



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 09:44 AM UTC

PDB ID : 7PIQ / pdb_00007piq
EMDB ID : EMD-13447
Title : 70S ribosome with A- and P-site tRNAs in pseudouridimycin-treated Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-08-23
Resolution : 9.70 Å (reported)
Based on initial models : 7OOD, 7OOC, 4V7C

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : **NOT EXECUTED**
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

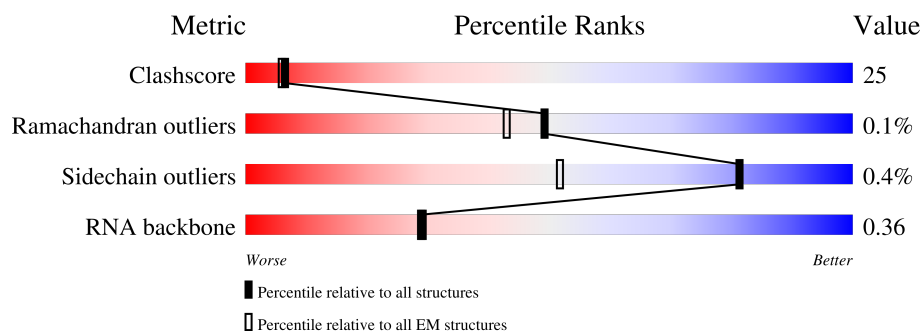
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 9.70 Å.

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



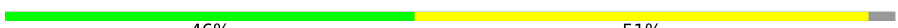
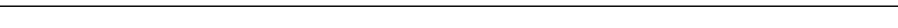
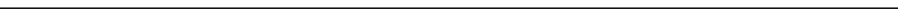
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	229148	23984
Ramachandran outliers	224038	23583
Sidechain outliers	223484	23102
RNA backbone	8273	3508

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	0	48	56% 42% .
2	1	59	64% 36%
3	2	37	51% 49%
4	A	294	52% 30% 18%
5	B	273	46% 32% 21%
6	C	205	58% 41% .
7	D	219	42% 28% 30%

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Mol	Chain	Length	Quality of chain
8	E	215	
9	F	155	
10	G	142	
11	H	132	
12	I	108	
13	J	121	
14	K	139	
15	L	124	
16	M	61	
17	N	86	
18	O	94	
19	P	85	
20	Q	104	
21	R	87	
22	S	87	
23	T	60	
24	a	287	
25	b	287	
26	c	212	
27	d	180	
28	e	184	
29	f	149	
30	g	161	
31	h	137	
32	i	146	

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Mol	Chain	Length	Quality of chain
33	j	122	 52% 48%
34	k	151	 60% 38% .
35	l	139	 52% 46% .
36	m	124	 56% 40% .
37	n	116	 53% 43% .
38	o	119	 63% 34% .
39	p	127	 52% 34% .. 12%
40	q	100	 53% 46% .
41	r	159	 55% 33% 13%
42	s	237	 26% 13% 61%
43	t	111	 64% 36%
44	u	104	 50% 33% 17%
45	v	65	 45% 52% .
46	w	111	 58% 32% 10%
47	x	97	 33% 12% 55%
48	y	57	 49% 49% .
49	z	53	 57% 38% 6%
50	3	2907	 15% 58% 26% .
51	4	108	 19% 54% 25% .
52	5	1520	 17% 59% 22% .
53	6	76	 30% 43% 26%
53	7	76	 28% 42% 30%

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 146057 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 5 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 6 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 7 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 8 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 9 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 10 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 11 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 12 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 13 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 14 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 15 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	118	Total	C	N	O		0	0
			951	594	191	166			

- Molecule 16 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 17 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 18 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 19 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	83	Total	C	N	O		0	0
			675	425	135	115			

- Molecule 20 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 21 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 22 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	77	Total	C	N	O	S	0	0
			629	383	135	111			

- Molecule 23 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	e	176	Total	C	N	O	0	0
			1396	899	247	250		

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	145	Total	C	N	O	S	0
			1160	746	204	207	3	0

- Molecule 30 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	g	121	Total	C	N	O	S	0
			910	580	158	169	3	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
31	h	128	Total	C	N	O	S	0
			959	616	160	177	6	0

- Molecule 32 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	i	144	Total	C	N	O	S	0
			1164	737	213	209	5	0

- Molecule 33 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	j	122	Total	C	N	O	S	0
			944	595	178	167	4	0

- Molecule 34 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	k	148	Total	C	N	O	0	0
			1153	731	226	196		

- Molecule 35 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	136	Total	C	N	O	S	0	0
			1079	694	196	182	7		

- Molecule 36 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 37 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 38 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 39 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	112	Total	C	N	O	S	0	0
			934	594	186	152	2		

- Molecule 40 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 41 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 42 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 43 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

- Molecule 46 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	w	100	Total	C	N	O	0	0
			818	517	153	148		

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

- Molecule 49 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

- Molecule 50 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 51 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 52 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

- Molecule 53 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	6	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		
53	7	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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: 50S ribosomal protein L34

Chain 0: 



- Molecule 2: 50S ribosomal protein L35

Chain 1: 



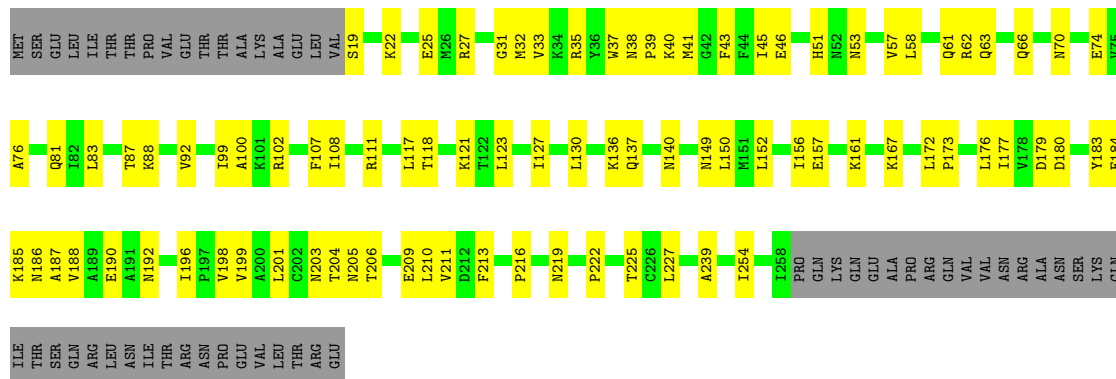
- Molecule 3: 50S ribosomal protein L36

Chain 2: 

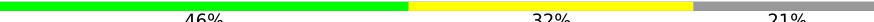


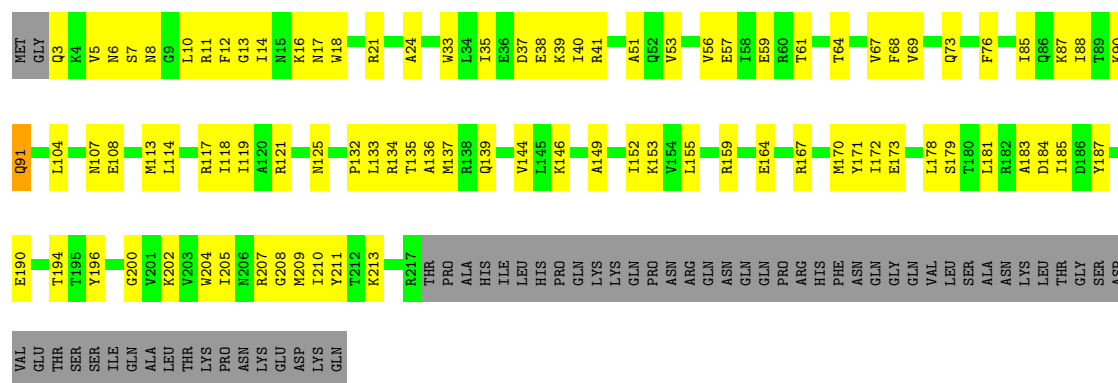
- Molecule 4: 30S ribosomal protein S2

Chain A: 



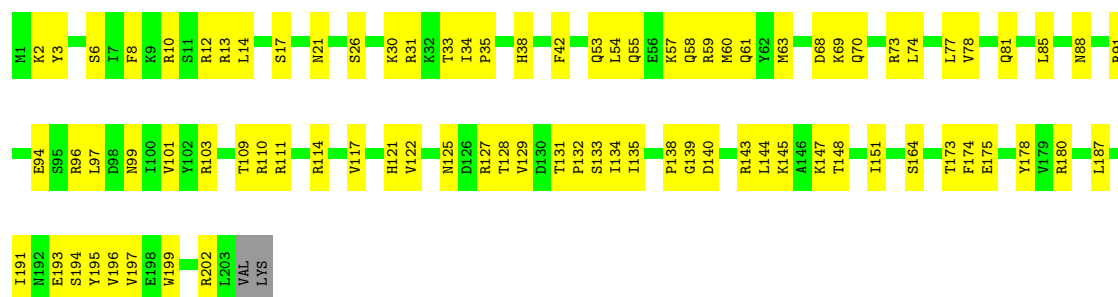
- Molecule 5: 30S ribosomal protein S3

Chain B:  46% 32% 21%



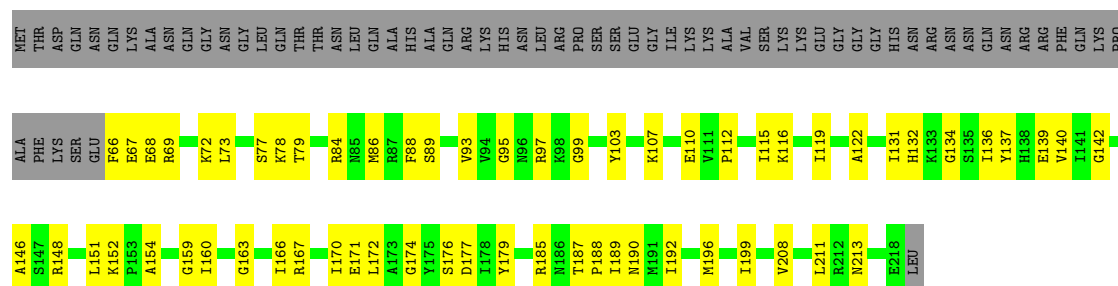
• Molecule 6: 30S ribosomal protein S4

Chain C:  58% 41% .



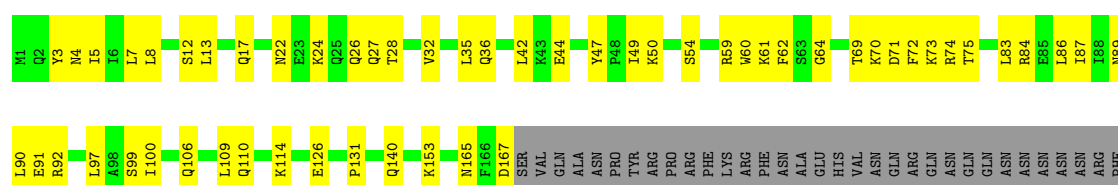
• Molecule 7: 30S ribosomal protein S5

Chain D:  42% 28% 30%



• Molecule 8: 30S ribosomal protein S6

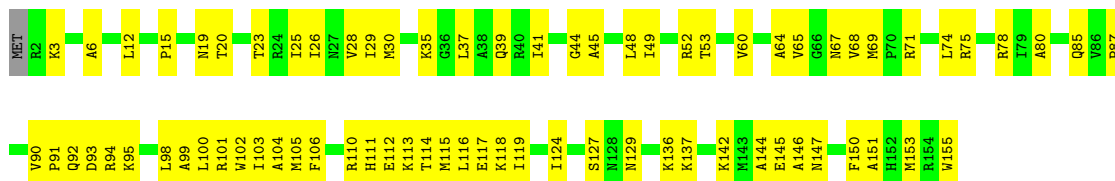
Chain E:  52% 26% 22%



ASP
ARG
ASN
ARG
ASN
ASN
ARG
GLN
HIS
ASN
ARG
PHE
LYS
ASP
LYS
GLN

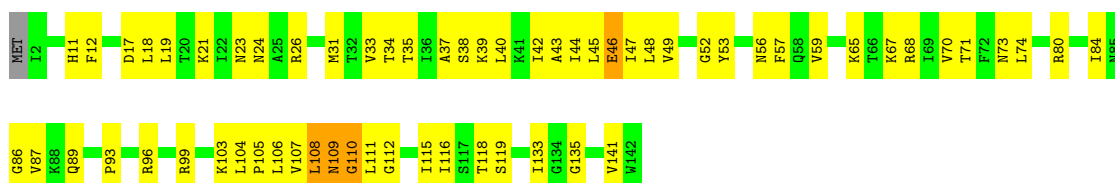
• Molecule 9: 30S ribosomal protein S7

Chain F:  52% 48%

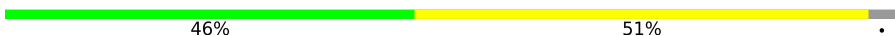


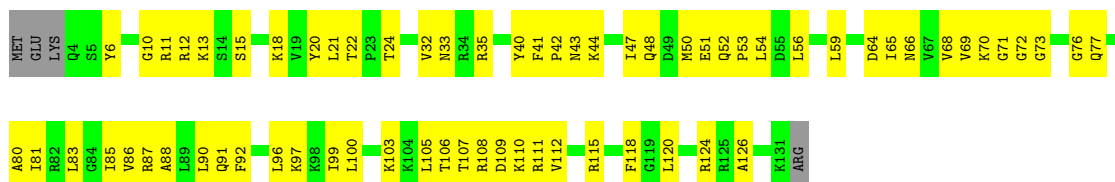
• Molecule 10: 30S ribosomal protein S8

Chain G:  56% 41%



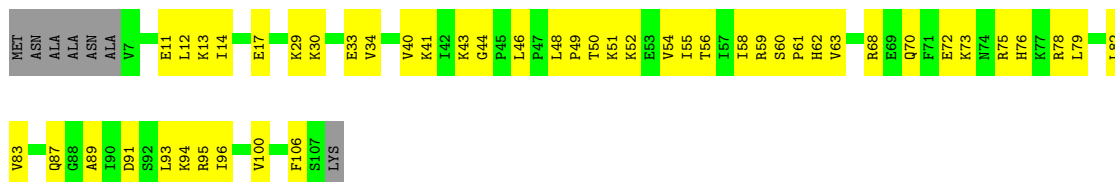
• Molecule 11: 30S ribosomal protein S9

Chain H:  46% 51%



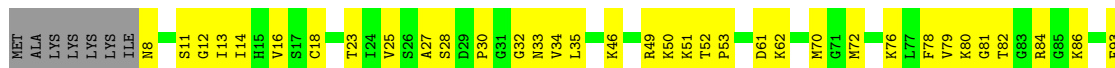
• Molecule 12: 30S ribosomal protein S10

Chain I:  50% 44% 6%



• Molecule 13: 30S ribosomal protein S11

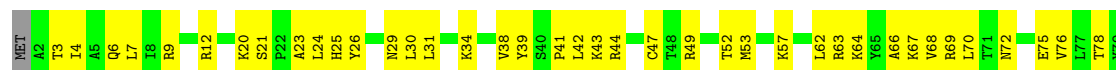
Chain J:  52% 40% 6%





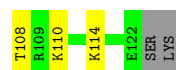
- Molecule 14: 30S ribosomal protein S12

Chain K: 46% 52%



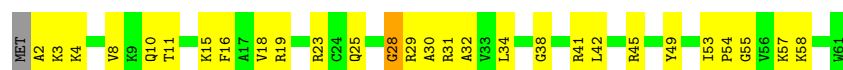
- Molecule 15: 30S ribosomal protein S13

Chain L: 63% 32% 5%



- Molecule 16: 30S ribosomal protein S14 type Z

Chain M: 52% 44%



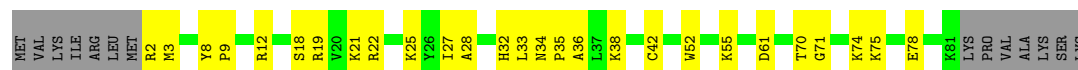
- Molecule 17: 30S ribosomal protein S15

Chain N: 70% 27%



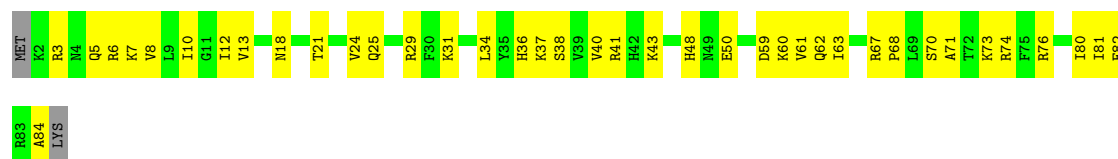
- Molecule 18: 30S ribosomal protein S16

Chain O: 56% 29% 15%

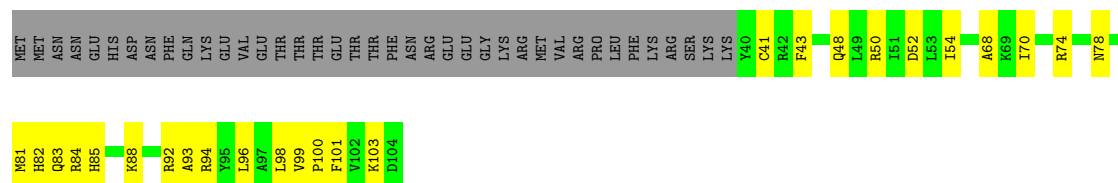


- Molecule 19: 30S ribosomal protein S17

Chain P: 52% 46%



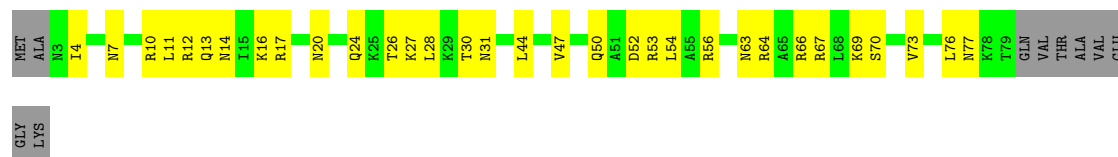
- Molecule 20: 30S ribosomal protein S18



- Molecule 21: 30S ribosomal protein S19



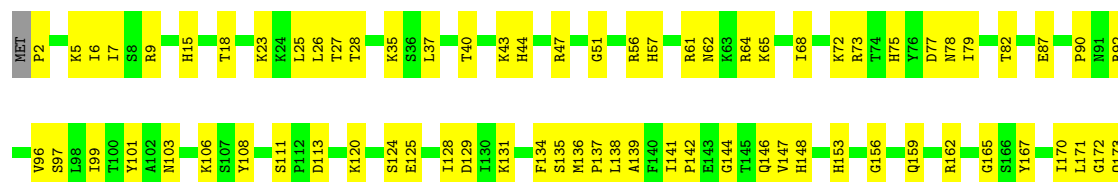
- Molecule 22: 30S ribosomal protein S20

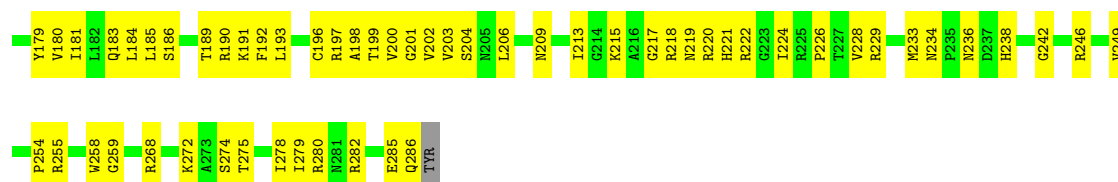


- Molecule 23: 30S ribosomal protein S21



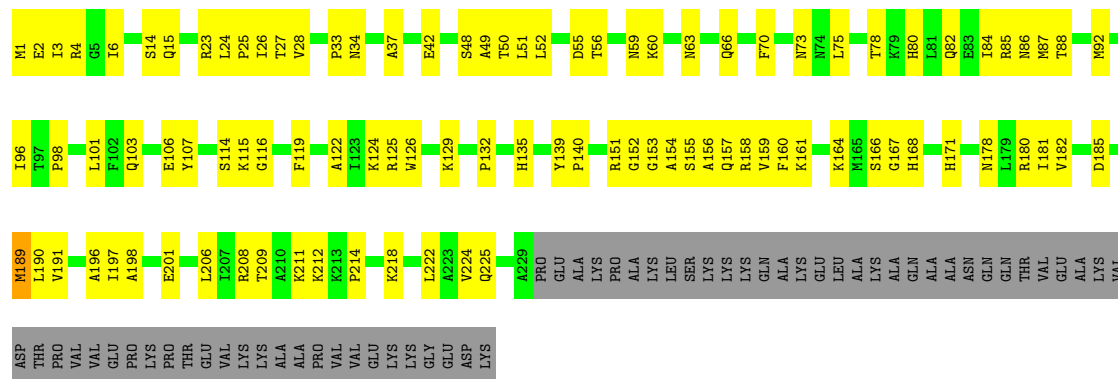
- Molecule 24: 50S ribosomal protein L2





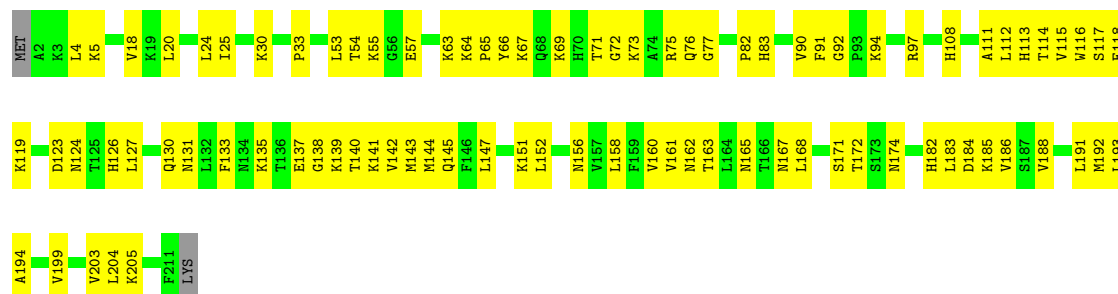
• Molecule 25: 50S ribosomal protein L3

Chain b: 46% 33% 20%



• Molecule 26: 50S ribosomal protein L4

Chain c: 58% 41%



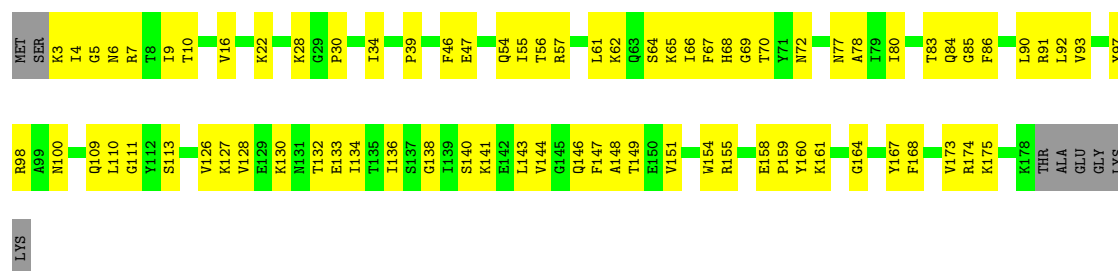
• Molecule 27: 50S ribosomal protein L5

Chain d: 52% 46%



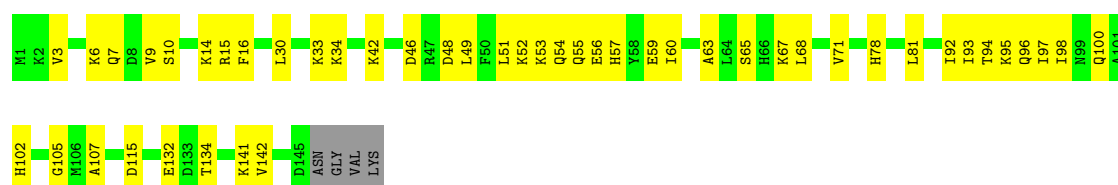
• Molecule 28: 50S ribosomal protein L6

Chain e:  54% 42% .



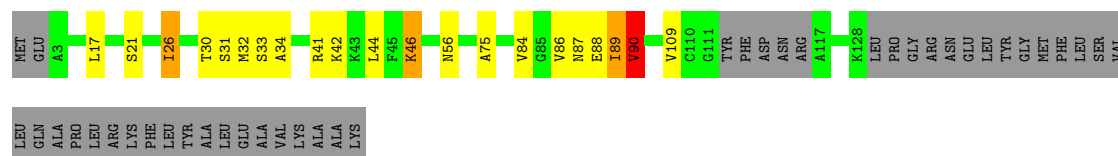
- Molecule 29: 50S ribosomal protein L9

Chain f:  66% 32% .



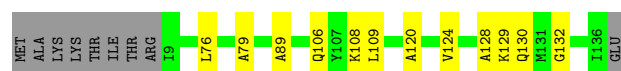
- Molecule 30: 50S ribosomal protein L10

Chain g:  62% 11% 25% .



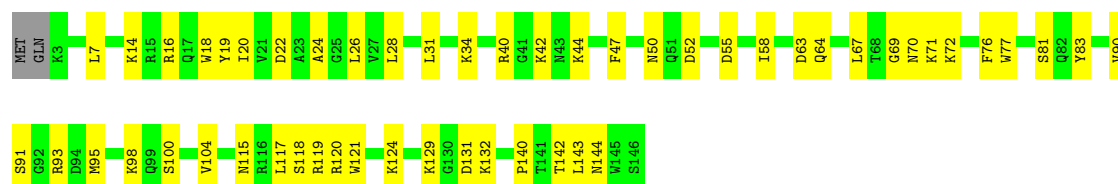
- Molecule 31: 50S ribosomal protein L11

Chain h:  85% 9% 7% .



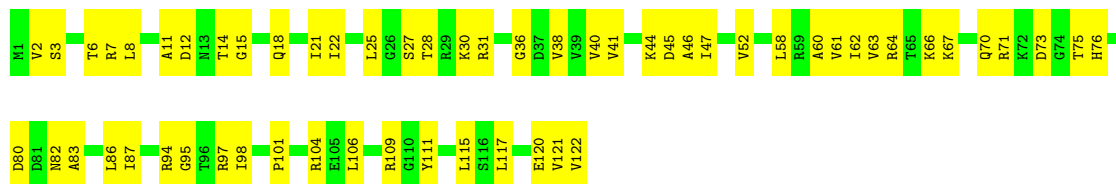
- Molecule 32: 50S ribosomal protein L13

Chain i:  63% 36% .



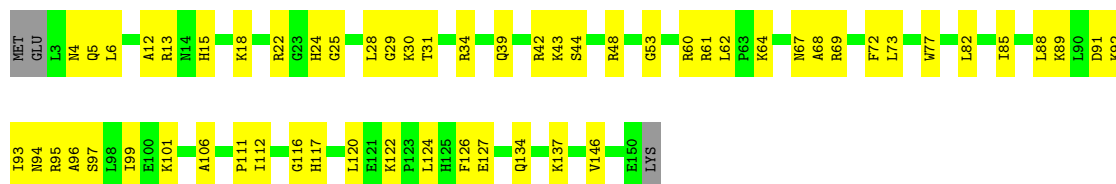
- Molecule 33: 50S ribosomal protein L14

Chain j:  52% 48%



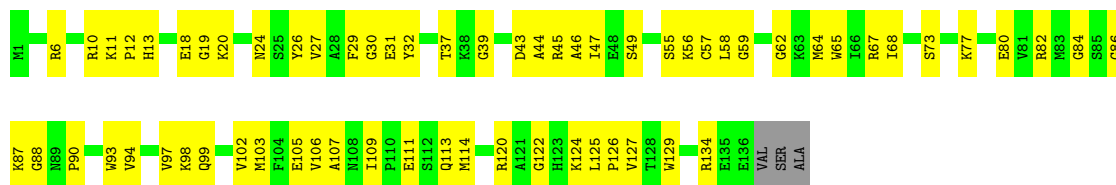
- Molecule 34: 50S ribosomal protein L15

Chain k:  60% 38%



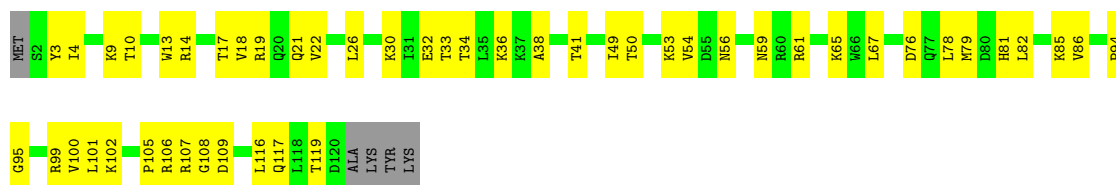
- Molecule 35: 50S ribosomal protein L16

Chain l:  52% 46%



- Molecule 36: 50S ribosomal protein L17

Chain m:  56% 40%



- Molecule 37: 50S ribosomal protein L18

Chain n:  53% 43%



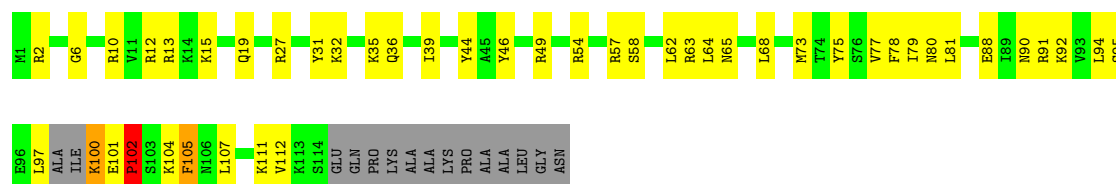
- Molecule 38: 50S ribosomal protein L19

Chain o:  63% 34% .



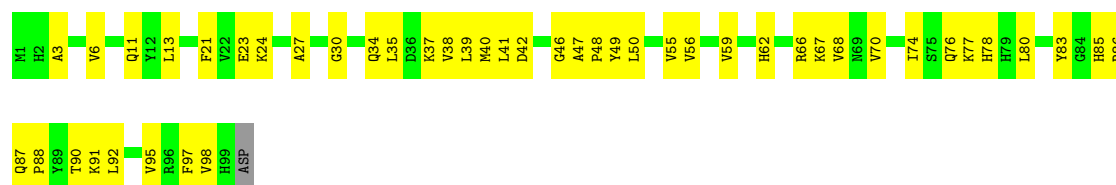
• Molecule 39: 50S ribosomal protein L20

Chain p:  52% 34% 12% ..



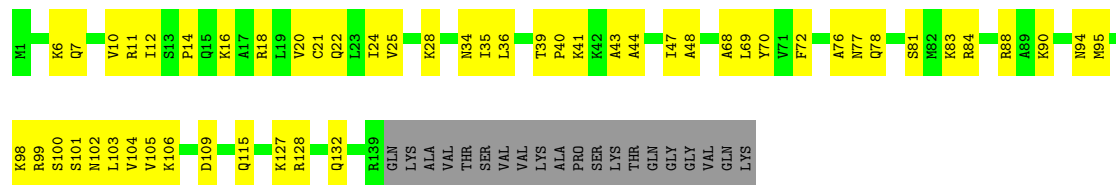
• Molecule 40: 50S ribosomal protein L21

Chain q:  53% 46% .



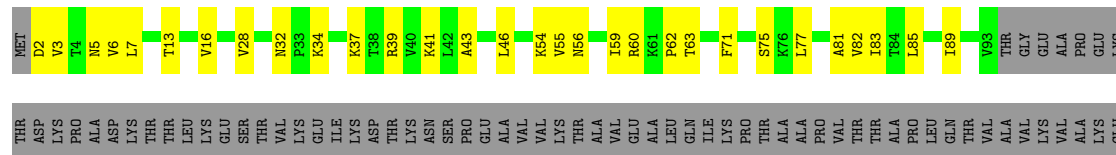
• Molecule 41: 50S ribosomal protein L22

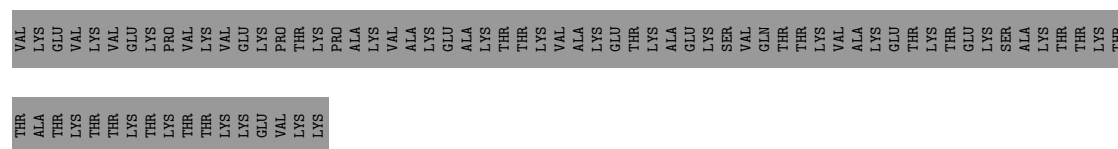
Chain r:  55% 33% 13%



• Molecule 42: 50S ribosomal protein L23

Chain s:  26% 13% 61%





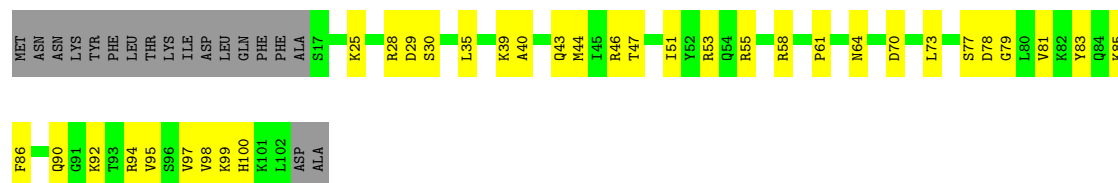
• Molecule 43: 50S ribosomal protein L24

Chain t: 64% 36%



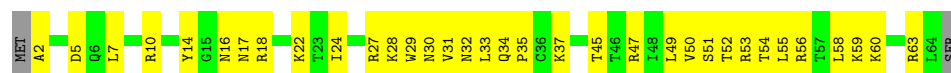
• Molecule 44: 50S ribosomal protein L27

Chain u: 50% 33% 17%



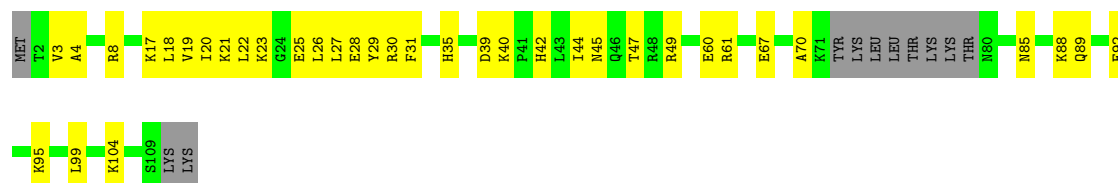
• Molecule 45: 50S ribosomal protein L28

Chain v: 45% 52%



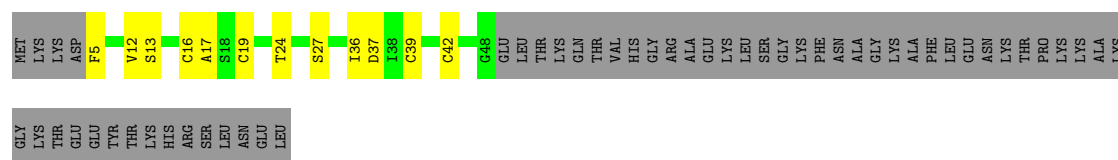
• Molecule 46: 50S ribosomal protein L29

Chain w: 58% 32% 10%



• Molecule 47: 50S ribosomal protein L31

Chain x: 33% 12% 55%



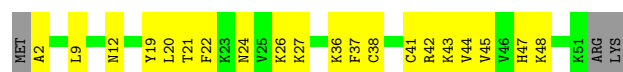
• Molecule 48: 50S ribosomal protein L32

Chain y:  49% 49% .

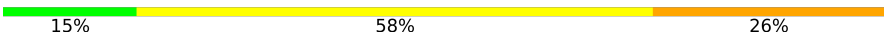


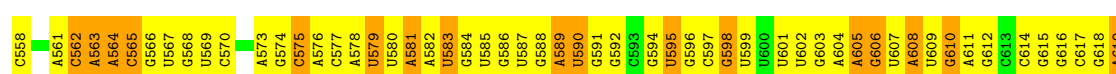
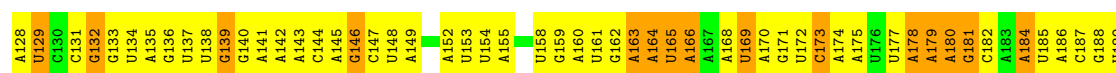
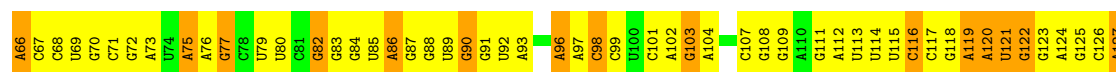
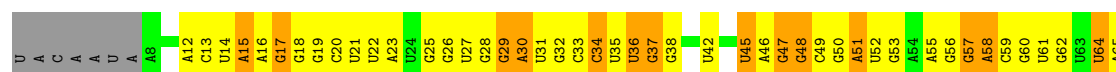
- Molecule 49: 50S ribosomal protein L33 1

Chain z:  57% 38% 6%



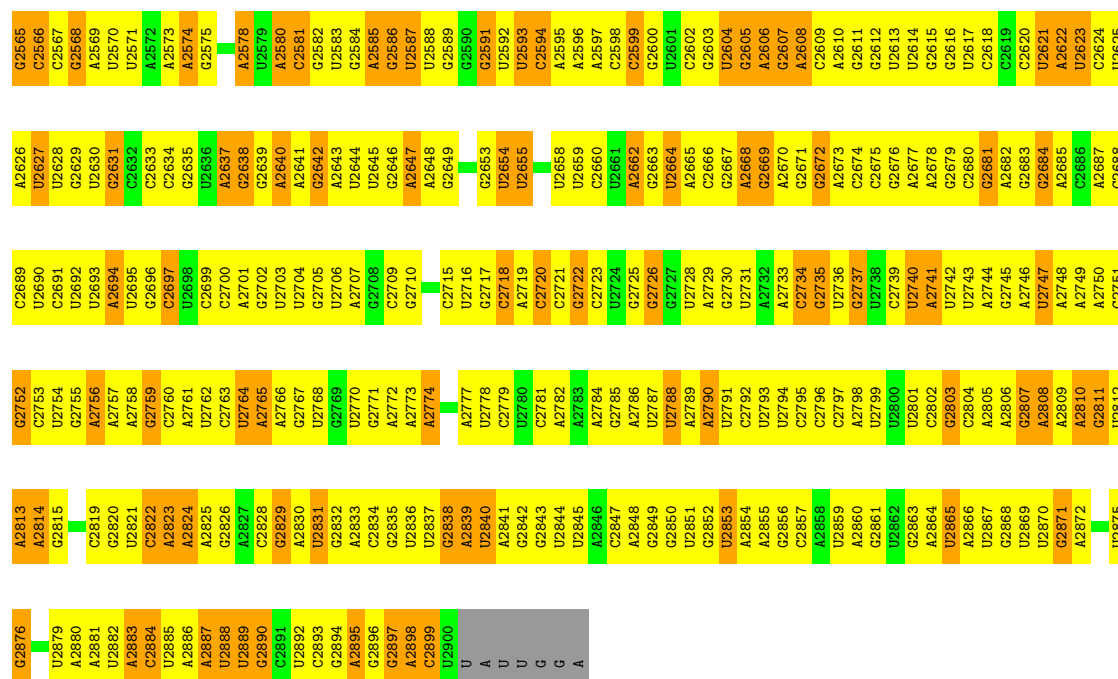
- Molecule 50: 23S ribosomal RNA

Chain 3:  15% 58% 26% .



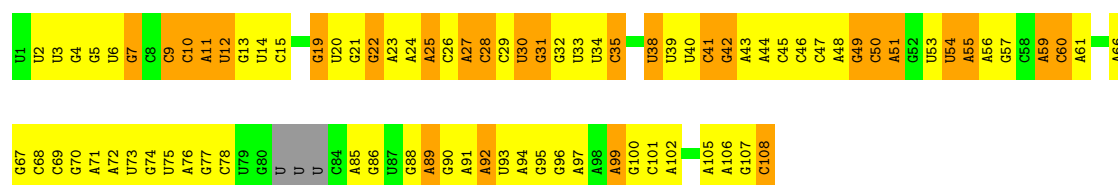
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G1553	G1429	U1388	A1308	C1247	U1184	A1123	A1062	U1000	U939	A870	U808	U744	A694
U1554	G1492	G1369	G1309	A1248	U1185	G1124	A1063	C1001	U939	G871	A809	U745	G685
G1555	A1493	A1370	G1310	A1249	A1186	U1125	A1064	A1002	A940	C872	G810	G746	G686
U1556	U1494	G1371	G1311	A1250	C1187	G1126	G1065	U1003	C941	G873	G811	A747	G687
G1557	A1495	U1372	A1312	G1251	C1188	C1127	G1066	U1004	A942	U874	G812	G748	U688
U1558	U1496	C1373	G1313	C1252	C1189	U1128	A1067	G1005	A943	G875	G813	U749	U689
A1559	A1497	U1374	G1314	G1253	A1190	U1129	U1068	U1006	U944	C880	A816	U754	U690
U	U1498	G1375	A1315	U1254	A1191	A1130	G1069	C1007	U945	A881	A817	U755	G691
G	G1499	G1376	G1316	U1255	U1192	A1131	U1070	A1008	A946	U882	A818	G756	U692
A	A1500	A1377	G1317	A1256	U1193	C1132	A1071	A1009	A947	C883	U819	A757	U693
G	U1501	C1378	G1318	G1257	U1194	A1133	G1072	A1010	A948	A883	U820	G	U694
U	A1502	C1379	G1319	C1258	A1195	G1134	A1073	A1011	C949	A884	U820	G	G695
G	U1503	U1380	C1320	A1259	U1196	U1135	A1074	G1012	U950	A885	C821	G	U696
A	G1504	A1381	C1321	U1260	G1197	U1136	G1075	G1013	U951	U889	C822	G760	U697
U	U1505	A1382	A1322	U1261	G1198	C1137	U1076	G	U952	U890	A823	A762	U698
C	U1506	G1383	A1323	U1262	U1199	A1138	G1077	A1016	G957	U891	U824	G763	U699
A	G1507	C1384	A1324	G1263	U1200	C1139	C1078	A1017	G	G892	U825	G764	U700
G	U1508	U1385	C1325	U1264	A1201	U1140	U1079	G1018	G957	C892	C826	A765	A701
U1509	U1509	G1386	C1326	G1265	A1202	U1141	A1080	A1019	G958	A893	C827	C766	U702
U1510	C1511	A1387	G1327	G1266	G1203	G1142	A1081	G1020	C959	G894	A828	C767	A703
U1511	G1449	G1388	A1328	A1267	U1143	U1143	A1082	C1021	G895	G895	A829	G768	G704
A1512	G1450	U1389	U1329	U1268	C1144	C	A1083	C1022	U961	U896	A830	A769	A705
A1513	G1451	C1390	U1330	C1269	G1145	U1145	G1084	C1023	U962	A897	U831	A770	C706
U1514	G1452	U1391	G1331	C1270	U1208	A1146	A1085	A1024	U963	A898	G	C771	C707
A1515	U1453	G1392	A1332	A1271	U1209	G1147	G1086	G1025	U964	A899	G834	C772	C708
G1516	G1454	A1393	C1333	A1272	U1210	U1148	C1087	A1026	U965	G900	U835	C773	G709
U1517	A1455	A1394	G1334	U1273	C1212	G1149	A1088	U1066	U966	C901	G836	A774	A710
G1518	C1518	A1395	A1335	A1274	U1213	U1150	A1089	C1028	U967	U902	U837	C775	A711
U1519	A1456	G1396	A1336	C1275	U1214	U1151	G1090	A1029	U968	A903	U838	U776	A712
G1520	A1457	C1397	G1337	A1276	G1215	U1152	G1091	U1030	A969	C904	A839	C777	C713
A1521	C1398	U1397	G1338	A1277	G1216	U1153	A1092	U1031	U970	U905	G840	U778	G714
U1522	G1399	U1400	U1339	G1278	G1217	U1154	U1093	A1032	U971	G906	G	C779	G715
C1523	A1461	U1400	G1340	U1279	G1218	G1155	G1094	A1033	C972	U842	U842	G780	G716
G1524	A1462	A1401	G1341	G1280	U1219	C1156	U1095	U1034	U973	U911	G844	U781	U717
U1525	G1463	G1402	C1342	A1281	A1220	G1157	U1096	U1035	C974	A912	G844	U782	U718
U1526	G1464	A1403	C1343	G1282	G1221	C1158	G1097	A1036	G975	U913	U845	G783	G719
U1527	U1465	C1404	U1344	A1283	G	C1159	G1098	A1037	C976	G914	U846	A784	A720
G1528	G1405	G1405	G1345	A1284	A1224	G1160	C1099	G1038	A977	A915	C847	A785	G721
U1529	A1406	U1407	G1346	U1285	A1225	A1161	U1100	G1039	G978	U916	U848	C787	C722
G1530	U1407	G1408	A1347	G1286	G1226	A1162	U1101	G	U979	C917	C849	C787	U723
C1531	G1408	G	C1348	C1287	C1227	G1163	A1102	C1042	C980	G918	G850	G788	A724
A1532	A1471	G	C1349	C1288	G1228	A1164	G1103	C1043	A881	C919	U851	A789	G725
U1533	C1472	C1411	A1350	G1289	G1229	U1165	A1104	C1044	G982	G920	C852	U790	U726
A1534	C1473	A1412	G1351	A1292	U1230	G1166	A1105	A1045	A983	C921	G853	C727	C727
U1535	C1474	A1413	G1352	U1293	G1231	U1167	G1106	A1046	C984	C922	A854	G792	A728
C1536	C1475	C1414	G1353	U1293	U1232	A1168	C1107	A1047	A985	A	A855	C793	U729
U1537	C1476	A1415	U1354	G1294	A1233	A1169	C1108	U1048	G986	C	A856	G794	G730
U1538	G	G1416	C1355	A1295	U1234	C1170	U1115	U1049	U987	C	U857	G795	A731
U1539	G1479	G1417	G1356	G1296	U1235	G1171	C1111	A1050	G988	U	A858	A796	G732
G1540	A1480	U1418	U1357	U1297	U1236	G1172	A1112	U1051	G989	A	G859	U797	G733
A1541	U1481	U1419	C1358	G1236	G1237	G1173	U1113	A1052	C990	G928	C860	G798	A734
G1542	U1482	A1420	G1359	A1299	A1238	C1174	C1114	C1053	G991	G929	U861	A799	G735
U1543	G1483	A1421	U1360	G1300	G1239	C1175	U1116	U1054	G992	C930	U862	C800	G736
G1544	G1484	U1422	U1361	G1301	U1240	U1176	U1115	A1055	A993	G931	U863	U801	U737
G1545	A1485	A1423	G1362	C1302	U1241	A1177	U1117	A1056	U994	U932	A864	U802	U738
U1546	U1486	U1424	C1363	G1303	G1242	A1178	U1118	G1057	A995	A933	A865	G803	G739
U1547	U1487	A1425	U1304	A1364	A1243	G1179	A1119	U1058	A996	A904	G866	U804	A740
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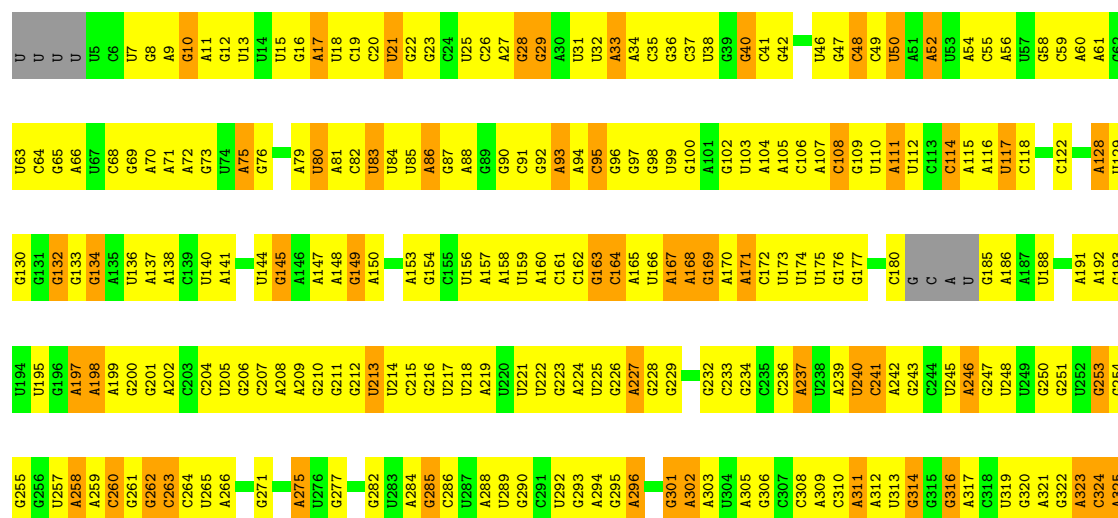
• Molecule 51: 5S ribosomal RNA

Chain 4: 19% 54% 25% .

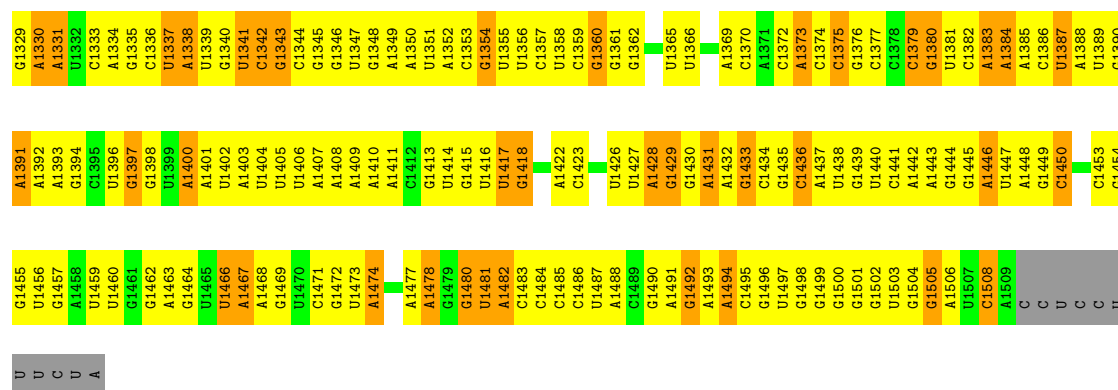


• Molecule 52: 16S ribosomal RNA

Chain 5: 17% 59% 22% .

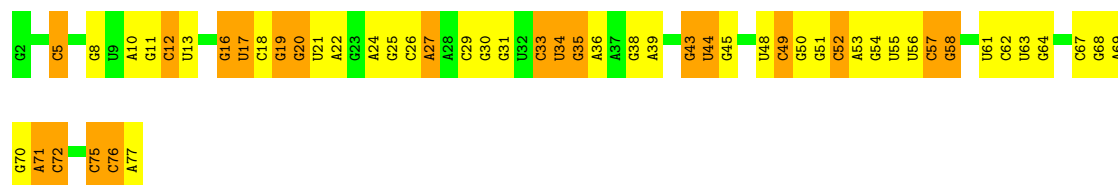


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U1269	G1208	G1142	G1080	G	A959		G834		G707	C640	G579	C516	U454	G390	G328
U1270	G1209	G1143	U1081	A	C960	G900	G835	G774	A708	C580	C517	C517	U455	C329	
C1271	U1210	C1143	U1082	G	G961	A901	C836	A775	G709	A642	A581	A519	U456	C330	
C1272	A1211	A1144	A1083	G	G962	A902	C837	A776	G710	U643	G582	G518	G457	C331	
A1273	C1212	A1145	A1084	U	U963	A903	A838	C776	G711	U644	G583	C520	G458	A332	
U1274	A1213	A1146	G1085	U	A964		U839	A777	A712	A645	C584	A521	C459	U333	
U1275	A1214	U1147	U1086		C965	U905	G840	A778	A713	A646	G585	G522	A460	A334	
U1276	G1215	U1148	C1087	A	A966	C906	C841	A779	C714	U647	G586	C523	G398	G397	
C1277	G1216	G1149	C1088		C967	A907	C842	U780	A715	G648	A587	C524	G399	C335	
G1278	G1217	G1150	G1089	C1028	G968	A908	C843	A781	C716	U649	U588	G525	A464		
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A1280	G1219	G1152	C1091	G1031	A970	C910	C845	G783	A718	G651	G590	G527	A466	A340	
	A1220	G1153	A1092	G1032	A971	G911	G846	A784	G719	A652	A591	G528	U467	G402	
G1283	A1221	A1154	A1093	U1033	A972	G912	G847	U785	U720	G653	A592	U529	A403	G342	
A1284	U1222	G1155	C1094	G1034	A973	A913	U848	U786	G721	A530	A593	U530	A404	G343	
G1285	A1223	G1156	G1095	A1035	C974	A914	U849	A787	G722	A531	A594	A530	C405	G344	
G1286	C1224	G1157		C1036	C975	U915		G788	G723	U532	G595	U532	A406	A345	
G1287	A1225	A1158		A1037	U976	U916	G852	A789	G724	A533	U598	A534	A407	G346	
C1288	A1226	A1159	G1098	G1038	U977	G917	A853	U790	A725	C660	U599	C534	G408	G347	
U1289	A1227	G1160	C1100	G1039	A978	A918	A854	A791	A726	G661	A535	A410	A410	A349	
G1290	C1228	G1161	A1101	U1040	C979	C919	G855	C792	G727	G662	U601	U536	A411	G350	
C1291	A1229	G1162	A1102	G1041	C980	G920	U856	C793	G728	G663	A537	U475	U476	G412	
A1292	G1230	A1163	C1103	G1042	U981	G921	U857	C793	G729	A664	G602	G538	U477	A352	
A1293	U1231	U1164	C1104	U1043	A982	G922	A858	A796	G730	G665	U603	G539	G478	G353	
U1294	C1232	G1165	C1105	G1044	G983	G923	A859	G797	A731		U604			U354	
U1295	C1233	A1166	U1106	C1045	A984	A924		U798	A732	U668	A605	C543	U481	A355	
C1296	C1234		U1107	A1046	C985	C925	G862	A799	A733	U669	A606	A544	G482	U416	
G1297	A1235	A1171	A1108	U1047	U986	C926	A863	C800	A734	U670	A545	A545	U417	U418	
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C1299	A1237	A1173	C1110	U1049	G988	C928	U865	C802	U736	A672	C547	C485	A420	A359	
C1300	G1238	U1174	G1111	U1050	A989	C929	A866	C803	U737	U673	G610	C486	G421	A360	
U1301	U1239	C1175	U1112	U1051	C990	A930	A867	U674	A738	U674	A611	U549	A422	U361	
C1302	U1240	A1176	U1113	G1052	A991	C931	G868	U675	G739	U675	A550	U488	U423	U362	
A1303	G1241	U1177	A1114	U1053	U992	A932		U676	G740	C677	A551	U489	U424	U363	
U1304	U1242	C1178	G1115	C1054	C993	A933	C872	C808	C741	U614	U552	U490	G425	U364	
A1243	A1243	A1179	U1116	G1055	C994	G934	U873	G809	C742	G615	C553	U491	U426	U365	
A1244	A1246	U1180	U1117	U1056		U935	C874	U810	A743	U679	C584	G492	A427	C366	
G1247	G1247	G1181	C1118	C1057	G997	G936	G875	A811	U744	G680	G555	A493	A428	A367	
U1248			C1119	A1058	G998	U937	C876	A812	U745	U681	G556	A494	A429	C368	
G1249	U1248	C1184	A1120	G1059	C999	U938	C877	A813	A746	G682	A557	U495	G430	A369	
			U1121	C1060	A1000	G939	U878	C814		G683	A620	U558	U431	A370	
			U1122	U1061	A1001	G940	G879	G815	G749	A684	C621	U559	U432	U371	
			G1123	C1062	A1002	A941	G880	A816	A750	G685	A622	U560	G433	G372	
C1252			U1124	G1063	A1003	G942	G881	U817	C751	G686	G623	A561	U434	A373	
A1253	A1253	G1189	C1125	U1064	U1004	C943	U882	A818	G752	G687	U624	U562	U435	G374	
A1254	U1191	U1191	U1126	G1065	A1005	A944	A883	G819	C753	G688	U625	A501		C375	
A1255	C1192	A1254	A1127	U1066	A1006	U945	G884	A820	U754	U689	G626	G565	C502	G376	
U1256	U1193		G1128	C1067	U1007	G946	U885	U821	U755	G690	U627	G566	A438		
U1318				U1068	G1008	U947	A886	A822	A756	A691	A628	G567	G503	A377	
C1257		A1194	C1129	G1068		U948	A887	C823		A692	U629	G568	A504	A378	
U1258	G1130	G1195	G1130	U1069	G1009	U948	A888	C823	U760		C505	G569	G442	A379	
G1320	A1320	G1196	A1131	G1070	A1010	G949	A888	U824	G630	U569	U569	U506	G443	G380	
G1321	G1259	G1197	G1132	A1071	A1011	C950	U889	A825	C631	A507	A445	A507	A445	C381	
U1322	U1260	C1198	A1133	G1072	A1012	U951	U890	G826	G762	A699	A508	A508	A446	A382	
A1323	A1261	U1199	C1134	A1073	C1013	U952	C891	C827	A763	G700	U633	A572	G447	U383	
A1324	A1262	U1200	U1135	U1074	A1014	A953	G892	U828	A764	A701	U634	G573	A448	G384	
U1325	A1263	G1202	G1136	G1075	U1015	A954	C893	G829	A765	U702	G635	C574	A449	A385	
G1326	U1264	A1202	C1137	U1076	A1016	U955	A894	A703	G766	A575	U512	U386	U450	A386	
C1327															
C1328	U1266	A1203	U1138	U1077	A1017	U956	A895	C831	U767	U704	A637	A576		G387	



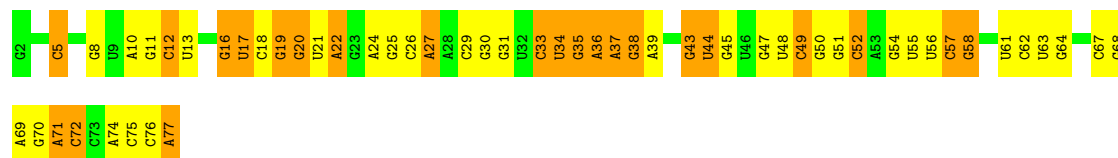
• Molecule 53: tRNA-Phe

Chain 6: 30% 43% 26%



• Molecule 53: tRNA-Phe

Chain 7: 28% 42% 30%



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	1534	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	3.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

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	0	0.17	0/383	0.51	0/504
2	1	0.15	0/484	0.45	0/637
3	2	0.28	0/306	0.68	0/401
4	A	0.18	0/1954	0.48	0/2642
5	B	0.18	0/1721	0.54	1/2323 (0.0%)
6	C	0.21	0/1691	0.54	0/2267
7	D	0.22	0/1188	0.57	0/1593
8	E	0.30	1/1384 (0.1%)	0.53	0/1867
9	F	0.20	0/1266	0.64	0/1700
10	G	0.26	0/1126	0.59	2/1517 (0.1%)
11	H	0.17	0/1044	0.44	0/1395
12	I	0.19	0/820	0.54	0/1103
13	J	0.24	0/844	0.58	2/1136 (0.2%)
14	K	0.28	0/1094	0.58	0/1468
15	L	0.16	0/962	0.44	0/1289
16	M	0.15	0/483	0.49	1/643 (0.2%)
17	N	0.15	0/679	0.41	0/907
18	O	0.17	0/659	0.50	0/885
19	P	0.19	0/684	0.49	0/913
20	Q	0.15	0/545	0.45	0/730
21	R	0.19	0/698	0.56	0/936
22	S	0.15	0/631	0.44	0/838
23	T	0.22	0/475	0.64	0/621
24	a	0.17	0/2267	0.47	0/3044
25	b	0.27	0/1795	0.60	1/2412 (0.0%)
26	c	0.15	0/1671	0.49	0/2246
27	d	0.20	0/1409	0.55	0/1894
28	e	0.19	0/1420	0.54	2/1912 (0.1%)
29	f	0.19	0/1183	0.55	1/1587 (0.1%)
30	g	0.46	0/916	0.80	1/1222 (0.1%)
31	h	0.15	0/968	0.42	0/1298
32	i	0.20	0/1186	0.45	0/1592
33	j	0.23	0/953	0.57	0/1275
34	k	0.22	0/1170	0.46	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	l	0.17	0/1104	0.80	2/1481 (0.1%)
36	m	0.20	0/973	0.50	0/1309
37	n	0.17	0/897	0.50	0/1198
38	o	0.15	0/948	0.46	0/1262
39	p	2.05	7/947 (0.7%)	0.61	0/1257
40	q	0.18	0/828	0.50	0/1111
41	r	0.18	0/1077	0.48	0/1441
42	s	0.15	0/732	0.46	0/988
43	t	0.20	0/879	0.46	0/1165
44	u	0.23	0/665	0.57	0/884
45	v	0.15	0/519	0.43	0/695
46	w	0.20	0/826	0.55	0/1104
47	x	0.14	0/353	0.40	0/474
48	y	0.39	0/457	0.66	0/601
49	z	0.16	0/412	0.43	0/547
50	3	0.12	0/69073	0.29	0/107710
51	4	0.12	0/2505	0.31	0/3902
52	5	0.11	0/35768	0.28	0/55764
53	6	0.16	0/1808	0.47	0/2817
53	7	0.16	0/1808	0.47	0/2817
All	All	0.22	8/158638 (0.0%)	0.37	13/236883 (0.0%)

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	p	105	PHE	CD2-CE2	28.50	2.24	1.38
39	p	105	PHE	CD1-CE1	28.27	2.23	1.38
39	p	105	PHE	CE1-CZ	27.79	2.22	1.38
39	p	105	PHE	CE2-CZ	27.76	2.21	1.38
39	p	105	PHE	CG-CD2	19.73	1.80	1.38
39	p	105	PHE	CG-CD1	19.15	1.79	1.38
8	E	140	GLN	C-O	-6.02	1.21	1.23
39	p	102	PRO	C-O	-5.62	1.16	1.24

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	l	88	GLY	CA-C-N	17.08	144.74	120.49
35	l	88	GLY	C-N-CA	17.08	144.74	120.49
30	g	46	LYS	N-CA-C	-8.16	102.88	113.17
28	e	113	SER	CA-C-N	6.67	133.62	120.94
28	e	113	SER	C-N-CA	6.67	133.62	120.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	J	112	ASN	CB-CA-C	6.17	122.69	110.42
10	G	110	GLY	N-CA-C	-6.07	107.58	115.59
29	f	3	VAL	N-CA-C	-5.73	108.26	113.71
25	b	189	MET	CA-CB-CG	5.40	124.89	114.10
5	B	91	GLN	CA-CB-CG	5.33	124.77	114.10
10	G	46	GLU	CA-CB-CG	5.21	124.51	114.10
13	J	111	HIS	N-CA-C	-5.20	105.65	112.72
16	M	28	GLY	N-CA-C	5.10	117.32	111.36

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	27	0
2	1	477	0	530	22	0
3	2	304	0	350	14	0
4	A	1921	0	1973	61	0
5	B	1698	0	1768	70	0
6	C	1660	0	1719	87	0
7	D	1173	0	1267	51	0
8	E	1362	0	1377	46	0
9	F	1246	0	1308	67	0
10	G	1110	0	1226	56	0
11	H	1028	0	1094	76	0
12	I	809	0	894	41	0
13	J	829	0	855	48	0
14	K	1076	0	1170	63	0
15	L	951	0	1014	45	0
16	M	474	0	509	30	0
17	N	673	0	730	20	0
18	O	646	0	677	26	0
19	P	675	0	728	36	0
20	Q	535	0	562	25	0
21	R	682	0	691	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	S	629	0	681	35	0
23	T	471	0	522	26	0
24	a	2225	0	2301	129	0
25	b	1762	0	1808	90	0
26	c	1644	0	1731	86	0
27	d	1388	0	1469	72	0
28	e	1396	0	1481	65	0
29	f	1160	0	1172	41	0
30	g	910	0	972	7	0
31	h	959	0	1039	7	0
32	i	1164	0	1192	46	0
33	j	944	0	1019	47	0
34	k	1153	0	1256	60	0
35	l	1079	0	1134	61	0
36	m	958	0	1011	41	0
37	n	889	0	952	52	0
38	o	938	0	1008	39	0
39	p	934	0	1011	60	0
40	q	811	0	858	35	0
41	r	1068	0	1150	49	0
42	s	720	0	803	23	0
43	t	872	0	972	45	0
44	u	657	0	695	34	0
45	v	513	0	560	32	0
46	w	818	0	870	29	0
47	x	344	0	333	8	0
48	y	452	0	472	24	0
49	z	408	0	440	15	0
50	3	61664	0	30954	2692	0
51	4	2239	0	1137	99	0
52	5	31943	0	16058	1429	0
53	6	1618	0	821	40	0
53	7	1618	0	821	39	0
All	All	146057	0	99574	5768	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 25.

