Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 11:41 AM UTC

PDB ID	:	5UQ8 / pdb_00005uq8
EMDB ID	:	EMD-8597
Title	:	70S ribosome complex with dnaX mRNA stem-loop and E-site tRNA ("out" conformation)
Authors	:	Zhang, Y.; Hong, S.; Skiniotis, G.; Dunham, C.M.
Deposited on	:	2017-02-07
Resolution	:	3.20 Å(reported)

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:

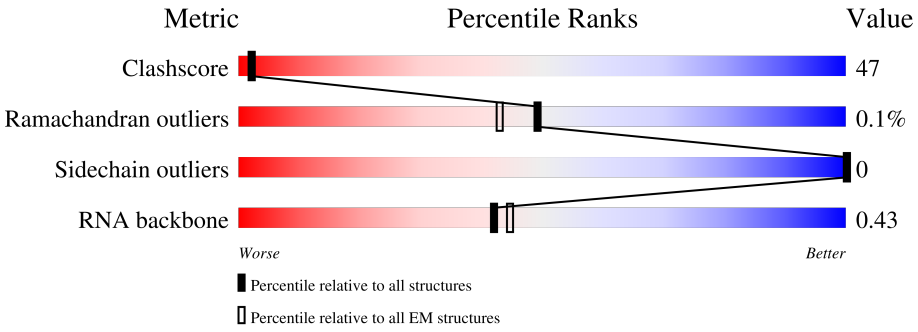
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

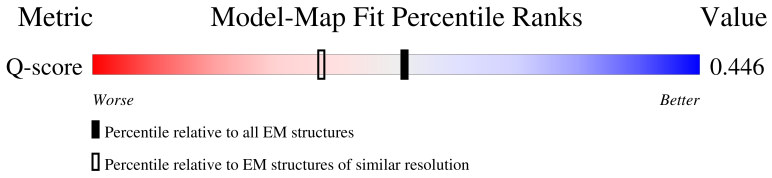
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15020 (2.70 - 3.70)

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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	2915	9% 9% 69% 20%
2	B	120	5% 7% 78% 16%
3	D	275	10% 35% 65%

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Mol	Chain	Length	Quality of chain
4	E	204	20% 36% 64%
5	F	203	24% 31% 69%
6	G	181	45% 25% 74%
7	H	173	66% 24% 76%
8	I	146	95% 33% 67%
9	N	140	21% 28% 72%
10	O	122	21% 34% 66%
11	P	149	25% 38% 62%
12	Q	141	23% 26% 74%
13	R	118	12% 42% 58%
14	S	110	31% 37% 63%
15	T	131	24% 30% 70%
16	U	116	12% 34% 66%
17	V	101	33% 26% 74%
18	W	112	21% 32% 68%
19	X	95	24% 40% 60%
20	Y	107	42% 23% 77%
21	Z	187	72% 29% 71%
22	0	77	16% 48% 52%
23	1	97	29% 30% 70%
24	2	70	34% 36% 64%
25	3	59	25% 42% 58%
26	4	69	71% 32% 65%
27	5	59	14% 42% 58%
28	6	53	25% 34% 66%

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Mol	Chain	Length	Quality of chain
29	7	48	17% 48% 52%
30	8	64	14% 41% 59%
31	9	37	30% 38% 62%
32	a	1521	8% 7% 72% 20%
33	b	231	62% 27% 73%
34	c	206	35% 41% 59%
35	d	208	36% 29% 71%
36	e	148	17% 32% 68%
37	f	100	74% 17% 83%
38	g	155	44% 28% 72%
39	h	137	25% 31% 69%
40	i	126	49% 29% 71%
41	j	96	49% 23% 77%
42	k	114	35% 31% 69%
43	l	122	26% 35% 64%
44	m	114	54% 27% 73%
45	n	60	15% 37% 63%
46	o	88	35% 34% 66%
47	p	82	18% 23% 77%
48	q	99	26% 24% 76%
49	r	68	63% 22% 78%
50	s	83	52% 35% 65%
51	t	98	38% 29% 71%
52	u	23	30% 22% 78%
53	y	77	36% 9% 74% 17%

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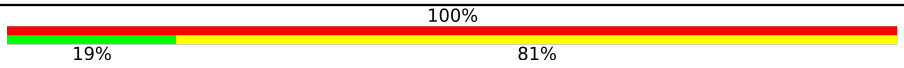
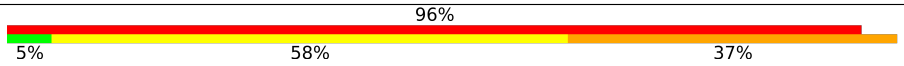
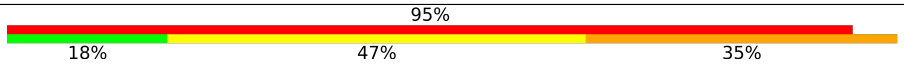
Mol	Chain	Length	Quality of chain
54	C	226	
55	z	76	
56	x	55	

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 148590 atoms, of which 4 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 RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	2867	61758	27491	11552	19850	2865	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	120	2573	1146	476	832	119	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	275	2136	1349	423	361	3	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	204	1559	985	298	270	6	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	203	1580	1007	297	274	2	0	1

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	G	181	1424	912	259	249	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	173	Total	C	N	O	S	0	0
			1324	842	247	234	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	146	Total	C	N	O	S	0	0
			1076	687	186	202	1		

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	N	140	Total	C	N	O	S	0	0
			1117	719	207	187	4		

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	O	122	Total	C	N	O	S	0	0
			933	588	171	170	4		

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	P	149	Total	C	N	O	S	0	0
			1135	706	230	196	3		

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Q	141	Total	C	N	O	S	0	0
			1122	715	212	188	7		

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	R	118	Total	C	N	O	S	0	0
			968	604	203	160	1		

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	S	110	Total 870	C 549	N 173	O 148	0	0

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	T	131	Total 1083	C 675	N 224	O 183	S 1	0	0

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	U	116	Total 959	C 608	N 201	O 149	S 1	0	0

- Molecule 17 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	V	101	Total 771	C 495	N 140	O 135	S 1	0	0

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	W	112	Total 886	C 557	N 174	O 153	S 2	0	0

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	X	95	Total 750	C 488	N 135	O 126	S 1	0	0

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Y	107	Total 810	C 519	N 153	O 132	S 6	0	0

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Z	187	Total	C	N	O	S	0	0
			1459	932	257	268	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
22	0	77	Total	C	N	O	S	0	0
			608	375	129	103	1		

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	1	97	Total	C	N	O	S	0	0
			759	478	149	131	1		

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	2	70	Total	C	N	O	S	0	0
			592	368	119	103	2		

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	3	59	Total	C	N	O	0	0
			464	296	90	78		

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	4	69	Total	C	N	O	S	0	0
			536	342	98	91	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
27	5	59	Total	C	N	O	S	0	0
			455	285	89	76	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
28	6	53	Total	C	N	O	S	0	0
			449	279	91	75	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	7	48	Total	C	N	O	S	0	0
			418	257	104	55	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
30	8	64	Total	C	N	O	S	0	0
			517	331	102	82	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
31	9	37	Total	C	N	O	S	0	0
			307	188	68	47	4		

- Molecule 32 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	a	1513	Total	C	N	O	P	0	0
			32532	14488	6021	10510	1513		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	1542	G	-	insertion	GB 55771382
a	1543	C	-	insertion	GB 55771382
a	1544	U	-	insertion	GB 55771382

- Molecule 33 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	b	231	Total	C	N	O	S	0	0
			1825	1167	326	327	5		

- Molecule 34 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	c	206	Total	C	N	O	S	0	0
			1542	968	300	273	1		

- Molecule 35 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	d	208	Total	C	N	O	S	0	0
			1668	1047	330	284	7		

- Molecule 36 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	e	148	Total	C	N	O	S	0	0
			1133	716	214	199	4		

- Molecule 37 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	f	100	Total	C	N	O	S	0	0
			816	516	146	151	3		

- Molecule 38 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	g	155	Total	C	N	O	S	0	0
			1229	766	241	216	6		

- Molecule 39 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	h	137	Total	C	N	O	S	0	0
			1088	689	206	191	2		

- Molecule 40 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	i	126	Total	C	N	O	0	0
			966	613	186	167		

- Molecule 41 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	j	96	Total	C	N	O	0	0
			710	442	137	131		

- Molecule 42 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	k	114	Total	C	N	O	S	0	0
			833	519	156	155	3		

- Molecule 43 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	l	122	Total	C	N	O	S	0	0
			932	586	185	159	2		

- Molecule 44 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	m	114	Total	C	N	O	S	0	0
			895	550	186	157	2		

- Molecule 45 is a protein called 30S ribosomal protein S14 type Z.

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

- Molecule 46 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	o	88	Total	C	N	O	S	0	0
			728	456	144	126	2		

- Molecule 47 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	p	82	Total	C	N	O	S	0	0
			677	430	133	113	1		

- Molecule 48 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	q	99	Total	C	N	O	S	0	0
			823	528	151	142	2		

- Molecule 49 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	r	68	Total	C	N	O	0	0
			555	355	108	92		

- Molecule 50 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	s	83	Total	C	N	O	S	0	0
			645	410	118	115	2		

- Molecule 51 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	t	98	Total	C	N	O	S	0	0
			733	451	154	126	2		

- Molecule 52 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	u	23	Total	C	N	O	0	0
			199	122	48	29		

- Molecule 53 is a RNA chain called P-site tRNA fMet.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	y	77	Total	C	N	O	P	0	0
			1640	732	298	534	76		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
y	17B	C	U	conflict	GB 1126835761

- Molecule 54 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	C	225	Total	C	N	O	S	0	0
			1718	1085	315	316	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	MET	deletion	UNP Q5SLP7

- Molecule 55 is a RNA chain called E-site tRNA Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	z	76	Total	C	N	O	P	0	0
			1619	723	290	531	75		

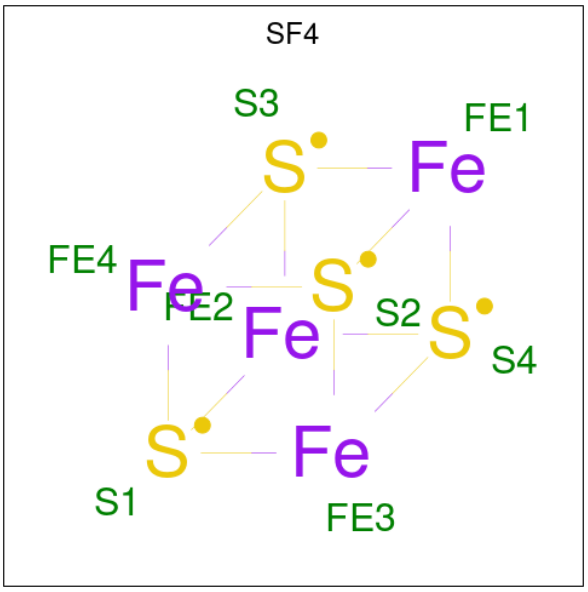
- Molecule 56 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	x	55	Total	C	H	N	O	P	0	0
			1180	527	4	219	376	54		

- Molecule 57 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
57	Y	1	Total	Zn	0
			1	1	
57	4	1	Total	Zn	0
			1	1	
57	5	1	Total	Zn	0
			1	1	
57	6	1	Total	Zn	0
			1	1	
57	9	1	Total	Zn	0
			1	1	
57	n	1	Total	Zn	0
			1	1	

- Molecule 58 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe_4S_4).

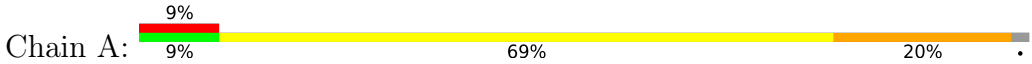


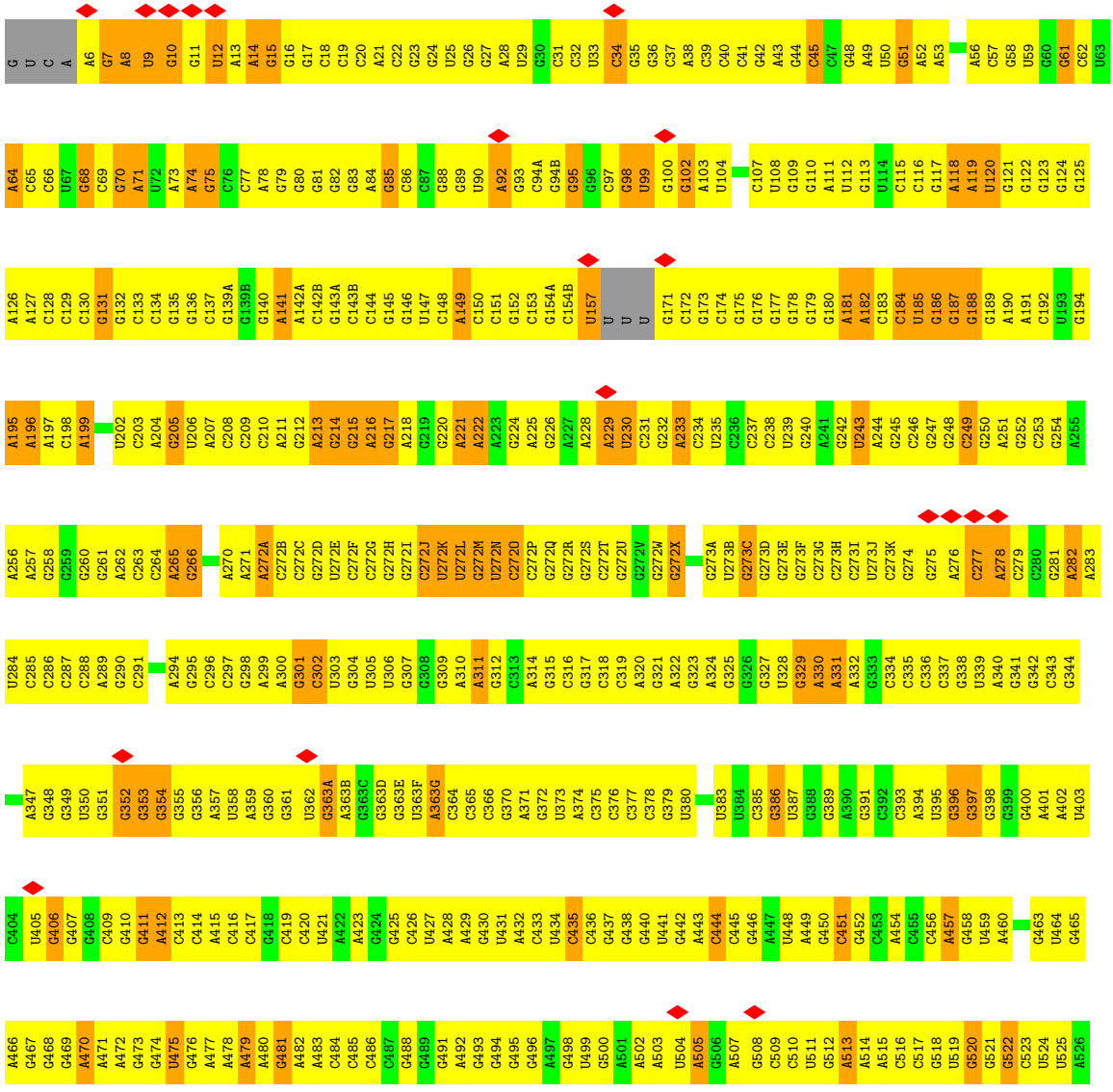
Mol	Chain	Residues	Atoms			AltConf
58	d	1	Total	Fe	S	0
			8	4	4	

