G	137/137 (100%)	116 (85%)	21 (15%)	4	25
9	H	114/114 (100%)	77 (68%)	37 (32%)	0	3
10	J	116/116 (100%)	98 (84%)	18 (16%)	4	24
11	K	102/104 (98%)	79 (78%)	23 (22%)	1	8
12	L	102/103 (99%)	89 (87%)	13 (13%)	6	33
13	M	109/109 (100%)	88 (81%)	21 (19%)	2	12
14	N	100/103 (97%)	82 (82%)	18 (18%)	2	15
15	O	86/87 (99%)	69 (80%)	17 (20%)	2	11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	P	99/99 (100%)	80 (81%)	19 (19%)	2	12
17	Q	89/89 (100%)	79 (89%)	10 (11%)	9	41
18	R	84/84 (100%)	68 (81%)	16 (19%)	2	13
19	S	93/93 (100%)	81 (87%)	12 (13%)	6	33
20	T	80/84 (95%)	62 (78%)	18 (22%)	1	8
21	U	83/84 (99%)	67 (81%)	16 (19%)	2	12
22	W	59/62 (95%)	42 (71%)	17 (29%)	0	4
23	X	55/55 (100%)	42 (76%)	13 (24%)	1	7
24	Y	48/48 (100%)	40 (83%)	8 (17%)	3	19
25	Z	67/68 (98%)	54 (81%)	13 (19%)	2	12
26	0	47/47 (100%)	39 (83%)	8 (17%)	3	18
27	1	45/48 (94%)	40 (89%)	5 (11%)	9	42
28	2	38/38 (100%)	32 (84%)	6 (16%)	4	23
29	3	51/51 (100%)	46 (90%)	5 (10%)	12	50
30	4	34/34 (100%)	32 (94%)	2 (6%)	28	75
31	I	109/109 (100%)	108 (99%)	1 (1%)	87	97
All	All	2719/2740 (99%)	2256 (83%)	463 (17%)	3	18

All (463) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	V	24	ASN
3	V	40	ILE
3	V	42	LEU
3	V	51	GLN
3	V	53	LYS
3	V	66	ASP
3	V	68	LYS
3	V	69	GLU
3	V	70	ILE
3	V	86	LEU
4	C	4	LYS
4	C	6	LYS
4	C	8	THR
4	C	9	SER
4	C	12	ARG

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Mol	Chain	Res	Type
4	C	37	SER
4	C	43	ASN
4	C	45	ASN
4	C	47	ARG
4	C	52	HIS
4	C	62	ARG
4	C	65	ASP
4	C	67	LYS
4	C	89	ASN
4	C	90	ILE
4	C	109	LEU
4	C	123	ILE
4	C	128	THR
4	C	134	ILE
4	C	142	ASN
4	C	152	GLN
4	C	155	ARG
4	C	167	ASP
4	C	172	THR
4	C	173	LEU
4	C	176	ARG
4	C	180	MET
4	C	181	ARG
4	C	191	LEU
4	C	193	GLU
4	C	203	VAL
4	C	224	MET
4	C	239	PHE
4	C	249	VAL
4	C	252	LYS
4	C	257	ARG
4	C	266	ILE
4	C	269	ARG
5	D	13	ARG
5	D	33	ARG
5	D	35	THR
5	D	36	GLN
5	D	45	TYR
5	D	46	ARG
5	D	56	LYS
5	D	74	GLU
5	D	79	LEU

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Mol	Chain	Res	Type
5	D	81	GLU
5	D	84	LEU
5	D	88	GLU
5	D	91	THR
5	D	114	LYS
5	D	123	LYS
5	D	124	ARG
5	D	131	ASP
5	D	142	VAL
5	D	148	GLN
5	D	151	THR
5	D	154	LYS
5	D	157	LYS
5	D	170	VAL
5	D	172	VAL
6	E	3	LEU
6	E	5	LEU
6	E	7	ASP
6	E	14	VAL
6	E	21	ARG
6	E	58	LYS
6	E	60	TRP
6	E	61	ARG
6	E	62	GLN
6	E	63	LYS
6	E	67	ARG
6	E	78	TRP
6	E	111	GLU
6	E	118	LEU
6	E	122	GLU
6	E	147	LEU
6	E	152	GLU
6	E	159	LEU
6	E	163	ASN
7	F	3	LEU
7	F	13	LYS
7	F	29	ARG
7	F	32	LYS
7	F	47	LYS
7	F	48	LEU
7	F	50	ASP
7	F	56	LEU

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Mol	Chain	Res	Type
7	F	62	GLN
7	F	76	PHE
7	F	96	TRP
7	F	97	GLU
7	F	100	GLU
7	F	102	LEU
7	F	103	ILE
7	F	109	ARG
7	F	111	ARG
7	F	112	ASP
7	F	121	PHE
7	F	126	ASN
7	F	129	MET
7	F	133	GLU
7	F	134	GLN
7	F	137	PHE
7	F	138	PRO
7	F	139	GLU
7	F	146	ASP
7	F	147	ARG
7	F	149	ARG
7	F	151	LEU
7	F	162	ASP
7	F	168	LEU
7	F	173	ASP
7	F	174	PHE
7	F	177	ARG
8	G	5	LYS
8	G	17	LYS
8	G	24	THR
8	G	26	LYS
8	G	29	ASN
8	G	34	ARG
8	G	54	ARG
8	G	55	ASP
8	G	68	ARG
8	G	70	LEU
8	G	74	MET
8	G	84	LYS
8	G	85	LYS
8	G	94	ARG
8	G	106	LEU

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Mol	Chain	Res	Type
8	G	120	ILE
8	G	132	LEU
8	G	138	GLN
8	G	152	ARG
8	G	162	ARG
8	G	166	GLU
9	H	3	VAL
9	H	15	LEU
9	H	25	TYR
9	H	28	ASN
9	H	32	PRO
9	H	33	GLN
9	H	43	ASN
9	H	44	ILE
9	H	47	PHE
9	H	50	ARG
9	H	53	GLU
9	H	57	LYS
9	H	62	LEU
9	H	66	ASN
9	H	68	ARG
9	H	71	LYS
9	H	73	ASN
9	H	75	LEU
9	H	89	LYS
9	H	93	SER
9	H	98	ASP
9	H	99	ILE
9	H	101	ASP
9	H	103	VAL
9	H	104	THR
9	H	108	VAL
9	H	109	GLU
9	H	110	VAL
9	H	112	LYS
9	H	115	VAL
9	H	116	ARG
9	H	130	VAL
9	H	133	GLN
9	H	135	HIS
9	H	139	PHE
9	H	141	LYS

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Mol	Chain	Res	Type
9	H	147	VAL
10	J	2	LYS
10	J	3	THR
10	J	12	LYS
10	J	28	LEU
10	J	36	LEU
10	J	39	LYS
10	J	43	GLU
10	J	44	TYR
10	J	54	ILE
10	J	65	THR
10	J	71	ASP
10	J	73	VAL
10	J	89	PHE
10	J	95	ARG
10	J	103	ILE
10	J	106	LYS
10	J	111	LYS
10	J	120	ARG
11	K	2	ILE
11	K	6	THR
11	K	8	LEU
11	K	9	ASN
11	K	21	CYS
11	K	32	TYR
11	K	47	ILE
11	K	53	LYS
11	K	54	LYS
11	K	58	LEU
11	K	64	ARG
11	K	66	LYS
11	K	72	PRO
11	K	79	PHE
11	K	80	ASP
11	K	86	LEU
11	K	87	LEU
11	K	88	ASN
11	K	103	VAL
11	K	104	THR
11	K	105	ARG
11	K	111	LYS
11	K	120	PRO