All (5768) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:105:PHE:CD2	39:p:105:PHE:CG	1.80	1.70
39:p:105:PHE:CG	39:p:105:PHE:CD1	1.79	1.67
39:p:105:PHE:CZ	39:p:105:PHE:CE2	2.21	1.28
39:p:105:PHE:CZ	39:p:105:PHE:CE1	2.22	1.28
39:p:105:PHE:CD2	39:p:105:PHE:CE2	2.24	1.26
39:p:105:PHE:CD1	39:p:105:PHE:CE1	2.23	1.25
52:5:661:G:H1	52:5:738:A:N6	1.48	1.10
50:3:535:G:N2	50:3:540:A:N6	2.02	1.06
50:3:1932:C:N4	50:3:1936:G:H22	1.51	1.06
50:3:341:G:H21	50:3:364:A:N6	1.53	1.06
52:5:649:U:N3	52:5:750:A:C8	2.26	1.03
50:3:1932:C:H42	50:3:1936:G:N2	1.57	1.03
38:o:92:ARG:HH22	52:5:1436:C:H5''	1.18	1.03
52:5:445:A:N6	52:5:483:U:C2	2.25	1.02
50:3:1242:G:N2	50:3:1267:A:N6	2.09	1.01
50:3:1807:C:H42	50:3:1824:G:N2	1.56	1.01
50:3:1807:C:N4	50:3:1824:G:H22	1.58	1.00
38:o:92:ARG:NH2	52:5:1436:C:H5''	1.78	0.98
52:5:1138:U:H3	52:5:1149:G:H1	1.06	0.98
52:5:1133:A:H61	52:5:1153:G:N2	1.62	0.98
52:5:1008:G:H1	52:5:1014:A:H61	1.00	0.97
52:5:1106:U:H3	52:5:1160:G:H1	1.07	0.97
24:a:179:TYR:HA	24:a:192:PHE:O	1.65	0.96
50:3:246:G:HO2'	50:3:258:G:H1	1.12	0.96
52:5:1008:G:H1	52:5:1014:A:N6	1.64	0.96
50:3:1746:U:H3	50:3:1753:G:H1	1.06	0.95
50:3:341:G:N2	50:3:364:A:N6	2.15	0.95
52:5:590:G:H1	52:5:644:U:H3	1.01	0.95
28:e:16:VAL:HA	28:e:28:LYS:O	1.67	0.94
6:C:97:LEU:HD23	6:C:132:PRO:HA	1.47	0.94
50:3:535:G:H21	50:3:540:A:N6	1.63	0.94
52:5:1289:U:H3	52:5:1293:A:N6	1.65	0.94
50:3:2483:C:H42	50:3:2537:G:N2	1.66	0.94
52:5:885:U:C2	52:5:901:A:N7	2.36	0.93
50:3:1070:U:H3	50:3:1155:G:H1	1.14	0.92
52:5:833:G:H1	52:5:844:U:H3	1.00	0.92
52:5:885:U:N3	52:5:901:A:C8	2.38	0.92
50:3:61:U:H3	50:3:70:G:H1	1.01	0.92
50:3:730:G:H1	50:3:802:U:H3	1.08	0.92
50:3:1071:G:H1	50:3:1154:U:H3	0.93	0.92
52:5:1112:U:H3	52:5:1128:G:H1	0.96	0.92
50:3:1508:G:N2	50:3:1531:C:N3	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:253:G:H1	52:5:265:U:H3	0.99	0.91
52:5:778:A:H62	52:5:798:U:H3	1.15	0.91
50:3:2703:U:H3	50:3:2722:G:H1	1.12	0.91
52:5:1075:G:H1'	52:5:1094:C:H41	1.33	0.91
52:5:603:U:H3	52:5:630:G:H1	1.15	0.91
36:m:36:LYS:HG3	50:3:1685:G:H5''	1.51	0.91
50:3:341:G:N2	50:3:364:A:H61	1.68	0.91
52:5:445:A:C6	52:5:483:U:C2	2.59	0.91
36:m:17:THR:HG22	36:m:21:GLN:HE22	1.36	0.90
50:3:329:G:H1	50:3:377:U:H3	1.14	0.90
51:4:70:G:H1'	51:4:95:G:H22	1.36	0.90
24:a:138:LEU:HD12	24:a:196:CYS:HB2	1.54	0.90
50:3:2536:U:H3	50:3:2543:G:H1	1.12	0.90
50:3:35:U:O2	50:3:483:A:N7	2.05	0.90
50:3:1932:C:H42	50:3:1936:G:H22	0.90	0.90
52:5:1133:A:H61	52:5:1153:G:H21	1.00	0.89
52:5:1413:G:H1	52:5:1438:U:H3	1.15	0.89
52:5:1133:A:N6	52:5:1153:G:H21	1.69	0.89
26:c:77:GLY:H	50:3:709:G:H5''	1.37	0.89
52:5:1289:U:H3	52:5:1293:A:H62	1.01	0.89
52:5:599:G:H1	52:5:634:U:H3	0.90	0.88
9:F:110:ARG:HB3	9:F:118:LYS:HD3	1.53	0.88
52:5:292:U:HO2'	52:5:554:C:HO2'	1.19	0.88
50:3:247:U:C2	50:3:259:A:N7	2.41	0.88
50:3:247:U:N3	50:3:259:A:C8	2.41	0.88
52:5:649:U:C2	52:5:750:A:N7	2.41	0.88
50:3:325:G:H1	50:3:383:U:H3	0.90	0.87
52:5:369:A:H61	52:5:387:G:H1'	1.40	0.87
7:D:110:GLU:HG3	7:D:112:PRO:HD2	1.57	0.86
50:3:2756:A:N7	50:3:2762:U:O2	2.09	0.85
33:j:18:GLN:HB3	33:j:45:ASP:HB2	1.59	0.85
25:b:84:ILE:HD13	25:b:208:ARG:HH12	1.40	0.85
35:l:31:GLU:HA	35:l:134:ARG:HB3	1.58	0.85
52:5:1390:G:H1	52:5:1460:U:H3	1.21	0.84
52:5:1214:A:H62	52:5:1273:A:H62	1.25	0.84
1:0:14:LYS:NZ	50:3:126:C:OP1	2.10	0.84
7:D:93:VAL:HB	7:D:172:LEU:HD13	1.59	0.84
52:5:612:G:H1	52:5:624:U:H3	1.22	0.84
50:3:1242:G:C2	50:3:1267:A:N6	2.45	0.84
52:5:1278:G:H21	52:5:1307:A:H62	1.23	0.84
50:3:1242:G:H21	50:3:1267:A:N6	1.73	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:26:C:H5'	52:5:522:G:H1'	1.58	0.84
7:D:142:GLY:O	7:D:148:ARG:HA	1.77	0.83
52:5:550:U:H2'	52:5:551:A:H8	1.43	0.83
39:p:107:LEU:O	39:p:111:LYS:HB2	1.78	0.83
52:5:1065:G:H1	52:5:1074:U:H3	1.24	0.83
50:3:1807:C:N3	50:3:1824:G:N1	2.26	0.83
52:5:372:G:H1	52:5:383:U:H3	1.26	0.83
15:L:87:ARG:HG2	15:L:97:VAL:HG11	1.61	0.82
50:3:413:G:H1	50:3:435:U:H3	0.84	0.82
50:3:1418:U:C2	50:3:1423:A:N6	2.48	0.82
50:3:894:G:H21	50:3:2276:A:H3'	1.44	0.82
21:R:22:MET:HE1	21:R:31:ILE:HD11	1.62	0.82
50:3:2534:G:H1	50:3:2545:U:H3	1.28	0.82
27:d:39:GLY:HA3	50:3:2315:G:H22	1.44	0.82
35:l:39:GLY:HA2	35:l:97:VAL:O	1.80	0.82
50:3:314:G:N1	50:3:394:C:N3	2.27	0.81
52:5:1325:U:H3	52:5:1346:G:H1	1.25	0.81
9:F:44:GLY:HA3	9:F:116:LEU:HD12	1.62	0.81
52:5:368:C:O2	52:5:385:A:N6	2.14	0.81
50:3:2053:G:H1	50:3:2630:U:H3	1.25	0.81
50:3:780:G:N2	50:3:785:A:C2	2.48	0.81
50:3:333:A:N6	50:3:356:A:O2'	2.14	0.80
10:G:34:THR:HG22	10:G:71:THR:HG22	1.64	0.80
50:3:247:U:C2	50:3:259:A:C5	2.69	0.80
29:f:53:LYS:HG2	29:f:57:HIS:CE1	2.17	0.80
20:Q:43:PHE:HD2	20:Q:82:HIS:HD2	1.27	0.80
7:D:213:ASN:H	10:G:52:GLY:HA3	1.47	0.80
50:3:1387:A:H62	50:3:1400:U:H3	1.28	0.80
52:5:885:U:O2	52:5:901:A:C5	2.35	0.80
39:p:91:ARG:HD2	50:3:1032:A:H4'	1.63	0.80
51:4:28:C:H1'	51:4:55:A:H61	1.47	0.80
52:5:1008:G:N1	52:5:1014:A:N6	2.25	0.79
6:C:129:VAL:HG12	6:C:131:THR:H	1.47	0.79
50:3:1027:U:O4	50:3:1198:G:O6	1.99	0.79
4:A:83:LEU:HD11	4:A:108:ILE:HG22	1.64	0.79
50:3:2483:C:N4	50:3:2537:G:H22	1.78	0.79
50:3:2561:G:N2	50:3:2592:U:O2	2.15	0.79
52:5:732:A:H2'	52:5:733:A:H8	1.46	0.79
52:5:1013:C:N3	52:5:1014:A:N6	2.30	0.79
50:3:247:U:C4	50:3:259:A:C8	2.70	0.79
51:4:31:G:N2	51:4:34:U:O4	2.16	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:200:G:N1	52:5:215:C:N3	2.27	0.79
24:a:37:LEU:HB3	24:a:68:ILE:HB	1.64	0.79
50:3:629:G:H1	50:3:696:U:H3	1.30	0.79
18:O:22:ARG:NH1	52:5:371:U:O2	2.16	0.79
34:k:43:LYS:NZ	50:3:707:C:OP2	2.15	0.79
36:m:105:PRO:HG2	41:r:40:PRO:HG3	1.65	0.79
50:3:1418:U:N3	50:3:1423:A:N6	2.30	0.79
33:j:8:LEU:HD22	33:j:82:ASN:HB2	1.65	0.79
50:3:442:G:O6	50:3:457:U:C4	2.35	0.79
52:5:63:U:H3	52:5:90:G:H1	1.31	0.78
52:5:1058:A:H2'	52:5:1084:A:H4'	1.64	0.78
52:5:1134:C:O2	52:5:1156:G:N2	2.16	0.78
41:r:88:ARG:HE	50:3:782:U:H2'	1.48	0.78
27:d:37:ASN:ND2	50:3:2320:U:O2'	2.15	0.78
52:5:365:U:H3	52:5:388:G:H1	1.29	0.78
34:k:18:LYS:HG2	50:3:698:A:H5''	1.64	0.78
50:3:598:G:H1	50:3:609:U:H3	1.30	0.78
50:3:1848:U:H2'	50:3:1849:G:H8	1.48	0.78
52:5:1213:A:N7	52:5:1275:U:O2	2.16	0.78
27:d:132:ILE:O	27:d:151:GLY:HA3	1.84	0.78
50:3:64:U:O2'	50:3:66:A:N6	2.16	0.78
50:3:314:G:N2	50:3:394:C:O2	2.15	0.78
52:5:1293:A:H4'	52:5:1294:U:H5	1.49	0.78
28:e:97:TYR:HA	28:e:109:GLN:O	1.83	0.77
12:I:51:LYS:HB2	12:I:75:ARG:HB3	1.65	0.77
50:3:196:G:H21	50:3:837:A:H4'	1.48	0.77
50:3:2852:G:O2'	50:3:2871:G:N2	2.16	0.77
52:5:1320:A:N6	52:5:1350:A:N7	2.32	0.77
28:e:65:LYS:HG2	50:3:2757:A:H4'	1.66	0.77
50:3:675:U:H3	50:3:685:G:H1	0.81	0.77
11:H:6:TYR:HB2	11:H:21:LEU:HB2	1.66	0.77
29:f:30:LEU:HD11	50:3:2207:A:H5'	1.66	0.77
50:3:2483:C:N4	50:3:2537:G:N2	2.31	0.77
35:l:126:PRO:HG3	50:3:2493:G:H5'	1.66	0.77
5:B:153:LYS:HB3	5:B:204:TRP:HB2	1.67	0.77
40:q:35:LEU:HB3	40:q:55:VAL:HB	1.67	0.77
50:3:2132:G:O2'	50:3:2181:A:N6	2.18	0.77
12:I:59:ARG:HB3	52:5:1051:U:H4'	1.67	0.77
14:K:4:ILE:HG12	19:P:37:LYS:HG3	1.66	0.77
48:y:3:VAL:HG22	50:3:2063:G:H21	1.48	0.77
50:3:1700:G:N1	50:3:2002:U:N3	2.33	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:200:A:H61	50:3:866:G:N2	1.82	0.77
50:3:716:G:H1	50:3:831:U:H3	1.33	0.77
52:5:50:U:H3	52:5:358:G:H1'	1.50	0.77
50:3:442:G:N1	50:3:457:U:C2	2.54	0.76
50:3:2469:A:H1'	50:3:2500:U:H3	1.50	0.76
52:5:434:U:C2	52:5:493:A:N7	2.53	0.76
26:c:139:LYS:HG3	50:3:354:C:H3'	1.67	0.76
50:3:601:U:O2	50:3:2037:A:N6	2.18	0.76
52:5:813:A:OP1	52:5:1501:G:O2'	2.04	0.76
15:L:98:ARG:NH1	52:5:1283:G:N7	2.32	0.76
44:u:53:ARG:NH2	50:3:2363:C:O2'	2.18	0.76
48:y:38:LEU:HB2	48:y:41:ARG:HG3	1.65	0.76
50:3:1422:U:H4'	50:3:1637:A:H4'	1.66	0.76
52:5:434:U:O2	52:5:493:A:N7	2.19	0.76
52:5:1087:C:O2	52:5:1145:A:O2'	2.01	0.76
28:e:159:PRO:HB3	28:e:173:VAL:HG23	1.67	0.76
50:3:904:C:N4	50:3:949:C:O2	2.19	0.76
52:5:169:G:N2	52:5:219:A:O2'	2.18	0.76
7:D:187:THR:OG1	7:D:190:ASN:OD1	2.03	0.76
53:6:5:C:H42	53:6:71:A:H61	1.34	0.76
50:3:535:G:C2	50:3:540:A:N6	2.54	0.76
50:3:605:A:H61	50:3:2036:G:H21	1.32	0.76
50:3:780:G:H21	50:3:785:A:H2	1.25	0.76
50:3:1837:C:H2'	50:3:1838:A:H8	1.50	0.76
52:5:344:G:H2'	52:5:345:A:H8	1.49	0.76
2:1:25:TYR:HA	50:3:2400:A:H5''	1.66	0.75
10:G:93:PRO:HB2	52:5:872:C:H5'	1.68	0.75
52:5:1402:U:O2	52:5:1449:G:N2	2.20	0.75
28:e:4:ILE:HA	28:e:7:ARG:HB3	1.67	0.75
50:3:1867:G:H2'	50:3:1868:A:C8	2.21	0.75
50:3:569:U:H3	50:3:592:G:H1	1.32	0.75
52:5:882:U:H2'	52:5:902:A:H61	1.49	0.75
50:3:957:G:H21	50:3:2277:A:H8	1.33	0.75
52:5:1136:G:C6	52:5:1151:A:N6	2.55	0.75
43:t:33:GLN:HB3	43:t:68:PRO:HB2	1.68	0.75
50:3:1310:U:H3	50:3:1314:A:H62	1.34	0.75
43:t:1:MET:HG2	50:3:85:U:H5''	1.68	0.75
50:3:1065:G:H2'	50:3:1066:G:C8	2.22	0.75
50:3:1815:U:O2'	50:3:1816:A:O5'	2.05	0.75
50:3:1932:C:N3	50:3:1936:G:N1	2.31	0.75
50:3:2304:U:O4	50:3:2343:A:N7	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:27:THR:HG22	24:a:28:THR:H	1.50	0.75
50:3:1228:G:N2	50:3:1279:U:O2	2.20	0.75
50:3:2310:C:O2	50:3:2322:G:N2	2.18	0.75
52:5:311:A:HO2'	52:5:326:C:HO2'	1.30	0.75
52:5:973:A:N7	52:5:1334:A:N6	2.31	0.75
6:C:138:PRO:HB3	6:C:180:ARG:HA	1.69	0.75
21:R:38:SER:H	21:R:70:LYS:HZ2	1.35	0.75
50:3:874:U:H2'	50:3:875:G:H8	1.51	0.75
52:5:200:G:N2	52:5:215:C:O2	2.14	0.75
4:A:198:VAL:HG13	4:A:211:VAL:HG13	1.69	0.75
50:3:1162:A:N7	50:3:2496:G:O2'	2.20	0.75
50:3:1959:A:N6	50:3:2568:G:C2	2.55	0.75
52:5:598:U:H3	52:5:635:G:H1	1.32	0.75
50:3:2145:A:N6	50:3:2161:G:O6	2.20	0.74
50:3:1414:C:H2'	50:3:1415:A:C8	2.21	0.74
50:3:2861:G:O2'	50:3:2863:G:N7	2.20	0.74
6:C:133:SER:OG	52:5:618:U:O2	2.06	0.74
52:5:989:A:N6	52:5:1190:G:O2'	2.20	0.74
43:t:72:SER:OG	50:3:361:G:N2	2.20	0.74
8:E:13:LEU:HD12	8:E:17:GLN:HE22	1.51	0.74
11:H:106:THR:HG22	11:H:107:THR:H	1.53	0.74
50:3:1266:G:N3	50:3:1267:A:N6	2.36	0.74
40:q:41:LEU:HD23	40:q:42:ASP:H	1.52	0.74
50:3:1247:C:N4	50:3:1262:G:O6	2.19	0.74
50:3:2670:A:H3'	50:3:2671:G:H8	1.53	0.74
14:K:12:ARG:HB3	52:5:560:U:H1'	1.68	0.74
50:3:1284:A:H5''	50:3:1285:U:H5''	1.69	0.74
9:F:15:PRO:HG2	11:H:48:GLN:HG3	1.69	0.74
14:K:97:GLY:H	52:5:550:U:H4'	1.51	0.74
26:c:75:ARG:HH11	50:3:709:G:H1'	1.51	0.74
41:r:77:ASN:OD1	50:3:25:G:N2	2.20	0.74
50:3:409:A:N6	50:3:438:A:OP2	2.21	0.74
53:7:5:C:H42	53:7:71:A:H61	1.34	0.74
16:M:18:VAL:HG11	52:5:1292:A:H62	1.51	0.74
36:m:101:LEU:HD23	48:y:48:TYR:HB3	1.70	0.74
25:b:185:ASP:O	25:b:189:MET:N	2.21	0.73
28:e:66:ILE:HG12	50:3:2757:A:H1'	1.68	0.73
37:n:2:LYS:HD2	37:n:7:GLN:HB2	1.69	0.73
20:Q:43:PHE:HD2	20:Q:82:HIS:CD2	2.06	0.73
35:l:12:PRO:HA	50:3:947:A:H62	1.54	0.73
50:3:511:U:O2	50:3:515:A:N7	2.20	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2297:G:H2'	50:3:2298:G:H8	1.51	0.73
52:5:1213:A:H2	52:5:1216:G:H21	1.34	0.73
38:o:31:VAL:HG22	38:o:90:LEU:HD23	1.70	0.73
39:p:102:PRO:O	39:p:104:LYS:NZ	2.20	0.73
50:3:755:C:H2'	50:3:756:A:H8	1.53	0.73
50:3:1859:U:O2	50:3:1897:A:N7	2.22	0.73
37:n:6:GLU:HA	37:n:9:ARG:HB2	1.71	0.73
50:3:1027:U:H3	50:3:1198:G:H1	1.36	0.73
52:5:618:U:O2'	52:5:619:A:O5'	2.07	0.73
50:3:162:G:O2'	50:3:170:A:N6	2.21	0.73
50:3:1458:A:N6	50:3:1597:U:O4	2.16	0.73
11:H:6:TYR:HB3	11:H:88:ALA:HB1	1.70	0.73
50:3:914:G:H22	50:3:936:G:H2'	1.53	0.73
50:3:1252:C:O2	50:3:1257:G:N2	2.18	0.73
52:5:453:C:H2'	52:5:454:U:C6	2.24	0.73
50:3:450:C:H2'	50:3:451:A:H8	1.52	0.73
50:3:2304:U:N3	50:3:2343:A:N6	2.37	0.73
5:B:153:LYS:HE2	5:B:172:ILE:HD13	1.71	0.73
50:3:247:U:O2	50:3:259:A:C5	2.42	0.73
50:3:1288:C:H2'	50:3:1289:G:H8	1.53	0.73
50:3:1348:C:H2'	50:3:1358:C:H41	1.53	0.73
9:F:3:LYS:HD3	52:5:930:A:H62	1.53	0.72
50:3:1026:A:H62	50:3:1217:G:H1'	1.54	0.72
52:5:710:G:H2'	52:5:711:G:C8	2.24	0.72
50:3:1122:G:H2'	50:3:1124:G:H1'	1.71	0.72
52:5:673:A:N1	52:5:711:G:O6	2.22	0.72
8:E:153:LYS:H	10:G:56:ASN:HD21	1.37	0.72
25:b:129:LYS:NZ	50:3:2002:U:OP1	2.22	0.72
26:c:119:LYS:HE3	26:c:192:MET:HA	1.71	0.72
52:5:1287:G:H1	52:5:1298:U:H3	1.36	0.72
10:G:26:ARG:HD3	10:G:84:ILE:HB	1.69	0.72
15:L:19:LEU:HG	15:L:25:ILE:HG21	1.70	0.72
52:5:580:C:N3	52:5:756:A:N7	2.37	0.72
11:H:97:LYS:NZ	52:5:1153:G:OP1	2.21	0.72
19:P:12:ILE:HB	19:P:25:GLN:HE21	1.54	0.72
50:3:774:A:N3	50:3:775:C:N4	2.38	0.72
50:3:2819:C:H2'	50:3:2820:G:H8	1.54	0.72
52:5:460:A:N1	52:5:467:G:O6	2.22	0.72
1:O:19:LEU:HD12	50:3:126:C:H5''	1.71	0.72
23:T:23:LEU:HD12	23:T:26:ARG:HH22	1.53	0.72
35:l:30:GLY:HA2	35:l:107:ALA:HB2	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:522:C:H2'	50:3:523:A:H8	1.55	0.72
6:C:60:MET:HE1	6:C:196:VAL:HG21	1.70	0.72
27:d:92:ARG:NH1	51:4:41:C:O3'	2.23	0.72
50:3:1093:U:H3	50:3:1115:G:H1	0.81	0.72
50:3:2175:U:O2	50:3:2179:A:N7	2.23	0.72
24:a:57:HIS:NE2	50:3:1830:G:OP1	2.22	0.72
27:d:129:THR:HG22	27:d:155:THR:HG22	1.72	0.72
52:5:1289:U:O4	52:5:1293:A:N7	2.23	0.72
21:R:78:ARG:HE	52:5:1197:G:H5''	1.55	0.71
24:a:153:HIS:NE2	50:3:1808:C:OP2	2.22	0.71
50:3:443:C:H2'	50:3:444:C:C6	2.24	0.71
50:3:1425:U:OP2	50:3:1426:C:N4	2.22	0.71
50:3:2557:G:H2'	50:3:2558:G:C8	2.24	0.71
10:G:104:LEU:HD13	10:G:116:ILE:HD13	1.72	0.71
50:3:204:U:O4	50:3:254:G:N2	2.23	0.71
50:3:1308:A:H2'	50:3:1309:G:H8	1.55	0.71
52:5:445:A:C6	52:5:483:U:N3	2.57	0.71
52:5:932:A:H1'	52:5:1354:G:H1	1.55	0.71
52:5:1279:G:H1'	52:5:1305:G:H22	1.56	0.71
22:S:44:LEU:HD22	22:S:76:LEU:HD13	1.71	0.71
25:b:154:ALA:H	50:3:2039:G:H1'	1.55	0.71
50:3:1164:A:O2'	50:3:2523:C:O2	2.07	0.71
38:o:56:ARG:NH1	50:3:2691:C:OP1	2.23	0.71
50:3:1702:A:OP2	50:3:1997:C:N4	2.23	0.71
52:5:1462:G:H2'	52:5:1463:A:H8	1.54	0.71
24:a:43:LYS:HD2	24:a:61:ARG:HG3	1.72	0.71
50:3:842:U:O2'	50:3:2067:A:N1	2.20	0.71
52:5:1431:A:H2'	52:5:1432:A:C8	2.26	0.71
52:5:1472:G:N2	52:5:1494:A:N3	2.36	0.71
6:C:96:ARG:NH1	6:C:132:PRO:O	2.22	0.71
9:F:102:TRP:HA	9:F:105:MET:HG2	1.71	0.71
24:a:103:ASN:O	50:3:1525:G:N2	2.24	0.71
50:3:1412:A:H1'	50:3:1433:U:H1'	1.72	0.71
50:3:1867:G:H1	50:3:1890:U:H3	1.36	0.71
52:5:373:A:H2'	52:5:374:G:C8	2.25	0.71
52:5:675:U:H1'	52:5:774:A:H4'	1.72	0.71
5:B:61:THR:H	5:B:64:THR:HG22	1.54	0.71
27:d:64:LYS:NZ	47:x:5:PHE:O	2.23	0.71
32:i:70:ASN:ND2	50:3:1056:A:OP2	2.23	0.71
50:3:739:G:O2'	50:3:761:G:N2	2.22	0.71
50:3:2092:U:O2	50:3:2242:G:O6	2.09	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:331:C:O2'	52:5:1408:A:N3	2.21	0.71
4:A:38:ASN:HB2	4:A:205:ASN:HA	1.73	0.71
45:v:53:ARG:HH22	50:3:435:U:H5	1.39	0.71
50:3:1063:A:N6	50:3:1161:A:OP1	2.23	0.71
50:3:2305:C:H3'	50:3:2326:G:H22	1.56	0.71
52:5:520:C:H1'	52:5:534:C:H5''	1.72	0.71
9:F:110:ARG:O	9:F:118:LYS:NZ	2.24	0.71
29:f:93:ILE:HG23	29:f:95:LYS:H	1.55	0.71
50:3:82:G:N2	50:3:328:A:O2'	2.24	0.70
50:3:111:G:H2'	50:3:112:A:H8	1.56	0.70
50:3:352:C:H2'	50:3:353:G:C8	2.26	0.70
50:3:915:A:N6	50:3:936:G:O2'	2.23	0.70
10:G:67:LYS:HD2	52:5:650:A:H5'	1.73	0.70
36:m:100:VAL:HG22	36:m:116:LEU:HG	1.73	0.70
50:3:1020:G:N2	50:3:1020:G:OP2	2.24	0.70
52:5:97:G:H21	52:5:350:G:H5'	1.55	0.70
52:5:815:G:O2'	52:5:817:U:OP2	2.08	0.70
13:J:16:VAL:HG12	13:J:25:VAL:HG12	1.74	0.70
18:O:33:LEU:HD13	18:O:42:CYS:HB2	1.72	0.70
26:c:174:ASN:ND2	50:3:354:C:N3	2.40	0.70
50:3:1718:C:N3	50:3:1739:G:N1	2.39	0.70
46:w:26:LEU:HA	46:w:29:TYR:CZ	2.25	0.70
52:5:580:C:O2	52:5:756:A:N6	2.23	0.70
52:5:824:U:H2'	52:5:864:U:H3	1.55	0.70
6:C:202:ARG:O	52:5:28:G:O2'	2.09	0.70
25:b:56:THR:HA	25:b:78:THR:HA	1.73	0.70
34:k:42:ARG:NH1	50:3:843:G:N7	2.38	0.70
42:s:6:VAL:HA	42:s:32:ASN:HB3	1.73	0.70
50:3:1959:A:N6	50:3:2568:G:N2	2.39	0.70
20:Q:94:ARG:HG3	20:Q:99:VAL:HG13	1.74	0.70
24:a:44:HIS:NE2	50:3:1823:U:OP2	2.24	0.70
43:t:88:LYS:HB2	43:t:105:LYS:HD2	1.73	0.70
52:5:412:G:H2'	52:5:413:G:H8	1.54	0.70
52:5:972:A:N6	52:5:1338:A:OP1	2.25	0.70
14:K:25:HIS:CD2	14:K:39:TYR:HB3	2.26	0.70
50:3:1480:A:N6	50:3:1486:U:O2'	2.25	0.70
52:5:598:U:H2'	52:5:599:G:H8	1.56	0.70
52:5:833:G:N2	52:5:844:U:O2	2.20	0.70
52:5:1134:C:C2	52:5:1156:G:N2	2.60	0.70
52:5:1237:G:O6	52:5:1248:U:O4	2.09	0.70
6:C:143:ARG:HH21	6:C:175:GLU:HB2	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:87:PRO:HG2	9:F:151:ALA:HA	1.74	0.70
50:3:220:A:N7	50:3:467:U:O2	2.25	0.70
50:3:740:A:H2'	50:3:741:A:H8	1.57	0.70
50:3:984:C:H2'	50:3:985:A:H8	1.57	0.70
50:3:2697:C:OP2	50:3:2876:G:N1	2.18	0.70
24:a:40:THR:HA	24:a:65:LYS:HA	1.73	0.70
24:a:190:ARG:HH21	24:a:274:SER:HA	1.56	0.70
41:r:7:GLN:HB3	41:r:103:LEU:HB2	1.73	0.70
50:3:230:G:H1	50:3:455:G:H1'	1.57	0.70
50:3:648:G:OP1	50:3:648:G:N2	2.23	0.70
7:D:69:ARG:HD2	7:D:172:LEU:HD11	1.73	0.69
20:Q:101:PHE:HB2	20:Q:103:LYS:HZ3	1.55	0.69
50:3:1803:U:H3	50:3:1830:G:H1	1.40	0.69
50:3:2299:U:H3	50:3:2349:G:H1	0.79	0.69
50:3:2306:A:C8	50:3:2326:G:N2	2.59	0.69
5:B:13:GLY:HA2	5:B:18:TRP:HE1	1.56	0.69
30:g:31:SER:HA	50:3:1090:G:H5'	1.71	0.69
50:3:219:G:H1'	50:3:220:A:H4'	1.73	0.69
50:3:697:U:H2'	50:3:698:A:H8	1.56	0.69
52:5:22:G:H1'	52:5:909:A:H61	1.56	0.69
52:5:31:U:H3	52:5:551:A:H61	1.38	0.69
52:5:1046:A:N6	52:5:1175:C:O2	2.25	0.69
16:M:3:LYS:NZ	16:M:28:GLY:O	2.25	0.69
24:a:171:LEU:HD21	24:a:183:GLN:HB2	1.75	0.69
50:3:29:G:O2'	50:3:547:G:N2	2.25	0.69
50:3:144:C:H2'	50:3:145:A:C8	2.27	0.69
50:3:353:G:N2	50:3:357:A:N7	2.38	0.69
50:3:1475:C:O2'	50:3:1577:A:N3	2.25	0.69
50:3:2290:G:N2	50:3:2398:U:O2	2.24	0.69
50:3:2700:C:O2	50:3:2851:U:O2'	2.11	0.69
27:d:39:GLY:C	50:3:2315:G:H1	2.00	0.69
50:3:498:C:H2'	50:3:499:G:H8	1.56	0.69
50:3:2736:U:HO2'	50:3:2737:G:H8	1.39	0.69
52:5:662:G:O6	52:5:721:G:O6	2.11	0.69
50:3:2664:U:H2'	50:3:2665:A:C8	2.28	0.69
52:5:1325:U:O2	52:5:1346:G:N2	2.25	0.69
52:5:1389:U:H2'	52:5:1390:G:H8	1.55	0.69
50:3:1866:G:N2	50:3:1891:A:N7	2.41	0.69
52:5:1382:C:H2'	52:5:1383:A:H8	1.57	0.69
50:3:229:C:N4	50:3:455:G:O2'	2.25	0.69
50:3:410:G:N2	50:3:411:U:O4	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1228:G:H1	50:3:1279:U:H3	1.40	0.69
29:f:9:VAL:HG22	29:f:16:PHE:H	1.58	0.69
34:k:67:ASN:H	50:3:2423:G:H4'	1.57	0.69
50:3:159:G:H2'	50:3:160:A:H8	1.57	0.69
50:3:228:A:H2'	50:3:229:C:C6	2.28	0.69
50:3:565:C:H4'	50:3:594:G:H1	1.56	0.69
50:3:802:U:H2'	50:3:803:G:H8	1.57	0.69
50:3:1061:A:OP1	50:3:1169:A:O2'	2.07	0.69
52:5:673:A:H2	52:5:711:G:H1	1.39	0.69
52:5:881:G:N1	52:5:905:U:C2	2.60	0.69
52:5:1278:G:N7	52:5:1279:G:N2	2.38	0.69
52:5:1379:C:O2	52:5:1494:A:O2'	2.10	0.69
13:J:46:LYS:HA	13:J:50:LYS:HB3	1.73	0.69
41:r:88:ARG:NH1	50:3:2020:A:O2'	2.26	0.69
52:5:98:G:H1	52:5:310:C:H42	1.40	0.69
52:5:660:A:H61	52:5:739:G:H1	1.41	0.69
50:3:204:U:N3	50:3:254:G:N1	2.40	0.69
50:3:345:A:H61	50:3:363:G:H2'	1.58	0.69
50:3:1064:A:N6	50:3:1160:G:O2'	2.26	0.69
50:3:2058:G:N2	50:3:2059:G:O6	2.25	0.69
50:3:2310:C:N3	50:3:2322:G:N1	2.41	0.69
50:3:699:U:H4'	50:3:976:C:H5''	1.75	0.68
50:3:1852:G:H2'	50:3:1853:G:C8	2.28	0.68
50:3:2506:C:O2'	50:3:2507:C:O5'	2.08	0.68
50:3:2803:G:OP2	50:3:2807:G:N2	2.25	0.68
50:3:2867:U:H2'	50:3:2868:G:C8	2.29	0.68
27:d:129:THR:OG1	50:3:2311:G:O2'	2.09	0.68
30:g:56:ASN:HB2	30:g:75:ALA:HB1	1.74	0.68
46:w:85:ASN:O	46:w:89:GLN:NE2	2.26	0.68
50:3:264:G:O2'	50:3:642:A:N6	2.25	0.68
50:3:1532:A:H3'	50:3:1533:U:H2'	1.75	0.68
50:3:2589:G:OP2	50:3:2589:G:N2	2.23	0.68
52:5:818:A:H2'	52:5:819:G:H8	1.58	0.68
52:5:943:C:H2'	52:5:944:A:C8	2.28	0.68
52:5:1089:C:O2'	52:5:1143:C:N4	2.25	0.68
1:O:45:SER:OG	50:3:127:A:N7	2.23	0.68
8:E:32:VAL:HG11	8:E:62:PHE:HB2	1.76	0.68
16:M:45:ARG:NH1	52:5:1051:U:OP1	2.26	0.68
50:3:893:A:H2'	50:3:894:G:C8	2.28	0.68
50:3:947:A:N3	50:3:2272:C:O2'	2.26	0.68
50:3:1471:A:H61	50:3:1581:U:H3	1.40	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1972:C:H3'	50:3:1973:U:H2'	1.75	0.68
53:6:39:A:C8	53:6:39:A:O5'	2.46	0.68
9:F:67:ASN:ND2	9:F:129:ASN:OD1	2.26	0.68
22:S:10:ARG:O	22:S:14:ASN:ND2	2.26	0.68
27:d:8:TYR:HD1	27:d:12:ILE:HD13	1.59	0.68
50:3:311:G:H2'	50:3:312:U:C6	2.28	0.68
50:3:1777:G:H2'	50:3:1778:G:C8	2.28	0.68
34:k:68:ALA:HA	50:3:2423:G:H1'	1.74	0.68
50:3:218:G:N2	50:3:220:A:N3	2.41	0.68
50:3:512:G:O2'	50:3:537:A:N6	2.27	0.68
52:5:60:A:H5''	52:5:383:U:H5''	1.74	0.68
52:5:316:G:H2'	52:5:317:A:C8	2.28	0.68
52:5:552:U:H2'	52:5:553:C:C6	2.28	0.68
52:5:946:G:O2'	52:5:965:C:O2'	2.11	0.68
52:5:1487:U:H3	52:5:1498:G:H1	1.42	0.68
26:c:116:TRP:CE3	26:c:191:LEU:HD22	2.28	0.68
50:3:892:G:H2'	50:3:893:A:C8	2.29	0.68
50:3:1741:G:HO2'	50:3:1765:G:H1	1.41	0.68
50:3:1834:U:H5'	50:3:1978:U:H4'	1.74	0.68
50:3:2254:G:H2'	50:3:2255:A:C8	2.29	0.68
51:4:3:U:H3	51:4:105:A:H61	1.41	0.68
52:5:144:U:O2	52:5:149:G:O6	2.11	0.68
52:5:582:G:H2'	52:5:583:G:H8	1.59	0.68
50:3:853:G:O2'	50:3:873:G:O2'	2.11	0.68
18:O:9:PRO:O	18:O:34:ASN:ND2	2.27	0.68
36:m:18:VAL:HG13	36:m:41:THR:HG23	1.76	0.68
45:v:34:GLN:HG3	50:3:2236:G:H22	1.58	0.68
50:3:227:A:H2'	50:3:456:G:H21	1.57	0.68
50:3:990:G:H1	50:3:999:U:H3	1.41	0.68
50:3:2036:G:N1	50:3:2040:A:OP2	2.24	0.68
50:3:2664:U:H2'	50:3:2665:A:H8	1.56	0.68
18:O:38:LYS:HE2	52:5:447:G:H5''	1.75	0.68
50:3:2655:U:O2	50:3:2681:G:O6	2.11	0.68
52:5:1289:U:N3	52:5:1293:A:N6	2.33	0.68
25:b:185:ASP:O	25:b:189:MET:CA	2.42	0.67
28:e:67:PHE:HA	28:e:70:THR:HG22	1.76	0.67
50:3:346:G:H4'	50:3:365:U:H2'	1.76	0.67
50:3:602:U:O2'	50:3:982:G:N2	2.27	0.67
50:3:1070:U:O2	50:3:1155:G:N2	2.25	0.67
50:3:1414:C:H5'	50:3:1424:U:H3	1.59	0.67
52:5:671:G:H2'	52:5:672:A:H8	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1136:G:N1	52:5:1151:A:C6	2.62	0.67
6:C:57:LYS:NZ	6:C:68:ASP:OD1	2.26	0.67
50:3:534:U:H3	50:3:538:A:H62	1.43	0.67
52:5:881:G:N1	52:5:905:U:N3	2.41	0.67
52:5:973:A:O2'	52:5:1296:C:N3	2.27	0.67
16:M:10:GLN:HG3	16:M:23:ARG:HB3	1.77	0.67
50:3:341:G:N2	50:3:344:A:O5'	2.27	0.67
52:5:778:A:OP2	52:5:797:G:N2	2.27	0.67
4:A:117:LEU:HB2	4:A:190:GLU:HB3	1.76	0.67
15:L:84:GLY:H	21:R:60:VAL:HG23	1.60	0.67
47:x:19:CYS:HB2	47:x:42:CYS:HB2	1.77	0.67
50:3:184:A:O2'	50:3:186:A:N7	2.27	0.67
50:3:603:G:N1	50:3:2507:C:OP1	2.25	0.67
50:3:1237:G:H2'	50:3:1238:A:C8	2.30	0.67
50:3:1518:C:OP1	50:3:1520:A:N6	2.28	0.67
50:3:1536:C:H2'	50:3:1537:A:C8	2.28	0.67
5:B:178:LEU:N	52:5:1099:G:OP1	2.25	0.67
50:3:1623:U:H2'	50:3:1624:A:H8	1.58	0.67
50:3:1961:A:O2'	50:3:1963:U:O4	2.09	0.67
52:5:881:G:C2	52:5:905:U:C2	2.82	0.67
52:5:1112:U:O2	52:5:1128:G:N2	2.22	0.67
11:H:87:ARG:NH1	52:5:1154:A:OP1	2.26	0.67
50:3:1237:G:H2'	50:3:1238:A:H8	1.59	0.67
52:5:934:G:N1	52:5:1318:C:N3	2.42	0.67
9:F:28:VAL:HG13	9:F:104:ALA:HB2	1.75	0.67
37:n:19:ILE:O	37:n:23:ASN:N	2.27	0.67
37:n:57:SER:HA	37:n:61:LYS:HB3	1.77	0.67
50:3:1446:G:N2	50:3:1613:A:OP2	2.28	0.67
50:3:2376:C:H2'	50:3:2377:A:C8	2.30	0.67
52:5:881:G:C2	52:5:905:U:O2	2.47	0.67
4:A:203:ASN:OD1	4:A:204:THR:N	2.24	0.67
36:m:56:ASN:OD1	36:m:59:ASN:ND2	2.27	0.67
50:3:1470:C:H2'	50:3:1471:A:H8	1.59	0.67
50:3:1884:A:H2'	50:3:1885:G:C8	2.30	0.67
16:M:15:LYS:HD2	52:5:1193:U:H5''	1.76	0.67
50:3:190:G:H2'	50:3:191:G:H8	1.60	0.67
50:3:508:A:O2'	50:3:509:G:OP1	2.13	0.67
50:3:1507:G:O2'	50:3:1508:G:OP1	2.11	0.67
50:3:2170:A:OP2	50:3:2174:G:N2	2.26	0.67
5:B:194:THR:HG23	5:B:196:TYR:H	1.60	0.67
13:J:108:PRO:HB2	52:5:673:A:H5''	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:137:GLU:HB3	26:c:139:LYS:HE2	1.77	0.67
26:c:161:VAL:HG12	26:c:163:THR:H	1.60	0.67
27:d:48:LYS:HD2	27:d:146:ILE:HA	1.75	0.67
46:w:60:GLU:OE1	46:w:61:ARG:NH1	2.28	0.67
50:3:250:U:H3	50:3:256:G:H1	1.41	0.67
50:3:1104:A:H4'	50:3:1105:A:H2'	1.77	0.67
50:3:1366:G:O2'	50:3:1421:A:N6	2.28	0.67
50:3:1385:U:H3	50:3:1402:G:H1	1.42	0.67
52:5:442:G:H2'	52:5:443:G:H8	1.60	0.67
9:F:101:ARG:NH1	52:5:1350:A:O2'	2.26	0.66
33:j:97:ARG:HA	33:j:117:LEU:HD21	1.76	0.66
38:o:55:ARG:NH2	38:o:62:GLU:OE2	2.28	0.66
48:y:16:ARG:HG3	50:3:2053:G:H5'	1.77	0.66
50:3:429:U:H2'	50:3:430:U:H6	1.60	0.66
50:3:1165:U:N3	50:3:2032:G:OP1	2.28	0.66
50:3:1348:C:N4	50:3:1359:C:OP2	2.28	0.66
50:3:2291:U:O2	50:3:2333:G:O6	2.12	0.66
52:5:569:U:H2'	52:5:912:G:H4'	1.76	0.66
2:1:21:ARG:NH1	50:3:2369:G:OP1	2.23	0.66
11:H:73:GLY:HA2	52:5:1224:C:H1'	1.77	0.66
24:a:136:MET:HB3	24:a:141:ILE:HD11	1.77	0.66
24:a:268:ARG:NH1	24:a:275:THR:OG1	2.28	0.66
36:m:30:LYS:NZ	50:3:1308:A:OP1	2.28	0.66
41:r:128:ARG:HH22	50:3:1249:A:H1'	1.61	0.66
50:3:418:G:H1	50:3:430:U:H3	1.40	0.66
50:3:1447:A:OP2	50:3:1611:C:N4	2.27	0.66
52:5:599:G:N2	52:5:634:U:O2	2.25	0.66
52:5:943:C:O2'	52:5:1339:U:O4	2.14	0.66
4:A:61:GLN:NE2	4:A:216:PRO:O	2.25	0.66
25:b:28:VAL:HG13	25:b:190:LEU:HD21	1.76	0.66
42:s:56:ASN:ND2	50:3:1426:C:OP1	2.28	0.66
50:3:405:C:H2'	50:3:406:C:C6	2.30	0.66
50:3:1212:C:H2'	50:3:1213:U:C6	2.31	0.66
50:3:1672:C:O2	50:3:2706:U:O2'	2.13	0.66
50:3:2107:A:H2'	50:3:2108:C:C6	2.31	0.66
52:5:674:U:H3	52:5:710:G:H22	1.43	0.66
52:5:887:C:H2'	52:5:888:A:H8	1.60	0.66
5:B:87:LYS:O	5:B:90:LYS:HG3	1.94	0.66
18:O:2:ARG:NH1	52:5:388:G:OP1	2.27	0.66
38:o:34:ALA:HB1	38:o:45:ILE:HD11	1.77	0.66
39:p:75:TYR:HE2	50:3:1188:C:H5'	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:299:A:H2'	50:3:300:G:C8	2.29	0.66
6:C:12:ARG:NH1	6:C:33:THR:OG1	2.28	0.66
12:I:44:GLY:H	52:5:1114:A:H4'	1.60	0.66
50:3:25:G:H2'	50:3:26:G:H8	1.60	0.66
50:3:77:G:H1	50:3:112:A:H61	1.43	0.66
50:3:118:G:OP2	50:3:120:A:O2'	2.13	0.66
50:3:190:G:H2'	50:3:191:G:C8	2.31	0.66
50:3:984:C:O2	50:3:1020:G:O2'	2.14	0.66
52:5:684:A:N6	52:5:698:U:O4'	2.28	0.66
52:5:815:G:N2	52:5:867:A:OP1	2.29	0.66
52:5:603:U:O4	52:5:630:G:O6	2.14	0.66
52:5:1453:C:H2'	52:5:1454:G:H8	1.60	0.66
34:k:24:HIS:O	40:q:78:HIS:NE2	2.28	0.66
50:3:525:A:H2'	50:3:526:G:C4	2.31	0.66
50:3:2003:C:C5	50:3:2734:C:H5''	2.30	0.66
52:5:316:G:O2'	52:5:1410:A:N3	2.27	0.66
52:5:948:U:OP1	52:5:960:C:N4	2.27	0.66
9:F:115:MET:HA	9:F:118:LYS:HG2	1.77	0.66
12:I:50:THR:HB	12:I:76:HIS:HA	1.77	0.66
25:b:222:LEU:HD13	25:b:224:VAL:HG23	1.78	0.66
39:p:65:ASN:ND2	50:3:1047:A:OP2	2.28	0.66
50:3:431:U:O2'	50:3:432:G:N7	2.27	0.66
3:2:31:LYS:NZ	50:3:2537:G:N7	2.44	0.66
12:I:54:VAL:HG22	12:I:72:GLU:HG2	1.77	0.66
15:L:86:TRP:HZ3	52:5:1295:U:H4'	1.61	0.66
24:a:233:MET:HG2	24:a:238:HIS:HB3	1.78	0.66
42:s:13:THR:H	42:s:16:VAL:HB	1.61	0.66
50:3:1297:U:N3	50:3:2020:A:N7	2.43	0.66
52:5:1498:G:H2'	52:5:1499:G:H8	1.61	0.66
50:3:220:A:H8	50:3:467:U:H3	1.44	0.66
50:3:716:G:N2	50:3:831:U:O2	2.29	0.66
9:F:75:ARG:NH2	52:5:932:A:O2'	2.29	0.65
11:H:90:LEU:HD22	11:H:97:LYS:HG2	1.78	0.65
13:J:121:ARG:N	52:5:793:C:OP1	2.29	0.65
14:K:20:LYS:NZ	52:5:551:A:OP1	2.27	0.65
24:a:268:ARG:NH2	50:3:1807:C:OP1	2.28	0.65
37:n:101:ARG:N	51:4:47:C:OP1	2.29	0.65
50:3:169:U:H2'	50:3:170:A:H8	1.60	0.65
50:3:421:A:N6	50:3:424:G:OP2	2.23	0.65
50:3:1309:G:H2'	50:3:1310:U:C6	2.31	0.65
50:3:2237:U:H2'	50:3:2238:G:H8	1.59	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:110:U:H3	52:5:232:G:H1	1.42	0.65
52:5:604:U:H5''	52:5:605:A:H5''	1.78	0.65
52:5:1431:A:H2'	52:5:1432:A:H8	1.61	0.65
6:C:38:HIS:HE1	52:5:539:G:H1'	1.60	0.65
13:J:119:ARG:H	23:T:34:TYR:HD1	1.44	0.65
37:n:14:ARG:HA	37:n:17:LYS:HE3	1.77	0.65
44:u:86:PHE:CZ	44:u:94:ARG:HG3	2.32	0.65
50:3:2160:U:H2'	50:3:2161:G:H8	1.60	0.65
50:3:2457:U:H2'	50:3:2509:C:H42	1.61	0.65
52:5:445:A:C5	52:5:483:U:N3	2.64	0.65
13:J:11:SER:OG	13:J:76:LYS:NZ	2.29	0.65
21:R:38:SER:H	21:R:70:LYS:NZ	1.94	0.65
33:j:70:GLN:NE2	50:3:2691:C:O2	2.29	0.65
35:l:32:TYR:HD2	35:l:114:MET:HE3	1.61	0.65
50:3:898:A:O2'	51:4:76:A:N3	2.28	0.65
50:3:963:U:H2'	50:3:964:A:H8	1.61	0.65
50:3:1298:A:H62	50:3:2019:G:H21	1.44	0.65
52:5:71:A:H2'	52:5:72:A:H8	1.62	0.65
1:0:15:THR:HG22	1:0:16:HIS:HD2	1.62	0.65
6:C:55:GLN:NE2	6:C:59:ARG:HD3	2.11	0.65
6:C:125:ASN:ND2	6:C:140:ASP:OD1	2.29	0.65
7:D:192:ILE:O	7:D:196:MET:HG2	1.96	0.65
50:3:729:U:H3	50:3:803:G:H1	1.41	0.65
50:3:901:C:O2'	50:3:902:U:OP2	2.11	0.65
50:3:2082:U:OP2	50:3:2246:G:O2'	2.14	0.65
50:3:2810:A:H62	50:3:2896:G:H1	1.45	0.65
25:b:42:GLU:HG2	25:b:48:SER:HB3	1.78	0.65
50:3:1960:A:O2'	50:3:2558:G:N2	2.30	0.65
50:3:1999:G:H5'	50:3:2001:C:H41	1.62	0.65
50:3:2812:U:H1'	50:3:2813:A:H2'	1.79	0.65
52:5:419:A:H4'	52:5:420:A:H5''	1.76	0.65
52:5:1330:A:H2'	52:5:1331:A:C8	2.32	0.65
24:a:6:ILE:HG21	50:3:741:A:H4'	1.79	0.65
25:b:27:THR:HG21	25:b:197:ILE:HG12	1.78	0.65
45:v:56:ARG:NH2	50:3:436:G:N7	2.44	0.65
50:3:518:A:O2'	50:3:532:A:N1	2.27	0.65
50:3:947:A:N6	50:3:2285:G:O2'	2.29	0.65
50:3:1295:A:OP1	50:3:2021:A:N6	2.25	0.65
50:3:1419:U:N3	50:3:1422:U:O4	2.18	0.65
50:3:1615:G:H2'	50:3:1616:G:C8	2.32	0.65
50:3:2840:U:H2'	50:3:2841:A:C8	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:12:ARG:NH1	50:3:500:U:O2	2.29	0.65
11:H:118:PHE:HA	52:5:1342:C:H5''	1.78	0.65
19:P:67:ARG:HD2	52:5:260:C:H4'	1.79	0.65
33:j:66:LYS:N	33:j:82:ASN:OD1	2.30	0.65
50:3:1308:A:H2'	50:3:1309:G:C8	2.32	0.65
50:3:1793:A:N6	50:3:1990:C:O2	2.30	0.65
50:3:1914:G:O6	50:3:1930:U:O2	2.14	0.65
50:3:2684:G:N1	50:3:2740:U:O4	2.30	0.65
52:5:486:C:H2'	52:5:487:A:C8	2.32	0.65
52:5:954:A:H2'	52:5:955:U:H4'	1.78	0.65
52:5:1068:G:N2	52:5:1071:A:OP2	2.26	0.65
52:5:1498:G:H2'	52:5:1499:G:C8	2.32	0.65
39:p:91:ARG:HB2	39:p:94:LEU:HG	1.79	0.65
50:3:154:U:H3	50:3:179:A:H61	1.45	0.65
50:3:780:G:N2	50:3:785:A:H2	1.90	0.65
52:5:16:G:H1	52:5:915:U:H3	1.44	0.65
52:5:136:U:H2'	52:5:137:A:H8	1.62	0.65
53:7:39:A:H8	53:7:39:A:O5'	1.79	0.65
19:P:68:PRO:HG3	19:P:74:ARG:HG3	1.78	0.65
41:r:78:GLN:NE2	50:3:1292:A:OP1	2.29	0.65
50:3:1262:G:H2'	50:3:1263:G:C8	2.32	0.65
5:B:13:GLY:HA2	5:B:18:TRP:NE1	2.12	0.64
17:N:26:VAL:HA	17:N:29:LEU:HD12	1.78	0.64
50:3:1940:G:H1	50:3:1974:U:H3	1.45	0.64
52:5:403:A:H2'	52:5:404:A:H8	1.61	0.64
52:5:536:U:H2'	52:5:537:A:H8	1.61	0.64
52:5:670:G:H2'	52:5:671:G:C8	2.32	0.64
52:5:944:A:O2'	52:5:1338:A:OP2	2.13	0.64
6:C:99:ASN:HA	6:C:110:ARG:NH2	2.11	0.64
8:E:35:LEU:HG	8:E:62:PHE:HB3	1.80	0.64
27:d:127:ASN:HD22	27:d:157:VAL:HG12	1.61	0.64
40:q:56:VAL:H	40:q:97:PHE:HA	1.62	0.64
45:v:32:ASN:HB2	50:3:433:A:H5''	1.77	0.64
52:5:742:C:OP1	52:5:845:C:O2'	2.15	0.64
11:H:22:THR:H	11:H:64:ASP:H	1.43	0.64
37:n:99:HIS:HB3	51:4:46:C:H4'	1.79	0.64
40:q:59:VAL:HA	40:q:92:LEU:HD13	1.78	0.64
50:3:1000:U:O2'	50:3:2281:A:N3	2.30	0.64
9:F:25:ILE:HA	9:F:28:VAL:HG12	1.80	0.64
13:J:119:ARG:NH1	13:J:120:PRO:O	2.30	0.64
24:a:255:ARG:HB3	24:a:259:GLY:HA2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:26:G:H2'	50:3:27:U:C6	2.33	0.64
50:3:340:U:H2'	50:3:341:G:O4'	1.98	0.64
52:5:445:A:H2'	52:5:446:A:C8	2.33	0.64
52:5:1402:U:H2'	52:5:1403:A:C8	2.32	0.64
3:2:21:GLN:NE2	50:3:2765:A:OP2	2.30	0.64
24:a:189:THR:N	24:a:280:ARG:O	2.30	0.64
35:l:80:GLU:HG2	50:3:2502:G:H4'	1.78	0.64
38:o:53:LEU:HD13	38:o:105:ARG:HE	1.62	0.64
40:q:27:ALA:O	40:q:62:HIS:NE2	2.30	0.64
50:3:247:U:O2	50:3:259:A:C6	2.51	0.64
50:3:652:U:H2'	50:3:653:G:H8	1.62	0.64
52:5:661:G:N2	52:5:738:A:N1	2.36	0.64
4:A:31:GLY:HA2	4:A:53:ASN:HB3	1.78	0.64
17:N:7:GLY:HA2	17:N:10:LYS:NZ	2.13	0.64
19:P:81:ILE:HG22	19:P:82:GLU:H	1.63	0.64
33:j:87:ILE:O	33:j:94:ARG:NH2	2.31	0.64
46:w:3:VAL:HG21	50:3:79:U:H5''	1.80	0.64
50:3:499:G:H22	50:3:501:G:H3'	1.63	0.64
50:3:1252:C:N3	50:3:1257:G:N1	2.33	0.64
50:3:1296:G:HO2'	50:3:2019:G:H1	1.44	0.64
50:3:1521:A:H2'	50:3:1523:C:H41	1.62	0.64
52:5:663:G:H2'	52:5:664:A:C8	2.32	0.64
7:D:154:ALA:HB3	7:D:177:ASP:HB2	1.80	0.64
9:F:90:VAL:O	9:F:95:LYS:NZ	2.30	0.64
25:b:50:THR:HG22	25:b:87:MET:HB2	1.80	0.64
27:d:36:ILE:HD13	27:d:89:VAL:HB	1.79	0.64
50:3:447:G:OP2	50:3:2414:U:O2'	2.14	0.64
50:3:755:C:H2'	50:3:756:A:C8	2.32	0.64
50:3:1352:G:O2'	50:3:1355:C:N4	2.30	0.64
50:3:2475:C:H2'	50:3:2476:A:C8	2.32	0.64
50:3:2684:G:H2'	50:3:2685:A:C8	2.33	0.64
53:6:39:A:C8	53:6:39:A:H3'	2.33	0.64
8:E:97:LEU:HG	8:E:99:SER:H	1.63	0.64
14:K:26:TYR:HB2	14:K:72:ASN:HD22	1.62	0.64
21:R:36:ARG:O	52:5:1292:A:O2'	2.14	0.64
33:j:12:ASP:HB2	33:j:95:GLY:HA3	1.79	0.64
33:j:64:ARG:HB2	33:j:83:ALA:H	1.63	0.64
37:n:97:LYS:HD2	51:4:45:C:H4'	1.79	0.64
46:w:26:LEU:HA	46:w:29:TYR:CE2	2.33	0.64
50:3:1164:A:N6	50:3:2499:U:OP1	2.31	0.64
50:3:2003:C:H5	50:3:2734:C:H5''	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1003:G:H1	52:5:1018:U:H3	1.45	0.64
52:5:1148:U:H2'	52:5:1149:G:H8	1.62	0.64
14:K:127:ARG:N	52:5:500:G:OP1	2.29	0.64
20:Q:43:PHE:CD2	20:Q:82:HIS:HD2	2.13	0.64
23:T:13:LEU:HA	23:T:16:LYS:HE2	1.78	0.64
24:a:226:PRO:HB3	50:3:1797:C:H5'	1.79	0.64
50:3:195:A:O2'	50:3:713:C:O2	2.15	0.64
50:3:1450:G:H1	50:3:1610:U:H3	1.45	0.64
52:5:834:G:H2'	52:5:835:G:C8	2.33	0.64
10:G:37:ALA:HB2	10:G:70:VAL:HG13	1.80	0.64
17:N:58:SER:HB2	52:5:579:G:H5'	1.79	0.64
20:Q:93:ALA:HB1	20:Q:98:LEU:HB2	1.80	0.64
25:b:116:GLY:HA2	25:b:171:HIS:HB2	1.80	0.64
35:l:44:ALA:HA	35:l:47:ILE:HG12	1.80	0.64
36:m:94:PRO:O	50:3:2843:G:N2	2.24	0.64
47:x:12:VAL:HB	47:x:27:SER:HB2	1.77	0.64
50:3:522:C:H2'	50:3:523:A:C8	2.32	0.64
50:3:1309:G:H2'	50:3:1310:U:H6	1.63	0.64
50:3:2004:G:H2'	50:3:2005:G:C8	2.33	0.64
7:D:67:GLU:OE1	7:D:97:ARG:NH2	2.31	0.63
12:I:72:GLU:HB3	16:M:57:LYS:HB2	1.80	0.63
24:a:5:LYS:HB2	24:a:18:THR:HG22	1.78	0.63
50:3:442:G:H2'	50:3:443:C:C6	2.33	0.63
50:3:663:A:N6	50:3:673:A:O5'	2.30	0.63
50:3:2703:U:O2	50:3:2722:G:N2	2.31	0.63
11:H:71:GLY:O	11:H:77:GLN:NE2	2.30	0.63
37:n:109:ALA:HB1	37:n:114:LEU:HD12	1.80	0.63
45:v:18:ARG:NH1	45:v:22:LYS:O	2.31	0.63
50:3:474:U:H2'	50:3:475:A:C8	2.32	0.63
50:3:699:U:O2'	50:3:976:C:OP1	2.16	0.63
50:3:982:G:H2'	50:3:983:A:C8	2.33	0.63
50:3:1937:G:O2'	50:3:1975:G:N1	2.28	0.63
50:3:2867:U:H2'	50:3:2868:G:H8	1.63	0.63
12:I:61:PRO:HB3	16:M:42:LEU:HD11	1.79	0.63
15:L:90:ARG:HA	15:L:93:LYS:HZ1	1.63	0.63
50:3:1428:U:H2'	50:3:1429:G:C8	2.32	0.63
50:3:1557:G:O2'	50:3:1573:A:N6	2.32	0.63
50:3:1902:C:H2'	50:3:1903:A:H8	1.63	0.63
50:3:2148:U:H3'	50:3:2149:U:H6	1.63	0.63
52:5:1049:G:O6	52:5:1174:U:C2	2.51	0.63
4:A:130:LEU:HD22	4:A:167:LYS:HE3	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:164:GLU:OE1	5:B:167:ARG:NH2	2.31	0.63
7:D:78:LYS:NZ	7:D:79:THR:O	2.32	0.63
7:D:152:LYS:HB3	7:D:179:TYR:HB2	1.80	0.63
25:b:198:ALA:HB2	50:3:2687:A:H4'	1.80	0.63
32:i:19:TYR:HB3	32:i:143:LEU:HD21	1.80	0.63
47:x:39:CYS:H	47:x:42:CYS:HB3	1.64	0.63
49:z:36:LYS:NZ	50:3:2353:G:OP2	2.31	0.63
50:3:418:G:O6	50:3:430:U:O4	2.17	0.63
50:3:675:U:O2	50:3:685:G:N2	2.27	0.63
50:3:1305:G:H2'	50:3:1306:G:C8	2.33	0.63
50:3:1999:G:H1	50:3:2003:C:H1'	1.63	0.63
52:5:669:U:H2'	52:5:670:G:C8	2.34	0.63
52:5:762:G:H1	52:5:809:G:HO2'	1.45	0.63
6:C:34:ILE:HD13	6:C:42:PHE:HE2	1.64	0.63
11:H:115:ARG:NH1	52:5:1344:C:OP1	2.27	0.63
28:e:111:GLY:O	50:3:2674:C:N4	2.31	0.63
38:o:92:ARG:HH22	52:5:1436:C:C5'	2.03	0.63
50:3:1647:A:H2'	50:3:1651:C:H42	1.64	0.63
52:5:754:U:O2'	52:5:873:U:O2	2.17	0.63
12:I:73:LYS:HG3	16:M:55:GLY:HA3	1.79	0.63
38:o:92:ARG:HB3	38:o:115:LYS:HD2	1.80	0.63
39:p:95:SER:O	39:p:105:PHE:CE2	2.52	0.63
41:r:94:ASN:ND2	50:3:2020:A:O2'	2.32	0.63
52:5:1267:G:H2'	52:5:1268:G:H8	1.64	0.63
5:B:152:ILE:HB	5:B:173:GLU:HG3	1.80	0.63
6:C:8:PHE:O	6:C:12:ARG:HB2	1.99	0.63
10:G:106:LEU:HD13	10:G:110:GLY:H	1.62	0.63
48:y:6:ARG:NH2	50:3:2027:G:OP2	2.25	0.63
50:3:117:C:O2'	50:3:127:A:H1'	1.97	0.63
50:3:341:G:H22	50:3:344:A:P	2.22	0.63
50:3:710:A:H2'	50:3:711:A:C4	2.33	0.63
50:3:1032:A:H2'	50:3:1033:A:C8	2.34	0.63
50:3:2599:C:H2'	50:3:2600:G:C8	2.34	0.63
52:5:885:U:C2	52:5:901:A:C8	2.84	0.63
32:i:24:ALA:HA	32:i:64:GLN:HG3	1.81	0.63
39:p:12:ARG:O	39:p:15:LYS:HG2	1.99	0.63
50:3:2002:U:H3'	50:3:2003:C:H2'	1.80	0.63
50:3:2551:G:N2	50:3:2655:U:OP2	2.32	0.63
50:3:2835:G:H5'	50:3:2836:U:H5'	1.81	0.63
52:5:68:C:H2'	52:5:69:G:C8	2.33	0.63
52:5:445:A:C6	52:5:483:U:O2	2.52	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:727:G:O2'	52:5:811:A:N6	2.31	0.63
52:5:1432:A:H2'	52:5:1433:G:C8	2.34	0.63
27:d:102:LYS:O	27:d:106:VAL:HG12	1.99	0.63
32:i:119:ARG:NH1	50:3:563:A:OP2	2.32	0.63
50:3:65:A:H3'	50:3:66:A:H8	1.64	0.63
50:3:301:G:H2'	50:3:302:G:C8	2.34	0.63
50:3:1884:A:H2'	50:3:1885:G:H8	1.63	0.63
50:3:2353:G:O6	50:3:2379:G:O6	2.16	0.63
52:5:1055:G:H21	52:5:1165:G:H4'	1.64	0.63
22:S:52:ASP:OD2	52:5:195:U:O2'	2.17	0.62
26:c:182:HIS:H	26:c:185:LYS:HB2	1.64	0.62
34:k:64:LYS:HE3	50:3:2402:C:H5''	1.81	0.62
39:p:2:ARG:HB3	50:3:481:C:H4'	1.79	0.62
50:3:2104:A:H2'	50:3:2105:G:C8	2.33	0.62
52:5:397:C:H2'	52:5:398:G:C8	2.34	0.62
52:5:475:U:H3'	52:5:476:U:H5''	1.81	0.62
52:5:885:U:C2	52:5:901:A:C5	2.87	0.62
52:5:1065:G:H2'	52:5:1066:U:C6	2.34	0.62
1:0:12:ARG:NH2	50:3:500:U:O2'	2.31	0.62
24:a:246:ARG:HD3	50:3:2598:C:H5''	1.81	0.62
35:l:45:ARG:NH1	50:3:2493:G:OP2	2.33	0.62
45:v:60:LYS:HD3	50:3:410:G:H5''	1.81	0.62
48:y:13:ARG:NE	50:3:1294:G:OP1	2.32	0.62
49:z:2:ALA:N	50:3:2291:U:OP1	2.32	0.62
50:3:65:A:H62	50:3:93:A:H62	1.47	0.62
50:3:125:G:OP1	50:3:1404:C:O2'	2.16	0.62
50:3:234:G:H2'	50:3:235:U:C6	2.34	0.62
50:3:746:G:H2'	50:3:747:A:H8	1.64	0.62
50:3:2025:C:H2'	50:3:2026:A:C8	2.34	0.62
14:K:130:TYR:OH	52:5:520:C:OP1	2.17	0.62
50:3:80:U:H3	50:3:109:G:H1	0.76	0.62
50:3:450:C:O2'	50:3:1871:U:O2	2.17	0.62
50:3:595:U:H2'	50:3:605:A:H1'	1.80	0.62
50:3:1834:U:H3'	50:3:1835:G:H8	1.64	0.62
52:5:289:U:OP1	52:5:608:G:N2	2.32	0.62
52:5:368:C:N4	52:5:384:G:OP2	2.32	0.62
5:B:113:MET:HE3	5:B:144:VAL:HA	1.81	0.62
18:O:55:LYS:HB2	52:5:223:G:H21	1.62	0.62
50:3:122:G:H2'	50:3:123:G:C8	2.33	0.62
50:3:997:G:N1	50:3:2037:A:OP2	2.31	0.62
50:3:2090:G:O6	50:3:2244:U:O2	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2148:U:OP1	50:3:2150:C:N4	2.32	0.62
52:5:132:G:H2'	52:5:133:G:C8	2.34	0.62
52:5:1402:U:H2'	52:5:1403:A:H8	1.64	0.62
41:r:28:LYS:HD2	41:r:70:TYR:HB3	1.80	0.62
46:w:27:LEU:HG	46:w:30:ARG:NH2	2.14	0.62
50:3:333:A:N3	50:3:353:G:O2'	2.29	0.62
50:3:500:U:O2'	50:3:501:G:OP1	2.13	0.62
50:3:982:G:H2'	50:3:983:A:H8	1.65	0.62
50:3:1311:G:N2	50:3:1314:A:OP2	2.31	0.62
50:3:1946:U:O2	50:3:1974:U:O2'	2.16	0.62
13:J:14:ILE:HG12	13:J:93:PHE:CZ	2.35	0.62
16:M:34:LEU:O	16:M:38:GLY:N	2.33	0.62
22:S:26:THR:HB	52:5:1432:A:H5''	1.82	0.62
22:S:31:ASN:HB3	22:S:47:VAL:HG12	1.80	0.62
32:i:20:ILE:HG12	32:i:140:PRO:HB2	1.81	0.62
37:n:5:THR:OG1	37:n:9:ARG:NH1	2.32	0.62
50:3:1845:C:O2	50:3:1908:A:N6	2.32	0.62
50:3:2258:G:N2	50:3:2283:C:O2'	2.33	0.62
50:3:2295:A:N6	50:3:2354:A:N7	2.42	0.62
50:3:2796:C:O2'	50:3:2812:U:O2	2.11	0.62
52:5:671:G:H2'	52:5:672:A:C8	2.34	0.62
52:5:1089:C:HO2'	52:5:1143:C:N4	1.97	0.62
7:D:72:LYS:NZ	7:D:73:LEU:O	2.33	0.62
22:S:7:ASN:ND2	52:5:328:G:OP1	2.33	0.62
41:r:132:GLN:NE2	50:3:1260:U:O2	2.19	0.62
50:3:614:C:H2'	50:3:615:G:H8	1.64	0.62
50:3:1239:G:H4'	50:3:1242:G:H4'	1.80	0.62
50:3:2089:A:OP2	50:3:2245:G:N2	2.32	0.62
50:3:2353:G:H1'	50:3:2390:G:H5'	1.82	0.62
50:3:2515:C:O2'	53:6:75:C:O2	2.18	0.62
52:5:245:U:O2	52:5:271:G:O6	2.17	0.62
52:5:265:U:H2'	52:5:266:A:H8	1.65	0.62
52:5:683:G:H21	52:5:701:A:H62	1.47	0.62
4:A:39:PRO:HB3	52:5:826:G:H4'	1.82	0.62
6:C:54:LEU:O	6:C:58:GLN:HG2	1.99	0.62
10:G:18:LEU:HD13	10:G:35:THR:HG21	1.80	0.62
26:c:97:ARG:HG2	50:3:622:U:H4'	1.81	0.62
50:3:450:C:H2'	50:3:451:A:C8	2.34	0.62
50:3:1860:A:H3'	50:3:1895:G:H22	1.65	0.62
52:5:111:A:OP1	52:5:603:U:O2'	2.17	0.62
52:5:305:A:O2'	52:5:605:A:N6	2.23	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:682:G:H2'	52:5:683:G:C4	2.35	0.62
7:D:185:ARG:NH1	52:5:21:U:OP2	2.29	0.62
25:b:125:ARG:HG2	25:b:166:SER:HA	1.80	0.62
50:3:200:A:N6	50:3:866:G:N2	2.48	0.62
50:3:957:G:N2	50:3:2277:A:O5'	2.33	0.62
50:3:1474:C:O2	50:3:1578:A:O2'	2.17	0.62
50:3:2819:C:H2'	50:3:2820:G:C8	2.34	0.62
52:5:1053:U:OP2	52:5:1165:G:N1	2.31	0.62
52:5:1414:U:H2'	52:5:1415:G:C8	2.35	0.62
11:H:42:PRO:HB3	52:5:1265:U:H4'	1.80	0.62
25:b:161:LYS:HD2	50:3:2627:U:H5''	1.81	0.62
41:r:36:LEU:HG	41:r:48:ALA:HB2	1.82	0.62
50:3:80:U:O4	50:3:109:G:O6	2.18	0.62
50:3:477:U:H2'	50:3:478:G:C8	2.34	0.62
50:3:2110:U:O2	50:3:2194:G:N2	2.29	0.62
50:3:2380:U:H2'	50:3:2381:G:C8	2.34	0.62
52:5:402:G:N7	52:5:493:A:O2'	2.30	0.62
52:5:568:G:H2'	52:5:569:U:C6	2.35	0.62
3:2:5:ALA:HB3	50:3:2474:C:H5'	1.82	0.61
4:A:136:LYS:O	4:A:140:ASN:N	2.31	0.61
6:C:99:ASN:HA	6:C:110:ARG:HH22	1.64	0.61
15:L:110:LYS:O	15:L:114:LYS:NZ	2.26	0.61
26:c:112:LEU:HG	26:c:116:TRP:HE1	1.63	0.61
27:d:91:LEU:HB2	27:d:95:ARG:HE	1.63	0.61
37:n:11:ARG:NH2	51:4:45:C:OP1	2.31	0.61
46:w:29:TYR:OH	46:w:47:THR:HG21	2.00	0.61
50:3:243:U:H3	50:3:262:G:H1	1.48	0.61
50:3:837:A:H2'	50:3:838:U:C6	2.35	0.61
50:3:2667:G:N2	50:3:2670:A:OP2	2.30	0.61
50:3:2764:U:H1'	50:3:2765:A:H5''	1.80	0.61
52:5:246:A:H1'	52:5:248:U:C4	2.35	0.61
52:5:671:G:O6	52:5:713:A:N1	2.33	0.61
53:6:69:A:H2'	53:6:70:G:C8	2.35	0.61
53:7:69:A:H2'	53:7:70:G:C8	2.35	0.61
5:B:3:GLN:NE2	52:5:1052:G:N7	2.47	0.61
14:K:102:ASP:OD2	52:5:520:C:N4	2.32	0.61
18:O:70:THR:O	18:O:75:LYS:NZ	2.33	0.61
25:b:23:ARG:NH2	50:3:2690:U:O2	2.33	0.61
32:i:120:ARG:NH1	50:3:562:C:O2'	2.33	0.61
50:3:192:U:O2	50:3:212:G:N2	2.32	0.61
50:3:518:A:OP2	50:3:542:A:N6	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:748:G:N2	50:3:754:U:O4	2.32	0.61
50:3:2567:C:H2'	50:3:2568:G:H8	1.65	0.61
52:5:133:G:H2'	52:5:134:G:C8	2.35	0.61
52:5:503:G:H2'	52:5:504:A:C8	2.35	0.61
52:5:1012:A:O2'	52:5:1192:C:O2	2.17	0.61
52:5:1226:A:H2'	52:5:1227:A:C8	2.35	0.61
52:5:1487:U:H2'	52:5:1488:A:C8	2.35	0.61
53:7:39:A:C8	53:7:39:A:H3'	2.35	0.61
32:i:26:LEU:HD12	32:i:31:LEU:HB2	1.81	0.61
50:3:1955:G:H2'	50:3:1956:G:H8	1.65	0.61
50:3:2743:U:H2'	50:3:2744:A:C8	2.35	0.61
52:5:317:A:N6	52:5:324:C:O2'	2.33	0.61
52:5:612:G:N2	52:5:624:U:O2	2.32	0.61
23:T:31:ARG:NH2	52:5:715:A:O2'	2.34	0.61
32:i:93:ARG:HH22	50:3:2746:A:H4'	1.65	0.61
50:3:697:U:H2'	50:3:698:A:C8	2.35	0.61
50:3:848:U:O2	50:3:1226:G:N2	2.33	0.61
50:3:1746:U:O2	50:3:1753:G:N2	2.29	0.61
52:5:165:A:N6	52:5:198:A:OP2	2.33	0.61
23:T:15:LEU:C	23:T:19:LYS:HZ3	2.09	0.61
33:j:21:ILE:HA	33:j:41:VAL:HG12	1.82	0.61
45:v:27:ARG:HH21	45:v:29:TRP:HE1	1.49	0.61
50:3:1837:C:H2'	50:3:1838:A:C8	2.33	0.61
52:5:403:A:H2'	52:5:404:A:C8	2.36	0.61
52:5:661:G:H1	52:5:738:A:H61	0.72	0.61
52:5:906:C:H2'	52:5:907:A:C8	2.35	0.61
10:G:21:LYS:NZ	52:5:822:A:O2'	2.28	0.61
12:I:12:LEU:HB3	12:I:82:LEU:HB2	1.83	0.61
15:L:108:THR:HB	52:5:942:G:H5''	1.82	0.61
24:a:217:GLY:O	24:a:221:HIS:ND1	2.33	0.61
26:c:115:VAL:HG11	26:c:188:VAL:HG12	1.82	0.61
33:j:28:THR:OG1	50:3:2574:A:N6	2.32	0.61
43:t:45:HIS:N	50:3:517:G:OP2	2.29	0.61
50:3:47:G:N2	50:3:184:A:H61	1.98	0.61
50:3:499:G:N2	50:3:501:G:H3'	2.15	0.61
50:3:2100:G:C5	50:3:2233:A:H2'	2.36	0.61
50:3:2646:G:O2'	50:3:2647:A:N7	2.33	0.61
52:5:1417:U:H2'	52:5:1418:G:C8	2.35	0.61
50:3:229:C:H2'	50:3:230:G:O4'	2.01	0.61
50:3:1524:C:H2'	50:3:1525:G:H8	1.66	0.61
50:3:1766:A:O2'	50:3:2720:C:OP1	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2755:G:N2	50:3:2764:U:OP1	2.24	0.61
52:5:258:A:H2'	52:5:259:A:C4	2.35	0.61
52:5:358:G:N1	52:5:361:U:OP2	2.30	0.61
52:5:457:A:H2'	52:5:458:G:H8	1.66	0.61
17:N:6:ASN:OD1	17:N:7:GLY:N	2.34	0.61
26:c:116:TRP:HE3	26:c:191:LEU:HD22	1.63	0.61
50:3:122:G:H2'	50:3:123:G:H8	1.64	0.61
50:3:1137:C:H2'	50:3:1138:A:H8	1.66	0.61
50:3:1691:U:H2'	50:3:1692:A:H8	1.66	0.61
50:3:2304:U:C2	50:3:2343:A:N6	2.69	0.61
51:4:20:U:H2'	51:4:21:G:C8	2.36	0.61
52:5:789:A:O2'	52:5:792:C:N4	2.33	0.61
52:5:1134:C:N3	52:5:1156:G:N1	2.49	0.61
53:6:39:A:O5'	53:6:39:A:H8	1.83	0.61
9:F:29:ILE:HG22	9:F:104:ALA:HA	1.82	0.61
21:R:37:ARG:NH2	52:5:1291:C:O2	2.34	0.61
32:i:42:LYS:HE2	39:p:62:LEU:HD11	1.82	0.61
36:m:17:THR:HG22	36:m:21:GLN:NE2	2.12	0.61
50:3:131:C:H5''	50:3:1376:G:H21	1.66	0.61
50:3:159:G:H2'	50:3:160:A:C8	2.36	0.61
50:3:1061:A:H2'	50:3:1062:A:H8	1.66	0.61
50:3:2787:U:H4'	50:3:2788:U:H3'	1.82	0.61
50:3:2843:G:H1	50:3:2882:U:H3	1.48	0.61
52:5:450:U:H3'	52:5:451:G:H8	1.64	0.61
52:5:601:U:H2'	52:5:602:G:C8	2.36	0.61
52:5:1432:A:H2'	52:5:1433:G:H8	1.66	0.61
53:7:39:A:O5'	53:7:39:A:C8	2.53	0.61
6:C:2:LYS:HB3	6:C:114:ARG:HH12	1.66	0.61
6:C:109:THR:HG21	52:5:404:A:H5''	1.83	0.61
25:b:185:ASP:O	25:b:189:MET:HA	2.00	0.61
37:n:13:LYS:HA	37:n:16:VAL:HG12	1.82	0.61
50:3:410:G:H4'	50:3:411:U:O5'	2.00	0.61
50:3:412:A:C2	50:3:413:G:H1'	2.36	0.61
50:3:558:C:O2	50:3:587:U:O2'	2.19	0.61
50:3:818:A:O2'	50:3:820:U:OP1	2.19	0.61
50:3:861:U:O2	50:3:866:G:O6	2.18	0.61
50:3:2393:C:H2'	50:3:2394:A:C8	2.36	0.61
51:4:93:U:H2'	51:4:94:A:H8	1.66	0.61
52:5:331:C:H2'	52:5:332:A:C8	2.36	0.61
52:5:1389:U:H2'	52:5:1390:G:C8	2.36	0.61
10:G:99:ARG:HE	10:G:103:LYS:HB3	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:30:LYS:H	26:c:114:THR:HG21	1.66	0.60
27:d:91:LEU:HD12	27:d:95:ARG:HB3	1.81	0.60
50:3:283:A:OP1	50:3:286:A:N6	2.33	0.60
50:3:341:G:C2	50:3:364:A:N6	2.68	0.60
50:3:450:C:O3'	50:3:1885:G:N2	2.34	0.60
50:3:652:U:H2'	50:3:653:G:C8	2.36	0.60
50:3:1095:U:H5'	50:3:1097:G:H5'	1.82	0.60
51:4:75:U:H2'	51:4:76:A:H8	1.65	0.60
15:L:103:ARG:NH1	52:5:1200:G:OP2	2.33	0.60
32:i:72:LYS:O	32:i:93:ARG:N	2.33	0.60
47:x:17:ALA:HB3	47:x:37:ASP:HA	1.83	0.60
50:3:352:C:H2'	50:3:353:G:H8	1.64	0.60
50:3:353:G:H1	50:3:357:A:H62	1.46	0.60
50:3:2005:G:H2'	50:3:2006:C:C6	2.35	0.60
50:3:2380:U:H2'	50:3:2381:G:H8	1.66	0.60
52:5:41:C:H2'	52:5:42:G:C8	2.36	0.60
52:5:366:C:H2'	52:5:367:A:C8	2.35	0.60
52:5:376:G:N2	52:5:379:A:OP2	2.29	0.60
52:5:453:C:N3	52:5:475:U:O4	2.34	0.60
52:5:457:A:H2'	52:5:458:G:C8	2.36	0.60
2:1:39:ARG:HA	2:1:42:ARG:HE	1.66	0.60
15:L:10:PRO:HG2	15:L:18:ALA:HA	1.82	0.60
15:L:87:ARG:NH1	52:5:1284:A:OP1	2.34	0.60
15:L:103:ARG:HH21	52:5:1201:C:H41	1.49	0.60
25:b:132:PRO:HA	50:3:2001:C:H5'	1.83	0.60
50:3:37:G:O2'	50:3:487:C:N4	2.34	0.60
50:3:47:G:H3'	50:3:219:G:H2'	1.83	0.60
50:3:1691:U:H2'	50:3:1692:A:C8	2.36	0.60
50:3:1807:C:N4	50:3:1824:G:N2	2.24	0.60
51:4:99:A:H2'	51:4:100:G:C8	2.37	0.60
52:5:663:G:H2'	52:5:664:A:H8	1.64	0.60
7:D:77:SER:HB2	7:D:84:ARG:HD3	1.82	0.60
25:b:124:LYS:HE2	50:3:2005:G:H5''	1.82	0.60
50:3:1869:G:H2'	50:3:1870:G:C8	2.37	0.60
50:3:1920:A:H4'	50:3:1921:C:H5''	1.83	0.60
50:3:2015:C:H2'	50:3:2016:G:H8	1.67	0.60
50:3:2135:C:H2'	50:3:2136:A:C8	2.36	0.60
50:3:2736:U:O2'	50:3:2737:G:H8	1.83	0.60
51:4:28:C:O2'	51:4:55:A:N1	2.34	0.60
52:5:483:U:H2'	52:5:484:A:C8	2.36	0.60
4:A:74:GLU:HB2	8:E:167:ASP:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:88:LYS:HD2	4:A:92:VAL:HG21	1.83	0.60
14:K:123:ARG:HH21	14:K:125:GLN:HB2	1.65	0.60
46:w:27:LEU:HG	46:w:30:ARG:HH22	1.65	0.60
50:3:197:U:H2'	50:3:198:G:C8	2.37	0.60
50:3:488:G:H21	50:3:493:A:H1'	1.66	0.60
50:3:1117:U:H2'	50:3:1118:U:O4'	2.01	0.60
50:3:1325:C:H2'	50:3:1326:C:H6	1.65	0.60
50:3:2752:G:C8	50:3:2763:C:H1'	2.36	0.60
52:5:582:G:H2'	52:5:583:G:C8	2.36	0.60
52:5:664:A:OP1	52:5:729:C:O2'	2.19	0.60
52:5:1197:G:OP2	52:5:1296:C:N4	2.30	0.60
53:6:5:C:N4	53:6:71:A:H61	2.00	0.60
5:B:5:VAL:HG13	5:B:10:LEU:HD21	1.83	0.60
6:C:88:ASN:HA	6:C:91:ARG:HD2	1.84	0.60
28:e:161:LYS:HA	28:e:174:ARG:HH12	1.66	0.60
50:3:534:U:H2'	50:3:535:G:O4'	2.02	0.60
50:3:562:C:N4	50:3:2787:U:OP2	2.30	0.60
50:3:818:A:H4'	50:3:2596:A:H4'	1.84	0.60
50:3:1838:A:H2'	50:3:1839:C:C6	2.36	0.60
50:3:2058:G:H22	50:3:2625:U:H3	1.49	0.60
50:3:2066:A:H4'	50:3:2069:A:H61	1.67	0.60
50:3:2160:U:H2'	50:3:2161:G:C8	2.36	0.60
50:3:2516:G:O2'	50:3:2562:U:O2'	2.12	0.60
50:3:2812:U:O2'	50:3:2894:G:N2	2.34	0.60
52:5:110:U:H2'	52:5:111:A:C8	2.36	0.60
53:7:5:C:N4	53:7:71:A:H61	2.00	0.60
13:J:16:VAL:HG23	13:J:79:VAL:HA	1.84	0.60
37:n:76:ASP:OD1	37:n:77:ILE:N	2.35	0.60
39:p:46:TYR:OH	50:3:1028:C:OP1	2.20	0.60
50:3:71:C:H2'	50:3:72:G:C8	2.37	0.60
50:3:479:A:H2	50:3:1276:A:H1'	1.66	0.60
50:3:855:A:N6	50:3:1009:A:OP1	2.30	0.60
50:3:1460:G:H2'	50:3:1461:A:C8	2.36	0.60
50:3:2740:U:H5''	50:3:2741:A:C8	2.37	0.60
52:5:70:A:H2'	52:5:71:A:H8	1.67	0.60
7:D:136:ILE:HD11	7:D:199:ILE:HG13	1.84	0.60
27:d:138:PHE:HB2	27:d:141:ILE:HB	1.84	0.60
33:j:6:THR:OG1	50:3:1700:G:O2'	2.18	0.60
36:m:26:LEU:HD22	36:m:67:LEU:HD22	1.84	0.60
42:s:71:PHE:O	50:3:66:A:O2'	2.20	0.60
45:v:30:ASN:O	50:3:2238:G:O2'	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:235:U:H2'	50:3:236:G:O4'	2.02	0.60
52:5:343:G:H2'	52:5:344:G:C8	2.37	0.60
52:5:902:A:H2'	52:5:903:A:H8	1.67	0.60
52:5:1298:U:H5'	52:5:1336:C:H4'	1.83	0.60
5:B:117:ARG:NH2	5:B:190:GLU:OE2	2.34	0.60
26:c:20:LEU:HD21	26:c:24:LEU:HD12	1.84	0.60
27:d:40:VAL:HB	27:d:85:ILE:HB	1.84	0.60
34:k:34:ARG:HH12	34:k:43:LYS:HA	1.67	0.60
50:3:71:C:O2	50:3:75:A:O2'	2.19	0.60
50:3:1610:U:H2'	50:3:1611:C:C6	2.37	0.60
52:5:157:A:H2'	52:5:158:A:C8	2.37	0.60
52:5:1177:U:O2'	52:5:1178:C:OP1	2.18	0.60
6:C:3:TYR:CE2	6:C:111:ARG:HD2	2.37	0.60
10:G:49:VAL:HG21	10:G:57:PHE:CD1	2.37	0.60
16:M:30:ALA:HB3	52:5:976:U:H4'	1.83	0.60
25:b:155:SER:OG	50:3:2039:G:N2	2.34	0.60
25:b:168:HIS:NE2	50:3:2826:G:OP1	2.30	0.60
27:d:4:LEU:HD23	27:d:97:TRP:HB3	1.84	0.60
33:j:2:VAL:HG13	33:j:6:THR:HG21	1.83	0.60
50:3:1422:U:H2'	50:3:1423:A:O4'	2.01	0.60
50:3:1507:G:H1'	50:3:1508:G:OP2	2.02	0.60
50:3:2229:C:H2'	50:3:2230:A:C8	2.37	0.60
51:4:90:G:H3'	51:4:91:A:H8	1.66	0.60
53:7:8:G:O2'	53:7:50:G:O4'	2.20	0.60
21:R:78:ARG:NH1	52:5:1199:U:O2'	2.34	0.59
25:b:82:GLN:NE2	50:3:2644:U:OP2	2.33	0.59
40:q:23:GLU:OE2	40:q:87:GLN:NE2	2.34	0.59
50:3:225:A:N6	50:3:464:A:N7	2.50	0.59
50:3:1609:U:H2'	50:3:1610:U:C6	2.37	0.59
50:3:2195:U:H2'	50:3:2196:G:C8	2.37	0.59
52:5:108:C:N4	52:5:109:G:O6	2.35	0.59
52:5:137:A:N7	52:5:156:U:O4	2.34	0.59
52:5:879:G:H2'	52:5:880:G:C8	2.37	0.59
52:5:1228:C:O2	52:5:1329:G:O2'	2.19	0.59
14:K:64:LYS:HG3	14:K:80:ILE:HB	1.84	0.59
14:K:99:ARG:NH2	52:5:906:C:OP1	2.35	0.59
35:l:13:HIS:N	50:3:947:A:N7	2.38	0.59
38:o:6:LYS:HD3	50:3:2880:A:H4'	1.84	0.59
43:t:1:MET:HE1	43:t:5:LYS:HD3	1.82	0.59
45:v:53:ARG:NH1	50:3:436:G:O6	2.35	0.59
50:3:371:C:H2'	50:3:372:G:O4'	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:659:C:H2'	50:3:660:U:O4'	2.03	0.59
50:3:811:G:C8	50:3:2249:A:H5''	2.37	0.59
50:3:2821:U:O2'	50:3:2840:U:O2	2.20	0.59
52:5:1110:C:H2'	52:5:1111:G:C8	2.37	0.59
3:2:31:LYS:HE2	50:3:2536:U:H5''	1.85	0.59
14:K:83:GLU:OE1	52:5:518:A:O2'	2.17	0.59
50:3:1437:A:H2'	50:3:1438:G:H8	1.65	0.59
51:4:70:G:H1'	51:4:95:G:N2	2.13	0.59
52:5:988:G:H22	52:5:991:A:H62	1.50	0.59
53:6:8:G:O2'	53:6:50:G:O4'	2.20	0.59
13:J:120:PRO:HB2	52:5:793:C:H5''	1.84	0.59
15:L:10:PRO:HG3	15:L:21:TYR:HD2	1.65	0.59
26:c:75:ARG:NH2	50:3:2453:G:OP1	2.30	0.59
50:3:470:U:O2	50:3:471:A:N6	2.27	0.59
50:3:619:A:H62	50:3:1281:A:H2	1.50	0.59
50:3:1051:U:H2'	50:3:1052:A:C8	2.37	0.59
50:3:2299:U:O4	50:3:2349:G:O6	2.20	0.59
50:3:2540:G:O2'	50:3:2665:A:N1	2.31	0.59
52:5:499:U:H2'	52:5:500:G:C8	2.37	0.59
4:A:87:THR:HB	4:A:183:TYR:HE2	1.67	0.59
6:C:139:GLY:N	6:C:178:TYR:O	2.34	0.59
21:R:34:TRP:HZ3	52:5:1195:G:H1'	1.67	0.59
21:R:49:PHE:CD2	21:R:71:LEU:HD11	2.37	0.59
36:m:21:GLN:OE1	50:3:1305:G:O2'	2.20	0.59
49:z:9:LEU:O	49:z:19:TYR:HB2	2.02	0.59
50:3:134:U:H2'	50:3:135:A:C8	2.37	0.59
50:3:665:C:O2'	50:3:675:U:O2	2.20	0.59
50:3:1073:A:H2'	50:3:1074:A:H8	1.67	0.59
50:3:1092:A:OP2	50:3:1124:G:N1	2.35	0.59
50:3:1472:C:H2'	50:3:1473:C:C6	2.37	0.59
50:3:1592:A:H5'	50:3:1594:G:H5'	1.83	0.59
50:3:2092:U:O2	50:3:2243:G:C6	2.55	0.59
7:D:79:THR:O	52:5:916:U:O2'	2.18	0.59
17:N:7:GLY:HA2	17:N:10:LYS:HZ3	1.66	0.59
50:3:296:U:O2'	50:3:299:A:N3	2.34	0.59
50:3:1433:U:H2'	50:3:1434:U:H6	1.65	0.59
50:3:1461:A:H2'	50:3:1462:A:C8	2.37	0.59
50:3:1918:U:H3	50:3:1925:A:H2'	1.67	0.59
50:3:2117:G:H5'	50:3:2150:C:H4'	1.84	0.59
50:3:2751:C:OP2	50:3:2763:C:N4	2.32	0.59
52:5:345:A:H2'	52:5:346:G:C8	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:366:C:H2'	52:5:367:A:H8	1.68	0.59
52:5:372:G:N2	52:5:383:U:O2	2.35	0.59
13:J:111:HIS:HE1	20:Q:101:PHE:HB3	1.68	0.59
24:a:73:ARG:HH11	24:a:135:SER:HB2	1.68	0.59
26:c:160:VAL:HG22	26:c:186:VAL:HG11	1.85	0.59
50:3:1177:A:O2'	50:3:1179:G:OP2	2.21	0.59
50:3:1520:A:O2'	50:3:1521:A:O4'	2.19	0.59
50:3:1718:C:C2	50:3:1739:G:C2	2.91	0.59
50:3:2568:G:H2'	50:3:2569:A:H8	1.67	0.59
51:4:59:A:O2'	51:4:60:C:OP1	2.21	0.59
52:5:434:U:O2	52:5:493:A:C5	2.55	0.59
52:5:687:G:H2'	52:5:688:G:C4	2.38	0.59
52:5:931:C:O2'	52:5:1357:C:N3	2.34	0.59
52:5:1013:C:C4	52:5:1014:A:N6	2.71	0.59
52:5:1130:G:H2'	52:5:1131:A:H8	1.66	0.59
4:A:58:LEU:HB3	4:A:62:ARG:NH2	2.18	0.59
6:C:117:VAL:HG22	6:C:122:VAL:HG21	1.83	0.59
9:F:94:ARG:NH2	52:5:1352:A:OP1	2.36	0.59
14:K:52:THR:HB	14:K:62:LEU:HG	1.84	0.59
18:O:28:ALA:HB3	18:O:52:TRP:HZ2	1.67	0.59
21:R:78:ARG:NH1	52:5:1197:G:OP1	2.35	0.59
41:r:128:ARG:NH2	50:3:1249:A:N3	2.50	0.59
50:3:467:U:H2'	50:3:468:A:H8	1.66	0.59
50:3:487:C:N4	50:3:490:A:OP2	2.36	0.59
50:3:1083:A:OP2	50:3:1145:G:N1	2.34	0.59
50:3:1433:U:H2'	50:3:1434:U:C6	2.37	0.59
50:3:2210:G:O2'	50:3:2212:U:OP1	2.17	0.59
52:5:92:G:C5	52:5:93:A:H1'	2.38	0.59
52:5:572:A:O2'	52:5:876:C:O2	2.20	0.59
52:5:818:A:H2'	52:5:819:G:C8	2.37	0.59
6:C:96:ARG:HH12	6:C:133:SER:HA	1.68	0.59
8:E:89:ASN:ND2	8:E:91:GLU:OE1	2.35	0.59
25:b:166:SER:O	50:3:2628:U:O2'	2.21	0.59
33:j:30:LYS:HD3	50:3:2682:A:H4'	1.84	0.59
50:3:585:U:H2'	50:3:586:G:H8	1.65	0.59
50:3:1243:A:H2'	50:3:1244:A:H8	1.66	0.59
52:5:90:G:N2	52:5:375:C:O3'	2.36	0.59
52:5:294:A:H2'	52:5:295:G:C8	2.37	0.59
52:5:536:U:H2'	52:5:537:A:C8	2.37	0.59
52:5:1490:G:H2'	52:5:1491:A:C8	2.38	0.59
13:J:51:LYS:NZ	52:5:689:U:O4	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:91:ASP:OD1	34:k:92:LYS:NZ	2.35	0.59
50:3:423:C:H2'	50:3:426:U:O4	2.03	0.59
50:3:537:A:H3'	50:3:540:A:H62	1.67	0.59
50:3:1388:G:N2	50:3:2222:C:O2	2.35	0.59
6:C:38:HIS:CE1	52:5:539:G:H1'	2.37	0.58
7:D:167:ARG:O	7:D:170:ILE:HG22	2.01	0.58
8:E:26:GLN:HE22	8:E:35:LEU:HB2	1.68	0.58
12:I:52:LYS:O	52:5:1228:C:H5''	2.02	0.58
21:R:77:THR:HG21	52:5:1196:G:H4'	1.85	0.58
22:S:30:THR:OG1	52:5:1432:A:OP1	2.19	0.58
25:b:6:ILE:HD12	25:b:96:ILE:HG22	1.84	0.58
39:p:73:MET:HE2	39:p:77:VAL:HG23	1.85	0.58
50:3:316:C:O2'	50:3:392:A:N6	2.35	0.58
50:3:772:C:N4	50:3:773:G:O6	2.36	0.58
50:3:1723:A:OP2	50:3:1732:A:N6	2.36	0.58
50:3:2524:U:H2'	50:3:2525:C:C6	2.38	0.58
52:5:434:U:H2'	52:5:435:U:C6	2.38	0.58
52:5:1038:G:H21	52:5:1190:G:H5'	1.68	0.58
52:5:1293:A:H61	52:5:1334:A:H2	1.51	0.58
2:1:54:ARG:NH1	50:3:868:C:O2'	2.36	0.58
13:J:80:LYS:HA	13:J:107:THR:HG22	1.85	0.58
29:f:9:VAL:HG13	29:f:15:ARG:HA	1.85	0.58
34:k:30:LYS:HG3	34:k:31:THR:HG23	1.83	0.58
50:3:13:C:N4	50:3:2635:G:OP1	2.36	0.58
50:3:1054:U:H2'	50:3:1055:A:C4	2.38	0.58
50:3:1370:A:N7	50:3:1636:U:N3	2.51	0.58
50:3:1784:U:H2'	50:3:1785:U:C6	2.38	0.58
50:3:1919:A:H1'	52:5:1469:G:H21	1.68	0.58
50:3:2084:A:H2'	50:3:2085:C:H6	1.68	0.58
52:5:1138:U:O2	52:5:1149:G:N2	2.31	0.58
52:5:1361:G:H2'	52:5:1362:G:C8	2.38	0.58
25:b:84:ILE:HD13	25:b:208:ARG:NH1	2.16	0.58
28:e:159:PRO:HB2	28:e:175:LYS:HD2	1.84	0.58
39:p:62:LEU:HB2	50:3:1045:A:H4'	1.85	0.58
41:r:34:ASN:HD22	48:y:36:LYS:HB3	1.67	0.58
50:3:169:U:H2'	50:3:170:A:C8	2.39	0.58
50:3:186:A:N3	50:3:469:C:O2'	2.35	0.58
50:3:1803:U:H2'	50:3:1804:A:C8	2.37	0.58
50:3:2704:U:H2'	50:3:2705:G:C8	2.39	0.58
1:0:3:ARG:CZ	50:3:1646:G:H21	2.15	0.58
6:C:17:SER:HB2	6:C:21:ASN:HA	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:143:ARG:HG3	6:C:145:LYS:H	1.69	0.58
9:F:111:HIS:O	9:F:112:GLU:HG3	2.03	0.58
33:j:104:ARG:NH2	33:j:121:VAL:O	2.37	0.58
34:k:53:GLY:O	50:3:861:U:O2'	2.16	0.58
39:p:58:SER:HB3	50:3:1045:A:H1'	1.83	0.58
50:3:429:U:H2'	50:3:430:U:C6	2.37	0.58
50:3:601:U:H4'	50:3:981:A:C6	2.38	0.58
50:3:1010:G:O4'	50:3:1026:A:N6	2.36	0.58
50:3:2670:A:H8	50:3:2671:G:C8	2.21	0.58
52:5:63:U:O2'	52:5:375:C:O2	2.20	0.58
52:5:399:C:H2'	52:5:400:G:C8	2.38	0.58
52:5:1083:A:H61	52:5:1101:A:H5'	1.68	0.58
52:5:1366:U:H4'	52:5:1508:C:H42	1.67	0.58
52:5:1490:G:H2'	52:5:1491:A:H8	1.68	0.58
13:J:33:ASN:HA	52:5:680:G:H21	1.68	0.58
22:S:64:ARG:NH2	52:5:257:U:OP2	2.37	0.58
24:a:179:TYR:CA	24:a:192:PHE:O	2.47	0.58
26:c:25:ILE:HD12	26:c:117:SER:HB2	1.86	0.58
26:c:112:LEU:HG	26:c:116:TRP:NE1	2.19	0.58
37:n:31:MET:HA	37:n:92:ASP:HB3	1.84	0.58
50:3:222:A:N1	50:3:239:U:H4'	2.17	0.58
50:3:277:C:H2'	50:3:278:U:O4'	2.04	0.58
50:3:404:C:H2'	50:3:405:C:C6	2.39	0.58
50:3:1198:G:H2'	50:3:1199:A:C8	2.38	0.58
50:3:1379:C:O2'	50:3:1605:A:N3	2.34	0.58
50:3:1499:C:H2'	50:3:1500:A:C8	2.38	0.58
50:3:1627:U:H2'	50:3:1628:G:C8	2.39	0.58
50:3:2521:A:H2'	50:3:2522:U:C6	2.38	0.58
52:5:55:C:N4	52:5:349:A:OP2	2.36	0.58
52:5:56:A:OP2	52:5:348:C:N4	2.37	0.58
52:5:325:A:O2'	52:5:327:G:OP2	2.21	0.58
52:5:663:G:H5'	52:5:723:C:H1'	1.85	0.58
52:5:957:C:H2'	52:5:958:G:C8	2.38	0.58
10:G:87:VAL:HA	10:G:141:VAL:HG22	1.86	0.58
29:f:7:GLN:OE1	29:f:33:LYS:HB3	2.03	0.58
50:3:413:G:N2	50:3:435:U:O2	2.24	0.58
50:3:1174:G:O2'	50:3:1178:A:N6	2.35	0.58
50:3:1654:G:H2'	50:3:1655:U:C6	2.39	0.58
50:3:1959:A:N7	50:3:2568:G:H1'	2.19	0.58
50:3:2084:A:H2'	50:3:2085:C:C6	2.39	0.58
50:3:2743:U:H2'	50:3:2744:A:H8	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1361:G:H2'	52:5:1362:G:H8	1.68	0.58
6:C:74:LEU:O	6:C:78:VAL:HG23	2.03	0.58
11:H:13:LYS:H	11:H:108:ARG:NH2	2.02	0.58
50:3:47:G:N2	50:3:184:A:N6	2.52	0.58
50:3:300:G:H2'	50:3:301:G:H8	1.67	0.58
50:3:329:G:N2	50:3:377:U:O2	2.31	0.58
50:3:696:U:H2'	50:3:697:U:C6	2.38	0.58
50:3:784:A:H2'	50:3:785:A:H5'	1.86	0.58
50:3:2268:C:H2'	50:3:2269:C:C6	2.38	0.58
52:5:68:C:O2'	52:5:157:A:O2'	2.19	0.58
52:5:87:G:H2'	52:5:88:A:C8	2.39	0.58
52:5:625:U:H2'	52:5:626:G:C8	2.39	0.58
52:5:1136:G:N1	52:5:1151:A:N6	2.52	0.58
6:C:12:ARG:NH2	6:C:31:ARG:HH11	2.00	0.58
9:F:26:ILE:HD13	9:F:39:GLN:HE22	1.69	0.58
21:R:73:GLU:OE1	21:R:73:GLU:N	2.35	0.58
27:d:32:GLU:OE2	27:d:159:SER:OG	2.22	0.58
29:f:51:LEU:HD12	29:f:54:GLN:HE21	1.68	0.58
45:v:16:ASN:HB2	50:3:418:G:H4'	1.85	0.58
45:v:17:ASN:O	45:v:24:ILE:HA	2.04	0.58
50:3:365:U:OP1	50:3:1267:A:O2'	2.19	0.58
50:3:1007:C:OP1	50:3:1025:G:N1	2.35	0.58
50:3:1841:U:H5''	50:3:1842:G:H5'	1.85	0.58
50:3:1931:C:H2'	50:3:1932:C:C6	2.39	0.58
50:3:2190:G:H2'	50:3:2191:G:C8	2.39	0.58
50:3:2254:G:H2'	50:3:2255:A:H8	1.68	0.58
50:3:2812:U:O2'	50:3:2814:A:N7	2.27	0.58
52:5:1448:A:H2'	52:5:1449:G:C8	2.38	0.58
2:l:16:SER:OG	50:3:687:G:OP1	2.22	0.58
33:j:58:LEU:HD23	33:j:86:LEU:HD23	1.85	0.58
35:l:82:ARG:HE	50:3:2259:G:H8	1.50	0.58
50:3:603:G:O4'	50:3:1019:A:N6	2.37	0.58
50:3:1071:G:O6	50:3:1154:U:O4	2.22	0.58
50:3:1865:A:H3'	50:3:1866:G:H8	1.68	0.58
50:3:2179:A:H4'	50:3:2180:U:H5'	1.86	0.58
50:3:2297:G:H2'	50:3:2298:G:C8	2.36	0.58
50:3:2363:C:OP2	50:3:2364:A:N6	2.37	0.58
52:5:19:C:H2'	52:5:20:C:C6	2.39	0.58
52:5:162:C:H1'	52:5:1422:A:H1'	1.85	0.58
52:5:603:U:O2	52:5:630:G:N2	2.36	0.58
3:2:7:VAL:HG13	3:2:37:GLY:HA3	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:280:ARG:HD2	24:a:282:ARG:H	1.69	0.58
26:c:64:LYS:HG2	26:c:77:GLY:HA2	1.86	0.58
29:f:6:LYS:HE3	29:f:33:LYS:O	2.02	0.58
50:3:338:G:H2'	50:3:339:U:C6	2.39	0.58
50:3:500:U:H2'	50:3:501:G:C8	2.38	0.58
50:3:579:U:O2'	50:3:581:A:OP2	2.22	0.58
50:3:675:U:H2'	50:3:676:U:C6	2.38	0.58
50:3:1957:G:N2	50:3:1961:A:N3	2.52	0.58
50:3:1973:U:O2	50:3:2600:G:O2'	2.22	0.58
50:3:2670:A:H3'	50:3:2671:G:C8	2.38	0.58
52:5:22:G:H2'	52:5:23:G:C8	2.39	0.58
10:G:106:LEU:HD13	10:G:110:GLY:N	2.19	0.57
46:w:67:GLU:OE2	50:3:146:G:N2	2.37	0.57
50:3:300:G:H2'	50:3:301:G:C8	2.39	0.57
50:3:562:C:N4	50:3:2785:G:O2'	2.37	0.57
50:3:1010:G:N2	50:3:1025:G:O2'	2.37	0.57
50:3:1010:G:O3'	50:3:1011:A:H8	1.87	0.57
50:3:1330:U:O2'	50:3:1676:G:N2	2.37	0.57
50:3:1386:G:N1	50:3:1400:U:OP2	2.25	0.57
50:3:2189:U:H2'	50:3:2190:G:H8	1.69	0.57
50:3:2747:U:O2	50:3:2772:A:N7	2.37	0.57
50:3:2849:G:H2'	50:3:2850:G:H8	1.69	0.57
52:5:1178:C:H2'	52:5:1179:A:C8	2.40	0.57
8:E:87:ILE:O	20:Q:92:ARG:NH1	2.37	0.57
10:G:11:HIS:NE2	52:5:821:U:O2	2.30	0.57
10:G:31:MET:HE3	10:G:73:ASN:HB3	1.86	0.57
24:a:73:ARG:NH1	24:a:199:THR:OG1	2.37	0.57
25:b:4:ARG:HB3	25:b:101:LEU:HD22	1.86	0.57
25:b:14:SER:N	25:b:26:ILE:O	2.32	0.57
27:d:57:LEU:HD23	27:d:65:PRO:HB3	1.86	0.57
27:d:64:LYS:HB2	51:4:40:U:H4'	1.85	0.57
37:n:79:ASP:OD1	37:n:112:ARG:NH1	2.37	0.57
50:3:1089:A:H2'	50:3:1090:G:C8	2.39	0.57
53:6:30:G:H2'	53:6:31:G:H8	1.69	0.57
1:0:12:ARG:HB2	50:3:721:G:H22	1.69	0.57
11:H:53:PRO:HG3	11:H:105:LEU:HD13	1.85	0.57
25:b:3:ILE:HG21	25:b:208:ARG:HD3	1.86	0.57
26:c:182:HIS:ND1	26:c:184:ASP:OD1	2.35	0.57
32:i:117:LEU:O	32:i:121:TRP:N	2.36	0.57
40:q:76:GLN:NE2	50:3:599:U:O4	2.38	0.57
44:u:83:TYR:CD1	44:u:95:VAL:HG12	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:301:G:H2'	50:3:302:G:H8	1.69	0.57
50:3:663:A:O2'	50:3:672:G:N2	2.37	0.57
50:3:1230:U:H2'	50:3:1231:G:C8	2.39	0.57
50:3:2084:A:N3	50:3:2442:A:O2'	2.35	0.57
50:3:2604:U:H2'	50:3:2605:G:C4	2.40	0.57
51:4:72:A:H62	51:4:92:A:H2	1.50	0.57
51:4:92:A:H2'	51:4:93:U:C6	2.39	0.57
52:5:442:G:H2'	52:5:443:G:C8	2.38	0.57
52:5:651:G:H2'	52:5:652:A:C8	2.39	0.57
15:L:86:TRP:HB2	21:R:76:PRO:HA	1.86	0.57
16:M:3:LYS:HB3	52:5:1039:G:H5''	1.85	0.57
35:l:67:ARG:HB2	35:l:103:MET:HA	1.86	0.57
36:m:82:LEU:HD13	36:m:86:VAL:HB	1.86	0.57
39:p:6:GLY:H	50:3:31:U:H5''	1.70	0.57
50:3:606:G:O2'	50:3:608:A:OP1	2.22	0.57
50:3:622:U:H2'	50:3:623:A:C8	2.40	0.57
50:3:650:G:H2'	50:3:651:A:C8	2.39	0.57
50:3:1194:U:H2'	50:3:1195:A:H8	1.68	0.57
52:5:207:C:H3'	52:5:208:A:H8	1.69	0.57
10:G:21:LYS:HB3	10:G:33:VAL:HG11	1.86	0.57
10:G:49:VAL:HG21	10:G:57:PHE:HD1	1.69	0.57
24:a:272:LYS:NZ	50:3:1809:A:O2'	2.36	0.57
50:3:906:G:H1	50:3:945:U:H3	1.53	0.57
50:3:1182:U:H2'	50:3:1183:A:C8	2.39	0.57
50:3:2639:G:H2'	50:3:2640:A:C8	2.40	0.57
50:3:2856:G:N2	50:3:2869:U:O2	2.37	0.57
52:5:309:A:H2'	52:5:310:C:C6	2.40	0.57
52:5:780:U:H2'	52:5:781:A:H8	1.67	0.57
52:5:1280:A:N6	52:5:1305:G:O4'	2.37	0.57
1:0:18:PHE:HD1	1:0:43:THR:HG21	1.69	0.57
4:A:184:GLU:HB3	4:A:187:ALA:HB3	1.86	0.57
6:C:73:ARG:NH2	52:5:398:G:H5'	2.19	0.57
24:a:2:PRO:HD2	24:a:25:LEU:HD11	1.85	0.57
27:d:122:PHE:CE1	27:d:128:TYR:HB2	2.40	0.57
50:3:320:A:H2'	50:3:321:A:C8	2.40	0.57
50:3:575:C:H2'	50:3:576:A:C8	2.40	0.57
50:3:992:G:O6	50:3:994:U:O2'	2.20	0.57
50:3:1197:G:H2'	50:3:1198:G:H8	1.69	0.57
50:3:1346:G:H2'	50:3:1347:A:C8	2.40	0.57
50:3:2098:U:O2	50:3:2236:G:O6	2.22	0.57
50:3:2849:G:H2'	50:3:2850:G:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:724:G:N2	52:5:727:G:OP2	2.38	0.57
52:5:1072:G:H2'	52:5:1073:A:C8	2.40	0.57
52:5:1236:A:H3'	52:5:1237:G:H8	1.70	0.57
52:5:1384:A:H2'	52:5:1385:A:H8	1.69	0.57
4:A:192:ASN:HD21	4:A:210:LEU:HB3	1.70	0.57
8:E:22:ASN:HB3	8:E:60:TRP:HH2	1.69	0.57
8:E:71:ASP:O	8:E:75:THR:HG23	2.05	0.57
10:G:118:THR:HA	10:G:135:GLY:HA3	1.86	0.57
28:e:34:ILE:HD11	28:e:78:ALA:HB1	1.86	0.57
50:3:675:U:H2'	50:3:676:U:H6	1.70	0.57
50:3:1721:G:H2'	50:3:1722:U:C6	2.40	0.57
50:3:2598:C:H2'	50:3:2599:C:C6	2.39	0.57
52:5:137:A:H62	52:5:156:U:H3	1.53	0.57
52:5:206:G:N2	52:5:209:A:OP2	2.32	0.57
52:5:331:C:H2'	52:5:332:A:H8	1.68	0.57
52:5:881:G:C6	52:5:905:U:N3	2.73	0.57
52:5:895:A:C5	52:5:896:G:H1'	2.39	0.57
52:5:1082:U:N3	52:5:1085:G:OP2	2.36	0.57
52:5:1383:A:H2'	52:5:1384:A:C8	2.39	0.57