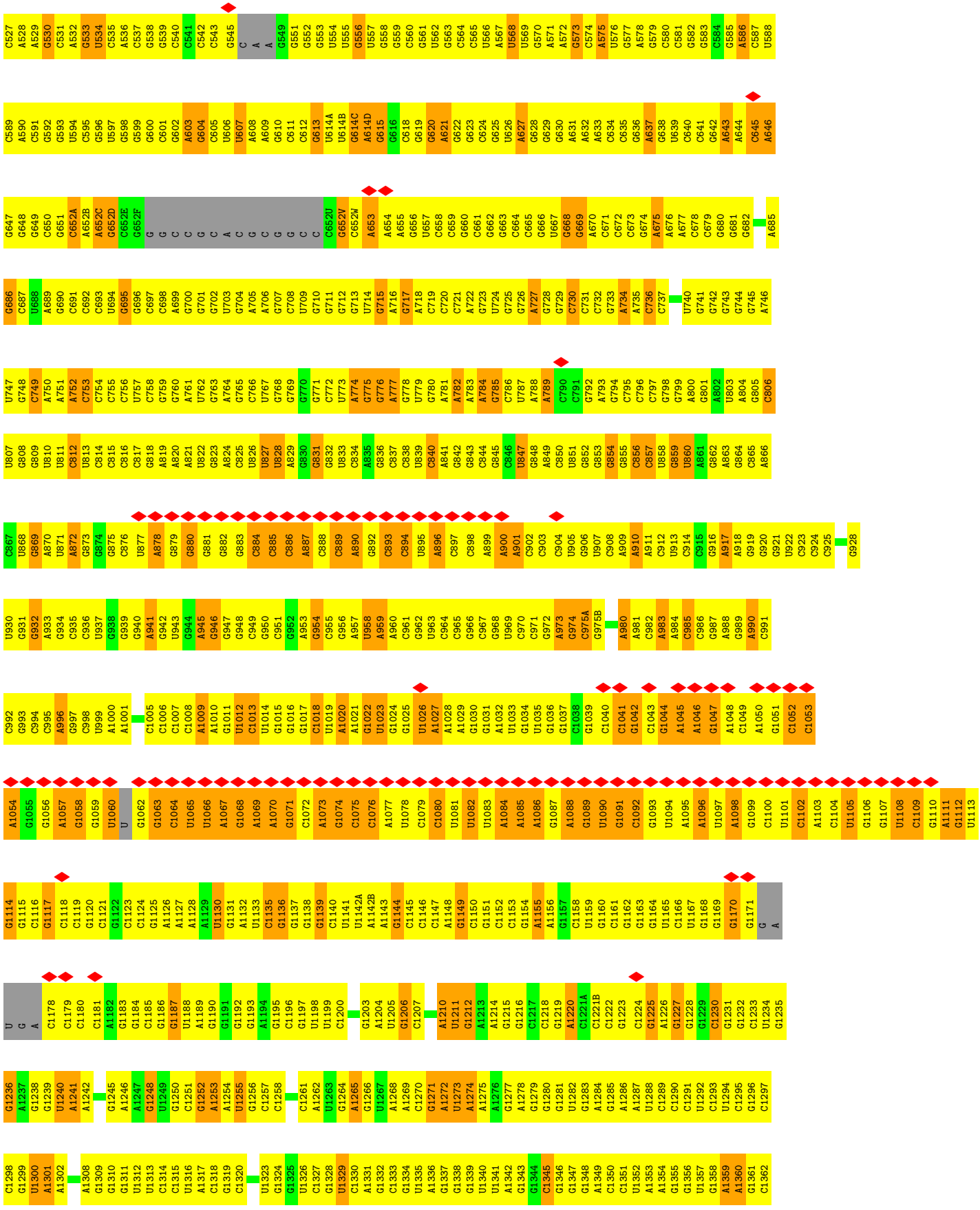
3 Residue-property plots (i)

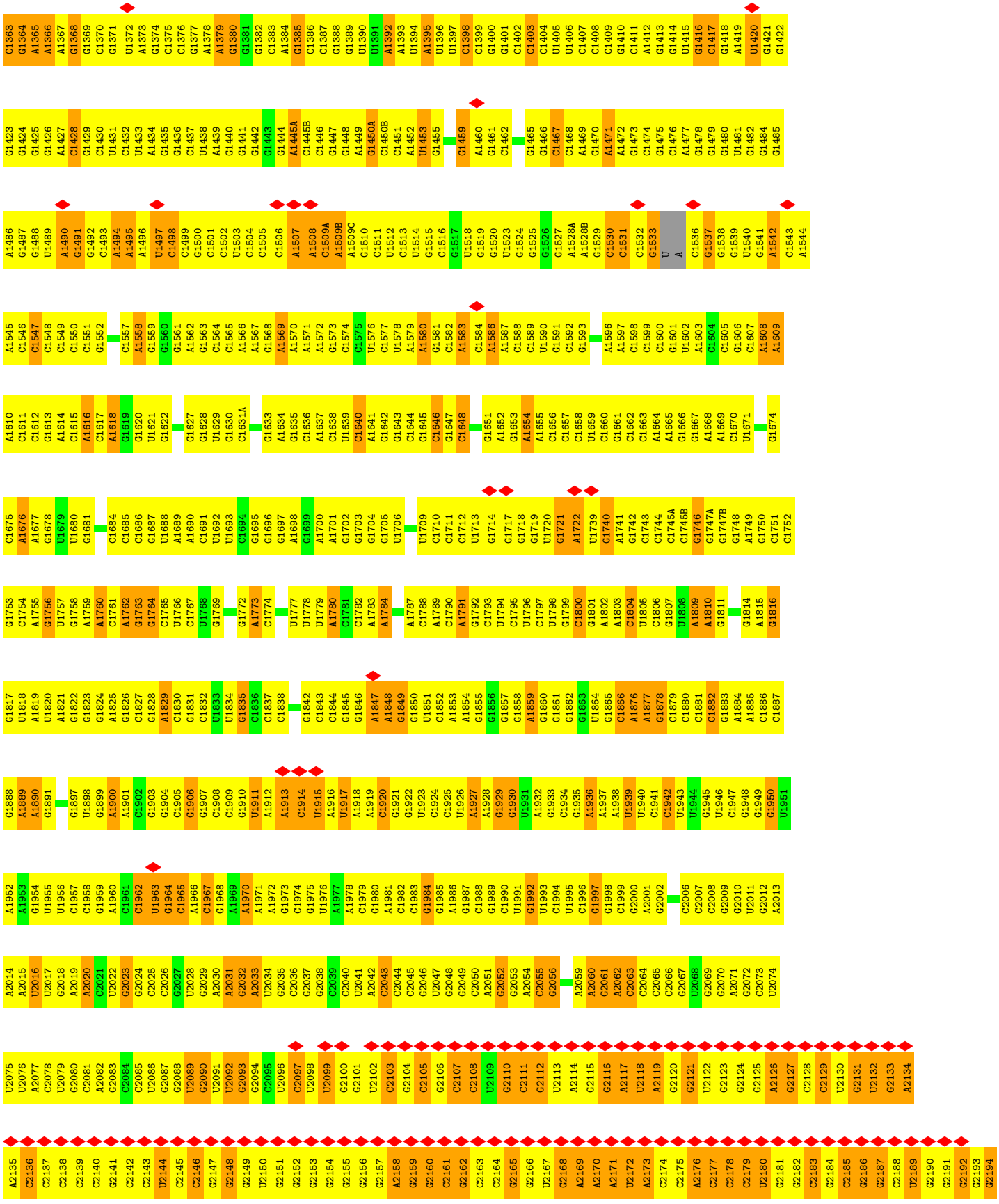
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: 23S rRNA





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G1423 G1424 G1425 G1426 A1427 C1428 G1429 C1430 U1431 C1432 U1433 A1434 G1435 G1436 C1437 U1438 A1439 G1440 G1441 G1442 G1443 G1444 A1445A C1445B C1446 G1447 G1448 A1449 G1450A C1450B C1451 A1452 U1453 G1455 G1459 A1460 G1461 C1462 G1465 G1466 C1467 C1468 A1469 G1470 A1471 A1472 G1473 C1474 G1475 C1476 A1477 G1478 G1479 G1480 U1481 G1482 G1484 G1485
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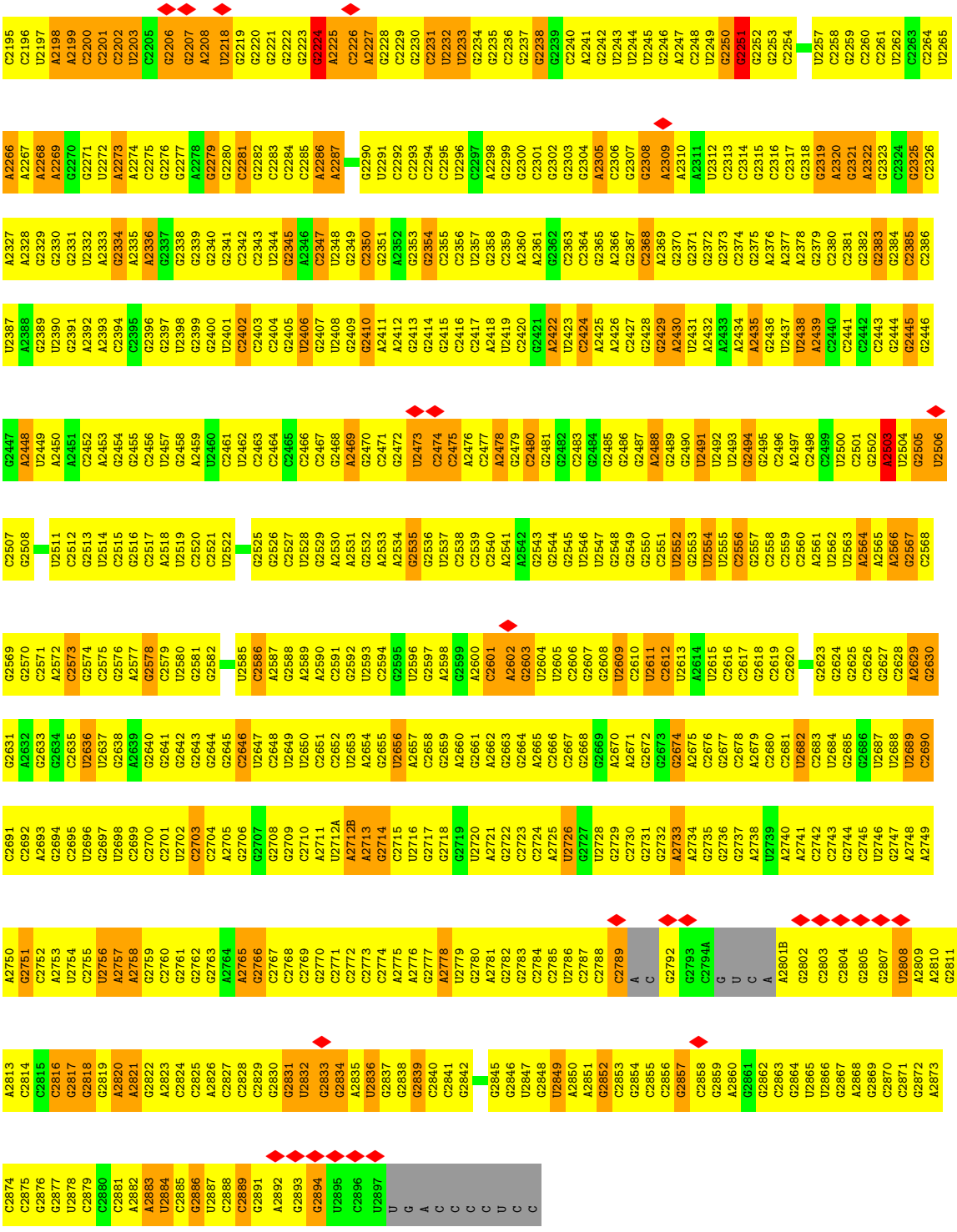
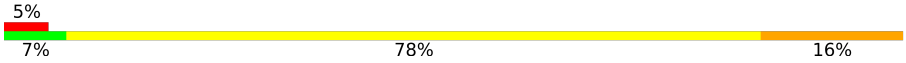
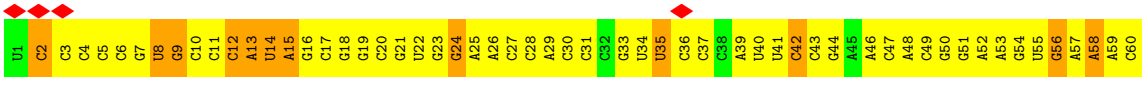
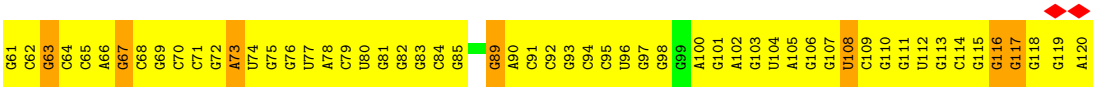


• Molecule 2: 5S rRNA

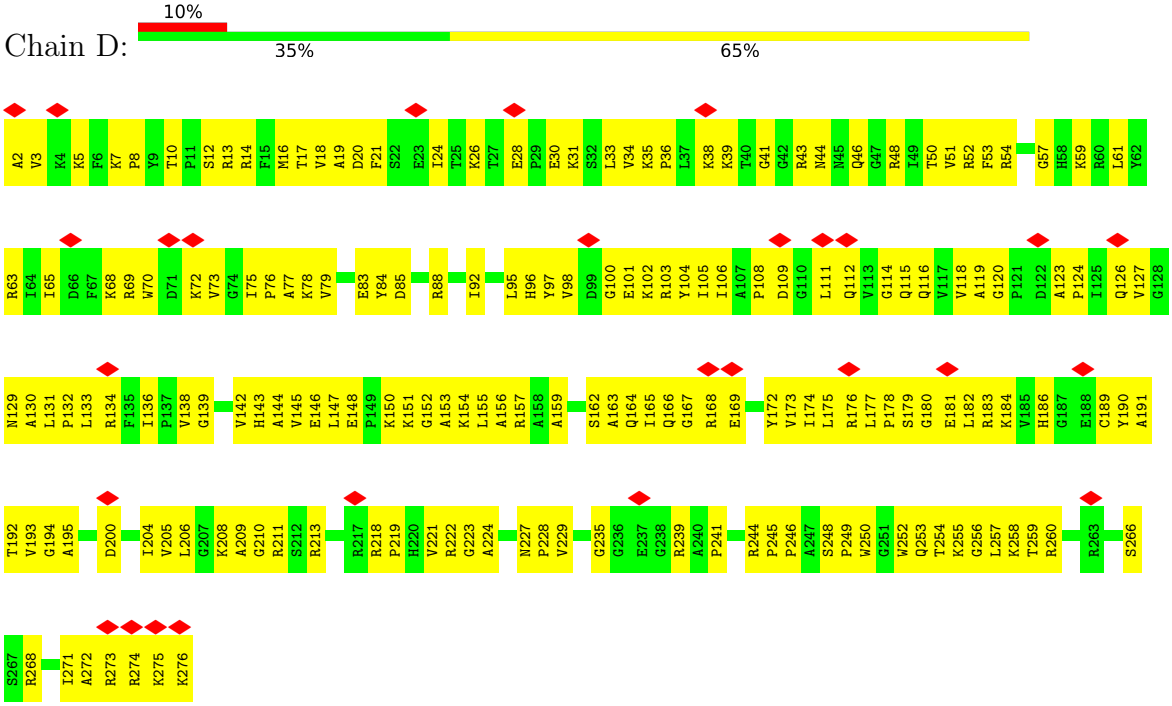
Chain B:



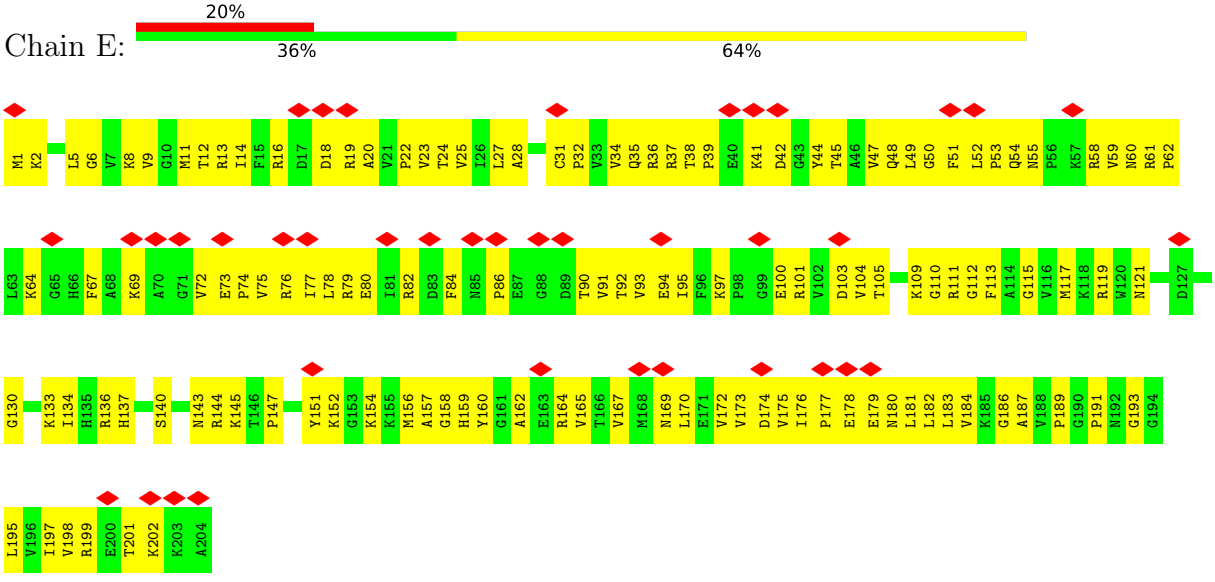




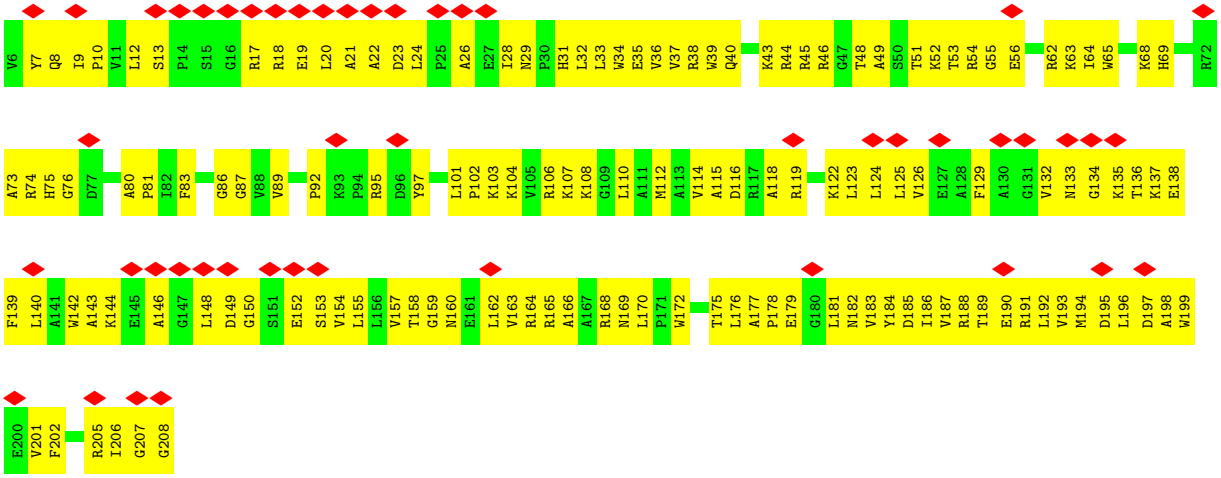
• Molecule 3: 50S ribosomal protein L2



• Molecule 4: 50S ribosomal protein L3

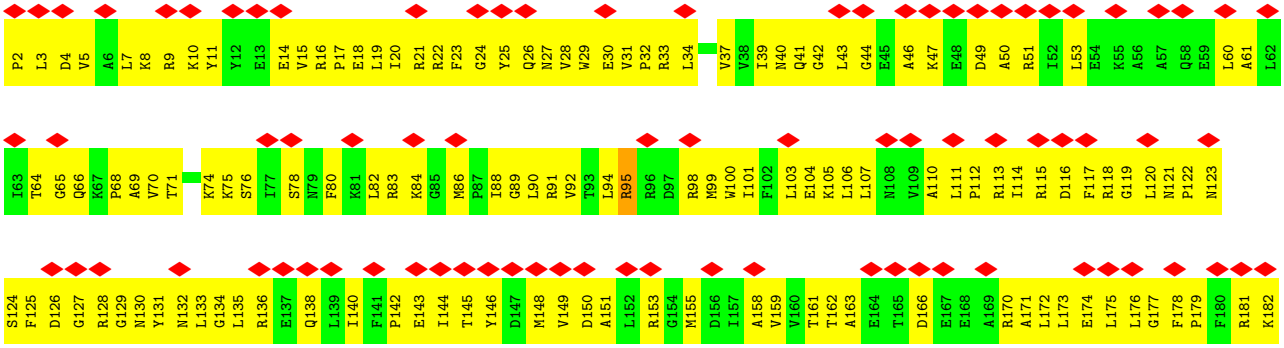


• Molecule 5: 50S ribosomal protein L4



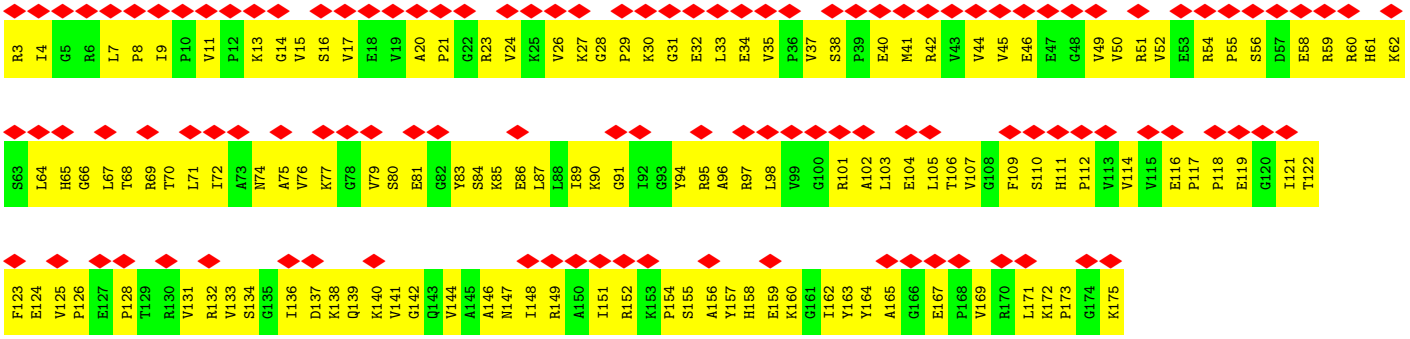
• Molecule 6: 50S ribosomal protein L5

Chain G:



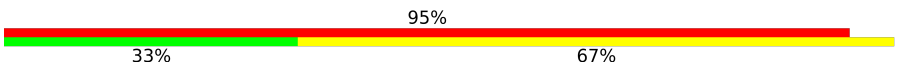
• Molecule 7: 50S ribosomal protein L6

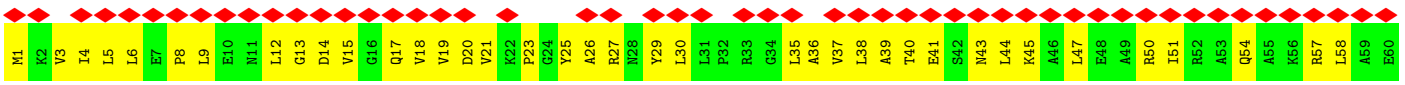
Chain H:

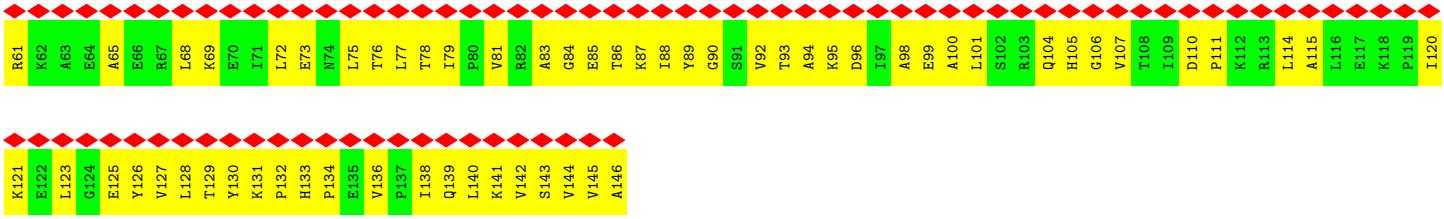


• Molecule 8: 50S ribosomal protein L9

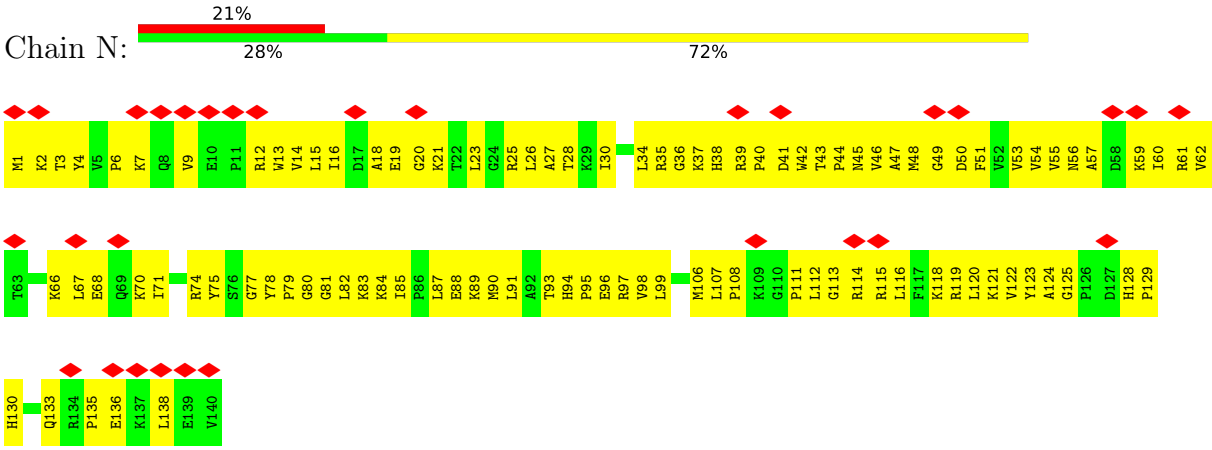
Chain I:



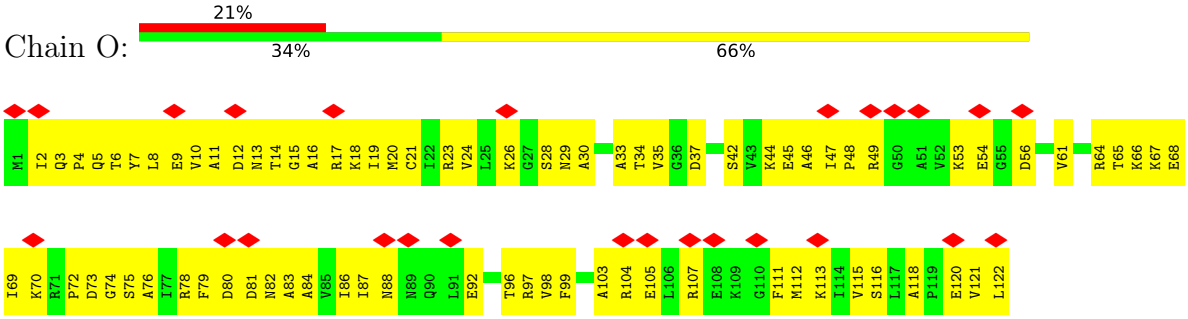




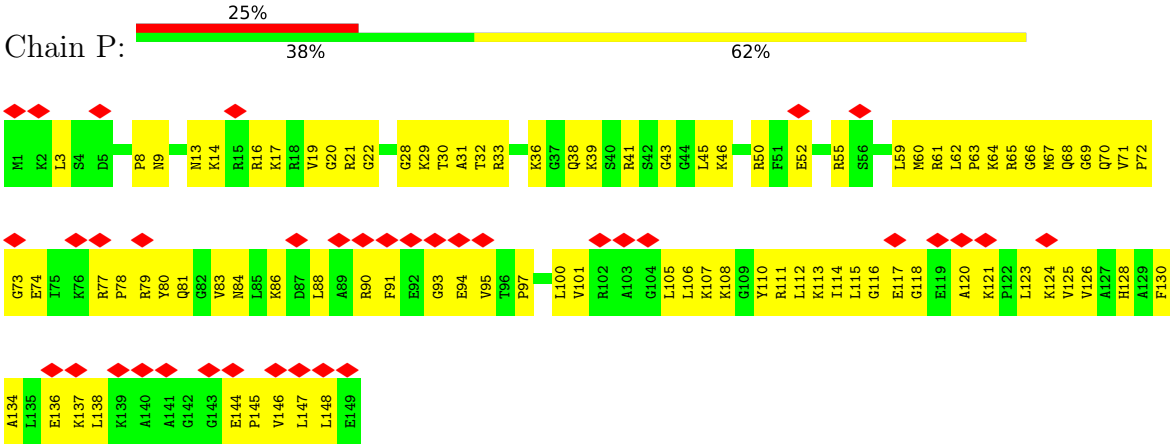
• Molecule 9: 50S ribosomal protein L13



• Molecule 10: 50S ribosomal protein L14

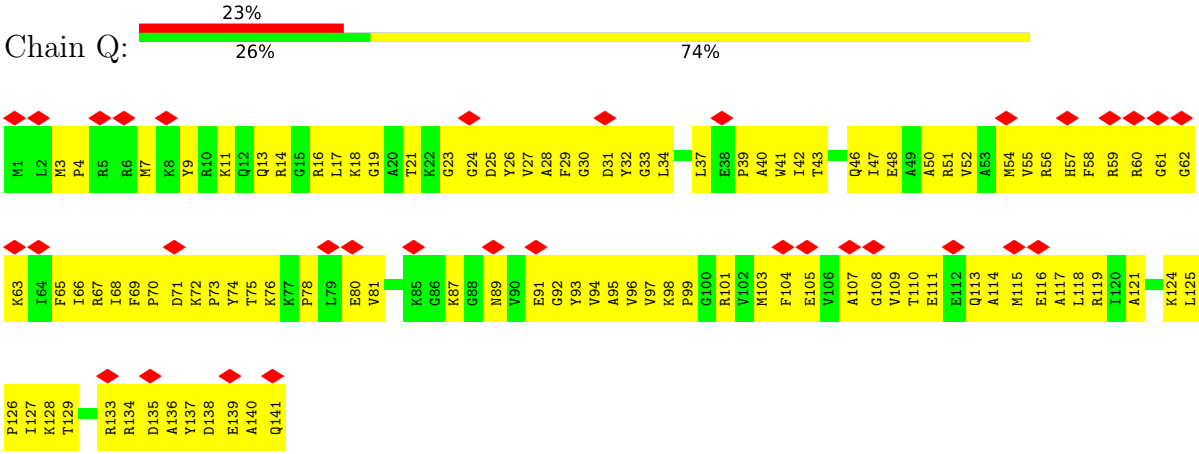


• Molecule 11: 50S ribosomal protein L15



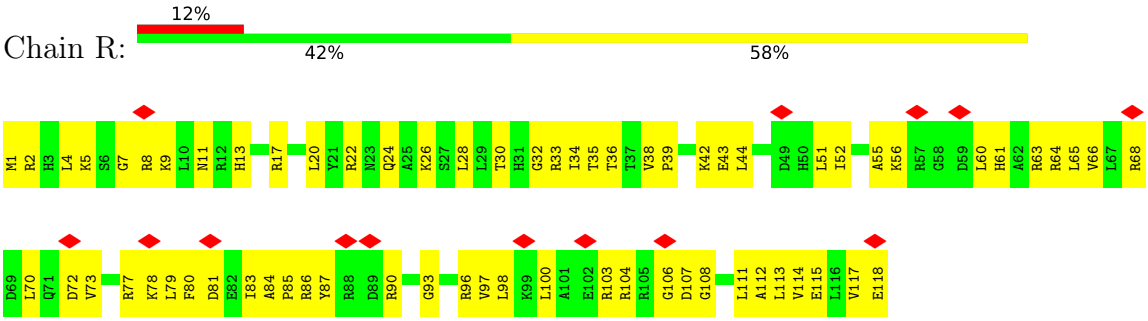
• Molecule 12: 50S ribosomal protein L16

Chain Q:



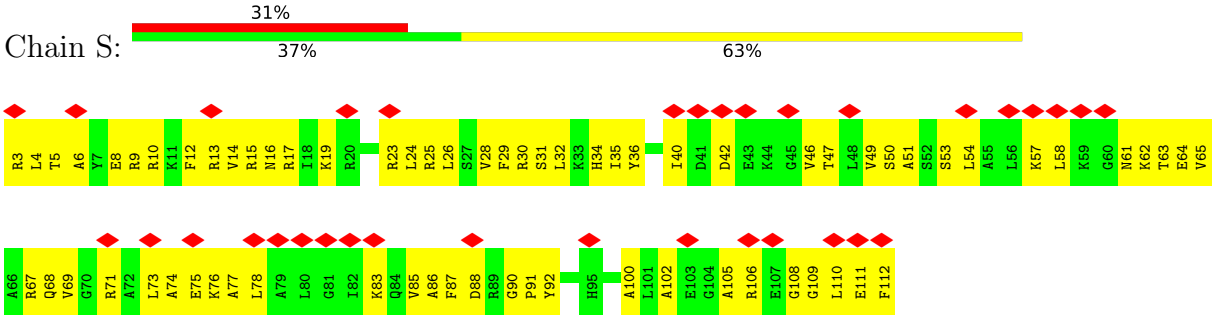
• Molecule 13: 50S ribosomal protein L17