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Mol	Chain	Res	Type
12	L	4	ASN
12	L	6	LEU
12	L	27	LEU
12	L	47	ARG
12	L	60	ARG
12	L	69	ARG
12	L	92	LEU
12	L	93	ASN
12	L	95	LEU
12	L	118	THR
12	L	125	LEU
12	L	126	ARG
12	L	128	THR
13	M	20	LEU
13	M	25	ASP
13	M	40	ARG
13	M	55	ARG
13	M	60	GLN
13	M	63	ILE
13	M	65	ILE
13	M	70	ASP
13	M	78	LEU
13	M	81	ARG
13	M	82	MET
13	M	88	ASN
13	M	93	VAL
13	M	95	LEU
13	M	108	VAL
13	M	110	GLU
13	M	111	GLU
13	M	114	ARG
13	M	115	GLU
13	M	131	VAL
13	M	136	MET
14	N	1	MET
14	N	2	ARG
14	N	11	ASN
14	N	18	GLN
14	N	28	LEU
14	N	29	VAL
14	N	35	LYS
14	N	48	VAL

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Mol	Chain	Res	Type
14	N	62	ASN
14	N	69	ARG
14	N	71	ARG
14	N	82	GLU
14	N	86	ARG
14	N	98	LEU
14	N	107	ASN
14	N	112	TYR
14	N	118	ARG
14	N	120	GLU
15	O	2	ASP
15	O	7	ARG
15	O	9	ARG
15	O	17	LYS
15	O	19	GLN
15	O	20	GLU
15	O	21	LEU
15	O	31	THR
15	O	62	LEU
15	O	69	ASP
15	O	78	VAL
15	O	80	GLU
15	O	88	LYS
15	O	98	GLN
15	O	100	HIS
15	O	106	LEU
15	O	116	GLN
16	P	3	ILE
16	P	5	LYS
16	P	6	GLN
16	P	19	PHE
16	P	25	VAL
16	P	32	VAL
16	P	33	GLU
16	P	43	GLU
16	P	61	ARG
16	P	65	ASN
16	P	72	VAL
16	P	80	VAL
16	P	83	ILE
16	P	99	LEU
16	P	100	ARG

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Mol	Chain	Res	Type
16	P	101	GLU
16	P	111	GLU
16	P	112	ARG
16	P	113	LEU
17	Q	5	ARG
17	Q	15	LYS
17	Q	50	ARG
17	Q	57	ARG
17	Q	63	ARG
17	Q	79	ILE
17	Q	83	LYS
17	Q	88	GLU
17	Q	96	ASP
17	Q	111	LYS
18	R	2	TYR
18	R	10	LYS
18	R	22	LEU
18	R	37	GLU
18	R	39	LEU
18	R	43	ASN
18	R	48	LYS
18	R	55	ASP
18	R	70	GLU
18	R	71	LYS
18	R	72	VAL
18	R	76	LYS
18	R	82	HIS
18	R	86	GLN
18	R	96	VAL
18	R	99	THR
19	S	6	LYS
19	S	28	LYS
19	S	37	THR
19	S	57	ASN
19	S	61	ASN
19	S	62	ASP
19	S	66	ILE
19	S	84	ARG
19	S	86	MET
19	S	88	ARG
19	S	99	ARG
19	S	110	ARG

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Mol	Chain	Res	Type
20	T	2	ILE
20	T	3	ARG
20	T	4	GLU
20	T	6	ARG
20	T	9	LYS
20	T	11	LEU
20	T	12	ARG
20	T	24	MET
20	T	29	THR
20	T	32	LEU
20	T	34	VAL
20	T	39	THR
20	T	64	LYS
20	T	68	LYS
20	T	69	ARG
20	T	70	HIS
20	T	76	ARG
20	T	81	LYS
21	U	11	ILE
21	U	13	LEU
21	U	20	LYS
21	U	26	ASN
21	U	39	ASN
21	U	51	LEU
21	U	53	GLN
21	U	60	LYS
21	U	65	GLN
21	U	73	ASN
21	U	78	LYS
21	U	81	ARG
21	U	84	PHE
21	U	85	ARG
21	U	88	ASP
21	U	102	ILE
22	W	10	ARG
22	W	16	GLU
22	W	19	ARG
22	W	23	LYS
22	W	38	ARG
22	W	39	GLN
22	W	40	ARG
22	W	44	PHE

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Mol	Chain	Res	Type
22	W	45	HIS
22	W	50	VAL
22	W	61	LYS
22	W	63	ASP
22	W	68	PHE
22	W	76	ARG
22	W	77	LYS
22	W	82	GLU
22	W	84	GLU
23	X	1	MET
23	X	15	ASN
23	X	16	THR
23	X	21	LEU
23	X	24	GLU
23	X	25	GLN
23	X	28	LEU
23	X	29	ARG
23	X	36	GLN
23	X	37	LEU
23	X	41	HIS
23	X	48	ARG
23	X	59	GLU
24	Y	2	LYS
24	Y	8	GLN
24	Y	9	THR
24	Y	15	ARG
24	Y	23	LEU
24	Y	30	ARG
24	Y	37	ARG
24	Y	57	GLU
25	Z	13	VAL
25	Z	14	THR
25	Z	22	LEU
25	Z	27	ARG
25	Z	28	ARG
25	Z	37	ARG
25	Z	41	GLU
25	Z	46	PHE
25	Z	48	THR
25	Z	50	ARG
25	Z	59	ILE
25	Z	65	ASP

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Mol	Chain	Res	Type
25	Z	74	ARG
26	0	18	HIS
26	0	27	LEU
26	0	37	HIS
26	0	38	LEU
26	0	41	HIS
26	0	45	ASP
26	0	51	ARG
26	0	56	LYS
27	1	8	ILE
27	1	9	LYS
27	1	34	GLU
27	1	35	LEU
27	1	42	VAL
28	2	3	ARG
28	2	19	ARG
28	2	28	ARG
28	2	33	ARG
28	2	39	ARG
28	2	42	LEU
29	3	7	ARG
29	3	27	ASN
29	3	31	ILE
29	3	46	LYS
29	3	58	ILE
30	4	9	LYS
30	4	10	LEU
31	I	96	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (103) such sidechains are listed below:

Mol	Chain	Res	Type
3	V	44	HIS
3	V	51	GLN
3	V	80	HIS
4	C	43	ASN
4	C	45	ASN
4	C	59	GLN
4	C	85	ASN
4	C	114	GLN
4	C	133	ASN
4	C	152	GLN