13:J:12:GLY:HA3	13:J:72:MET:HE2	1.87	0.57
50:3:174:A:H2'	50:3:175:A:H8	1.68	0.57
50:3:646:A:N6	50:3:653:G:O6	2.37	0.57
50:3:1508:G:OP2	50:3:1508:G:H4'	2.05	0.57
50:3:1621:U:H2'	50:3:1622:C:C6	2.40	0.57
50:3:1798:A:N6	50:3:1835:G:H1'	2.18	0.57
50:3:2155:G:H2'	50:3:2156:G:C8	2.40	0.57
50:3:2599:C:H2'	50:3:2600:G:H8	1.69	0.57
50:3:2701:A:H2'	50:3:2702:G:C8	2.40	0.57
50:3:2849:G:H1	50:3:2875:U:H3	1.53	0.57
52:5:673:A:H2'	52:5:674:U:H6	1.70	0.57
52:5:1237:G:H1	52:5:1248:U:H3	0.77	0.57
8:E:89:ASN:OD1	8:E:90:LEU:N	2.36	0.57
26:c:33:PRO:HB2	26:c:111:ALA:HB2	1.87	0.57
28:e:61:LEU:O	28:e:64:SER:OG	2.16	0.57
32:i:16:ARG:HG2	32:i:55:ASP:HA	1.87	0.57
35:l:26:TYR:O	35:l:67:ARG:NH1	2.38	0.57
36:m:109:ASP:OD1	50:3:2016:G:N2	2.38	0.57
38:o:56:ARG:HH22	50:3:2691:C:H5''	1.70	0.57
39:p:32:LYS:HB3	50:3:1282:G:N2	2.20	0.57
50:3:406:C:H2'	50:3:407:U:C6	2.39	0.57
50:3:674:G:H2'	50:3:675:U:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1457:A:H61	50:3:1598:U:H3	1.51	0.57
50:3:1695:G:H5''	50:3:2720:C:C2	2.40	0.57
50:3:2760:C:H3'	50:3:2761:A:H8	1.69	0.57
52:5:598:U:H2'	52:5:599:G:C8	2.39	0.57
52:5:1496:G:H2'	52:5:1497:U:C6	2.40	0.57
4:A:83:LEU:HD23	4:A:176:LEU:HD22	1.86	0.57
14:K:25:HIS:HA	14:K:39:TYR:HA	1.87	0.57
24:a:129:ASP:HB3	24:a:131:LYS:HG2	1.85	0.57
26:c:69:LYS:NZ	50:3:2451:C:OP1	2.26	0.57
50:3:321:A:H2'	50:3:322:A:C8	2.39	0.57
50:3:454:G:H2'	50:3:455:G:C8	2.39	0.57
50:3:625:G:H2'	50:3:626:A:H8	1.68	0.57
50:3:800:C:H2'	50:3:801:U:C6	2.40	0.57
50:3:1785:U:C2	50:3:1791:A:H2	2.23	0.57
50:3:1942:G:N1	50:3:1971:G:OP1	2.37	0.57
50:3:2272:C:H2'	50:3:2273:U:O4'	2.05	0.57
52:5:128:A:O2'	52:5:198:A:N1	2.33	0.57
52:5:1380:G:H1'	52:5:1494:A:H4'	1.85	0.57
53:7:30:G:H2'	53:7:31:G:H8	1.69	0.57
8:E:47:TYR:HB3	20:Q:103:LYS:HE3	1.87	0.56
18:O:55:LYS:O	52:5:223:G:N2	2.38	0.56
18:O:74:LYS:HA	18:O:78:GLU:HB2	1.87	0.56
20:Q:68:ALA:O	52:5:715:A:N6	2.38	0.56
25:b:70:PHE:O	25:b:75:LEU:N	2.34	0.56
28:e:91:ARG:HG2	28:e:168:PHE:HB2	1.85	0.56
29:f:7:GLN:CD	29:f:33:LYS:HB3	2.30	0.56
34:k:29:GLY:H	40:q:78:HIS:HE1	1.52	0.56
46:w:70:ALA:HA	50:3:138:U:H5''	1.87	0.56
50:3:874:U:H3	50:3:975:G:H1	1.53	0.56
50:3:1418:U:N3	50:3:1422:U:O4	2.38	0.56
50:3:2104:A:H2'	50:3:2105:G:H8	1.70	0.56
50:3:2419:A:H2'	50:3:2420:A:C8	2.39	0.56
50:3:2567:C:H2'	50:3:2568:G:C8	2.39	0.56
52:5:69:G:H2'	52:5:70:A:O4'	2.05	0.56
52:5:153:A:H2'	52:5:154:G:H8	1.70	0.56
52:5:288:A:OP2	52:5:301:G:N1	2.30	0.56
52:5:534:C:H2'	52:5:535:A:C8	2.40	0.56
10:G:96:ARG:HH11	52:5:585:G:H5'	1.70	0.56
26:c:143:MET:SD	26:c:171:SER:HB3	2.46	0.56
28:e:57:ARG:NH2	28:e:61:LEU:H	2.02	0.56
41:r:90:LYS:N	50:3:786:A:OP2	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:69:U:H2'	50:3:70:G:H8	1.69	0.56
50:3:85:U:O2	50:3:104:A:N7	2.38	0.56
50:3:123:G:H2'	50:3:124:A:C8	2.39	0.56
50:3:574:G:H1	50:3:587:U:H3	1.52	0.56
50:3:715:G:H2'	50:3:716:G:H8	1.69	0.56
50:3:898:A:O3'	51:4:76:A:O2'	2.19	0.56
50:3:1588:A:O2'	50:3:1589:A:OP1	2.16	0.56
50:3:2785:G:H5'	50:3:2789:A:H1'	1.85	0.56
50:3:2793:U:H2'	50:3:2794:U:C6	2.40	0.56
52:5:934:G:O6	52:5:1318:C:N4	2.38	0.56
52:5:984:A:H2	52:5:1191:U:H3	1.53	0.56
52:5:1184:C:O2'	52:5:1189:U:O4	2.21	0.56
52:5:1409:A:H2'	52:5:1410:A:C8	2.40	0.56
5:B:144:VAL:HG12	5:B:149:ALA:HB2	1.86	0.56
11:H:42:PRO:HB2	11:H:44:LYS:HD3	1.88	0.56
19:P:10:ILE:HG23	19:P:60:LYS:HE2	1.87	0.56
22:S:53:ARG:NH1	52:5:197:A:OP2	2.38	0.56
24:a:171:LEU:HD12	24:a:181:ILE:HG22	1.87	0.56
24:a:215:LYS:NZ	50:3:799:A:OP1	2.29	0.56
25:b:225:GLN:HE22	38:o:84:PRO:HA	1.70	0.56
29:f:93:ILE:HG13	29:f:94:THR:H	1.70	0.56
42:s:37:LYS:HB2	50:3:1632:C:H5''	1.88	0.56
49:z:38:CYS:HB2	49:z:47:HIS:HE1	1.71	0.56
50:3:195:A:H2'	50:3:196:G:C8	2.40	0.56
50:3:314:G:O2'	50:3:315:A:H2'	2.05	0.56
50:3:1001:C:H2'	50:3:1002:A:C8	2.40	0.56
50:3:1007:C:H1'	50:3:1019:A:H2	1.71	0.56
50:3:1020:G:H5''	50:3:1021:C:C5	2.41	0.56
50:3:1296:G:O2'	50:3:2019:G:N1	2.33	0.56
50:3:1919:A:OP2	50:3:1925:A:N6	2.31	0.56
50:3:2140:G:O2'	50:3:2165:A:N6	2.39	0.56
50:3:2306:A:H3'	50:3:2307:G:H8	1.70	0.56
50:3:2742:U:H3	50:3:2778:U:H3	1.53	0.56
52:5:708:A:H2'	52:5:709:A:C8	2.41	0.56
52:5:1230:G:H3'	52:5:1254:A:H61	1.71	0.56
52:5:1246:A:H2'	52:5:1247:G:C8	2.41	0.56
24:a:153:HIS:HE1	24:a:159:GLN:HE22	1.51	0.56
25:b:55:ASP:OD2	25:b:80:HIS:ND1	2.39	0.56
50:3:67:C:O2'	50:3:492:C:N3	2.38	0.56
50:3:218:G:H2'	50:3:219:G:C8	2.40	0.56
50:3:931:G:H2'	50:3:932:U:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1803:U:H2'	50:3:1804:A:H8	1.70	0.56
50:3:1807:C:O2	50:3:1824:G:O6	2.23	0.56
50:3:1815:U:O2'	50:3:1816:A:O4'	2.24	0.56
50:3:2106:G:H1	50:3:2198:G:H22	1.53	0.56
50:3:2459:A:N7	50:3:2460:C:N4	2.53	0.56
52:5:721:G:OP1	52:5:830:U:O2'	2.17	0.56
52:5:947:U:H5''	52:5:959:A:H61	1.69	0.56
52:5:1333:C:H4'	52:5:1336:C:H41	1.71	0.56
52:5:1382:C:H2'	52:5:1383:A:C8	2.40	0.56
9:F:153:MET:HB3	9:F:155:TRP:HZ3	1.71	0.56
12:I:55:ILE:HD13	16:M:34:LEU:HD13	1.86	0.56
25:b:116:GLY:HA3	50:3:2825:A:H5''	1.88	0.56
29:f:97:ILE:O	29:f:100:GLN:HG3	2.06	0.56
38:o:94:GLY:HA2	38:o:115:LYS:HA	1.86	0.56
50:3:62:G:O2'	50:3:64:U:OP2	2.23	0.56
50:3:309:A:N1	50:3:311:G:N2	2.53	0.56
50:3:804:U:H2'	50:3:805:G:C8	2.40	0.56
50:3:1012:G:H2'	50:3:1013:G:C8	2.40	0.56
50:3:1039:G:H21	50:3:1046:A:H1'	1.69	0.56
50:3:1521:A:H2'	50:3:1523:C:N4	2.19	0.56
50:3:1829:U:H2'	50:3:1830:G:H8	1.71	0.56
50:3:2055:A:H2'	50:3:2056:A:O4'	2.05	0.56
50:3:2305:C:N4	50:3:2327:U:O4'	2.38	0.56
50:3:2806:A:H2'	50:3:2807:G:H4'	1.87	0.56
52:5:37:C:O2'	52:5:499:U:OP1	2.23	0.56
52:5:167:A:O2'	52:5:197:A:N6	2.39	0.56
52:5:240:U:H4'	52:5:241:C:H5'	1.87	0.56
52:5:503:G:H2'	52:5:504:A:H8	1.71	0.56
52:5:1176:A:H5''	52:5:1178:C:H5	1.71	0.56
7:D:160:ILE:O	7:D:167:ARG:NH2	2.34	0.56
24:a:215:LYS:HG2	24:a:218:ARG:HD3	1.87	0.56
28:e:85:GLY:HA3	28:e:138:GLY:O	2.05	0.56
50:3:220:A:H2'	50:3:221:A:O4'	2.05	0.56
50:3:408:G:O2'	50:3:459:A:H3'	2.05	0.56
50:3:703:A:H2'	50:3:705:A:H62	1.70	0.56
50:3:740:A:H2'	50:3:741:A:C8	2.40	0.56
50:3:1093:U:O4	50:3:1115:G:O6	2.23	0.56
50:3:1288:C:H2'	50:3:1289:G:C8	2.38	0.56
50:3:1718:C:C2	50:3:1739:G:N2	2.74	0.56
50:3:2612:G:H2'	50:3:2613:U:C6	2.41	0.56
50:3:2822:C:H2'	50:3:2823:A:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:305:A:H2'	52:5:306:G:H8	1.70	0.56
52:5:649:U:O2	52:5:750:A:N7	2.38	0.56
14:K:69:ARG:HB2	14:K:75:GLU:HG2	1.88	0.56
24:a:184:LEU:HD11	24:a:190:ARG:HB2	1.87	0.56
25:b:196:ALA:HB1	50:3:2688:C:H1'	1.87	0.56
27:d:92:ARG:HH11	51:4:42:G:H5''	1.69	0.56
33:j:3:SER:OG	50:3:1700:G:N3	2.35	0.56
34:k:134:GLN:HA	34:k:137:LYS:HD2	1.88	0.56
39:p:2:ARG:HD2	50:3:1278:G:C2	2.41	0.56
43:t:14:THR:HG21	50:3:366:A:H61	1.70	0.56
44:u:28:ARG:NH1	50:3:2288:G:N7	2.54	0.56
50:3:202:C:H1'	50:3:2442:A:H61	1.70	0.56
50:3:442:G:C6	50:3:457:U:N3	2.74	0.56
50:3:590:U:H2'	50:3:591:G:C8	2.41	0.56
50:3:675:U:O4	50:3:685:G:O6	2.24	0.56
50:3:827:G:N3	50:3:2079:G:O2'	2.38	0.56
50:3:1627:U:H2'	50:3:1628:G:H8	1.69	0.56
50:3:2313:U:H2'	50:3:2314:U:C6	2.40	0.56
51:4:27:A:O2'	51:4:56:A:N1	2.35	0.56
52:5:308:C:H2'	52:5:309:A:C8	2.41	0.56
52:5:664:A:H2'	52:5:665:G:H8	1.71	0.56
52:5:689:U:O2'	52:5:691:A:N7	2.36	0.56
52:5:710:G:H2'	52:5:711:G:H8	1.66	0.56
52:5:1049:G:O6	52:5:1174:U:O2	2.23	0.56
52:5:1438:U:H2'	52:5:1439:G:H8	1.70	0.56
25:b:1:MET:SD	25:b:2:GLU:N	2.79	0.56
25:b:49:ALA:HB2	25:b:85:ARG:HD2	1.87	0.56
28:e:98:ARG:HH22	28:e:100:ASN:CG	2.14	0.56
42:s:28:VAL:HG22	42:s:82:VAL:HG12	1.87	0.56
46:w:17:LYS:O	46:w:21:LYS:HG3	2.05	0.56
50:3:61:U:O4	50:3:70:G:O6	2.24	0.56
50:3:274:A:OP2	50:3:294:G:N2	2.32	0.56
50:3:863:U:H4'	50:3:866:G:C6	2.41	0.56
50:3:962:U:H2'	50:3:963:U:C6	2.41	0.56
50:3:1641:A:H1'	50:3:1655:U:C5	2.41	0.56
50:3:1792:A:H4'	50:3:1989:U:H4'	1.88	0.56
51:4:53:U:O2'	51:4:54:U:O4'	2.23	0.56
52:5:163:G:H4'	52:5:1423:C:H5''	1.88	0.56
52:5:909:A:H2'	52:5:911:G:H8	1.71	0.56
52:5:1241:G:N2	52:5:1244:A:OP1	2.38	0.56
52:5:1406:U:O2	52:5:1444:G:N2	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:39:TYR:O	52:5:551:A:O2'	2.19	0.56
26:c:182:HIS:HB3	26:c:185:LYS:HG2	1.86	0.56
29:f:10:SER:O	29:f:14:LYS:NZ	2.39	0.56
36:m:99:ARG:HB2	36:m:117:GLN:HE21	1.69	0.56
37:n:19:ILE:HA	37:n:22:THR:HG22	1.88	0.56
40:q:34:GLN:HE22	40:q:56:VAL:HG22	1.71	0.56
50:3:89:U:H5''	50:3:90:G:H5''	1.88	0.56
50:3:1106:G:H2'	50:3:1107:C:C2	2.41	0.56
50:3:1505:G:H2'	50:3:1506:U:H6	1.71	0.56
50:3:1787:A:H3'	50:3:1788:A:H2'	1.87	0.56
50:3:2167:G:H2'	50:3:2168:C:C6	2.41	0.56
50:3:2299:U:H5''	50:3:2388:C:O2'	2.06	0.56
50:3:2588:U:H3'	50:3:2589:G:N2	2.21	0.56
52:5:1403:A:H2'	52:5:1404:U:C6	2.41	0.56
52:5:1505:G:H2'	52:5:1506:A:H8	1.70	0.56
8:E:49:ILE:HG22	8:E:50:LYS:HG3	1.88	0.56
26:c:67:LYS:O	26:c:71:THR:OG1	2.22	0.56
35:l:77:LYS:HB2	50:3:992:G:H5''	1.88	0.56
50:3:181:G:H2'	50:3:182:C:H6	1.71	0.56
50:3:498:C:H2'	50:3:499:G:C8	2.41	0.56
50:3:1475:C:H2'	50:3:1476:C:C6	2.40	0.56
50:3:1786:U:C4	50:3:1791:A:N1	2.74	0.56
50:3:1932:C:N4	50:3:1936:G:N2	2.31	0.56
50:3:2054:C:H2'	50:3:2055:A:C8	2.41	0.56
52:5:1384:A:H2'	52:5:1385:A:C8	2.41	0.56
52:5:1436:C:H2'	52:5:1437:A:H8	1.71	0.56
5:B:61:THR:HB	12:I:100:VAL:HA	1.87	0.55
8:E:106:GLN:HA	52:5:838:A:H4'	1.88	0.55
11:H:86:VAL:O	11:H:90:LEU:HG	2.06	0.55
19:P:61:VAL:HG12	19:P:80:ILE:HG23	1.86	0.55
27:d:27:GLN:NE2	51:4:55:A:O2'	2.33	0.55
33:j:3:SER:O	33:j:6:THR:OG1	2.24	0.55
36:m:17:THR:O	36:m:21:GLN:NE2	2.38	0.55
50:3:480:C:H2'	50:3:481:C:C6	2.40	0.55
50:3:534:U:O4	50:3:538:A:N7	2.39	0.55
50:3:2134:G:H2'	50:3:2135:C:O4'	2.06	0.55
50:3:2231:A:H3'	50:3:2232:G:H8	1.71	0.55
52:5:412:G:H2'	52:5:413:G:C8	2.39	0.55
52:5:1039:G:O2'	52:5:1041:G:OP1	2.24	0.55
52:5:1130:G:H2'	52:5:1131:A:C8	2.42	0.55
52:5:1226:A:H2'	52:5:1227:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:71:ASP:OD1	8:E:72:PHE:N	2.39	0.55
10:G:107:VAL:HB	10:G:112:GLY:HA3	1.88	0.55
25:b:180:ARG:NH1	50:3:2737:G:O2'	2.30	0.55
29:f:81:LEU:HD23	29:f:142:VAL:HB	1.88	0.55
31:h:106:GLN:HA	31:h:109:LEU:HB2	1.88	0.55
35:l:31:GLU:HG2	35:l:114:MET:HE1	1.87	0.55
36:m:56:ASN:H	36:m:59:ASN:HD22	1.54	0.55
38:o:37:LEU:HB2	38:o:44:ARG:HB3	1.88	0.55
50:3:177:U:H2'	50:3:178:A:C8	2.41	0.55
50:3:462:C:H2'	50:3:463:U:C6	2.40	0.55
50:3:1084:C:H2'	50:3:1085:A:H8	1.71	0.55
50:3:1609:U:H2'	50:3:1610:U:H6	1.71	0.55
50:3:1778:G:H2'	50:3:1779:G:C8	2.41	0.55
50:3:1949:C:O2'	53:6:72:C:OP2	2.14	0.55
50:3:2696:G:OP1	50:3:2721:C:N4	2.39	0.55
50:3:2826:G:O2'	50:3:2828:C:OP2	2.14	0.55
52:5:510:U:H2'	52:5:511:A:H8	1.70	0.55
52:5:669:U:H2'	52:5:670:G:H8	1.69	0.55
39:p:49:ARG:NE	50:3:1029:A:OP1	2.36	0.55
41:r:6:LYS:HD2	41:r:104:VAL:HB	1.88	0.55
42:s:63:THR:O	42:s:75:SER:N	2.38	0.55
43:t:1:MET:SD	43:t:2:GLN:N	2.78	0.55
50:3:26:G:H2'	50:3:27:U:H6	1.71	0.55
50:3:368:C:OP1	50:3:369:C:N4	2.34	0.55
50:3:665:C:H1'	50:3:675:U:H1'	1.87	0.55
50:3:1527:U:H2'	50:3:1528:G:H8	1.72	0.55
50:3:2566:C:H2'	50:3:2567:C:C6	2.41	0.55
50:3:2716:U:H2'	50:3:2717:G:C8	2.41	0.55
50:3:2843:G:O6	50:3:2882:U:O4	2.23	0.55
52:5:48:C:H42	52:5:357:G:H1	1.54	0.55
52:5:71:A:H2'	52:5:72:A:C8	2.40	0.55
52:5:262:G:OP2	52:5:263:C:N4	2.40	0.55
52:5:1110:C:H2'	52:5:1111:G:H8	1.69	0.55
7:D:103:TYR:O	7:D:122:ALA:HA	2.05	0.55
15:L:102:THR:O	15:L:110:LYS:NZ	2.38	0.55
26:c:54:THR:H	26:c:57:GLU:HB2	1.71	0.55
28:e:90:LEU:HD22	28:e:167:TYR:HA	1.86	0.55
28:e:158:GLU:HG3	28:e:160:TYR:H	1.69	0.55
29:f:9:VAL:HG22	29:f:16:PHE:N	2.22	0.55
29:f:65:SER:HB3	29:f:134:THR:HG21	1.88	0.55
39:p:79:ILE:HB	50:3:1187:C:H5''	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:t:71:LEU:HA	43:t:74:LEU:HD12	1.87	0.55
50:3:85:U:O4	50:3:103:G:O2'	2.14	0.55
50:3:401:G:O2'	50:3:402:A:OP1	2.23	0.55
50:3:442:G:N1	50:3:457:U:N3	2.54	0.55
50:3:953:G:H4'	51:4:90:G:H5'	1.89	0.55
50:3:1619:A:H2'	50:3:1620:A:H8	1.71	0.55
50:3:1870:G:H2'	50:3:1871:U:C6	2.41	0.55
50:3:2011:G:H3'	50:3:2012:A:H8	1.72	0.55
52:5:92:G:OP1	52:5:321:A:N6	2.39	0.55
52:5:265:U:H2'	52:5:266:A:C8	2.41	0.55
52:5:777:A:H2'	52:5:797:G:H22	1.72	0.55
52:5:1074:U:H2'	52:5:1093:A:C8	2.42	0.55
4:A:32:MET:HE3	4:A:33:VAL:HG22	1.88	0.55
5:B:179:SER:OG	52:5:1102:A:N6	2.40	0.55
11:H:32:VAL:HG21	11:H:41:PHE:HE2	1.69	0.55
14:K:21:SER:HB2	14:K:108:TYR:HE1	1.71	0.55
22:S:17:ARG:NH1	52:5:319:U:O2'	2.39	0.55
34:k:43:LYS:HG2	34:k:44:SER:H	1.71	0.55
36:m:99:ARG:NH1	36:m:119:THR:O	2.40	0.55
42:s:54:LYS:HE2	42:s:56:ASN:HD21	1.72	0.55
50:3:221:A:H2'	50:3:222:A:H8	1.71	0.55
50:3:343:A:N6	50:3:1240:U:O2'	2.40	0.55
50:3:442:G:C6	50:3:457:U:C4	2.94	0.55
50:3:680:A:H4'	50:3:681:A:C5	2.42	0.55
50:3:713:C:H2'	50:3:714:G:C8	2.41	0.55
50:3:1711:A:H2'	50:3:1712:A:C8	2.42	0.55
50:3:1999:G:N1	50:3:2003:C:O2	2.39	0.55
50:3:2346:G:H2'	50:3:2347:G:C8	2.42	0.55
50:3:2705:G:H2'	50:3:2706:U:C6	2.41	0.55
52:5:132:G:H2'	52:5:133:G:H8	1.70	0.55
52:5:292:U:H2'	52:5:293:G:C8	2.41	0.55
52:5:780:U:OP1	52:5:1490:G:O2'	2.24	0.55
52:5:1065:G:H2'	52:5:1066:U:H6	1.71	0.55
52:5:1289:U:O2'	52:5:1334:A:O2'	2.18	0.55
7:D:77:SER:H	52:5:17:A:H4'	1.70	0.55
8:E:126:GLU:HA	52:5:839:U:H3	1.70	0.55
14:K:25:HIS:O	14:K:38:VAL:HG22	2.07	0.55
27:d:92:ARG:NH1	51:4:42:G:H5''	2.22	0.55
28:e:47:GLU:OE2	28:e:56:THR:HG23	2.06	0.55
40:q:56:VAL:HG12	40:q:95:VAL:HB	1.89	0.55
50:3:730:G:H2'	50:3:731:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:941:C:H2'	50:3:942:A:H8	1.71	0.55
50:3:1037:A:H3'	50:3:1038:G:H8	1.72	0.55
50:3:1488:U:H2'	50:3:1489:G:H8	1.72	0.55
50:3:1499:C:H2'	50:3:1500:A:H8	1.69	0.55
50:3:1766:A:H62	50:3:2705:G:H1'	1.72	0.55
50:3:1786:U:N3	50:3:1791:A:C6	2.74	0.55
50:3:1942:G:H3'	50:3:1969:C:H42	1.72	0.55
50:3:2099:U:N3	50:3:2234:C:OP2	2.40	0.55
50:3:2382:A:H2'	50:3:2383:G:C8	2.42	0.55
50:3:2553:G:N2	50:3:2573:A:N3	2.50	0.55
51:4:31:G:H2'	51:4:32:G:C8	2.40	0.55
52:5:327:G:H4'	52:5:347:G:H5''	1.88	0.55
52:5:631:C:H2'	52:5:632:A:C8	2.41	0.55
52:5:676:U:H2'	52:5:677:C:H6	1.72	0.55
52:5:1321:G:O2'	52:5:1348:G:O6	2.19	0.55
13:J:49:ARG:HE	13:J:52:THR:HG21	1.70	0.55
14:K:57:LYS:NZ	52:5:1466:U:OP1	2.39	0.55
14:K:127:ARG:HA	14:K:132:ALA:HB3	1.89	0.55
26:c:131:ASN:O	26:c:135:LYS:NZ	2.40	0.55
28:e:110:LEU:HD12	28:e:155:ARG:HD2	1.87	0.55
33:j:106:LEU:HB2	33:j:115:LEU:HD21	1.89	0.55
37:n:77:ILE:HG13	37:n:81:LEU:HD23	1.88	0.55
50:3:199:A:H2'	50:3:202:C:N4	2.22	0.55
50:3:822:C:H3'	50:3:826:C:H41	1.72	0.55
50:3:829:A:H2'	50:3:830:A:O4'	2.06	0.55
50:3:1201:A:H2'	50:3:1202:A:C8	2.42	0.55
50:3:2078:A:H2'	50:3:2079:G:C8	2.42	0.55
50:3:2085:C:H2'	50:3:2086:U:C6	2.42	0.55
50:3:2151:G:O2'	50:3:2154:A:N6	2.40	0.55
50:3:2592:U:O2	53:6:76:C:O2'	2.24	0.55
50:3:2626:A:H2'	50:3:2627:U:C6	2.42	0.55
50:3:2824:A:H2	50:3:2832:G:H1'	1.72	0.55
52:5:305:A:H2'	52:5:306:G:C8	2.41	0.55
52:5:934:G:N2	52:5:1318:C:O2	2.37	0.55
52:5:1265:U:H2'	52:5:1266:U:C6	2.42	0.55
53:7:19:G:H1	53:7:56:U:H6	1.55	0.55
10:G:43:ALA:HA	10:G:46:GLU:CD	2.32	0.55
14:K:53:MET:O	14:K:63:ARG:N	2.34	0.55
16:M:29:ARG:NH1	52:5:969:A:N7	2.49	0.55
24:a:165:GLY:HA2	24:a:206:LEU:HD23	1.88	0.55
24:a:268:ARG:HB2	50:3:1805:U:H5''	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:116:GLY:HA2	50:3:663:A:H62	1.72	0.55
45:v:47:ARG:HH22	50:3:2208:U:P	2.30	0.55
50:3:701:A:H2'	50:3:702:U:C6	2.41	0.55
50:3:1645:C:H2'	50:3:1646:G:C8	2.42	0.55
50:3:1700:G:H1	50:3:2002:U:H3	1.44	0.55
50:3:1960:A:H1'	50:3:2557:G:H21	1.71	0.55
50:3:2673:A:H2'	50:3:2674:C:C6	2.42	0.55
50:3:2678:A:H2'	50:3:2679:G:C8	2.42	0.55
50:3:2795:C:H2'	50:3:2796:C:C6	2.42	0.55
52:5:58:G:H2'	52:5:59:C:C6	2.42	0.55
52:5:545:A:N3	52:5:546:G:H1'	2.22	0.55
11:H:69:VAL:HB	11:H:77:GLN:CD	2.32	0.55
24:a:61:ARG:NH2	24:a:62:ASN:O	2.39	0.55
30:g:34:ALA:HB3	50:3:1092:A:H1'	1.89	0.55
33:j:6:THR:HG22	33:j:8:LEU:HG	1.89	0.55
43:t:3:ARG:HE	50:3:370:C:H5''	1.72	0.55
46:w:104:LYS:HD2	50:3:1547:G:H5'	1.89	0.55
50:3:461:C:H2'	50:3:462:C:C6	2.42	0.55
50:3:665:C:OP1	50:3:686:C:O2'	2.24	0.55
50:3:1093:U:H2'	50:3:1094:G:C8	2.41	0.55
50:3:1596:U:H2'	50:3:1597:U:C6	2.42	0.55
50:3:2321:C:H2'	50:3:2322:G:C8	2.42	0.55
50:3:2512:U:O2'	50:3:2580:A:N6	2.40	0.55
50:3:2703:U:O4	50:3:2722:G:O6	2.25	0.55
52:5:20:C:H2'	52:5:21:U:C6	2.41	0.55
52:5:970:A:H2	52:5:1340:G:H22	1.53	0.55
9:F:74:LEU:HD11	9:F:85:GLN:HB3	1.88	0.55
13:J:46:LYS:NZ	52:5:686:C:OP2	2.40	0.55
26:c:140:THR:HB	26:c:143:MET:HE2	1.88	0.55
27:d:63:GLN:NE2	51:4:40:U:O2	2.40	0.55
28:e:47:GLU:HG2	28:e:54:GLN:HB2	1.88	0.55
29:f:51:LEU:O	29:f:54:GLN:HG2	2.07	0.55
34:k:89:LYS:O	34:k:101:LYS:NZ	2.39	0.55
41:r:81:SER:HA	41:r:98:LYS:O	2.07	0.55
48:y:5:GLN:NE2	50:3:2062:C:OP1	2.39	0.55
50:3:1447:A:N6	50:3:1613:A:H1'	2.22	0.55
50:3:1757:G:N2	50:3:2864:A:N3	2.50	0.55
50:3:2533:A:H2'	50:3:2534:G:C8	2.41	0.55
50:3:2568:G:H2'	50:3:2569:A:C8	2.41	0.55
51:4:24:A:OP2	51:4:25:A:N6	2.36	0.55
52:5:191:A:H2'	52:5:192:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:314:G:N3	52:5:1443:A:O2'	2.40	0.55
52:5:760:U:H2'	52:5:761:U:C6	2.42	0.55
52:5:872:C:H2'	52:5:873:U:C6	2.42	0.55
6:C:53:GLN:HB3	6:C:199:TRP:HB2	1.88	0.54
12:I:13:LYS:HD2	12:I:13:LYS:O	2.07	0.54
24:a:190:ARG:HG2	24:a:191:LYS:H	1.72	0.54
26:c:142:VAL:O	26:c:145:GLN:HG3	2.07	0.54
35:l:11:LYS:HD2	50:3:2285:G:H5'	1.89	0.54
41:r:102:ASN:OD1	50:3:26:G:O2'	2.25	0.54
50:3:725:G:H2'	50:3:726:U:C6	2.42	0.54
50:3:853:G:N2	50:3:1219:U:OP2	2.35	0.54
50:3:1035:U:H5'	50:3:1189:G:O6	2.07	0.54
50:3:1429:G:O2'	50:3:1548:A:OP2	2.25	0.54
50:3:2145:A:H2'	50:3:2146:A:C8	2.43	0.54
50:3:2385:A:H2'	50:3:2386:A:O4'	2.07	0.54
50:3:2407:G:H2'	50:3:2408:G:C8	2.42	0.54
50:3:2753:C:H2'	50:3:2754:U:C6	2.42	0.54
52:5:609:G:O6	52:5:627:U:O2	2.25	0.54
5:B:136:ALA:O	5:B:139:GLN:HG2	2.07	0.54
27:d:115:ARG:HA	27:d:176:PRO:HG2	1.89	0.54
28:e:83:THR:HG22	28:e:84:GLN:OE1	2.06	0.54
50:3:69:U:H2'	50:3:70:G:C8	2.42	0.54
50:3:152:A:H2'	50:3:153:U:C6	2.42	0.54
50:3:941:C:H2'	50:3:942:A:C8	2.42	0.54
50:3:1427:C:H2'	50:3:1428:U:C5	2.42	0.54
51:4:75:U:H2'	51:4:76:A:C8	2.41	0.54
52:5:534:C:H2'	52:5:535:A:H8	1.71	0.54
52:5:651:G:H2'	52:5:652:A:H8	1.72	0.54
52:5:1116:U:OP2	52:5:1118:A:N6	2.33	0.54
52:5:1397:G:H2'	52:5:1398:G:C8	2.41	0.54
1:0:3:ARG:O	1:0:6:GLN:NE2	2.35	0.54
4:A:66:GLN:O	4:A:70:ASN:ND2	2.40	0.54
5:B:59:GLU:HB2	12:I:100:VAL:HG11	1.88	0.54
10:G:109:ASN:C	10:G:111:LEU:H	2.15	0.54
14:K:95:LEU:HD23	14:K:110:ILE:HA	1.88	0.54
21:R:22:MET:HE1	21:R:31:ILE:CD1	2.36	0.54
32:i:69:GLY:HA3	50:3:1176:U:C5	2.42	0.54
34:k:12:ALA:O	34:k:15:HIS:NE2	2.40	0.54
34:k:61:ARG:O	50:3:2400:A:O2'	2.26	0.54
37:n:79:ASP:HA	37:n:82:VAL:HG22	1.88	0.54
39:p:105:PHE:CD1	39:p:105:PHE:CB	2.80	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:127:LYS:HG3	50:3:1262:G:H4'	1.89	0.54
50:3:321:A:H2'	50:3:322:A:H8	1.72	0.54
50:3:389:C:H2'	50:3:390:A:C8	2.42	0.54
50:3:554:U:H2'	50:3:555:A:C8	2.42	0.54
50:3:694:U:H2'	50:3:695:G:C8	2.43	0.54
50:3:1955:G:H21	52:5:1393:A:H2	1.55	0.54
50:3:2359:G:H22	50:3:2373:G:H2'	1.72	0.54
50:3:2416:U:H2'	50:3:2417:G:C8	2.42	0.54
52:5:664:A:H2'	52:5:665:G:C8	2.42	0.54
52:5:936:G:N3	52:5:937:G:H1'	2.22	0.54
53:6:20:G:O4'	53:6:58:G:N2	2.40	0.54
22:S:77:ASN:ND2	52:5:173:U:O2'	2.36	0.54
36:m:10:THR:H	36:m:13:TRP:HB3	1.71	0.54
36:m:19:ARG:NH2	36:m:65:LYS:O	2.32	0.54
37:n:38:HIS:CE1	51:4:25:A:H5''	2.41	0.54
50:3:83:G:H2'	50:3:84:G:O4'	2.07	0.54
50:3:154:U:H2'	50:3:155:A:C8	2.42	0.54
50:3:237:A:H61	50:3:465:A:H2	1.55	0.54
50:3:518:A:H5''	50:3:519:A:H5'	1.90	0.54
50:3:734:A:H2'	50:3:735:G:O4'	2.08	0.54
50:3:1705:U:C2	50:3:1707:U:H5''	2.42	0.54
50:3:2699:C:H2'	50:3:2700:C:H6	1.72	0.54
50:3:2745:G:H2'	50:3:2746:A:C8	2.43	0.54
52:5:201:G:H2'	52:5:202:A:C8	2.42	0.54
52:5:931:C:H3'	52:5:932:A:H8	1.72	0.54
52:5:1215:U:H4'	52:5:1216:G:O5'	2.08	0.54
52:5:1290:G:N1	52:5:1293:A:OP2	2.35	0.54
52:5:1409:A:H2'	52:5:1410:A:H8	1.72	0.54
53:6:19:G:H1	53:6:56:U:H6	1.55	0.54
4:A:81:GLN:HB2	4:A:173:PRO:HA	1.90	0.54
5:B:210:ILE:HG13	5:B:213:LYS:HB2	1.88	0.54
7:D:97:ARG:HA	7:D:174:GLY:HA3	1.89	0.54
8:E:22:ASN:HB3	8:E:60:TRP:CH2	2.43	0.54
19:P:6:ARG:NH1	19:P:7:LYS:O	2.41	0.54
24:a:147:VAL:HG12	24:a:200:VAL:HG12	1.89	0.54
25:b:178:ASN:O	25:b:180:ARG:NH2	2.40	0.54
26:c:20:LEU:HD13	26:c:204:LEU:HD13	1.88	0.54
33:j:25:LEU:HD12	33:j:38:VAL:HG22	1.90	0.54
45:v:7:LEU:HD22	45:v:50:VAL:HG13	1.90	0.54
50:3:123:G:H2'	50:3:124:A:H8	1.72	0.54
50:3:590:U:H2'	50:3:591:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:767:C:H3'	50:3:768:G:H8	1.71	0.54
50:3:1470:C:H2'	50:3:1471:A:C8	2.42	0.54
50:3:1896:A:H2'	50:3:1897:A:C8	2.41	0.54
50:3:2421:U:H2'	50:3:2422:G:C8	2.43	0.54
50:3:2645:U:H3'	50:3:2646:G:H8	1.72	0.54
52:5:228:G:H2'	52:5:229:G:H8	1.72	0.54
52:5:676:U:H2'	52:5:677:C:C6	2.42	0.54
52:5:1370:C:H5''	52:5:1377:C:H1'	1.89	0.54
6:C:131:THR:OG1	52:5:618:U:N3	2.39	0.54
50:3:1065:G:H2'	50:3:1066:G:H8	1.71	0.54
50:3:1248:A:H2'	50:3:1249:A:C8	2.43	0.54
50:3:1332:A:H2'	50:3:1333:C:C6	2.43	0.54
50:3:2123:A:OP1	50:3:2174:G:N2	2.40	0.54
50:3:2299:U:H1'	50:3:2382:A:H1'	1.90	0.54
50:3:2323:U:H2'	50:3:2324:A:C8	2.43	0.54
50:3:2671:G:H3'	50:3:2672:G:H8	1.73	0.54
50:3:2754:U:H2'	50:3:2755:G:O4'	2.06	0.54
52:5:32:U:O4'	52:5:302:A:O2'	2.24	0.54
52:5:137:A:H3'	52:5:138:A:H8	1.72	0.54
52:5:535:A:H2'	52:5:536:U:H6	1.72	0.54
52:5:735:C:H2'	52:5:736:U:C6	2.43	0.54
52:5:1056:U:N3	52:5:1100:C:OP1	2.29	0.54
52:5:1058:A:H1'	52:5:1059:G:C8	2.43	0.54
7:D:163:GLY:HA3	52:5:10:G:H4'	1.90	0.54
25:b:48:SER:OG	25:b:86:ASN:ND2	2.40	0.54
35:l:45:ARG:CD	50:3:2492:G:H5'	2.37	0.54
50:3:680:A:H2'	50:3:682:A:C8	2.43	0.54
52:5:171:A:H2'	52:5:172:C:H6	1.73	0.54
52:5:879:G:H2'	52:5:880:G:H8	1.73	0.54
52:5:1068:G:O2'	52:5:1070:G:O6	2.22	0.54
52:5:1142:G:H2'	52:5:1144:A:OP1	2.07	0.54
12:I:17:GLU:HB2	12:I:76:HIS:O	2.08	0.54
33:j:36:GLY:O	33:j:109:ARG:NH1	2.40	0.54
37:n:20:ARG:NH2	51:4:7:G:O3'	2.40	0.54
50:3:178:A:N1	50:3:179:A:N6	2.56	0.54
50:3:643:A:H2'	50:3:644:C:O4'	2.07	0.54
50:3:1999:G:N2	50:3:2003:C:O2'	2.41	0.54
50:3:2025:C:H2'	50:3:2026:A:H8	1.71	0.54
50:3:2302:C:H2'	50:3:2303:U:O4'	2.07	0.54
52:5:295:G:H2'	52:5:296:A:C4	2.43	0.54
52:5:649:U:C4	52:5:750:A:C8	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:803:C:H2'	52:5:804:A:C8	2.43	0.54
53:7:20:G:O4'	53:7:58:G:N2	2.40	0.54
53:7:71:A:O2'	53:7:72:C:OP1	2.22	0.54
4:A:62:ARG:O	4:A:66:GLN:OE1	2.25	0.54
4:A:137:GLN:NE2	4:A:149:ASN:OD1	2.39	0.54
11:H:22:THR:HG22	11:H:24:THR:HG23	1.90	0.54
24:a:27:THR:HG22	24:a:28:THR:N	2.21	0.54
24:a:228:VAL:HG21	50:3:817:A:C8	2.43	0.54
46:w:45:ASN:HD21	46:w:49:ARG:HH21	1.56	0.54
50:3:148:U:H2'	50:3:149:A:C8	2.43	0.54
50:3:1638:C:H2'	50:3:1639:C:C6	2.42	0.54
50:3:2387:U:H2'	50:3:2388:C:C6	2.42	0.54
52:5:460:A:H2	52:5:467:G:H1	1.56	0.54
9:F:111:HIS:CG	9:F:112:GLU:H	2.26	0.54
17:N:62:ARG:NH1	52:5:580:C:OP1	2.32	0.54
40:q:39:LEU:HG	40:q:40:MET:HG2	1.90	0.54
44:u:85:LYS:O	44:u:90:GLN:NE2	2.41	0.54
50:3:247:U:N3	50:3:259:A:N7	2.54	0.54
50:3:632:A:H2'	50:3:633:G:H8	1.72	0.54
50:3:639:G:N3	50:3:692:U:O2'	2.41	0.54
50:3:733:C:O2'	50:3:769:A:N6	2.31	0.54
50:3:1670:U:H2'	50:3:1671:C:C6	2.42	0.54
50:3:1995:G:H2'	50:3:1996:A:C8	2.43	0.54
50:3:2825:A:H2'	50:3:2826:G:O4'	2.07	0.54
52:5:712:A:H2'	52:5:713:A:C8	2.43	0.54
52:5:1061:U:H2'	52:5:1062:C:H6	1.73	0.54
4:A:27:ARG:HH22	4:A:254:ILE:HB	1.72	0.53
6:C:96:ARG:NH1	6:C:133:SER:HA	2.23	0.53
7:D:77:SER:HB2	7:D:84:ARG:HH21	1.72	0.53
12:I:46:LEU:HD23	12:I:79:LEU:HD23	1.90	0.53
50:3:51:A:H2'	50:3:180:A:N6	2.23	0.53
50:3:524:G:N2	50:3:526:G:H3'	2.23	0.53
50:3:1243:A:H2'	50:3:1244:A:C8	2.43	0.53
50:3:1300:C:H5''	50:3:1301:G:H5'	1.89	0.53
50:3:2157:A:H2'	50:3:2158:C:C6	2.43	0.53
50:3:2213:A:H2'	50:3:2214:A:C8	2.42	0.53
50:3:2213:A:H2'	50:3:2214:A:H8	1.73	0.53
50:3:2598:C:H2'	50:3:2599:C:H6	1.72	0.53
50:3:2684:G:H2'	50:3:2685:A:H8	1.69	0.53
52:5:372:G:H2'	52:5:373:A:H8	1.72	0.53
52:5:1258:U:H2'	52:5:1259:G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:159:ARG:NH1	52:5:1046:A:N3	2.55	0.53
6:C:127:ARG:HG3	52:5:617:U:O2	2.08	0.53
9:F:102:TRP:CE2	9:F:136:LYS:HD2	2.43	0.53
22:S:66:ARG:HG2	22:S:69:LYS:HE2	1.89	0.53
31:h:76:LEU:HA	31:h:79:ALA:HB3	1.91	0.53
37:n:36:LEU:HD13	51:4:29:C:H41	1.72	0.53
49:z:38:CYS:O	49:z:42:ARG:N	2.41	0.53
50:3:18:G:H2'	50:3:19:G:H8	1.71	0.53
50:3:56:G:O6	50:3:118:G:N2	2.42	0.53
50:3:200:A:N6	50:3:866:G:H21	2.06	0.53
50:3:220:A:N7	50:3:467:U:C2	2.76	0.53
50:3:231:A:H2'	50:3:2415:A:H4'	1.91	0.53
50:3:2070:C:H42	50:3:2509:C:H1'	1.72	0.53
52:5:849:A:OP2	52:5:865:U:N3	2.40	0.53
52:5:1339:U:H3'	52:5:1340:G:H8	1.71	0.53
53:6:71:A:O2'	53:6:72:C:OP1	2.22	0.53
4:A:203:ASN:HB3	4:A:219:ASN:HD21	1.71	0.53
9:F:71:ARG:HH21	9:F:137:LYS:HE2	1.73	0.53
11:H:96:LEU:HB3	11:H:100:LEU:HD23	1.89	0.53
24:a:162:ARG:HA	24:a:203:VAL:HG21	1.91	0.53
24:a:167:TYR:HB3	24:a:202:VAL:HG13	1.89	0.53
26:c:130:GLN:OE1	26:c:163:THR:OG1	2.26	0.53
27:d:29:PRO:HB2	27:d:169:LEU:HD13	1.90	0.53
50:3:178:A:H2'	50:3:179:A:C8	2.43	0.53
50:3:990:G:N2	50:3:999:U:O2	2.34	0.53
50:3:1197:G:H2'	50:3:1198:G:C8	2.43	0.53
50:3:1418:U:H3	50:3:1423:A:N6	2.05	0.53
50:3:1777:G:N2	50:3:1793:A:N7	2.56	0.53
50:3:2085:C:H2'	50:3:2086:U:H6	1.72	0.53
51:4:12:U:H1'	51:4:97:A:H1'	1.90	0.53
52:5:239:A:H62	52:5:277:G:H1'	1.74	0.53
52:5:365:U:OP2	52:5:384:G:N2	2.33	0.53
52:5:412:G:H1	52:5:424:U:H3	1.57	0.53
52:5:514:U:O2'	52:5:517:C:O2	2.22	0.53
52:5:576:A:H2'	52:5:577:G:C8	2.43	0.53
52:5:1266:U:C2	52:5:1267:G:C8	2.96	0.53
52:5:1300:C:H2'	52:5:1301:U:C6	2.43	0.53
2:1:37:GLN:O	2:1:41:LEU:HG	2.07	0.53
5:B:35:ILE:HG12	16:M:25:GLN:HB2	1.89	0.53
6:C:12:ARG:HH22	52:5:423:U:H5''	1.74	0.53
27:d:8:TYR:CD1	27:d:12:ILE:HD13	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:5:GLY:HA2	28:e:68:HIS:CD2	2.43	0.53
29:f:53:LYS:HG2	29:f:57:HIS:NE2	2.22	0.53
38:o:21:TYR:HD1	38:o:23:PRO:HD3	1.74	0.53
50:3:55:A:H3'	50:3:56:G:H8	1.74	0.53
50:3:90:G:H2'	50:3:91:G:C8	2.43	0.53
50:3:108:G:H2'	50:3:109:G:H8	1.73	0.53
50:3:383:U:H2'	50:3:384:G:C8	2.44	0.53
50:3:512:G:N2	50:3:515:A:O4'	2.41	0.53
50:3:2072:C:H2'	50:3:2073:C:H6	1.72	0.53
50:3:2490:A:O3'	53:6:64:G:O2'	2.26	0.53
50:3:2563:U:H2'	53:6:75:C:C4	2.44	0.53
50:3:2597:A:H2'	50:3:2598:C:C6	2.43	0.53
50:3:2856:G:H2'	50:3:2857:C:C6	2.43	0.53
51:4:70:G:O2'	51:4:94:A:N6	2.41	0.53
52:5:214:U:H2'	52:5:215:C:C6	2.43	0.53
52:5:275:A:N3	52:5:277:G:N1	2.56	0.53
53:6:39:A:C8	53:6:39:A:C3'	2.92	0.53
10:G:44:ILE:HD11	10:G:115:ILE:HG13	1.89	0.53
19:P:48:HIS:HB3	19:P:73:LYS:HD3	1.89	0.53
19:P:68:PRO:O	52:5:260:C:O2'	2.26	0.53
50:3:170:A:H3'	50:3:171:G:H8	1.74	0.53
50:3:677:U:H3	50:3:683:G:H1	1.56	0.53
50:3:1591:C:H3'	50:3:1592:A:H2'	1.91	0.53
50:3:1896:A:HO2'	50:3:2093:U:HO2'	1.50	0.53
52:5:52:A:N7	52:5:99:U:O2'	2.41	0.53
52:5:1387:U:N3	52:5:1464:G:N1	2.57	0.53
6:C:58:GLN:HA	6:C:61:GLN:HG2	1.91	0.53
13:J:13:ILE:HG12	13:J:76:LYS:HB2	1.90	0.53
24:a:217:GLY:HA3	50:3:799:A:H5''	1.89	0.53
27:d:40:VAL:HG11	27:d:47:SER:HB2	1.91	0.53
36:m:107:ARG:HH21	50:3:1316:U:H3	1.57	0.53
39:p:57:ARG:NH2	50:3:1034:A:N7	2.56	0.53
39:p:88:GLU:HG2	39:p:90:ASN:H	1.74	0.53
43:t:45:HIS:H	50:3:517:G:P	2.32	0.53
50:3:230:G:N1	50:3:455:G:H1'	2.24	0.53
50:3:511:U:C2	50:3:515:A:N7	2.77	0.53
50:3:1270:C:H2'	50:3:1271:A:C8	2.44	0.53
50:3:1350:A:H61	50:3:1361:U:H1'	1.74	0.53
50:3:1640:G:HO2'	50:3:1642:G:H1	1.57	0.53
50:3:1740:U:O2'	50:3:1764:U:OP2	2.24	0.53
50:3:2322:G:H2'	50:3:2323:U:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1107:U:H2'	52:5:1108:A:C4	2.44	0.53
52:5:1156:G:H4'	52:5:1157:G:H5'	1.90	0.53
52:5:1346:G:H2'	52:5:1347:U:C6	2.44	0.53
52:5:1346:G:H2'	52:5:1347:U:H6	1.73	0.53
52:5:1441:C:H2'	52:5:1442:A:O4'	2.08	0.53
10:G:19:LEU:HD11	10:G:89:GLN:HB3	1.91	0.53
11:H:12:ARG:HE	11:H:83:LEU:HG	1.73	0.53
21:R:19:VAL:HA	21:R:22:MET:HE3	1.90	0.53
30:g:33:SER:HA	50:3:1090:G:O3'	2.09	0.53
36:m:3:TYR:OH	50:3:784:A:N7	2.41	0.53
38:o:91:LYS:O	38:o:92:ARG:HG3	2.09	0.53
50:3:50:G:O2'	50:3:119:A:N1	2.41	0.53
50:3:85:U:H2'	50:3:103:G:N2	2.24	0.53
50:3:589:A:H2'	50:3:590:U:O4'	2.09	0.53
50:3:1455:A:N6	50:3:1605:A:OP2	2.35	0.53
50:3:1462:A:O2'	50:3:1463:G:O5'	2.23	0.53
50:3:1777:G:N2	50:3:1793:A:C5	2.77	0.53
50:3:1841:U:O2'	50:3:1977:A:OP2	2.26	0.53
50:3:2196:G:H2'	50:3:2197:U:C6	2.43	0.53
50:3:2592:U:H2'	50:3:2593:U:C6	2.44	0.53
52:5:512:U:H2'	52:5:513:G:H8	1.73	0.53
52:5:1314:A:O2'	52:5:1315:U:O4'	2.26	0.53
5:B:8:ASN:HB2	5:B:187:TYR:HD2	1.72	0.53
9:F:144:ALA:C	9:F:146:ALA:H	2.17	0.53
15:L:101:ARG:CZ	15:L:103:ARG:HD2	2.39	0.53
24:a:181:ILE:HG12	24:a:191:LYS:HG2	1.91	0.53
24:a:191:LYS:HE2	24:a:279:ILE:HG12	1.91	0.53
27:d:74:ILE:HG22	27:d:76:THR:H	1.73	0.53
34:k:69:ARG:NH1	34:k:73:LEU:O	2.41	0.53
41:r:14:PRO:HD3	41:r:99:ARG:HB3	1.89	0.53
44:u:29:ASP:OD1	44:u:30:SER:N	2.41	0.53
45:v:52:THR:OG1	50:3:434:G:OP2	2.23	0.53
50:3:152:A:H2'	50:3:153:U:H6	1.72	0.53
50:3:370:C:H2'	50:3:371:C:C6	2.44	0.53
50:3:770:A:O2'	50:3:1668:G:N2	2.42	0.53
50:3:1022:C:H2'	50:3:1023:C:C6	2.43	0.53
50:3:1048:A:H2'	50:3:1049:U:C6	2.44	0.53
50:3:1541:A:H3'	50:3:1542:G:H8	1.74	0.53
50:3:1794:A:H4'	50:3:2597:A:H4'	1.89	0.53
50:3:1956:G:H2'	50:3:1957:G:H8	1.73	0.53
50:3:2159:U:H2'	50:3:2160:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2541:C:H2'	50:3:2542:A:O4'	2.08	0.53
50:3:2664:U:O2	50:3:2673:A:C6	2.62	0.53
52:5:70:A:H2'	52:5:71:A:C8	2.44	0.53
52:5:334:A:H2'	52:5:335:C:C6	2.43	0.53
52:5:621:C:H2'	52:5:622:A:H8	1.73	0.53
52:5:1288:C:H2'	52:5:1289:U:C6	2.43	0.53
1:0:24:THR:HG23	1:0:27:GLY:H	1.74	0.53
6:C:103:ARG:HD3	6:C:164:SER:HB3	1.91	0.53
11:H:44:LYS:O	11:H:47:ILE:HG22	2.09	0.53
14:K:81:PRO:HD3	14:K:110:ILE:HG22	1.91	0.53
16:M:19:ARG:HB3	52:5:975:C:H1'	1.91	0.53
19:P:31:LYS:HD3	19:P:38:SER:HB2	1.91	0.53
27:d:85:ILE:HD11	50:3:2320:U:H5'	1.91	0.53
50:3:144:C:H2'	50:3:145:A:H8	1.70	0.53
50:3:189:U:H2'	50:3:190:G:C8	2.44	0.53
50:3:1459:A:H2'	50:3:1460:G:C8	2.43	0.53
50:3:2645:U:H3'	50:3:2646:G:C8	2.44	0.53
50:3:2882:U:H2'	50:3:2884:C:H5	1.73	0.53
51:4:31:G:C6	51:4:48:A:N6	2.77	0.53
52:5:762:G:H3'	52:5:809:G:H21	1.74	0.53
52:5:764:A:O2'	52:5:1499:G:N3	2.42	0.53
52:5:1354:G:H2'	52:5:1355:U:C6	2.43	0.53
6:C:14:LEU:HB3	6:C:59:ARG:HD2	1.90	0.53
13:J:121:ARG:NH1	52:5:1497:U:OP1	2.42	0.53
22:S:20:ASN:O	22:S:24:GLN:HG2	2.09	0.53
27:d:4:LEU:HD12	27:d:7:HIS:CE1	2.44	0.53
33:j:122:VAL:HA	38:o:46:GLN:HE22	1.73	0.53
39:p:81:LEU:HD13	39:p:112:VAL:HG21	1.90	0.53
41:r:21:CYS:HA	41:r:24:ILE:HG12	1.91	0.53
50:3:122:G:H4'	50:3:152:A:H5'	1.91	0.53
50:3:1162:A:O2'	50:3:2526:A:OP1	2.26	0.53
50:3:1727:U:H3'	50:3:1728:A:H8	1.72	0.53
50:3:1766:A:N6	50:3:2705:G:H1'	2.24	0.53
50:3:2299:U:O2	50:3:2382:A:O2'	2.27	0.53
50:3:2460:C:H2'	50:3:2461:A:C8	2.44	0.53
50:3:2760:C:H3'	50:3:2761:A:C8	2.43	0.53
52:5:18:U:O2'	52:5:1070:G:O2'	2.25	0.53
52:5:470:U:H2'	52:5:471:A:C8	2.44	0.53
52:5:1392:A:H2'	52:5:1457:G:N2	2.24	0.53
5:B:183:ALA:HA	5:B:209:MET:HE1	1.90	0.52
19:P:29:ARG:HE	19:P:40:VAL:HG13	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:4:ILE:HB	22:S:7:ASN:HD21	1.74	0.52
26:c:115:VAL:HA	26:c:118:GLU:HG2	1.90	0.52
32:i:67:LEU:HD22	32:i:71:LYS:HE3	1.91	0.52
46:w:39:ASP:O	46:w:40:LYS:HE2	2.09	0.52
50:3:45:U:H2'	50:3:46:A:C8	2.44	0.52
50:3:519:A:OP2	50:3:520:C:N4	2.42	0.52
50:3:615:G:H2'	50:3:616:G:C8	2.44	0.52
50:3:802:U:H2'	50:3:803:G:C8	2.40	0.52
50:3:1088:A:H2'	50:3:1089:A:H8	1.73	0.52
50:3:1437:A:H2'	50:3:1438:G:C8	2.44	0.52
50:3:1511:C:H2'	50:3:1512:A:C8	2.44	0.52
50:3:2005:G:H2'	50:3:2006:C:H6	1.74	0.52
52:5:1505:G:H2'	52:5:1506:A:C8	2.43	0.52
4:A:111:ARG:HH12	4:A:186:ASN:H	1.56	0.52
9:F:30:MET:HA	52:5:1215:U:H3	1.74	0.52
9:F:101:ARG:NH2	52:5:934:G:OP1	2.42	0.52
14:K:47:CYS:HA	14:K:68:VAL:HA	1.91	0.52
14:K:64:LYS:HB2	14:K:80:ILE:HD12	1.91	0.52
14:K:66:ALA:O	14:K:78:THR:N	2.39	0.52
14:K:96:ARG:NE	52:5:549:U:O2'	2.41	0.52
14:K:124:ARG:HD2	14:K:135:PRO:HB3	1.91	0.52
23:T:36:LEU:O	23:T:41:ARG:NH1	2.42	0.52
33:j:98:ILE:HG12	33:j:117:LEU:HD23	1.91	0.52
34:k:5:GLN:HG3	50:3:1233:A:O2'	2.08	0.52
44:u:64:ASN:HB3	44:u:77:SER:HB3	1.90	0.52
48:y:12:ARG:HA	48:y:15:LYS:HD2	1.91	0.52
50:3:785:A:O2'	50:3:787:C:OP1	2.28	0.52
50:3:869:U:H2'	50:3:870:A:C8	2.45	0.52
50:3:1297:U:H2'	50:3:1298:A:H8	1.74	0.52
50:3:1400:U:H2'	50:3:1401:A:C8	2.44	0.52
52:5:538:G:H2'	52:5:539:G:C8	2.44	0.52
52:5:902:A:H2'	52:5:903:A:C8	2.44	0.52
52:5:938:U:OP1	52:5:1211:A:N6	2.31	0.52
1:0:9:LYS:HG2	50:3:1337:G:H5''	1.91	0.52
11:H:43:ASN:C	11:H:44:LYS:HD2	2.35	0.52
12:I:93:LEU:O	12:I:95:ARG:N	2.43	0.52
13:J:117:PRO:HA	52:5:776:C:H4'	1.91	0.52
14:K:114:THR:HB	52:5:36:G:H5''	1.91	0.52
44:u:58:ARG:O	44:u:92:LYS:NZ	2.36	0.52
50:3:609:U:H4'	50:3:2510:G:C8	2.44	0.52
50:3:732:G:H2'	50:3:733:C:H6	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1054:U:O2'	50:3:1056:A:N7	2.39	0.52
52:5:573:G:H4'	52:5:574:C:H5''	1.91	0.52
52:5:1133:A:N6	52:5:1155:A:N7	2.57	0.52
52:5:1321:G:N2	52:5:1349:A:O5'	2.36	0.52
3:2:10:ILE:HD11	3:2:32:HIS:HA	1.91	0.52
10:G:44:ILE:HD13	10:G:115:ILE:HG21	1.91	0.52
17:N:48:ILE:HD13	52:5:664:A:H1'	1.91	0.52
23:T:31:ARG:HH22	52:5:715:A:H4'	1.74	0.52
28:e:92:LEU:HB3	28:e:132:THR:HA	1.91	0.52
33:j:76:HIS:HB3	38:o:78:ASN:HB3	1.91	0.52
34:k:42:ARG:NH2	50:3:843:G:OP2	2.43	0.52
37:n:11:ARG:NH1	51:4:45:C:H5''	2.24	0.52
50:3:65:A:H3'	50:3:66:A:C8	2.43	0.52
50:3:192:U:H3	50:3:212:G:H1	1.56	0.52
50:3:585:U:H2'	50:3:586:G:C8	2.44	0.52
50:3:1212:C:H2'	50:3:1213:U:H6	1.72	0.52
50:3:1310:U:H2'	50:3:1311:G:O4'	2.10	0.52
50:3:1451:A:H2'	50:3:1452:G:H8	1.75	0.52
50:3:2116:U:H5'	50:3:2149:U:O2	2.09	0.52
50:3:2506:C:H4'	50:3:2507:C:OP1	2.09	0.52
50:3:2581:C:H5''	50:3:2582:G:H5''	1.90	0.52
52:5:1070:G:O2'	52:5:1071:A:O4'	2.23	0.52
52:5:1246:A:H2'	52:5:1247:G:H8	1.75	0.52
52:5:1433:G:H2'	52:5:1434:C:H6	1.73	0.52
6:C:68:ASP:HB2	52:5:544:A:OP1	2.09	0.52
21:R:45:VAL:HG21	21:R:64:ASP:HB2	1.90	0.52
24:a:249:VAL:HG21	24:a:254:PRO:HB3	1.90	0.52
25:b:59:ASN:OD1	25:b:60:LYS:N	2.43	0.52
28:e:97:TYR:CD1	28:e:110:LEU:HD13	2.45	0.52
37:n:75:GLN:HA	37:n:112:ARG:HG3	1.92	0.52
40:q:68:VAL:HG11	50:3:1029:A:H5''	1.91	0.52
49:z:43:LYS:NZ	49:z:44:VAL:O	2.43	0.52
50:3:308:A:H2'	50:3:309:A:H5''	1.91	0.52
50:3:323:A:H2'	50:3:324:C:C6	2.44	0.52
50:3:378:G:N2	50:3:379:A:N7	2.57	0.52
50:3:575:C:H2'	50:3:576:A:H8	1.72	0.52
50:3:1088:A:H2'	50:3:1089:A:C8	2.45	0.52
50:3:1932:C:O2	50:3:1936:G:O6	2.27	0.52
50:3:1943:A:OP2	50:3:1968:C:N4	2.41	0.52
50:3:2023:U:H4'	50:3:2064:G:H4'	1.91	0.52
50:3:2623:U:H2'	50:3:2624:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:350:G:H2'	52:5:351:C:C6	2.44	0.52
52:5:516:C:H5'	52:5:528:G:O4'	2.09	0.52
5:B:107:ASN:OD1	5:B:108:GLU:N	2.42	0.52
12:I:56:THR:O	12:I:68:ARG:NH1	2.42	0.52
13:J:115:LYS:O	52:5:775:G:O2'	2.21	0.52
29:f:6:LYS:HB3	29:f:34:LYS:HA	1.91	0.52
35:l:24:ASN:ND2	35:l:67:ARG:O	2.43	0.52
50:3:343:A:N3	50:3:363:G:O2'	2.38	0.52
50:3:2097:A:H2'	50:3:2098:U:O4'	2.09	0.52
50:3:2491:C:O2'	50:3:2492:G:OP1	2.23	0.52
50:3:2747:U:H3'	50:3:2771:G:H1	1.73	0.52
50:3:2854:A:N7	50:3:2870:U:N3	2.58	0.52
51:4:30:U:C2	51:4:49:G:N2	2.77	0.52
52:5:568:G:H4'	52:5:816:A:O2'	2.10	0.52
52:5:706:U:H2'	52:5:707:G:H8	1.74	0.52
52:5:896:G:H2'	52:5:897:A:H8	1.74	0.52
52:5:920:G:H1'	52:5:1477:A:C4	2.44	0.52
52:5:982:A:H2'	52:5:983:G:C8	2.45	0.52
52:5:1299:C:H2'	52:5:1300:C:C6	2.44	0.52
52:5:1370:C:OP1	52:5:1377:C:O2'	2.19	0.52
52:5:1392:A:H2'	52:5:1457:G:H22	1.73	0.52
27:d:22:PHE:HB3	27:d:27:GLN:HB2	1.91	0.52
29:f:55:GLN:O	29:f:59:GLU:HG2	2.09	0.52
50:3:23:A:OP1	50:3:1248:A:H4'	2.09	0.52
50:3:35:U:C2	50:3:483:A:N7	2.76	0.52
50:3:77:G:H1	50:3:112:A:N6	2.07	0.52
50:3:223:A:N6	50:3:464:A:OP1	2.43	0.52
50:3:618:G:H3'	50:3:1281:A:H61	1.75	0.52
50:3:715:G:H2'	50:3:716:G:C8	2.44	0.52
50:3:734:A:N3	50:3:1667:G:O2'	2.41	0.52
50:3:746:G:H2'	50:3:747:A:C8	2.45	0.52
50:3:2038:A:O2'	50:3:2462:G:N2	2.37	0.52
50:3:2416:U:H2'	50:3:2417:G:H8	1.75	0.52
50:3:2659:U:H2'	50:3:2660:C:C6	2.45	0.52
50:3:2663:G:N2	50:3:2673:A:OP2	2.42	0.52
52:5:41:C:H2'	52:5:42:G:H8	1.73	0.52
52:5:359:A:H2'	52:5:360:A:C8	2.45	0.52
52:5:713:A:H2'	52:5:714:C:C6	2.45	0.52
52:5:1008:G:C2	52:5:1014:A:N1	2.77	0.52
52:5:1217:G:O2'	52:5:1277:C:OP1	2.28	0.52
52:5:1266:U:H2'	52:5:1267:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:109:LEU:HD12	52:5:838:A:H5''	1.91	0.52
15:L:114:LYS:O	52:5:1202:A:O2'	2.26	0.52
34:k:4:ASN:HB3	34:k:6:LEU:HD23	1.91	0.52
50:3:195:A:H2'	50:3:196:G:H8	1.75	0.52
50:3:732:G:H2'	50:3:733:C:C6	2.44	0.52
50:3:1426:C:H2'	50:3:1427:C:C6	2.45	0.52
50:3:1457:A:H2'	50:3:1458:A:C8	2.45	0.52
50:3:1793:A:H62	50:3:1990:C:H1'	1.74	0.52
50:3:1886:C:H2'	50:3:1887:U:O4'	2.10	0.52
50:3:2478:G:O6	50:3:2484:A:H1'	2.10	0.52
50:3:2631:G:O2'	50:3:2829:G:O2'	2.24	0.52
52:5:201:G:H1	52:5:214:U:H3	1.58	0.52
52:5:754:U:H2'	52:5:755:U:O4'	2.10	0.52
52:5:1084:A:N3	52:5:1100:C:O2'	2.43	0.52
3:2:28:LYS:O	3:2:30:GLN:NE2	2.42	0.52
5:B:137:MET:HE2	5:B:171:TYR:CG	2.45	0.52
9:F:113:LYS:HG3	9:F:114:THR:H	1.75	0.52
11:H:126:ALA:H	52:5:1317:A:H4'	1.75	0.52
19:P:50:GLU:OE2	19:P:76:ARG:NH2	2.37	0.52
19:P:61:VAL:HG12	19:P:80:ILE:HG12	1.91	0.52
29:f:51:LEU:HD12	29:f:54:GLN:NE2	2.25	0.52
42:s:13:THR:HG22	42:s:16:VAL:HG23	1.91	0.52
44:u:86:PHE:CE1	44:u:94:ARG:HG3	2.45	0.52
46:w:17:LYS:HA	46:w:20:ILE:HG12	1.92	0.52
50:3:66:A:H2'	50:3:67:C:C6	2.45	0.52
50:3:720:A:H1'	50:3:724:A:H61	1.75	0.52
50:3:1521:A:N3	50:3:1611:C:O2'	2.39	0.52
50:3:1708:G:H21	50:3:1712:A:H2	1.58	0.52
50:3:1991:U:H2'	50:3:1992:C:C6	2.45	0.52
50:3:2023:U:H5'	50:3:2065:A:H5'	1.91	0.52
50:3:2257:U:H1'	50:3:2283:C:N4	2.25	0.52
50:3:2261:G:H21	53:7:74:A:H1'	1.74	0.52
50:3:2345:G:H2'	50:3:2346:G:C8	2.45	0.52
50:3:2491:C:HO2'	50:3:2492:G:P	2.33	0.52
51:4:96:G:H2'	51:4:97:A:C8	2.45	0.52
52:5:223:G:H2'	52:5:224:A:O4'	2.10	0.52
52:5:679:U:H2'	52:5:680:G:C8	2.45	0.52
52:5:1116:U:O2'	52:5:1117:U:H2'	2.09	0.52
52:5:1485:C:H2'	52:5:1486:C:C6	2.45	0.52
7:D:189:ILE:HA	7:D:192:ILE:HD12	1.92	0.52
9:F:91:PRO:HG2	9:F:94:ARG:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:4:ARG:HA	25:b:87:MET:HE1	1.91	0.52
26:c:143:MET:HE1	26:c:172:THR:H	1.75	0.52
29:f:42:LYS:HA	29:f:46:ASP:HB3	1.92	0.52
36:m:19:ARG:HA	36:m:22:VAL:HG22	1.90	0.52
50:3:117:C:H2'	50:3:118:G:C8	2.45	0.52
50:3:453:U:H2'	50:3:454:G:C8	2.45	0.52
50:3:481:C:H2'	50:3:482:G:O4'	2.10	0.52
50:3:513:A:HO2'	50:3:514:A:P	2.33	0.52
50:3:1107:C:N4	50:3:1128:G:H22	2.08	0.52
50:3:1432:C:H2'	50:3:1433:U:C6	2.46	0.52
50:3:1725:G:O6	50:3:1731:G:N2	2.42	0.52
50:3:1755:A:H2'	50:3:1756:A:H8	1.75	0.52
50:3:2053:G:N2	50:3:2630:U:O2	2.37	0.52
50:3:2300:A:H5'	50:3:2386:A:H61	1.75	0.52
50:3:2403:C:H2'	50:3:2404:G:C8	2.45	0.52
50:3:2462:G:N2	50:3:2507:C:O2	2.43	0.52
50:3:2839:A:N6	50:3:2883:A:OP2	2.42	0.52
50:3:2852:G:H1'	50:3:2872:A:H61	1.75	0.52
52:5:259:A:H2'	52:5:260:C:H6	1.74	0.52
52:5:474:G:H2'	52:5:475:U:C6	2.45	0.52
52:5:644:U:H2'	52:5:645:A:C8	2.45	0.52
52:5:1177:U:HO2'	52:5:1178:C:P	2.32	0.52
52:5:1228:C:H2'	52:5:1229:A:C8	2.45	0.52
52:5:1463:A:H2'	52:5:1464:G:C8	2.44	0.52
11:H:11:ARG:HA	11:H:15:SER:O	2.10	0.51
19:P:43:LYS:NZ	52:5:232:G:H5''	2.25	0.51
32:i:40:ARG:NH2	50:3:1043:C:OP1	2.43	0.51
33:j:7:ARG:NH2	33:j:44:LYS:HB2	2.25	0.51
35:l:109:ILE:HD12	35:l:113:GLN:HG3	1.91	0.51
43:t:45:HIS:HB3	50:3:518:A:H5'	1.92	0.51
50:3:428:U:H2'	50:3:429:U:C6	2.45	0.51
50:3:602:U:H2'	50:3:1019:A:H61	1.74	0.51
50:3:629:G:H2'	50:3:630:C:C6	2.45	0.51
50:3:679:A:H61	50:3:2377:A:H1'	1.75	0.51
50:3:1505:G:H2'	50:3:1506:U:C6	2.45	0.51
50:3:1588:A:H2'	50:3:1589:A:C2	2.45	0.51
50:3:2635:G:N2	50:3:2785:G:OP2	2.43	0.51
51:4:4:G:H2'	51:4:5:G:C8	2.45	0.51
51:4:25:A:H2'	51:4:26:C:O4'	2.10	0.51
52:5:168:A:O2'	52:5:169:G:OP1	2.23	0.51
52:5:210:G:H2'	52:5:211:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:591:A:H2'	52:5:592:A:C8	2.45	0.51
52:5:601:U:H2'	52:5:602:G:H8	1.75	0.51
52:5:1062:C:H2'	52:5:1063:G:C8	2.45	0.51
10:G:11:HIS:CD2	10:G:12:PHE:H	2.29	0.51
11:H:96:LEU:HD23	11:H:99:ILE:HD11	1.91	0.51
13:J:8:ASN:N	13:J:70:MET:SD	2.84	0.51
13:J:32:GLY:O	52:5:704:U:O2'	2.28	0.51
14:K:115:LEU:C	14:K:117:THR:H	2.18	0.51
18:O:21:LYS:HB3	52:5:96:G:H5''	1.92	0.51
19:P:71:ALA:HB2	52:5:262:G:H3'	1.92	0.51
36:m:9:LYS:O	50:3:2009:U:H4'	2.10	0.51
40:q:30:GLY:H	40:q:59:VAL:HB	1.74	0.51
50:3:142:A:H2	50:3:1628:G:H21	1.58	0.51
50:3:204:U:O2	50:3:254:G:O6	2.28	0.51
50:3:702:U:H2'	50:3:703:A:C8	2.45	0.51
50:3:1786:U:H5''	50:3:1787:A:H5''	1.91	0.51
50:3:1788:A:H4'	50:3:1789:C:H5''	1.92	0.51
50:3:1819:G:H2'	50:3:1820:U:C6	2.46	0.51
50:3:1870:G:N1	50:3:1887:U:O2	2.43	0.51
50:3:2102:U:H2'	50:3:2103:C:H6	1.74	0.51
50:3:2665:A:H1'	50:3:2673:A:N1	2.24	0.51
52:5:546:G:H2'	52:5:547:C:H6	1.75	0.51
52:5:662:G:H21	52:5:729:C:H3'	1.76	0.51
52:5:760:U:H2'	52:5:761:U:H6	1.75	0.51
52:5:820:A:H2'	52:5:821:U:C6	2.45	0.51
52:5:972:A:O2'	52:5:1198:C:N3	2.43	0.51
52:5:982:A:H2'	52:5:983:G:H8	1.75	0.51
4:A:41:MET:HE3	4:A:206:THR:O	2.10	0.51
6:C:202:ARG:NH1	52:5:29:G:OP1	2.43	0.51
13:J:119:ARG:HB2	23:T:34:TYR:HB2	1.92	0.51
14:K:81:PRO:HB2	14:K:130:TYR:CE1	2.45	0.51
35:l:11:LYS:HB2	50:3:2285:G:H4'	1.92	0.51
41:r:41:LYS:HB2	41:r:44:ALA:HB3	1.91	0.51
41:r:76:ALA:N	50:3:553:A:O2'	2.40	0.51
47:x:17:ALA:N	47:x:36:ILE:O	2.34	0.51
50:3:513:A:O2'	50:3:514:A:OP1	2.26	0.51
50:3:2175:U:C2	50:3:2179:A:N7	2.79	0.51
50:3:2190:G:H2'	50:3:2191:G:H8	1.76	0.51
50:3:2859:U:O4	50:3:2860:A:N6	2.43	0.51
52:5:290:G:OP1	52:5:608:G:O2'	2.26	0.51
52:5:312:A:O3'	52:5:349:A:N6	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:535:A:H2'	52:5:536:U:C6	2.46	0.51
52:5:1146:A:H2'	52:5:1147:U:C6	2.45	0.51
52:5:1341:U:H2'	52:5:1342:C:C6	2.45	0.51
52:5:1491:A:H2'	52:5:1493:A:OP2	2.11	0.51
1:0:45:SER:OG	50:3:128:A:N6	2.42	0.51
14:K:29:ASN:OD1	14:K:34:LYS:HG2	2.11	0.51
31:h:130:GLN:HA	50:3:1112:A:HI'	1.93	0.51
34:k:60:ARG:NH1	50:3:2402:C:O4'	2.43	0.51
41:r:47:ILE:HD11	41:r:105:VAL:HG11	1.92	0.51
41:r:69:LEU:HG	41:r:109:ASP:HB2	1.91	0.51
50:3:852:C:H2'	50:3:853:G:O4'	2.11	0.51
50:3:1116:U:H2'	50:3:1117:U:C6	2.45	0.51
50:3:2411:C:H2'	50:3:2412:A:H8	1.74	0.51
50:3:2655:U:C2	50:3:2681:G:O6	2.62	0.51
50:3:2806:A:H62	50:3:2807:G:H21	1.58	0.51
52:5:168:A:H3'	52:5:169:G:H8	1.76	0.51
52:5:510:U:H2'	52:5:511:A:C8	2.46	0.51
52:5:1214:A:OP2	52:5:1272:C:N4	2.43	0.51
52:5:1232:C:H3'	52:5:1233:G:H8	1.75	0.51
4:A:179:ASP:OD1	4:A:180:ASP:N	2.44	0.51
11:H:13:LYS:NZ	52:5:1321:G:O6	2.42	0.51
17:N:68:LYS:HA	17:N:75:TYR:CE1	2.45	0.51
24:a:51:GLY:HA3	50:3:808:U:H5'	1.93	0.51
24:a:128:ILE:HD12	24:a:134:PHE:HD2	1.75	0.51
24:a:213:ILE:HG21	24:a:219:ASN:HB2	1.93	0.51
26:c:83:HIS:HB2	50:3:1286:G:H21	1.75	0.51
29:f:93:ILE:H	29:f:96:GLN:HE22	1.59	0.51
37:n:77:ILE:HD12	37:n:80:LYS:HD2	1.93	0.51
38:o:90:LEU:HD13	38:o:93:ARG:HE	1.74	0.51
41:r:88:ARG:HD2	41:r:94:ASN:HB2	1.93	0.51
50:3:35:U:C2	50:3:509:G:N1	2.78	0.51
50:3:603:G:H2'	50:3:2037:A:N7	2.25	0.51
50:3:1039:G:N2	50:3:1046:A:HI'	2.26	0.51
50:3:1199:A:H2'	50:3:1200:U:O4'	2.10	0.51
50:3:1493:A:H2'	50:3:1494:U:O4'	2.10	0.51
50:3:2071:C:HI'	50:3:2458:A:C5	2.45	0.51
50:3:2095:A:H2'	50:3:2096:U:O4'	2.10	0.51
50:3:2752:G:H2'	50:3:2753:C:H6	1.76	0.51
50:3:2795:C:H2'	50:3:2796:C:H6	1.75	0.51
51:4:27:A:H2'	51:4:28:C:O4'	2.10	0.51
52:5:92:G:C6	52:5:93:A:HI'	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:344:G:H2'	52:5:345:A:C8	2.38	0.51
52:5:590:G:H2'	52:5:591:A:C8	2.46	0.51
52:5:616:C:H5'	52:5:617:U:C5'	2.40	0.51
52:5:951:U:H3	52:5:955:U:H3	1.59	0.51
52:5:1429:G:H2'	52:5:1430:G:H8	1.76	0.51
7:D:78:LYS:NZ	52:5:916:U:O2'	2.44	0.51
19:P:59:ASP:OD1	19:P:84:ALA:N	2.37	0.51
24:a:56:ARG:HD2	24:a:258:TRP:HH2	1.74	0.51
26:c:75:ARG:NH1	50:3:709:G:H1'	2.21	0.51
27:d:69:LYS:HB2	27:d:82:GLY:HA2	1.92	0.51
27:d:118:SER:HB2	27:d:177:LEU:HB3	1.92	0.51
40:q:37:LYS:HE2	40:q:49:TYR:CZ	2.46	0.51
40:q:56:VAL:HG23	40:q:98:VAL:H	1.76	0.51
49:z:27:LYS:HE2	50:3:2293:C:H5''	1.93	0.51
50:3:59:C:H2'	50:3:60:G:C8	2.46	0.51
50:3:569:U:O4	50:3:592:G:O6	2.27	0.51
50:3:608:A:OP2	50:3:2062:C:N4	2.44	0.51
50:3:1343:C:H1'	50:3:1421:A:H2	1.74	0.51
50:3:1585:A:N6	50:3:1749:A:O2'	2.44	0.51
50:3:1834:U:O2'	50:3:1977:A:N3	2.41	0.51
50:3:2270:U:H2'	50:3:2271:C:H6	1.75	0.51
50:3:2290:G:H1'	50:3:2398:U:C4	2.46	0.51
50:3:2424:C:H2'	50:3:2425:C:C6	2.46	0.51
52:5:80:U:H2'	52:5:81:A:C8	2.45	0.51
52:5:109:G:H2'	52:5:110:U:C6	2.45	0.51
52:5:163:G:N7	52:5:164:C:N4	2.58	0.51
52:5:455:U:H2'	52:5:456:U:H6	1.75	0.51
52:5:600:G:O6	52:5:633:U:O2	2.28	0.51
52:5:673:A:H2'	52:5:674:U:C6	2.45	0.51
52:5:724:G:H5''	52:5:739:G:H1'	1.92	0.51
52:5:1211:A:H2'	52:5:1212:C:C6	2.45	0.51
8:E:8:LEU:HB2	8:E:84:ARG:H	1.75	0.51
9:F:15:PRO:HD3	11:H:52:GLN:HE21	1.75	0.51
10:G:38:SER:O	10:G:42:ILE:N	2.34	0.51
22:S:13:GLN:O	22:S:17:ARG:HG2	2.10	0.51
31:h:124:VAL:O	31:h:128:ALA:N	2.37	0.51
32:i:131:ASP:OD1	32:i:132:LYS:NZ	2.43	0.51
48:y:8:SER:OG	48:y:13:ARG:NH1	2.43	0.51
50:3:85:U:H2'	50:3:103:G:H22	1.76	0.51
50:3:268:C:O2'	50:3:464:A:N1	2.39	0.51
50:3:1232:U:H2'	50:3:1233:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1608:C:H2'	50:3:1609:U:C6	2.46	0.51
50:3:1873:A:H2'	50:3:1874:G:O4'	2.10	0.51
50:3:2035:U:O2	50:3:2040:A:N7	2.44	0.51
50:3:2363:C:H3'	50:3:2364:A:C8	2.46	0.51
50:3:2401:U:H2'	50:3:2402:C:H6	1.75	0.51
50:3:2750:A:H2'	50:3:2751:C:C6	2.46	0.51
52:5:421:G:H2'	52:5:422:A:C8	2.46	0.51
5:B:37:ASP:OD1	5:B:38:GLU:N	2.43	0.51
6:C:144:LEU:HD22	6:C:174:PHE:CD2	2.46	0.51
10:G:106:LEU:HB2	10:G:110:GLY:HA2	1.93	0.51
24:a:138:LEU:HD23	24:a:141:ILE:HD12	1.93	0.51
26:c:123:ASP:OD1	26:c:124:ASN:N	2.44	0.51
33:j:101:PRO:HB3	33:j:120:GLU:OE2	2.11	0.51
49:z:20:LEU:HD11	50:3:2427:U:H5'	1.91	0.51
50:3:1033:A:H2'	50:3:1034:A:C8	2.46	0.51
50:3:1099:C:OP2	50:3:1100:U:N3	2.43	0.51
50:3:1122:G:O6	50:3:1124:G:N2	2.44	0.51
50:3:1297:U:O2	50:3:2020:A:N6	2.41	0.51
50:3:1354:U:N3	50:3:1682:C:O2'	2.39	0.51
50:3:1356:G:H2'	50:3:1358:C:C4	2.46	0.51
50:3:1432:C:H2'	50:3:1433:U:H6	1.75	0.51
50:3:1462:A:O2'	50:3:1463:G:H8	1.93	0.51
50:3:2455:G:H2'	50:3:2508:U:H5''	1.93	0.51
50:3:2469:A:H1'	50:3:2500:U:N3	2.21	0.51
50:3:2653:G:OP2	50:3:2653:G:N2	2.25	0.51
50:3:2750:A:H2'	50:3:2751:C:H6	1.75	0.51
52:5:205:U:H3	52:5:210:G:H1	1.59	0.51
52:5:515:G:N2	52:5:531:A:OP2	2.29	0.51
52:5:786:U:H3	52:5:791:A:N6	2.09	0.51
52:5:1086:U:H2'	52:5:1087:C:O4'	2.10	0.51
52:5:1333:C:H4'	52:5:1336:C:N4	2.26	0.51
4:A:63:GLN:HA	4:A:66:GLN:NE2	2.25	0.51
9:F:52:ARG:HG2	9:F:53:THR:HG23	1.92	0.51
10:G:42:ILE:O	10:G:46:GLU:OE1	2.29	0.51
11:H:44:LYS:NZ	52:5:1265:U:O3'	2.44	0.51
14:K:66:ALA:N	14:K:78:THR:O	2.41	0.51
24:a:159:GLN:O	50:3:1825:U:O2'	2.16	0.51
26:c:165:ASN:ND2	26:c:167:ASN:OD1	2.40	0.51
27:d:63:GLN:OE1	27:d:95:ARG:NH2	2.44	0.51
37:n:16:VAL:HA	37:n:19:ILE:HG22	1.93	0.51
50:3:20:C:O2	50:3:587:U:H4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:30:A:H2'	50:3:31:U:H6	1.75	0.51
50:3:132:G:C2	50:3:133:G:C8	2.99	0.51
50:3:339:U:H2'	50:3:340:U:C6	2.45	0.51
50:3:1058:U:O2'	50:3:1157:G:O5'	2.28	0.51
50:3:1447:A:O2'	50:3:1448:U:H5''	2.11	0.51
50:3:2226:U:H2'	50:3:2227:U:O4'	2.11	0.51
50:3:2228:U:H2'	50:3:2229:C:C6	2.45	0.51
50:3:2607:G:H2'	50:3:2608:A:C8	2.46	0.51
52:5:438:A:H1'	52:5:495:U:H1'	1.93	0.51
52:5:791:A:H4'	52:5:1496:G:O2'	2.11	0.51
52:5:1471:C:H1'	52:5:1492:G:H22	1.75	0.51
53:7:34:U:O2'	53:7:37:A:H8	1.94	0.51
5:B:17:ASN:OD1	5:B:21:ARG:NH2	2.44	0.51
10:G:17:ASP:OD1	10:G:21:LYS:NZ	2.40	0.51
20:Q:100:PRO:HB2	20:Q:103:LYS:HB2	1.92	0.51
25:b:15:GLN:OE1	25:b:23:ARG:HD2	2.10	0.51
26:c:182:HIS:HD1	26:c:184:ASP:H	1.58	0.51
32:i:121:TRP:HA	32:i:124:LYS:HE2	1.92	0.51
38:o:34:ALA:HB3	38:o:87:SER:OG	2.11	0.51
46:w:18:LEU:O	46:w:22:LEU:HD23	2.10	0.51
50:3:343:A:H2'	50:3:364:A:N1	2.26	0.51
50:3:495:U:O2	50:3:506:A:N7	2.44	0.51
50:3:726:U:H2'	50:3:727:C:H6	1.76	0.51
50:3:1257:G:OP1	50:3:1280:G:N2	2.44	0.51
50:3:1677:G:H2'	50:3:1678:U:C6	2.46	0.51
50:3:2402:C:H2'	50:3:2403:C:O4'	2.10	0.51
50:3:2617:U:O2'	50:3:2618:C:H5'	2.11	0.51
50:3:2828:C:OP2	50:3:2829:G:N2	2.43	0.51
50:3:2838:G:H1'	50:3:2887:A:H61	1.76	0.51
52:5:111:A:O2'	52:5:632:A:O4'	2.27	0.51
52:5:600:G:H2'	52:5:601:U:H6	1.76	0.51
52:5:791:A:H4'	52:5:1496:G:HO2'	1.75	0.51
52:5:801:U:OP2	52:5:802:C:N4	2.23	0.51
1:0:38:GLN:O	50:3:494:G:H5''	2.12	0.50
24:a:64:ARG:NE	50:3:1601:A:OP1	2.43	0.50
33:j:67:LYS:HZ2	50:3:2693:U:H4'	1.75	0.50
46:w:4:ALA:O	46:w:8:ARG:NH1	2.44	0.50
46:w:39:ASP:OD1	46:w:40:LYS:HG2	2.11	0.50
50:3:90:G:H2'	50:3:91:G:H8	1.75	0.50
50:3:111:G:H2'	50:3:112:A:C8	2.43	0.50
50:3:200:A:N6	50:3:866:G:C2	2.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:202:C:O2'	50:3:203:A:H5'	2.10	0.50
50:3:250:U:O2	50:3:256:G:N2	2.40	0.50
50:3:1344:U:H2'	50:3:1345:G:C8	2.47	0.50
50:3:1539:U:H2'	50:3:1540:G:C8	2.46	0.50
50:3:1589:A:O2'	50:3:1590:U:O4'	2.20	0.50
50:3:1789:C:N4	50:3:2595:A:H2	2.09	0.50
50:3:1991:U:H2'	50:3:1992:C:H6	1.75	0.50
51:4:107:G:OP2	51:4:108:C:N4	2.44	0.50
52:5:210:G:H2'	52:5:211:G:H8	1.75	0.50
52:5:731:A:H2'	52:5:732:A:C8	2.45	0.50
52:5:852:G:N2	52:5:864:U:OP2	2.39	0.50
16:M:31:ARG:NH2	52:5:972:A:OP1	2.44	0.50
27:d:33:LYS:HD2	27:d:90:THR:HB	1.92	0.50
37:n:17:LYS:NZ	50:3:2343:A:OP1	2.28	0.50
38:o:38:LYS:NZ	38:o:85:ASN:OD1	2.44	0.50
46:w:31:PHE:O	46:w:35:HIS:ND1	2.44	0.50
50:3:1475:C:H2'	50:3:1476:C:H6	1.76	0.50
50:3:1527:U:H2'	50:3:1528:G:C8	2.47	0.50
50:3:1759:C:H2'	50:3:1760:G:C8	2.46	0.50
50:3:2100:G:N7	50:3:2233:A:H2'	2.26	0.50
50:3:2430:C:H2'	50:3:2432:C:C6	2.47	0.50
50:3:2802:C:H5	50:3:2808:A:H1'	1.77	0.50
50:3:2824:A:H61	50:3:2833:A:H1'	1.76	0.50
51:4:22:G:H21	51:4:25:A:H2	1.57	0.50
52:5:163:G:O2'	52:5:1423:C:OP1	2.26	0.50
52:5:999:C:O2	52:5:1029:C:O2'	2.22	0.50
52:5:1118:A:H2'	52:5:1119:C:H5'	1.93	0.50
4:A:118:THR:HG21	52:5:1092:A:H61	1.75	0.50
29:f:95:LYS:NZ	50:3:2226:U:O2'	2.25	0.50
36:m:78:LEU:O	36:m:82:LEU:HD23	2.11	0.50
37:n:99:HIS:NE2	51:4:35:C:O2	2.44	0.50
41:r:18:ARG:O	41:r:22:GLN:HG2	2.11	0.50
41:r:94:ASN:HD21	50:3:2021:A:H5'	1.76	0.50
44:u:86:PHE:HE1	44:u:94:ARG:N	2.10	0.50
50:3:33:C:H2'	50:3:34:C:C6	2.46	0.50
50:3:86:A:N6	50:3:101:C:O4'	2.44	0.50
50:3:142:A:H2'	50:3:143:A:C8	2.46	0.50
50:3:585:U:H1'	50:3:1250:A:C6	2.46	0.50
50:3:684:A:H2'	50:3:685:G:H8	1.77	0.50
50:3:1022:C:H1'	50:3:1037:A:O2'	2.12	0.50
50:3:1037:A:H3'	50:3:1038:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1220:A:H3'	50:3:1221:G:H8	1.77	0.50
50:3:1297:U:O2'	50:3:1298:A:OP1	2.25	0.50
50:3:1923:A:N6	52:5:1383:A:O2'	2.24	0.50
50:3:2471:U:H2'	50:3:2472:G:O4'	2.12	0.50
50:3:2701:A:H2'	50:3:2702:G:H8	1.76	0.50
50:3:2705:G:H2'	50:3:2706:U:H6	1.75	0.50
51:4:31:G:H2'	51:4:32:G:H8	1.76	0.50
52:5:172:C:H2'	52:5:173:U:C6	2.46	0.50
52:5:319:U:H3'	52:5:320:G:C8	2.46	0.50
52:5:711:G:H2'	52:5:712:A:C8	2.46	0.50
52:5:885:U:C4	52:5:901:A:C8	2.99	0.50
52:5:1051:U:H2'	52:5:1052:G:H8	1.77	0.50
52:5:1086:U:OP1	52:5:1099:G:N1	2.33	0.50
52:5:1223:A:N7	52:5:1264:G:N1	2.60	0.50
52:5:1235:C:O2'	52:5:1258:U:O3'	2.29	0.50
52:5:1291:C:H3'	52:5:1292:A:H8	1.77	0.50
52:5:1436:C:H2'	52:5:1437:A:C8	2.46	0.50
19:P:31:LYS:HA	19:P:38:SER:HA	1.92	0.50
20:Q:84:ARG:HH11	20:Q:85:HIS:CE1	2.30	0.50
35:l:62:GLY:HA2	35:l:107:ALA:O	2.11	0.50
37:n:4:ARG:HG3	51:4:44:A:H5''	1.93	0.50
38:o:28:GLY:O	38:o:115:LYS:NZ	2.43	0.50
39:p:15:LYS:NZ	50:3:1256:A:OP1	2.36	0.50
42:s:55:VAL:HG22	42:s:83:ILE:HD12	1.93	0.50
50:3:578:A:H2	50:3:582:A:H62	1.59	0.50
50:3:1171:G:H2'	50:3:1172:G:C8	2.46	0.50
50:3:1862:A:H2'	50:3:1863:G:H8	1.74	0.50
50:3:2309:A:H2'	50:3:2310:C:H6	1.77	0.50
50:3:2607:G:H2'	50:3:2608:A:H8	1.77	0.50
50:3:2770:U:H2'	50:3:2771:G:O4'	2.11	0.50
52:5:254:G:H2'	52:5:255:G:H8	1.77	0.50
52:5:445:A:N6	52:5:483:U:N3	2.56	0.50
52:5:600:G:H2'	52:5:601:U:C6	2.46	0.50
52:5:621:C:H2'	52:5:622:A:C8	2.47	0.50
52:5:1172:A:H2'	52:5:1173:A:C8	2.47	0.50
10:G:59:VAL:HA	10:G:70:VAL:HG12	1.94	0.50
29:f:68:LEU:HA	29:f:71:VAL:HG12	1.94	0.50
29:f:92:ILE:HG23	29:f:96:GLN:HE21	1.76	0.50
50:3:20:C:H2'	50:3:21:U:C6	2.47	0.50
50:3:332:G:N2	50:3:375:U:O4	2.44	0.50
50:3:563:A:H62	50:3:2049:A:H3'	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1111:C:H2'	50:3:1112:A:C8	2.45	0.50
50:3:1137:C:H2'	50:3:1138:A:C8	2.47	0.50
50:3:1293:U:H3'	50:3:1294:G:C8	2.46	0.50
50:3:1483:G:O2'	50:3:2856:G:O3'	2.30	0.50
50:3:2718:C:H2'	50:3:2719:A:O4'	2.12	0.50
52:5:133:G:H2'	52:5:134:G:H8	1.76	0.50
52:5:1173:A:H2'	52:5:1174:U:C6	2.46	0.50
52:5:1267:G:H2'	52:5:1268:G:C8	2.45	0.50
52:5:1401:A:H61	52:5:1450:C:H42	1.58	0.50
52:5:1472:G:H2'	52:5:1473:U:O4'	2.11	0.50
1:0:4:THR:HB	50:3:823:A:H1'	1.94	0.50
8:E:86:LEU:HD22	20:Q:96:LEU:HG	1.92	0.50
19:P:6:ARG:HH22	19:P:62:GLN:HE22	1.58	0.50
24:a:79:ILE:HG23	24:a:101:TYR:HD1	1.76	0.50
26:c:141:LYS:NZ	50:3:353:G:OP2	2.36	0.50
28:e:91:ARG:NE	28:e:133:GLU:HG3	2.26	0.50
35:l:6:ARG:HH21	50:3:906:G:H4'	1.77	0.50
40:q:70:VAL:HG11	50:3:1028:C:H4'	1.93	0.50
50:3:1000:U:O2'	50:3:2281:A:H1'	2.12	0.50
50:3:1211:U:H2'	50:3:1212:C:C6	2.45	0.50
50:3:1347:A:H2'	50:3:1348:C:O4'	2.11	0.50
50:3:1482:U:O2'	50:3:1483:G:N7	2.45	0.50
50:3:2452:G:H2'	50:3:2453:G:O4'	2.12	0.50
50:3:2693:U:H2'	50:3:2694:A:C8	2.46	0.50
50:3:2820:G:H2'	50:3:2821:U:C6	2.46	0.50
52:5:882:U:H5''	52:5:883:A:H5''	1.94	0.50
52:5:957:C:H2'	52:5:958:G:H8	1.76	0.50
52:5:1100:C:H3'	52:5:1101:A:H8	1.77	0.50
52:5:1462:G:H2'	52:5:1463:A:C8	2.41	0.50
5:B:51:ALA:HB1	5:B:53:VAL:HG23	1.94	0.50
11:H:120:LEU:N	52:5:1342:C:OP1	2.45	0.50
26:c:185:LYS:O	50:3:650:G:N2	2.44	0.50
27:d:11:THR:HG22	27:d:14:LYS:HZ3	1.77	0.50
29:f:46:ASP:HA	29:f:49:LEU:HB3	1.94	0.50
35:l:32:TYR:HE2	35:l:111:GLU:HB3	1.76	0.50
43:t:5:LYS:HG2	43:t:102:ARG:NH1	2.27	0.50
44:u:46:ARG:NH1	50:3:2360:A:H2'	2.27	0.50
50:3:119:A:H1'	50:3:181:G:H1'	1.93	0.50
50:3:627:U:H2'	50:3:628:A:C8	2.47	0.50
50:3:1114:C:N4	50:3:1123:A:OP2	2.41	0.50
50:3:1483:G:H1'	50:3:2856:G:H5''	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1723:A:H2'	50:3:1724:A:C8	2.47	0.50
52:5:114:C:N4	52:5:117:U:O4	2.44	0.50
52:5:339:U:O2	52:5:342:G:N2	2.43	0.50
52:5:412:G:N2	52:5:424:U:O2	2.38	0.50
52:5:555:G:N3	52:5:555:G:H2'	2.26	0.50
52:5:725:A:H2'	52:5:726:A:C8	2.46	0.50
53:7:10:A:H62	53:7:24:A:N6	2.10	0.50
53:7:39:A:C8	53:7:39:A:C3'	2.94	0.50
1:0:12:ARG:NH2	50:3:501:G:O4'	2.45	0.50
2:1:28:HIS:NE2	50:3:2429:G:O6	2.45	0.50
9:F:35:LYS:HD3	52:5:1348:G:H5''	1.93	0.50
9:F:52:ARG:HH11	9:F:117:GLU:HB2	1.77	0.50
11:H:112:VAL:O	52:5:1321:G:H5''	2.12	0.50
22:S:70:SER:HA	22:S:73:VAL:HG12	1.94	0.50
27:d:30:ARG:HH21	27:d:32:GLU:HA	1.75	0.50
27:d:69:LYS:HA	27:d:84:LEU:HA	1.94	0.50
28:e:159:PRO:O	28:e:175:LYS:N	2.36	0.50
34:k:53:GLY:HA3	50:3:867:G:N3	2.26	0.50
35:l:73:SER:HA	35:l:93:TRP:HA	1.93	0.50
36:m:38:ALA:HB2	36:m:116:LEU:HD11	1.94	0.50
38:o:53:LEU:HA	38:o:101:ILE:HD11	1.94	0.50
50:3:443:C:H2'	50:3:444:C:H6	1.76	0.50
50:3:467:U:H2'	50:3:468:A:C8	2.46	0.50
50:3:549:A:H2'	50:3:550:A:C8	2.47	0.50
50:3:610:G:H2'	50:3:611:A:C8	2.47	0.50
50:3:736:G:H2'	50:3:737:U:O4'	2.11	0.50
50:3:1005:G:H2'	50:3:1006:U:C6	2.47	0.50
50:3:1297:U:H2'	50:3:1298:A:C8	2.47	0.50
50:3:1537:A:H2'	50:3:1538:U:O4'	2.12	0.50
50:3:1673:U:H1'	50:3:2707:A:H4'	1.93	0.50
50:3:1801:U:H3	50:3:1832:G:H1	1.60	0.50
50:3:2232:G:H4'	50:3:2234:C:C2	2.47	0.50
50:3:2268:C:H2'	50:3:2269:C:H6	1.76	0.50
50:3:2825:A:H2	50:3:2830:A:H61	1.60	0.50
50:3:2880:A:H2'	50:3:2881:A:C8	2.47	0.50
52:5:544:A:O2'	52:5:546:G:O2'	2.30	0.50
52:5:679:U:H2'	52:5:680:G:H8	1.77	0.50
52:5:979:C:N3	52:5:980:C:N4	2.60	0.50
52:5:1134:C:O2	52:5:1156:G:C2	2.65	0.50
53:6:10:A:H62	53:6:24:A:N6	2.10	0.50
53:7:43:G:H2'	53:7:44:U:H5''	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:129:VAL:HG11	6:C:134:ILE:HD11	1.93	0.50
7:D:97:ARG:HH22	7:D:172:LEU:HD23	1.77	0.50
9:F:92:GLN:HA	9:F:95:LYS:HB2	1.94	0.50
11:H:111:ARG:HG2	52:5:1321:G:C8	2.47	0.50
15:L:24:GLY:O	15:L:29:ARG:NH2	2.45	0.50
24:a:137:PRO:HD3	24:a:197:ARG:NH1	2.26	0.50
28:e:4:ILE:HG13	50:3:2759:G:H1'	1.93	0.50
50:3:25:G:H2'	50:3:26:G:C8	2.44	0.50
50:3:196:G:H5'	50:3:713:C:H1'	1.93	0.50
50:3:341:G:N2	50:3:343:A:H3'	2.26	0.50
50:3:523:A:C6	50:3:524:G:C6	3.00	0.50
50:3:1495:A:OP2	50:3:1547:G:N1	2.45	0.50
50:3:1821:G:H3'	50:3:1822:A:H8	1.75	0.50
50:3:2102:U:H2'	50:3:2103:C:C6	2.46	0.50
50:3:2625:U:H2'	50:3:2626:A:C8	2.46	0.50
50:3:2640:A:H2'	50:3:2641:A:C8	2.47	0.50
52:5:675:U:H2'	52:5:676:U:C6	2.47	0.50
52:5:885:U:H2'	52:5:886:A:C8	2.47	0.50
52:5:993:C:H2'	52:5:994:C:O4'	2.11	0.50
52:5:1500:G:H2'	52:5:1501:G:H8	1.76	0.50
53:7:39:A:H8	53:7:39:A:H3'	1.76	0.50
28:e:4:ILE:HD12	50:3:2756:A:H5'	1.94	0.49
28:e:130:LYS:HD3	28:e:132:THR:H	1.77	0.49
43:t:90:LYS:HE3	43:t:105:LYS:HE3	1.94	0.49
46:w:88:LYS:O	46:w:92:GLU:HG2	2.12	0.49
47:x:13:SER:HA	47:x:24:THR:HA	1.93	0.49
50:3:488:G:N2	50:3:494:G:O4'	2.44	0.49
50:3:810:G:O2'	50:3:829:A:OP2	2.28	0.49
50:3:999:U:O2'	50:3:2258:G:O6	2.30	0.49
50:3:1007:C:OP1	50:3:1010:G:O2'	2.22	0.49
50:3:1073:A:H2'	50:3:1074:A:C8	2.46	0.49
50:3:1737:G:H2'	50:3:1738:G:H8	1.77	0.49
50:3:2068:G:H1'	50:3:2069:A:H2'	1.94	0.49
52:5:348:C:H42	52:5:353:G:N2	2.09	0.49
52:5:1179:A:H2'	52:5:1180:U:O4'	2.11	0.49
52:5:1244:A:O2'	52:5:1299:C:O2	2.24	0.49
6:C:38:HIS:CE1	52:5:538:G:H21	2.30	0.49
8:E:5:ILE:O	8:E:59:ARG:HA	2.13	0.49
13:J:109:ILE:O	52:5:672:A:O2'	2.29	0.49
14:K:24:LEU:HD21	14:K:95:LEU:HB2	1.93	0.49
15:L:25:ILE:HA	15:L:29:ARG:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:86:TRP:CZ3	52:5:1295:U:H4'	2.45	0.49
18:O:19:ARG:NH2	52:5:225:U:O2'	2.45	0.49
24:a:153:HIS:CE1	24:a:159:GLN:HE22	2.29	0.49
25:b:6:ILE:HG21	25:b:98:PRO:HB3	1.94	0.49
25:b:157:GLN:OE1	50:3:2060:G:O2'	2.21	0.49
27:d:93:GLY:O	27:d:96:MET:HG2	2.12	0.49
35:l:84:GLY:O	50:3:2258:G:N2	2.46	0.49
50:3:211:A:H2'	50:3:212:G:O4'	2.13	0.49
50:3:322:A:H2'	50:3:323:A:C8	2.48	0.49
50:3:639:G:H21	50:3:693:U:H5'	1.77	0.49
50:3:763:G:HO2'	50:3:765:A:H8	1.58	0.49
50:3:1320:C:H2'	50:3:1321:C:C6	2.47	0.49
50:3:1553:G:H1'	50:3:1578:A:H61	1.78	0.49
50:3:1772:G:O6	50:3:1994:U:O2	2.30	0.49
51:4:45:C:H2'	51:4:46:C:C6	2.47	0.49
52:5:227:A:H2'	52:5:228:G:C8	2.47	0.49
52:5:570:A:H4'	52:5:911:G:O2'	2.12	0.49
52:5:962:G:OP2	52:5:963:U:O2'	2.30	0.49
52:5:1107:U:H2'	52:5:1108:A:C5	2.47	0.49
52:5:1217:G:H2'	52:5:1218:C:C6	2.47	0.49
5:B:8:ASN:HB2	5:B:187:TYR:CD2	2.47	0.49
13:J:114:CYS:HB3	52:5:711:G:N2	2.28	0.49
15:L:16:GLU:O	15:L:20:THR:OG1	2.17	0.49
15:L:107:ARG:HA	15:L:110:LYS:HD3	1.94	0.49
16:M:2:ALA:N	52:5:1040:U:HO2'	2.10	0.49
33:j:15:GLY:HA3	33:j:47:ILE:HD11	1.94	0.49
35:l:11:LYS:NZ	35:l:87:LYS:O	2.36	0.49
42:s:62:PRO:HD3	42:s:77:LEU:HB2	1.93	0.49
49:z:41:CYS:HB2	49:z:45:VAL:HG21	1.95	0.49
50:3:699:U:H2'	50:3:700:U:O4'	2.12	0.49
50:3:869:U:H2'	50:3:870:A:H8	1.77	0.49
50:3:1414:C:H2'	50:3:1415:A:H8	1.71	0.49
50:3:1974:U:H3'	50:3:1975:G:H8	1.77	0.49
50:3:2071:C:H2'	50:3:2072:C:C6	2.47	0.49
50:3:2865:U:H2'	50:3:2866:A:C8	2.46	0.49
52:5:177:G:H22	52:5:188:U:H3	1.60	0.49
52:5:887:C:H2'	52:5:888:A:C8	2.46	0.49
52:5:992:U:H2'	52:5:993:C:C6	2.47	0.49
52:5:1232:C:H3'	52:5:1233:G:C8	2.47	0.49
53:7:26:C:H3'	53:7:27:A:H8	1.77	0.49
5:B:85:ILE:HG13	5:B:104:LEU:HD21	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:24:LYS:O	8:E:28:THR:HG23	2.13	0.49
11:H:18:LYS:HD2	52:5:1123:G:H4'	1.93	0.49
12:I:87:GLN:NE2	12:I:91:ASP:OD1	2.46	0.49
13:J:53:PRO:HB3	13:J:84:ARG:HG3	1.93	0.49
27:d:92:ARG:HA	27:d:96:MET:HE2	1.94	0.49
41:r:20:VAL:HG21	41:r:43:ALA:HB1	1.95	0.49
50:3:107:C:H2'	50:3:108:G:C8	2.48	0.49
50:3:197:U:H2'	50:3:198:G:H8	1.76	0.49
50:3:601:U:N3	50:3:604:A:OP2	2.45	0.49
50:3:1322:A:C6	50:3:1323:A:C6	3.00	0.49
50:3:2330:A:H3'	50:3:2331:G:H8	1.77	0.49
50:3:2330:A:H61	50:3:2343:A:H2	1.59	0.49
50:3:2504:C:OP2	50:3:2505:A:N6	2.45	0.49
50:3:2755:G:N1	50:3:2762:U:H2'	2.28	0.49
52:5:652:A:H1'	52:5:752:G:H5''	1.94	0.49
52:5:1269:U:H2'	52:5:1270:C:C6	2.47	0.49
53:6:33:C:H2'	53:6:34:U:C6	2.47	0.49
5:B:56:VAL:HG12	5:B:69:VAL:HG13	1.93	0.49
8:E:84:ARG:NH1	52:5:670:G:H4'	2.27	0.49
11:H:81:ILE:O	11:H:85:ILE:HG12	2.13	0.49
14:K:41:PRO:O	52:5:550:U:O2'	2.30	0.49
24:a:246:ARG:NE	50:3:2599:C:OP1	2.46	0.49
32:i:28:LEU:HD23	50:3:1174:G:H5'	1.95	0.49
35:l:58:LEU:HD21	35:l:106:VAL:HB	1.94	0.49
37:n:27:ARG:NH2	37:n:115:ASN:O	2.44	0.49
41:r:115:GLN:OE1	41:r:115:GLN:N	2.45	0.49
44:u:29:ASP:OD2	50:3:2272:C:N4	2.37	0.49
46:w:95:LYS:O	46:w:99:LEU:HG	2.13	0.49
50:3:188:G:H2'	50:3:189:U:C6	2.48	0.49
50:3:336:C:H2'	50:3:337:U:C6	2.48	0.49
50:3:379:A:O2'	50:3:381:A:N6	2.46	0.49
50:3:536:A:H2'	50:3:537:A:C8	2.47	0.49
50:3:548:A:H2'	50:3:549:A:H8	1.76	0.49
50:3:915:A:H2'	50:3:916:U:O4'	2.13	0.49
50:3:1247:C:N3	50:3:1262:G:N1	2.50	0.49
50:3:2018:U:H2'	50:3:2019:G:O4'	2.13	0.49
50:3:2189:U:H2'	50:3:2190:G:C8	2.47	0.49
50:3:2308:U:H2'	50:3:2309:A:H8	1.77	0.49
51:4:11:A:H4'	51:4:13:G:C8	2.48	0.49
52:5:288:A:O2'	52:5:606:A:N6	2.45	0.49
52:5:546:G:H2'	52:5:547:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:880:G:N2	52:5:905:U:O2	2.45	0.49
52:5:1483:C:H2'	52:5:1484:C:H6	1.78	0.49
53:6:26:C:H3'	53:6:27:A:H8	1.77	0.49
6:C:143:ARG:NH2	6:C:173:THR:O	2.45	0.49
6:C:194:SER:HA	6:C:197:VAL:HG22	1.94	0.49
8:E:26:GLN:NE2	8:E:35:LEU:HB2	2.27	0.49
11:H:35:ARG:HH21	11:H:40:TYR:HD2	1.61	0.49
26:c:5:LYS:HB2	26:c:126:HIS:HD1	1.77	0.49
26:c:18:VAL:HB	26:c:127:LEU:HD23	1.95	0.49
44:u:61:PRO:HG3	44:u:73:LEU:HD12	1.95	0.49
50:3:260:A:H2'	50:3:261:A:C8	2.48	0.49
50:3:1125:U:H2'	50:3:1126:G:C8	2.48	0.49
50:3:1791:A:OP2	50:3:1791:A:H8	1.95	0.49
50:3:1814:G:H1'	50:3:1817:A:N6	2.27	0.49
50:3:2071:C:H2'	50:3:2072:C:C5	2.48	0.49
50:3:2100:G:H21	50:3:2206:A:H2	1.60	0.49
50:3:2194:G:H2'	50:3:2195:U:O4'	2.12	0.49
50:3:2699:C:H2'	50:3:2700:C:C6	2.47	0.49
52:5:640:C:H2'	52:5:641:U:C6	2.47	0.49
52:5:767:U:H1'	52:5:893:C:H42	1.78	0.49
52:5:1043:U:O4	52:5:1175:C:O2'	2.27	0.49
52:5:1133:A:H4'	52:5:1134:C:OP1	2.11	0.49
4:A:99:ILE:HD12	4:A:102:ARG:HH11	1.77	0.49
8:E:7:LEU:HD11	8:E:72:PHE:HZ	1.78	0.49
22:S:56:ARG:CZ	52:5:219:A:H5'	2.42	0.49
50:3:684:A:H2'	50:3:685:G:C8	2.47	0.49
50:3:726:U:H2'	50:3:727:C:C6	2.48	0.49
50:3:1302:C:H2'	50:3:1680:A:C6	2.47	0.49
50:3:2162:U:H2'	50:3:2163:U:C6	2.48	0.49
50:3:2336:A:H2'	50:3:2337:U:H6	1.77	0.49
50:3:2522:U:H2'	50:3:2523:C:C6	2.47	0.49
50:3:2892:U:H2'	50:3:2893:C:C6	2.47	0.49
52:5:25:U:H2'	52:5:26:C:C6	2.48	0.49
52:5:452:A:H2'	52:5:452:A:N3	2.27	0.49
52:5:551:A:H2'	52:5:552:U:C6	2.47	0.49
6:C:139:GLY:CA	6:C:178:TYR:O	2.61	0.49
8:E:110:GLN:O	8:E:114:LYS:N	2.44	0.49
9:F:49:ILE:HG23	9:F:124:ILE:HD11	1.93	0.49
9:F:99:ALA:O	9:F:103:ILE:HG12	2.13	0.49
11:H:96:LEU:HA	11:H:99:ILE:HG12	1.93	0.49