Chain R:



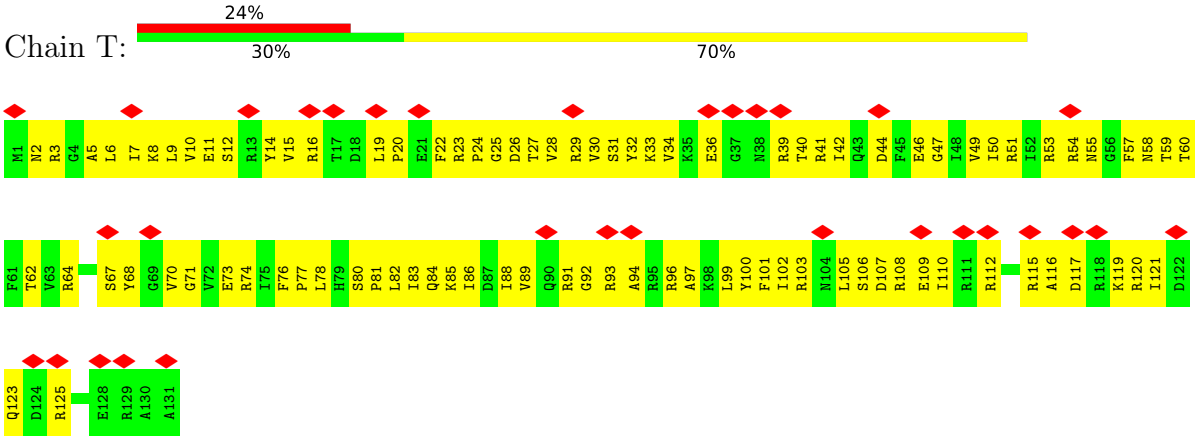
• Molecule 14: 50S ribosomal protein L18

Chain S:



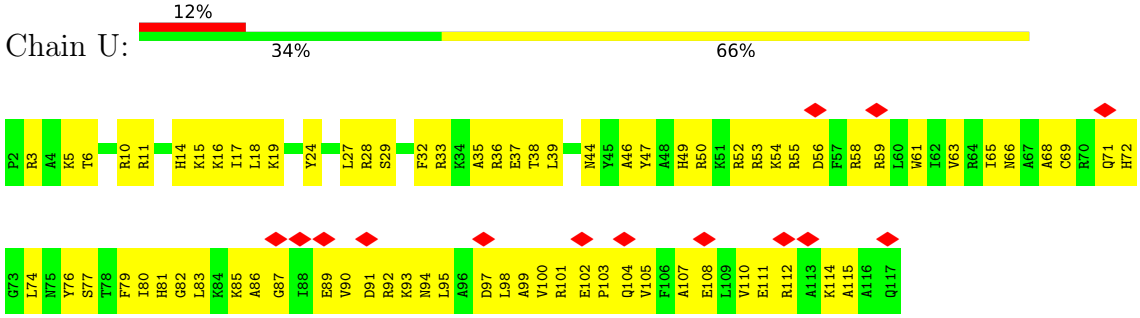
• Molecule 15: 50S ribosomal protein L19

Chain T:



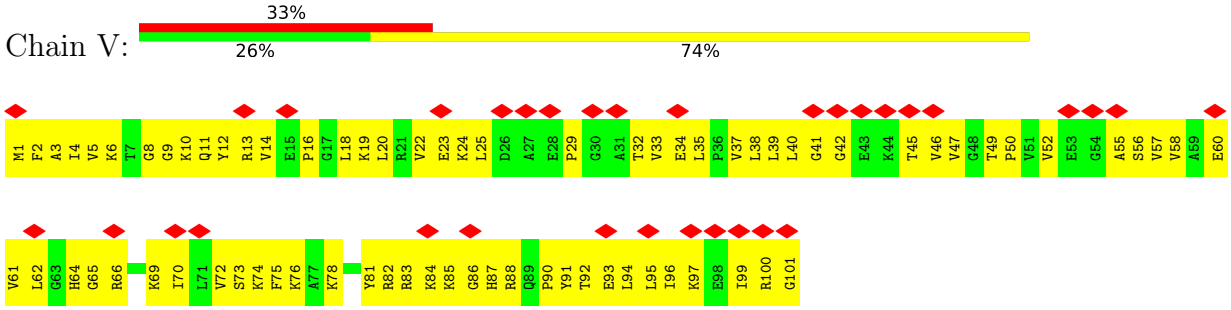
• Molecule 16: 50S ribosomal protein L20

Chain U:



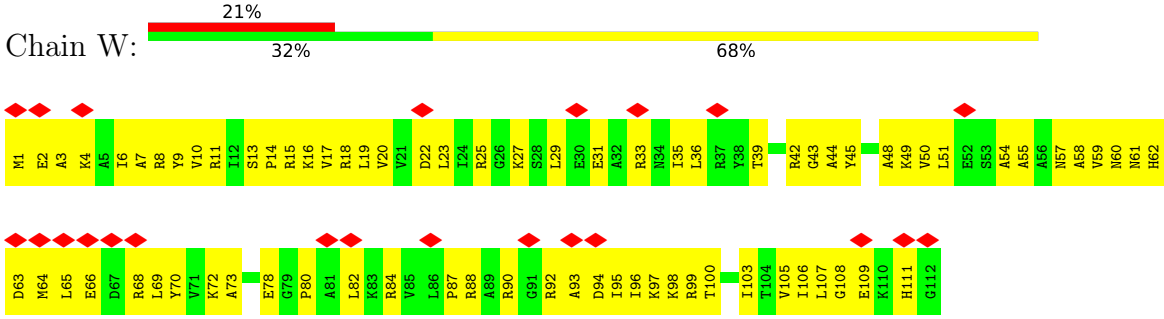
• Molecule 17: 50S ribosomal protein L21

Chain V:



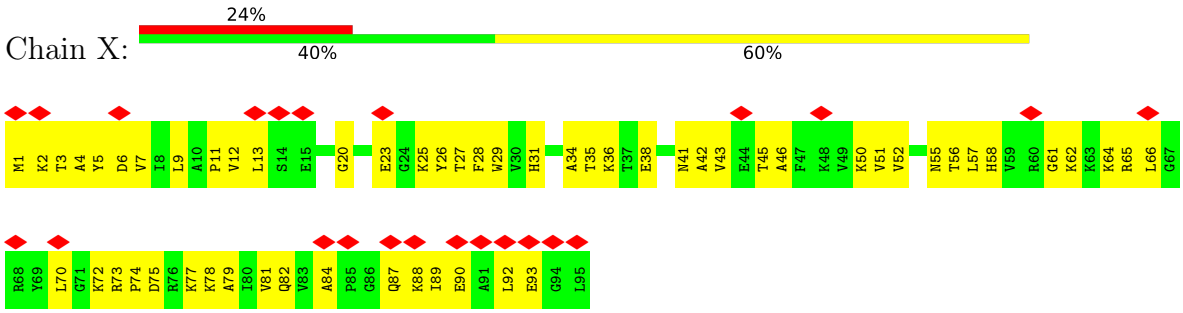
• Molecule 18: 50S ribosomal protein L22

Chain W:



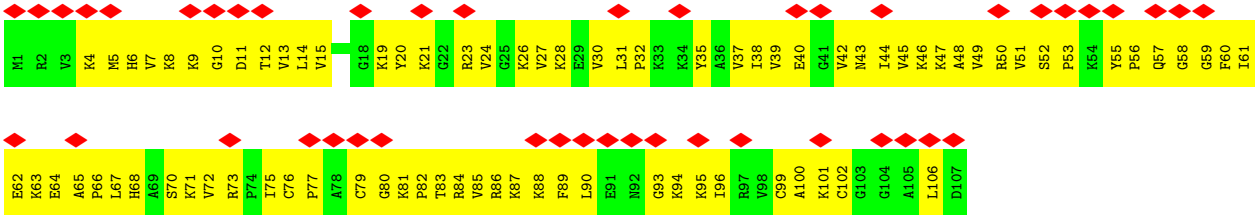
• Molecule 19: 50S ribosomal protein L23

Chain X:



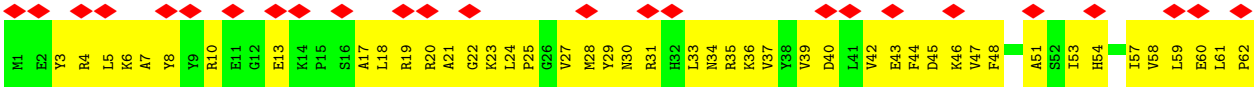
• Molecule 20: 50S ribosomal protein L24

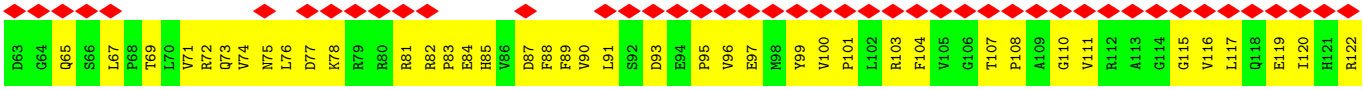
Chain Y:

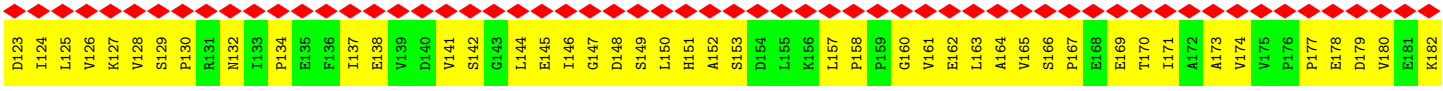


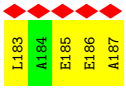
• Molecule 21: 50S ribosomal protein L25

Chain Z:



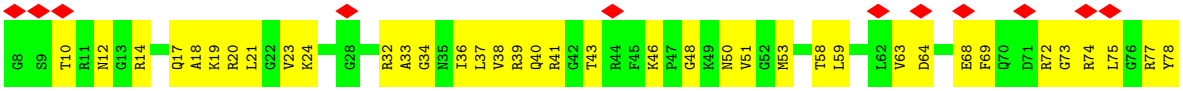


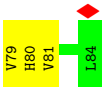




• Molecule 22: 50S ribosomal protein L27

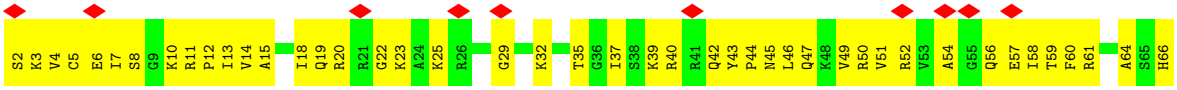
Chain 0:





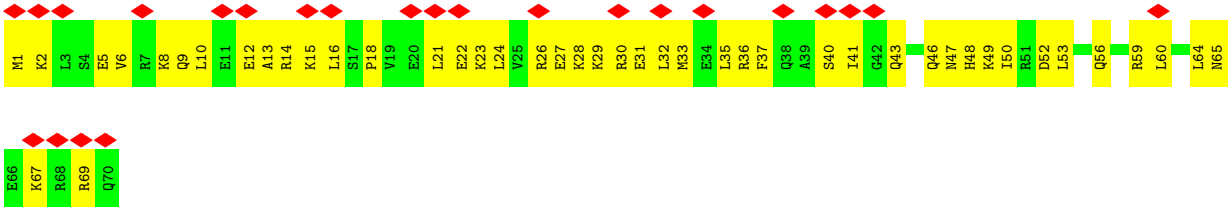
• Molecule 23: 50S ribosomal protein L28

Chain 1:



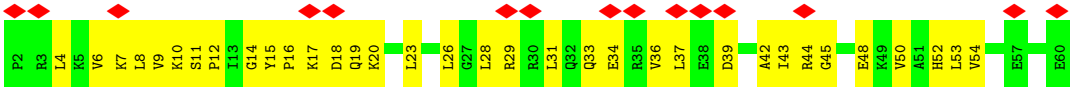
• Molecule 24: 50S ribosomal protein L29

Chain 2:



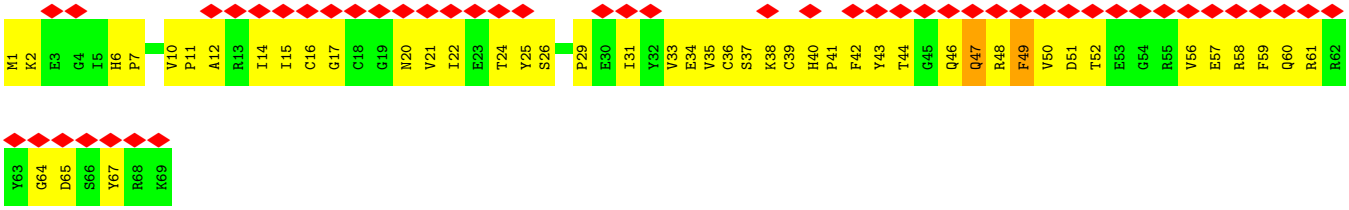
• Molecule 25: 50S ribosomal protein L30

Chain 3:



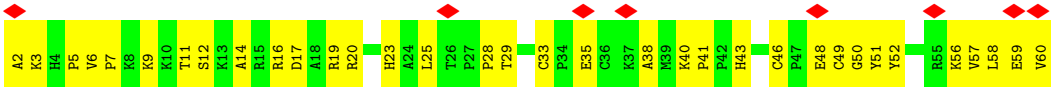
• Molecule 26: 50S ribosomal protein L31

Chain 4:



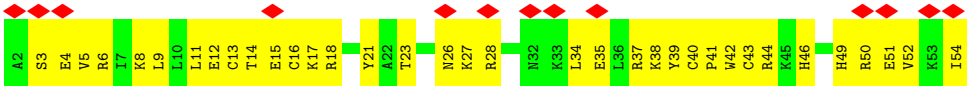
• Molecule 27: 50S ribosomal protein L32

Chain 5:



• Molecule 28: 50S ribosomal protein L33

Chain 6:

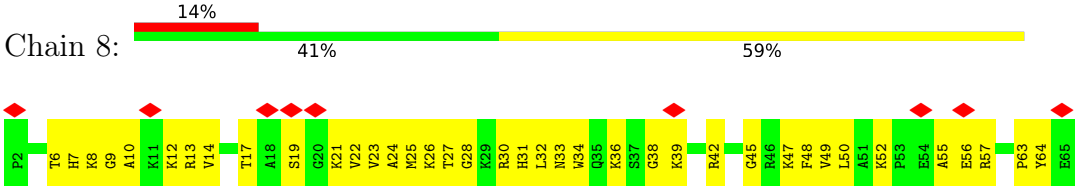


• Molecule 29: 50S ribosomal protein L34

Chain 7:

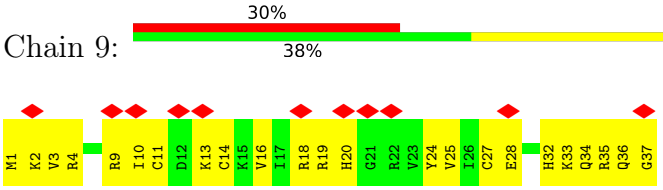
• Molecule 30: 50S ribosomal protein L35

Chain 8:



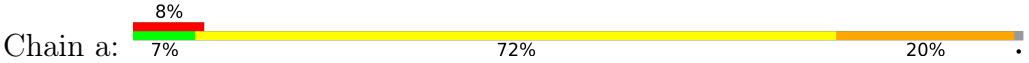
• Molecule 31: 50S ribosomal protein L36