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Mol	Chain	Res	Type
4	C	162	GLN
4	C	196	ASN
5	D	32	ASN
5	D	36	GLN
5	D	49	GLN
5	D	126	ASN
5	D	136	ASN
5	D	148	GLN
5	D	173	GLN
6	E	29	HIS
6	E	30	GLN
6	E	62	GLN
6	E	90	GLN
6	E	94	GLN
6	E	195	GLN
7	F	26	GLN
7	F	36	ASN
7	F	51	ASN
7	F	62	GLN
7	F	80	GLN
7	F	134	GLN
8	G	29	ASN
8	G	63	GLN
8	G	87	GLN
8	G	103	ASN
8	G	127	GLN
9	H	28	ASN
9	H	66	ASN
9	H	73	ASN
10	J	130	HIS
10	J	138	GLN
11	K	5	GLN
11	K	13	ASN
11	K	89	ASN
12	L	4	ASN
12	L	54	GLN
12	L	104	GLN
13	M	17	ASN
13	M	60	GLN
13	M	88	ASN
14	N	11	ASN
14	N	62	ASN

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Mol	Chain	Res	Type
14	N	107	ASN
15	O	19	GLN
15	O	29	HIS
15	O	38	GLN
15	O	61	GLN
15	O	104	GLN
16	P	11	GLN
16	P	40	GLN
16	P	74	GLN
16	P	76	HIS
16	P	114	ASN
17	Q	51	GLN
17	Q	71	ASN
17	Q	80	ASN
18	R	6	GLN
18	R	82	HIS
18	R	86	GLN
19	S	61	ASN
20	T	48	GLN
20	T	59	ASN
20	T	72	GLN
20	T	91	GLN
20	T	92	ASN
21	U	26	ASN
21	U	65	GLN
21	U	68	ASN
21	U	73	ASN
22	W	11	ASN
22	W	39	GLN
22	W	49	ASN
22	W	56	HIS
22	W	75	ASN
23	X	20	ASN
23	X	25	GLN
23	X	27	ASN
23	X	31	GLN
23	X	58	ASN
24	Y	33	HIS
24	Y	48	ASN
25	Z	6	GLN
25	Z	23	ASN
25	Z	36	HIS

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Mol	Chain	Res	Type
26	0	3	GLN
28	2	6	GLN
28	2	29	GLN
29	3	42	HIS
30	4	35	GLN
31	I	11	GLN
31	I	29	GLN
31	I	33	ASN
31	I	93	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	116/120 (96%)	22 (18%)	0
2	B	2837/2904 (97%)	460 (16%)	17 (0%)
All	All	2953/3024 (97%)	482 (16%)	17 (0%)

All (482) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	C
1	A	12	C
1	A	13	G
1	A	16	G
1	A	26	C
1	A	29	A
1	A	30	C
1	A	35	C
1	A	42	C
1	A	44	G
1	A	57	A
1	A	66	A
1	A	67	G
1	A	74	U
1	A	88	C
1	A	90	C
1	A	96	G
1	A	99	A
1	A	108	A
1	A	109	A
1	A	112	G

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Mol	Chain	Res	Type
1	A	116	G
2	B	2	G
2	B	34	U
2	B	46	G
2	B	51	G
2	B	63	A
2	B	71	A
2	B	74	A
2	B	75	G
2	B	84	A
2	B	91	A
2	B	98	G
2	B	100	U
2	B	101	A
2	B	102	U
2	B	118	A
2	B	119	A
2	B	120	U
2	B	125	A
2	B	126	A
2	B	128	C
2	B	138	U
2	B	139	U
2	B	140	C
2	B	141	G
2	B	142	A
2	B	160	A
2	B	162	U
2	B	163	C
2	B	180	G
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	230	G
2	B	233	A
2	B	241	A
2	B	248	G
2	B	252	G

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Mol	Chain	Res	Type
2	B	255	A
2	B	265	A
2	B	266	G
2	B	267	C
2	B	268	C
2	B	271	G
2	B	277	G
2	B	279	A
2	B	280	U
2	B	281	C
2	B	299	A
2	B	311	A
2	B	323	C
2	B	329	G
2	B	330	A
2	B	331	C
2	B	333	G
2	B	343	C
2	B	346	A
2	B	353	C
2	B	355	U
2	B	364	C
2	B	367	G
2	B	371	A
2	B	372	G
2	B	386	G
2	B	387	U
2	B	395	U
2	B	396	G
2	B	411	G
2	B	412	A
2	B	424	G
2	B	444	C
2	B	456	C
2	B	457	A
2	B	473	G
2	B	479	A
2	B	480	A
2	B	481	G
2	B	490	C
2	B	491	G
2	B	502	A

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Mol	Chain	Res	Type
2	B	504	A
2	B	505	A
2	B	508	A
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	548	G
2	B	549	G
2	B	550	C
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
2	B	616	A
2	B	627	A
2	B	637	A
2	B	645	C
2	B	646	U
2	B	647	G
2	B	654	A
2	B	655	A
2	B	671	C
2	B	686	U
2	B	699	A
2	B	717	C
2	B	718	A
2	B	719	C
2	B	727	A
2	B	730	A
2	B	743	A
2	B	746	U
2	B	747	U
2	B	775	G

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Mol	Chain	Res	Type
2	B	782	A
2	B	783	A
2	B	784	G
2	B	785	G
2	B	789	A
2	B	798	G
2	B	805	G
2	B	811	U
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	876	C
2	B	899	A
2	B	910	A
2	B	912	C
2	B	919	U
2	B	931	U
2	B	932	U
2	B	933	A
2	B	941	A
2	B	946	C
2	B	961	C
2	B	974	G
2	B	982	C
2	B	983	A
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	1043	C
2	B	1046	A
2	B	1047	G

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Mol	Chain	Res	Type
2	B	1056	G
2	B	1062	G
2	B	1070	A
2	B	1088	A
2	B	1090	A
2	B	1110	G
2	B	1111	A
2	B	1112	G
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	1142	A
2	B	1156	A
2	B	1171	G
2	B	1172	C
2	B	1173	U
2	B	1174	U
2	B	1176	U
2	B	1177	G
2	B	1181	U
2	B	1186	G
2	B	1194	A
2	B	1205	A
2	B	1211	C
2	B	1212	G
2	B	1218	G
2	B	1237	A
2	B	1241	A
2	B	1242	U
2	B	1248	G
2	B	1249	U
2	B	1250	G
2	B	1251	C
2	B	1253	A
2	B	1256	G
2	B	1266	G
2	B	1271	G
2	B	1272	A
2	B	1275	A

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Mol	Chain	Res	Type
2	B	1276	A
2	B	1301	A
2	B	1325	U
2	B	1337	G
2	B	1341	G
2	B	1352	U
2	B	1365	A
2	B	1368	G
2	B	1371	G
2	B	1379	U
2	B	1383	A
2	B	1384	A
2	B	1386	C
2	B	1396	U
2	B	1397	U
2	B	1416	G
2	B	1419	A
2	B	1420	A
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	1458	U
2	B	1459	G
2	B	1460	U
2	B	1461	C
2	B	1470	A
2	B	1475	G
2	B	1476	U
2	B	1477	A
2	B	1482	G
2	B	1490	A
2	B	1493	C
2	B	1494	A
2	B	1504	A
2	B	1507	C
2	B	1508	A
2	B	1509	A
2	B	1510	G