13:J:18:CYS:HA	13:J:23:THR:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:218:ARG:HG3	50:3:1600:A:H62	1.77	0.49
25:b:24:LEU:HD12	25:b:25:PRO:HD2	1.94	0.49
26:c:138:GLY:O	26:c:171:SER:OG	2.27	0.49
37:n:42:GLN:NE2	51:4:5:G:H21	2.11	0.49
40:q:24:LYS:HB2	40:q:88:PRO:HB2	1.94	0.49
50:3:165:U:C2	50:3:168:A:N6	2.80	0.49
50:3:329:G:H2'	50:3:330:A:H8	1.77	0.49
50:3:402:A:O2'	50:3:404:C:OP2	2.30	0.49
50:3:488:G:H2'	50:3:489:A:C8	2.48	0.49
50:3:978:G:H4'	50:3:1221:G:H5'	1.94	0.49
50:3:1273:U:H2'	50:3:1274:A:C8	2.48	0.49
50:3:2336:A:H2'	50:3:2337:U:C6	2.47	0.49
50:3:2898:A:N3	50:3:2898:A:H2'	2.28	0.49
52:5:320:G:N2	52:5:323:A:N7	2.61	0.49
52:5:1295:U:H2'	52:5:1296:C:C5	2.48	0.49
52:5:1298:U:H5''	52:5:1337:U:H5'	1.95	0.49
28:e:148:ALA:HB1	28:e:167:TYR:CE1	2.48	0.49
34:k:28:LEU:HD21	50:3:1221:G:C8	2.48	0.49
36:m:61:ARG:NH1	50:3:2855:A:O2'	2.45	0.49
37:n:11:ARG:HH12	51:4:45:C:H5''	1.76	0.49
43:t:3:ARG:HH11	50:3:370:C:H5''	1.76	0.49
45:v:5:ASP:HB3	45:v:33:LEU:HD22	1.94	0.49
50:3:306:G:N1	50:3:399:G:N7	2.60	0.49
50:3:408:G:O2'	50:3:460:G:OP1	2.22	0.49
50:3:966:U:H2'	50:3:967:U:C6	2.48	0.49
50:3:1005:G:H2'	50:3:1006:U:H6	1.78	0.49
50:3:1819:G:H2'	50:3:1820:U:H6	1.78	0.49
52:5:250:G:H2'	52:5:251:G:C8	2.47	0.49
52:5:411:A:H3'	52:5:412:G:H8	1.78	0.49
52:5:989:A:H62	52:5:1190:G:HO2'	1.55	0.49
52:5:1117:U:O2'	52:5:1255:A:O2'	2.19	0.49
53:7:33:C:H2'	53:7:34:U:C6	2.47	0.49
5:B:35:ILE:O	5:B:39:LYS:HG2	2.13	0.49
14:K:24:LEU:HD23	14:K:70:LEU:HD23	1.94	0.49
25:b:84:ILE:CD1	25:b:208:ARG:HH12	2.17	0.49
50:3:192:U:H2'	50:3:193:G:O4'	2.13	0.49
50:3:463:U:H2'	50:3:464:A:H8	1.78	0.49
50:3:512:G:C6	50:3:514:A:H5''	2.48	0.49
50:3:619:A:O2'	50:3:707:C:O4'	2.30	0.49
50:3:674:G:H8	50:3:674:G:OP2	1.96	0.49
50:3:890:U:C2	50:3:891:G:C8	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1002:A:H2'	50:3:1003:U:O4'	2.12	0.49
50:3:1085:A:N6	50:3:1144:C:N3	2.60	0.49
50:3:1270:C:H2'	50:3:1271:A:H8	1.78	0.49
50:3:1534:A:H1'	50:3:1535:A:C8	2.48	0.49
50:3:1687:G:H1	50:3:2009:U:H5''	1.77	0.49
50:3:2400:A:H2'	50:3:2401:U:O4'	2.13	0.49
50:3:2838:G:H2'	50:3:2883:A:N6	2.28	0.49
52:5:23:G:H4'	52:5:879:G:C8	2.48	0.49
52:5:104:A:OP2	52:5:284:A:N6	2.38	0.49
52:5:136:U:H2'	52:5:137:A:C8	2.46	0.49
52:5:848:U:H3'	52:5:865:U:H3	1.76	0.49
52:5:1076:U:O4'	52:5:1085:G:N1	2.46	0.49
52:5:1089:C:H2'	52:5:1090:G:C8	2.48	0.49
10:G:24:ASN:ND2	52:5:823:C:O2	2.46	0.48
20:Q:74:ARG:HH12	23:T:52:LYS:HE3	1.77	0.48
24:a:103:ASN:HA	50:3:1515:A:C8	2.48	0.48
32:i:90:VAL:HB	32:i:95:MET:HE3	1.94	0.48
37:n:75:GLN:O	37:n:78:ALA:HB3	2.13	0.48
45:v:47:ARG:NH2	50:3:2208:U:OP1	2.40	0.48
50:3:246:G:H1'	50:3:247:U:H5	1.78	0.48
50:3:413:G:O6	50:3:435:U:O4	2.31	0.48
50:3:548:A:H2'	50:3:549:A:C8	2.47	0.48
50:3:603:G:H1	50:3:2507:C:P	2.36	0.48
50:3:899:A:H2'	50:3:900:G:C8	2.47	0.48
50:3:911:U:H2'	50:3:912:A:C8	2.48	0.48
50:3:1217:G:H2'	50:3:1218:G:C8	2.47	0.48
50:3:1614:G:H2'	50:3:1615:G:O4'	2.13	0.48
50:3:2476:A:O5'	50:3:2484:A:N6	2.46	0.48
52:5:516:C:O5'	52:5:517:C:H5'	2.13	0.48
52:5:1261:A:H61	52:5:1346:G:H5'	1.77	0.48
1:0:15:THR:HG22	1:0:16:HIS:CD2	2.44	0.48
6:C:8:PHE:CD2	52:5:426:U:H5'	2.48	0.48
15:L:20:THR:HG23	15:L:26:GLY:HA2	1.95	0.48
27:d:43:ALA:HB2	27:d:47:SER:HB2	1.94	0.48
34:k:39:GLN:HB3	50:3:867:G:H5'	1.95	0.48
50:3:380:A:H3'	50:3:381:A:C8	2.48	0.48
50:3:410:G:H1'	50:3:436:G:N1	2.27	0.48
50:3:727:C:H2'	50:3:728:A:C8	2.47	0.48
50:3:851:U:H2'	50:3:852:C:C6	2.47	0.48
50:3:1191:A:H5'	50:3:1192:U:H5	1.78	0.48
50:3:1263:G:H2'	50:3:1264:U:C6	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1323:A:O2'	50:3:1324:A:H5'	2.12	0.48
50:3:1650:A:O2'	50:3:1651:C:OP1	2.28	0.48
50:3:2262:C:C2	50:3:2263:G:C8	3.01	0.48
50:3:2700:C:H2'	50:3:2701:A:H8	1.77	0.48
52:5:33:A:H2'	52:5:34:A:C8	2.48	0.48
52:5:660:A:N6	52:5:739:G:H1	2.10	0.48
52:5:732:A:H2'	52:5:733:A:C8	2.36	0.48
52:5:972:A:H2'	52:5:973:A:H5''	1.94	0.48
52:5:1094:C:H2'	52:5:1095:G:H8	1.78	0.48
52:5:1136:G:C2	52:5:1151:A:C6	3.01	0.48
52:5:1262:A:O2'	52:5:1263:A:O4'	2.18	0.48
52:5:1500:G:H2'	52:5:1501:G:C8	2.49	0.48
6:C:111:ARG:HB3	52:5:403:A:H4'	1.95	0.48
14:K:99:ARG:HH22	14:K:105:GLY:H	1.60	0.48
15:L:106:ALA:HA	52:5:943:C:OP1	2.13	0.48
16:M:8:VAL:HA	16:M:11:THR:HG22	1.95	0.48
17:N:3:ILE:HG13	17:N:4:ASP:N	2.28	0.48
18:O:9:PRO:HG2	18:O:35:PRO:HG2	1.96	0.48
22:S:10:ARG:HA	22:S:13:GLN:HG3	1.95	0.48
26:c:193:LEU:HD13	34:k:5:GLN:HE22	1.78	0.48
38:o:58:LYS:HA	50:3:2849:G:H5''	1.95	0.48
49:z:12:ASN:HB3	49:z:48:LYS:HG3	1.95	0.48
50:3:174:A:H2'	50:3:175:A:C8	2.47	0.48
50:3:243:U:H2'	50:3:244:G:O4'	2.12	0.48
50:3:337:U:H2'	50:3:338:G:C8	2.48	0.48
50:3:389:C:H2'	50:3:390:A:H8	1.77	0.48
50:3:678:U:O2'	50:3:2357:G:O2'	2.29	0.48
50:3:1158:C:H2'	50:3:1159:C:C6	2.48	0.48
50:3:1159:C:H3'	50:3:1160:G:H8	1.78	0.48
50:3:1604:A:H2'	50:3:1605:A:C8	2.47	0.48
50:3:2081:U:H1'	50:3:2606:A:N3	2.28	0.48
50:3:2655:U:O2	50:3:2681:G:C6	2.65	0.48
50:3:2658:U:H2'	50:3:2659:U:C6	2.49	0.48
52:5:63:U:O2	52:5:375:C:O2'	2.29	0.48
52:5:200:G:H2'	52:5:201:G:H8	1.77	0.48
52:5:1148:U:H2'	52:5:1149:G:C8	2.46	0.48
52:5:1366:U:H4'	52:5:1508:C:N4	2.28	0.48
7:D:152:LYS:NZ	52:5:7:U:H3	2.11	0.48
8:E:86:LEU:HD21	20:Q:92:ARG:HE	1.78	0.48
11:H:20:TYR:HB2	11:H:66:ASN:O	2.13	0.48
15:L:65:ILE:HG23	15:L:68:ASP:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q:48:GLN:NE2	20:Q:50:ARG:O	2.38	0.48
25:b:139:TYR:CG	25:b:140:PRO:HD3	2.49	0.48
32:i:42:LYS:HE3	39:p:62:LEU:HD21	1.94	0.48
33:j:60:ALA:HB2	33:j:86:LEU:HG	1.94	0.48
33:j:63:VAL:HG23	33:j:64:ARG:HG2	1.95	0.48
40:q:47:ALA:HB3	40:q:48:PRO:HD3	1.95	0.48
41:r:28:LYS:HA	41:r:70:TYR:HA	1.95	0.48
41:r:90:LYS:HZ3	50:3:781:U:H4'	1.79	0.48
43:t:40:ASN:HB3	43:t:67:ALA:HB3	1.96	0.48
44:u:79:GLY:HA2	44:u:100:HIS:CG	2.49	0.48
49:z:37:PHE:HZ	49:z:42:ARG:CZ	2.26	0.48
50:3:807:U:H2'	50:3:808:U:C6	2.48	0.48
50:3:1778:G:H21	50:3:1793:A:H5'	1.78	0.48
50:3:2374:A:H3'	50:3:2375:A:C8	2.48	0.48
50:3:2677:A:H2'	50:3:2678:A:C8	2.49	0.48
50:3:2856:G:H2'	50:3:2857:C:H6	1.76	0.48
51:4:24:A:H3'	51:4:25:A:C8	2.47	0.48
52:5:254:G:H2'	52:5:255:G:C8	2.48	0.48
52:5:594:A:H2'	52:5:595:G:H8	1.78	0.48
52:5:706:U:H2'	52:5:707:G:C8	2.48	0.48
52:5:1175:C:H4'	52:5:1178:C:H41	1.78	0.48
52:5:1317:A:O2'	52:5:1318:C:O4'	2.30	0.48
52:5:1390:G:H2'	52:5:1391:A:C8	2.49	0.48
52:5:1428:A:H2'	52:5:1429:G:O4'	2.13	0.48
4:A:222:PRO:O	4:A:225:THR:OG1	2.21	0.48
6:C:26:SER:HB2	6:C:30:LYS:HB2	1.94	0.48
7:D:132:HIS:HB2	7:D:137:TYR:CD1	2.49	0.48
15:L:101:ARG:HD3	52:5:945:U:H5	1.78	0.48
24:a:87:GLU:O	24:a:96:VAL:N	2.32	0.48
34:k:122:LYS:HB2	34:k:124:LEU:HD21	1.95	0.48
35:l:12:PRO:HA	50:3:947:A:N6	2.24	0.48
35:l:65:TRP:HB2	35:l:105:GLU:CG	2.43	0.48
37:n:75:GLN:HB3	37:n:112:ARG:HD3	1.96	0.48
40:q:87:GLN:OE1	50:3:1197:G:N2	2.34	0.48
50:3:87:G:H2'	50:3:88:G:C8	2.47	0.48
50:3:1106:G:O2'	50:3:1124:G:O5'	2.26	0.48
50:3:1777:G:H2'	50:3:1778:G:H8	1.75	0.48
50:3:1880:G:H2'	50:3:1881:C:H6	1.77	0.48
50:3:2141:A:N7	50:3:2164:G:H1'	2.28	0.48
50:3:2700:C:H2'	50:3:2701:A:C8	2.49	0.48
51:4:91:A:H2'	51:4:92:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1293:A:N6	52:5:1334:A:H2	2.10	0.48
53:6:67:C:N4	53:6:68:G:O6	2.47	0.48
7:D:139:GLU:HA	7:D:151:LEU:O	2.13	0.48
9:F:19:ASN:OD1	9:F:20:THR:N	2.46	0.48
27:d:130:ILE:HB	27:d:154:VAL:HG12	1.95	0.48
34:k:6:LEU:HD13	50:3:1235:U:H1'	1.94	0.48
37:n:29:VAL:HG12	37:n:44:TRP:O	2.13	0.48
41:r:83:LYS:HE2	41:r:95:MET:HB3	1.94	0.48
43:t:44:ARG:NH2	50:3:517:G:H5'	2.29	0.48
44:u:70:ASP:OD1	50:3:2394:A:O2'	2.29	0.48
50:3:107:C:O2	50:3:328:A:O2'	2.27	0.48
50:3:610:G:H5''	50:3:2510:G:C2	2.48	0.48
50:3:670:G:H2'	50:3:671:C:C6	2.49	0.48
50:3:784:A:C2'	50:3:785:A:H5'	2.43	0.48
50:3:1263:G:H2'	50:3:1264:U:H6	1.77	0.48
50:3:1746:U:C2	50:3:1747:G:H1'	2.48	0.48
50:3:1848:U:H3	50:3:1908:A:H61	1.60	0.48
50:3:1880:G:H2'	50:3:1881:C:C6	2.48	0.48
50:3:1881:C:H2'	50:3:1882:G:O4'	2.13	0.48
50:3:2308:U:H2'	50:3:2309:A:C8	2.48	0.48
50:3:2681:G:H2'	50:3:2682:A:C8	2.48	0.48
52:5:166:U:H3	52:5:197:A:H8	1.62	0.48
52:5:362:U:H1'	52:5:390:G:H22	1.78	0.48
52:5:831:C:H2'	52:5:832:G:H8	1.78	0.48
52:5:862:C:H3'	52:5:863:A:H8	1.79	0.48
52:5:1007:U:H2'	52:5:1008:G:C8	2.49	0.48
52:5:1062:C:H2'	52:5:1063:G:H8	1.78	0.48
53:6:43:G:H2'	53:6:44:U:H5''	1.93	0.48
15:L:26:GLY:N	52:5:1303:A:OP1	2.47	0.48
19:P:24:VAL:HG21	19:P:63:ILE:HD11	1.96	0.48
24:a:233:MET:O	24:a:242:GLY:N	2.47	0.48
28:e:39:PRO:HG3	50:3:2766:A:O2'	2.13	0.48
33:j:27:SER:HA	50:3:2571:U:H4'	1.95	0.48
35:l:10:ARG:O	35:l:90:PRO:HD3	2.13	0.48
37:n:37:ASN:ND2	51:4:25:A:OP2	2.46	0.48
40:q:38:VAL:HG13	40:q:50:LEU:HB2	1.94	0.48
40:q:85:HIS:NE2	40:q:87:GLN:HB2	2.28	0.48
49:z:38:CYS:HB2	49:z:47:HIS:CE1	2.48	0.48
50:3:285:U:O2	50:3:285:U:H2'	2.14	0.48
50:3:320:A:H2'	50:3:321:A:H8	1.77	0.48
50:3:723:U:O2	50:3:821:C:O2'	2.19	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:988:G:C6	50:3:989:G:C6	3.02	0.48
50:3:1092:A:N6	50:3:1122:G:OP1	2.46	0.48
50:3:1174:G:H21	50:3:1178:A:H2	1.60	0.48
50:3:1641:A:H4'	50:3:1642:G:C8	2.49	0.48
50:3:1829:U:H2'	50:3:1830:G:C8	2.48	0.48
50:3:2088:U:H2'	50:3:2245:G:N2	2.29	0.48
50:3:2460:C:O2'	50:3:2461:A:O4'	2.23	0.48
50:3:2552:G:H1'	50:3:2654:U:H5'	1.95	0.48
52:5:40:G:H1'	52:5:496:A:N3	2.29	0.48
52:5:511:A:H2'	52:5:512:U:H6	1.79	0.48
52:5:512:U:C2	52:5:513:G:C8	3.02	0.48
52:5:568:G:O6	52:5:859:A:N6	2.47	0.48
52:5:1077:U:H2'	52:5:1078:G:C8	2.49	0.48
52:5:1227:A:H1'	52:5:1344:C:H4'	1.95	0.48
52:5:1244:A:N1	52:5:1286:G:O2'	2.39	0.48
1:0:34:ARG:HH21	1:0:37:LYS:HD3	1.78	0.48
1:0:40:ALA:N	50:3:495:U:OP1	2.47	0.48
4:A:180:ASP:HB3	4:A:183:TYR:HB3	1.95	0.48
5:B:87:LYS:O	5:B:91:GLN:OE1	2.31	0.48
6:C:13:ARG:NH1	6:C:35:PRO:O	2.47	0.48
8:E:22:ASN:O	8:E:26:GLN:HG2	2.14	0.48
11:H:54:LEU:HB3	11:H:59:LEU:HA	1.95	0.48
15:L:11:ASN:OD1	15:L:12:GLN:N	2.40	0.48
23:T:9:ASP:OD1	23:T:10:ASP:N	2.47	0.48
24:a:138:LEU:HA	24:a:141:ILE:HD12	1.94	0.48
28:e:151:VAL:HA	28:e:154:TRP:CZ3	2.49	0.48
39:p:95:SER:C	39:p:97:LEU:N	2.70	0.48
41:r:99:ARG:HH12	50:3:2019:G:H3'	1.78	0.48
48:y:40:HIS:HE1	50:3:2887:A:H4'	1.77	0.48
50:3:71:C:H4'	50:3:77:G:N7	2.29	0.48
50:3:79:U:H2'	50:3:80:U:H6	1.79	0.48
50:3:411:U:O2'	50:3:459:A:H1'	2.13	0.48
50:3:537:A:H2'	50:3:540:A:N7	2.28	0.48
50:3:673:A:H2	50:3:687:G:HO2'	1.62	0.48
50:3:771:C:H2'	50:3:772:C:H6	1.79	0.48
50:3:984:C:H2'	50:3:985:A:C8	2.43	0.48
50:3:1483:G:H2'	50:3:1484:G:H5'	1.96	0.48
50:3:1755:A:H2'	50:3:1756:A:C8	2.49	0.48
50:3:1910:G:H2'	50:3:1911:G:C8	2.49	0.48
50:3:2141:A:H8	50:3:2164:G:H21	1.62	0.48
50:3:2752:G:O6	50:3:2768:U:O2	2.30	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2792:C:H2'	50:3:2793:U:C6	2.48	0.48
52:5:490:U:H2'	52:5:491:U:C5	2.48	0.48
52:5:935:U:O2	52:5:1323:A:O2'	2.28	0.48
52:5:1284:A:H2'	52:5:1285:G:H8	1.78	0.48
53:6:39:A:H3'	53:6:39:A:H8	1.77	0.48
2:1:42:ARG:O	2:1:44:GLN:NE2	2.47	0.48
5:B:181:LEU:HD21	52:5:1164:U:H1'	1.96	0.48
10:G:44:ILE:HA	10:G:47:ILE:HG22	1.95	0.48
11:H:108:ARG:HG2	52:5:1108:A:H4'	1.96	0.48
15:L:107:ARG:NH1	52:5:1203:A:OP2	2.47	0.48
20:Q:52:ASP:OD1	20:Q:52:ASP:N	2.44	0.48
24:a:64:ARG:HD3	24:a:90:PRO:HB2	1.94	0.48
32:i:115:ASN:HD21	50:3:591:G:H5''	1.78	0.48
41:r:83:LYS:CE	41:r:95:MET:HB3	2.43	0.48
50:3:725:G:H2'	50:3:726:U:H6	1.79	0.48
50:3:1082:A:H1'	50:3:1146:A:N6	2.29	0.48
50:3:1294:G:P	50:3:1295:A:H2'	2.53	0.48
50:3:1306:G:H2'	50:3:1307:G:C8	2.49	0.48
50:3:1786:U:C4	50:3:1791:A:C6	3.02	0.48
50:3:2504:C:O2'	50:3:2505:A:OP1	2.24	0.48
50:3:2791:U:H2'	50:3:2792:C:C6	2.48	0.48
51:4:69:C:H2'	51:4:70:G:O4'	2.14	0.48
52:5:413:G:H2'	52:5:414:U:C6	2.49	0.48
52:5:486:C:H2'	52:5:487:A:H8	1.77	0.48
52:5:515:G:N2	52:5:528:G:OP1	2.40	0.48
52:5:550:U:H2'	52:5:551:A:C8	2.35	0.48
52:5:553:C:H2'	52:5:554:C:C2	2.49	0.48
52:5:663:G:N2	52:5:737:U:O2	2.44	0.48
52:5:715:A:H5''	52:5:716:C:H5	1.79	0.48
52:5:1329:G:C2	52:5:1343:G:C2	3.01	0.48
7:D:66:PHE:N	7:D:95:GLY:O	2.47	0.48
7:D:115:ILE:O	7:D:119:ILE:HG13	2.14	0.48
10:G:43:ALA:HA	10:G:46:GLU:OE1	2.14	0.48
14:K:3:THR:OG1	52:5:874:C:OP2	2.32	0.48
17:N:68:LYS:HA	17:N:75:TYR:HE1	1.79	0.48
21:R:37:ARG:HB3	52:5:1292:A:O2'	2.13	0.48
26:c:185:LYS:C	50:3:650:G:H22	2.22	0.48
50:3:139:G:C6	50:3:140:G:C6	3.02	0.48
50:3:225:A:O4'	50:3:237:A:H1'	2.14	0.48
50:3:246:G:N2	50:3:247:U:O4	2.46	0.48
50:3:740:A:H61	50:3:760:G:H2'	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1551:U:H2'	50:3:1552:C:O4'	2.14	0.48
50:3:2140:G:H2'	50:3:2164:G:N2	2.28	0.48
50:3:2200:U:H2'	50:3:2201:G:C8	2.49	0.48
50:3:2734:C:O2'	50:3:2735:G:O5'	2.32	0.48
50:3:2863:G:O2'	50:3:2864:A:O4'	2.23	0.48
51:4:4:G:C6	51:4:105:A:N6	2.82	0.48
52:5:98:G:H1	52:5:310:C:N4	2.11	0.48
52:5:214:U:H2'	52:5:215:C:H6	1.79	0.48
52:5:365:U:O4	52:5:388:G:O6	2.32	0.48
52:5:421:G:H2'	52:5:422:A:H8	1.79	0.48
52:5:561:A:H2'	52:5:565:G:C8	2.48	0.48
52:5:922:G:OP1	52:5:1480:G:N2	2.31	0.48
52:5:977:U:H5'	52:5:978:A:C8	2.48	0.48
52:5:991:A:H2'	52:5:992:U:C6	2.49	0.48
52:5:1079:G:H21	52:5:1144:A:N6	2.12	0.48
52:5:1175:C:H5''	52:5:1176:A:H3'	1.96	0.48
10:G:118:THR:OG1	10:G:119:SER:N	2.47	0.47
11:H:33:ASN:HD21	11:H:69:VAL:HG13	1.79	0.47
13:J:28:SER:OG	13:J:35:LEU:N	2.28	0.47
26:c:30:LYS:HB3	26:c:33:PRO:HG2	1.95	0.47
26:c:183:LEU:HB2	26:c:203:VAL:HG12	1.95	0.47
35:l:49:SER:HB3	50:3:2492:G:H4'	1.94	0.47
37:n:31:MET:HE1	37:n:33:ILE:HD11	1.95	0.47
39:p:27:ARG:HD2	50:3:2026:A:H1'	1.96	0.47
45:v:14:TYR:HE1	45:v:28:LYS:HE2	1.79	0.47
46:w:25:GLU:O	46:w:28:GLU:HB3	2.13	0.47
50:3:154:U:H2'	50:3:155:A:H8	1.78	0.47
50:3:535:G:N2	50:3:538:A:OP2	2.45	0.47
50:3:569:U:H2'	50:3:570:C:C6	2.49	0.47
50:3:584:G:H2'	50:3:585:U:C6	2.49	0.47
50:3:780:G:H1'	50:3:785:A:H61	1.79	0.47
50:3:1434:U:H2'	50:3:1435:A:C8	2.48	0.47
50:3:1439:U:H2'	50:3:1440:U:C6	2.49	0.47
50:3:1459:A:H2'	50:3:1460:G:H8	1.78	0.47
50:3:1554:A:N6	50:3:1576:G:O2'	2.47	0.47
50:3:2047:U:H2'	50:3:2048:U:C6	2.49	0.47
50:3:2064:G:H2'	50:3:2065:A:C8	2.49	0.47
50:3:2093:U:H2'	50:3:2094:A:C8	2.49	0.47
50:3:2348:U:H2'	50:3:2349:G:H8	1.79	0.47
50:3:2539:A:C2	50:3:2667:G:H1'	2.48	0.47
50:3:2696:G:N2	50:3:2728:U:OP2	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:555:G:OP1	52:5:557:A:O2'	2.31	0.47
52:5:884:G:H22	52:5:901:A:P	2.37	0.47
52:5:1239:U:H2'	52:5:1240:U:C6	2.49	0.47
52:5:1266:U:H2'	52:5:1267:G:C8	2.49	0.47
6:C:151:ILE:HD12	52:5:434:U:H5''	1.95	0.47
14:K:88:GLN:OE1	14:K:91:SER:OG	2.28	0.47
19:P:3:ARG:HG2	19:P:5:GLN:OE1	2.14	0.47
23:T:37:ARG:HH11	23:T:40:MET:HE2	1.79	0.47
25:b:33:PRO:HD3	25:b:189:MET:HE1	1.95	0.47
27:d:170:LEU:HB3	27:d:177:LEU:HD11	1.96	0.47
32:i:132:LYS:HD3	32:i:132:LYS:HA	1.72	0.47
35:l:39:GLY:CA	35:l:97:VAL:O	2.56	0.47
36:m:81:HIS:CE1	36:m:85:LYS:HD2	2.49	0.47
42:s:55:VAL:HG22	42:s:83:ILE:HG23	1.97	0.47
43:t:11:VAL:HG13	43:t:77:PHE:HB2	1.95	0.47
50:3:31:U:C2	50:3:32:G:C8	3.02	0.47
50:3:47:G:C2	50:3:184:A:N6	2.82	0.47
50:3:668:A:H2'	50:3:669:A:C8	2.49	0.47
50:3:881:A:N7	50:3:968:U:N3	2.62	0.47
50:3:1087:C:H2'	50:3:1088:A:H8	1.79	0.47
50:3:1930:U:H5''	53:7:25:G:O2'	2.14	0.47
50:3:1957:G:N1	50:3:1961:A:O2'	2.46	0.47
50:3:1992:C:H2'	50:3:1993:U:C6	2.49	0.47
50:3:2394:A:H2'	50:3:2395:U:C6	2.49	0.47
50:3:2469:A:H2'	50:3:2470:C:C6	2.49	0.47
51:4:85:A:H2'	51:4:86:G:O4'	2.14	0.47
52:5:95:C:H3'	52:5:96:G:C8	2.50	0.47
52:5:450:U:H3'	52:5:451:G:C8	2.47	0.47
52:5:917:G:N2	52:5:1373:A:N3	2.57	0.47
52:5:1141:U:O2'	52:5:1142:G:H8	1.96	0.47
52:5:1480:G:H5'	52:5:1481:U:H2'	1.96	0.47
52:5:1485:C:H2'	52:5:1486:C:H6	1.79	0.47
5:B:3:GLN:O	12:I:59:ARG:NH1	2.47	0.47
5:B:114:LEU:HD13	5:B:207:ARG:HG2	1.95	0.47
9:F:64:ALA:O	9:F:68:VAL:HG22	2.13	0.47
20:Q:83:GLN:O	20:Q:83:GLN:NE2	2.44	0.47
28:e:66:ILE:O	50:3:2756:A:O2'	2.31	0.47
40:q:67:LYS:HG3	40:q:86:ARG:HH21	1.79	0.47
43:t:28:MET:HE1	43:t:35:ILE:HG12	1.95	0.47
48:y:26:ALA:HB1	50:3:2890:G:N2	2.30	0.47
48:y:48:TYR:HD1	48:y:49:GLY:H	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:890:U:H2'	50:3:891:G:H8	1.78	0.47
50:3:1045:A:OP2	50:3:1046:A:N6	2.46	0.47
50:3:1868:A:H2	50:3:1889:U:O2	1.97	0.47
50:3:2292:A:H2'	50:3:2293:C:C6	2.49	0.47
50:3:2345:G:H2'	50:3:2346:G:H8	1.77	0.47
50:3:2399:G:N2	50:3:2433:A:OP1	2.36	0.47
50:3:2436:G:H4'	50:3:2437:G:C5	2.49	0.47
50:3:2706:U:H3	50:3:2717:G:H1	1.61	0.47
51:4:4:G:H2'	51:4:5:G:H8	1.79	0.47
51:4:11:A:N1	51:4:67:G:O2'	2.47	0.47
51:4:73:U:H2'	51:4:74:G:O4'	2.14	0.47
52:5:171:A:H2'	52:5:172:C:C6	2.49	0.47
52:5:240:U:O4	52:5:887:C:N3	2.47	0.47
52:5:365:U:H2'	52:5:366:C:H6	1.79	0.47
52:5:402:G:H2'	52:5:403:A:C8	2.50	0.47
52:5:736:U:H2'	52:5:737:U:O4'	2.14	0.47
52:5:762:G:N1	52:5:809:G:O2'	2.42	0.47
52:5:1263:A:H8	52:5:1264:G:H8	1.61	0.47
52:5:1284:A:H2'	52:5:1285:G:C8	2.48	0.47
52:5:1333:C:H2'	52:5:1335:G:OP2	2.14	0.47
52:5:1433:G:H2'	52:5:1434:C:C6	2.50	0.47
5:B:121:ARG:HE	5:B:125:ASN:ND2	2.13	0.47
11:H:111:ARG:HA	52:5:1321:G:O5'	2.14	0.47
21:R:41:PHE:HB2	21:R:44:PHE:HD1	1.79	0.47
22:S:50:GLN:HE22	22:S:54:LEU:HD11	1.79	0.47
34:k:18:LYS:N	50:3:698:A:OP1	2.46	0.47
48:y:2:ALA:N	50:3:2621:U:O5'	2.47	0.47
50:3:188:G:H2'	50:3:189:U:H6	1.78	0.47
50:3:314:G:N2	50:3:394:C:C2	2.77	0.47
50:3:646:A:H2'	50:3:647:G:C8	2.50	0.47
50:3:818:A:N3	50:3:818:A:H2'	2.29	0.47
50:3:1798:A:H61	50:3:1835:G:H1'	1.79	0.47
50:3:1920:A:C6	53:6:39:A:H5'	2.50	0.47
50:3:2324:A:H2'	50:3:2325:U:O4'	2.13	0.47
50:3:2376:C:H2'	50:3:2377:A:H8	1.75	0.47
50:3:2659:U:H2'	50:3:2660:C:H6	1.78	0.47
50:3:2689:C:O2	50:3:2733:A:N6	2.47	0.47
52:5:94:A:H62	52:5:320:G:H21	1.62	0.47
52:5:934:G:N2	52:5:1323:A:O2'	2.47	0.47
52:5:935:U:H2'	52:5:936:G:O4'	2.14	0.47
52:5:1101:A:H3'	52:5:1102:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1220:A:H2'	52:5:1221:A:C8	2.49	0.47
52:5:1471:C:O2'	52:5:1492:G:N1	2.45	0.47
2:1:29:LEU:HD12	50:3:2399:G:H3'	1.96	0.47
4:A:180:ASP:O	4:A:184:GLU:N	2.47	0.47
6:C:128:THR:OG1	6:C:145:LYS:NZ	2.31	0.47
13:J:33:ASN:HB2	52:5:681:U:H1'	1.95	0.47
16:M:53:ILE:HD12	16:M:54:PRO:HD2	1.96	0.47
19:P:73:LYS:NZ	52:5:251:G:OP1	2.47	0.47
24:a:124:SER:HB3	24:a:128:ILE:HD13	1.95	0.47
34:k:25:GLY:HA2	40:q:80:LEU:HD12	1.97	0.47
34:k:99:ILE:HB	34:k:106:ALA:HA	1.95	0.47
39:p:95:SER:C	39:p:97:LEU:H	2.23	0.47
40:q:70:VAL:HG23	40:q:83:TYR:HB3	1.95	0.47
46:w:40:LYS:HD3	46:w:42:HIS:CE1	2.49	0.47
50:3:370:C:H2'	50:3:371:C:H6	1.80	0.47
50:3:474:U:H2'	50:3:475:A:H8	1.76	0.47
50:3:488:G:N2	50:3:493:A:O3'	2.47	0.47
50:3:622:U:H2'	50:3:623:A:H8	1.79	0.47
50:3:854:A:H3'	50:3:1009:A:N6	2.30	0.47
50:3:1062:A:H2'	50:3:1063:A:H8	1.79	0.47
50:3:2662:A:H1'	50:3:2664:U:C6	2.50	0.47
50:3:2716:U:H2'	50:3:2717:G:H8	1.78	0.47
52:5:94:A:C8	52:5:322:G:H2'	2.48	0.47
52:5:147:A:H2'	52:5:148:A:C8	2.49	0.47
52:5:645:A:C6	52:5:646:A:C5	3.02	0.47
52:5:763:A:H2	52:5:1500:G:N3	2.11	0.47
52:5:763:A:H61	52:5:1486:C:H1'	1.79	0.47
52:5:943:C:O2	52:5:1208:G:N2	2.34	0.47
52:5:1053:U:P	52:5:1165:G:H1	2.37	0.47
7:D:176:SER:OG	7:D:177:ASP:N	2.47	0.47
7:D:189:ILE:HD11	52:5:19:C:H5''	1.97	0.47
10:G:19:LEU:HD22	10:G:87:VAL:HB	1.96	0.47
24:a:128:ILE:HD12	24:a:134:PHE:CD2	2.49	0.47
39:p:35:LYS:O	39:p:39:ILE:HG12	2.14	0.47
45:v:27:ARG:NH2	45:v:29:TRP:HE1	2.10	0.47
50:3:255:A:N7	50:3:256:G:H1'	2.30	0.47
50:3:311:G:N2	50:3:396:A:N3	2.62	0.47
50:3:852:C:H3'	50:3:853:G:H8	1.78	0.47
50:3:1012:G:N2	50:3:1190:A:N3	2.62	0.47
50:3:1135:C:H2'	50:3:1136:U:O4'	2.15	0.47
50:3:1152:U:H2'	50:3:1153:U:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1665:G:N1	50:3:1668:G:OP2	2.39	0.47
50:3:1738:G:H2'	50:3:1739:G:C8	2.49	0.47
50:3:1786:U:C4	50:3:1791:A:C2	3.03	0.47
50:3:2219:U:O2'	50:3:2220:A:H8	1.96	0.47
50:3:2615:G:H2'	50:3:2616:G:C8	2.50	0.47
51:4:95:G:H2'	51:4:96:G:C8	2.49	0.47
52:5:380:G:H2'	52:5:381:C:C6	2.50	0.47
52:5:418:U:OP1	52:5:420:A:N6	2.47	0.47
52:5:896:G:H2'	52:5:897:A:C8	2.50	0.47
52:5:919:C:H2'	52:5:920:G:C8	2.50	0.47
52:5:1407:A:H2	52:5:1442:A:H2'	1.80	0.47
4:A:172:LEU:HD12	4:A:196:ILE:HG22	1.96	0.47
5:B:67:VAL:O	5:B:104:LEU:HB2	2.15	0.47
6:C:69:LYS:NZ	52:5:546:G:O5'	2.48	0.47
9:F:144:ALA:O	9:F:145:GLU:HG2	2.15	0.47
9:F:147:ASN:HB3	9:F:150:PHE:HD2	1.79	0.47
21:R:52:HIS:NE2	21:R:54:GLY:HA2	2.30	0.47
25:b:201:GLU:HB3	50:3:2824:A:H5'	1.96	0.47
27:d:45:ARG:H	27:d:45:ARG:HD3	1.80	0.47
28:e:57:ARG:NH1	28:e:65:LYS:HB2	2.29	0.47
32:i:31:LEU:HA	32:i:34:LYS:HE2	1.97	0.47
35:l:124:LYS:HD3	50:3:2492:G:N3	2.30	0.47
37:n:97:LYS:HE3	50:3:2302:C:H5''	1.97	0.47
41:r:78:GLN:HB2	50:3:26:G:H21	1.79	0.47
44:u:64:ASN:HB2	44:u:97:VAL:HB	1.96	0.47
44:u:78:ASP:O	44:u:99:LYS:HD2	2.15	0.47
50:3:297:G:H4'	50:3:298:U:C5	2.49	0.47
50:3:326:A:H2'	50:3:327:U:C6	2.50	0.47
50:3:678:U:H4'	50:3:2357:G:H4'	1.97	0.47
50:3:719:G:N2	50:3:810:G:N7	2.54	0.47
50:3:1001:C:H2'	50:3:1002:A:H8	1.79	0.47
50:3:1371:G:H3'	50:3:1372:U:C6	2.50	0.47
50:3:1464:G:N1	50:3:1590:U:O4	2.41	0.47
50:3:1885:G:H2'	50:3:1886:C:C6	2.50	0.47
50:3:2058:G:H3'	50:3:2586:G:OP1	2.15	0.47
50:3:2101:A:H2'	50:3:2102:U:O4'	2.14	0.47
50:3:2267:G:H5'	50:3:2435:C:H3'	1.95	0.47
50:3:2328:A:H1'	50:3:2330:A:N7	2.30	0.47
50:3:2595:A:H8	50:3:2596:A:C8	2.33	0.47
50:3:2745:G:H2'	50:3:2746:A:H8	1.78	0.47
50:3:2885:U:H2'	50:3:2886:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:40:G:H2'	52:5:41:C:H6	1.79	0.47
52:5:117:U:H2'	52:5:118:C:C6	2.50	0.47
52:5:409:G:H5''	52:5:410:A:H5'	1.96	0.47
52:5:490:U:H2'	52:5:491:U:C6	2.49	0.47
52:5:538:G:H2'	52:5:539:G:H8	1.79	0.47
52:5:722:G:OP1	52:5:847:G:N2	2.32	0.47
52:5:762:G:N2	52:5:810:U:OP2	2.38	0.47
52:5:817:U:C2	52:5:867:A:C8	3.03	0.47
52:5:873:U:H2'	52:5:874:C:C6	2.50	0.47
52:5:922:G:H4'	52:5:1478:A:C8	2.50	0.47
52:5:1033:U:H5''	52:5:1034:G:OP2	2.14	0.47
52:5:1055:G:H22	52:5:1166:A:H8	1.62	0.47
52:5:1093:A:H2'	52:5:1094:C:H6	1.79	0.47
52:5:1106:U:O2	52:5:1160:G:N2	2.31	0.47
52:5:1136:G:C6	52:5:1137:C:C4	3.03	0.47
52:5:1244:A:H1'	52:5:1286:G:N2	2.29	0.47
52:5:1430:G:C4	52:5:1431:A:C8	3.03	0.47
52:5:1497:U:H2'	52:5:1498:G:C8	2.50	0.47
53:7:67:C:N4	53:7:68:G:O6	2.47	0.47
12:I:93:LEU:O	12:I:96:ILE:HG23	2.15	0.47
14:K:30:LEU:O	14:K:31:LEU:HG	2.15	0.47
18:O:25:LYS:HE2	52:5:306:G:H4'	1.97	0.47
23:T:41:ARG:O	23:T:44:GLU:HG3	2.14	0.47
30:g:26:ILE:O	30:g:109:VAL:HB	2.15	0.47
32:i:18:TRP:HE3	32:i:58:ILE:HD11	1.80	0.47
32:i:63:ASP:HB3	32:i:129:LYS:HB3	1.95	0.47
43:t:14:THR:OG1	50:3:344:A:H5''	2.15	0.47
44:u:83:TYR:CE1	44:u:95:VAL:HG12	2.50	0.47
48:y:39:PHE:HD2	50:3:2819:C:H1'	1.80	0.47
50:3:121:U:O4	50:3:180:A:H2'	2.14	0.47
50:3:509:G:H2'	50:3:510:G:C8	2.49	0.47
50:3:565:C:H42	50:3:2028:G:H1'	1.79	0.47
50:3:688:U:O2'	50:3:689:U:OP2	2.30	0.47
50:3:1692:A:H2'	50:3:1693:U:H6	1.80	0.47
50:3:1754:U:H2'	50:3:1755:A:C8	2.49	0.47
50:3:1957:G:N2	50:3:1961:A:O2'	2.48	0.47
50:3:2536:U:OP2	50:3:2538:A:N6	2.48	0.47
50:3:2671:G:H3'	50:3:2672:G:C8	2.50	0.47
50:3:2706:U:C2	50:3:2707:A:C8	3.03	0.47
52:5:292:U:H2'	52:5:293:G:H8	1.78	0.47
52:5:643:U:H2'	52:5:644:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:777:A:H1'	52:5:800:G:N2	2.30	0.47
52:5:1289:U:C2	52:5:1293:A:N6	2.82	0.47
2:1:30:ALA:N	2:1:31:PRO:HD2	2.30	0.47
5:B:184:ASP:OD2	5:B:210:ILE:HG22	2.15	0.47
6:C:70:GLN:O	6:C:74:LEU:HG	2.15	0.47
6:C:96:ARG:HB2	6:C:99:ASN:HB2	1.96	0.47
10:G:99:ARG:HH12	10:G:105:PRO:HG3	1.79	0.47
12:I:40:VAL:HG22	12:I:41:LYS:HG2	1.97	0.47
27:d:127:ASN:ND2	27:d:157:VAL:HG12	2.30	0.47
27:d:134:GLU:O	27:d:151:GLY:HA2	2.15	0.47
28:e:151:VAL:HA	28:e:154:TRP:HZ3	1.79	0.47
29:f:105:GLY:HA2	50:3:166:A:H1'	1.96	0.47
36:m:95:GLY:HA3	50:3:2843:G:N3	2.30	0.47
38:o:25:PHE:O	38:o:55:ARG:HD2	2.14	0.47
50:3:84:G:H2'	50:3:85:U:C6	2.50	0.47
50:3:380:A:H3'	50:3:381:A:H8	1.78	0.47
50:3:1011:A:H1'	50:3:1026:A:C2	2.50	0.47
50:3:1379:C:O3'	50:3:1605:A:O2'	2.32	0.47
50:3:1583:G:O2'	50:3:1584:U:OP1	2.32	0.47
50:3:1766:A:H2'	50:3:1767:A:C8	2.49	0.47
50:3:2216:U:H2'	50:3:2217:G:C8	2.50	0.47
50:3:2310:C:H2'	50:3:2311:G:C8	2.50	0.47
50:3:2470:C:H2'	50:3:2471:U:C6	2.50	0.47
50:3:2537:G:H5''	50:3:2538:A:H5''	1.96	0.47
50:3:2668:A:O2'	50:3:2669:G:C8	2.67	0.47
50:3:2725:G:H2'	50:3:2726:G:O4'	2.15	0.47
50:3:2756:A:N7	50:3:2762:U:C2	2.81	0.47
50:3:2893:C:H2'	50:3:2894:G:O4'	2.15	0.47
52:5:225:U:H2'	52:5:226:G:C8	2.50	0.47
52:5:321:A:H2'	52:5:322:G:C4	2.50	0.47
52:5:398:G:H2'	52:5:399:C:O4'	2.14	0.47
52:5:558:U:H4'	52:5:561:A:H8	1.80	0.47
52:5:709:A:H2'	52:5:710:G:C8	2.50	0.47
52:5:826:G:H2'	52:5:827:C:C6	2.50	0.47
52:5:1083:A:N1	52:5:1100:C:O2'	2.40	0.47
52:5:1133:A:N7	52:5:1155:A:N6	2.63	0.47
52:5:1445:G:H2'	52:5:1446:A:C8	2.49	0.47
19:P:70:SER:OG	19:P:71:ALA:N	2.47	0.47
22:S:17:ARG:HH22	52:5:319:U:H4'	1.80	0.47
24:a:144:GLY:H	24:a:170:ILE:HB	1.78	0.47
24:a:179:TYR:HB3	24:a:191:LYS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:115:LYS:NZ	50:3:2731:U:OP1	2.48	0.47
26:c:30:LYS:NZ	50:3:633:G:H5''	2.29	0.47
26:c:162:ASN:HB2	26:c:203:VAL:HG13	1.97	0.47
33:j:64:ARG:HB2	33:j:82:ASN:HA	1.96	0.47
39:p:75:TYR:CE2	50:3:1188:C:H5'	2.46	0.47
41:r:94:ASN:OD1	41:r:95:MET:N	2.46	0.47
45:v:32:ASN:O	45:v:51:SER:HA	2.15	0.47
46:w:40:LYS:HD3	46:w:42:HIS:HE1	1.79	0.47
50:3:353:G:H2'	50:3:354:C:C6	2.50	0.47
50:3:1394:A:H3'	50:3:1395:A:H8	1.80	0.47
50:3:2168:C:H2'	50:3:2171:A:OP2	2.14	0.47
50:3:2392:U:H5''	50:3:2394:A:OP1	2.13	0.47
50:3:2425:C:H2'	50:3:2426:A:C8	2.50	0.47
52:5:85:U:O2	52:5:86:A:N6	2.48	0.47
52:5:369:A:H1'	52:5:478:G:N3	2.30	0.47
52:5:371:U:H2'	52:5:372:G:C8	2.50	0.47
52:5:585:G:H2'	52:5:586:G:H5''	1.97	0.47
52:5:645:A:N6	52:5:646:A:N6	2.62	0.47
52:5:883:A:H61	52:5:901:A:H5''	1.80	0.47
52:5:916:U:H2'	52:5:917:G:C8	2.50	0.47
52:5:980:C:H2'	52:5:981:U:C6	2.50	0.47
52:5:1209:C:H5'	52:5:1340:G:H5'	1.97	0.47
53:7:22:A:N7	53:7:47:G:O2'	2.42	0.47
4:A:41:MET:HB3	4:A:45:ILE:HD13	1.97	0.46
5:B:6:ASN:HB3	16:M:49:TYR:CD1	2.50	0.46
8:E:12:SER:HA	8:E:42:LEU:HD11	1.97	0.46
19:P:41:ARG:NH1	52:5:277:G:OP1	2.33	0.46
24:a:43:LYS:HB2	50:3:727:C:H5''	1.97	0.46
24:a:135:SER:OG	24:a:197:ARG:NH2	2.48	0.46
25:b:206:LEU:HD11	25:b:208:ARG:HH22	1.80	0.46
26:c:133:PHE:O	26:c:165:ASN:ND2	2.49	0.46
35:l:20:LYS:HD3	51:4:76:A:H5''	1.97	0.46
39:p:105:PHE:CD2	39:p:105:PHE:CB	2.82	0.46
44:u:28:ARG:NH2	50:3:2287:G:N7	2.62	0.46
45:v:22:LYS:HB2	50:3:204:U:H4'	1.96	0.46
50:3:196:G:O6	50:3:207:C:O2'	2.25	0.46
50:3:502:A:H8	50:3:502:A:O5'	1.98	0.46
50:3:669:A:O2'	50:3:2412:A:OP1	2.33	0.46
50:3:842:U:H2'	50:3:843:G:O4'	2.15	0.46
50:3:1060:G:H4'	50:3:1061:A:OP2	2.15	0.46
50:3:1138:A:OP2	50:3:1139:C:N4	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1265:G:H2'	50:3:1266:G:C4	2.50	0.46
50:3:2038:A:HO2'	50:3:2462:G:H21	1.58	0.46
50:3:2488:C:H2'	50:3:2489:G:O4'	2.16	0.46
50:3:2840:U:C4	50:3:2887:A:C6	3.03	0.46
52:5:50:U:N3	52:5:358:G:H1'	2.26	0.46
52:5:815:G:H22	52:5:867:A:P	2.38	0.46
52:5:1203:A:H2'	52:5:1204:A:C8	2.50	0.46
11:H:10:GLY:HA3	11:H:80:ALA:O	2.15	0.46
12:I:58:ILE:HA	12:I:68:ARG:HG2	1.95	0.46
14:K:49:ARG:HB3	14:K:67:LYS:HB3	1.96	0.46
19:P:67:ARG:HH22	52:5:261:G:H5'	1.81	0.46
24:a:37:LEU:HB2	24:a:108:TYR:CE2	2.50	0.46
24:a:99:ILE:O	24:a:106:LYS:HA	2.15	0.46
27:d:49:PHE:HD2	27:d:51:GLU:HB3	1.80	0.46
32:i:14:LYS:HB2	32:i:16:ARG:HH12	1.79	0.46
45:v:2:ALA:N	50:3:1392:G:N7	2.64	0.46
50:3:401:G:H3'	50:3:402:A:H5''	1.97	0.46
50:3:587:U:H2'	50:3:588:G:O4'	2.15	0.46
50:3:972:C:H2'	50:3:973:U:C6	2.50	0.46
50:3:1007:C:H2'	50:3:1008:A:O4'	2.15	0.46
50:3:1387:A:N7	50:3:1400:U:O4	2.48	0.46
50:3:1730:C:H2'	50:3:1731:G:O4'	2.16	0.46
50:3:2290:G:O2'	50:3:2398:U:O4	2.24	0.46
50:3:2476:A:H2'	50:3:2484:A:C6	2.50	0.46
50:3:2637:A:H4'	50:3:2638:G:H5'	1.97	0.46
50:3:2820:G:H2'	50:3:2821:U:H6	1.80	0.46
52:5:473:A:O2'	52:5:474:G:O4'	2.29	0.46
52:5:594:A:H2'	52:5:595:G:C8	2.51	0.46
52:5:668:U:H2'	52:5:669:U:C6	2.50	0.46
52:5:1061:U:H2'	52:5:1062:C:C6	2.51	0.46
52:5:1252:C:O2'	52:5:1254:A:H1'	2.15	0.46
2:1:2:LYS:HG2	50:3:246:G:N7	2.30	0.46
5:B:8:ASN:O	5:B:12:PHE:HB2	2.16	0.46
6:C:97:LEU:O	6:C:101:VAL:HG23	2.14	0.46
13:J:14:ILE:HD11	13:J:25:VAL:HB	1.97	0.46
13:J:110:PRO:HB3	52:5:673:A:H1'	1.97	0.46
15:L:104:THR:OG1	52:5:946:G:O6	2.22	0.46
24:a:173:GLN:HG2	24:a:180:VAL:HG23	1.97	0.46
34:k:116:GLY:N	50:3:673:A:OP2	2.35	0.46
40:q:46:GLY:H	40:q:50:LEU:HD21	1.79	0.46
42:s:2:ASP:HB3	42:s:43:ALA:HB2	1.95	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:t:34:ALA:HB2	43:t:71:LEU:HD11	1.97	0.46
45:v:14:TYR:CD2	50:3:192:U:H5''	2.51	0.46
50:3:209:G:H1'	50:3:210:U:H5	1.80	0.46
50:3:482:G:H21	50:3:490:A:H2	1.64	0.46
50:3:618:G:H1'	50:3:1286:G:N2	2.30	0.46
50:3:621:U:O4	50:3:705:A:H1'	2.15	0.46
50:3:626:A:H2'	50:3:627:U:C6	2.50	0.46
50:3:671:C:H2'	50:3:672:G:C8	2.50	0.46
50:3:856:A:O2'	50:3:980:C:H4'	2.15	0.46
50:3:977:A:H2	50:3:1220:A:H2	1.64	0.46
50:3:1436:C:H2'	50:3:1437:A:C8	2.51	0.46
50:3:1709:C:C2	50:3:1710:A:C8	3.04	0.46
50:3:1760:G:C2	50:3:1762:A:H5''	2.50	0.46
50:3:2563:U:O2'	50:3:2564:C:O4'	2.25	0.46
50:3:2695:U:H2'	50:3:2696:G:O4'	2.16	0.46
50:3:2755:G:H1	50:3:2762:U:H2'	1.80	0.46
52:5:372:G:H2'	52:5:373:A:C8	2.50	0.46
52:5:587:A:H2'	52:5:588:U:O4'	2.15	0.46
52:5:885:U:O2	52:5:901:A:C6	2.69	0.46
2:1:39:ARG:HA	2:1:42:ARG:NE	2.28	0.46
5:B:37:ASP:HA	5:B:40:ILE:HG12	1.98	0.46
6:C:12:ARG:HH21	6:C:31:ARG:HH11	1.62	0.46
7:D:177:ASP:N	7:D:177:ASP:OD1	2.47	0.46
9:F:101:ARG:CZ	52:5:1351:U:H5'	2.45	0.46
11:H:111:ARG:HH21	52:5:1320:A:H8	1.63	0.46
24:a:146:GLN:O	24:a:201:GLY:N	2.35	0.46
26:c:66:TYR:CE2	26:c:73:LYS:HD3	2.50	0.46
26:c:82:PRO:HG2	50:3:707:C:H4'	1.98	0.46
27:d:39:GLY:HA3	50:3:2315:G:N2	2.22	0.46
27:d:41:GLY:N	50:3:2315:G:O6	2.48	0.46
50:3:120:A:H4'	50:3:121:U:O5'	2.15	0.46
50:3:494:G:HO2'	50:3:505:G:H1	1.64	0.46
50:3:677:U:H2'	50:3:678:U:O4'	2.15	0.46
50:3:679:A:H2'	50:3:680:A:O4'	2.15	0.46
50:3:818:A:H8	50:3:1786:U:H6	1.64	0.46
50:3:1688:A:H2'	50:3:1689:A:H8	1.80	0.46
50:3:1738:G:H2'	50:3:1739:G:H8	1.81	0.46
50:3:1992:C:H2'	50:3:1993:U:H6	1.80	0.46
50:3:2299:U:H2'	50:3:2300:A:C8	2.49	0.46
50:3:2814:A:H2'	50:3:2815:G:O4'	2.14	0.46
50:3:2850:G:H2'	50:3:2851:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:26:C:H2'	51:4:27:A:C8	2.50	0.46
52:5:83:U:H2'	52:5:84:U:C6	2.50	0.46
52:5:228:G:H2'	52:5:229:G:C8	2.50	0.46
52:5:250:G:H2'	52:5:251:G:H8	1.80	0.46
52:5:373:A:H2'	52:5:374:G:H8	1.73	0.46
52:5:466:U:H3'	52:5:467:G:H8	1.81	0.46
52:5:776:C:H2'	52:5:777:A:O4'	2.15	0.46
52:5:831:C:H2'	52:5:832:G:C8	2.51	0.46
52:5:1085:G:O2'	52:5:1086:U:OP1	2.32	0.46
52:5:1195:G:H2'	52:5:1196:G:H8	1.79	0.46
52:5:1359:C:H2'	52:5:1360:G:H8	1.80	0.46
52:5:1407:A:C2	52:5:1442:A:H2'	2.51	0.46
5:B:12:PHE:HA	5:B:16:LYS:HB2	1.96	0.46
13:J:78:PHE:HD1	13:J:106:LYS:HG3	1.80	0.46
18:O:32:HIS:CE1	52:5:624:U:H4'	2.51	0.46
18:O:61:ASP:O	52:5:450:U:O2'	2.33	0.46
22:S:27:LYS:NZ	52:5:1431:A:H4'	2.30	0.46
23:T:37:ARG:NH1	52:5:1502:G:N7	2.64	0.46
25:b:126:TRP:CG	25:b:164:LYS:HG2	2.50	0.46
34:k:82:LEU:HD12	34:k:120:LEU:HB2	1.98	0.46
36:m:13:TRP:CE3	36:m:14:ARG:HG3	2.51	0.46
37:n:36:LEU:HD11	51:4:28:C:H5''	1.96	0.46
37:n:76:ASP:O	37:n:79:ASP:HB2	2.16	0.46
39:p:36:GLN:NE2	50:3:1282:G:H1	2.13	0.46
50:3:219:G:OP2	50:3:219:G:H8	1.98	0.46
50:3:252:G:C6	50:3:254:G:N2	2.84	0.46
50:3:392:A:H5''	50:3:393:C:C5	2.50	0.46
50:3:516:A:N3	50:3:516:A:H2'	2.30	0.46
50:3:627:U:H2'	50:3:628:A:H8	1.80	0.46
50:3:1236:G:H2'	50:3:1237:G:O4'	2.14	0.46
50:3:1305:G:C6	50:3:1306:G:C6	3.03	0.46
50:3:1441:A:H2'	50:3:1442:G:H8	1.79	0.46
50:3:1487:U:O2'	50:3:2710:G:N2	2.48	0.46
50:3:1806:G:N1	50:3:1826:A:OP2	2.45	0.46
50:3:1934:A:O2'	50:3:1935:A:O4'	2.19	0.46
50:3:2100:G:O6	50:3:2233:A:H5''	2.16	0.46
50:3:2407:G:H2'	50:3:2408:G:H8	1.80	0.46
50:3:2729:A:H2'	50:3:2730:G:O4'	2.16	0.46
52:5:339:U:N3	52:5:341:C:O2	2.48	0.46
52:5:649:U:C4	52:5:750:A:H8	2.33	0.46
52:5:882:U:O2'	52:5:1463:A:O2'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:889:U:H2'	52:5:890:U:C6	2.51	0.46
52:5:1079:G:C6	52:5:1080:G:C6	3.03	0.46
52:5:1196:G:H2'	52:5:1197:G:C8	2.50	0.46
52:5:1429:G:H2'	52:5:1430:G:C8	2.51	0.46
52:5:1438:U:H2'	52:5:1439:G:C8	2.50	0.46
53:6:12:C:H2'	53:6:13:U:C6	2.51	0.46
6:C:12:ARG:NH1	6:C:34:ILE:O	2.49	0.46
6:C:81:GLN:NE2	6:C:85:LEU:HD12	2.31	0.46
6:C:121:HIS:HD1	6:C:147:LYS:HZ3	1.62	0.46
7:D:166:ILE:H	7:D:166:ILE:HD12	1.80	0.46
24:a:9:ARG:HB3	50:3:763:G:H21	1.81	0.46
26:c:77:GLY:N	50:3:709:G:H5''	2.19	0.46
32:i:58:ILE:HD13	32:i:140:PRO:HB3	1.98	0.46
36:m:106:ARG:HG2	36:m:108:GLY:H	1.81	0.46
50:3:221:A:H2'	50:3:222:A:C8	2.51	0.46
50:3:1798:A:H2'	50:3:1799:A:O4'	2.15	0.46
50:3:1810:A:H2'	50:3:1811:A:O4'	2.15	0.46
50:3:2164:G:O2'	50:3:2165:A:O4'	2.33	0.46
50:3:2191:G:C2'	50:3:2192:U:H5'	2.46	0.46
50:3:2267:G:H2'	50:3:2268:C:H6	1.81	0.46
50:3:2267:G:H2'	50:3:2268:C:C6	2.50	0.46
50:3:2329:G:N2	50:3:2330:A:O4'	2.48	0.46
50:3:2455:G:N7	50:3:2509:C:H5'	2.30	0.46
50:3:2533:A:H2'	50:3:2534:G:H8	1.79	0.46
50:3:2796:C:H2'	50:3:2797:C:C6	2.50	0.46
50:3:2847:C:H2'	50:3:2848:A:H8	1.79	0.46
52:5:404:A:H2'	52:5:405:C:C6	2.51	0.46
52:5:614:U:H2'	52:5:615:G:C8	2.50	0.46
52:5:619:A:C8	52:5:619:A:OP2	2.69	0.46
52:5:796:A:H3'	52:5:797:G:H8	1.81	0.46
52:5:843:C:H2'	52:5:844:U:H6	1.81	0.46
52:5:1438:U:C2	52:5:1439:G:C8	3.04	0.46
53:7:12:C:H2'	53:7:13:U:C6	2.51	0.46
6:C:138:PRO:HA	6:C:178:TYR:HD1	1.81	0.46
12:I:29:LYS:O	12:I:33:GLU:OE1	2.34	0.46
15:L:90:ARG:HB2	15:L:97:VAL:HG22	1.98	0.46
18:O:18:SER:HA	52:5:373:A:H5''	1.98	0.46
25:b:50:THR:HG23	25:b:52:LEU:HD12	1.97	0.46
27:d:42:ASP:H	27:d:150:ARG:HH12	1.64	0.46
28:e:3:LYS:O	28:e:7:ARG:N	2.49	0.46
35:l:56:LYS:HE2	50:3:2477:A:H4'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:214:C:H2'	50:3:215:A:C8	2.51	0.46
50:3:306:G:H2'	50:3:307:C:C6	2.51	0.46
50:3:608:A:H2'	50:3:609:U:C6	2.50	0.46
50:3:771:C:H2'	50:3:772:C:C6	2.51	0.46
50:3:974:C:H2'	50:3:975:G:H8	1.80	0.46
50:3:1201:A:C6	50:3:1215:G:C2	3.03	0.46
50:3:1331:G:H2'	50:3:1332:A:C8	2.51	0.46
50:3:1619:A:H2'	50:3:1620:A:C8	2.49	0.46
50:3:2083:U:OP2	50:3:2246:G:H5''	2.15	0.46
50:3:2123:A:N6	50:3:2169:G:H8	2.14	0.46
50:3:2286:A:H3'	50:3:2287:G:H5''	1.97	0.46
50:3:2289:C:H2'	50:3:2290:G:H5'	1.98	0.46
50:3:2798:A:N6	50:3:2897:G:C6	2.84	0.46
51:4:31:G:C2	51:4:32:G:C5	3.04	0.46
52:5:107:A:H2'	52:5:108:C:C6	2.51	0.46
52:5:227:A:H2'	52:5:228:G:H8	1.81	0.46
52:5:485:C:H2'	52:5:486:C:O4'	2.16	0.46
52:5:511:A:H2'	52:5:512:U:C6	2.51	0.46
52:5:764:A:H2'	52:5:765:A:H8	1.80	0.46
52:5:1434:C:H2'	52:5:1435:G:O4'	2.16	0.46
53:6:63:U:H2'	53:6:64:G:C8	2.51	0.46
1:0:3:ARG:NH2	50:3:1654:G:N3	2.63	0.46
9:F:102:TRP:HB3	9:F:106:PHE:CE2	2.51	0.46
10:G:109:ASN:C	10:G:111:LEU:N	2.74	0.46
11:H:126:ALA:HB3	52:5:1317:A:H5''	1.97	0.46
14:K:39:TYR:HB2	52:5:551:A:O2'	2.15	0.46
20:Q:68:ALA:HB2	20:Q:100:PRO:HG2	1.98	0.46
20:Q:81:MET:HE3	20:Q:84:ARG:HH12	1.80	0.46
24:a:138:LEU:HD13	24:a:180:VAL:HG11	1.97	0.46
25:b:37:ALA:N	25:b:51:LEU:O	2.48	0.46
25:b:115:LYS:HE3	50:3:2688:C:H5''	1.98	0.46
25:b:190:LEU:HD23	25:b:191:VAL:N	2.31	0.46
26:c:90:VAL:HG12	26:c:91:PHE:CD1	2.51	0.46
26:c:92:GLY:HA2	50:3:1278:G:H5'	1.97	0.46
35:l:125:LEU:HG	35:l:127:VAL:H	1.79	0.46
40:q:55:VAL:HA	40:q:97:PHE:HA	1.98	0.46
44:u:30:SER:HB3	50:3:2270:U:C5	2.51	0.46
50:3:324:C:H2'	50:3:325:G:H8	1.81	0.46
50:3:344:A:H5'	50:3:364:A:N1	2.31	0.46
50:3:349:G:H2'	50:3:350:C:C6	2.51	0.46
50:3:639:G:H1'	50:3:692:U:H1'	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:650:G:O2'	50:3:651:A:O4'	2.25	0.46
50:3:767:C:H3'	50:3:768:G:C8	2.51	0.46
50:3:1658:U:H2'	50:3:1659:C:C6	2.51	0.46
50:3:1663:G:N3	50:3:2706:U:H4'	2.31	0.46
50:3:1717:C:H2'	50:3:1718:C:C6	2.51	0.46
50:3:1798:A:H3'	50:3:1799:A:H8	1.81	0.46
50:3:1860:A:H3'	50:3:1895:G:N2	2.28	0.46
50:3:2044:C:N3	50:3:2045:C:N4	2.64	0.46
50:3:2094:A:H2'	50:3:2095:A:C8	2.50	0.46
50:3:2191:G:H2'	50:3:2192:U:H5'	1.96	0.46
50:3:2224:A:H2'	50:3:2225:G:H8	1.80	0.46
50:3:2353:G:N7	50:3:2379:G:N1	2.60	0.46
50:3:2823:A:C6	50:3:2832:G:N1	2.84	0.46
52:5:746:A:N3	52:5:746:A:H2'	2.31	0.46
53:7:63:U:H2'	53:7:64:G:C8	2.51	0.46
4:A:58:LEU:HB3	4:A:62:ARG:HH22	1.78	0.46
9:F:60:VAL:HG13	9:F:127:SER:HB3	1.98	0.46
10:G:44:ILE:O	10:G:48:LEU:HD23	2.16	0.46
11:H:64:ASP:OD1	11:H:65:ILE:N	2.48	0.46
17:N:66:TYR:OH	52:5:751:C:OP1	2.24	0.46
24:a:139:ALA:HA	24:a:173:GLN:HE22	1.80	0.46
24:a:189:THR:HB	24:a:280:ARG:H	1.81	0.46
28:e:4:ILE:HG22	28:e:69:GLY:HA2	1.96	0.46
28:e:126:VAL:HG11	28:e:147:PHE:HE2	1.80	0.46
42:s:32:ASN:HD21	42:s:34:LYS:HE2	1.81	0.46
50:3:30:A:H1'	50:3:548:A:C2	2.51	0.46
50:3:230:G:H2'	50:3:231:A:C8	2.50	0.46
50:3:283:A:N6	50:3:285:U:O4	2.37	0.46
50:3:682:A:H2'	50:3:683:G:O4'	2.16	0.46
50:3:880:C:O2'	50:3:881:A:N7	2.47	0.46
50:3:934:C:H4'	53:6:57:C:N3	2.31	0.46
50:3:1187:C:H2'	50:3:1188:C:C6	2.51	0.46
50:3:1316:U:C5	50:3:1355:C:H1'	2.51	0.46
50:3:2110:U:H3	50:3:2194:G:H1	1.63	0.46
50:3:2791:U:H2'	50:3:2792:C:H6	1.80	0.46
50:3:2831:U:H2'	50:3:2832:G:C8	2.51	0.46
50:3:2882:U:H2'	50:3:2884:C:C5	2.51	0.46
51:4:38:U:H1'	51:4:43:A:N6	2.30	0.46
52:5:611:A:H2'	52:5:612:G:H8	1.80	0.46
52:5:629:U:O2	52:5:629:U:H2'	2.14	0.46
52:5:942:G:H2'	52:5:943:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:8:PHE:CG	52:5:426:U:H5'	2.51	0.46
6:C:129:VAL:HG22	52:5:617:U:C2	2.51	0.46
7:D:166:ILE:HD13	52:5:10:G:OP1	2.16	0.46
14:K:81:PRO:HD2	14:K:112:ARG:HH11	1.81	0.46
25:b:26:ILE:HD11	25:b:182:VAL:HG11	1.98	0.46
26:c:144:MET:HE1	26:c:174:ASN:ND2	2.31	0.46
35:l:125:LEU:HD12	35:l:126:PRO:HD2	1.98	0.46
37:n:78:ALA:O	37:n:82:VAL:N	2.46	0.46
43:t:78:ASP:HB3	43:t:84:GLN:HA	1.98	0.46
50:3:137:U:H2'	50:3:138:U:C6	2.51	0.46
50:3:419:A:H2'	50:3:420:A:C8	2.51	0.46
50:3:1079:U:O2'	50:3:1146:A:N6	2.46	0.46
50:3:1091:G:H5''	50:3:1092:A:O4'	2.15	0.46
50:3:1171:G:H2'	50:3:1172:G:H8	1.80	0.46
50:3:1445:U:O2'	50:3:1446:G:H5'	2.16	0.46
50:3:1456:C:C5	50:3:1603:A:H5''	2.51	0.46
50:3:2036:G:H1	50:3:2040:A:P	2.38	0.46
50:3:2163:U:H2'	50:3:2164:G:C4	2.50	0.46
50:3:2205:U:O4	50:3:2232:G:H2'	2.16	0.46
50:3:2479:A:H3'	50:3:2480:G:H8	1.81	0.46
50:3:2534:G:H2'	50:3:2535:C:C6	2.51	0.46
50:3:2557:G:H2'	50:3:2558:G:H8	1.77	0.46
50:3:2624:C:H2'	50:3:2625:U:O4'	2.15	0.46
52:5:199:A:N6	52:5:217:U:H4'	2.31	0.46
52:5:374:G:H2'	52:5:375:C:C6	2.51	0.46
52:5:537:A:H2'	52:5:538:G:O4'	2.16	0.46
52:5:766:G:H2'	52:5:767:U:H6	1.81	0.46
52:5:1342:C:O2'	52:5:1343:G:OP1	2.31	0.46
52:5:1447:U:H2'	52:5:1448:A:C8	2.51	0.46
52:5:1481:U:O4	52:5:1496:G:H5''	2.15	0.46
6:C:68:ASP:HB2	52:5:544:A:P	2.55	0.45
11:H:15:SER:HB2	11:H:72:GLY:HA3	1.98	0.45
11:H:83:LEU:HA	11:H:86:VAL:HG22	1.98	0.45
15:L:99:GLY:HA3	52:5:1296:C:H5'	1.96	0.45
19:P:8:VAL:HA	19:P:62:GLN:HE21	1.80	0.45
21:R:11:VAL:HG22	21:R:39:THR:HG21	1.98	0.45
21:R:78:ARG:NE	52:5:1197:G:H5''	2.27	0.45
24:a:170:ILE:HG22	24:a:172:GLY:H	1.80	0.45
35:l:37:THR:HA	35:l:99:GLN:HG3	1.98	0.45
39:p:44:TYR:OH	50:3:594:G:O2'	2.22	0.45
39:p:54:ARG:HH21	50:3:1191:A:P	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:173:C:H2'	50:3:174:A:C8	2.51	0.45
50:3:201:A:H1'	50:3:2075:U:H2'	1.97	0.45
50:3:535:G:N2	50:3:540:A:H62	2.04	0.45
50:3:1326:C:H3'	50:3:1327:G:H8	1.82	0.45
50:3:1343:C:H2'	50:3:1344:U:C6	2.51	0.45
50:3:1815:U:O2'	50:3:1816:A:C8	2.69	0.45
50:3:2381:G:C6	50:3:2389:A:N1	2.84	0.45
50:3:2473:C:C2	50:3:2474:C:C5	3.04	0.45
51:4:6:U:H2'	51:4:7:G:H8	1.80	0.45
52:5:149:G:H2'	52:5:150:A:C8	2.51	0.45
52:5:428:A:C4	52:5:429:A:C8	3.04	0.45
52:5:451:G:C2	52:5:452:A:C8	3.04	0.45
52:5:529:U:OP1	53:6:35:G:N2	2.49	0.45
52:5:761:U:H2'	52:5:762:G:O4'	2.15	0.45
13:J:82:THR:OG1	23:T:26:ARG:HD2	2.17	0.45
24:a:220:ARG:HA	24:a:224:ILE:O	2.16	0.45
27:d:123:ASP:HB3	50:3:2322:G:H21	1.81	0.45
43:t:24:VAL:HG21	43:t:34:ALA:HB1	1.98	0.45
43:t:72:SER:HG	50:3:361:G:N2	2.12	0.45
45:v:35:PRO:HB2	45:v:47:ARG:HD3	1.99	0.45
50:3:36:U:O2'	50:3:37:G:OP1	2.34	0.45
50:3:453:U:H2'	50:3:454:G:H8	1.81	0.45
50:3:519:A:P	50:3:520:C:H41	2.39	0.45
50:3:674:G:H2'	50:3:675:U:H6	1.80	0.45
50:3:973:U:H2'	50:3:974:C:C6	2.50	0.45
50:3:1007:C:H5''	50:3:1011:A:OP2	2.15	0.45
50:3:1036:A:H2'	50:3:1037:A:C8	2.51	0.45
50:3:1245:G:H22	50:3:1264:U:H3	1.63	0.45
50:3:1392:G:H4'	50:3:1815:U:H3	1.81	0.45
50:3:1604:A:H2'	50:3:1605:A:H8	1.81	0.45
50:3:1671:C:H2'	50:3:1672:C:C6	2.51	0.45
50:3:1708:G:N2	50:3:1712:A:H2	2.13	0.45
50:3:1802:C:H2'	50:3:1803:U:C6	2.52	0.45
50:3:1812:C:H2'	50:3:1813:C:C6	2.51	0.45
50:3:1926:A:O2'	52:5:1492:G:N3	2.43	0.45
50:3:2315:G:H5'	50:3:2316:G:C8	2.51	0.45
50:3:2319:A:H3'	50:3:2320:U:C6	2.51	0.45
50:3:2455:G:H21	50:3:2457:U:H3'	1.80	0.45
50:3:2781:C:H2'	50:3:2782:A:C8	2.52	0.45
50:3:2784:A:O2'	50:3:2790:A:N7	2.45	0.45
50:3:2812:U:H5'	50:3:2895:A:C4	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:10:G:H2'	52:5:11:A:O4'	2.17	0.45
52:5:21:U:H2'	52:5:22:G:C8	2.51	0.45
52:5:334:A:O2'	52:5:335:C:H5'	2.16	0.45
52:5:429:A:C4	52:5:430:G:C8	3.04	0.45
52:5:558:U:H4'	52:5:561:A:C8	2.50	0.45
52:5:786:U:H2'	52:5:788:G:N7	2.31	0.45
52:5:829:G:H2'	52:5:830:U:C6	2.52	0.45
52:5:1054:C:H3'	52:5:1055:G:H8	1.82	0.45
52:5:1240:U:H2'	52:5:1241:G:O4'	2.16	0.45
53:6:29:C:H2'	53:6:30:G:H8	1.82	0.45
2:1:10:ARG:NH1	34:k:62:LEU:O	2.38	0.45
5:B:37:ASP:O	5:B:41:ARG:HD3	2.17	0.45
9:F:37:LEU:O	9:F:41:ILE:HG12	2.15	0.45
9:F:92:GLN:NE2	9:F:93:ASP:OD1	2.50	0.45
9:F:115:MET:CA	9:F:118:LYS:HG2	2.46	0.45
15:L:38:ASN:OD1	15:L:39:ILE:N	2.49	0.45
17:N:40:LEU:HD12	17:N:44:LYS:HA	1.97	0.45
25:b:212:LYS:HG2	50:3:2741:A:C2	2.51	0.45
39:p:10:ARG:NH2	50:3:548:A:O2'	2.50	0.45
42:s:59:ILE:HG12	50:3:1635:G:OP1	2.16	0.45
43:t:16:LYS:O	43:t:18:LYS:NZ	2.49	0.45
44:u:35:LEU:HD23	44:u:35:LEU:H	1.81	0.45
44:u:79:GLY:HA3	44:u:98:VAL:O	2.16	0.45
45:v:60:LYS:HD2	50:3:410:G:C8	2.51	0.45
50:3:46:A:H2'	50:3:47:G:O4'	2.16	0.45
50:3:493:A:N1	50:3:506:A:H5''	2.31	0.45
50:3:763:G:C4	50:3:765:A:C8	3.05	0.45
50:3:894:G:N3	50:3:2276:A:H2'	2.31	0.45
50:3:897:A:H3'	50:3:898:A:H8	1.80	0.45
50:3:1954:C:H2'	50:3:1955:G:C8	2.52	0.45
50:3:2405:G:H2'	50:3:2406:U:H6	1.81	0.45
50:3:2411:C:H2'	50:3:2412:A:C8	2.50	0.45
51:4:4:G:C2	51:4:5:G:C5	3.05	0.45
52:5:153:A:H2'	52:5:154:G:C8	2.50	0.45
52:5:798:U:C2	52:5:799:A:C8	3.04	0.45
52:5:1197:G:H2'	52:5:1198:C:O4'	2.17	0.45
52:5:1406:U:H2'	52:5:1407:A:H8	1.81	0.45
52:5:1469:G:P	52:5:1469:G:H8	2.40	0.45
8:E:24:LYS:O	8:E:27:GLN:HG3	2.17	0.45
11:H:56:LEU:HD13	11:H:103:LYS:HE2	1.99	0.45
14:K:81:PRO:HB2	14:K:130:TYR:HE1	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N:65:LYS:HA	17:N:68:LYS:HD2	1.99	0.45
23:T:41:ARG:O	23:T:45:LYS:HG3	2.17	0.45
24:a:64:ARG:HE	50:3:1601:A:P	2.40	0.45
38:o:62:GLU:HG2	38:o:81:ILE:HD12	1.99	0.45
50:3:311:G:H4'	50:3:312:U:OP1	2.17	0.45
50:3:402:A:H3'	50:3:403:U:H5''	1.98	0.45
50:3:802:U:O2'	50:3:803:G:H5'	2.17	0.45
50:3:911:U:H2'	50:3:912:A:H8	1.81	0.45
50:3:1318:U:H2'	50:3:1319:C:C6	2.51	0.45
50:3:1441:A:H2'	50:3:1442:G:C8	2.51	0.45
50:3:1685:G:H2'	50:3:1686:U:O4'	2.16	0.45
50:3:1854:A:H2'	50:3:1855:A:H8	1.82	0.45
50:3:2528:C:H2'	50:3:2529:C:C6	2.52	0.45
50:3:2587:U:H2'	50:3:2588:U:C6	2.52	0.45
50:3:2742:U:H2'	50:3:2743:U:C6	2.52	0.45
50:3:2752:G:H2'	50:3:2753:C:C6	2.51	0.45
52:5:26:C:O2'	52:5:506:U:O4	2.27	0.45
52:5:721:G:H2'	52:5:722:G:C8	2.51	0.45
52:5:1115:G:O2'	52:5:1116:U:O5'	2.35	0.45
52:5:1365:U:H2'	52:5:1366:U:C6	2.52	0.45
52:5:1406:U:H3	52:5:1444:G:H1	1.64	0.45
52:5:1437:A:H2'	52:5:1438:U:H6	1.80	0.45
53:7:29:C:H2'	53:7:30:G:H8	1.82	0.45
6:C:63:MET:O	6:C:110:ARG:HG2	2.17	0.45
6:C:94:GLU:HG2	6:C:187:LEU:HD11	1.98	0.45
10:G:24:ASN:OD1	52:5:868:G:N2	2.49	0.45
12:I:49:PRO:O	12:I:51:LYS:NZ	2.49	0.45
12:I:78:ARG:NH1	52:5:1128:G:OP1	2.49	0.45
21:R:38:SER:OG	21:R:71:LEU:N	2.47	0.45
25:b:107:TYR:CE1	25:b:218:LYS:HB3	2.52	0.45
32:i:20:ILE:HB	32:i:142:THR:HA	1.97	0.45
39:p:65:ASN:HA	39:p:68:LEU:HD12	1.99	0.45
42:s:81:ALA:HB1	42:s:83:ILE:HD11	1.98	0.45
43:t:44:ARG:HE	43:t:46:LYS:HA	1.82	0.45
48:y:31:GLN:NE2	50:3:2889:U:O2	2.48	0.45
50:3:491:A:N3	50:3:508:A:H2'	2.32	0.45
50:3:494:G:H1'	50:3:495:U:H5	1.81	0.45
50:3:534:U:N3	50:3:541:G:O6	2.49	0.45
50:3:691:G:O2'	50:3:692:U:H5'	2.16	0.45
50:3:1134:G:H2'	50:3:1135:C:H6	1.82	0.45
50:3:1348:C:H2'	50:3:1358:C:N4	2.28	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1390:C:H2'	50:3:1391:U:O4'	2.17	0.45
50:3:1427:C:H2'	50:3:1428:U:H5	1.78	0.45
50:3:1471:A:H2'	50:3:1472:C:O4'	2.16	0.45
50:3:1503:A:N6	50:3:1540:G:O2'	2.49	0.45
50:3:1956:G:H2'	50:3:1957:G:C8	2.50	0.45
50:3:2092:U:O2	50:3:2242:G:C6	2.69	0.45
50:3:2225:G:H2'	50:3:2226:U:C6	2.51	0.45
50:3:2499:U:P	50:3:2578:A:H5''	2.57	0.45
50:3:2526:A:H2'	50:3:2526:A:N3	2.32	0.45
50:3:2536:U:O4	50:3:2543:G:O6	2.34	0.45
50:3:2665:A:C8	50:3:2666:C:C5	3.05	0.45
50:3:2835:G:O2'	50:3:2888:U:OP1	2.27	0.45
52:5:72:A:H2'	52:5:73:G:C8	2.52	0.45
52:5:233:C:H2'	52:5:234:G:C8	2.52	0.45
52:5:346:G:H2'	52:5:347:G:C8	2.51	0.45
52:5:544:A:HO2'	52:5:546:G:HO2'	1.62	0.45
52:5:714:C:H2'	52:5:731:A:H8	1.81	0.45
2:1:22:LYS:HA	2:1:44:GLN:HB3	1.98	0.45
4:A:27:ARG:NH2	4:A:254:ILE:HB	2.31	0.45
6:C:59:ARG:CZ	6:C:191:ILE:HD11	2.47	0.45
10:G:45:LEU:O	10:G:49:VAL:HG23	2.16	0.45
12:I:30:LYS:HD3	12:I:33:GLU:OE2	2.16	0.45
13:J:103:ILE:HG12	23:T:8:ASN:HB2	1.98	0.45
15:L:100:GLN:HB2	15:L:106:ALA:HB2	1.98	0.45
19:P:36:HIS:O	19:P:37:LYS:HE2	2.16	0.45
24:a:61:ARG:HD2	24:a:64:ARG:NH1	2.31	0.45
26:c:161:VAL:HG21	26:c:168:LEU:HD13	1.99	0.45
33:j:80:ASP:HB3	38:o:74:PRO:HG2	1.98	0.45
36:m:54:VAL:HB	36:m:59:ASN:ND2	2.32	0.45
41:r:28:LYS:NZ	41:r:68:ALA:O	2.43	0.45
43:t:104:PHE:CD2	43:t:109:ASN:HB2	2.52	0.45
48:y:54:LYS:HD3	48:y:55:LYS:O	2.17	0.45
50:3:305:U:H3	50:3:399:G:H1	1.64	0.45
50:3:711:A:N6	50:3:2076:G:HO2'	2.13	0.45
50:3:796:A:H5''	50:3:797:U:H5'	1.98	0.45
50:3:896:U:C2	50:3:897:A:C8	3.05	0.45
50:3:995:A:H2'	50:3:996:A:C8	2.52	0.45
50:3:1298:A:H2'	50:3:1299:A:C8	2.51	0.45
50:3:1473:C:C2	50:3:1580:G:N2	2.84	0.45
50:3:1622:C:H2'	50:3:1623:U:C6	2.51	0.45
50:3:1796:A:H2'	50:3:1797:C:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2274:A:C8	50:3:2281:A:N6	2.85	0.45
50:3:2364:A:H2'	50:3:2365:U:C6	2.51	0.45
50:3:2374:A:H3'	50:3:2375:A:H8	1.81	0.45
50:3:2494:C:H2'	50:3:2495:A:C8	2.51	0.45
50:3:2552:G:H2'	50:3:2553:G:C8	2.51	0.45
50:3:2842:G:H2'	50:3:2843:G:C8	2.52	0.45
52:5:11:A:O2'	52:5:505:C:O3'	2.35	0.45
52:5:237:A:N6	52:5:282:G:O6	2.50	0.45
52:5:385:A:H3'	52:5:386:U:C6	2.51	0.45
52:5:1088:C:O2'	52:5:1144:A:H2'	2.17	0.45
52:5:1237:G:H2'	52:5:1238:C:H6	1.81	0.45
52:5:1351:U:H2'	52:5:1352:A:C8	2.51	0.45
1:0:32:LYS:O	1:0:35:ARG:HB3	2.16	0.45
5:B:185:ILE:HG23	5:B:205:ILE:C	2.41	0.45
5:B:209:MET:HB2	5:B:211:TYR:CZ	2.52	0.45
7:D:146:ALA:HB2	52:5:858:A:H5'	1.98	0.45
11:H:21:LEU:HA	11:H:64:ASP:O	2.15	0.45
12:I:60:SER:C	12:I:62:HIS:H	2.25	0.45
13:J:18:CYS:SG	13:J:23:THR:OG1	2.64	0.45
15:L:84:GLY:N	21:R:60:VAL:HG23	2.31	0.45
28:e:5:GLY:HA2	28:e:68:HIS:HD2	1.81	0.45
28:e:126:VAL:HG12	28:e:136:ILE:HG12	1.98	0.45
29:f:52:LYS:O	29:f:55:GLN:HB3	2.17	0.45
31:h:108:LYS:HB3	31:h:120:ALA:HB1	1.99	0.45
34:k:96:ALA:O	34:k:99:ILE:HG12	2.17	0.45
35:l:45:ARG:HD3	50:3:2492:G:H5'	1.98	0.45
35:l:122:GLY:HA3	35:l:129:TRP:CD1	2.51	0.45
43:t:44:ARG:NH2	50:3:515:A:O3'	2.50	0.45
44:u:25:LYS:HG2	50:3:2265:U:H5''	1.98	0.45
45:v:10:ARG:HD2	50:3:432:G:OP2	2.17	0.45
46:w:25:GLU:OE1	46:w:29:TYR:HE2	2.00	0.45
47:x:16:CYS:HB2	47:x:39:CYS:HB2	1.99	0.45
50:3:171:G:H2'	50:3:172:U:C6	2.52	0.45
50:3:347:C:H2'	50:3:348:A:C8	2.52	0.45
50:3:523:A:H2'	50:3:524:G:C8	2.52	0.45
50:3:711:A:N6	50:3:2076:G:O2'	2.49	0.45
50:3:767:C:H2'	50:3:768:G:O4'	2.16	0.45
50:3:933:A:N6	53:6:20:G:N3	2.62	0.45
50:3:1646:G:H2'	50:3:1647:A:C8	2.52	0.45
50:3:1702:A:N3	50:3:1704:C:N4	2.64	0.45
50:3:1830:G:H2'	50:3:1831:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1974:U:H2'	50:3:1975:G:O4'	2.16	0.45
50:3:2299:U:O2	50:3:2349:G:N2	2.34	0.45
50:3:2521:A:C6	50:3:2582:G:C6	3.05	0.45
50:3:2722:G:H2'	50:3:2723:C:C6	2.52	0.45
51:4:90:G:C4	51:4:91:A:C8	3.04	0.45
52:5:40:G:H2'	52:5:41:C:C6	2.52	0.45
52:5:397:C:O2'	52:5:619:A:H1'	2.17	0.45
52:5:1115:G:HO2'	52:5:1116:U:H6	1.65	0.45
52:5:1241:G:H21	52:5:1244:A:P	2.40	0.45
7:D:86:MET:HE3	7:D:88:PHE:HB3	1.97	0.45
12:I:43:LYS:HZ3	12:I:46:LEU:HD23	1.82	0.45
19:P:12:ILE:HD13	19:P:60:LYS:HA	1.97	0.45
25:b:14:SER:O	25:b:26:ILE:N	2.42	0.45
28:e:3:LYS:HB2	28:e:6:ASN:H	1.81	0.45
34:k:126:PHE:HB2	34:k:146:VAL:HA	1.99	0.45
50:3:35:U:C2	50:3:509:G:C2	3.04	0.45
50:3:493:A:H61	50:3:506:A:H3'	1.82	0.45
50:3:526:G:H2'	50:3:527:A:C8	2.52	0.45
50:3:874:U:H2'	50:3:875:G:C8	2.40	0.45
50:3:1244:A:H61	50:3:1265:G:H1'	1.80	0.45
50:3:1474:C:H2'	50:3:1475:C:C6	2.51	0.45
50:3:1515:A:N6	50:3:1526:U:O2'	2.50	0.45
50:3:2148:U:H3'	50:3:2149:U:C6	2.49	0.45
50:3:2377:A:H2'	50:3:2378:G:C8	2.51	0.45
50:3:2466:G:H1'	50:3:2467:A:N7	2.32	0.45
51:4:14:U:H2'	51:4:15:C:C6	2.51	0.45
52:5:129:U:H4'	52:5:198:A:C4	2.51	0.45
52:5:443:G:H2'	52:5:444:G:O4'	2.16	0.45
52:5:568:G:H2'	52:5:569:U:H6	1.79	0.45
52:5:933:A:N3	52:5:1351:U:O2'	2.47	0.45
52:5:950:C:H2'	52:5:951:U:H6	1.82	0.45
52:5:1060:C:H1'	52:5:1166:A:N1	2.32	0.45
52:5:1094:C:H2'	52:5:1095:G:C8	2.51	0.45
52:5:1142:G:H2'	52:5:1144:A:P	2.57	0.45
52:5:1359:C:H2'	52:5:1360:G:C8	2.51	0.45
53:7:16:G:N1	53:7:49:C:O2	2.50	0.45
53:7:34:U:C2	53:7:37:A:H5''	2.52	0.45
4:A:46:GLU:HB3	4:A:57:VAL:HG13	1.98	0.45
4:A:199:VAL:HG12	4:A:213:PHE:HB2	1.99	0.45
5:B:12:PHE:CZ	5:B:18:TRP:HA	2.52	0.45
6:C:59:ARG:HG2	6:C:63:MET:HE1	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:50:MET:HG3	11:H:51:GLU:HG3	1.99	0.45
12:I:14:ILE:HD12	12:I:106:PHE:HA	1.98	0.45
14:K:128:SER:N	52:5:500:G:OP1	2.28	0.45
16:M:32:ALA:HB1	16:M:41:ARG:HG2	1.99	0.45
21:R:60:VAL:HG21	21:R:74:PHE:HB3	1.99	0.45
24:a:233:MET:HG3	24:a:234:ASN:N	2.32	0.45
28:e:93:VAL:HG23	28:e:164:GLY:H	1.82	0.45
34:k:67:ASN:ND2	34:k:69:ARG:O	2.49	0.45
50:3:48:G:H2'	50:3:49:C:O4'	2.17	0.45
50:3:203:A:N6	50:3:2442:A:OP2	2.47	0.45
50:3:336:C:H2'	50:3:337:U:H6	1.82	0.45
50:3:710:A:N6	50:3:839:A:H1'	2.31	0.45
50:3:756:A:H2'	50:3:757:A:C8	2.52	0.45
50:3:890:U:O2'	50:3:891:G:H5'	2.17	0.45
50:3:1007:C:H1'	50:3:1019:A:C2	2.52	0.45
50:3:1063:A:OP2	50:3:1160:G:N1	2.50	0.45
50:3:1119:A:H1'	50:3:1140:U:O2'	2.17	0.45
50:3:1300:C:O2	50:3:1353:G:O2'	2.34	0.45
50:3:1340:U:H1'	50:3:1342:C:C5	2.51	0.45
50:3:1387:A:OP2	50:3:1399:G:N2	2.34	0.45
50:3:1413:A:C6	50:3:1431:A:C5	3.05	0.45
50:3:1589:A:H2'	50:3:1590:U:C6	2.52	0.45
50:3:1760:G:H2'	50:3:1762:A:OP2	2.17	0.45
50:3:1930:U:H2'	50:3:1931:C:C5	2.52	0.45
50:3:2597:A:N6	50:3:2614:U:O4	2.50	0.45
50:3:2823:A:N1	50:3:2832:G:C2	2.85	0.45
51:4:56:A:C4	51:4:57:G:C8	3.05	0.45
52:5:95:C:H3'	52:5:96:G:H8	1.82	0.45
52:5:145:G:N2	52:5:147:A:H3'	2.32	0.45
52:5:778:A:N7	52:5:798:U:O4	2.49	0.45
52:5:856:U:H2'	52:5:857:U:C6	2.52	0.45
52:5:1100:C:OP1	52:5:1102:A:N6	2.49	0.45
52:5:1154:A:H2'	52:5:1155:A:C8	2.51	0.45
52:5:1262:A:H2'	52:5:1263:A:C8	2.51	0.45
52:5:1365:U:H2'	52:5:1366:U:H6	1.82	0.45
53:6:16:G:N1	53:6:49:C:O2	2.50	0.45
8:E:97:LEU:HB3	8:E:100:ILE:HG22	1.99	0.45
9:F:113:LYS:HG3	9:F:114:THR:N	2.31	0.45
12:I:89:ALA:O	12:I:93:LEU:HD23	2.17	0.45
24:a:218:ARG:HG2	50:3:1600:A:N7	2.32	0.45
28:e:7:ARG:HH11	50:3:2759:G:H8	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:j:75:THR:HB	38:o:78:ASN:O	2.17	0.45
39:p:77:VAL:HA	39:p:80:ASN:HD22	1.82	0.45
50:3:34:C:H2'	50:3:35:U:C6	2.52	0.45
50:3:776:U:H2'	50:3:777:C:H6	1.82	0.45
50:3:890:U:H2'	50:3:891:G:C8	2.52	0.45
50:3:937:A:H3'	50:3:938:A:C8	2.51	0.45
50:3:957:G:H2'	50:3:958:C:C6	2.52	0.45
50:3:1127:C:H3'	50:3:1128:G:C8	2.51	0.45
50:3:1133:A:H3'	50:3:1134:G:H8	1.82	0.45
50:3:1142:G:H2'	50:3:1143:U:C6	2.52	0.45
50:3:1506:U:H2'	50:3:1507:G:O4'	2.17	0.45
50:3:1902:C:H2'	50:3:1903:A:C8	2.47	0.45
52:5:574:C:H5'	52:5:576:A:OP2	2.17	0.45
52:5:944:A:N1	52:5:1208:G:C2	2.84	0.45
53:6:56:U:H2'	53:6:57:C:H3'	1.99	0.45
5:B:118:ILE:HG13	5:B:119:ILE:N	2.32	0.44
5:B:152:ILE:O	5:B:172:ILE:HD12	2.17	0.44
11:H:124:ARG:NH2	52:5:1162:G:OP1	2.50	0.44
11:H:124:ARG:HB2	52:5:1322:U:H4'	1.99	0.44
16:M:32:ALA:HB2	52:5:969:A:P	2.57	0.44
18:O:74:LYS:NZ	52:5:469:C:O2'	2.45	0.44
25:b:37:ALA:O	25:b:73:ASN:ND2	2.50	0.44
25:b:114:SER:HA	25:b:198:ALA:HB1	1.99	0.44
26:c:108:HIS:O	26:c:112:LEU:HB2	2.17	0.44
34:k:13:ARG:HH12	50:3:1275:C:H5''	1.81	0.44
39:p:64:LEU:O	39:p:68:LEU:HG	2.17	0.44
43:t:90:LYS:NZ	50:3:332:G:H5''	2.32	0.44
50:3:604:A:H1'	50:3:606:G:C8	2.52	0.44
50:3:1311:G:H1'	50:3:1357:U:O2	2.17	0.44
50:3:1317:C:H2'	50:3:1318:U:C6	2.52	0.44
50:3:1337:G:O2'	50:3:1338:G:H5'	2.17	0.44
50:3:1463:G:H2'	50:3:1464:G:C8	2.52	0.44
50:3:1603:A:H2'	50:3:1604:A:C8	2.52	0.44
50:3:2270:U:H2'	50:3:2271:C:C6	2.53	0.44
50:3:2307:G:C6	50:3:2326:G:C2	3.05	0.44
50:3:2327:U:H4'	50:3:2328:A:H5'	1.98	0.44
50:3:2355:C:H2'	50:3:2356:U:H6	1.83	0.44
51:4:50:C:O2	51:4:51:A:N6	2.43	0.44
52:5:111:A:H2'	52:5:112:U:O4'	2.17	0.44
52:5:648:C:N4	52:5:750:A:OP2	2.43	0.44
52:5:825:A:H2'	52:5:826:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1257:C:H2'	52:5:1258:U:H6	1.82	0.44
52:5:1262:A:H1'	52:5:1326:C:O2'	2.18	0.44
52:5:1471:C:H2'	52:5:1472:G:C8	2.52	0.44
5:B:18:TRP:O	5:B:21:ARG:NH2	2.51	0.44
6:C:138:PRO:HA	6:C:178:TYR:CD1	2.53	0.44
9:F:65:VAL:O	9:F:69:MET:HE3	2.17	0.44
18:O:8:TYR:CZ	52:5:615:G:H1'	2.52	0.44
24:a:148:HIS:HB2	24:a:203:VAL:HG23	1.98	0.44
26:c:205:LYS:HD3	26:c:205:LYS:HA	1.80	0.44
27:d:11:THR:HA	27:d:14:LYS:HZ3	1.82	0.44
32:i:76:PHE:CE2	32:i:91:SER:HB2	2.51	0.44
33:j:7:ARG:NH1	33:j:44:LYS:HD2	2.32	0.44
35:l:67:ARG:N	35:l:103:MET:O	2.50	0.44
35:l:82:ARG:NH1	50:3:2505:A:N7	2.65	0.44
41:r:11:ARG:HH21	41:r:98:LYS:HE2	1.81	0.44
44:u:40:ALA:H	44:u:43:GLN:HG3	1.81	0.44
50:3:91:G:H2'	50:3:92:U:C6	2.52	0.44
50:3:731:A:H2'	50:3:732:G:C8	2.52	0.44
50:3:1325:C:H42	50:3:1678:U:H3	1.64	0.44
50:3:2106:G:H3'	50:3:2107:A:H5''	1.99	0.44
50:3:2358:U:H3'	50:3:2359:G:H8	1.81	0.44
52:5:54:A:H2'	52:5:55:C:O4'	2.17	0.44
52:5:649:U:O4	52:5:749:G:H1'	2.17	0.44
52:5:1497:U:H2'	52:5:1498:G:H8	1.82	0.44
53:7:37:A:H3'	53:7:38:G:H5''	1.99	0.44
10:G:39:LYS:HG3	10:G:40:LEU:H	1.82	0.44
11:H:33:ASN:HB2	11:H:35:ARG:HH22	1.82	0.44
11:H:56:LEU:HD22	11:H:103:LYS:HE3	2.00	0.44
12:I:46:LEU:HD21	52:5:1116:U:C5	2.52	0.44
23:T:52:LYS:HA	23:T:52:LYS:HD2	1.80	0.44
44:u:39:LYS:HG3	44:u:51:ILE:HD12	1.99	0.44
44:u:47:THR:N	44:u:78:ASP:OD1	2.50	0.44
46:w:19:VAL:O	46:w:23:LYS:HG3	2.17	0.44
50:3:15:A:H1'	50:3:17:G:C5	2.52	0.44
50:3:47:G:H21	50:3:184:A:N6	2.12	0.44
50:3:134:U:H2'	50:3:135:A:H8	1.80	0.44
50:3:164:A:H3'	50:3:164:A:OP2	2.18	0.44
50:3:198:G:H2'	50:3:199:A:C8	2.52	0.44
50:3:1008:A:H5''	50:3:1009:A:H5''	1.99	0.44
50:3:1043:C:H2'	50:3:1044:C:C5	2.52	0.44
50:3:1273:U:H2'	50:3:1274:A:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1714:U:O2'	50:3:1770:A:N7	2.40	0.44
50:3:2070:C:N4	50:3:2509:C:H1'	2.31	0.44
50:3:2267:G:C8	50:3:2435:C:C4	3.05	0.44
50:3:2405:G:H2'	50:3:2406:U:C6	2.53	0.44
50:3:2462:G:C4	50:3:2463:G:C8	3.04	0.44
50:3:2497:U:H2'	50:3:2498:G:C8	2.52	0.44
50:3:2581:C:OP1	50:3:2582:G:H5''	2.18	0.44
50:3:2645:U:H3	50:3:2784:A:H62	1.65	0.44
50:3:2645:U:O4	50:3:2784:A:N7	2.51	0.44
50:3:2764:U:H4'	50:3:2765:A:OP1	2.17	0.44
52:5:63:U:H2'	52:5:64:C:H6	1.82	0.44
52:5:94:A:H62	52:5:320:G:N2	2.14	0.44
52:5:232:G:H2'	52:5:233:C:C6	2.51	0.44
52:5:309:A:H2'	52:5:310:C:H6	1.81	0.44
52:5:467:G:H3'	52:5:468:G:H8	1.82	0.44
52:5:543:C:O2'	52:5:547:C:H5''	2.18	0.44
52:5:1298:U:H2'	52:5:1299:C:C6	2.53	0.44
52:5:1301:U:H2'	52:5:1302:C:C6	2.52	0.44
52:5:1502:G:H2'	52:5:1503:U:C6	2.52	0.44
1:0:34:ARG:HD2	50:3:502:A:OP1	2.16	0.44
4:A:185:LYS:HA	4:A:188:VAL:HG12	1.99	0.44
6:C:94:GLU:HA	6:C:99:ASN:ND2	2.32	0.44
11:H:126:ALA:N	52:5:1317:A:H4'	2.32	0.44
14:K:112:ARG:HD2	14:K:119:GLY:N	2.33	0.44
15:L:19:LEU:O	15:L:22:ILE:HG12	2.17	0.44
19:P:70:SER:O	19:P:74:ARG:NH2	2.51	0.44
20:Q:54:ILE:HD11	20:Q:98:LEU:HD13	2.00	0.44
22:S:10:ARG:O	22:S:13:GLN:HG3	2.17	0.44
24:a:246:ARG:NH1	50:3:1979:G:OP1	2.50	0.44
25:b:84:ILE:HG12	25:b:208:ARG:HH22	1.82	0.44
25:b:126:TRP:CD1	25:b:164:LYS:HG2	2.52	0.44
25:b:209:THR:HG22	25:b:214:PRO:HA	1.99	0.44
28:e:7:ARG:O	28:e:72:ASN:ND2	2.51	0.44
28:e:161:LYS:HD3	50:3:2666:C:H5''	1.99	0.44
32:i:22:ASP:H	32:i:144:ASN:HB3	1.82	0.44
34:k:69:ARG:HG2	34:k:72:PHE:CD2	2.53	0.44
37:n:3:THR:C	37:n:5:THR:H	2.26	0.44
39:p:73:MET:HE1	39:p:78:PHE:HB2	1.99	0.44
42:s:41:LYS:HB3	42:s:55:VAL:HG21	2.00	0.44
50:3:333:A:H2	50:3:353:G:N3	2.16	0.44
50:3:358:A:N6	50:3:373:U:O4'	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:763:G:O2'	50:3:765:A:O4'	2.36	0.44
50:3:960:A:H2'	50:3:961:U:O4'	2.17	0.44
50:3:1052:A:H2'	50:3:1053:C:C6	2.52	0.44
50:3:1306:G:H2'	50:3:1307:G:H8	1.81	0.44
50:3:1540:G:O2'	50:3:1591:C:H4'	2.17	0.44
50:3:1727:U:H3'	50:3:1728:A:C8	2.51	0.44
52:5:46:U:H2'	52:5:47:G:C8	2.53	0.44
52:5:465:A:H2'	52:5:466:U:O4'	2.18	0.44
52:5:675:U:H2'	52:5:676:U:H6	1.81	0.44
52:5:1323:A:H1'	52:5:1349:A:N6	2.32	0.44
52:5:1415:G:O6	52:5:1437:A:N6	2.50	0.44
4:A:25:GLU:HB3	4:A:227:LEU:HD11	1.99	0.44
9:F:41:ILE:HA	9:F:116:LEU:HD13	2.00	0.44
9:F:98:LEU:O	9:F:102:TRP:CE3	2.70	0.44
14:K:42:LEU:HD12	14:K:94:LEU:HD13	2.00	0.44
19:P:34:LEU:HD11	52:5:562:U:C5	2.52	0.44
23:T:28:LEU:HD21	52:5:715:A:H2'	1.99	0.44
25:b:14:SER:OG	25:b:15:GLN:N	2.48	0.44
26:c:4:LEU:HD23	26:c:127:LEU:HB2	1.99	0.44
26:c:127:LEU:HD12	26:c:199:VAL:O	2.18	0.44
27:d:55:ASN:O	27:d:59:LEU:HG	2.16	0.44
29:f:115:ASP:OD1	29:f:115:ASP:N	2.51	0.44
33:j:14:THR:OG1	33:j:95:GLY:HA2	2.18	0.44
38:o:56:ARG:NE	50:3:2692:U:OP1	2.50	0.44
39:p:100:LYS:O	39:p:101:GLU:C	2.59	0.44
43:t:44:ARG:HA	50:3:516:A:O3'	2.18	0.44
50:3:71:C:H2'	50:3:72:G:H8	1.82	0.44
50:3:158:U:H2'	50:3:159:G:C8	2.53	0.44
50:3:343:A:H1'	50:3:363:G:N3	2.33	0.44
50:3:563:A:H2'	50:3:2049:A:N1	2.32	0.44
50:3:660:U:H2'	50:3:661:G:C8	2.52	0.44
50:3:810:G:H4'	50:3:811:G:OP1	2.17	0.44
50:3:858:A:H2'	50:3:859:G:C8	2.52	0.44
50:3:1196:U:H2'	50:3:1197:G:C8	2.53	0.44
50:3:1243:A:C2	50:3:1267:A:C8	3.05	0.44
50:3:1337:G:H21	50:3:1645:C:H5'	1.82	0.44
50:3:1382:A:H2'	50:3:1383:G:O4'	2.17	0.44
50:3:1476:C:H4'	50:3:1554:A:H2	1.81	0.44
50:3:2043:C:H2'	50:3:2044:C:C6	2.52	0.44
50:3:2116:U:O4'	50:3:2149:U:O2'	2.35	0.44
50:3:2377:A:H2'	50:3:2378:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2409:U:H3	50:3:2423:G:H1	1.64	0.44
52:5:18:U:H2'	52:5:19:C:H6	1.83	0.44
52:5:260:C:H2'	52:5:261:G:C8	2.53	0.44
52:5:285:G:H2'	52:5:286:C:C6	2.52	0.44
52:5:576:A:H2'	52:5:577:G:H8	1.82	0.44
52:5:1048:G:H2'	52:5:1049:G:O4'	2.18	0.44
52:5:1114:A:N6	52:5:1115:G:O6	2.51	0.44
52:5:1314:A:H2'	52:5:1315:U:C6	2.53	0.44
2:1:15:LYS:HB2	50:3:664:G:H5''	2.00	0.44
4:A:43:PHE:HE2	10:G:80:ARG:HD2	1.83	0.44
10:G:24:ASN:HB3	52:5:824:U:O4'	2.18	0.44
11:H:56:LEU:HD23	11:H:56:LEU:H	1.82	0.44
11:H:71:GLY:N	52:5:1226:A:OP1	2.49	0.44
13:J:61:ASP:OD1	13:J:62:LYS:N	2.50	0.44
16:M:4:LYS:HZ1	52:5:1038:G:H5''	1.81	0.44
22:S:17:ARG:NH2	52:5:319:U:H4'	2.32	0.44
24:a:213:ILE:O	24:a:218:ARG:NE	2.40	0.44
24:a:215:LYS:HG3	24:a:218:ARG:H	1.82	0.44
32:i:19:TYR:HE2	32:i:55:ASP:HB3	1.83	0.44
34:k:88:LEU:HD21	34:k:101:LYS:HB3	1.99	0.44
38:o:98:ARG:CZ	50:3:1761:C:H42	2.31	0.44
40:q:6:VAL:HG12	40:q:11:GLN:HG2	2.00	0.44
41:r:90:LYS:NZ	50:3:781:U:H4'	2.33	0.44
48:y:30:CYS:HB2	48:y:37:LYS:HE3	1.99	0.44
50:3:57:G:N2	50:3:128:A:N3	2.61	0.44
50:3:663:A:N6	50:3:673:A:O4'	2.51	0.44
50:3:850:G:H2'	50:3:851:U:C6	2.53	0.44
50:3:875:G:C6	50:3:975:G:C6	3.05	0.44
50:3:1208:A:H2'	50:3:1209:U:H4'	2.00	0.44
50:3:2123:A:P	50:3:2174:G:H21	2.39	0.44
50:3:2208:U:O4	50:3:2232:G:N2	2.51	0.44
50:3:2400:A:OP2	50:3:2430:C:N4	2.46	0.44
50:3:2466:G:O2'	50:3:2498:G:N1	2.46	0.44
50:3:2472:G:H2'	50:3:2473:C:C6	2.53	0.44
50:3:2586:G:H2'	50:3:2587:U:C6	2.53	0.44
50:3:2609:C:O2'	50:3:2611:G:OP1	2.34	0.44
51:4:89:A:C4	51:4:90:G:C8	3.05	0.44
52:5:476:U:H2'	52:5:477:U:C6	2.53	0.44
52:5:512:U:H2'	52:5:513:G:C8	2.53	0.44
52:5:630:G:H2'	52:5:631:C:C6	2.53	0.44
52:5:731:A:H2'	52:5:732:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:936:G:C2	52:5:937:G:H1'	2.53	0.44
52:5:1459:U:H2'	52:5:1460:U:C6	2.53	0.44
53:7:56:U:H2'	53:7:57:C:H3'	1.99	0.44
2:1:9:LYS:NZ	50:3:251:G:O6	2.41	0.44
4:A:123:LEU:O	4:A:127:ILE:HG23	2.18	0.44
5:B:184:ASP:HB2	5:B:208:GLY:O	2.18	0.44
9:F:94:ARG:O	9:F:98:LEU:HG	2.18	0.44
11:H:103:LYS:HD3	11:H:103:LYS:HA	1.86	0.44
13:J:13:ILE:HD12	13:J:30:PRO:HA	1.99	0.44
13:J:103:ILE:HG23	23:T:8:ASN:ND2	2.33	0.44
16:M:41:ARG:NH1	52:5:968:G:O2'	2.50	0.44
17:N:29:LEU:HD11	17:N:63:LEU:HD12	1.99	0.44
18:O:3:MET:SD	18:O:12:ARG:NH1	2.77	0.44
19:P:29:ARG:HE	19:P:40:VAL:CG1	2.31	0.44
24:a:7:ILE:HG22	24:a:9:ARG:H	1.83	0.44
27:d:125:ARG:HH21	50:3:2323:U:H2'	1.83	0.44
27:d:153:ASP:CG	50:3:2313:U:H5	2.26	0.44
28:e:86:PHE:CZ	28:e:141:LYS:HB3	2.52	0.44
33:j:86:LEU:HB3	33:j:94:ARG:HE	1.83	0.44
35:l:84:GLY:O	50:3:2283:C:O2'	2.36	0.44
37:n:6:GLU:HA	37:n:9:ARG:HE	1.82	0.44
50:3:573:A:H61	50:3:588:G:H1'	1.83	0.44
50:3:632:A:H2'	50:3:633:G:C8	2.53	0.44
50:3:777:C:H2'	50:3:778:U:O4'	2.18	0.44
50:3:898:A:H3'	50:3:899:A:H8	1.83	0.44
50:3:1078:C:H2'	50:3:1079:U:O4'	2.17	0.44
50:3:1134:G:H2'	50:3:1135:C:C6	2.52	0.44
50:3:1301:G:H4'	50:3:1652:A:N6	2.32	0.44
50:3:1363:C:H2'	50:3:1364:A:C8	2.52	0.44
50:3:1416:G:N1	50:3:1428:U:O4	2.51	0.44
50:3:1554:A:C5	50:3:1555:G:H1'	2.52	0.44
50:3:2348:U:H2'	50:3:2349:G:C8	2.53	0.44
50:3:2595:A:C8	50:3:2596:A:C8	3.06	0.44
50:3:2678:A:H2'	50:3:2679:G:H8	1.81	0.44
52:5:12:G:O4'	52:5:505:C:O2'	2.35	0.44
52:5:212:G:O2'	52:5:213:U:H5'	2.17	0.44
52:5:484:A:H2'	52:5:485:C:O4'	2.17	0.44
52:5:688:G:H2'	52:5:689:U:C6	2.53	0.44
52:5:708:A:H2'	52:5:709:A:H8	1.80	0.44
52:5:766:G:H2'	52:5:767:U:C6	2.53	0.44
52:5:880:G:H2'	52:5:881:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:927:C:H2'	52:5:928:G:C8	2.53	0.44
52:5:1196:G:H2'	52:5:1197:G:H8	1.82	0.44
52:5:1344:C:H2'	52:5:1345:G:O4'	2.18	0.44
52:5:1482:A:H2'	52:5:1483:C:O4'	2.17	0.44
13:J:34:VAL:O	52:5:681:U:O2'	2.28	0.44
15:L:101:ARG:HB2	15:L:103:ARG:HG3	1.99	0.44
19:P:81:ILE:HG22	19:P:82:GLU:N	2.32	0.44
24:a:47:ARG:CZ	50:3:725:G:H21	2.31	0.44
29:f:63:ALA:O	29:f:67:LYS:HG2	2.18	0.44
33:j:61:VAL:HG21	33:j:111:TYR:OH	2.17	0.44
35:l:68:ILE:HG12	35:l:103:MET:HB2	1.99	0.44
35:l:82:ARG:NH1	50:3:2504:C:OP2	2.50	0.44
36:m:76:ASP:HA	36:m:79:MET:HG3	2.00	0.44
37:n:108:ALA:HA	37:n:111:GLU:HG2	2.00	0.44
43:t:31:ARG:HE	43:t:33:GLN:HG3	1.83	0.44
48:y:3:VAL:HG22	50:3:2063:G:N2	2.26	0.44
50:3:58:A:H2'	50:3:59:C:H6	1.82	0.44
50:3:58:A:H2'	50:3:59:C:C6	2.53	0.44
50:3:178:A:C6	50:3:179:A:N6	2.86	0.44
50:3:225:A:C1'	50:3:237:A:H1'	2.48	0.44