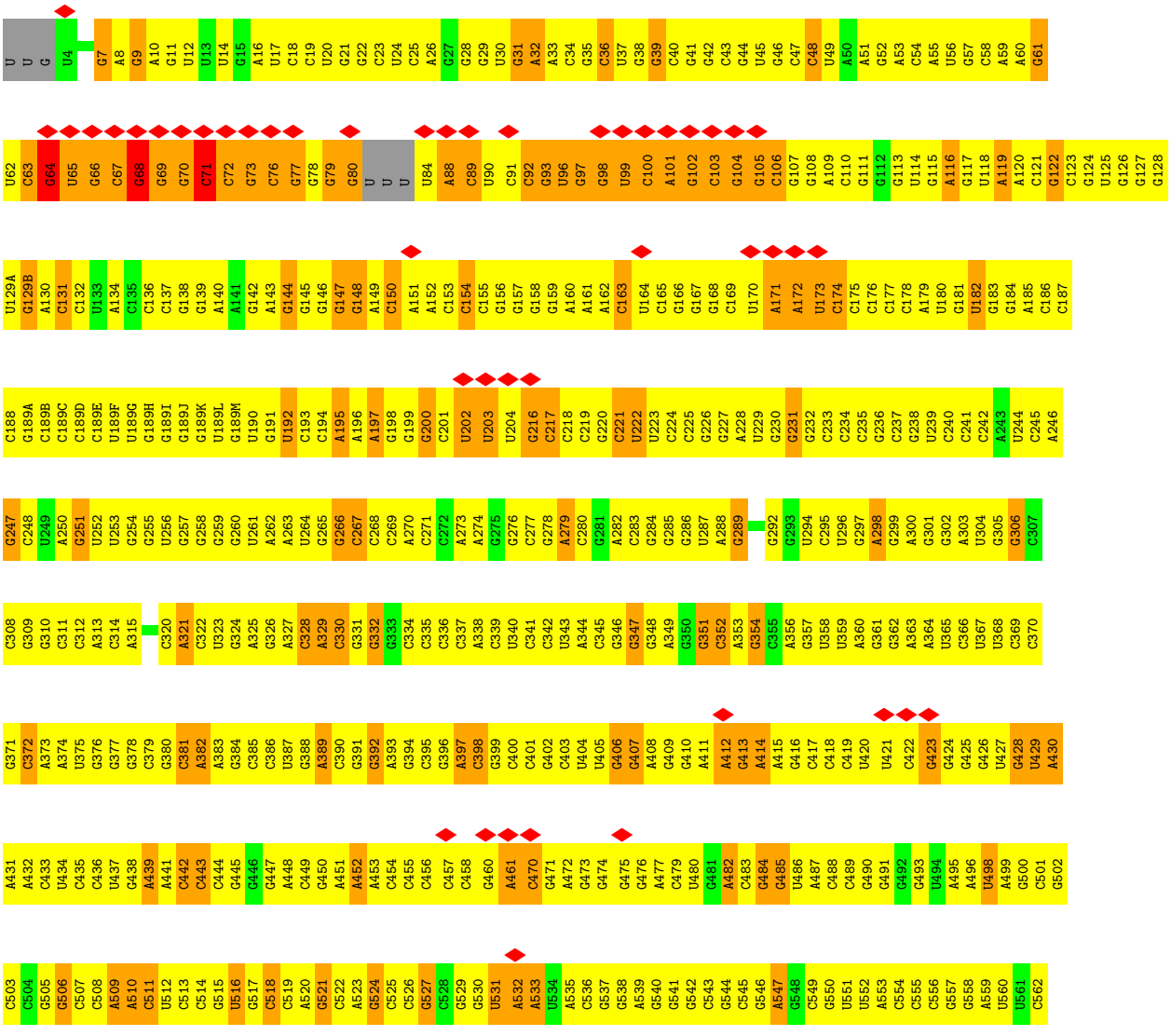
Chain 9:

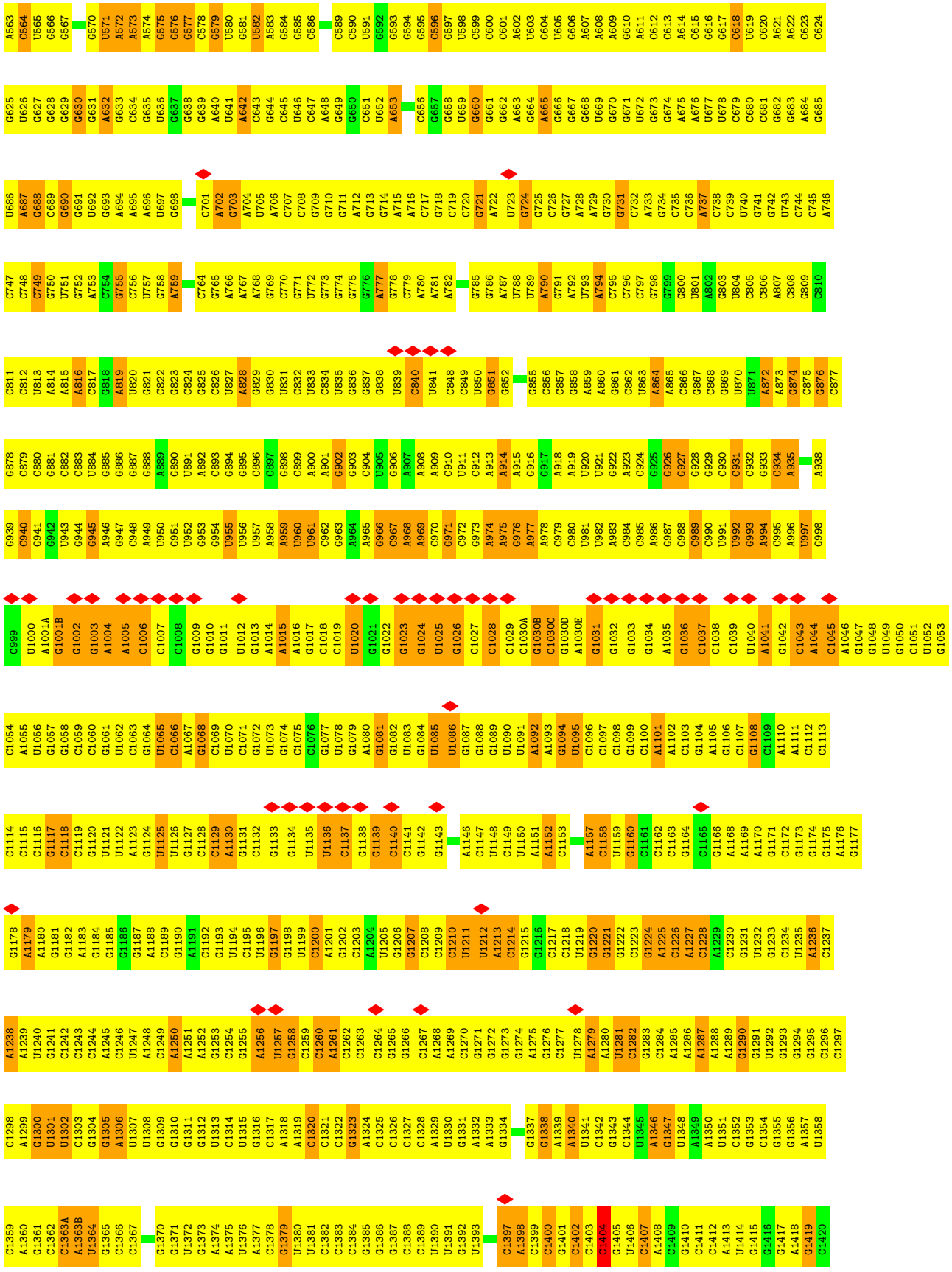


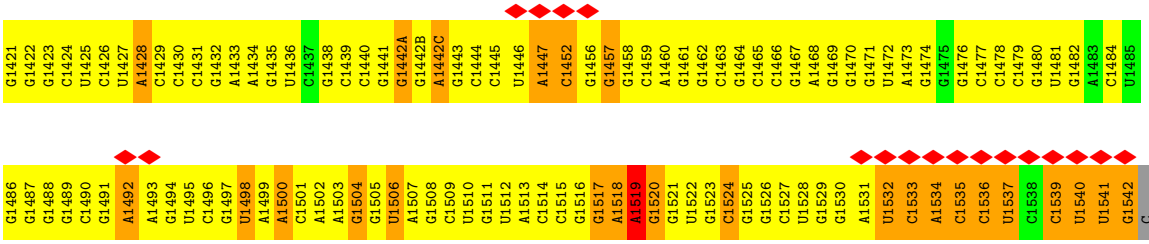
• Molecule 32: 16S rRNA

Chain a:



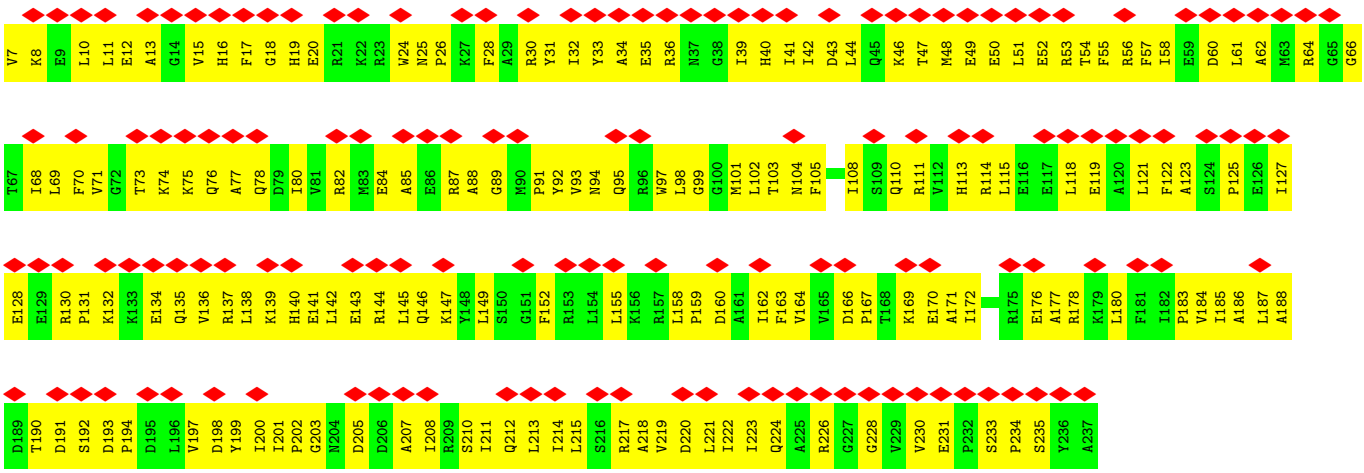






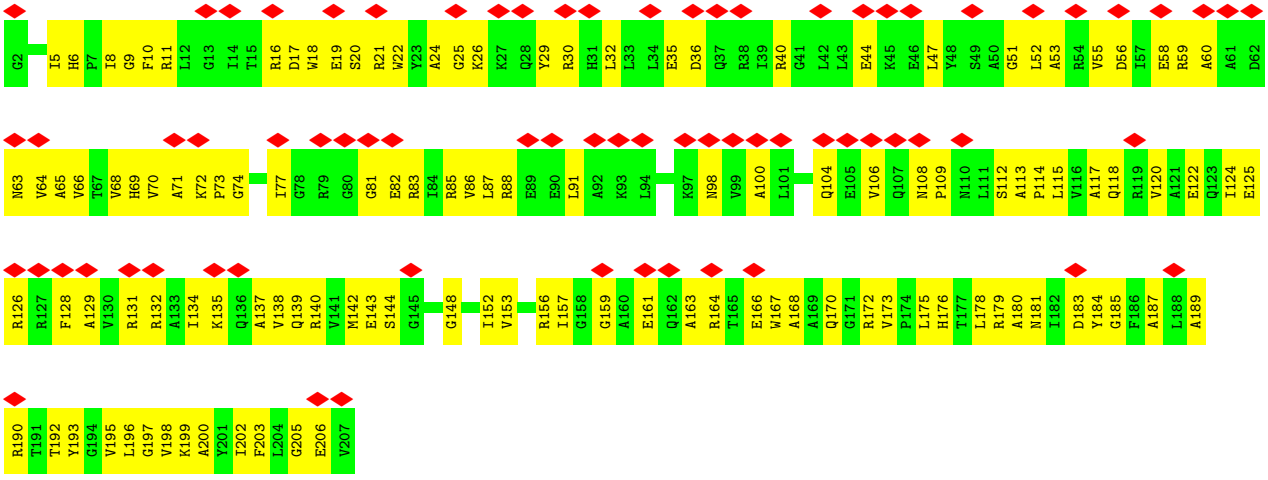
• Molecule 33: 30S ribosomal protein S2

Chain b:



• Molecule 34: 30S ribosomal protein S3

Chain c:

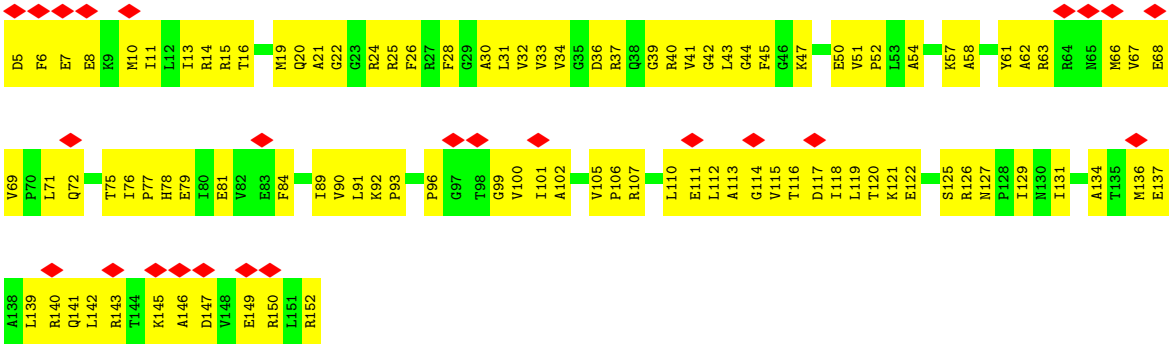


• Molecule 35: 30S ribosomal protein S4

Chain d:

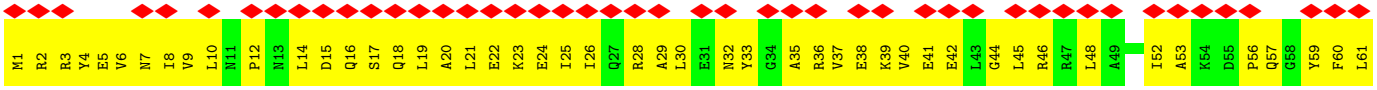
• Molecule 36: 30S ribosomal protein S5

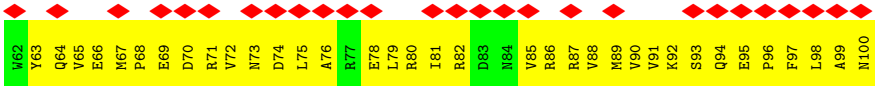
Chain e:



• Molecule 37: 30S ribosomal protein S6

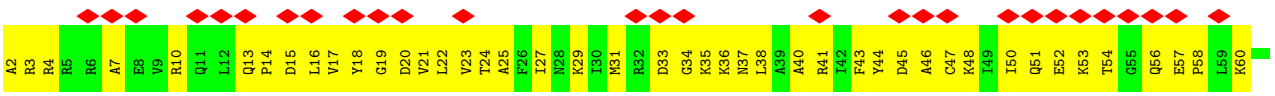
Chain f:

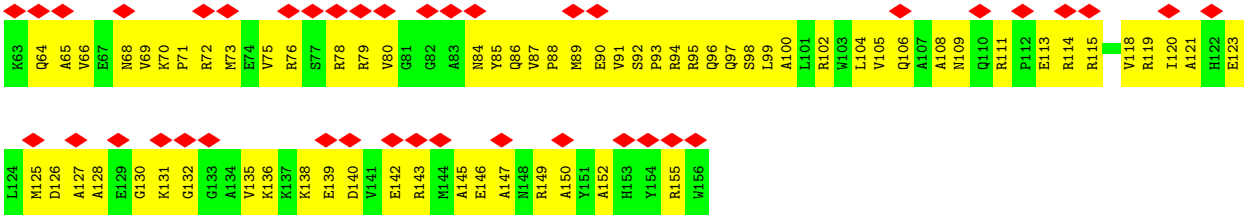




• Molecule 38: 30S ribosomal protein S7

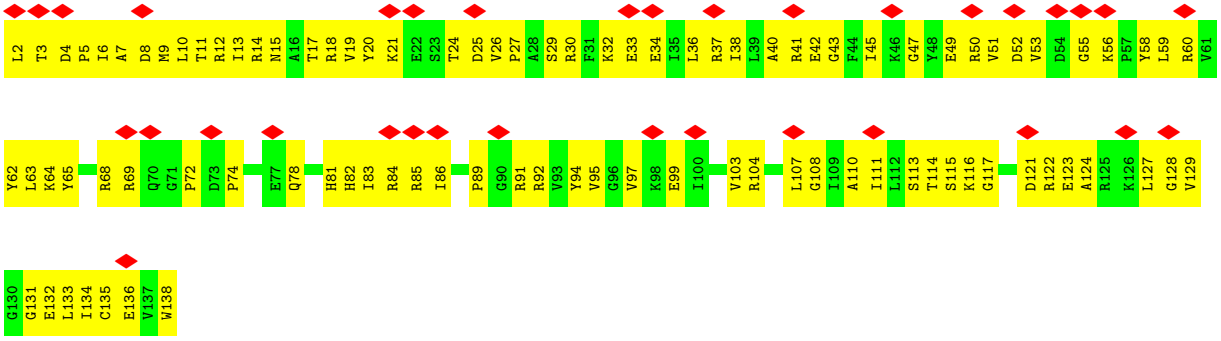
Chain g:





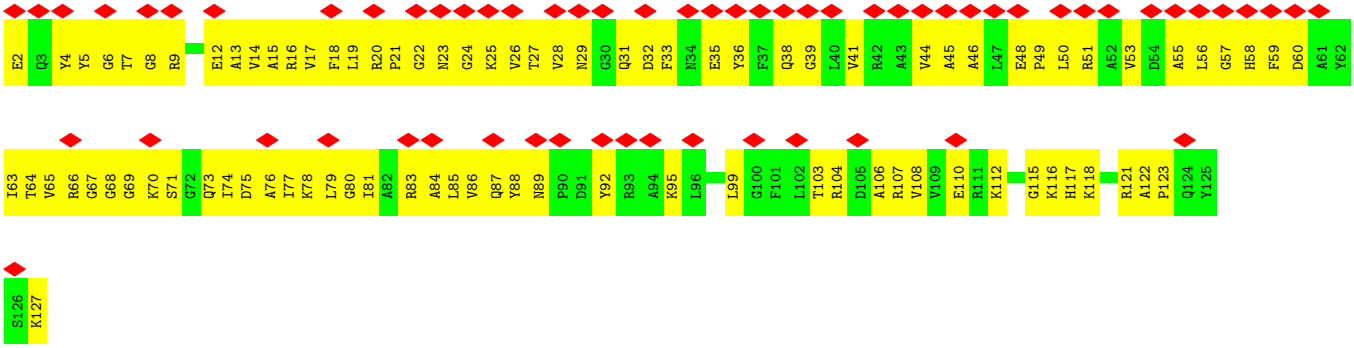
• Molecule 39: 30S ribosomal protein S8

Chain h:



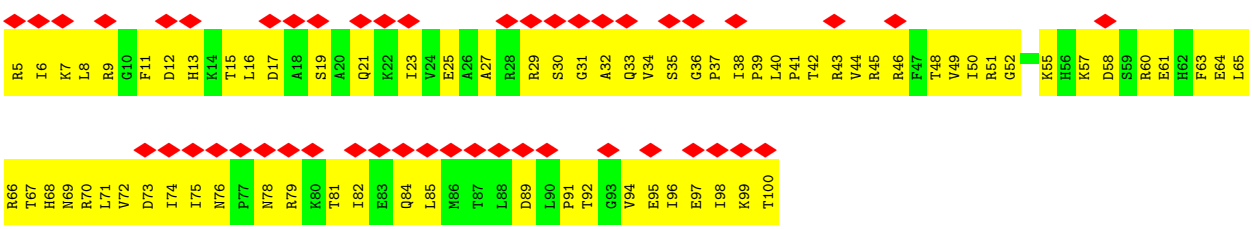
• Molecule 40: 30S ribosomal protein S9

Chain i:



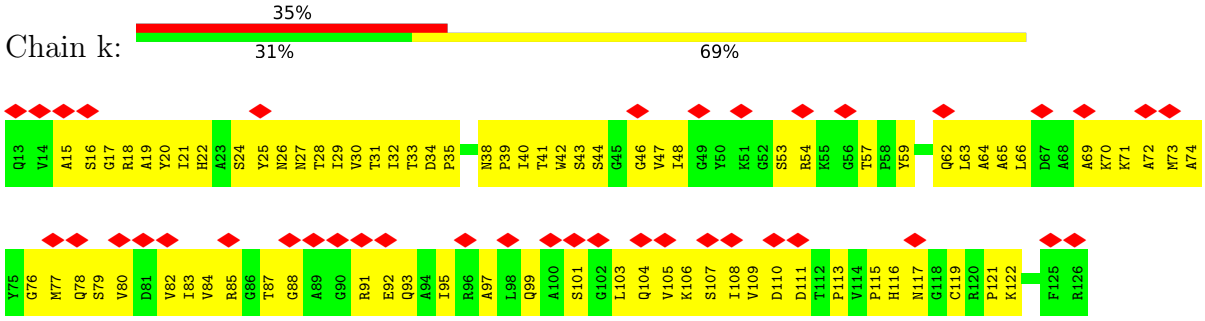
• Molecule 41: 30S ribosomal protein S10

Chain j:



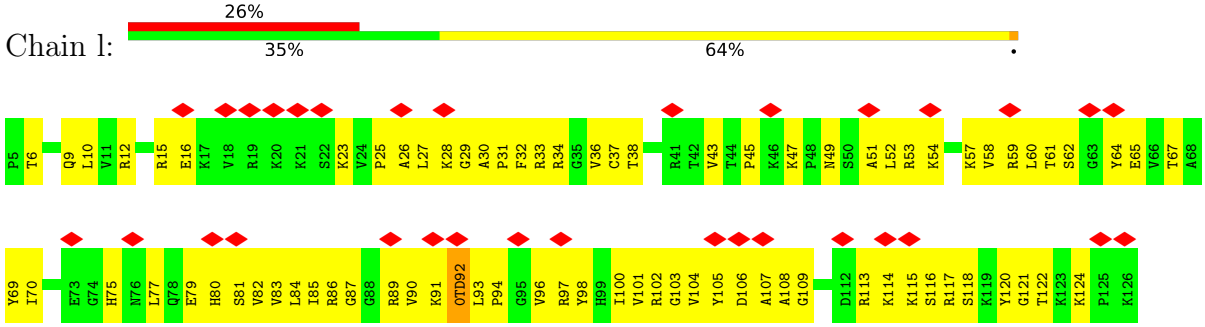
• Molecule 42: 30S ribosomal protein S11

Chain k:



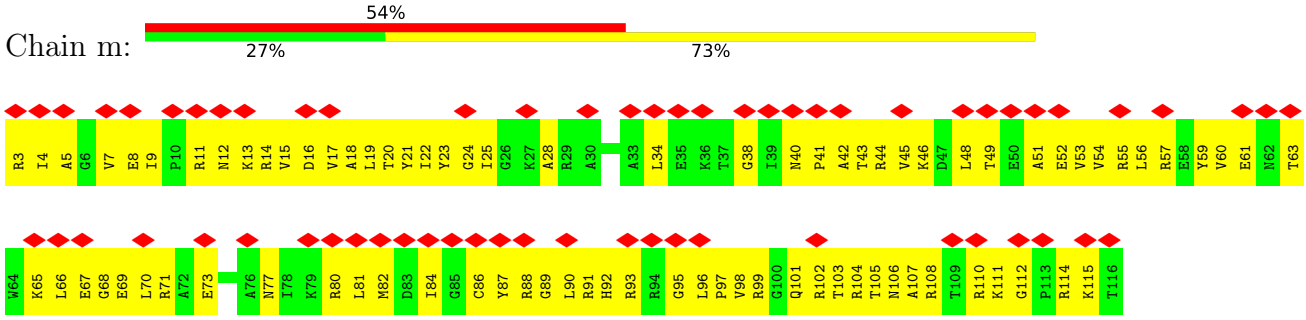
• Molecule 43: 30S ribosomal protein S12

Chain l:



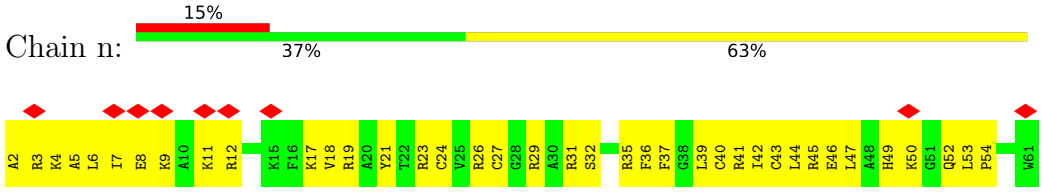
• Molecule 44: 30S ribosomal protein S13

Chain m:



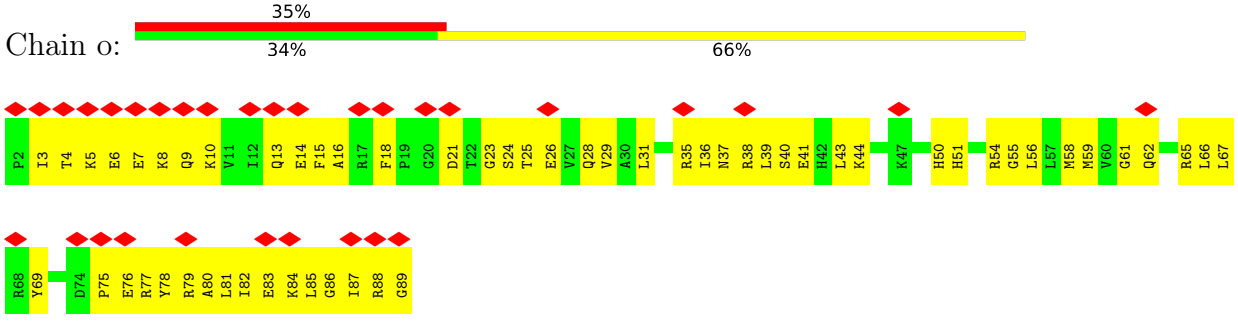
• Molecule 45: 30S ribosomal protein S14 type Z

Chain n:



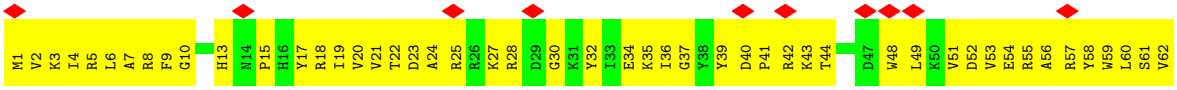
• Molecule 46: 30S ribosomal protein S15

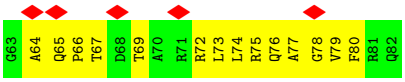
Chain o:



• Molecule 47: 30S ribosomal protein S16

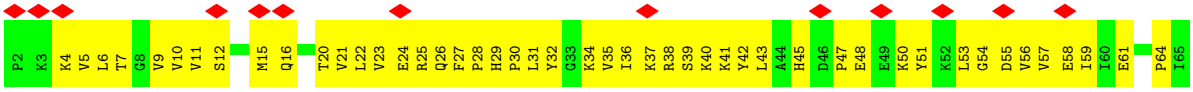
Chain p:

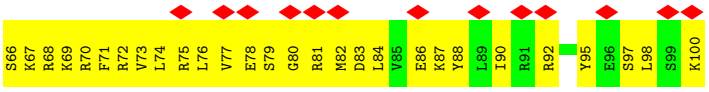




• Molecule 48: 30S ribosomal protein S17

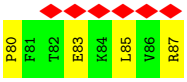
Chain q:





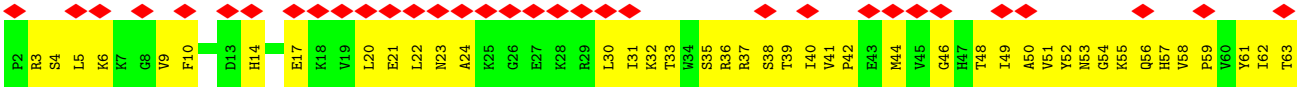
• Molecule 49: 30S ribosomal protein S18

Chain r:



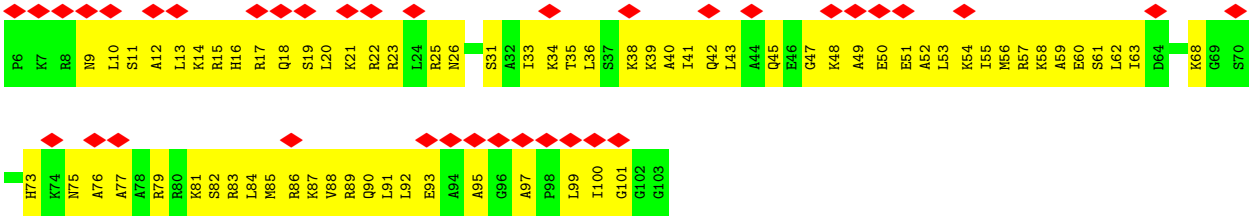
• Molecule 50: 30S ribosomal protein S19

Chain s:

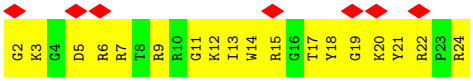


• Molecule 51: 30S ribosomal protein S20

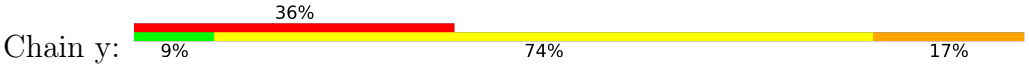
Chain t:

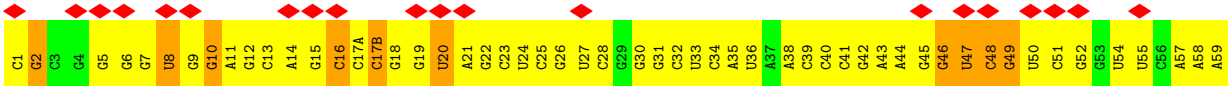


• Molecule 52: 30S ribosomal protein Thx

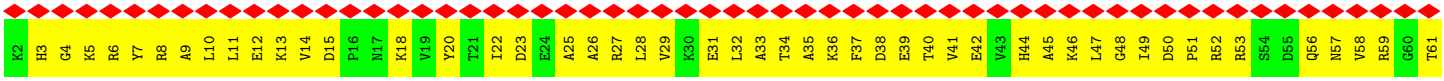


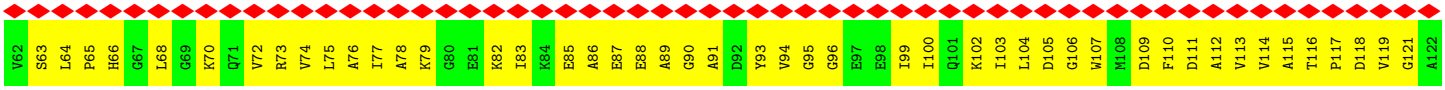
• Molecule 53: P-site tRNA fMet

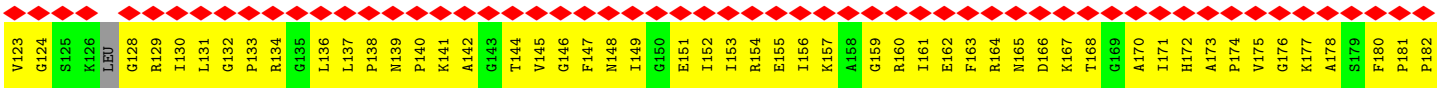


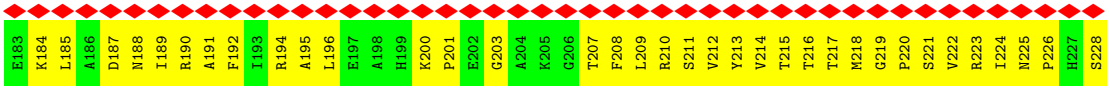


• Molecule 54: 50S ribosomal protein L1

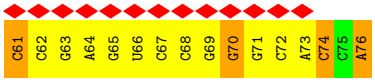




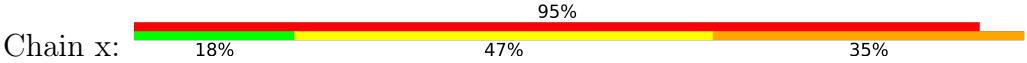


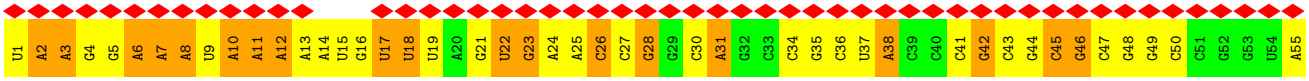


• Molecule 55: E-site tRNA Phe



• Molecule 56: messenger RNA





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	36361	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 ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.150	Depositor
Minimum map value	-0.080	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	384.0, 384.0, 384.0	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0, 1.0, 1.0	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: SF4, UR3, 2MG, OMG, PSU, ZN, MA6, 2MA, 7MG, 5MU, 5MC, 4OC, 2MU, M2G, 0TD