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Mol	Chain	Res	Type
2	B	1519	G
2	B	1524	G
2	B	1535	A
2	B	1537	G
2	B	1540	G
2	B	1552	A
2	B	1558	C
2	B	1559	U
2	B	1560	G
2	B	1569	A
2	B	1578	U
2	B	1583	A
2	B	1584	U
2	B	1585	C
2	B	1608	A
2	B	1610	A
2	B	1613	G
2	B	1616	A
2	B	1619	G
2	B	1634	A
2	B	1635	A
2	B	1647	U
2	B	1648	U
2	B	1674	G
2	B	1700	A
2	B	1714	U
2	B	1715	G
2	B	1722	A
2	B	1723	G
2	B	1729	U
2	B	1730	C
2	B	1733	G
2	B	1738	G
2	B	1756	G
2	B	1758	U
2	B	1764	C
2	B	1772	A
2	B	1773	A
2	B	1800	C
2	B	1816	C
2	B	1829	A
2	B	1857	G

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Mol	Chain	Res	Type
2	B	1870	C
2	B	1906	G
2	B	1913	A
2	B	1914	C
2	B	1919	A
2	B	1926	U
2	B	1929	G
2	B	1930	G
2	B	1938	A
2	B	1939	U
2	B	1940	U
2	B	1955	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
2	B	1996	C
2	B	1997	C
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	2093	G
2	B	2102	G
2	B	2103	C
2	B	2104	C
2	B	2105	U
2	B	2109	U
2	B	2140	G
2	B	2144	G
2	B	2145	C
2	B	2147	A
2	B	2148	G

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Mol	Chain	Res	Type
2	B	2149	U
2	B	2152	G
2	B	2153	C
2	B	2157	G
2	B	2181	U
2	B	2183	A
2	B	2185	U
2	B	2187	U
2	B	2192	U
2	B	2198	A
2	B	2199	A
2	B	2203	U
2	B	2204	G
2	B	2211	A
2	B	2212	A
2	B	2213	U
2	B	2225	A
2	B	2238	G
2	B	2239	G
2	B	2266	A
2	B	2272	U
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	2309	A
2	B	2311	A
2	B	2319	G
2	B	2321	U
2	B	2322	A
2	B	2324	U
2	B	2325	G
2	B	2333	A
2	B	2334	U
2	B	2335	A
2	B	2336	A
2	B	2345	G
2	B	2347	C
2	B	2353	G
2	B	2357	G

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Mol	Chain	Res	Type
2	B	2358	A
2	B	2361	G
2	B	2383	G
2	B	2385	C
2	B	2392	A
2	B	2396	G
2	B	2402	U
2	B	2406	A
2	B	2423	U
2	B	2426	A
2	B	2427	C
2	B	2429	G
2	B	2430	A
2	B	2431	U
2	B	2435	A
2	B	2441	U
2	B	2446	G
2	B	2448	A
2	B	2472	G
2	B	2474	U
2	B	2476	A
2	B	2491	U
2	B	2502	G
2	B	2505	G
2	B	2506	U
2	B	2518	A
2	B	2529	G
2	B	2530	A
2	B	2531	A
2	B	2535	G
2	B	2554	U
2	B	2556	C
2	B	2566	A
2	B	2567	G
2	B	2573	C
2	B	2574	G
2	B	2586	U
2	B	2602	A
2	B	2609	U
2	B	2613	U
2	B	2621	G
2	B	2629	U

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Mol	Chain	Res	Type
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	2726	A
2	B	2739	U
2	B	2744	G
2	B	2750	A
2	B	2751	G
2	B	2752	C
2	B	2753	A
2	B	2756	U
2	B	2757	A
2	B	2760	C
2	B	2765	A
2	B	2778	A
2	B	2790	U
2	B	2791	G
2	B	2792	A
2	B	2798	U
2	B	2799	A
2	B	2800	A
2	B	2801	G
2	B	2808	G
2	B	2809	A
2	B	2820	A
2	B	2821	A
2	B	2832	U
2	B	2834	G
2	B	2836	U
2	B	2850	A
2	B	2861	U
2	B	2867	G
2	B	2872	A
2	B	2873	A
2	B	2883	A
2	B	2886	A
2	B	2901	C
2	B	2903	U

All (17) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	63	A
2	B	162	U
2	B	670	A
2	B	858	G
2	B	1133	A
2	B	1210	G
2	B	1419	A
2	B	1509	A
2	B	1912	A
2	B	2213	U
2	B	2282	G
2	B	2286	G
2	B	2425	A
2	B	2430	A
2	B	2756	U
2	B	2808	G
2	B	2873	A

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 111 ligands modelled in this entry, 111 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	117/120 (97%)	-0.29	2 (1%) 67 34	43, 83, 131, 173	0
2	B	2841/2904 (97%)	0.15	222 (7%) 13 7	6, 56, 146, 180	0
3	V	94/94 (100%)	0.03	3 (3%) 45 21	11, 96, 146, 176	0
4	C	271/273 (99%)	0.60	34 (12%) 5 3	7, 48, 104, 170	0
5	D	209/209 (100%)	0.58	27 (12%) 4 3	5, 73, 138, 180	0
6	E	201/201 (100%)	0.09	12 (5%) 21 9	5, 65, 142, 180	0
7	F	178/178 (100%)	0.16	14 (7%) 13 7	50, 116, 175, 180	0
8	G	176/176 (100%)	0.20	13 (7%) 14 7	23, 102, 155, 180	0
9	H	149/149 (100%)	0.31	6 (4%) 36 16	14, 117, 177, 180	0
10	J	142/142 (100%)	0.45	16 (11%) 6 4	6, 80, 141, 171	0
11	K	121/123 (98%)	1.19	30 (24%) 1 2	5, 73, 135, 180	0
12	L	143/144 (99%)	0.06	3 (2%) 60 29	10, 64, 128, 180	0
13	M	136/136 (100%)	0.19	8 (5%) 22 9	8, 70, 129, 172	0
14	N	120/127 (94%)	0.31	10 (8%) 11 6	7, 67, 132, 163	0
15	O	116/117 (99%)	-0.28	0 100 100	27, 87, 135, 156	0
16	P	114/114 (100%)	1.52	39 (34%) 1 1	20, 85, 149, 178	0
17	Q	117/117 (100%)	0.63	21 (17%) 2 2	5, 63, 127, 180	0
18	R	103/103 (100%)	-0.03	3 (2%) 49 23	16, 82, 145, 158	0
19	S	110/110 (100%)	0.57	12 (10%) 6 4	5, 53, 116, 142	0
20	T	93/100 (93%)	0.20	9 (9%) 8 5	6, 72, 139, 179	0
21	U	102/103 (99%)	-0.25	1 (0%) 79 47	5, 78, 144, 178	0
22	W	79/84 (94%)	1.50	24 (30%) 1 1	10, 79, 157, 163	0
23	X	63/63 (100%)	1.00	15 (23%) 1 2	9, 74, 146, 179	0
24	Y	58/58 (100%)	0.64	6 (10%) 7 5	14, 78, 135, 170	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	Z	77/78 (98%)	1.37	16 (20%) 1 2	5, 49, 121, 160	0
26	0	56/56 (100%)	1.15	13 (23%) 1 2	5, 77, 144, 166	0
27	1	50/54 (92%)	0.69	5 (10%) 8 5	51, 99, 149, 165	0
28	2	46/46 (100%)	0.55	5 (10%) 6 4	7, 49, 103, 135	0
29	3	64/64 (100%)	0.20	1 (1%) 68 35	16, 56, 110, 137	0
30	4	38/38 (100%)	0.28	2 (5%) 25 10	33, 92, 143, 146	0
31	I	141/141 (100%)	0.23	18 (12%) 4 3	67, 169, 180, 180	0
All	All	6325/6422 (98%)	0.30	590 (9%) 9 5	5, 68, 155, 180	0