50:3:317:U:H2'	50:3:318:U:C6	2.53	0.44
50:3:348:A:H2'	50:3:349:G:C8	2.53	0.44
50:3:539:U:H3'	50:3:540:A:H5'	1.99	0.44
50:3:710:A:C6	50:3:839:A:H1'	2.53	0.44
50:3:748:G:H2'	50:3:749:U:C6	2.53	0.44
50:3:829:A:O5'	50:3:829:A:H8	2.01	0.44
50:3:1464:G:H2'	50:3:1465:U:C6	2.52	0.44
50:3:1472:C:H2'	50:3:1473:C:H6	1.83	0.44
50:3:1672:C:OP1	50:3:2718:C:O2'	2.36	0.44
50:3:1832:G:H2'	50:3:1833:G:H8	1.82	0.44
50:3:2179:A:H1'	50:3:2180:U:C6	2.53	0.44
50:3:2217:G:H3'	50:3:2218:U:H2'	1.99	0.44
50:3:2414:U:H4'	50:3:2416:U:OP2	2.17	0.44
52:5:18:U:H2'	52:5:19:C:C6	2.53	0.44
52:5:259:A:H2'	52:5:260:C:C6	2.52	0.44
52:5:555:G:H3'	52:5:556:G:C8	2.52	0.44
52:5:626:G:H2'	52:5:627:U:O4'	2.18	0.44
52:5:643:U:H2'	52:5:644:U:H6	1.83	0.44
52:5:934:G:H2'	52:5:935:U:C6	2.53	0.44
52:5:974:C:P	52:5:1198:C:H42	2.41	0.44
53:6:30:G:H2'	53:6:31:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:88:ILE:HD13	5:B:91:GLN:HE22	1.82	0.44
5:B:187:TYR:HE1	5:B:202:LYS:HB3	1.83	0.44
6:C:53:GLN:HG2	6:C:195:TYR:HB3	1.99	0.44
6:C:96:ARG:HA	6:C:135:ILE:HD12	1.99	0.44
17:N:3:ILE:HG13	17:N:4:ASP:H	1.83	0.44
18:O:36:ALA:HA	52:5:446:A:O2'	2.18	0.44
18:O:55:LYS:HB2	52:5:223:G:N2	2.32	0.44
19:P:6:ARG:NH2	19:P:62:GLN:HE22	2.15	0.44
21:R:36:ARG:HB3	52:5:1294:U:H3	1.82	0.44
24:a:9:ARG:HB3	50:3:763:G:N2	2.33	0.44
24:a:61:ARG:HD2	24:a:64:ARG:HH12	1.83	0.44
24:a:125:GLU:HA	24:a:197:ARG:NH1	2.33	0.44
25:b:37:ALA:C	25:b:92:MET:HE1	2.43	0.44
25:b:152:GLY:HA3	50:3:2580:A:N7	2.32	0.44
27:d:37:ASN:OD1	27:d:38:MET:N	2.51	0.44
31:h:128:ALA:O	31:h:132:GLY:N	2.51	0.44
32:i:115:ASN:HD22	32:i:118:SER:H	1.65	0.44
34:k:22:ARG:HA	50:3:846:U:H2'	2.00	0.44
35:l:20:LYS:HB2	51:4:76:A:H4'	2.00	0.44
40:q:41:LEU:HD23	40:q:42:ASP:N	2.27	0.44
42:s:39:ARG:NE	50:3:146:G:O5'	2.50	0.44
50:3:35:U:O2	50:3:509:G:C2	2.70	0.44
50:3:147:C:N4	50:3:148:U:O4	2.50	0.44
50:3:254:G:C5	50:3:255:A:C2	3.06	0.44
50:3:442:G:C2	50:3:457:U:C2	3.05	0.44
50:3:514:A:N6	50:3:535:G:O2'	2.51	0.44
50:3:525:A:N6	50:3:1312:A:N1	2.66	0.44
50:3:653:G:H2'	50:3:654:G:O4'	2.18	0.44
50:3:671:C:H2'	50:3:672:G:H8	1.83	0.44
50:3:840:G:N3	50:3:866:G:H1'	2.33	0.44
50:3:844:G:H1'	50:3:1284:A:H1'	1.99	0.44
50:3:891:G:C6	50:3:960:A:N1	2.86	0.44
50:3:1295:A:OP1	50:3:1295:A:H8	2.01	0.44
50:3:1479:A:H2	50:3:1486:U:H1'	1.83	0.44
50:3:1480:A:O2'	50:3:2710:G:O6	2.24	0.44
50:3:1507:G:O2'	50:3:1508:G:P	2.76	0.44
50:3:1612:U:H2'	50:3:1613:A:O4'	2.18	0.44
50:3:2304:U:N3	50:3:2343:A:C6	2.85	0.44
50:3:2446:U:O2'	50:3:2447:A:H5''	2.18	0.44
50:3:2462:G:H2'	50:3:2463:G:H8	1.83	0.44
52:5:34:A:H2'	52:5:35:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:110:U:H2'	52:5:111:A:H8	1.81	0.44
52:5:1236:A:C4	52:5:1237:G:C8	3.05	0.44
52:5:1347:U:H2'	52:5:1348:G:C8	2.52	0.44
5:B:137:MET:HE2	5:B:171:TYR:CD2	2.53	0.43
7:D:152:LYS:O	7:D:179:TYR:N	2.40	0.43
7:D:167:ARG:O	7:D:171:GLU:OE1	2.36	0.43
13:J:101:THR:O	23:T:8:ASN:HB3	2.18	0.43
14:K:114:THR:O	14:K:115:LEU:HG	2.18	0.43
21:R:31:ILE:HD13	21:R:49:PHE:CD1	2.53	0.43
26:c:63:LYS:NZ	26:c:64:LYS:O	2.50	0.43
26:c:158:LEU:HD21	26:c:186:VAL:HG12	2.00	0.43
31:h:89:ALA:HB2	31:h:129:LYS:O	2.18	0.43
38:o:66:VAL:HB	38:o:79:PHE:HE1	1.83	0.43
50:3:454:G:H2'	50:3:455:G:H8	1.83	0.43
50:3:562:C:H4'	50:3:563:A:H5'	1.99	0.43
50:3:843:G:H2'	50:3:844:G:C8	2.53	0.43
50:3:945:U:H2'	50:3:946:A:C8	2.53	0.43
50:3:1016:A:N7	50:3:1017:A:N6	2.65	0.43
50:3:1608:C:H2'	50:3:1609:U:H6	1.82	0.43
50:3:1937:G:HO2'	50:3:1975:G:H1	1.61	0.43
50:3:2097:A:N6	50:3:2238:G:O6	2.51	0.43
50:3:2308:U:C2	50:3:2309:A:C8	3.06	0.43
50:3:2744:A:H2'	50:3:2745:G:C8	2.52	0.43
50:3:2842:G:H2'	50:3:2843:G:H8	1.83	0.43
51:4:11:A:O2'	51:4:13:G:H2'	2.18	0.43
51:4:96:G:O2'	51:4:97:A:O4'	2.24	0.43
52:5:34:A:P	52:5:394:U:H4'	2.58	0.43
52:5:98:G:H4'	52:5:351:C:OP1	2.18	0.43
52:5:445:A:N7	52:5:483:U:C4	2.86	0.43
52:5:889:U:H2'	52:5:890:U:H6	1.83	0.43
52:5:1008:G:N1	52:5:1014:A:C6	2.86	0.43
52:5:1135:U:C2	52:5:1157:G:C6	3.06	0.43
52:5:1385:A:H2'	52:5:1386:C:H6	1.83	0.43
2:1:10:ARG:HH12	34:k:62:LEU:C	2.22	0.43
2:1:29:LEU:HD13	50:3:2399:G:OP2	2.18	0.43
4:A:83:LEU:HD12	4:A:107:PHE:HA	1.99	0.43
5:B:14:ILE:HG13	16:M:57:LYS:HE2	1.99	0.43
5:B:73:GLN:HB3	5:B:76:PHE:CD2	2.54	0.43
8:E:4:ASN:ND2	8:E:60:TRP:O	2.40	0.43
9:F:48:LEU:O	9:F:52:ARG:HD3	2.18	0.43
17:N:16:ASP:OD1	17:N:17:LYS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:4:ILE:O	22:S:7:ASN:ND2	2.51	0.43
22:S:63:ASN:HD22	52:5:258:A:H4'	1.83	0.43
25:b:23:ARG:HD3	38:o:80:GLN:NE2	2.34	0.43
25:b:122:ALA:HA	25:b:125:ARG:HB3	2.00	0.43
25:b:158:ARG:HA	50:3:2059:G:H21	1.83	0.43
33:j:7:ARG:HH22	33:j:44:LYS:HB2	1.83	0.43
35:l:43:ASP:HA	35:l:94:VAL:HG12	1.99	0.43
36:m:99:ARG:NH2	50:3:2885:U:H5''	2.33	0.43
42:s:60:ARG:O	42:s:77:LEU:HA	2.18	0.43
42:s:85:LEU:HD13	42:s:89:ILE:HG23	1.99	0.43
43:t:24:VAL:HA	43:t:36:VAL:HA	2.00	0.43
44:u:99:LYS:HG3	44:u:100:HIS:O	2.18	0.43
50:3:692:U:H2'	50:3:693:U:C6	2.53	0.43
50:3:735:G:O2'	50:3:1666:A:N3	2.49	0.43
50:3:891:G:H2'	50:3:892:G:O4'	2.19	0.43
50:3:996:A:N6	50:3:998:C:O2	2.51	0.43
50:3:1345:G:H2'	50:3:1346:G:H8	1.83	0.43
50:3:1423:A:H5'	50:3:1424:U:OP2	2.18	0.43
50:3:1929:G:O2'	53:7:26:C:H4'	2.18	0.43
50:3:2169:G:H5''	50:3:2170:A:H3'	1.99	0.43
50:3:2224:A:H2'	50:3:2225:G:C8	2.53	0.43
50:3:2325:U:C2'	50:3:2326:G:H5'	2.48	0.43
50:3:2412:A:N6	50:3:2422:G:O6	2.51	0.43
50:3:2627:U:H2'	50:3:2628:U:C6	2.53	0.43
50:3:2683:G:H2'	50:3:2684:G:C8	2.53	0.43
50:3:2709:C:O5'	50:3:2710:G:H5''	2.17	0.43
51:4:2:U:H2'	51:4:3:U:C6	2.53	0.43
51:4:19:G:O6	51:4:61:A:N6	2.51	0.43
52:5:645:A:N6	52:5:646:A:C6	2.86	0.43
52:5:821:U:H2'	52:5:822:A:C8	2.52	0.43
52:5:830:U:H2'	52:5:831:C:C6	2.53	0.43
52:5:1141:U:HO2'	52:5:1142:G:H8	1.67	0.43
52:5:1195:G:H2'	52:5:1196:G:C8	2.54	0.43
52:5:1235:C:N4	52:5:1249:G:H1	2.17	0.43
1:0:12:ARG:NH1	50:3:721:G:O6	2.49	0.43
4:A:152:LEU:O	4:A:156:ILE:HG12	2.18	0.43
14:K:6:GLN:HA	14:K:9:ARG:HE	1.83	0.43
22:S:11:LEU:HA	22:S:14:ASN:HD21	1.82	0.43
25:b:119:PHE:O	50:3:1688:A:O2'	2.36	0.43
27:d:90:THR:OG1	51:4:41:C:N3	2.50	0.43
28:e:141:LYS:HA	28:e:144:VAL:HG12	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:7:GLN:O	29:f:132:GLU:HB3	2.19	0.43
50:3:96:A:H8	50:3:97:A:C8	2.37	0.43
50:3:534:U:H3'	50:3:535:G:C8	2.53	0.43
50:3:776:U:H2'	50:3:777:C:C6	2.54	0.43
50:3:854:A:H4'	50:3:873:G:H5'	2.00	0.43
50:3:881:A:N6	50:3:969:A:N7	2.67	0.43
50:3:919:C:H2'	50:3:920:G:C8	2.53	0.43
50:3:1012:G:H21	50:3:1190:A:H1'	1.82	0.43
50:3:1211:U:H2'	50:3:1212:C:H6	1.81	0.43
50:3:1974:U:H3'	50:3:1975:G:C8	2.53	0.43
50:3:2032:G:H2'	50:3:2033:G:C8	2.53	0.43
50:3:2161:G:C6	50:3:2162:U:C4	3.06	0.43
50:3:2231:A:H3'	50:3:2232:G:C8	2.52	0.43
50:3:2470:C:H2'	50:3:2471:U:H6	1.83	0.43
50:3:2566:C:H2'	50:3:2567:C:O4'	2.18	0.43
50:3:2860:A:H2'	50:3:2861:G:O4'	2.17	0.43
50:3:2879:U:H2'	50:3:2880:A:C8	2.53	0.43
51:4:100:G:H2'	51:4:101:C:O4'	2.18	0.43
52:5:82:C:H2'	52:5:83:U:C6	2.52	0.43
52:5:91:C:H2'	52:5:92:G:O4'	2.18	0.43
52:5:288:A:O2'	52:5:607:A:N1	2.49	0.43
52:5:397:C:H2'	52:5:398:G:H8	1.83	0.43
52:5:410:A:N3	52:5:410:A:H2'	2.33	0.43
52:5:1277:C:H2'	52:5:1278:G:C8	2.53	0.43
52:5:1289:U:H2'	52:5:1290:G:O4'	2.18	0.43
4:A:19:SER:N	4:A:22:LYS:HE2	2.33	0.43
4:A:74:GLU:OE2	8:E:165:ASN:HA	2.18	0.43
6:C:60:MET:SD	6:C:191:ILE:HG21	2.58	0.43
8:E:69:THR:O	8:E:73:LYS:NZ	2.51	0.43
19:P:18:ASN:HB2	19:P:21:THR:HB	1.99	0.43
29:f:78:HIS:HB2	29:f:141:LYS:HE3	2.00	0.43
32:i:26:LEU:HG	32:i:31:LEU:HD22	2.01	0.43
35:l:57:CYS:SG	35:l:120:ARG:NH2	2.92	0.43
38:o:68:LYS:HG2	38:o:69:THR:H	1.82	0.43
39:p:101:GLU:O	39:p:102:PRO:C	2.60	0.43
42:s:2:ASP:N	42:s:46:LEU:HD12	2.33	0.43
43:t:31:ARG:O	43:t:31:ARG:HG2	2.18	0.43
50:3:500:U:HO2'	50:3:501:G:P	2.37	0.43
50:3:944:U:H2'	50:3:945:U:C6	2.53	0.43
50:3:1630:A:H2'	50:3:1631:A:C8	2.53	0.43
50:3:2089:A:H2'	50:3:2090:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2094:A:H2'	50:3:2095:A:H8	1.84	0.43
50:3:2103:C:H2'	50:3:2104:A:C8	2.53	0.43
50:3:2223:C:H2'	50:3:2224:A:C8	2.52	0.43
50:3:2263:G:H3'	50:3:2264:G:H8	1.84	0.43
50:3:2589:G:C2	50:3:2618:C:H2'	2.53	0.43
50:3:2811:G:H4'	50:3:2812:U:H5''	2.00	0.43
51:4:22:G:N2	51:4:25:A:H2	2.16	0.43
52:5:200:G:O6	52:5:215:C:N4	2.27	0.43
52:5:636:G:H2'	52:5:637:A:C8	2.53	0.43
52:5:1483:C:H2'	52:5:1484:C:C6	2.53	0.43
9:F:12:LEU:O	9:F:23:THR:HG21	2.17	0.43
11:H:110:LYS:HE3	52:5:1160:G:H21	1.83	0.43
14:K:101:LYS:HE2	52:5:523:U:H5''	2.01	0.43
25:b:135:HIS:HE1	50:3:1704:C:O2	2.01	0.43
34:k:48:ARG:HH22	50:3:199:A:H4'	1.83	0.43
35:l:45:ARG:HH11	50:3:2493:G:P	2.42	0.43
40:q:74:ILE:HB	40:q:77:LYS:HD2	2.00	0.43
44:u:83:TYR:HD1	44:u:95:VAL:HA	1.83	0.43
48:y:17:ARG:NH2	50:3:1295:A:O2'	2.51	0.43
49:z:38:CYS:O	49:z:42:ARG:CA	2.66	0.43
50:3:117:C:H2'	50:3:118:G:O4'	2.18	0.43
50:3:119:A:C8	50:3:120:A:C5	3.06	0.43
50:3:217:A:C6	50:3:218:G:C6	3.07	0.43
50:3:256:G:H2'	50:3:257:C:C6	2.53	0.43
50:3:786:A:OP1	50:3:1648:A:N6	2.50	0.43
50:3:822:C:OP1	50:3:1787:A:N6	2.27	0.43
50:3:1003:U:H2'	50:3:1004:U:C6	2.53	0.43
50:3:1488:U:H2'	50:3:1489:G:C8	2.51	0.43
50:3:1605:A:H2'	50:3:1606:A:C8	2.53	0.43
50:3:1640:G:O2'	50:3:1642:G:N1	2.49	0.43
50:3:1692:A:H2'	50:3:1693:U:C6	2.52	0.43
50:3:1747:G:H21	50:3:1752:A:H62	1.66	0.43
50:3:2072:C:H2'	50:3:2073:C:C6	2.53	0.43
50:3:2477:A:H2'	50:3:2478:G:O4'	2.18	0.43
50:3:2641:A:H2'	50:3:2642:G:O4'	2.19	0.43
50:3:2658:U:H2'	50:3:2659:U:H6	1.84	0.43
50:3:2792:C:H2'	50:3:2793:U:H6	1.83	0.43
50:3:2888:U:HO2'	50:3:2889:U:H6	1.67	0.43
50:3:2895:A:N6	50:3:2896:G:O6	2.51	0.43
51:4:43:A:C4	51:4:44:A:C8	3.06	0.43
52:5:799:A:H2'	52:5:800:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1125:C:H2'	52:5:1126:U:C6	2.54	0.43
52:5:1473:U:H1'	52:5:1474:A:N7	2.34	0.43
4:A:35:ARG:HE	52:5:827:C:H5''	1.83	0.43
4:A:177:ILE:HD11	4:A:201:LEU:HD23	2.00	0.43
9:F:142:LYS:HB3	9:F:142:LYS:HE2	1.71	0.43
10:G:74:LEU:HD11	10:G:84:ILE:HG12	2.00	0.43
14:K:94:LEU:H	14:K:111:VAL:HG21	1.84	0.43
15:L:101:ARG:NH1	15:L:103:ARG:HD2	2.34	0.43
26:c:140:THR:HG21	26:c:174:ASN:HB2	2.00	0.43
28:e:3:LYS:N	28:e:6:ASN:HB2	2.34	0.43
32:i:100:SER:HB2	32:i:129:LYS:HD3	2.00	0.43
33:j:46:ALA:HB1	33:j:52:VAL:HG13	1.99	0.43
37:n:23:ASN:HD22	37:n:46:PHE:HD2	1.67	0.43
37:n:101:ARG:HG3	51:4:47:C:H5'	2.00	0.43
41:r:21:CYS:O	41:r:25:VAL:N	2.52	0.43
43:t:88:LYS:HG3	50:3:334:A:OP2	2.18	0.43
50:3:161:U:H2'	50:3:162:G:O4'	2.18	0.43
50:3:245:U:H5	50:3:260:A:H62	1.67	0.43
50:3:503:G:H2'	50:3:504:G:O4'	2.19	0.43
50:3:803:G:H2'	50:3:804:U:C6	2.53	0.43
50:3:976:C:H2'	50:3:977:A:O4'	2.17	0.43
50:3:1061:A:H2'	50:3:1062:A:C8	2.49	0.43
50:3:1088:A:C6	50:3:1142:G:C6	3.06	0.43
50:3:1457:A:C5	50:3:1602:G:C6	3.06	0.43
50:3:2187:C:C2	50:3:2188:U:C5	3.07	0.43
50:3:2227:U:H2'	50:3:2228:U:C6	2.54	0.43
50:3:2638:G:OP2	50:3:2899:C:N4	2.51	0.43
51:4:48:A:O2'	51:4:49:G:O5'	2.35	0.43
52:5:38:U:H4'	52:5:498:G:H4'	2.01	0.43
52:5:622:A:H2'	52:5:623:G:C8	2.53	0.43
52:5:692:A:H61	52:5:783:G:N2	2.16	0.43
52:5:812:A:H1'	52:5:1502:G:H1'	1.99	0.43
52:5:945:U:H2'	52:5:946:G:H8	1.83	0.43
52:5:1429:G:C4	52:5:1430:G:C8	3.06	0.43
52:5:1437:A:H2'	52:5:1438:U:C6	2.54	0.43
6:C:68:ASP:OD2	52:5:543:C:H5''	2.19	0.43
9:F:6:ALA:HB3	52:5:1352:A:H2'	2.00	0.43
17:N:65:LYS:HB3	17:N:65:LYS:HE2	1.87	0.43
22:S:64:ARG:HA	22:S:67:ARG:HH11	1.83	0.43
24:a:153:HIS:HB2	24:a:156:GLY:HA3	2.01	0.43
24:a:179:TYR:HE1	24:a:193:LEU:HD23	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:16:PHE:HB3	29:f:54:GLN:OE1	2.19	0.43
35:l:46:ALA:HB1	35:l:126:PRO:HD3	2.00	0.43
35:l:73:SER:HB2	35:l:93:TRP:CE3	2.54	0.43
44:u:28:ARG:O	50:3:2286:A:N6	2.52	0.43
50:3:411:U:H3	50:3:437:A:H62	1.66	0.43
50:3:881:A:O2'	50:3:883:A:N6	2.49	0.43
50:3:889:G:C2	50:3:962:U:N3	2.87	0.43
50:3:983:A:H2'	50:3:984:C:C6	2.54	0.43
50:3:1048:A:H4'	50:3:1049:U:OP1	2.18	0.43
50:3:1053:C:O2'	50:3:1054:U:H5'	2.19	0.43
50:3:1172:G:H2'	50:3:1173:G:C8	2.54	0.43
50:3:1348:C:O2	50:3:1359:C:N4	2.52	0.43
50:3:1457:A:H2'	50:3:1458:A:H8	1.83	0.43
50:3:1503:A:P	50:3:1540:G:H22	2.41	0.43
50:3:1838:A:C6	50:3:1982:G:N1	2.87	0.43
50:3:2006:C:H5''	50:3:2731:U:O2'	2.18	0.43
50:3:2190:G:C2	50:3:2191:G:C5	3.07	0.43
50:3:2596:A:N6	50:3:2597:A:N6	2.66	0.43
52:5:378:A:O2'	52:5:379:A:O4'	2.25	0.43
52:5:657:G:O6	52:5:743:A:N6	2.51	0.43
52:5:799:A:H3'	52:5:800:G:H8	1.84	0.43
52:5:890:U:H2'	52:5:891:C:C6	2.53	0.43
52:5:989:A:C4	52:5:1191:U:H4'	2.54	0.43
52:5:1415:G:H2'	52:5:1416:U:C6	2.54	0.43
3:2:8:LYS:NZ	50:3:2475:C:O5'	2.52	0.43
7:D:68:GLU:OE1	7:D:119:ILE:HA	2.17	0.43
7:D:134:GLY:O	7:D:176:SER:N	2.52	0.43
7:D:159:GLY:H	7:D:177:ASP:HB3	1.83	0.43
7:D:188:PRO:O	7:D:192:ILE:HG13	2.19	0.43
10:G:108:LEU:N	10:G:108:LEU:HD23	2.32	0.43
11:H:70:LYS:HB3	52:5:1226:A:OP1	2.18	0.43
23:T:16:LYS:HA	23:T:19:LYS:NZ	2.34	0.43
24:a:15:HIS:HE1	50:3:764:G:N3	2.16	0.43
24:a:82:THR:OG1	24:a:120:LYS:NZ	2.40	0.43
24:a:186:SER:HB2	50:3:1826:A:C2	2.53	0.43
25:b:84:ILE:HG12	25:b:208:ARG:NH2	2.34	0.43
25:b:189:MET:SD	25:b:189:MET:O	2.77	0.43
28:e:140:SER:OG	28:e:143:LEU:HB2	2.18	0.43
39:p:101:GLU:HA	39:p:102:PRO:HD2	1.91	0.43
50:3:178:A:C2	50:3:179:A:C6	3.06	0.43
50:3:610:G:OP2	50:3:610:G:H8	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:739:G:O2'	50:3:740:A:OP2	2.36	0.43
50:3:790:U:H2'	50:3:791:A:C8	2.54	0.43
50:3:860:C:H4'	50:3:2436:G:C5	2.54	0.43
50:3:894:G:N2	50:3:2276:A:H3'	2.22	0.43
50:3:1155:G:H2'	50:3:1156:C:C6	2.54	0.43
50:3:1225:A:H2'	50:3:1226:G:O4'	2.18	0.43
50:3:1320:C:H2'	50:3:1321:C:O4'	2.19	0.43
50:3:1494:U:H5'	50:3:1495:A:OP1	2.19	0.43
50:3:1664:A:N1	50:3:1669:A:N6	2.66	0.43
50:3:2073:C:H2'	50:3:2074:G:O4'	2.19	0.43
50:3:2115:A:O2'	50:3:2149:U:H1'	2.19	0.43
50:3:2406:U:H2'	50:3:2407:G:C8	2.53	0.43
50:3:2494:C:H2'	50:3:2495:A:H8	1.84	0.43
50:3:2852:G:O2'	50:3:2853:U:OP2	2.31	0.43
50:3:2897:G:H4'	50:3:2898:A:H5'	2.00	0.43
52:5:34:A:OP1	52:5:394:U:H4'	2.19	0.43
52:5:176:G:H2'	52:5:177:G:C8	2.53	0.43
52:5:259:A:C8	52:5:260:C:H5	2.35	0.43
52:5:285:G:H2'	52:5:286:C:H6	1.83	0.43
52:5:637:A:H2	52:5:639:A:H62	1.65	0.43
52:5:804:A:H2'	52:5:805:C:C6	2.54	0.43
52:5:1092:A:N3	52:5:1093:A:H1'	2.33	0.43
52:5:1329:G:C6	52:5:1330:A:C6	3.07	0.43
6:C:14:LEU:HD13	6:C:59:ARG:HG2	2.00	0.43
8:E:70:LYS:HB3	8:E:74:ARG:NH1	2.33	0.43
14:K:21:SER:O	14:K:25:HIS:ND1	2.52	0.43
24:a:246:ARG:NH2	50:3:1978:U:H2'	2.34	0.43
26:c:53:LEU:HB3	26:c:57:GLU:HB2	2.01	0.43
26:c:112:LEU:O	26:c:115:VAL:HG12	2.19	0.43
27:d:17:GLN:NE2	27:d:24:SER:O	2.52	0.43
30:g:89:ILE:O	30:g:90:VAL:C	2.62	0.43
34:k:30:LYS:HE2	50:3:845:U:C5	2.54	0.43
34:k:117:HIS:HB2	50:3:673:A:H5''	2.01	0.43
41:r:10:VAL:HG23	41:r:12:ILE:HG22	1.99	0.43
43:t:32:GLN:OE1	43:t:70:PHE:HB3	2.19	0.43
50:3:236:G:H22	50:3:456:G:H5'	1.84	0.43
50:3:276:A:H5'	50:3:277:C:OP2	2.18	0.43
50:3:410:G:N2	50:3:436:G:H2'	2.33	0.43
50:3:743:G:H2'	50:3:744:U:C6	2.54	0.43
50:3:776:U:O2'	50:3:777:C:H5'	2.19	0.43
50:3:970:U:OP2	50:3:972:C:N4	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1246:U:H2'	50:3:1247:C:C6	2.53	0.43
50:3:1525:G:H2'	50:3:1526:U:O4'	2.19	0.43
50:3:1724:A:H2'	50:3:1725:G:O4'	2.18	0.43
50:3:1743:U:H2'	50:3:1744:U:C6	2.53	0.43
50:3:1791:A:OP2	50:3:1791:A:C8	2.72	0.43
50:3:2034:G:H2'	50:3:2035:U:O4'	2.19	0.43
50:3:2597:A:H2'	50:3:2598:C:H6	1.84	0.43
50:3:2850:G:H2'	50:3:2851:U:H6	1.84	0.43
52:5:264:C:H2'	52:5:265:U:C6	2.54	0.43
52:5:356:G:H2'	52:5:357:G:C8	2.54	0.43
52:5:500:G:H2'	52:5:501:A:C8	2.54	0.43
52:5:674:U:O2	52:5:774:A:O2'	2.34	0.43
52:5:762:G:H3'	52:5:809:G:N2	2.33	0.43
52:5:934:G:H2'	52:5:935:U:H6	1.84	0.43
52:5:1190:G:H2'	52:5:1191:U:O4'	2.18	0.43
52:5:1227:A:H2'	52:5:1228:C:H6	1.84	0.43
52:5:1279:G:H1'	52:5:1305:G:N2	2.29	0.43
52:5:1298:U:H2'	52:5:1299:C:H6	1.84	0.43
53:6:51:G:H2'	53:6:52:C:C6	2.54	0.43
3:2:5:ALA:N	50:3:2474:C:OP1	2.46	0.43
3:2:25:VAL:HG22	3:2:34:GLN:HB2	2.01	0.43
4:A:32:MET:HE2	4:A:204:THR:HG22	2.01	0.43
4:A:121:LYS:HA	4:A:121:LYS:HD3	1.91	0.43
8:E:3:TYR:HD2	8:E:64:GLY:H	1.66	0.43
8:E:70:LYS:HA	8:E:73:LYS:NZ	2.34	0.43
8:E:106:GLN:HG2	52:5:838:A:O5'	2.19	0.43
24:a:246:ARG:HB2	50:3:2598:C:P	2.59	0.43
25:b:166:SER:OG	25:b:167:GLY:N	2.52	0.43
26:c:147:LEU:HD12	26:c:152:LEU:HB3	2.01	0.43
26:c:182:HIS:CG	26:c:183:LEU:N	2.87	0.43
32:i:40:ARG:HH21	32:i:42:LYS:HD3	1.83	0.43
34:k:93:ILE:HD11	34:k:124:LEU:HD13	2.01	0.43
37:n:42:GLN:HE22	51:4:5:G:H21	1.66	0.43
40:q:27:ALA:H	40:q:62:HIS:CE1	2.37	0.43
43:t:44:ARG:HD3	50:3:516:A:OP2	2.19	0.43
48:y:13:ARG:NH1	50:3:1293:U:H4'	2.34	0.43
50:3:22:U:H2'	50:3:23:A:C8	2.54	0.43
50:3:209:G:N2	50:3:210:U:O4	2.36	0.43
50:3:245:U:O3'	50:3:246:G:H4'	2.18	0.43
50:3:297:G:O2'	50:3:298:U:OP2	2.32	0.43
50:3:399:G:C2	50:3:400:A:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:861:U:H2'	50:3:863:U:O4'	2.18	0.43
50:3:944:U:H2'	50:3:945:U:H6	1.84	0.43
50:3:1176:U:O2	50:3:1177:A:N6	2.52	0.43
50:3:1301:G:O2'	50:3:1652:A:N7	2.47	0.43
50:3:1496:A:N6	50:3:1547:G:O2'	2.52	0.43
50:3:2080:C:H2'	50:3:2081:U:H6	1.83	0.43
50:3:2355:C:H2'	50:3:2356:U:C6	2.54	0.43
52:5:371:U:H2'	52:5:372:G:H8	1.84	0.43
52:5:444:G:O6	52:5:482:G:H1'	2.19	0.43
52:5:632:A:H2'	52:5:633:U:O4'	2.18	0.43
52:5:657:G:C6	52:5:658:G:C5	3.06	0.43
52:5:703:A:H2'	52:5:704:U:O4'	2.19	0.43
52:5:859:A:O5'	52:5:859:A:H8	2.02	0.43
52:5:1066:U:H2'	52:5:1067:C:C6	2.54	0.43
52:5:1075:G:H5'	52:5:1093:A:H5''	2.00	0.43
52:5:1200:G:O2'	52:5:1201:C:O5'	2.33	0.43
52:5:1432:A:O2'	52:5:1433:G:H5'	2.19	0.43
53:7:51:G:H2'	53:7:52:C:C6	2.54	0.43
5:B:134:ARG:NH1	7:D:112:PRO:HG3	2.33	0.42
12:I:62:HIS:HB3	12:I:63:VAL:H	1.73	0.42
24:a:193:LEU:HB2	24:a:196:CYS:SG	2.59	0.42
28:e:174:ARG:NH2	28:e:174:ARG:HA	2.34	0.42
32:i:81:SER:O	32:i:83:TYR:N	2.52	0.42
32:i:100:SER:O	32:i:104:VAL:HG12	2.19	0.42
40:q:66:ARG:HH22	50:3:583:U:P	2.41	0.42
43:t:89:ILE:HG21	43:t:102:ARG:HB3	2.00	0.42
50:3:18:G:H2'	50:3:19:G:C8	2.53	0.42
50:3:116:C:H2'	50:3:117:C:O4'	2.18	0.42
50:3:393:C:O2'	50:3:394:C:O4'	2.35	0.42
50:3:416:C:N4	50:3:417:G:O6	2.52	0.42
50:3:625:G:H2'	50:3:626:A:C8	2.51	0.42
50:3:727:C:H2'	50:3:728:A:H8	1.84	0.42
50:3:818:A:H2'	50:3:819:U:H4'	2.01	0.42
50:3:850:G:H2'	50:3:851:U:H6	1.84	0.42
50:3:938:A:H2'	50:3:939:U:C6	2.54	0.42
50:3:1077:G:H2'	50:3:1078:C:C6	2.54	0.42
50:3:1136:U:H2'	50:3:1137:C:C6	2.54	0.42
50:3:1251:G:C5	50:3:1259:A:N6	2.87	0.42
50:3:1463:G:C6	50:3:1464:G:C6	3.07	0.42
50:3:1530:G:H2'	50:3:1531:C:C6	2.54	0.42
50:3:1776:G:H1'	50:3:1965:C:H5''	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2457:U:H5''	50:3:2509:C:H41	1.84	0.42
52:5:65:G:OP1	52:5:379:A:N6	2.37	0.42
52:5:672:A:H2'	52:5:673:A:O4'	2.18	0.42
52:5:812:A:H62	52:5:1484:C:H1'	1.84	0.42
52:5:908:A:H2'	52:5:909:A:O4'	2.19	0.42
52:5:1430:G:H2'	52:5:1431:A:H5'	2.01	0.42
52:5:1440:U:C4	52:5:1441:C:C4	3.07	0.42
3:2:4:ARG:HG3	3:2:5:ALA:H	1.84	0.42
5:B:200:GLY:HA3	52:5:1048:G:H4'	2.00	0.42
8:E:44:GLU:HA	8:E:54:SER:HA	2.00	0.42
9:F:111:HIS:ND1	9:F:112:GLU:N	2.65	0.42
10:G:53:TYR:HE2	10:G:141:VAL:HG12	1.84	0.42
11:H:12:ARG:NH1	11:H:105:LEU:O	2.53	0.42
12:I:11:GLU:HA	12:I:83:VAL:HA	2.01	0.42
16:M:4:LYS:NZ	52:5:1038:G:H5''	2.34	0.42
17:N:33:ILE:HD13	17:N:33:ILE:HA	1.93	0.42
32:i:44:LYS:HE2	32:i:55:ASP:OD2	2.19	0.42
34:k:82:LEU:HD13	34:k:85:ILE:HD11	2.00	0.42
37:n:97:LYS:N	51:4:46:C:OP1	2.32	0.42
39:p:2:ARG:NE	50:3:485:A:O2'	2.52	0.42
39:p:15:LYS:O	39:p:19:GLN:NE2	2.41	0.42
39:p:36:GLN:NE2	50:3:1282:G:H22	2.18	0.42
48:y:4:GLN:HA	50:3:2623:U:C4	2.55	0.42
50:3:67:C:H2'	50:3:68:C:C6	2.54	0.42
50:3:241:C:O2'	50:3:643:A:H4'	2.19	0.42
50:3:489:A:N3	50:3:493:A:O2'	2.42	0.42
50:3:598:G:O4'	50:3:1283:A:N6	2.52	0.42
50:3:812:G:H2'	50:3:813:G:H8	1.84	0.42
50:3:1159:C:H2'	50:3:1160:G:O4'	2.20	0.42
50:3:1227:C:H2'	50:3:1228:G:O4'	2.19	0.42
50:3:1373:C:H2'	50:3:1374:U:C6	2.54	0.42
50:3:1444:C:H4'	50:3:1620:A:H61	1.84	0.42
50:3:1742:C:H2'	50:3:1743:U:C6	2.54	0.42
50:3:1989:U:H2'	50:3:1990:C:C6	2.54	0.42
50:3:1990:C:H4'	50:3:2614:U:H4'	2.02	0.42
50:3:1996:A:H2'	50:3:1997:C:O4'	2.19	0.42
50:3:2042:A:H5''	50:3:2043:C:H5	1.84	0.42
50:3:2237:U:H2'	50:3:2238:G:C8	2.47	0.42
50:3:2258:G:N2	50:3:2258:G:OP2	2.46	0.42
50:3:2325:U:O2'	50:3:2326:G:H5'	2.19	0.42
50:3:2468:U:H2'	50:3:2469:A:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:185:G:O2'	52:5:186:A:O4'	2.24	0.42
52:5:293:G:N2	52:5:295:G:H3'	2.34	0.42
52:5:369:A:N6	52:5:387:G:H1'	2.21	0.42
52:5:615:G:C2	52:5:616:C:H1'	2.54	0.42
52:5:997:G:H2'	52:5:998:G:O4'	2.19	0.42
4:A:63:GLN:HA	4:A:66:GLN:CD	2.44	0.42
7:D:208:VAL:HA	7:D:211:LEU:HG	2.00	0.42
11:H:109:ASP:OD1	11:H:111:ARG:HB2	2.19	0.42
17:N:5:LYS:O	17:N:9:ILE:HG12	2.19	0.42
24:a:209:ASN:HB2	50:3:1827:U:C2	2.55	0.42
27:d:11:THR:HA	27:d:14:LYS:NZ	2.34	0.42
28:e:146:GLN:CD	50:3:2752:G:H21	2.28	0.42
32:i:98:LYS:O	32:i:129:LYS:NZ	2.52	0.42
36:m:33:THR:OG1	36:m:34:THR:N	2.52	0.42
36:m:50:THR:OG1	50:3:2844:U:H5''	2.19	0.42
39:p:62:LEU:HD22	50:3:1045:A:H4'	2.01	0.42
39:p:92:LYS:O	39:p:95:SER:OG	2.32	0.42
44:u:81:VAL:HG22	44:u:83:TYR:CE1	2.55	0.42
50:3:20:C:H2'	50:3:21:U:H6	1.84	0.42
50:3:33:C:N4	50:3:545:C:H42	2.16	0.42
50:3:98:C:H2'	50:3:99:C:C6	2.53	0.42
50:3:128:A:H5''	50:3:129:U:O5'	2.20	0.42
50:3:224:G:N1	50:3:464:A:OP2	2.53	0.42
50:3:286:A:O2'	50:3:288:A:N6	2.52	0.42
50:3:297:G:O6	50:3:440:C:O2'	2.25	0.42
50:3:417:G:C2	50:3:432:G:C6	3.07	0.42
50:3:513:A:H2'	50:3:514:A:O4'	2.19	0.42
50:3:644:C:H2'	50:3:645:C:C6	2.54	0.42
50:3:1453:U:H2'	50:3:1454:G:C8	2.53	0.42
50:3:1497:A:H2'	50:3:1498:U:C6	2.54	0.42
50:3:1502:A:O2'	50:3:1541:A:N6	2.32	0.42
50:3:1538:U:H2'	50:3:1539:U:O4'	2.19	0.42
50:3:1624:A:H2'	50:3:1625:G:C8	2.54	0.42
50:3:1712:A:H2'	50:3:1713:U:C6	2.54	0.42
50:3:1795:C:H2'	50:3:1796:A:O4'	2.19	0.42
50:3:1828:A:H2'	50:3:1829:U:H6	1.83	0.42
50:3:2058:G:H2'	50:3:2622:A:N6	2.33	0.42
50:3:2188:U:C4	50:3:2189:U:C4	3.07	0.42
50:3:2261:G:N2	53:7:74:A:H1'	2.33	0.42
50:3:2292:A:H2'	50:3:2293:C:H6	1.85	0.42
50:3:2333:G:O2'	50:3:2334:U:OP1	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2630:U:H2'	50:3:2631:G:C8	2.54	0.42
52:5:26:C:H2'	52:5:27:A:C8	2.54	0.42
52:5:96:G:H2'	52:5:97:G:C8	2.54	0.42
52:5:225:U:C2	52:5:226:G:C8	3.08	0.42
52:5:445:A:N1	52:5:483:U:O2	2.52	0.42
52:5:835:G:H2'	52:5:836:C:C6	2.55	0.42
52:5:992:U:H2'	52:5:993:C:H6	1.84	0.42
52:5:1229:A:O4'	52:5:1330:A:H5''	2.19	0.42
52:5:1338:A:H2'	52:5:1340:G:C8	2.54	0.42
52:5:1387:U:C2	52:5:1464:G:N1	2.86	0.42
52:5:1403:A:H2'	52:5:1404:U:H6	1.80	0.42
52:5:1403:A:C6	52:5:1448:A:N1	2.87	0.42
53:7:38:G:H2'	53:7:38:G:N3	2.34	0.42
1:0:37:LYS:HE2	1:0:37:LYS:HB3	1.81	0.42
2:1:15:LYS:CB	50:3:664:G:H5''	2.50	0.42
8:E:92:ARG:NH1	20:Q:88:LYS:HB2	2.34	0.42
11:H:108:ARG:HH12	11:H:112:VAL:HB	1.85	0.42
13:J:49:ARG:HH11	13:J:52:THR:HG21	1.84	0.42
14:K:115:LEU:C	14:K:117:THR:N	2.76	0.42
19:P:13:VAL:HA	19:P:24:VAL:HG22	2.01	0.42
21:R:29:ARG:HB3	21:R:48:THR:OG1	2.19	0.42
28:e:77:ASN:HA	28:e:80:ILE:HG22	2.00	0.42
43:t:103:VAL:HA	43:t:110:THR:HA	2.02	0.42
44:u:35:LEU:HD13	44:u:55:ARG:NH2	2.34	0.42
50:3:113:U:H2'	50:3:114:U:O4'	2.20	0.42
50:3:200:A:O2'	50:3:201:A:H5'	2.20	0.42
50:3:206:U:H2'	50:3:207:C:O4'	2.20	0.42
50:3:442:G:N2	50:3:457:U:O2'	2.45	0.42
50:3:464:A:H2'	50:3:464:A:N3	2.33	0.42
50:3:537:A:C8	50:3:540:A:N6	2.87	0.42
50:3:694:U:H2'	50:3:695:G:H8	1.83	0.42
50:3:777:C:N4	50:3:791:A:N1	2.67	0.42
50:3:894:G:C6	50:3:2276:A:C6	3.08	0.42
50:3:1266:G:H1'	50:3:1267:A:N7	2.33	0.42
50:3:1294:G:N2	50:3:2023:U:O4	2.52	0.42
50:3:1968:C:H4'	52:5:1459:U:H4'	2.01	0.42
50:3:2161:G:C5	50:3:2162:U:C4	3.08	0.42
50:3:2251:U:O2'	50:3:2442:A:N1	2.42	0.42
50:3:2399:G:H1'	50:3:2432:C:H41	1.84	0.42
50:3:2833:A:H2'	50:3:2834:C:C6	2.54	0.42
52:5:96:G:H2'	52:5:97:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:251:G:O6	52:5:262:G:O6	2.37	0.42
52:5:458:G:H2'	52:5:459:C:H6	1.84	0.42
52:5:883:A:O3'	52:5:884:G:H4'	2.20	0.42
52:5:913:A:H2'	52:5:914:A:O4'	2.20	0.42
52:5:940:G:H22	52:5:1311:G:H21	1.67	0.42
52:5:1217:G:N3	52:5:1276:U:O2'	2.53	0.42
52:5:1329:G:H2'	52:5:1330:A:C8	2.54	0.42
53:7:30:G:H2'	53:7:31:G:C8	2.52	0.42
9:F:153:MET:HB3	9:F:155:TRP:CZ3	2.52	0.42
11:H:50:MET:O	11:H:53:PRO:HD2	2.19	0.42
14:K:4:ILE:HA	14:K:7:LEU:HB2	2.01	0.42
21:R:38:SER:O	21:R:70:LYS:HG2	2.19	0.42
22:S:11:LEU:HD21	52:5:329:C:H4'	2.02	0.42
23:T:26:ARG:O	23:T:30:GLN:HG2	2.20	0.42
26:c:113:HIS:HA	26:c:116:TRP:CD1	2.54	0.42
28:e:148:ALA:HB1	28:e:167:TYR:HE1	1.84	0.42
28:e:149:THR:HG21	50:3:2752:G:O2'	2.19	0.42
38:o:98:ARG:NH2	50:3:2701:A:O2'	2.52	0.42
45:v:58:LEU:HA	45:v:63:ARG:HB2	2.01	0.42
46:w:104:LYS:NZ	50:3:1547:G:H4'	2.34	0.42
50:3:1036:A:H2'	50:3:1037:A:H8	1.83	0.42
50:3:1102:A:C4	50:3:1130:A:H1'	2.55	0.42
50:3:1319:C:H2'	50:3:1320:C:C6	2.55	0.42
50:3:1444:C:O2	50:3:1616:G:N1	2.53	0.42
50:3:1502:A:H3'	50:3:1540:G:H1	1.85	0.42
50:3:1920:A:N6	53:6:39:A:H5'	2.35	0.42
50:3:1951:A:N6	50:3:2565:G:O2'	2.52	0.42
50:3:2478:G:H4'	53:6:53:A:H4'	2.02	0.42
50:3:2669:G:O2'	50:3:2670:A:O4'	2.23	0.42
50:3:2748:A:C4	50:3:2749:A:C8	3.07	0.42
50:3:2774:A:N3	50:3:2774:A:H2'	2.34	0.42
52:5:100:G:H1'	52:5:102:G:O6	2.20	0.42
52:5:584:C:H2'	52:5:585:G:C8	2.54	0.42
52:5:644:U:H2'	52:5:645:A:H8	1.83	0.42
52:5:698:U:H4'	52:5:700:G:C8	2.54	0.42
52:5:853:A:H61	52:5:864:U:H5	1.66	0.42
52:5:884:G:O2'	52:5:900:G:O6	2.34	0.42
52:5:1138:U:O2'	52:5:1139:A:H5'	2.20	0.42
1:0:12:ARG:HD3	50:3:721:G:H1	1.84	0.42
4:A:150:LEU:HD23	4:A:150:LEU:HA	1.89	0.42
4:A:185:LYS:HA	4:A:185:LYS:HD2	1.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:6:SER:HA	52:5:427:A:O5'	2.19	0.42
9:F:113:LYS:HD3	52:5:1271:U:O2'	2.19	0.42
12:I:48:LEU:HG	12:I:79:LEU:HB2	2.02	0.42
25:b:153:GLY:HA3	50:3:2039:G:C4	2.54	0.42
26:c:30:LYS:HZ2	26:c:30:LYS:HG3	1.68	0.42
26:c:151:LYS:HA	26:c:151:LYS:HD2	1.79	0.42
26:c:156:ASN:HB2	26:c:194:ALA:HA	2.02	0.42
26:c:192:MET:HE1	34:k:4:ASN:HA	2.02	0.42
29:f:53:LYS:HA	29:f:56:GLU:OE1	2.20	0.42
37:n:74:GLY:O	37:n:77:ILE:HG22	2.20	0.42
39:p:68:LEU:HD11	39:p:78:PHE:HD2	1.84	0.42
50:3:33:C:H2'	50:3:34:C:O4'	2.19	0.42
50:3:155:A:C2	50:3:178:A:C6	3.08	0.42
50:3:230:G:H1'	50:3:232:A:H61	1.85	0.42
50:3:442:G:O6	50:3:457:U:O4	2.36	0.42
50:3:562:C:C4	50:3:2787:U:H2'	2.55	0.42
50:3:614:C:H2'	50:3:615:G:C8	2.50	0.42
50:3:616:G:H2'	50:3:617:C:O4'	2.20	0.42
50:3:713:C:H2'	50:3:714:G:H8	1.85	0.42
50:3:870:A:H3'	50:3:871:G:H8	1.85	0.42
50:3:990:G:C6	50:3:1000:U:N3	2.87	0.42
50:3:1086:G:H4'	50:3:2760:C:H4'	2.01	0.42
50:3:1503:A:OP2	50:3:1540:G:N2	2.38	0.42
50:3:1510:A:C6	50:3:1530:G:C2	3.08	0.42
50:3:1749:A:H2'	50:3:1750:A:C8	2.55	0.42
50:3:1993:U:H2'	50:3:1994:U:O4'	2.19	0.42
50:3:2093:U:H2'	50:3:2094:A:H8	1.84	0.42
50:3:2163:U:H2'	50:3:2164:G:N9	2.35	0.42
50:3:2171:A:H2'	50:3:2172:A:O4'	2.19	0.42
50:3:2197:U:H2'	50:3:2198:G:C8	2.54	0.42
50:3:2585:A:H5''	50:3:2620:C:N4	2.35	0.42
50:3:2700:C:C2	50:3:2701:A:C8	3.08	0.42
50:3:2801:U:H2'	50:3:2808:A:N1	2.34	0.42
51:4:9:C:H5'	51:4:10:C:OP2	2.19	0.42
52:5:211:G:H2'	52:5:212:G:O4'	2.19	0.42
52:5:367:A:H2'	52:5:368:C:O4'	2.20	0.42
4:A:157:GLU:O	4:A:161:LYS:HG3	2.20	0.42
11:H:33:ASN:HB2	11:H:35:ARG:NH2	2.35	0.42
14:K:99:ARG:HH11	14:K:107:ARG:HB3	1.84	0.42
22:S:10:ARG:HA	22:S:13:GLN:CG	2.50	0.42
22:S:12:ARG:O	22:S:16:LYS:HE2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:126:TRP:CE3	25:b:164:LYS:HE2	2.53	0.42
25:b:156:ALA:HB1	25:b:160:PHE:HE1	1.85	0.42
26:c:72:GLY:O	50:3:1285:U:H2'	2.20	0.42
27:d:44:ILE:H	27:d:44:ILE:HD12	1.84	0.42
29:f:107:ALA:HB2	50:3:166:A:H61	1.85	0.42
41:r:84:ARG:NH2	41:r:98:LYS:HG2	2.34	0.42
42:s:7:LEU:O	46:w:30:ARG:NH2	2.52	0.42
44:u:44:MET:N	44:u:44:MET:SD	2.92	0.42
50:3:87:G:H2'	50:3:88:G:H8	1.83	0.42
50:3:631:A:N1	50:3:695:G:C6	2.88	0.42
50:3:789:A:H2'	50:3:790:U:C6	2.55	0.42
50:3:993:A:N1	50:3:2466:G:H4'	2.35	0.42
50:3:1626:C:H2'	50:3:1627:U:C6	2.55	0.42
50:3:1752:A:H2'	50:3:1753:G:O4'	2.19	0.42
50:3:2001:C:C4	50:3:2002:U:O4	2.73	0.42
50:3:2060:G:N1	50:3:2625:U:O2	2.53	0.42
50:3:2090:G:C6	50:3:2244:U:O2	2.72	0.42
50:3:2100:G:C2	50:3:2101:A:N7	2.87	0.42
50:3:2399:G:H1'	50:3:2432:C:N4	2.35	0.42
50:3:2744:A:H2'	50:3:2745:G:H8	1.84	0.42
52:5:221:U:H2'	52:5:222:U:O4'	2.19	0.42
52:5:405:C:H2'	52:5:406:G:O4'	2.20	0.42
52:5:603:U:N3	52:5:630:G:N1	2.35	0.42
52:5:630:G:H8	52:5:630:G:O5'	2.03	0.42
52:5:649:U:O2	52:5:750:A:C5	2.73	0.42
52:5:918:A:H2'	52:5:919:C:C6	2.54	0.42
52:5:1196:G:H5''	52:5:1295:U:O2	2.20	0.42
52:5:1439:G:H2'	52:5:1440:U:H6	1.84	0.42
53:6:24:A:H2'	53:6:25:G:C8	2.55	0.42
1:0:16:HIS:NE2	50:3:719:G:O5'	2.42	0.42
2:1:22:LYS:HE3	34:k:64:LYS:C	2.44	0.42
6:C:193:GLU:O	6:C:197:VAL:HG13	2.19	0.42
7:D:140:VAL:HG12	7:D:151:LEU:HB2	2.01	0.42
8:E:5:ILE:HG22	8:E:7:LEU:HD22	2.02	0.42
14:K:23:ALA:HB1	14:K:70:LEU:HD13	2.01	0.42
14:K:70:LEU:HD11	14:K:76:VAL:HG22	2.02	0.42
16:M:16:PHE:HB2	16:M:19:ARG:HG2	2.02	0.42
21:R:78:ARG:HH22	52:5:1296:C:P	2.43	0.42
23:T:15:LEU:O	23:T:19:LYS:HD3	2.19	0.42
24:a:185:LEU:O	24:a:186:SER:OG	2.38	0.42
24:a:229:ARG:HD2	50:3:1835:G:O6	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:285:GLU:HG3	24:a:286:GLN:CD	2.44	0.42
25:b:211:LYS:NZ	50:3:2779:C:OP1	2.36	0.42
49:z:24:ASN:OD1	49:z:26:LYS:HG2	2.19	0.42
50:3:179:A:O2'	50:3:180:A:O5'	2.37	0.42
50:3:440:C:C6	50:3:442:G:C2	3.07	0.42
50:3:606:G:N1	50:3:2038:A:OP1	2.52	0.42
50:3:1123:A:H4'	50:3:1124:G:O4'	2.19	0.42
50:3:1631:A:H5''	50:3:1632:C:H5'	2.02	0.42
50:3:1674:A:C4	50:3:1675:A:C8	3.08	0.42
50:3:1701:G:N2	50:3:1999:G:OP2	2.49	0.42
50:3:1806:G:H4'	50:3:1809:A:H1'	2.01	0.42
50:3:1923:A:H61	52:5:1383:A:HO2'	1.58	0.42
50:3:2070:C:O3'	53:7:77:A:H5'	2.20	0.42
50:3:2187:C:H2'	50:3:2188:U:C6	2.54	0.42
50:3:2357:G:H2'	50:3:2358:U:O4'	2.20	0.42
51:4:32:G:N7	51:4:42:G:O2'	2.45	0.42
51:4:60:C:H2'	51:4:61:A:C8	2.55	0.42
52:5:54:A:N1	52:5:355:A:C6	2.88	0.42
52:5:615:G:C6	52:5:622:A:C6	3.08	0.42
52:5:660:A:H2'	52:5:661:G:H8	1.85	0.42
52:5:688:G:O2'	52:5:689:U:O4'	2.37	0.42
52:5:893:C:H3'	52:5:894:A:H8	1.84	0.42
52:5:928:G:N1	52:5:930:A:H1'	2.34	0.42
52:5:945:U:H2'	52:5:946:G:C8	2.54	0.42
52:5:1031:A:H2'	52:5:1032:G:C8	2.54	0.42
52:5:1417:U:H2'	52:5:1418:G:H8	1.81	0.42
52:5:1430:G:H3'	52:5:1431:A:H8	1.84	0.42
53:7:24:A:H2'	53:7:25:G:C8	2.55	0.42
7:D:116:LYS:HA	7:D:119:ILE:HD12	2.02	0.42
14:K:6:GLN:NE2	52:5:875:G:OP2	2.53	0.42
15:L:26:GLY:HA3	52:5:1303:A:OP2	2.19	0.42
24:a:213:ILE:HB	50:3:1798:A:O3'	2.20	0.42
38:o:21:TYR:CD1	38:o:23:PRO:HD3	2.55	0.42
46:w:44:ILE:HG13	46:w:45:ASN:N	2.35	0.42
50:3:1097:G:OP1	50:3:1097:G:H3'	2.20	0.42
50:3:1257:G:H2'	50:3:1258:C:C6	2.55	0.42
50:3:1300:C:O2'	50:3:1353:G:H2'	2.20	0.42
50:3:1348:C:N3	50:3:1361:U:O4	2.52	0.42
50:3:1582:G:H2'	50:3:1583:G:C8	2.53	0.42
50:3:1624:A:H2'	50:3:1625:G:H8	1.85	0.42
50:3:2644:U:H2'	50:3:2645:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2828:C:H2'	50:3:2829:G:O4'	2.20	0.42
52:5:207:C:H3'	52:5:208:A:C8	2.52	0.42
52:5:399:C:H2'	52:5:400:G:H8	1.84	0.42
52:5:1172:A:H2'	52:5:1173:A:H8	1.84	0.42
52:5:1257:C:H2'	52:5:1258:U:C6	2.55	0.42
52:5:1321:G:N2	52:5:1322:U:O4	2.35	0.42
3:2:14:CYS:HA	3:2:26:ILE:O	2.20	0.42
5:B:133:LEU:O	5:B:137:MET:HG2	2.20	0.42
5:B:155:LEU:HD23	5:B:170:MET:HG3	2.02	0.42
6:C:73:ARG:O	6:C:77:LEU:HG	2.20	0.42
11:H:32:VAL:HG21	11:H:41:PHE:CE2	2.54	0.42
20:Q:70:ILE:HD12	52:5:717:C:H1'	2.01	0.42
26:c:65:PRO:HD2	26:c:76:GLN:O	2.20	0.42
26:c:182:HIS:N	26:c:185:LYS:HB2	2.32	0.42
27:d:4:LEU:HA	27:d:7:HIS:NE2	2.35	0.42
34:k:127:GLU:OE1	34:k:127:GLU:N	2.53	0.42
35:l:109:ILE:HG13	35:l:114:MET:HG3	2.02	0.42
37:n:101:ARG:NH2	51:4:47:C:OP2	2.51	0.42
38:o:25:PHE:HD2	38:o:52:VAL:HG21	1.85	0.42
41:r:90:LYS:HE3	50:3:783:G:C6	2.55	0.42
50:3:528:U:H2'	50:3:529:G:C8	2.55	0.42
50:3:556:U:H2'	50:3:557:G:H8	1.85	0.42
50:3:599:U:H4'	50:3:844:G:OP1	2.20	0.42
50:3:651:A:C5	50:3:652:U:H1'	2.55	0.42
50:3:735:G:H2'	50:3:736:G:H8	1.85	0.42
50:3:1033:A:H2'	50:3:1034:A:H8	1.85	0.42
50:3:1325:C:H2'	50:3:1326:C:C6	2.51	0.42
50:3:2020:A:N6	50:3:2621:U:H3	2.18	0.42
50:3:2346:G:H2'	50:3:2347:G:H8	1.83	0.42
50:3:2414:U:H5	50:3:2419:A:H61	1.68	0.42
50:3:2812:U:O2'	50:3:2813:A:H5''	2.19	0.42
52:5:313:U:H2'	52:5:314:G:C8	2.55	0.42
52:5:1393:A:OP2	52:5:1457:G:N2	2.48	0.42
52:5:1435:G:H2'	52:5:1436:C:C6	2.55	0.42
11:H:56:LEU:HD21	11:H:100:LEU:HD13	2.00	0.41
13:J:14:ILE:HD13	13:J:27:ALA:HB2	2.02	0.41
13:J:81:GLY:O	13:J:86:LYS:NZ	2.53	0.41
21:R:34:TRP:CE3	21:R:52:HIS:HB2	2.54	0.41
25:b:158:ARG:HA	50:3:2059:G:N3	2.35	0.41
33:j:6:THR:HG23	50:3:1700:G:H4'	2.01	0.41
33:j:22:ILE:HB	50:3:1959:A:C2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:5:GLN:HE21	50:3:1234:U:H4'	1.85	0.41
35:l:49:SER:HB3	50:3:2492:G:C4'	2.50	0.41
38:o:100:TYR:HE1	38:o:102:SER:HB3	1.84	0.41
39:p:54:ARG:NH2	50:3:1190:A:O3'	2.51	0.41
43:t:69:ILE:HG21	43:t:74:LEU:HD21	2.02	0.41
50:3:189:U:H2'	50:3:190:G:H8	1.85	0.41
50:3:338:G:O2'	50:3:339:U:H5'	2.20	0.41
50:3:401:G:O2'	50:3:402:A:O4'	2.37	0.41
50:3:525:A:H2'	50:3:526:G:C5	2.55	0.41
50:3:664:G:H2'	50:3:665:C:C6	2.55	0.41
50:3:666:G:N2	50:3:668:A:H3'	2.35	0.41
50:3:676:U:H2'	50:3:677:U:C6	2.54	0.41
50:3:897:A:H62	50:3:953:G:H21	1.67	0.41
50:3:1152:U:H2'	50:3:1153:U:C6	2.54	0.41
50:3:1305:G:H2'	50:3:1306:G:H8	1.84	0.41
50:3:1305:G:C6	50:3:1322:A:C6	3.08	0.41
50:3:1335:A:H2'	50:3:1336:A:C8	2.55	0.41
50:3:1822:A:H4'	50:3:1823:U:H5'	2.01	0.41
50:3:1840:C:H2'	50:3:1841:U:C6	2.56	0.41
50:3:1866:G:H1	50:3:1891:A:H62	1.67	0.41
50:3:1890:U:O2'	50:3:1891:A:O5'	2.38	0.41
50:3:2154:A:C4	50:3:2155:G:C8	3.08	0.41
50:3:2423:G:H2'	50:3:2424:C:C6	2.54	0.41
52:5:536:U:C2	52:5:537:A:N7	2.88	0.41
52:5:668:U:H2'	52:5:669:U:H6	1.85	0.41
52:5:1098:C:C2	52:5:1099:G:C8	3.08	0.41
52:5:1299:C:H2'	52:5:1300:C:H6	1.84	0.41
52:5:1358:U:H2'	52:5:1359:C:C6	2.55	0.41
52:5:1385:A:H2'	52:5:1386:C:C6	2.55	0.41
52:5:1456:U:H2'	52:5:1457:G:C8	2.54	0.41
52:5:1496:G:H2'	52:5:1497:U:H6	1.85	0.41
4:A:76:ALA:HB3	4:A:239:ALA:HB3	2.02	0.41
5:B:178:LEU:H	52:5:1099:G:P	2.39	0.41
8:E:8:LEU:O	8:E:83:LEU:N	2.39	0.41
10:G:65:LYS:HA	10:G:68:ARG:HH22	1.86	0.41
10:G:96:ARG:NH1	52:5:585:G:H5'	2.35	0.41
11:H:12:ARG:HG3	11:H:83:LEU:CD1	2.50	0.41
15:L:101:ARG:NH2	52:5:946:G:N7	2.67	0.41
20:Q:41:CYS:HB2	20:Q:78:ASN:HA	2.02	0.41
22:S:10:ARG:NH2	52:5:92:G:O6	2.54	0.41
23:T:15:LEU:HG	23:T:19:LYS:HZ3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:15:HIS:CE1	50:3:764:G:H5'	2.55	0.41
24:a:141:ILE:HG22	24:a:142:PRO:O	2.20	0.41
27:d:131:GLY:HA2	27:d:152:PHE:O	2.20	0.41
32:i:7:LEU:HB2	50:3:1031:U:H3	1.84	0.41
35:l:86:GLY:N	50:3:2284:G:OP2	2.53	0.41
40:q:24:LYS:HA	40:q:90:THR:HG23	2.02	0.41
41:r:35:ILE:O	41:r:39:THR:HG23	2.20	0.41
43:t:31:ARG:NE	43:t:33:GLN:HG3	2.35	0.41
50:3:79:U:C2	50:3:111:G:C2	3.08	0.41
50:3:163:A:H2'	50:3:163:A:N3	2.34	0.41
50:3:331:A:H2'	50:3:332:G:O4'	2.19	0.41
50:3:634:C:H2'	50:3:635:G:C8	2.55	0.41
50:3:810:G:C4	50:3:829:A:N7	2.88	0.41
50:3:856:A:H2'	50:3:982:G:C8	2.54	0.41
50:3:1046:A:O2'	50:3:1187:C:O2	2.35	0.41
50:3:1324:A:H2'	50:3:1325:C:C2	2.55	0.41
50:3:2147:G:N2	50:3:2148:U:O4	2.53	0.41
50:3:2189:U:C2	50:3:2190:G:C8	3.08	0.41
50:3:2269:C:H1'	50:3:2396:A:H1'	2.02	0.41
50:3:2353:G:C5	50:3:2355:C:C5	3.08	0.41
50:3:2433:A:H4'	50:3:2434:A:H5''	2.01	0.41
50:3:2460:C:H2'	50:3:2461:A:H8	1.85	0.41
50:3:2495:A:H2'	50:3:2496:G:C8	2.55	0.41
50:3:2717:G:H2'	50:3:2718:C:C6	2.54	0.41
50:3:2838:G:H1'	50:3:2887:A:N6	2.35	0.41
50:3:2843:G:H2'	50:3:2844:U:C6	2.55	0.41
52:5:83:U:H2'	52:5:84:U:H6	1.85	0.41
52:5:90:G:H2'	52:5:91:C:C6	2.55	0.41
52:5:103:U:O5'	52:5:284:A:N6	2.52	0.41
52:5:206:G:N2	52:5:208:A:H3'	2.34	0.41
52:5:275:A:H1'	52:5:277:G:C6	2.55	0.41
52:5:590:G:C6	52:5:645:A:C6	3.08	0.41
52:5:599:G:O6	52:5:634:U:O4	2.38	0.41
52:5:612:G:O6	52:5:624:U:O4	2.38	0.41
52:5:1295:U:H5''	52:5:1296:C:OP2	2.20	0.41
52:5:1396:U:H1'	52:5:1455:G:H1	1.85	0.41
4:A:51:HIS:C	4:A:53:ASN:H	2.28	0.41
5:B:11:ARG:HG3	5:B:16:LYS:HD2	2.01	0.41
8:E:36:GLN:HB3	8:E:61:LYS:HB3	2.01	0.41
9:F:25:ILE:HG12	9:F:100:LEU:HD23	2.02	0.41
12:I:93:LEU:O	12:I:96:ILE:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:113:GLY:HA3	52:5:712:A:C2	2.55	0.41
24:a:236:ASN:C	24:a:238:HIS:H	2.28	0.41
32:i:47:PHE:O	39:p:63:ARG:NH1	2.51	0.41
35:l:18:GLU:O	35:l:98:LYS:NZ	2.52	0.41
40:q:3:ALA:O	40:q:13:LEU:HD12	2.21	0.41
41:r:72:PHE:HB3	41:r:106:LYS:HB2	2.02	0.41
43:t:10:VAL:HG11	43:t:74:LEU:HD13	2.02	0.41
50:3:187:C:H1'	50:3:468:A:C2	2.55	0.41
50:3:237:A:C2	50:3:238:U:H1'	2.56	0.41
50:3:515:A:H1'	50:3:517:G:H5''	2.03	0.41
50:3:580:U:C5	50:3:1249:A:H2'	2.55	0.41
50:3:583:U:H5'	50:3:584:G:H5'	2.02	0.41
50:3:601:U:H2'	50:3:603:G:N7	2.35	0.41
50:3:695:G:C6	50:3:696:U:C4	3.07	0.41
50:3:718:U:H2'	50:3:719:G:C8	2.55	0.41
50:3:818:A:C6	50:3:820:U:H1'	2.55	0.41
50:3:1150:U:O2'	50:3:1151:U:H5'	2.21	0.41
50:3:1318:U:H2'	50:3:1319:C:C5	2.56	0.41
50:3:1491:G:H21	50:3:1578:A:H1'	1.84	0.41
50:3:1504:G:C4	50:3:1505:G:C8	3.09	0.41
50:3:1814:G:N2	50:3:1816:A:H3'	2.35	0.41
50:3:1848:U:O2'	50:3:1849:G:H5'	2.21	0.41
50:3:1938:U:C2	50:3:1939:A:C8	3.08	0.41
50:3:2121:A:H3'	50:3:2122:G:H8	1.85	0.41
50:3:2262:C:H2'	50:3:2263:G:H8	1.84	0.41
50:3:2588:U:H3'	50:3:2589:G:C2	2.54	0.41
52:5:84:U:H2'	52:5:85:U:O4'	2.21	0.41
52:5:357:G:H3'	52:5:358:G:C8	2.56	0.41
52:5:953:A:H2'	52:5:954:A:C8	2.55	0.41
52:5:1051:U:H2'	52:5:1052:G:C8	2.55	0.41
52:5:1221:A:H2'	52:5:1222:U:O4'	2.20	0.41
52:5:1295:U:O5'	52:5:1296:C:H5''	2.20	0.41
52:5:1374:C:H4'	52:5:1375:C:H2'	2.03	0.41
52:5:1391:A:H2'	52:5:1392:A:O4'	2.20	0.41
2:1:7:ALA:O	2:1:11:PHE:N	2.46	0.41
5:B:7:SER:HA	5:B:10:LEU:HG	2.02	0.41
6:C:81:GLN:OE1	6:C:88:ASN:ND2	2.52	0.41
8:E:153:LYS:N	10:G:56:ASN:HD21	2.13	0.41
9:F:71:ARG:HH11	9:F:95:LYS:HE2	1.84	0.41
10:G:23:ASN:C	10:G:23:ASN:HD22	2.28	0.41
12:I:48:LEU:HD21	12:I:79:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:65:ASP:O	21:R:66:MET:HE2	2.20	0.41
24:a:72:LYS:HD3	24:a:75:HIS:NE2	2.36	0.41
24:a:134:PHE:O	24:a:200:VAL:HG22	2.20	0.41
25:b:6:ILE:HG13	25:b:34:ASN:OD1	2.19	0.41
27:d:74:ILE:HG22	27:d:77:TYR:H	1.85	0.41
34:k:13:ARG:HH22	50:3:1275:C:C5'	2.33	0.41
34:k:43:LYS:HG2	34:k:44:SER:N	2.35	0.41
34:k:91:ASP:HA	34:k:124:LEU:HD22	2.03	0.41
39:p:95:SER:O	39:p:105:PHE:CZ	2.73	0.41
50:3:55:A:H2'	50:3:56:G:O4'	2.20	0.41
50:3:509:G:C6	50:3:510:G:C6	3.08	0.41
50:3:818:A:H1'	50:3:1786:U:H1'	2.02	0.41
50:3:838:U:H2'	50:3:839:A:O4'	2.19	0.41
50:3:854:A:OP2	50:3:1218:G:N2	2.53	0.41
50:3:897:A:H2'	50:3:898:A:O4'	2.19	0.41
50:3:1042:C:C2	50:3:1173:G:N2	2.88	0.41
50:3:1555:G:H2'	50:3:1556:U:H6	1.86	0.41
50:3:1873:A:C6	50:3:1883:A:C8	3.08	0.41
50:3:2227:U:H2'	50:3:2228:U:H6	1.86	0.41
50:3:2228:U:H2'	50:3:2229:C:H6	1.83	0.41
50:3:2306:A:N6	50:3:2326:G:O2'	2.53	0.41
50:3:2633:C:H2'	50:3:2634:C:C6	2.55	0.41
50:3:2709:C:P	50:3:2710:G:H5''	2.60	0.41
51:4:42:G:H5'	51:4:43:A:N7	2.35	0.41
52:5:76:G:O2'	52:5:79:A:N6	2.53	0.41
52:5:295:G:H2'	52:5:296:A:N3	2.35	0.41
52:5:716:C:H2'	52:5:717:C:O4'	2.20	0.41
52:5:791:A:H2'	52:5:792:C:O4'	2.20	0.41
52:5:812:A:N6	52:5:1484:C:H1'	2.36	0.41
52:5:901:A:H2'	52:5:902:A:O4'	2.20	0.41
52:5:1004:U:H2'	52:5:1005:U:C6	2.56	0.41
52:5:1400:A:N6	52:5:1450:C:N3	2.69	0.41
52:5:1408:A:N6	52:5:1442:A:O2'	2.52	0.41
7:D:159:GLY:C	7:D:177:ASP:HA	2.45	0.41
9:F:37:LEU:HG	52:5:1215:U:O4'	2.21	0.41
9:F:78:ARG:HD3	9:F:80:ALA:O	2.20	0.41
10:G:84:ILE:HG22	10:G:86:GLY:H	1.84	0.41
11:H:106:THR:HG22	11:H:107:THR:N	2.28	0.41
15:L:100:GLN:H	15:L:100:GLN:HG2	1.66	0.41
15:L:103:ARG:NH1	52:5:1198:C:H5''	2.35	0.41
18:O:71:GLY:O	18:O:75:LYS:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:73:ARG:HH12	24:a:198:ALA:C	2.29	0.41
25:b:63:ASN:HB2	25:b:66:GLN:OE1	2.19	0.41
27:d:125:ARG:HA	27:d:161:ASN:OD1	2.20	0.41
28:e:100:ASN:HA	28:e:128:VAL:HG21	2.02	0.41
32:i:120:ARG:NH1	50:3:2787:U:O2'	2.53	0.41
34:k:73:LEU:HD21	50:3:248:A:H5'	2.03	0.41
38:o:91:LYS:O	38:o:92:ARG:CG	2.68	0.41
39:p:32:LYS:HB3	50:3:1282:G:C2	2.56	0.41
50:3:266:A:C2	50:3:466:A:H1'	2.56	0.41
50:3:290:A:H2'	50:3:291:G:O4'	2.21	0.41
50:3:306:G:H2'	50:3:307:C:H6	1.85	0.41
50:3:314:G:H2'	50:3:316:C:C5	2.55	0.41
50:3:324:C:H2'	50:3:325:G:C8	2.55	0.41
50:3:856:A:H5''	50:3:857:U:C5'	2.51	0.41
50:3:881:A:N3	50:3:882:C:H5	2.18	0.41
50:3:883:A:H3'	50:3:884:A:H8	1.85	0.41
50:3:1404:C:H2'	50:3:1405:G:O4'	2.21	0.41
50:3:1473:C:H2'	50:3:1474:C:H6	1.85	0.41
50:3:1578:A:N6	50:3:1579:G:C2	2.88	0.41
50:3:1629:U:H2'	50:3:1630:A:C8	2.55	0.41
50:3:1868:A:H2'	50:3:1869:G:C8	2.56	0.41
50:3:1933:U:H2'	50:3:1935:A:OP2	2.20	0.41
50:3:1943:A:H8	50:3:1950:U:H3	1.68	0.41
50:3:2538:A:O2'	50:3:2542:A:N6	2.39	0.41
50:3:2676:G:H2'	50:3:2677:A:H8	1.85	0.41
52:5:167:A:N3	52:5:167:A:H2'	2.35	0.41
52:5:444:G:H2'	52:5:483:U:O4	2.21	0.41
52:5:577:G:H2'	52:5:578:C:C6	2.56	0.41
52:5:714:C:H2'	52:5:731:A:C8	2.54	0.41
52:5:941:A:N3	52:5:941:A:H2'	2.35	0.41
52:5:1034:G:H2'	52:5:1035:A:C8	2.55	0.41
52:5:1406:U:H2'	52:5:1407:A:C8	2.55	0.41
3:2:19:ARG:HB3	3:2:24:ARG:HH22	1.85	0.41
4:A:100:ALA:HB1	4:A:107:PHE:CE1	2.56	0.41
6:C:10:ARG:O	6:C:14:LEU:HG	2.20	0.41
9:F:26:ILE:HD13	9:F:39:GLN:NE2	2.33	0.41
12:I:30:LYS:O	12:I:34:VAL:HG22	2.20	0.41
14:K:24:LEU:HD22	14:K:43:LYS:HB2	2.03	0.41
23:T:15:LEU:HG	23:T:19:LYS:NZ	2.35	0.41
24:a:35:LYS:NZ	50:3:1455:A:N3	2.61	0.41
25:b:181:ILE:HD13	25:b:181:ILE:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:174:ASN:HA	50:3:357:A:H2'	2.03	0.41
34:k:94:ASN:O	34:k:97:SER:OG	2.33	0.41
34:k:95:ARG:HE	34:k:112:ILE:HD11	1.84	0.41
36:m:49:ILE:O	36:m:53:LYS:HG3	2.21	0.41
43:t:45:HIS:CD2	50:3:534:U:H1'	2.55	0.41
44:u:83:TYR:HA	44:u:94:ARG:O	2.20	0.41
50:3:66:A:H2'	50:3:67:C:H6	1.86	0.41
50:3:69:U:C2	50:3:70:G:C8	3.08	0.41
50:3:184:A:H4'	50:3:471:A:H1'	2.03	0.41
50:3:893:A:C6	50:3:894:G:C6	3.09	0.41
50:3:1292:A:H61	50:3:2024:C:H42	1.69	0.41
50:3:1481:U:H1'	50:3:1482:U:H3'	2.02	0.41
50:3:1555:G:H2'	50:3:1556:U:C6	2.56	0.41
50:3:1699:A:H2'	50:3:1700:G:C8	2.55	0.41
50:3:1702:A:O2'	50:3:1704:C:N4	2.53	0.41
50:3:1801:U:H1'	50:3:1907:A:C2	2.55	0.41
50:3:2064:G:OP2	50:3:2066:A:N6	2.54	0.41
50:3:2271:C:H2'	50:3:2272:C:C6	2.56	0.41
50:3:2378:G:H2'	50:3:2379:G:C8	2.55	0.41
50:3:2582:G:H2'	50:3:2583:U:C6	2.56	0.41
50:3:2680:C:H2'	50:3:2681:G:H4'	2.02	0.41
50:3:2764:U:C4	50:3:2767:G:O6	2.74	0.41
51:4:67:G:H2'	51:4:68:C:C6	2.56	0.41
51:4:90:G:C2	51:4:91:A:H1'	2.55	0.41
52:5:75:A:H2'	52:5:76:G:O4'	2.21	0.41
52:5:174:U:H2'	52:5:175:U:H6	1.86	0.41
52:5:311:A:H4'	52:5:313:U:OP2	2.20	0.41
52:5:370:A:H4'	52:5:448:A:P	2.61	0.41
52:5:491:U:H3'	52:5:492:G:C8	2.55	0.41
52:5:547:C:H2'	52:5:548:G:C8	2.56	0.41
52:5:571:A:N3	52:5:877:C:O2'	2.42	0.41
52:5:615:G:C6	52:5:622:A:N1	2.88	0.41
52:5:719:G:O2'	52:5:721:G:O4'	2.26	0.41
52:5:770:G:O6	52:5:804:A:N6	2.52	0.41
52:5:843:C:H2'	52:5:844:U:C6	2.55	0.41
52:5:1117:U:H6	52:5:1255:A:H2'	1.86	0.41
52:5:1126:U:H5	52:5:1127:A:C4	2.39	0.41
52:5:1140:A:O2'	52:5:1141:U:H5'	2.20	0.41
52:5:1387:U:H2'	52:5:1388:A:C8	2.56	0.41
10:G:109:ASN:HB3	10:G:111:LEU:HD23	2.02	0.41
10:G:118:THR:HB	10:G:133:ILE:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:O:27:ILE:HG13	18:O:28:ALA:N	2.35	0.41
24:a:27:THR:CG2	24:a:28:THR:H	2.26	0.41
24:a:92:ARG:NH1	50:3:1824:G:OP1	2.36	0.41
24:a:137:PRO:HD3	24:a:197:ARG:HH11	1.85	0.41
28:e:46:PHE:CD1	28:e:55:ILE:HG22	2.55	0.41
29:f:56:GLU:O	29:f:60:ILE:HG12	2.19	0.41
29:f:102:HIS:HB3	50:3:166:A:C8	2.56	0.41
36:m:102:LYS:HE2	50:3:2820:G:O3'	2.21	0.41
43:t:14:THR:HG21	50:3:366:A:N6	2.36	0.41
50:3:212:G:H2'	50:3:213:C:C6	2.55	0.41
50:3:303:C:H2'	50:3:304:U:C6	2.56	0.41
50:3:608:A:H5'	50:3:2062:C:H41	1.84	0.41
50:3:674:G:C6	50:3:687:G:C2	3.08	0.41
50:3:683:G:H2'	50:3:684:A:C8	2.55	0.41
50:3:740:A:N7	50:3:760:G:C2	2.89	0.41
50:3:808:U:O2'	50:3:813:G:H4'	2.20	0.41
50:3:1228:G:H2'	50:3:1229:U:C6	2.56	0.41
50:3:1776:G:C2	50:3:1777:G:N7	2.89	0.41
50:3:1956:G:C4	50:3:1957:G:C8	3.09	0.41
50:3:2140:G:H2'	50:3:2164:G:H22	1.86	0.41
50:3:2381:G:H2'	50:3:2382:A:C8	2.56	0.41
50:3:2434:A:O2'	50:3:2437:G:H4'	2.21	0.41
50:3:2561:G:C2	53:6:76:C:C2	3.09	0.41
52:5:226:G:H2'	52:5:227:A:C8	2.56	0.41
52:5:320:G:N2	52:5:323:A:OP2	2.51	0.41
52:5:365:U:H2'	52:5:366:C:C6	2.56	0.41
52:5:754:U:O2'	52:5:873:U:H1'	2.21	0.41
52:5:1392:A:C5	52:5:1457:G:C6	3.09	0.41
52:5:1435:G:C2'	52:5:1436:C:H5'	2.51	0.41
53:6:17:U:H2'	53:6:19:G:H5'	2.03	0.41
11:H:76:GLY:N	52:5:1347:U:OP1	2.54	0.41
22:S:28:LEU:HD22	22:S:54:LEU:HD12	2.02	0.41
24:a:77:ASP:HB3	24:a:78:ASN:HD22	1.86	0.41
25:b:48:SER:HB2	25:b:88:THR:OG1	2.21	0.41
26:c:147:LEU:O	26:c:151:LYS:N	2.53	0.41
27:d:104:ILE:HG13	27:d:105:TYR:CD1	2.56	0.41
28:e:159:PRO:HA	28:e:173:VAL:O	2.20	0.41
29:f:48:ASP:OD1	29:f:49:LEU:N	2.53	0.41
29:f:78:HIS:HD2	29:f:141:LYS:HG3	1.85	0.41
29:f:94:THR:O	29:f:98:ILE:HG12	2.21	0.41
35:l:46:ALA:O	35:l:49:SER:OG	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:26:LEU:HD11	36:m:78:LEU:HD22	2.02	0.41
45:v:47:ARG:NH1	50:3:2209:U:OP2	2.54	0.41
45:v:55:LEU:HG	45:v:59:LYS:NZ	2.36	0.41
50:3:210:U:H2'	50:3:211:A:C8	2.56	0.41
50:3:266:A:H2'	50:3:267:A:O4'	2.20	0.41
50:3:415:U:H2'	50:3:416:C:H6	1.86	0.41
50:3:445:C:H2'	50:3:446:A:C8	2.55	0.41
50:3:799:A:N7	50:3:1783:G:H1'	2.36	0.41
50:3:1026:A:H3'	50:3:1026:A:OP2	2.21	0.41
50:3:1760:G:H21	50:3:1762:A:H8	1.69	0.41
50:3:1806:G:N2	50:3:1826:A:OP2	2.52	0.41
50:3:1811:A:O2'	50:3:1812:C:H5'	2.20	0.41
50:3:1959:A:H61	50:3:2568:G:N2	2.17	0.41
50:3:2299:U:H4'	50:3:2388:C:O2	2.21	0.41
50:3:2381:G:O2'	50:3:2382:A:H5'	2.20	0.41
50:3:2594:C:H2'	50:3:2595:A:C4	2.55	0.41
50:3:2794:U:H2'	50:3:2795:C:C6	2.56	0.41
51:4:71:A:C8	51:4:94:A:C6	3.08	0.41
52:5:22:G:H2'	52:5:23:G:H8	1.83	0.41
52:5:80:U:H2'	52:5:81:A:H8	1.84	0.41
52:5:415:C:H2'	52:5:416:U:O4'	2.21	0.41
52:5:452:A:N6	52:5:475:U:O4	2.53	0.41
52:5:458:G:H2'	52:5:459:C:C6	2.56	0.41
52:5:614:U:H2'	52:5:615:G:H8	1.84	0.41
52:5:686:C:C2'	52:5:687:G:H5'	2.50	0.41
52:5:737:U:H2'	52:5:738:A:H8	1.86	0.41
52:5:742:C:H4'	52:5:833:G:N2	2.35	0.41
52:5:1164:U:H5''	52:5:1165:G:OP2	2.21	0.41
52:5:1370:C:H5'	52:5:1376:G:H21	1.86	0.41
52:5:1446:A:H2'	52:5:1447:U:C6	2.55	0.41
2:1:32:HIS:NE2	50:3:2399:G:OP2	2.53	0.41
4:A:35:ARG:HB3	52:5:827:C:O3'	2.20	0.41
5:B:11:ARG:HD2	5:B:16:LYS:HE3	2.03	0.41
5:B:24:ALA:HB2	5:B:33:TRP:CZ3	2.56	0.41
5:B:57:GLU:HB2	5:B:68:PHE:HB2	2.03	0.41
6:C:38:HIS:CD2	52:5:510:U:H1'	2.56	0.41
6:C:202:ARG:NH1	52:5:28:G:H5''	2.35	0.41
9:F:45:ALA:HB2	9:F:119:ILE:HG23	2.03	0.41
9:F:53:THR:HB	9:F:124:ILE:HG21	2.03	0.41
14:K:44:ARG:HG2	52:5:359:A:OP2	2.21	0.41
19:P:41:ARG:HH22	52:5:277:G:P	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:113:ASP:CG	24:a:204:SER:HA	2.46	0.41
24:a:120:LYS:HE3	24:a:120:LYS:HB3	1.95	0.41
24:a:147:VAL:HG11	24:a:170:ILE:HD11	2.03	0.41
25:b:159:VAL:HG23	50:3:2059:G:C4	2.56	0.41
25:b:178:ASN:HD22	50:3:2739:C:H5'	1.86	0.41
26:c:5:LYS:HB3	26:c:5:LYS:HE2	1.89	0.41
27:d:36:ILE:HG21	27:d:57:LEU:HD13	2.03	0.41
27:d:70:ALA:HB1	50:3:2320:U:OP1	2.20	0.41
27:d:125:ARG:NH2	50:3:2323:U:O2	2.53	0.41
28:e:22:LYS:HA	28:e:22:LYS:HD2	1.88	0.41
28:e:30:PRO:HG2	28:e:83:THR:O	2.20	0.41
28:e:62:LYS:O	28:e:66:ILE:HG13	2.21	0.41
29:f:95:LYS:HD3	29:f:95:LYS:HA	1.83	0.41
44:u:58:ARG:HG3	50:3:2339:G:H5'	2.03	0.41
45:v:37:LYS:NZ	45:v:45:THR:O	2.36	0.41
48:y:28:SER:HB3	48:y:39:PHE:HA	2.02	0.41
50:3:119:A:H1'	50:3:181:G:C1'	2.51	0.41
50:3:181:G:H2'	50:3:182:C:C6	2.54	0.41
50:3:272:C:H2'	50:3:273:C:H6	1.86	0.41
50:3:344:A:H1'	50:3:346:G:N7	2.36	0.41
50:3:450:C:H1'	50:3:1871:U:H1'	2.03	0.41
50:3:483:A:H8	50:3:483:A:OP2	2.04	0.41
50:3:573:A:N6	50:3:588:G:H1'	2.35	0.41
50:3:772:C:H2'	50:3:773:G:C8	2.56	0.41
50:3:852:C:H42	50:3:1221:G:H1	1.68	0.41
50:3:865:A:H5'	50:3:981:A:H5'	2.03	0.41
50:3:962:U:O2'	50:3:963:U:O4'	2.31	0.41
50:3:1185:U:H3'	50:3:1186:A:H5''	2.02	0.41
50:3:1217:G:H2'	50:3:1218:G:O4'	2.21	0.41
50:3:1487:U:H2'	50:3:1488:U:C6	2.56	0.41
50:3:1613:A:H3'	50:3:1614:G:H8	1.85	0.41
50:3:1736:G:H2'	50:3:1737:G:O4'	2.21	0.41
50:3:1778:G:H2'	50:3:1779:G:O4'	2.21	0.41
50:3:1818:G:H2'	50:3:1819:G:C8	2.56	0.41
50:3:2000:U:C2	50:3:2001:C:C5	3.09	0.41
50:3:2407:G:C6	50:3:2426:A:N1	2.89	0.41
50:3:2517:A:H2'	50:3:2518:C:O4'	2.21	0.41
50:3:2647:A:H2'	50:3:2648:A:O4'	2.21	0.41
50:3:2728:U:H5'	50:3:2850:G:H4'	2.02	0.41
51:4:3:U:H3	51:4:105:A:N6	2.12	0.41
51:4:28:C:H3'	51:4:29:C:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:13:U:H4'	52:5:524:C:H4'	2.03	0.41
52:5:19:C:H2'	52:5:20:C:H6	1.84	0.41
52:5:110:U:O2'	52:5:111:A:H5'	2.20	0.41
52:5:168:A:H2'	52:5:169:G:O4'	2.21	0.41
52:5:170:A:C4	52:5:171:A:C8	3.09	0.41
52:5:351:C:H1'	52:5:384:G:H1'	2.01	0.41
52:5:400:G:N3	52:5:400:G:H2'	2.35	0.41
52:5:687:G:H2'	52:5:688:G:C5	2.55	0.41
52:5:1042:G:H2'	52:5:1043:U:O4'	2.21	0.41
52:5:1239:U:H2'	52:5:1240:U:H6	1.85	0.41
52:5:1328:C:H2'	52:5:1329:G:C8	2.55	0.41
52:5:1329:G:O2'	52:5:1330:A:H5'	2.21	0.41
52:5:1334:A:H2'	52:5:1334:A:N3	2.36	0.41
52:5:1394:G:C6	52:5:1457:G:C2	3.09	0.41
5:B:132:PRO:HB2	5:B:135:THR:HG23	2.03	0.41
6:C:8:PHE:HB2	52:5:426:U:OP1	2.21	0.41
6:C:139:GLY:HA2	6:C:178:TYR:O	2.20	0.41
9:F:101:ARG:NH1	52:5:934:G:H4'	2.36	0.41
11:H:42:PRO:O	11:H:47:ILE:HB	2.21	0.41
11:H:87:ARG:O	11:H:91:GLN:HG2	2.20	0.41
13:J:114:CYS:HA	52:5:774:A:H2	1.86	0.41
14:K:57:LYS:HG3	52:5:1467:A:O3'	2.21	0.41
23:T:40:MET:HE1	52:5:1503:U:O4	2.20	0.41
24:a:23:LYS:HE3	50:3:1598:U:OP1	2.20	0.41
26:c:140:THR:CB	26:c:143:MET:HE2	2.51	0.41
28:e:9:ILE:HG22	28:e:10:THR:N	2.36	0.41
33:j:71:ARG:HG2	33:j:73:ASP:H	1.86	0.41
35:l:29:PHE:HB2	35:l:105:GLU:OE2	2.21	0.41
35:l:55:SER:O	35:l:59:GLY:N	2.48	0.41
35:l:64:MET:SD	35:l:106:VAL:HG12	2.60	0.41
37:n:19:ILE:O	37:n:23:ASN:HB2	2.21	0.41
38:o:56:ARG:NH2	50:3:2691:C:H5''	2.36	0.41
43:t:90:LYS:HE3	43:t:105:LYS:HG2	2.02	0.41
43:t:90:LYS:HZ3	50:3:332:G:H5''	1.86	0.41
50:3:21:U:H2'	50:3:22:U:C6	2.56	0.41
50:3:475:A:H2'	50:3:476:G:O4'	2.20	0.41
50:3:487:C:H2'	50:3:489:A:N7	2.36	0.41
50:3:527:A:C8	50:3:528:U:C6	3.09	0.41
50:3:586:G:H2'	50:3:587:U:H6	1.86	0.41
50:3:635:G:H1'	50:3:638:A:O2'	2.20	0.41
50:3:916:U:H2'	50:3:917:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1124:G:N2	50:3:1125:U:O4	2.53	0.41
50:3:1572:U:H2'	50:3:1573:A:H8	1.86	0.41
50:3:1853:G:H2'	50:3:1854:A:C8	2.55	0.41
50:3:2522:U:H2'	50:3:2523:C:H6	1.86	0.41
50:3:2681:G:C2	50:3:2682:A:C5	3.09	0.41
50:3:2796:C:O2'	50:3:2813:A:O2'	2.31	0.41
50:3:2880:A:C6	50:3:2881:A:N6	2.89	0.41
52:5:42:G:C6	52:5:398:G:C6	3.09	0.41
52:5:109:G:H2'	52:5:110:U:H6	1.84	0.41
52:5:526:C:H4'	52:5:533:A:C2	2.56	0.41
52:5:573:G:C5	52:5:818:A:C8	3.09	0.41
52:5:855:G:H2'	52:5:856:U:C6	2.56	0.41
52:5:924:A:H2'	52:5:925:C:O4'	2.21	0.41
52:5:1237:G:H2'	52:5:1238:C:C6	2.56	0.41
52:5:1435:G:O2'	52:5:1436:C:H5'	2.21	0.41
53:7:33:C:H2'	53:7:34:U:C5	2.56	0.41
11:H:68:VAL:HG21	52:5:1120:A:OP1	2.21	0.40
12:I:94:LYS:HA	12:I:94:LYS:HD2	1.77	0.40
16:M:31:ARG:HG2	52:5:971:A:H5'	2.04	0.40
18:O:19:ARG:NH2	52:5:226:G:O4'	2.55	0.40
21:R:19:VAL:HG22	21:R:47:ASN:HD21	1.87	0.40
22:S:56:ARG:NH1	52:5:218:U:O3'	2.54	0.40
24:a:56:ARG:HE	50:3:1831:G:P	2.44	0.40
24:a:153:HIS:ND1	24:a:156:GLY:HA3	2.36	0.40
24:a:213:ILE:HG12	24:a:222:ARG:NE	2.36	0.40
25:b:180:ARG:HH12	50:3:2737:G:HO2'	1.61	0.40
26:c:182:HIS:HD1	26:c:184:ASP:CG	2.28	0.40
33:j:30:LYS:O	33:j:31:ARG:HG2	2.21	0.40
36:m:3:TYR:HD1	36:m:4:ILE:HG12	1.87	0.40
42:s:3:VAL:HG13	42:s:5:ASN:H	1.85	0.40
45:v:31:VAL:HG12	50:3:432:G:H5''	2.03	0.40
50:3:344:A:H4'	50:3:345:A:C8	2.56	0.40
50:3:385:U:H2'	50:3:386:U:C6	2.56	0.40
50:3:564:A:H5''	50:3:2049:A:H61	1.85	0.40
50:3:645:C:N4	50:3:646:A:H62	2.19	0.40
50:3:700:U:H2'	50:3:701:A:C8	2.56	0.40
50:3:916:U:H2'	50:3:917:G:C8	2.56	0.40
50:3:919:C:H2'	50:3:920:G:H8	1.86	0.40
50:3:993:A:N6	50:3:995:A:N3	2.69	0.40
50:3:1118:U:O3'	50:3:1119:A:H8	2.04	0.40
50:3:1340:U:O2	50:3:1367:G:N1	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1473:C:C2	50:3:1474:C:C5	3.10	0.40
50:3:1497:A:H2'	50:3:1498:U:H6	1.86	0.40
50:3:1553:G:O2'	50:3:1578:A:N1	2.46	0.40
50:3:1702:A:O2'	50:3:1703:A:OP2	2.31	0.40
50:3:1742:C:H2'	50:3:1743:U:H6	1.86	0.40
50:3:1897:A:H3'	50:3:1898:G:H8	1.85	0.40
50:3:2500:U:H2'	50:3:2501:U:C6	2.55	0.40
50:3:2559:C:N4	50:3:2560:U:O4	2.54	0.40
52:5:225:U:H2'	52:5:226:G:H8	1.86	0.40
52:5:355:A:H2'	52:5:356:G:H8	1.86	0.40
52:5:739:G:H2'	52:5:740:G:O4'	2.21	0.40
52:5:741:C:H2'	52:5:742:C:C6	2.56	0.40
52:5:950:C:H2'	52:5:951:U:C6	2.56	0.40
52:5:1214:A:H1'	52:5:1216:G:N3	2.36	0.40
52:5:1316:C:H2'	52:5:1317:A:C5	2.55	0.40
53:7:17:U:H2'	53:7:19:G:H5'	2.03	0.40
3:2:2:LYS:HD2	3:2:2:LYS:O	2.20	0.40
4:A:40:LYS:HZ1	4:A:209:GLU:HG2	1.86	0.40
5:B:146:LYS:HE2	5:B:146:LYS:HB3	1.89	0.40
12:I:52:LYS:HG3	12:I:72:GLU:OE2	2.21	0.40
12:I:70:GLN:O	16:M:58:LYS:HD3	2.22	0.40
13:J:18:CYS:O	13:J:82:THR:N	2.54	0.40
17:N:23:GLN:HA	17:N:26:VAL:HG22	2.03	0.40
20:Q:50:ARG:HA	20:Q:50:ARG:HD2	1.72	0.40
24:a:190:ARG:HG3	24:a:278:ILE:HD13	2.03	0.40
25:b:84:ILE:HG21	25:b:208:ARG:NH1	2.36	0.40
26:c:94:LYS:NZ	50:3:621:U:O2	2.52	0.40
27:d:93:GLY:N	27:d:96:MET:HE3	2.36	0.40
32:i:77:TRP:NE1	50:3:1174:G:OP1	2.53	0.40
34:k:43:LYS:HD3	50:3:706:C:C6	2.56	0.40
35:l:19:GLY:HA2	50:3:898:A:H5''	2.02	0.40
37:n:91:PHE:HB3	37:n:116:PHE:CE2	2.57	0.40
41:r:77:ASN:HB3	50:3:26:G:H1'	2.03	0.40
50:3:483:A:N1	50:3:490:A:O2'	2.51	0.40
50:3:639:G:H1'	50:3:692:U:O2'	2.21	0.40
50:3:764:G:H2'	50:3:1782:U:H1'	2.02	0.40
50:3:782:U:O4	50:3:2021:A:H1'	2.21	0.40
50:3:1082:A:H2'	50:3:1145:G:C2	2.56	0.40
50:3:1227:C:C2	50:3:1228:G:C8	3.09	0.40
50:3:1754:U:H2'	50:3:1755:A:H8	1.85	0.40
50:3:1818:G:H2'	50:3:1819:G:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2137:A:H5''	50:3:2138:U:H5'	2.01	0.40
50:3:2602:C:H2'	50:3:2603:G:O4'	2.21	0.40
50:3:2847:C:C2	50:3:2848:A:C8	3.09	0.40
50:3:2848:A:H2'	50:3:2849:G:C8	2.56	0.40
50:3:2897:G:O2'	50:3:2898:A:O5'	2.38	0.40
52:5:35:C:N4	52:5:36:G:O6	2.55	0.40
52:5:140:U:H2'	52:5:141:A:C8	2.57	0.40
52:5:660:A:H2'	52:5:661:G:C8	2.56	0.40
52:5:742:C:H4'	52:5:833:G:H21	1.86	0.40
52:5:775:G:H2'	52:5:776:C:O4'	2.21	0.40
52:5:972:A:H5'	52:5:976:U:O2	2.21	0.40
52:5:1055:G:H4'	52:5:1056:U:H4'	2.02	0.40
5:B:8:ASN:ND2	16:M:49:TYR:O	2.27	0.40
8:E:131:PRO:O	52:5:837:G:H4'	2.22	0.40
9:F:3:LYS:HG3	52:5:928:G:OP2	2.22	0.40
11:H:21:LEU:HD11	11:H:85:ILE:HG23	2.04	0.40
13:J:113:GLY:HA2	52:5:713:A:H1'	2.02	0.40
15:L:93:LYS:HG3	15:L:95:LEU:HD13	2.03	0.40
18:O:28:ALA:HB3	18:O:52:TRP:CZ2	2.52	0.40
25:b:103:GLN:H	25:b:106:GLU:HB2	1.87	0.40
25:b:151:ARG:NH1	50:3:2514:U:OP2	2.54	0.40
26:c:64:LYS:HE3	26:c:64:LYS:HB3	1.76	0.40
28:e:47:GLU:CG	28:e:54:GLN:HB2	2.49	0.40
28:e:127:LYS:O	28:e:134:ILE:HD12	2.22	0.40
32:i:14:LYS:HD3	32:i:52:ASP:OD2	2.20	0.40
33:j:62:ILE:HD12	33:j:83:ALA:O	2.22	0.40
36:m:32:GLU:HG2	36:m:32:GLU:O	2.22	0.40
37:n:110:ARG:NH2	50:3:2384:A:N3	2.70	0.40
45:v:33:LEU:HB3	45:v:49:LEU:HD12	2.03	0.40
50:3:34:C:H2'	50:3:35:U:H6	1.85	0.40
50:3:122:G:C5	50:3:132:G:C6	3.09	0.40
50:3:650:G:H8	50:3:650:G:OP1	2.04	0.40
50:3:714:G:C2	50:3:834:G:C2	3.09	0.40
50:3:756:A:H2'	50:3:757:A:H8	1.86	0.40
50:3:810:G:C2	50:3:812:G:C6	3.10	0.40
50:3:859:G:H2'	50:3:860:C:H6	1.86	0.40
50:3:868:C:H2'	50:3:869:U:C6	2.56	0.40
50:3:1032:A:N6	50:3:1195:A:C6	2.90	0.40
50:3:1400:U:H2'	50:3:1401:A:H8	1.86	0.40
50:3:1786:U:O2	50:3:1786:U:H2'	2.20	0.40
50:3:1806:G:H22	50:3:1826:A:P	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1913:G:H2'	50:3:1914:G:O4'	2.21	0.40
50:3:2356:U:H2'	50:3:2357:G:C8	2.57	0.40
50:3:2497:U:H4'	50:3:2526:A:H62	1.86	0.40
51:4:55:A:H2'	51:4:56:A:H8	1.86	0.40
52:5:36:G:C6	52:5:548:G:N1	2.90	0.40
52:5:239:A:H4'	52:5:241:C:H5''	2.04	0.40
52:5:469:C:H2'	52:5:470:U:C6	2.56	0.40
52:5:522:G:H2'	52:5:523:U:C6	2.56	0.40
52:5:611:A:H2'	52:5:612:G:C8	2.56	0.40
52:5:689:U:O2	52:5:692:A:H8	2.04	0.40
52:5:777:A:H1'	52:5:800:G:H22	1.86	0.40
52:5:1108:A:C4	52:5:1154:A:H2	2.39	0.40
52:5:1156:G:H1'	52:5:1157:G:C4	2.56	0.40
52:5:1393:A:N6	52:5:1457:G:O2'	2.54	0.40
52:5:1405:U:O2	52:5:1445:G:N2	2.43	0.40
1:0:3:ARG:NH1	50:3:1646:G:H21	2.20	0.40
4:A:37:TRP:HE1	52:5:827:C:H5'	1.87	0.40
6:C:129:VAL:HG11	6:C:134:ILE:CD1	2.51	0.40
7:D:89:SER:HA	7:D:107:LYS:HA	2.02	0.40
7:D:99:GLY:HA2	7:D:131:ILE:HD11	2.03	0.40
11:H:6:TYR:HE1	11:H:92:PHE:CG	2.39	0.40
15:L:15:ILE:HB	15:L:34:LEU:HD12	2.04	0.40
22:S:4:ILE:HB	22:S:7:ASN:ND2	2.36	0.40
22:S:66:ARG:HA	22:S:69:LYS:HG2	2.03	0.40
24:a:61:ARG:HA	24:a:221:HIS:O	2.21	0.40
26:c:73:LYS:HB3	26:c:73:LYS:HE2	1.89	0.40
30:g:17:LEU:O	30:g:21:SER:N	2.33	0.40
32:i:50:ASN:ND2	50:3:590:U:O2	2.55	0.40
32:i:70:ASN:ND2	50:3:1057:G:OP2	2.54	0.40
33:j:22:ILE:HD11	33:j:40:VAL:HG22	2.03	0.40
34:k:77:TRP:CZ3	34:k:111:PRO:HB2	2.57	0.40
35:l:27:VAL:HB	35:l:102:VAL:HG11	2.03	0.40
39:p:13:ARG:HD3	39:p:31:TYR:CD2	2.56	0.40
39:p:64:LEU:HD21	39:p:95:SER:OG	2.22	0.40
40:q:21:PHE:CE1	40:q:91:LYS:HG2	2.57	0.40
48:y:43:CYS:SG	48:y:47:MET:N	2.94	0.40
50:3:252:G:O5'	50:3:253:C:H5''	2.21	0.40
50:3:291:G:C4	50:3:292:G:C8	3.10	0.40
50:3:299:A:O2'	50:3:300:G:O4'	2.32	0.40
50:3:440:C:H1'	50:3:442:G:C4	2.56	0.40
50:3:483:A:H4'	50:3:485:A:N7	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:633:G:N1	50:3:692:U:N3	2.66	0.40
50:3:725:G:H1	50:3:807:U:H3	1.68	0.40
50:3:1062:A:H2'	50:3:1063:A:C8	2.56	0.40
50:3:1063:A:N6	50:3:1160:G:H2'	2.36	0.40
50:3:1115:G:C4	50:3:1116:U:C5	3.10	0.40
50:3:1717:C:H2'	50:3:1718:C:H6	1.85	0.40
50:3:1844:C:O2'	50:3:1934:A:H1'	2.22	0.40
50:3:1937:G:H1'	50:3:1938:U:H5	1.85	0.40
50:3:2085:C:C2	50:3:2086:U:C5	3.09	0.40
50:3:2379:G:H2'	50:3:2380:U:O4'	2.21	0.40
50:3:2529:C:C2	50:3:2553:G:N2	2.89	0.40
50:3:2735:G:O2'	50:3:2736:U:H5'	2.21	0.40
50:3:2832:G:H2'	50:3:2833:A:C8	2.56	0.40
50:3:2843:G:H2'	50:3:2844:U:H6	1.86	0.40
50:3:2844:U:H2'	50:3:2845:U:C6	2.57	0.40
52:5:402:G:H2'	52:5:403:A:H8	1.85	0.40
52:5:497:A:O3'	52:5:498:G:H8	2.03	0.40
52:5:603:U:C4	52:5:630:G:O6	2.74	0.40
52:5:1004:U:H2'	52:5:1005:U:H6	1.87	0.40
52:5:1006:A:C6	52:5:1016:A:C5	3.10	0.40
52:5:1007:U:H2'	52:5:1008:G:N7	2.36	0.40
52:5:1195:G:C4	52:5:1196:G:C8	3.08	0.40
52:5:1430:G:H2'	52:5:1430:G:N3	2.36	0.40
53:7:35:G:C5	53:7:36:A:C8	3.09	0.40
6:C:121:HIS:ND1	6:C:148:THR:OG1	2.55	0.40
9:F:3:LYS:HG3	52:5:928:G:P	2.62	0.40
14:K:127:ARG:HH11	52:5:499:U:P	2.45	0.40
15:L:78:LYS:O	15:L:82:GLU:HG3	2.21	0.40
24:a:26:LEU:HG	24:a:27:THR:H	1.87	0.40
24:a:97:SER:OG	24:a:111:SER:HB3	2.22	0.40
26:c:55:LYS:HD2	50:3:708:C:OP1	2.22	0.40
28:e:30:PRO:HD2	28:e:83:THR:HA	2.03	0.40
33:j:11:ALA:HB2	33:j:83:ALA:HB1	2.04	0.40
41:r:16:LYS:NZ	50:3:2019:G:O6	2.44	0.40
41:r:88:ARG:NE	50:3:782:U:H2'	2.27	0.40
41:r:100:SER:OG	41:r:101:SER:N	2.54	0.40
45:v:51:SER:O	45:v:54:THR:OG1	2.32	0.40
49:z:21:THR:HG23	49:z:22:PHE:O	2.21	0.40
50:3:196:G:H2'	50:3:197:U:H5'	2.04	0.40
50:3:296:U:O2	50:3:300:G:O2'	2.28	0.40
50:3:351:G:H2'	50:3:352:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:452:U:H3	50:3:2415:A:H61	1.70	0.40
50:3:477:U:O2'	50:3:478:G:H5'	2.21	0.40
50:3:561:A:O2'	50:3:2051:G:O4'	2.35	0.40
50:3:662:U:H5''	50:3:663:A:H5''	2.04	0.40
50:3:870:A:H2'	50:3:871:G:O4'	2.21	0.40
50:3:974:C:H2'	50:3:975:G:C8	2.56	0.40
50:3:1029:A:C6	50:3:1197:G:N1	2.89	0.40
50:3:1120:A:H2'	50:3:1121:A:N9	2.37	0.40
50:3:1319:C:C2	50:3:1320:C:C5	3.10	0.40
50:3:1502:A:H3'	50:3:1540:G:N1	2.37	0.40
50:3:1828:A:H2'	50:3:1829:U:C6	2.56	0.40
50:3:1843:C:H2'	50:3:1844:C:C6	2.56	0.40
50:3:2438:A:H3'	50:3:2438:A:N3	2.36	0.40
50:3:2462:G:H2'	50:3:2463:G:C8	2.56	0.40
50:3:2476:A:P	50:3:2484:A:H61	2.45	0.40
50:3:2589:G:H1'	50:3:2591:G:O6	2.21	0.40
50:3:2665:A:N3	50:3:2673:A:C2	2.90	0.40
52:5:204:C:O2'	52:5:465:A:N3	2.49	0.40
52:5:407:A:N3	52:5:409:G:H5'	2.36	0.40
52:5:680:G:O6	52:5:705:A:N6	2.55	0.40
52:5:686:C:C4	52:5:687:G:C6	3.10	0.40
52:5:765:A:H5'	52:5:1499:G:H1'	2.03	0.40
52:5:789:A:H1'	52:5:791:A:N7	2.36	0.40
52:5:1089:C:H2'	52:5:1090:G:H8	1.85	0.40
52:5:1165:G:H3'	52:5:1165:G:OP1	2.20	0.40
52:5:1258:U:H2'	52:5:1259:G:H8	1.85	0.40
53:6:33:C:H2'	53:6:34:U:C5	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/48 (94%)	43 (96%)	2 (4%)	0	100	100
2	1	57/59 (97%)	52 (91%)	5 (9%)	0	100	100
3	2	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
4	A	238/294 (81%)	221 (93%)	17 (7%)	0	100	100
5	B	213/273 (78%)	200 (94%)	13 (6%)	0	100	100
6	C	201/205 (98%)	188 (94%)	13 (6%)	0	100	100
7	D	151/219 (69%)	139 (92%)	12 (8%)	0	100	100
8	E	165/215 (77%)	141 (86%)	24 (14%)	0	100	100
9	F	152/155 (98%)	130 (86%)	22 (14%)	0	100	100
10	G	139/142 (98%)	124 (89%)	14 (10%)	1 (1%)	18	56
11	H	126/132 (96%)	115 (91%)	11 (9%)	0	100	100
12	I	99/108 (92%)	87 (88%)	12 (12%)	0	100	100
13	J	112/121 (93%)	107 (96%)	4 (4%)	1 (1%)	14	51
14	K	134/139 (96%)	116 (87%)	18 (13%)	0	100	100
15	L	116/124 (94%)	109 (94%)	7 (6%)	0	100	100
16	M	58/61 (95%)	57 (98%)	1 (2%)	0	100	100
17	N	81/86 (94%)	80 (99%)	1 (1%)	0	100	100
18	O	78/94 (83%)	75 (96%)	3 (4%)	0	100	100
19	P	81/85 (95%)	72 (89%)	9 (11%)	0	100	100
20	Q	63/104 (61%)	58 (92%)	5 (8%)	0	100	100
21	R	82/87 (94%)	74 (90%)	8 (10%)	0	100	100
22	S	75/87 (86%)	75 (100%)	0	0	100	100
23	T	51/60 (85%)	49 (96%)	2 (4%)	0	100	100
24	a	283/287 (99%)	261 (92%)	22 (8%)	0	100	100
25	b	227/287 (79%)	204 (90%)	23 (10%)	0	100	100
26	c	208/212 (98%)	199 (96%)	9 (4%)	0	100	100
27	d	173/180 (96%)	155 (90%)	18 (10%)	0	100	100
28	e	174/184 (95%)	164 (94%)	10 (6%)	0	100	100
29	f	143/149 (96%)	130 (91%)	13 (9%)	0	100	100
30	g	117/161 (73%)	108 (92%)	8 (7%)	1 (1%)	14	51
31	h	126/137 (92%)	114 (90%)	12 (10%)	0	100	100
32	i	142/146 (97%)	132 (93%)	10 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	j	120/122 (98%)	111 (92%)	9 (8%)	0	100	100
34	k	146/151 (97%)	135 (92%)	11 (8%)	0	100	100
35	l	134/139 (96%)	125 (93%)	9 (7%)	0	100	100
36	m	117/124 (94%)	108 (92%)	9 (8%)	0	100	100
37	n	108/116 (93%)	96 (89%)	12 (11%)	0	100	100
38	o	113/119 (95%)	98 (87%)	15 (13%)	0	100	100
39	p	108/127 (85%)	100 (93%)	7 (6%)	1 (1%)	14	51
40	q	97/100 (97%)	82 (84%)	15 (16%)	0	100	100
41	r	137/159 (86%)	127 (93%)	10 (7%)	0	100	100
42	s	90/237 (38%)	81 (90%)	9 (10%)	0	100	100
43	t	109/111 (98%)	100 (92%)	9 (8%)	0	100	100
44	u	84/104 (81%)	77 (92%)	7 (8%)	0	100	100
45	v	61/65 (94%)	60 (98%)	1 (2%)	0	100	100
46	w	96/111 (86%)	90 (94%)	6 (6%)	0	100	100
47	x	42/97 (43%)	37 (88%)	5 (12%)	0	100	100
48	y	54/57 (95%)	50 (93%)	4 (7%)	0	100	100
49	z	48/53 (91%)	46 (96%)	2 (4%)	0	100	100
All	All	5809/6670 (87%)	5335 (92%)	470 (8%)	4 (0%)	49	83