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.40	0/68899	0.36	4/107536 (0.0%)
2	B	0.35	0/2878	0.31	0/4490
3	D	0.38	0/2186	0.46	0/2944
4	E	0.37	0/1592	0.50	0/2149
5	F	0.34	0/1615	0.43	0/2188
6	G	0.29	0/1449	0.45	0/1957
7	H	0.27	0/1347	0.44	0/1817
8	I	0.18	0/1091	0.39	0/1490
9	N	0.35	0/1144	0.44	0/1543
10	O	0.37	0/943	0.42	0/1269
11	P	0.34	0/1152	0.46	0/1533
12	Q	0.37	0/1143	0.44	0/1527
13	R	0.35	0/982	0.52	0/1312
14	S	0.31	0/880	0.44	0/1172
15	T	0.36	0/1097	0.49	0/1468
16	U	0.35	0/977	0.45	0/1301
17	V	0.33	0/782	0.46	0/1049
18	W	0.37	0/897	0.45	0/1205
19	X	0.34	0/764	0.41	0/1025
20	Y	0.28	0/823	0.41	0/1100
21	Z	0.25	0/1491	0.44	0/2029
22	0	0.36	0/616	0.48	0/821
23	1	0.35	0/766	0.46	0/1018
24	2	0.32	0/594	0.47	0/785
25	3	0.33	0/469	0.44	0/630
26	4	0.27	0/549	0.62	0/741
27	5	0.33	0/469	0.42	0/635
28	6	0.38	0/456	0.50	0/608
29	7	0.38	0/426	0.51	0/561
30	8	0.35	0/525	0.45	0/691
31	9	0.33	0/310	0.52	0/407
32	a	0.64	7/36109 (0.0%)	0.38	2/56341 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	b	0.27	0/1860	0.42	0/2518
34	c	0.32	0/1566	0.40	0/2119
35	d	0.29	0/1698	0.42	0/2277
36	e	0.36	0/1149	0.46	0/1548
37	f	0.27	0/829	0.39	0/1123
38	g	0.29	0/1248	0.40	0/1676
39	h	0.34	0/1108	0.44	0/1494
40	i	0.29	0/985	0.46	1/1329 (0.1%)
41	j	0.29	0/723	0.42	0/984
42	k	0.29	0/848	0.40	0/1149
43	l	0.32	0/937	0.46	0/1260
44	m	0.30	0/905	0.48	0/1217
45	n	0.33	0/501	0.45	0/664
46	o	0.32	0/739	0.43	0/985
47	p	0.33	0/693	0.45	0/935
48	q	0.36	0/836	0.44	0/1117
49	r	0.28	0/560	0.43	0/746
50	s	0.27	0/660	0.40	0/893
51	t	0.31	0/736	0.51	0/976
52	u	0.33	0/203	0.52	0/266
53	y	0.30	0/1832	0.34	0/2855
54	C	0.15	0/1748	0.42	0/2354
55	z	0.21	0/1809	0.33	0/2819
56	x	0.18	0/1315	0.34	0/2046
All	All	0.44	7/160909 (0.0%)	0.39	7/240692 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	G	0	1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	71	C	C2-N3	41.51	2.18	1.35
32	a	71	C	N1-C2	41.29	2.22	1.40
32	a	71	C	N3-C4	40.36	2.14	1.33
32	a	71	C	N1-C6	39.59	2.16	1.37
32	a	71	C	C4-C5	37.79	2.18	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	71	C	C5-C6	37.56	2.09	1.34
32	a	64	G	C3'-O3'	15.00	1.65	1.43

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2224	G	OP1-P-O3'	-10.30	77.11	108.00
1	A	2883	A	OP2-P-O3'	-8.84	81.48	108.00
1	A	2883	A	OP1-P-O3'	-8.51	82.47	108.00
1	A	2224	G	OP2-P-O3'	-7.57	85.30	108.00
40	i	44	VAL	N-CA-C	-6.52	107.51	113.71
32	a	64	G	C2'-C3'-O3'	5.66	117.98	109.50
32	a	68	G	C2'-C3'-O3'	5.17	121.45	113.70

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	G	95	ARG	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	61758	0	31153	3990	0
2	B	2573	0	1306	177	0
3	D	2136	0	2218	231	0
4	E	1559	0	1618	181	0
5	F	1580	0	1619	199	0
6	G	1424	0	1441	193	0
7	H	1324	0	1399	206	0
8	I	1076	0	1094	141	0
9	N	1117	0	1184	121	0
10	O	933	0	996	99	0
11	P	1135	0	1212	150	0
12	Q	1122	0	1179	154	0
13	R	968	0	1033	83	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	S	870	0	923	93	0
15	T	1083	0	1136	126	0
16	U	959	0	1019	97	0
17	V	771	0	830	102	0
18	W	886	0	940	84	0
19	X	750	0	814	68	0
20	Y	810	0	887	112	0
21	Z	1459	0	1457	192	0
22	0	608	0	622	52	0
23	1	759	0	837	87	0
24	2	592	0	654	49	0
25	3	464	0	514	45	0
26	4	536	0	514	95	0
27	5	455	0	465	46	0
28	6	449	0	469	43	0
29	7	418	0	467	39	0
30	8	517	0	582	59	0
31	9	307	0	335	24	0
32	a	32532	0	16451	2589	0
33	b	1825	0	1828	234	0
34	c	1542	0	1517	149	0
35	d	1668	0	1707	234	0
36	e	1133	0	1191	142	0
37	f	816	0	808	139	0
38	g	1229	0	1238	125	0
39	h	1088	0	1126	113	0
40	i	966	0	953	121	0
41	j	710	0	661	98	0
42	k	833	0	836	111	0
43	l	932	0	981	123	0
44	m	895	0	920	144	0
45	n	492	0	529	66	0
46	o	728	0	760	71	0
47	p	677	0	686	93	0
48	q	823	0	891	92	0
49	r	555	0	618	83	0
50	s	645	0	635	80	0
51	t	733	0	795	116	0
52	u	199	0	208	22	0
53	y	1640	0	838	122	0
54	C	1718	0	1767	363	0
55	z	1619	0	822	134	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	x	1176	4	596	56	0
57	4	1	0	0	0	0
57	5	1	0	0	0	0
57	6	1	0	0	0	0
57	9	1	0	0	0	0
57	Y	1	0	0	0	0
57	n	1	0	0	0	0
58	d	8	0	0	1	0
All	All	148586	4	100279	11478	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 47.