All (590) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	X	63	ALA	10.6
22	W	69	GLU	9.7
7	F	118	ALA	9.0
16	P	108	ARG	8.7
23	X	7	ARG	8.4
25	Z	72	ARG	8.1
8	G	45	ALA	8.1
22	W	76	ARG	8.1
31	I	25	PRO	8.1
23	X	62	GLY	8.0
16	P	107	ALA	7.9
25	Z	76	GLU	7.9
16	P	86	LYS	7.9
25	Z	78	TYR	7.8
2	B	2610	C	7.8
25	Z	74	ARG	7.5
2	B	2319	G	7.4
16	P	87	ARG	7.3
25	Z	71	LEU	7.3
31	I	26	ALA	7.1
22	W	77	LYS	6.8
1	A	12	C	6.8
11	K	71	ARG	6.8
16	P	67	GLU	6.7
16	P	26	GLU	6.7
22	W	74	LYS	6.6
6	E	155	GLU	6.6
10	J	129	GLU	6.5

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Mol	Chain	Res	Type	RSRZ
2	B	2585	U	6.3
2	B	654	A	6.0
25	Z	75	GLY	6.0
2	B	1046	A	6.0
16	P	61	ARG	5.9
2	B	697	G	5.9
22	W	70	VAL	5.9
16	P	66	GLY	5.9
4	C	17	LYS	5.8
23	X	9	LYS	5.8
2	B	2618	G	5.8
16	P	105	LYS	5.8
23	X	10	SER	5.7
31	I	19	PRO	5.7
4	C	34	GLU	5.7
7	F	116	LEU	5.7
2	B	2619	C	5.7
20	T	4	GLU	5.6
2	B	508	A	5.6
23	X	12	GLU	5.6
2	B	2611	C	5.6
30	4	12	ARG	5.5
16	P	43	GLU	5.4
22	W	73	PRO	5.4
17	Q	86	SER	5.4
7	F	119	LYS	5.3
31	I	29	GLN	5.3
2	B	1538	G	5.2
5	D	57	ALA	5.2
2	B	1981	A	5.2
2	B	2503	A	5.2
4	C	271	SER	5.2
2	B	2505	G	5.1
2	B	2617	U	5.1
11	K	17	ARG	5.1
31	I	24	GLY	5.1
25	Z	73	ALA	5.0
2	B	1373	A	5.0
4	C	16	VAL	5.0
22	W	41	GLY	5.0
2	B	1205	A	4.9
2	B	1195	G	4.9

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Mol	Chain	Res	Type	RSRZ
5	D	56	LYS	4.9
2	B	2581	G	4.9
16	P	109	ILE	4.9
22	W	14	ASP	4.9
10	J	10	THR	4.8
31	I	27	LEU	4.8
2	B	2058	A	4.7
25	Z	77	LYS	4.7
27	1	27	ARG	4.7
23	X	11	VAL	4.7
14	N	69	ARG	4.7
2	B	1374	G	4.7
2	B	757	G	4.7
22	W	75	ASN	4.7
19	S	84	ARG	4.6
2	B	2586	U	4.6
7	F	166	ARG	4.6
26	0	8	THR	4.6
2	B	2140	G	4.6
11	K	69	VAL	4.6
16	P	70	GLU	4.6
2	B	2354	C	4.6
11	K	18	ARG	4.6
11	K	80	ASP	4.5
11	K	9	ASN	4.5
2	B	2825	G	4.5
2	B	1729	U	4.5
2	B	2513	A	4.5
2	B	436	C	4.5
26	0	47	TYR	4.5
13	M	136	MET	4.5
4	C	166	ARG	4.5
8	G	176	LYS	4.5
2	B	2021	C	4.4
16	P	106	ALA	4.4
25	Z	60	ASP	4.4
16	P	41	ALA	4.4
31	I	21	PRO	4.4
3	V	50	MET	4.4
16	P	85	VAL	4.4
2	B	756	A	4.4
2	B	1714	U	4.3

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Mol	Chain	Res	Type	RSRZ
4	C	1	ALA	4.3
5	D	209	ALA	4.3
8	G	46	ASP	4.3
2	B	613	A	4.3
2	B	764	A	4.3
2	B	1197	G	4.3
2	B	2570	G	4.3
2	B	1982	U	4.2
2	B	2059	A	4.2
2	B	2063	C	4.2
4	C	4	LYS	4.2
22	W	71	LYS	4.2
2	B	521	U	4.2
2	B	1730	C	4.2
17	Q	23	TYR	4.1
5	D	8	LYS	4.1
20	T	71	GLY	4.1
19	S	82	MET	4.1
2	B	2062	A	4.1
2	B	2506	U	4.1
23	X	60	LYS	4.1
6	E	93	SER	4.1
11	K	35	VAL	4.1
2	B	232	G	4.1
2	B	696	G	4.1
4	C	76	VAL	4.1
2	B	2712	C	4.0
2	B	520	G	4.0
4	C	27	LYS	4.0
22	W	13	ARG	4.0
16	P	71	ARG	4.0
2	B	519	U	4.0
2	B	755	U	4.0
2	B	1658	C	4.0
2	B	2355	G	3.9
2	B	1774	C	3.9
2	B	514	A	3.9
16	P	60	VAL	3.9
23	X	6	LEU	3.9
2	B	1259	G	3.9
2	B	2019	A	3.9
2	B	507	A	3.9

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Mol	Chain	Res	Type	RSRZ
17	Q	28	SER	3.9
2	B	2571	U	3.9
2	B	2020	A	3.9
3	V	34	LYS	3.8
2	B	2680	U	3.8
26	0	7	PRO	3.8
2	B	2069	G	3.8
4	C	167	ASP	3.8
10	J	12	LYS	3.8
17	Q	84	LYS	3.8
4	C	268	ARG	3.8
16	P	25	VAL	3.8
2	B	2141	G	3.8
2	B	2152	G	3.8
2	B	2061	G	3.7
22	W	78	PHE	3.7
31	I	22	PRO	3.7
12	L	96	LYS	3.7
2	B	759	G	3.7
7	F	82	TYR	3.7
10	J	11	VAL	3.7
4	C	165	ALA	3.7
20	T	3	ARG	3.7
2	B	2572	A	3.7
4	C	114	GLN	3.7
4	C	3	VAL	3.7
7	F	176	PHE	3.7
23	X	8	GLU	3.6
17	Q	27	ARG	3.6
11	K	49	ARG	3.6
2	B	2055	C	3.6
22	W	15	SER	3.6
16	P	110	LYS	3.6
6	E	38	GLY	3.6
2	B	1293	C	3.6
27	1	15	GLY	3.6
2	B	2145	C	3.6
2	B	2514	U	3.6
2	B	1728	C	3.6
31	I	20	SER	3.6
2	B	2574	G	3.6
2	B	2584	U	3.6