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
30	g	90	VAL
39	p	102	PRO
10	G	109	ASN
13	J	112	ASN

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	40/41 (98%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
4	A	212/262 (81%)	212 (100%)	0	100	100
5	B	180/232 (78%)	180 (100%)	0	100	100
6	C	181/183 (99%)	181 (100%)	0	100	100
7	D	123/178 (69%)	123 (100%)	0	100	100
8	E	150/196 (76%)	150 (100%)	0	100	100
9	F	131/132 (99%)	131 (100%)	0	100	100
10	G	123/124 (99%)	122 (99%)	1 (1%)	73	80
11	H	111/115 (96%)	111 (100%)	0	100	100
12	I	95/99 (96%)	95 (100%)	0	100	100
13	J	91/97 (94%)	91 (100%)	0	100	100
14	K	117/120 (98%)	114 (97%)	3 (3%)	40	62
15	L	100/105 (95%)	100 (100%)	0	100	100
16	M	47/48 (98%)	47 (100%)	0	100	100
17	N	76/78 (97%)	76 (100%)	0	100	100
18	O	69/82 (84%)	69 (100%)	0	100	100
19	P	73/75 (97%)	73 (100%)	0	100	100
20	Q	56/94 (60%)	56 (100%)	0	100	100
21	R	74/77 (96%)	74 (100%)	0	100	100
22	S	70/77 (91%)	70 (100%)	0	100	100
23	T	49/56 (88%)	49 (100%)	0	100	100
24	a	241/243 (99%)	241 (100%)	0	100	100
25	b	186/233 (80%)	186 (100%)	0	100	100
26	c	182/184 (99%)	182 (100%)	0	100	100
27	d	150/154 (97%)	150 (100%)	0	100	100
28	e	153/159 (96%)	153 (100%)	0	100	100
29	f	123/134 (92%)	123 (100%)	0	100	100
30	g	96/129 (74%)	83 (86%)	13 (14%)	4	14
31	h	102/110 (93%)	102 (100%)	0	100	100
32	i	126/128 (98%)	126 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	j	103/103 (100%)	103 (100%)	0	100	100
34	k	123/126 (98%)	123 (100%)	0	100	100
35	l	113/115 (98%)	113 (100%)	0	100	100
36	m	105/109 (96%)	105 (100%)	0	100	100
37	n	96/99 (97%)	96 (100%)	0	100	100
38	o	101/105 (96%)	101 (100%)	0	100	100
39	p	99/108 (92%)	97 (98%)	2 (2%)	48	66
40	q	90/91 (99%)	90 (100%)	0	100	100
41	r	116/132 (88%)	116 (100%)	0	100	100
42	s	82/208 (39%)	82 (100%)	0	100	100
43	t	96/96 (100%)	96 (100%)	0	100	100
44	u	69/85 (81%)	69 (100%)	0	100	100
45	v	58/60 (97%)	58 (100%)	0	100	100
46	w	87/98 (89%)	87 (100%)	0	100	100
47	x	41/86 (48%)	41 (100%)	0	100	100
48	y	48/49 (98%)	47 (98%)	1 (2%)	47	65
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5087/5751 (88%)	5067 (100%)	20 (0%)	81	84