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Mol	Chain	Res	Type	RSRZ
2	B	2602	A	3.6
27	1	52	LYS	3.5
2	B	762	U	3.5
22	W	72	GLY	3.5
10	J	76	HIS	3.5
16	P	84	SER	3.5
2	B	145	C	3.5
2	B	758	C	3.5
27	1	14	ALA	3.5
2	B	1539	U	3.5
6	E	92	HIS	3.5
2	B	2139	U	3.5
22	W	16	GLU	3.5
2	B	405	U	3.5
16	P	88	ARG	3.5
31	I	4	VAL	3.4
2	B	766	U	3.4
16	P	99	LEU	3.4
13	M	135	VAL	3.4
8	G	44	HIS	3.4
8	G	47	ASN	3.4
10	J	9	GLU	3.4
16	P	65	ASN	3.4
2	B	763	G	3.4
17	Q	20	ALA	3.4
11	K	46	ALA	3.4
17	Q	29	ARG	3.4
31	I	141	ASP	3.4
11	K	77	ILE	3.4
31	I	28	GLY	3.4
10	J	8	PRO	3.4
2	B	1663	G	3.4
2	B	1274	A	3.4
2	B	1045	C	3.3
2	B	515	A	3.3
2	B	1632	A	3.3
2	B	2070	A	3.3
11	K	113	MET	3.3
26	0	9	ARG	3.3
2	B	400	G	3.3
17	Q	24	TYR	3.3
2	B	2320	U	3.3

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Mol	Chain	Res	Type	RSRZ
2	B	2622	U	3.3
17	Q	4	LYS	3.3
2	B	404	A	3.3
5	D	55	LYS	3.3
16	P	44	GLY	3.3
2	B	2608	G	3.3
31	I	18	ASN	3.3
2	B	2182	U	3.3
5	D	54	ALA	3.3
16	P	45	VAL	3.3
4	C	202	ARG	3.2
11	K	68	GLY	3.2
2	B	2679	A	3.2
31	I	23	VAL	3.2
29	3	28	LEU	3.2
2	B	653	U	3.2
4	C	178	GLY	3.2
11	K	47	ILE	3.2
2	B	2423	U	3.2
21	U	49	PRO	3.2
5	D	112	THR	3.2
5	D	198	GLY	3.2
25	Z	70	GLU	3.2
8	G	7	PRO	3.2
2	B	1657	U	3.2
11	K	106	GLU	3.2
22	W	12	GLY	3.2
11	K	105	ARG	3.2
5	D	154	LYS	3.2
2	B	741	U	3.1
20	T	72	GLN	3.1
14	N	44	LEU	3.1
2	B	765	C	3.1
2	B	1258	U	3.1
23	X	61	ALA	3.1
2	B	2102	G	3.1
18	R	51	VAL	3.1
2	B	2333	A	3.1
11	K	44	LYS	3.1
20	T	76	ARG	3.1
6	E	91	ASP	3.1
7	F	79	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
4	C	15	VAL	3.0
5	D	195	GLY	3.0
22	W	45	HIS	3.0
2	B	2609	U	3.0
6	E	59	PRO	3.0
2	B	1537	G	3.0
7	F	44	ALA	3.0
4	C	2	VAL	3.0
2	B	2422	C	3.0
26	0	11	LYS	3.0
2	B	2318	G	3.0
6	E	94	GLN	3.0
17	Q	26	ALA	3.0
2	B	968	C	3.0
2	B	1263	U	3.0
6	E	37	ALA	3.0
2	B	2443	C	3.0
11	K	51	LYS	3.0
17	Q	85	ALA	3.0
16	P	1	SER	3.0
2	B	532	A	3.0
4	C	132	ARG	2.9
26	0	6	LYS	2.9
18	R	50	GLY	2.9
22	W	44	PHE	2.9
2	B	735	A	2.9
10	J	80	HIS	2.9
2	B	1750	G	2.9
2	B	1196	C	2.9
2	B	34	U	2.9
20	T	70	HIS	2.9
22	W	42	THR	2.9
2	B	563	A	2.9
2	B	263	G	2.9
2	B	700	G	2.9
1	A	88	C	2.9
2	B	531	C	2.9
17	Q	21	LYS	2.9
23	X	59	GLU	2.9
19	S	83	LYS	2.9
5	D	155	VAL	2.9
22	W	40	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
2	B	581	C	2.8
2	B	1130	U	2.8
2	B	1377	G	2.8
5	D	193	VAL	2.8
7	F	178	LYS	2.8
2	B	264	C	2.8
2	B	2071	A	2.8
22	W	11	ASN	2.8
2	B	522	A	2.8
7	F	140	ILE	2.8
2	B	509	C	2.8
4	C	14	HIS	2.8
8	G	43	LYS	2.8
10	J	7	LYS	2.8
2	B	2151	U	2.8
2	B	518	G	2.8
5	D	114	LYS	2.8
5	D	148	GLN	2.8
3	V	57	TYR	2.8
2	B	2420	C	2.8
4	C	18	VAL	2.8
9	H	97	ARG	2.7
2	B	181	A	2.7
2	B	401	A	2.7
2	B	2569	G	2.7
11	K	108	ARG	2.7
2	B	2212	A	2.7
2	B	2575	C	2.7
2	B	2582	G	2.7
23	X	57	LEU	2.7
26	0	41	HIS	2.7
2	B	740	C	2.7
5	D	10	GLY	2.7
2	B	372	G	2.7
2	B	967	U	2.7
2	B	1659	G	2.7
2	B	2056	G	2.7
28	2	25	LYS	2.7
2	B	676	A	2.7
2	B	2067	G	2.7
17	Q	34	ALA	2.7
4	C	179	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
28	2	23	ALA	2.7
2	B	1775	U	2.7
16	P	103	THR	2.7
24	Y	54	VAL	2.7
28	2	28	ARG	2.7
2	B	2057	G	2.7
27	1	9	LYS	2.7
14	N	1	MET	2.6
2	B	2844	G	2.6
2	B	399	U	2.6
2	B	546	U	2.6
2	B	742	A	2.6
2	B	2054	A	2.6
4	C	168	GLY	2.6
11	K	50	GLY	2.6
25	Z	66	THR	2.6
4	C	269	ARG	2.6
2	B	564	C	2.6
2	B	2258	C	2.6
2	B	1661	G	2.6
25	Z	65	ASP	2.6
19	S	86	MET	2.6
2	B	1554	U	2.6
10	J	1	MET	2.6
13	M	1	MET	2.6
19	S	18	ARG	2.6
31	I	3	LYS	2.6
25	Z	69	ALA	2.6
2	B	1792	G	2.6
2	B	1111	A	2.6
8	G	175	LYS	2.6
13	M	6	ARG	2.6
11	K	48	PRO	2.6
2	B	738	G	2.5
2	B	2271	G	2.5
11	K	72	PRO	2.5
19	S	39	THR	2.5
20	T	68	LYS	2.5
26	0	12	ARG	2.5
26	0	10	SER	2.5
2	B	1264	A	2.5
5	D	197	THR	2.5