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
10	G	108	LEU
14	K	118	VAL
14	K	120	VAL
14	K	122	LYS
30	g	26	ILE
30	g	30	THR
30	g	32	MET
30	g	41	ARG
30	g	42	LYS
30	g	44	LEU
30	g	46	LYS
30	g	84	VAL
30	g	86	VAL
30	g	87	ASN

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Mol	Chain	Res	Type
30	g	88	GLU
30	g	89	ILE
30	g	90	VAL
39	p	100	LYS
39	p	102	PRO
48	y	51	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (76) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	32	HIS
3	2	20	HIS
4	A	77	GLN
4	A	79	ASN
4	A	174	ASN
4	A	221	GLN
5	B	86	GLN
6	C	37	GLN
6	C	38	HIS
6	C	55	GLN
6	C	99	ASN
8	E	17	GLN
8	E	36	GLN
9	F	39	GLN
9	F	147	ASN
10	G	56	ASN
11	H	4	GLN
11	H	33	ASN
11	H	52	GLN
12	I	86	ASN
13	J	111	HIS
14	K	32	ASN
15	L	76	ASN
18	O	32	HIS
19	P	25	GLN
19	P	62	GLN
21	R	25	GLN
22	S	7	ASN
22	S	14	ASN
22	S	18	ASN
22	S	20	ASN
23	T	8	ASN

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Mol	Chain	Res	Type
24	a	15	HIS
24	a	148	HIS
24	a	183	GLN
24	a	240	HIS
25	b	82	GLN
25	b	225	GLN
26	c	32	GLN
26	c	83	HIS
27	d	27	GLN
27	d	63	GLN
27	d	127	ASN
28	e	19	ASN
28	e	77	ASN
29	f	61	ASN
32	i	43	ASN
32	i	51	GLN
32	i	79	HIS
32	i	82	GLN
34	k	134	GLN
35	l	108	ASN
36	m	21	GLN
36	m	58	ASN
36	m	59	ASN
37	n	24	HIS
37	n	42	GLN
38	o	46	GLN
39	p	8	GLN
39	p	80	ASN
40	q	15	HIS
41	r	57	ASN
41	r	60	ASN
41	r	62	HIS
41	r	65	ASN
41	r	120	GLN
42	s	19	ASN
42	s	56	ASN
43	t	33	GLN
43	t	40	ASN
44	u	49	GLN
44	u	64	ASN
45	v	17	ASN
45	v	30	ASN

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Mol	Chain	Res	Type
46	w	46	GLN
48	y	40	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	975 (33%)	34 (1%)
51	4	103/108 (95%)	35 (33%)	3 (2%)
52	5	1490/1520 (98%)	440 (29%)	12 (0%)
53	6	75/76 (98%)	32 (42%)	6 (8%)
53	7	75/76 (98%)	33 (44%)	6 (8%)
All	All	4618/4687 (98%)	1515 (32%)	61 (1%)

All (1515) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	12	A
50	3	14	U
50	3	15	A
50	3	16	A
50	3	17	G
50	3	28	G
50	3	29	G
50	3	30	A
50	3	34	C
50	3	36	U
50	3	37	G
50	3	38	G
50	3	42	U
50	3	45	U
50	3	48	G
50	3	51	A
50	3	52	U
50	3	53	G
50	3	57	G
50	3	58	A
50	3	64	U
50	3	66	A
50	3	73	A
50	3	75	A
50	3	76	A

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Mol	Chain	Res	Type
50	3	77	G
50	3	82	G
50	3	86	A
50	3	90	G
50	3	96	A
50	3	98	C
50	3	102	A
50	3	103	G
50	3	115	U
50	3	116	C
50	3	119	A
50	3	120	A
50	3	121	U
50	3	122	G
50	3	127	A
50	3	129	U
50	3	132	G
50	3	136	G
50	3	139	G
50	3	141	A
50	3	146	G
50	3	163	A
50	3	164	A
50	3	165	U
50	3	166	A
50	3	169	U
50	3	173	C
50	3	178	A
50	3	179	A
50	3	180	A
50	3	181	G
50	3	184	A
50	3	185	U
50	3	197	U
50	3	200	A
50	3	203	A
50	3	208	A
50	3	210	U
50	3	211	A
50	3	217	A
50	3	219	G
50	3	220	A

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Mol	Chain	Res	Type
50	3	225	A
50	3	226	A
50	3	227	A
50	3	228	A
50	3	231	A
50	3	232	A
50	3	233	U
50	3	234	G
50	3	236	G
50	3	237	A
50	3	242	G
50	3	245	U
50	3	246	G
50	3	247	U
50	3	252	G
50	3	253	C
50	3	254	G
50	3	256	G
50	3	261	A
50	3	265	G
50	3	269	A
50	3	270	G
50	3	276	A
50	3	283	A
50	3	284	U
50	3	287	G
50	3	291	G
50	3	296	U
50	3	297	G
50	3	298	U
50	3	299	A
50	3	306	G
50	3	309	A
50	3	310	U
50	3	312	U
50	3	314	G
50	3	315	A
50	3	318	U
50	3	319	G
50	3	324	C
50	3	329	G
50	3	331	A

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Mol	Chain	Res	Type
50	3	335	G
50	3	339	U
50	3	345	A
50	3	353	G
50	3	355	A
50	3	356	A
50	3	357	A
50	3	363	G
50	3	364	A
50	3	365	U
50	3	377	U
50	3	381	A
50	3	393	C
50	3	396	A
50	3	397	G
50	3	399	G
50	3	401	G
50	3	402	A
50	3	403	U
50	3	404	C
50	3	408	G
50	3	409	A
50	3	410	G
50	3	411	U
50	3	417	G
50	3	421	A
50	3	422	A
50	3	424	G
50	3	425	U
50	3	426	U
50	3	428	U
50	3	431	U
50	3	432	G
50	3	434	G
50	3	437	A
50	3	441	U
50	3	442	G
50	3	447	G
50	3	448	A
50	3	457	U
50	3	458	A
50	3	460	G

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Mol	Chain	Res	Type
50	3	465	A
50	3	470	U
50	3	471	A
50	3	478	G
50	3	479	A
50	3	482	G
50	3	483	A
50	3	484	U
50	3	487	C
50	3	488	G
50	3	491	A
50	3	495	U
50	3	501	G
50	3	503	G
50	3	509	G
50	3	511	U
50	3	514	A
50	3	515	A
50	3	517	G
50	3	520	C
50	3	523	A
50	3	528	U
50	3	531	G
50	3	539	U
50	3	540	A
50	3	543	U
50	3	548	A
50	3	553	A
50	3	562	C
50	3	563	A
50	3	564	A
50	3	565	C
50	3	566	G
50	3	567	U
50	3	568	G
50	3	575	C
50	3	577	C
50	3	579	U
50	3	581	A
50	3	583	U
50	3	589	A
50	3	590	U

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Mol	Chain	Res	Type
50	3	595	U
50	3	596	G
50	3	597	C
50	3	598	G
50	3	605	A
50	3	606	G
50	3	607	U
50	3	608	A
50	3	610	G
50	3	612	G
50	3	619	A
50	3	620	G
50	3	634	C
50	3	636	U
50	3	637	U
50	3	638	A
50	3	648	G
50	3	649	A
50	3	650	G
50	3	653	G
50	3	656	G
50	3	661	G
50	3	663	A
50	3	666	G
50	3	673	A
50	3	675	U
50	3	681	A
50	3	682	A
50	3	688	U
50	3	689	U
50	3	691	G
50	3	692	U
50	3	696	U
50	3	705	A
50	3	706	C
50	3	711	A
50	3	719	G
50	3	720	A
50	3	721	G
50	3	722	C
50	3	725	G
50	3	737	U

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Mol	Chain	Res	Type
50	3	738	U
50	3	740	A
50	3	761	G
50	3	764	G
50	3	765	A
50	3	766	C
50	3	767	C
50	3	768	G
50	3	769	A
50	3	777	C
50	3	781	U
50	3	782	U
50	3	783	G
50	3	784	A
50	3	785	A
50	3	786	A
50	3	792	G
50	3	794	G
50	3	795	G
50	3	797	U
50	3	798	G
50	3	799	A
50	3	803	G
50	3	806	A
50	3	810	G
50	3	811	G
50	3	812	G
50	3	816	A
50	3	817	A
50	3	818	A
50	3	819	U
50	3	820	U
50	3	821	C
50	3	824	A
50	3	825	U
50	3	826	C
50	3	827	G
50	3	828	A
50	3	829	A
50	3	831	U
50	3	835	U
50	3	837	A

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Mol	Chain	Res	Type
50	3	840	G
50	3	842	U
50	3	845	U
50	3	847	C
50	3	854	A
50	3	858	A
50	3	862	U
50	3	863	U
50	3	865	A
50	3	868	C
50	3	882	C
50	3	883	A
50	3	885	A
50	3	896	U
50	3	902	U
50	3	903	A
50	3	904	C
50	3	906	G
50	3	914	G
50	3	918	G
50	3	930	C
50	3	932	U
50	3	933	A
50	3	934	C
50	3	936	G
50	3	944	U
50	3	947	A
50	3	948	A
50	3	949	C
50	3	951	C
50	3	952	U
50	3	953	G
50	3	962	U
50	3	968	U
50	3	973	U
50	3	977	A
50	3	981	A
50	3	982	G
50	3	986	G
50	3	989	G
50	3	990	G
50	3	993	A

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Mol	Chain	Res	Type
50	3	995	A
50	3	997	G
50	3	998	C
50	3	1001	C
50	3	1008	A
50	3	1009	A
50	3	1016	A
50	3	1017	A
50	3	1018	G
50	3	1019	A
50	3	1021	C
50	3	1022	C
50	3	1024	A
50	3	1026	A
50	3	1027	U
50	3	1032	A
50	3	1033	A
50	3	1035	U
50	3	1042	C
50	3	1044	C
50	3	1046	A
50	3	1049	U
50	3	1052	A
50	3	1054	U
50	3	1055	A
50	3	1057	G
50	3	1061	A
50	3	1068	U
50	3	1069	G
50	3	1075	G
50	3	1080	A
50	3	1081	A
50	3	1082	A
50	3	1084	C
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1098	G
50	3	1099	C
50	3	1100	U
50	3	1104	A
50	3	1105	A

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Mol	Chain	Res	Type
50	3	1106	G
50	3	1107	C
50	3	1108	A
50	3	1115	G
50	3	1119	A
50	3	1122	G
50	3	1123	A
50	3	1124	G
50	3	1125	U
50	3	1126	G
50	3	1130	A
50	3	1132	C
50	3	1144	C
50	3	1146	A
50	3	1147	G
50	3	1148	U
50	3	1150	U
50	3	1151	U
50	3	1154	U
50	3	1157	G
50	3	1162	A
50	3	1163	G
50	3	1165	U
50	3	1167	U
50	3	1168	A
50	3	1170	C
50	3	1171	G
50	3	1176	U
50	3	1177	A
50	3	1186	A
50	3	1191	A
50	3	1193	U
50	3	1196	U
50	3	1201	A
50	3	1203	G
50	3	1204	A
50	3	1208	A
50	3	1209	U
50	3	1210	A
50	3	1215	G
50	3	1217	G
50	3	1219	U

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Mol	Chain	Res	Type
50	3	1224	G
50	3	1226	G
50	3	1234	U
50	3	1235	U
50	3	1236	G
50	3	1242	G
50	3	1243	A
50	3	1248	A
50	3	1250	A
50	3	1251	G
50	3	1253	G
50	3	1255	G
50	3	1257	G
50	3	1266	G
50	3	1267	A
50	3	1268	U
50	3	1269	C
50	3	1279	U
50	3	1281	A
50	3	1283	A
50	3	1284	A
50	3	1285	U
50	3	1286	G
50	3	1287	C
50	3	1292	A
50	3	1295	A
50	3	1297	U
50	3	1298	A
50	3	1300	C
50	3	1301	G
50	3	1302	C
50	3	1303	U
50	3	1314	A
50	3	1317	C
50	3	1319	C
50	3	1320	C
50	3	1324	A
50	3	1325	C
50	3	1326	C
50	3	1328	A
50	3	1329	U
50	3	1330	U

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Mol	Chain	Res	Type
50	3	1331	G
50	3	1334	U
50	3	1335	A
50	3	1338	G
50	3	1339	U
50	3	1342	C
50	3	1343	C
50	3	1348	C
50	3	1349	C
50	3	1353	G
50	3	1357	U
50	3	1358	C
50	3	1360	U
50	3	1361	U
50	3	1369	U
50	3	1370	A
50	3	1372	U
50	3	1373	C
50	3	1375	G
50	3	1376	G
50	3	1378	C
50	3	1380	U
50	3	1388	G
50	3	1389	G
50	3	1390	C
50	3	1393	A
50	3	1396	A
50	3	1397	G
50	3	1407	U
50	3	1408	G
50	3	1411	C
50	3	1412	A
50	3	1413	A
50	3	1421	A
50	3	1422	U
50	3	1423	A
50	3	1424	U
50	3	1428	U
50	3	1431	A
50	3	1435	A
50	3	1436	C
50	3	1444	C

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Mol	Chain	Res	Type
50	3	1445	U
50	3	1446	G
50	3	1447	A
50	3	1448	U
50	3	1455	A
50	3	1456	C
50	3	1457	A
50	3	1461	A
50	3	1462	A
50	3	1463	G
50	3	1466	U
50	3	1467	U
50	3	1479	A
50	3	1480	A
50	3	1481	U
50	3	1483	G
50	3	1484	G
50	3	1487	U
50	3	1500	A
50	3	1502	A
50	3	1507	G
50	3	1508	G
50	3	1510	A
50	3	1514	U
50	3	1515	A
50	3	1516	G
50	3	1517	G
50	3	1518	C
50	3	1520	A
50	3	1523	C
50	3	1533	U
50	3	1534	A
50	3	1541	A
50	3	1543	U
50	3	1550	G
50	3	1554	A
50	3	1555	G
50	3	1558	A
50	3	1571	G
50	3	1572	U
50	3	1573	A
50	3	1579	G

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Mol	Chain	Res	Type
50	3	1580	G
50	3	1582	G
50	3	1584	U
50	3	1585	A
50	3	1586	U
50	3	1588	A
50	3	1589	A
50	3	1592	A
50	3	1594	G
50	3	1597	U
50	3	1600	A
50	3	1603	A
50	3	1608	C
50	3	1612	U
50	3	1614	G
50	3	1615	G
50	3	1618	U
50	3	1619	A
50	3	1626	C
50	3	1636	U
50	3	1637	A
50	3	1640	G
50	3	1641	A
50	3	1642	G
50	3	1643	A
50	3	1644	A
50	3	1648	A
50	3	1650	A
50	3	1651	C
50	3	1652	A
50	3	1653	C
50	3	1656	A
50	3	1670	U
50	3	1679	U
50	3	1680	A
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1687	G
50	3	1688	A
50	3	1694	A
50	3	1695	G

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Mol	Chain	Res	Type
50	3	1698	A
50	3	1699	A
50	3	1701	G
50	3	1702	A
50	3	1703	A
50	3	1704	C
50	3	1706	C
50	3	1707	U
50	3	1708	G
50	3	1720	C
50	3	1721	G
50	3	1727	U
50	3	1728	A
50	3	1733	G
50	3	1734	A
50	3	1737	G
50	3	1741	G
50	3	1745	A
50	3	1747	G
50	3	1748	U
50	3	1751	A
50	3	1752	A
50	3	1761	C
50	3	1762	A
50	3	1763	G
50	3	1764	U
50	3	1765	G
50	3	1768	G
50	3	1769	A
50	3	1770	A
50	3	1771	C
50	3	1780	A
50	3	1784	U
50	3	1788	A
50	3	1789	C
50	3	1791	A
50	3	1807	C
50	3	1808	C
50	3	1809	A
50	3	1812	C
50	3	1816	A
50	3	1821	G

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Mol	Chain	Res	Type
50	3	1822	A
50	3	1823	U
50	3	1827	U
50	3	1836	A
50	3	1842	G
50	3	1843	C
50	3	1847	G
50	3	1849	G
50	3	1855	A
50	3	1857	G
50	3	1863	G
50	3	1865	A
50	3	1872	U
50	3	1873	A
50	3	1876	G
50	3	1878	A
50	3	1880	G
50	3	1884	A
50	3	1889	U
50	3	1890	U
50	3	1891	A
50	3	1892	A
50	3	1896	A
50	3	1906	G
50	3	1907	A
50	3	1908	A
50	3	1910	G
50	3	1913	G
50	3	1914	G
50	3	1920	A
50	3	1921	C
50	3	1925	A
50	3	1935	A
50	3	1936	G
50	3	1937	G
50	3	1938	U
50	3	1943	A
50	3	1944	A
50	3	1945	A
50	3	1946	U
50	3	1948	C
50	3	1959	A

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Mol	Chain	Res	Type
50	3	1960	A
50	3	1962	U
50	3	1970	C
50	3	1971	G
50	3	1972	C
50	3	1973	U
50	3	1977	A
50	3	1978	U
50	3	1979	G
50	3	1980	G
50	3	1981	U
50	3	1982	G
50	3	1990	C
50	3	1998	U
50	3	1999	G
50	3	2004	G
50	3	2009	U
50	3	2010	A
50	3	2012	A
50	3	2025	C
50	3	2028	G
50	3	2030	A
50	3	2037	A
50	3	2038	A
50	3	2040	A
50	3	2041	C
50	3	2045	C
50	3	2050	G
50	3	2055	A
50	3	2056	A
50	3	2059	G
50	3	2062	C
50	3	2063	G
50	3	2064	G
50	3	2066	A
50	3	2067	A
50	3	2068	G
50	3	2069	A
50	3	2070	C
50	3	2071	C
50	3	2072	C
50	3	2074	G

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Mol	Chain	Res	Type
50	3	2075	U
50	3	2076	G
50	3	2083	U
50	3	2084	A
50	3	2087	G
50	3	2100	G
50	3	2106	G
50	3	2107	A
50	3	2110	U
50	3	2111	U
50	3	2112	A
50	3	2114	C
50	3	2115	A
50	3	2117	G
50	3	2118	U
50	3	2119	A
50	3	2123	A
50	3	2124	A
50	3	2128	G
50	3	2130	A
50	3	2132	G
50	3	2133	A
50	3	2134	G
50	3	2135	C
50	3	2136	A
50	3	2139	C
50	3	2140	G
50	3	2144	C
50	3	2149	U
50	3	2151	G
50	3	2153	U
50	3	2154	A
50	3	2156	G
50	3	2159	U
50	3	2165	A
50	3	2166	U
50	3	2167	G
50	3	2171	A
50	3	2179	A
50	3	2180	U
50	3	2181	A
50	3	2182	C

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Mol	Chain	Res	Type
50	3	2187	C
50	3	2191	G
50	3	2192	U
50	3	2193	U
50	3	2194	G
50	3	2195	U
50	3	2196	G
50	3	2198	G
50	3	2199	C
50	3	2200	U
50	3	2202	U
50	3	2203	U
50	3	2206	A
50	3	2207	A
50	3	2211	G
50	3	2212	U
50	3	2219	U
50	3	2220	A
50	3	2221	U
50	3	2222	C
50	3	2225	G
50	3	2227	U
50	3	2229	C
50	3	2231	A
50	3	2232	G
50	3	2233	A
50	3	2242	G
50	3	2246	G
50	3	2247	G
50	3	2254	G
50	3	2255	A
50	3	2257	U
50	3	2258	G
50	3	2259	G
50	3	2265	U
50	3	2266	C
50	3	2267	G
50	3	2269	C
50	3	2270	U
50	3	2274	A
50	3	2276	A
50	3	2281	A

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Mol	Chain	Res	Type
50	3	2286	A
50	3	2287	G
50	3	2291	U
50	3	2294	A
50	3	2295	A
50	3	2296	A
50	3	2305	C
50	3	2312	G
50	3	2313	U
50	3	2315	G
50	3	2316	G
50	3	2317	A
50	3	2326	G
50	3	2328	A
50	3	2329	G
50	3	2331	G
50	3	2333	G
50	3	2334	U
50	3	2335	A
50	3	2341	G
50	3	2342	U
50	3	2343	A
50	3	2345	G
50	3	2352	U
50	3	2353	G
50	3	2355	C
50	3	2358	U
50	3	2361	G
50	3	2362	A
50	3	2363	C
50	3	2367	C
50	3	2380	U
50	3	2382	A
50	3	2391	G
50	3	2393	C
50	3	2397	G
50	3	2398	U
50	3	2410	C
50	3	2414	U
50	3	2415	A
50	3	2418	G
50	3	2424	C

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Mol	Chain	Res	Type
50	3	2428	C
50	3	2431	U
50	3	2432	C
50	3	2433	A
50	3	2436	G
50	3	2438	A
50	3	2439	U
50	3	2442	A
50	3	2443	A
50	3	2447	A
50	3	2448	C
50	3	2449	U
50	3	2450	C
50	3	2453	G
50	3	2456	A
50	3	2457	U
50	3	2458	A
50	3	2460	C
50	3	2468	U
50	3	2470	C
50	3	2472	G
50	3	2475	C
50	3	2476	A
50	3	2477	A
50	3	2484	A
50	3	2486	A
50	3	2488	C
50	3	2492	G
50	3	2493	G
50	3	2497	U
50	3	2499	U
50	3	2502	G
50	3	2505	A
50	3	2507	C
50	3	2509	C
50	3	2512	U
50	3	2513	G
50	3	2515	C
50	3	2517	A
50	3	2521	A
50	3	2526	A
50	3	2527	U

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Mol	Chain	Res	Type
50	3	2528	C
50	3	2538	A
50	3	2539	A
50	3	2543	G
50	3	2560	U
50	3	2561	G
50	3	2563	U
50	3	2564	C
50	3	2565	G
50	3	2566	C
50	3	2568	G
50	3	2570	U
50	3	2574	A
50	3	2575	G
50	3	2578	A
50	3	2580	A
50	3	2581	C
50	3	2584	G
50	3	2585	A
50	3	2586	G
50	3	2587	U
50	3	2591	G
50	3	2593	U
50	3	2594	C
50	3	2599	C
50	3	2605	G
50	3	2606	A
50	3	2607	G
50	3	2608	A
50	3	2610	A
50	3	2621	U
50	3	2622	A
50	3	2623	U
50	3	2627	U
50	3	2629	G
50	3	2631	G
50	3	2637	A
50	3	2638	G
50	3	2640	A
50	3	2642	G
50	3	2643	A
50	3	2647	A

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Mol	Chain	Res	Type
50	3	2649	G
50	3	2654	U
50	3	2655	U
50	3	2662	A
50	3	2664	U
50	3	2668	A
50	3	2669	G
50	3	2672	G
50	3	2675	C
50	3	2681	G
50	3	2684	G
50	3	2694	A
50	3	2697	C
50	3	2715	C
50	3	2718	C
50	3	2720	C
50	3	2722	G
50	3	2726	G
50	3	2734	C
50	3	2735	G
50	3	2737	G
50	3	2740	U
50	3	2741	A
50	3	2747	U
50	3	2752	G
50	3	2756	A
50	3	2758	A
50	3	2759	G
50	3	2765	A
50	3	2773	A
50	3	2774	A
50	3	2777	A
50	3	2786	A
50	3	2788	U
50	3	2790	A
50	3	2799	U
50	3	2803	G
50	3	2804	C
50	3	2805	A
50	3	2807	G
50	3	2808	A
50	3	2809	A

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Mol	Chain	Res	Type
50	3	2810	A
50	3	2811	G
50	3	2813	A
50	3	2814	A
50	3	2822	C
50	3	2824	A
50	3	2829	G
50	3	2831	U
50	3	2837	U
50	3	2838	G
50	3	2839	A
50	3	2840	U
50	3	2853	U
50	3	2865	U
50	3	2871	G
50	3	2876	G
50	3	2883	A
50	3	2884	C
50	3	2887	A
50	3	2888	U
50	3	2889	U
50	3	2890	G
50	3	2895	A
50	3	2897	G
50	3	2898	A
50	3	2899	C
51	4	7	G
51	4	9	C
51	4	10	C
51	4	11	A
51	4	12	U
51	4	19	G
51	4	22	G
51	4	23	A
51	4	25	A
51	4	27	A
51	4	28	C
51	4	30	U
51	4	31	G
51	4	33	U
51	4	35	C
51	4	38	U

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Mol	Chain	Res	Type
51	4	39	U
51	4	41	C
51	4	42	G
51	4	49	G
51	4	50	C
51	4	51	A
51	4	54	U
51	4	55	A
51	4	60	C
51	4	66	A
51	4	77	G
51	4	78	C
51	4	88	G
51	4	89	A
51	4	92	A
51	4	99	A
51	4	102	A
51	4	106	A
51	4	108	C
52	5	8	G
52	5	9	A
52	5	10	G
52	5	15	U
52	5	17	A
52	5	21	U
52	5	28	G
52	5	29	G
52	5	33	A
52	5	40	G
52	5	48	C
52	5	49	C
52	5	50	U
52	5	52	A
52	5	61	A
52	5	66	A
52	5	75	A
52	5	80	U
52	5	83	U
52	5	86	A
52	5	93	A
52	5	95	C
52	5	105	A

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Mol	Chain	Res	Type
52	5	106	C
52	5	108	C
52	5	111	A
52	5	114	C
52	5	115	A
52	5	116	A
52	5	117	U
52	5	122	C
52	5	128	A
52	5	130	G
52	5	132	G
52	5	134	G
52	5	145	G
52	5	149	G
52	5	159	U
52	5	160	A
52	5	161	C
52	5	163	G
52	5	164	C
52	5	167	A
52	5	168	A
52	5	169	G
52	5	171	A
52	5	180	C
52	5	193	G
52	5	197	A
52	5	198	A
52	5	213	U
52	5	216	G
52	5	227	A
52	5	236	C
52	5	237	A
52	5	240	U
52	5	241	C
52	5	242	A
52	5	243	G
52	5	246	A
52	5	247	G
52	5	253	G
52	5	258	A
52	5	260	C
52	5	262	G

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Mol	Chain	Res	Type
52	5	263	C
52	5	275	A
52	5	285	G
52	5	296	A
52	5	301	G
52	5	302	A
52	5	303	A
52	5	311	A
52	5	314	G
52	5	316	G
52	5	323	A
52	5	324	C
52	5	325	A
52	5	326	C
52	5	328	G
52	5	335	C
52	5	341	C
52	5	342	G
52	5	343	G
52	5	344	G
52	5	345	A
52	5	346	G
52	5	347	G
52	5	348	C
52	5	352	A
52	5	359	A
52	5	362	U
52	5	363	U
52	5	364	U
52	5	368	C
52	5	374	G
52	5	376	G
52	5	377	A
52	5	378	A
52	5	385	A
52	5	391	C
52	5	394	U
52	5	395	G
52	5	400	G
52	5	401	U
52	5	402	G
52	5	408	U

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Mol	Chain	Res	Type
52	5	409	G
52	5	410	A
52	5	416	U
52	5	417	U
52	5	418	U
52	5	419	A
52	5	420	A
52	5	425	G
52	5	426	U
52	5	432	U
52	5	446	A
52	5	447	G
52	5	449	A
52	5	452	A
52	5	453	C
52	5	455	U
52	5	457	A
52	5	461	G
52	5	464	A
52	5	466	U
52	5	467	G
52	5	468	G
52	5	469	C
52	5	471	A
52	5	473	A
52	5	476	U
52	5	478	G
52	5	481	U
52	5	482	G
52	5	488	U
52	5	489	U
52	5	490	U
52	5	493	A
52	5	494	A
52	5	495	U
52	5	507	A
52	5	508	A
52	5	510	U
52	5	516	C
52	5	517	C
52	5	522	G
52	5	525	G

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Mol	Chain	Res	Type
52	5	529	U
52	5	530	A
52	5	531	A
52	5	532	U
52	5	534	C
52	5	545	A
52	5	551	A
52	5	554	C
52	5	556	G
52	5	557	A
52	5	560	U
52	5	562	U
52	5	566	G
52	5	568	G
52	5	570	A
52	5	571	A
52	5	573	G
52	5	574	C
52	5	575	A
52	5	580	C
52	5	585	G
52	5	586	G
52	5	591	A
52	5	594	A
52	5	605	A
52	5	616	C
52	5	617	U
52	5	618	U
52	5	619	A
52	5	620	A
52	5	623	G
52	5	628	A
52	5	629	U
52	5	637	A
52	5	639	A
52	5	640	C
52	5	646	A
52	5	647	U
52	5	648	C
52	5	650	A
52	5	653	G
52	5	660	A

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Mol	Chain	Res	Type
52	5	662	G
52	5	672	A
52	5	675	U
52	5	682	G
52	5	683	G
52	5	684	A
52	5	687	G
52	5	690	G
52	5	692	A
52	5	699	A
52	5	715	A
52	5	716	C
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	725	A
52	5	731	A
52	5	740	G
52	5	745	U
52	5	746	A
52	5	749	G
52	5	751	C
52	5	752	G
52	5	753	C
52	5	756	A
52	5	771	G
52	5	774	A
52	5	784	A
52	5	786	U
52	5	787	A
52	5	789	A
52	5	790	U
52	5	793	C
52	5	796	A
52	5	802	C
52	5	808	C
52	5	812	A
52	5	813	A
52	5	814	C
52	5	815	G
52	5	816	A

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Mol	Chain	Res	Type
52	5	817	U
52	5	818	A
52	5	820	A
52	5	825	A
52	5	828	U
52	5	829	G
52	5	838	A
52	5	841	C
52	5	846	G
52	5	872	C
52	5	879	G
52	5	881	G
52	5	883	A
52	5	884	G
52	5	885	U
52	5	896	G
52	5	908	A
52	5	909	A
52	5	910	C
52	5	911	G
52	5	917	G
52	5	921	G
52	5	922	G
52	5	929	C
52	5	930	A
52	5	933	A
52	5	937	G
52	5	940	G
52	5	944	A
52	5	949	G
52	5	953	A
52	5	954	A
52	5	955	U
52	5	958	G
52	5	963	U
52	5	964	A
52	5	966	A
52	5	969	A
52	5	970	A
52	5	971	A
52	5	972	A
52	5	975	C

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Mol	Chain	Res	Type
52	5	976	U
52	5	986	U
52	5	987	U
52	5	988	G
52	5	989	A
52	5	991	A
52	5	997	G
52	5	999	C
52	5	1000	A
52	5	1001	A
52	5	1002	A
52	5	1004	U
52	5	1008	G
52	5	1009	G
52	5	1010	A
52	5	1011	A
52	5	1013	C
52	5	1014	A
52	5	1016	A
52	5	1018	U
52	5	1033	U
52	5	1034	G
52	5	1036	C
52	5	1037	A
52	5	1041	G
52	5	1044	G
52	5	1045	C
52	5	1047	U
52	5	1051	U
52	5	1052	G
52	5	1056	U
52	5	1057	C
52	5	1058	A
52	5	1060	C
52	5	1070	G
52	5	1071	A
52	5	1075	G
52	5	1077	U
52	5	1078	G
52	5	1080	G
52	5	1081	U
52	5	1085	G

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Mol	Chain	Res	Type
52	5	1086	U
52	5	1089	C
52	5	1092	A
52	5	1104	C
52	5	1108	A
52	5	1115	G
52	5	1116	U
52	5	1118	A
52	5	1119	C
52	5	1122	U
52	5	1123	G
52	5	1125	C
52	5	1128	G
52	5	1133	A
52	5	1134	C
52	5	1135	U
52	5	1139	A
52	5	1141	U
52	5	1142	G
52	5	1143	C
52	5	1144	A
52	5	1154	A
52	5	1157	G
52	5	1159	A
52	5	1165	G
52	5	1166	A
52	5	1171	A
52	5	1173	A
52	5	1178	C
52	5	1181	G
52	5	1187	U
52	5	1188	A
52	5	1190	G
52	5	1191	U
52	5	1199	U
52	5	1200	G
52	5	1201	C
52	5	1203	A
52	5	1211	A
52	5	1214	A
52	5	1215	U
52	5	1216	G

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Mol	Chain	Res	Type
52	5	1217	G
52	5	1221	A
52	5	1232	C
52	5	1233	G
52	5	1235	C
52	5	1242	U
52	5	1254	A
52	5	1255	A
52	5	1256	U
52	5	1260	U
52	5	1261	A
52	5	1271	U
52	5	1272	C
52	5	1273	A
52	5	1274	G
52	5	1276	U
52	5	1279	G
52	5	1283	G
52	5	1291	C
52	5	1293	A
52	5	1296	C
52	5	1297	G
52	5	1306	A
52	5	1310	C
52	5	1312	G
52	5	1314	A
52	5	1315	U
52	5	1316	C
52	5	1317	A
52	5	1319	U
52	5	1320	A
52	5	1328	C
52	5	1330	A
52	5	1331	A
52	5	1337	U
52	5	1338	A
52	5	1341	U
52	5	1343	G
52	5	1353	C
52	5	1354	G
52	5	1356	U
52	5	1360	G

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Mol	Chain	Res	Type
52	5	1369	A
52	5	1372	C
52	5	1373	A
52	5	1375	C
52	5	1379	C
52	5	1380	G
52	5	1381	U
52	5	1383	A
52	5	1384	A
52	5	1387	U
52	5	1391	A
52	5	1397	G
52	5	1400	A
52	5	1411	A
52	5	1417	U
52	5	1418	G
52	5	1426	U
52	5	1427	U
52	5	1428	A
52	5	1429	G
52	5	1431	A
52	5	1433	G
52	5	1436	C
52	5	1446	A
52	5	1450	C
52	5	1466	U
52	5	1467	A
52	5	1468	A
52	5	1474	A
52	5	1478	A
52	5	1480	G
52	5	1481	U
52	5	1482	A
52	5	1492	G
52	5	1494	A
52	5	1495	C
52	5	1504	G
52	5	1505	G
52	5	1508	C
53	6	5	C
53	6	11	G
53	6	12	C

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Mol	Chain	Res	Type
53	6	17	U
53	6	18	C
53	6	19	G
53	6	20	G
53	6	21	U
53	6	22	A
53	6	27	A
53	6	33	C
53	6	34	U
53	6	35	G
53	6	36	A
53	6	38	G
53	6	43	G
53	6	44	U
53	6	45	G
53	6	48	U
53	6	49	C
53	6	52	C
53	6	54	G
53	6	55	U
53	6	57	C
53	6	58	G
53	6	61	U
53	6	62	C
53	6	71	A
53	6	72	C
53	6	75	C
53	6	76	C
53	6	77	A
53	7	5	C
53	7	11	G
53	7	12	C
53	7	17	U
53	7	18	C
53	7	19	G
53	7	20	G
53	7	21	U
53	7	22	A
53	7	27	A
53	7	33	C
53	7	34	U
53	7	35	G

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Mol	Chain	Res	Type
53	7	36	A
53	7	37	A
53	7	38	G
53	7	43	G
53	7	44	U
53	7	45	G
53	7	48	U
53	7	49	C
53	7	52	C
53	7	54	G
53	7	55	U
53	7	57	C
53	7	58	G
53	7	61	U
53	7	62	C
53	7	71	A
53	7	72	C
53	7	75	C
53	7	76	C
53	7	77	A

All (61) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	3	47	G
50	3	286	A
50	3	296	U
50	3	311	G
50	3	410	G
50	3	425	U
50	3	500	U
50	3	508	A
50	3	513	A
50	3	605	A
50	3	688	U
50	3	881	A
50	3	901	C
50	3	903	A
50	3	996	A
50	3	1048	A
50	3	1209	U
50	3	1297	U

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Mol	Chain	Res	Type
50	3	1507	G
50	3	1583	G
50	3	1585	A
50	3	1587	U
50	3	1588	A
50	3	1820	U
50	3	2118	U
50	3	2333	G
50	3	2491	C
50	3	2504	C
50	3	2506	C
50	3	2604	U
50	3	2668	A
50	3	2764	U
50	3	2823	A
50	3	2897	G
51	4	10	C
51	4	54	U
51	4	59	A
52	5	8	G
52	5	168	A
52	5	240	U
52	5	384	G
52	5	419	A
52	5	618	U
52	5	683	G
52	5	1115	G
52	5	1133	A
52	5	1177	U
52	5	1215	U
52	5	1342	C
53	6	16	G
53	6	19	G
53	6	34	U
53	6	48	U
53	6	71	A
53	6	76	C
53	7	16	G
53	7	19	G
53	7	34	U
53	7	48	U
53	7	71	A

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Mol	Chain	Res	Type
53	7	76	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-13447. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

6.5 Orthogonal surface views

This section was not generated.

6.6 Mask visualisation

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

7 Map analysis ⓘ

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

7.1 Map-value distribution ⓘ

This section was not generated.

7.2 Volume estimate versus contour level ⓘ

This section was not generated.

7.3 Rotationally averaged power spectrum ⓘ

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation ⓘ

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

9 Map-model fit

This section was not generated.