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Mol	Chain	Res	Type	RSRZ
2	B	1662	U	2.5
9	H	109	GLU	2.5
17	Q	83	LYS	2.5
24	Y	53	MET	2.5
19	S	40	ASN	2.5
2	B	2689	U	2.5
31	I	34	ILE	2.5
19	S	85	ILE	2.5
2	B	736	C	2.5
11	K	36	GLY	2.5
6	E	40	ARG	2.5
12	L	73	ILE	2.5
2	B	2009	A	2.5
5	D	25	THR	2.5
2	B	2511	U	2.5
4	C	201	LEU	2.5
24	Y	52	PHE	2.5
2	B	403	U	2.5
30	4	14	CYS	2.4
2	B	1218	G	2.4
2	B	1358	G	2.4
2	B	2089	C	2.4
25	Z	11	ARG	2.4
10	J	81	ILE	2.4
2	B	1207	C	2.4
2	B	2256	G	2.4
16	P	24	THR	2.4
2	B	384	A	2.4
4	C	5	CYS	2.4
2	B	701	G	2.4
5	D	152	PRO	2.4
31	I	13	ALA	2.4
2	B	2297	A	2.4
16	P	113	LEU	2.4
5	D	176	ASP	2.4
10	J	128	ASN	2.4
2	B	207	A	2.4
2	B	698	C	2.4
2	B	785	G	2.4
2	B	1731	G	2.4
16	P	69	VAL	2.4
6	E	60	TRP	2.4

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Mol	Chain	Res	Type	RSRZ
2	B	1375	U	2.4
10	J	44	TYR	2.4
13	M	90	GLU	2.4
20	T	77	ARG	2.4
4	C	78	GLU	2.4
2	B	2442	C	2.3
2	B	2620	C	2.3
14	N	46	ARG	2.3
2	B	2108	A	2.3
17	Q	25	GLY	2.3
7	F	117	SER	2.3
22	W	67	LYS	2.3
11	K	70	ARG	2.3
4	C	206	LYS	2.3
9	H	20	ASN	2.3
2	B	398	C	2.3
11	K	67	LYS	2.3
9	H	105	ALA	2.3
5	D	208	LYS	2.3
16	P	111	GLU	2.3
16	P	112	ARG	2.3
2	B	1272	A	2.3
11	K	45	GLU	2.3
6	E	36	ALA	2.3
6	E	39	ALA	2.3
14	N	20	MET	2.3
19	S	1	MET	2.3
2	B	1980	G	2.3
2	B	2255	G	2.3
5	D	156	PHE	2.3
2	B	265	A	2.3
4	C	35	LYS	2.3
2	B	743	A	2.3
4	C	94	LEU	2.3
16	P	46	VAL	2.3
26	0	5	ASN	2.3
2	B	878	A	2.3
2	B	2799	A	2.3
28	2	20	ALA	2.3
16	P	100	ARG	2.3
26	0	13	GLY	2.3
2	B	2022	U	2.3

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Mol	Chain	Res	Type	RSRZ
2	B	2181	U	2.3
24	Y	8	GLN	2.3
13	M	78	LEU	2.3
9	H	1	MET	2.2
11	K	10	VAL	2.2
17	Q	10	ARG	2.2
2	B	914	G	2.2
2	B	1206	G	2.2
10	J	6	ALA	2.2
16	P	63	ILE	2.2
17	Q	43	GLN	2.2
8	G	172	GLU	2.2
2	B	2153	C	2.2
23	X	14	LEU	2.2
12	L	105	ILE	2.2
16	P	64	SER	2.2
25	Z	68	LEU	2.2
2	B	2138	G	2.2
2	B	1420	A	2.2
2	B	2321	U	2.2
11	K	101	GLY	2.2
2	B	124	G	2.2
11	K	100	PHE	2.2
10	J	82	GLY	2.2
9	H	117	LEU	2.2
22	W	37	VAL	2.2
26	O	14	MET	2.2
16	P	101	GLU	2.2
2	B	1660	G	2.2
2	B	2248	C	2.2
16	P	62	LYS	2.2
19	S	41	LYS	2.2
5	D	135	GLY	2.2
17	Q	39	ILE	2.2
2	B	326	G	2.2
2	B	2109	U	2.2
2	B	2628	C	2.2
2	B	2147	A	2.2
23	X	4	LYS	2.1
4	C	270	ARG	2.1
10	J	85	LYS	2.1
24	Y	24	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
26	0	4	GLN	2.1
2	B	2213	U	2.1
14	N	100	CYS	2.1
2	B	1408	G	2.1
11	K	8	LEU	2.1
16	P	42	PHE	2.1
28	2	24	THR	2.1
8	G	37	ASN	2.1
2	B	2576	G	2.1
22	W	38	ARG	2.1
2	B	574	A	2.1
13	M	39	GLY	2.1
2	B	469	G	2.1
25	Z	57	ARG	2.1
2	B	2875	C	2.1
14	N	24	MET	2.1
14	N	47	VAL	2.1
2	B	2497	A	2.1
7	F	162	ASP	2.1
2	B	1172	C	2.1
2	B	513	A	2.1
2	B	538	A	2.1
4	C	11	GLY	2.1
5	D	134	HIS	2.1
2	B	2512	C	2.1
19	S	10	ALA	2.1
2	B	2032	G	2.1
14	N	68	ALA	2.1
2	B	2334	U	2.1
17	Q	37	ALA	2.1
8	G	36	LEU	2.1
7	F	77	LYS	2.1
20	T	67	VAL	2.1
7	F	175	PRO	2.1
2	B	813	U	2.1
2	B	1773	A	2.0
2	B	2516	A	2.0
19	S	74	ILE	2.0
31	I	14	ALA	2.0
2	B	137	U	2.0
11	K	54	LYS	2.0
8	G	9	VAL	2.0

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Mol	Chain	Res	Type	RSRZ
17	Q	87	VAL	2.0
18	R	77	PHE	2.0
2	B	2053	G	2.0
24	Y	49	ALA	2.0
4	C	75	ALA	2.0
13	M	111	GLU	2.0
8	G	18	ILE	2.0
2	B	2029	G	2.0
5	D	111	GLY	2.0
5	D	58	ASN	2.0
2	B	1260	A	2.0
17	Q	88	GLU	2.0
5	D	147	GLY	2.0
4	C	177	SER	2.0
5	D	145	SER	2.0
14	N	18	GLN	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
32	MG	B	3194	1/1	0.45	14.61	125,125,125,125	0
32	MG	B	3181	1/1	0.55	12.15	41,41,41,41	0
32	MG	B	3240	1/1	0.18	3.87	168,168,168,168	0
32	MG	B	3344	1/1	0.51	3.82	26,26,26,26	0
32	MG	B	3369	1/1	0.59	3.76	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	B	3590	1/1	0.38	2.95	62,62,62,62	0
32	MG	B	3331	1/1	0.19	2.53	28,28,28,28	0
32	MG	B	3561	1/1	0.39	2.32	129,129,129,129	0
32	MG	B	3188	1/1	1.01	2.30	56,56,56,56	0
32	MG	B	3423	1/1	0.60	1.63	39,39,39,39	0
32	MG	B	3496	1/1	0.30	1.41	57,57,57,57	0
32	MG	B	3289	1/1	0.39	1.23	28,28,28,28	0
32	MG	B	3175	1/1	0.23	1.00	35,35,35,35	0
32	MG	B	3338	1/1	0.30	0.94	22,22,22,22	0
32	MG	B	3400	1/1	0.42	0.90	17,17,17,17	0
32	MG	B	3353	1/1	0.19	0.78	48,48,48,48	0
32	MG	B	3206	1/1	0.38	0.77	15,15,15,15	0
32	MG	B	3600	1/1	0.24	0.53	47,47,47,47	0
32	MG	B	3433	1/1	0.46	0.45	40,40,40,40	0
32	MG	B	3253	1/1	0.21	0.35	53,53,53,53	0
32	MG	B	3509	1/1	0.19	0.19	112,112,112,112	0
32	MG	B	3412	1/1	0.30	0.17	26,26,26,26	0
32	MG	B	3550	1/1	0.20	0.05	35,35,35,35	0
32	MG	B	3521	1/1	0.15	0.05	71,71,71,71	0
32	MG	B	3505	1/1	0.44	-0.11	56,56,56,56	0
32	MG	B	3090	1/1	0.22	-0.15	38,38,38,38	0
32	MG	B	3021	1/1	0.18	-0.15	32,32,32,32	0
32	MG	B	3135	1/1	0.17	-0.16	5,5,5,5	0
32	MG	B	3157	1/1	0.22	-0.22	33,33,33,33	0
32	MG	B	3471	1/1	0.37	-0.24	46,46,46,46	0
32	MG	B	3543	1/1	0.15	-0.24	114,114,114,114	0
32	MG	B	3117	1/1	0.42	-0.46	26,26,26,26	0
32	MG	B	3044	1/1	0.13	-0.47	89,89,89,89	0
32	MG	B	3476	1/1	0.19	-0.50	46,46,46,46	0
32	MG	B	3270	1/1	0.16	-0.59	75,75,75,75	0
32	MG	B	3406	1/1	0.37	-0.67	37,37,37,37	0
32	MG	B	3227	1/1	0.13	-0.68	7,7,7,7	0
32	MG	B	3444	1/1	0.19	-0.69	36,36,36,36	0
32	MG	B	3376	1/1	0.12	-0.76	29,29,29,29	0
32	MG	B	3061	1/1	0.19	-0.78	5,5,5,5	0
32	MG	B	3359	1/1	0.19	-0.79	14,14,14,14	0
32	MG	B	3259	1/1	0.16	-0.82	31,31,31,31	0
32	MG	B	3028	1/1	0.20	-0.91	5,5,5,5	0
32	MG	B	3607	1/1	0.14	-0.93	54,54,54,54	0
32	MG	B	3038	1/1	0.16	-0.97	82,82,82,82	0
32	MG	B	3316	1/1	0.13	-0.97	77,77,77,77	0
32	MG	B	3394	1/1	0.14	-1.04	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	B	3586	1/1	0.13	-1.06	20,20,20,20	0
33	ZN	4	3617	1/1	0.07	-1.08	80,80,80,80	0
32	MG	B	3007	1/1	0.16	-1.15	5,5,5,5	0
32	MG	B	3145	1/1	0.13	-1.17	30,30,30,30	0
32	MG	B	3164	1/1	0.08	-1.23	86,86,86,86	0
32	MG	B	3439	1/1	0.05	-1.28	38,38,38,38	0
32	MG	B	3418	1/1	0.23	-1.34	17,17,17,17	0
32	MG	B	3464	1/1	0.11	-1.34	39,39,39,39	0
32	MG	B	3537	1/1	0.11	-1.40	34,34,34,34	0
32	MG	B	3596	1/1	0.06	-1.49	6,6,6,6	0
32	MG	B	3382	1/1	0.07	-1.53	23,23,23,23	0
32	MG	B	3232	1/1	0.16	-1.58	26,26,26,26	0
32	MG	B	3484	1/1	0.13	-1.58	24,24,24,24	0
32	MG	B	3246	1/1	0.10	-1.65	104,104,104,104	0
32	MG	B	3555	1/1	0.11	-1.66	40,40,40,40	0
32	MG	B	3103	1/1	0.10	-1.67	32,32,32,32	0
32	MG	B	3573	1/1	0.07	-1.68	20,20,20,20	0
32	MG	B	3428	1/1	0.09	-1.69	28,28,28,28	0
32	MG	B	3212	1/1	0.09	-1.75	42,42,42,42	0
32	MG	B	3612	1/1	0.13	-1.78	23,23,23,23	0
32	MG	B	3151	1/1	0.14	-1.80	39,39,39,39	0
32	MG	B	3512	1/1	0.28	-1.83	16,16,16,16	0
32	MG	B	3577	1/1	0.13	-1.89	5,5,5,5	0
32	MG	B	3488	1/1	0.06	-1.89	103,103,103,103	0
32	MG	B	3516	1/1	0.07	-1.94	54,54,54,54	0
32	MG	B	3221	1/1	0.06	-2.01	71,71,71,71	0
32	MG	B	3085	1/1	0.17	-2.13	13,13,13,13	0
32	MG	B	3531	1/1	0.13	-2.17	33,33,33,33	0
32	MG	B	3201	1/1	0.07	-2.17	35,35,35,35	0
32	MG	B	3492	1/1	0.05	-2.21	42,42,42,42	0
32	MG	B	3582	1/1	0.10	-2.24	36,36,36,36	0
32	MG	B	3326	1/1	0.11	-2.28	26,26,26,26	0
32	MG	B	3078	1/1	0.11	-2.29	50,50,50,50	0
32	MG	B	3499	1/1	0.09	-2.34	28,28,28,28	0
32	MG	B	3450	1/1	0.07	-2.38	70,70,70,70	0
32	MG	B	3568	1/1	0.08	-2.49	24,24,24,24	0
32	MG	B	3169	1/1	0.07	-2.51	14,14,14,14	0
32	MG	B	3321	1/1	0.11	-2.59	17,17,17,17	0
32	MG	B	3001	1/1	0.07	-2.62	51,51,51,51	0
32	MG	B	3282	1/1	0.14	-2.64	10,10,10,10	0
32	MG	B	3066	1/1	0.10	-2.70	32,32,32,32	0
32	MG	B	3217	1/1	0.03	-2.73	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	B	3072	1/1	0.08	-2.74	43,43,43,43	0
32	MG	B	3124	1/1	0.04	-2.78	30,30,30,30	0
32	MG	B	3295	1/1	0.10	-2.82	35,35,35,35	0
32	MG	B	3110	1/1	0.06	-2.89	22,22,22,22	0
32	MG	B	3364	1/1	0.15	-2.92	11,11,11,11	0
32	MG	B	3276	1/1	0.04	-3.29	44,44,44,44	0
32	MG	B	3130	1/1	0.04	-3.63	34,34,34,34	0
32	MG	B	3480	1/1	0.08	-3.82	12,12,12,12	0
32	MG	B	3096	1/1	0.09	-4.18	34,34,34,34	0
32	MG	B	3528	1/1	0.05	-4.33	28,28,28,28	0
32	MG	B	3389	1/1	0.04	-4.38	44,44,44,44	0
32	MG	B	3265	1/1	0.05	-4.85	22,22,22,22	0
32	MG	B	3349	1/1	0.05	-5.07	19,19,19,19	0
32	MG	B	3235	1/1	0.06	-5.09	7,7,7,7	0
32	MG	B	3457	1/1	0.07	-5.51	19,19,19,19	0
32	MG	B	3014	1/1	0.05	-5.64	32,32,32,32	0
32	MG	B	3302	1/1	0.06	-6.00	38,38,38,38	0
32	MG	B	3056	1/1	0.09	-6.49	44,44,44,44	0
32	MG	B	3050	1/1	0.07	-6.52	46,46,46,46	0
32	MG	B	3309	1/1	0.04	-6.96	28,28,28,28	0
32	MG	B	3032	1/1	0.06	-7.40	5,5,5,5	0
32	MG	B	3141	1/1	0.03	-8.17	15,15,15,15	0

6.5 Other polymers ⓘ

There are no such residues in this entry.