All (11478) 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)
32:a:64:G:C3'	32:a:64:G:O3'	1.65	1.44
32:a:71:C:C5	32:a:71:C:C6	2.09	1.38
32:a:71:C:C5	32:a:71:C:C4	2.18	1.29
7:H:16:SER:O	7:H:26:VAL:HA	1.36	1.22
32:a:71:C:C4	32:a:71:C:N3	2.14	1.14
32:a:66:G:O6	32:a:97:G:C2	2.02	1.13
32:a:71:C:C6	32:a:71:C:N1	2.16	1.12
32:a:67:C:H1'	32:a:172:A:H1'	1.26	1.11
32:a:71:C:N3	32:a:71:C:C2	2.18	1.11
32:a:98:G:H5'	51:t:14:LYS:HD3	1.29	1.10
1:A:2119:A:H61	1:A:2168:G:N2	1.50	1.08
32:a:71:C:N1	32:a:71:C:C2	2.22	1.07
23:1:50:ARG:HG2	23:1:59:THR:HG22	1.38	1.06
23:1:4:VAL:HG12	23:1:11:ARG:HG2	1.34	1.05
26:4:50:VAL:HG11	44:m:65:LYS:HB3	1.33	1.05
4:E:11:MET:HG2	4:E:24:THR:HG22	1.35	1.05
33:b:77:ALA:HB2	33:b:211:ILE:HD13	1.39	1.04
8:I:8:PRO:HA	8:I:14:ASP:HA	1.38	1.04
20:Y:44:ILE:HA	20:Y:63:LYS:O	1.57	1.03
32:a:618:C:H5'	32:a:619:U:H5"	1.35	1.03
54:C:75:LEU:HB3	54:C:113:VAL:HG22	1.38	1.03
1:A:1059:G:H3'	1:A:1060:U:H2'	1.36	1.02
11:P:86:LYS:HB3	11:P:118:GLY:HA3	1.39	1.02
36:e:50:GLU:HG3	36:e:52:PRO:HD2	1.38	1.02
32:a:954:G:H21	32:a:1227:A:N6	1.58	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:975:A:H4'	32:a:976:G:H5"	1.43	1.00
51:t:50:GLU:HB2	51:t:99:LEU:HD22	1.41	1.00
54:C:175:VAL:HB	54:C:188:ASN:HB3	1.42	1.00
1:A:2119:A:N6	1:A:2168:G:H21	1.59	1.00
32:a:1286:A:H2'	32:a:1287:A:H4'	1.40	1.00
42:k:33:THR:HG22	42:k:39:PRO:HA	1.43	1.00
32:a:66:G:C6	32:a:97:G:N2	2.30	0.99
26:4:59:PHE:HB2	26:4:61:ARG:HB2	1.43	0.99
48:q:6:LEU:HD23	48:q:23:VAL:HG11	1.43	0.99
20:Y:5:MET:HE1	20:Y:35:TYR:HA	1.40	0.98
34:c:65:ALA:HA	34:c:100:ALA:HB3	1.41	0.98
41:j:50:ILE:HD11	41:j:57:LYS:HD2	1.45	0.98
2:B:33:G:H5'	6:G:2:PRO:HD3	1.41	0.97
33:b:84:GLU:HB3	33:b:219:VAL:HG21	1.47	0.97
56:x:31:A:H61	56:x:48:G:H1	1.01	0.97
54:C:64:LEU:HD12	54:C:68:LEU:HD21	1.43	0.97
12:Q:65:PHE:HB2	12:Q:105:GLU:O	1.63	0.97
32:a:64:G:O3'	32:a:65:U:P	2.22	0.97
1:A:2711:A:H5"	1:A:2712(A):U:H5"	1.44	0.96
40:i:46:ALA:HB2	40:i:74:ILE:HG23	1.46	0.96
7:H:27:LYS:HE2	7:H:32:GLU:HB2	1.47	0.96
50:s:41:VAL:HG12	50:s:44:MET:HG3	1.44	0.96
1:A:2100:G:H1	1:A:2189:U:H3	0.99	0.96
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.48	0.96
32:a:66:G:O6	32:a:97:G:N2	1.98	0.96
54:C:77:ILE:HG12	54:C:99:ILE:HD11	1.47	0.96
1:A:1720:U:H3	1:A:1742:G:H1	1.14	0.95
1:A:2674:G:H5"	10:O:26:LYS:HE3	1.47	0.95
1:A:1791:A:H5'	3:D:206:LEU:HD12	1.46	0.95
33:b:51:LEU:HD23	33:b:201:ILE:HD12	1.49	0.95
32:a:1003:G:H2'	32:a:1004:A:H4'	1.47	0.95
56:x:31:A:N6	56:x:48:G:H1	1.62	0.95
32:a:954:G:N2	32:a:1227:A:H62	1.65	0.95
8:I:23:PRO:O	8:I:27:ARG:HB3	1.67	0.95
12:Q:59:ARG:HA	21:Z:180:VAL:HG23	1.47	0.95
34:c:77:ILE:HB	34:c:81:GLY:HA2	1.46	0.95
33:b:75:LYS:HA	33:b:78:GLN:HB2	1.48	0.95
43:l:59:ARG:HA	43:l:65:GLU:HA	1.49	0.95
55:z:54:U:C2	55:z:58:A:N7	2.34	0.95
15:T:60:THR:HG22	15:T:77:PRO:HA	1.49	0.94
32:a:62:U:H3	32:a:98:G:H2'	1.31	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:q:22:LEU:HD11	48:q:39:SER:HB2	1.49	0.94
54:C:100:ILE:HD11	54:C:123:VAL:HG22	1.49	0.94
32:a:593:G:H1	32:a:646:U:H3	0.98	0.94
4:E:34:VAL:HG21	4:E:78:LEU:HD11	1.47	0.94
32:a:64:G:O3'	32:a:71:C:C6	2.20	0.94
32:a:72:C:H2'	32:a:73:G:H5'	1.50	0.94
46:o:54:ARG:HG2	46:o:58:MET:HE2	1.45	0.94
1:A:90:U:H4'	1:A:92:A:H5'	1.48	0.94
3:D:79:VAL:HG21	3:D:111:LEU:HD11	1.50	0.93
54:C:29:VAL:HG21	54:C:41:VAL:HG13	1.47	0.93
1:A:1064:C:H3'	1:A:1065:U:H5"	1.50	0.93
49:r:47:THR:HA	49:r:83:GLU:HB2	1.50	0.93
21:Z:103:ARG:O	21:Z:138:GLU:HA	1.67	0.93
1:A:2113:U:H3	1:A:2168:G:H4'	1.33	0.92
1:A:1270:C:H5"	1:A:1271:G:H5'	1.49	0.92
54:C:73:ARG:H	54:C:111:ASP:HB2	1.34	0.92
36:e:10:MET:HB3	36:e:13:ILE:HD11	1.51	0.92
5:F:179:GLU:HA	5:F:205:ARG:HH22	1.31	0.92
32:a:1049:U:HO2'	45:n:2:ALA:N	1.68	0.92
5:F:154:VAL:HG22	5:F:191:ARG:HB3	1.52	0.92
33:b:17:PHE:HB2	33:b:44:LEU:HD21	1.50	0.92
11:P:63:PRO:HD3	30:8:27:THR:HG22	1.53	0.91
43:l:117:ARG:HG3	43:l:122:THR:HB	1.53	0.91
7:H:33:LEU:HD11	7:H:75:ALA:HB1	1.52	0.91
49:r:58:LEU:HD12	49:r:62:GLU:HB3	1.49	0.91
1:A:1354:A:H5"	3:D:38:LYS:HE2	1.50	0.91
11:P:121:LYS:HD3	11:P:123:LEU:HD11	1.48	0.91
54:C:46:LYS:HG2	54:C:210:ARG:HH11	1.36	0.91
43:l:37:CYS:HA	43:l:58:VAL:HG22	1.51	0.91
55:z:18:G:H1	55:z:55:U:H1'	1.33	0.91
32:a:993:G:H2'	32:a:995:C:H41	1.35	0.91
1:A:1481:U:H3	1:A:1510:G:H1	1.15	0.91
32:a:103:C:HO2'	32:a:174:C:HO2'	0.94	0.91
32:a:666:G:H5'	32:a:726:C:H1'	1.52	0.91
8:I:3:VAL:O	8:I:18:VAL:HA	1.69	0.90
21:Z:54:HIS:HB3	21:Z:101:PRO:HD3	1.53	0.90
32:a:143:A:H2	32:a:220:G:H1	0.97	0.90
32:a:101:A:O2'	32:a:152:A:OP1	1.88	0.90
1:A:1300:U:H4'	1:A:1301:A:H5"	1.50	0.90
35:d:18:LYS:HA	35:d:33:MET:HG3	1.52	0.90
7:H:24:VAL:HG22	7:H:35:VAL:HB	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:75:LEU:HA	54:C:93:TYR:HB2	1.53	0.90
12:Q:33:GLY:HA2	12:Q:104:PHE:O	1.72	0.90
1:A:881:G:H1	1:A:895:U:H3	1.13	0.90
7:H:35:VAL:HG13	7:H:71:LEU:HD22	1.53	0.90
15:T:16:ARG:HH21	15:T:81:PRO:HA	1.36	0.90
21:Z:99:TYR:HA	21:Z:124:ILE:O	1.72	0.90
36:e:76:ILE:HG13	36:e:93:PRO:HG3	1.54	0.90
39:h:9:MET:HG3	39:h:26:VAL:HG11	1.53	0.90
1:A:1215:G:H1	1:A:1234:U:H3	1.20	0.89
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.54	0.89
55:z:54:U:N3	55:z:58:A:C8	2.40	0.89
6:G:46:ALA:HB2	6:G:53:LEU:HD12	1.52	0.89
53:y:1:C:H4'	53:y:2:G:H5'	1.53	0.89
54:C:72:VAL:HG13	54:C:157:LYS:HD3	1.53	0.89
55:z:51:U:H3	55:z:63:G:H1	0.89	0.89
1:A:855:G:H1	1:A:922:U:H3	1.21	0.89
7:H:4:ILE:HA	7:H:7:LEU:HD23	1.54	0.89
9:N:42:TRP:HA	9:N:48:MET:HE2	1.55	0.89
26:4:14:ILE:O	26:4:21:VAL:HA	1.73	0.89
32:a:376:G:H5"	47:p:5:ARG:HB2	1.55	0.89
43:l:53:ARG:HG3	43:l:93:LEU:HD21	1.55	0.89
17:V:39:LEU:HD11	17:V:47:VAL:HG22	1.55	0.89
32:a:64:G:O3'	32:a:71:C:C5	2.25	0.89
32:a:406:G:H5'	35:d:5:ILE:HD11	1.52	0.88
32:a:407:G:H5"	35:d:115:ARG:HG2	1.53	0.88
1:A:1796:U:H3	1:A:1823:G:H1	0.90	0.88
1:A:2119:A:H61	1:A:2168:G:H21	0.90	0.88
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.54	0.88
32:a:64:G:O3'	32:a:71:C:N1	2.07	0.88
53:y:8:U:N3	53:y:14:A:C8	2.41	0.88
54:C:61:THR:HG23	54:C:142:ALA:HB1	1.56	0.88
28:6:14:THR:HG23	28:6:15:GLU:HG3	1.53	0.88
1:A:1045:A:H5"	1:A:1046:A:H5'	1.55	0.88
32:a:64:G:O3'	32:a:71:C:C2	2.27	0.88
8:I:85:GLU:HG3	37:f:21:LEU:HD23	1.55	0.87
1:A:2157:G:H5"	1:A:2158:A:H5'	1.56	0.87
32:a:684:A:H1'	42:k:39:PRO:HD2	1.56	0.87
11:P:60:MET:HA	30:8:13:ARG:HH12	1.40	0.87
32:a:1532:U:H4'	32:a:1533:C:H5'	1.54	0.87
54:C:91:ALA:HB2	54:C:153:ILE:HD13	1.52	0.87
32:a:64:G:O3'	32:a:71:C:C4	2.28	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:g:73:MET:HE1	38:g:90:GLU:HG3	1.57	0.87
5:F:8:GLN:HA	5:F:20:LEU:O	1.73	0.87
21:Z:33:LEU:HD11	21:Z:90:VAL:HG21	1.57	0.87
32:a:922:G:H4'	36:e:20:GLN:HA	1.56	0.86
35:d:101:LEU:HB2	35:d:138:TYR:HB3	1.57	0.86
9:N:12:ARG:HH22	9:N:138:LEU:HD11	1.39	0.86
24:2:10:LEU:HD21	24:2:59:ARG:HD2	1.54	0.86
35:d:162:LEU:HB3	35:d:178:VAL:HG13	1.58	0.86
54:C:39:GLU:HB2	54:C:178:ALA:HB2	1.56	0.86
26:4:61:ARG:HH22	50:s:9:VAL:HG11	1.39	0.86
47:p:40:ASP:HB3	47:p:48:TRP:HB2	1.57	0.86
48:q:43:LEU:HD12	48:q:68:ARG:HG2	1.55	0.86
32:a:664:G:H22	32:a:741:G:H1	1.23	0.86
35:d:172:PRO:HB2	35:d:187:ARG:HH21	1.39	0.86
36:e:91:LEU:HG	36:e:120:THR:HG22	1.57	0.86
44:m:11:ARG:HA	44:m:45:VAL:HB	1.57	0.86
15:T:107:ASP:HA	15:T:110:ILE:HD12	1.58	0.85
38:g:78:ARG:HG3	38:g:80:VAL:HG23	1.55	0.85
4:E:134:ILE:HA	4:E:137:HIS:HD2	1.41	0.85
37:f:99:ALA:HB1	49:r:23:LYS:HE3	1.58	0.85
38:g:16:LEU:HD21	40:i:45:ALA:HB2	1.58	0.85
7:H:164:TYR:HB2	7:H:167:GLU:HB2	1.56	0.85
15:T:28:VAL:O	15:T:46:GLU:HA	1.74	0.85
8:I:25:TYR:O	8:I:29:TYR:HB3	1.75	0.85
1:A:2099:U:H3	1:A:2190:G:H1	1.23	0.85
12:Q:43:THR:HG22	12:Q:94:VAL:HG12	1.56	0.85
21:Z:180:VAL:HA	21:Z:183:LEU:HD12	1.59	0.85
5:F:21:ALA:HB3	5:F:22:ALA:HA	1.59	0.85
32:a:954:G:H21	32:a:1227:A:H62	0.87	0.85
5:F:129:PHE:HB3	5:F:132:VAL:HG22	1.58	0.85
7:H:29:PRO:HD2	7:H:80:SER:HA	1.55	0.85
34:c:47:LEU:HD13	34:c:68:VAL:HG11	1.59	0.85
44:m:65:LYS:HD2	44:m:69:GLU:HG2	1.59	0.85
54:C:163:PHE:HB2	54:C:171:ILE:HD11	1.56	0.85
1:A:2124:G:H4'	54:C:40:THR:HG21	1.59	0.85
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.57	0.85
44:m:99:ARG:HB2	44:m:101:GLN:HE22	1.41	0.85
35:d:194:LEU:HB3	35:d:196:LEU:HD13	1.58	0.85
37:f:10:LEU:HB2	37:f:59:TYR:HB3	1.58	0.85
41:j:38:ILE:HD11	41:j:71:LEU:HD22	1.58	0.84
41:j:49:VAL:HG23	45:n:41:ARG:HB2	1.58	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1291:G:H4'	40:i:39:GLY:HA3	1.60	0.84
32:a:102:G:O4'	32:a:151:A:O2'	1.93	0.84
1:A:2124:G:HO2'	54:C:217:THR:HG1	1.21	0.84
2:B:8:U:H3	2:B:113:G:H1	0.86	0.84
38:g:57:GLU:HG3	38:g:60:LYS:H	1.41	0.84
23:1:77:ALA:HA	23:1:80:LEU:HD13	1.60	0.84
21:Z:129:SER:HB3	21:Z:132:ASN:HB3	1.58	0.84
32:a:321:A:H61	32:a:332:G:H1	1.26	0.84
33:b:87:ARG:HD2	33:b:234:PRO:HD2	1.56	0.84
21:Z:152:ALA:HB1	21:Z:163:LEU:HD21	1.60	0.84
35:d:31:CYS:HB3	35:d:34:GLU:HG2	1.58	0.84
21:Z:58:VAL:HA	21:Z:67:LEU:O	1.78	0.83
1:A:2312:U:H5'	6:G:88:ILE:HD11	1.61	0.83
1:A:2251:OMG:HM22	1:A:2252:G:H5'	1.60	0.83
4:E:47:VAL:HG11	4:E:86:PRO:HD2	1.59	0.83
32:a:735:C:H5"	49:r:68:LYS:HG3	1.58	0.83
32:a:552:U:H2'	32:a:553:A:H8	1.43	0.83
32:a:928:G:HO2'	32:a:1533:C:HO2'	1.21	0.83
35:d:127:THR:HA	35:d:132:ARG:HA	1.59	0.83
32:a:99:U:H3'	51:t:15:ARG:HA	1.58	0.83
1:A:1462:C:H4'	1:A:2703:C:H5'	1.61	0.83
3:D:108:PRO:HG2	3:D:111:LEU:HB2	1.59	0.83
7:H:101:ARG:HG2	7:H:117:PRO:HG2	1.59	0.83
7:H:159:GLU:HG2	7:H:169:VAL:HG11	1.61	0.82
4:E:5:LEU:HD23	4:E:197:ILE:HG12	1.61	0.82
32:a:835:U:H3	32:a:851:G:H1	1.27	0.82
19:X:89:ILE:HG21	19:X:92:LEU:HD13	1.58	0.82
21:Z:25:PRO:O	21:Z:85:HIS:HA	1.80	0.82
32:a:152:A:OP2	32:a:153:C:N4	2.12	0.82
35:d:11:LEU:HD23	35:d:66:ARG:HD3	1.60	0.82
35:d:18:LYS:NZ	35:d:31:CYS:SG	2.53	0.82
54:C:140:PRO:HB3	54:C:145:VAL:HB	1.62	0.82
1:A:1155:A:H5"	16:U:55:ARG:HH11	1.44	0.82
17:V:72:VAL:HG13	17:V:85:LYS:HB3	1.61	0.82
44:m:87:TYR:HA	44:m:90:LEU:HD12	1.61	0.82
12:Q:55:VAL:HG23	21:Z:178:GLU:HG3	1.61	0.82
21:Z:126:VAL:HG11	21:Z:161:VAL:HG13	1.59	0.82
1:A:380:U:H5'	23:1:18:ILE:HD12	1.59	0.82
13:R:104:ARG:HB2	13:R:111:LEU:HD21	1.62	0.82
54:C:61:THR:HG22	54:C:162:GLU:HA	1.59	0.82
5:F:178:PRO:HB2	5:F:201:VAL:HG21	1.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:y:8:U:C2	53:y:14:A:N7	2.48	0.81
8:I:79:ILE:HD12	8:I:144:VAL:HG22	1.61	0.81
21:Z:120:ILE:HB	21:Z:171:ILE:HA	1.63	0.81
21:Z:151:HIS:HA	21:Z:170:THR:HA	1.62	0.81
32:a:71:C:O2	32:a:382:A:N6	2.13	0.81
32:a:1298:C:H2'	38:g:114:ARG:HH12	1.46	0.81
49:r:52:PRO:HB2	49:r:54:ARG:HG2	1.60	0.81
54:C:64:LEU:HD11	54:C:161:ILE:HD13	1.61	0.81
32:a:974:A:H4'	32:a:975:A:H5'	1.62	0.81
32:a:1058:G:H1	32:a:1199:U:H3	1.26	0.81
12:Q:74:TYR:HB2	12:Q:94:VAL:HG13	1.61	0.81
32:a:66:G:O6	32:a:97:G:N1	2.12	0.81
32:a:73:G:H5"	32:a:200:G:H5"	1.62	0.81
37:f:37:VAL:HA	37:f:65:VAL:HG12	1.61	0.81
42:k:15:ALA:HA	42:k:77:MET:HA	1.61	0.81
7:H:102:ALA:HA	7:H:117:PRO:HD3	1.63	0.81
35:d:177:ASP:HB3	35:d:182:LYS:HG2	1.63	0.81
53:y:8:U:O2	53:y:14:A:N7	2.14	0.81
32:a:1130:A:H2'	32:a:1131:G:H8	1.45	0.81
51:t:17:ARG:HG3	51:t:20:LEU:HD12	1.61	0.81
1:A:1496:A:O2'	1:A:1577:C:O2'	1.99	0.80
21:Z:40:ASP:HB3	21:Z:43:GLU:HB2	1.63	0.80
33:b:48:MET:HA	33:b:51:LEU:HD12	1.60	0.80
5:F:53:THR:HG22	5:F:56:GLU:HG3	1.63	0.80
1:A:1509(B):A:H3'	1:A:1509(C):A:H8	1.46	0.80
1:A:2124:G:H5"	54:C:70:LYS:HE3	1.62	0.80
51:t:49:ALA:HB3	51:t:99:LEU:HD13	1.61	0.80
26:4:14:ILE:HB	26:4:22:ILE:HB	1.60	0.80
48:q:66:SER:O	48:q:70:ARG:NH1	2.14	0.80
32:a:101:A:H2'	32:a:152:A:H5"	1.64	0.80
1:A:1479:G:H1	1:A:1512:U:H3	1.29	0.80
2:B:31:C:O2	2:B:53:A:N6	2.14	0.80
12:Q:13:GLN:O	12:Q:72:LYS:NZ	2.14	0.80
32:a:64:G:O3'	32:a:71:C:N3	2.15	0.80
32:a:103:C:H2'	32:a:104:G:H5"	1.63	0.80
40:i:8:GLY:HA3	40:i:15:ALA:HB3	1.61	0.80
6:G:114:ILE:HB	6:G:117:PHE:HB2	1.61	0.80
24:2:13:ALA:HA	24:2:16:LEU:HD12	1.64	0.80
46:o:75:PRO:HA	46:o:78:TYR:HB3	1.63	0.80
1:A:1497:U:H5"	1:A:1498:C:H5	1.47	0.79
6:G:114:ILE:HG23	6:G:136:ARG:HH12	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:26:VAL:HG11	7:H:76:VAL:HG22	1.63	0.79
32:a:65:U:P	32:a:71:C:C2	2.75	0.79
1:A:1070:A:OP2	1:A:1073:A:N6	2.15	0.79
1:A:2317:C:H3'	1:A:2318:G:H21	1.47	0.79
32:a:66:G:C6	32:a:97:G:C2	2.69	0.79
54:C:13:LYS:HB2	54:C:32:LEU:HD21	1.62	0.79
54:C:91:ALA:HB2	54:C:153:ILE:HG21	1.64	0.79
1:A:1473:G:H1	1:A:1518:U:H3	1.30	0.79
32:a:35:G:O2'	43:l:118:SER:O	2.00	0.79
32:a:102:G:H1'	32:a:151:A:H1'	1.64	0.79
39:h:86:ILE:HG12	39:h:135:CYS:HA	1.64	0.79
11:P:19:VAL:HB	11:P:31:ALA:HA	1.64	0.79
39:h:19:VAL:HG23	39:h:21:LYS:HD3	1.63	0.79
32:a:96:U:H3'	32:a:97:G:H5'	1.65	0.79
34:c:132:ARG:HD2	56:x:25:A:H4'	1.64	0.79
5:F:187:VAL:HG12	11:P:3:LEU:HD12	1.63	0.79
9:N:57:ALA:HB1	9:N:99:LEU:HD12	1.63	0.79
24:2:9:GLN:HE22	24:2:56:GLN:HB3	1.47	0.79
32:a:67:C:N4	32:a:103:C:N3	2.30	0.79
3:D:95:LEU:HD11	3:D:105:ILE:HD13	1.63	0.79
32:a:63:C:O2'	32:a:71:C:N3	2.15	0.79
32:a:928:G:O2'	32:a:1534:A:OP2	2.01	0.79
32:a:1266:G:N2	32:a:1269:A:OP2	2.15	0.79
34:c:117:ALA:HB1	34:c:187:ALA:HB2	1.64	0.79
55:z:69:G:H2'	55:z:70:G:H5"	1.64	0.79
1:A:2394:C:H5"	11:P:64:LYS:HD3	1.65	0.79
1:A:2875:C:O2'	15:T:2:ASN:OD1	2.00	0.79
2:B:74:U:H1'	21:Z:34:ASN:HD21	1.46	0.79
11:P:126:VAL:HG12	11:P:148:LEU:HD22	1.63	0.79
34:c:112:SER:HB3	34:c:115:LEU:HB2	1.65	0.79
34:c:157:ILE:HD12	34:c:164:ARG:HE	1.47	0.79
52:u:17:THR:O	52:u:22:ARG:NH1	2.15	0.79
32:a:99:U:C2	51:t:18:GLN:HG2	2.18	0.79
44:m:14:ARG:HE	44:m:42:ALA:HA	1.48	0.79
1:A:1667:G:O2'	1:A:1991:U:O4	2.00	0.78
1:A:2065:C:H4'	1:A:2251:OMG:HM23	1.65	0.78
2:B:76:G:H5'	21:Z:10:ARG:HH22	1.46	0.78
5:F:101:LEU:O	5:F:106:ARG:NH1	2.15	0.78
6:G:173:LEU:HD23	6:G:176:LEU:HD12	1.63	0.78
32:a:741:G:H5'	46:o:39:LEU:HD21	1.64	0.78
33:b:145:LEU:HD12	33:b:149:LEU:HD12	1.63	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2416:C:H5”	11:P:65:ARG:HE	1.47	0.78
21:Z:47:VAL:O	21:Z:51:ALA:N	2.15	0.78
32:a:1047:G:H5”	45:n:4:LYS:HD3	1.62	0.78
42:k:62:GLN:HG3	42:k:97:ALA:HB2	1.65	0.78
49:r:44:LEU:HD11	49:r:79:LEU:HB3	1.66	0.78
41:j:6:ILE:HD13	41:j:98:ILE:HA	1.64	0.78
50:s:30:LEU:HD13	50:s:48:THR:HG22	1.64	0.78
54:C:79:LYS:HA	54:C:83:ILE:HG13	1.64	0.78
1:A:1500:G:H21	3:D:100:GLY:HA3	1.48	0.78
21:Z:75:ASN:HD22	21:Z:85:HIS:HB3	1.47	0.78
43:l:32:PHE:HB3	43:l:84:LEU:HD11	1.66	0.78
32:a:181:G:H4’	32:a:182:U:H5’	1.65	0.78
51:t:92:LEU:HA	51:t:95:ALA:HB3	1.66	0.78
32:a:69:G:N2	32:a:96:U:O4	2.15	0.78
1:A:511:U:H4’	1:A:1235:G:H4’	1.64	0.78
1:A:1507:A:O2’	1:A:1508:A:O5’	2.01	0.78
1:A:2135:A:H2’	1:A:2136:C:H5’	1.65	0.78
32:a:92:C:O2’	32:a:93:G:O4’	2.02	0.78
32:a:501:C:OP1	43:l:117:ARG:NH2	2.17	0.78
1:A:1266:G:O5’	18:W:15:ARG:NH2	2.16	0.78
8:I:23:PRO:O	8:I:27:ARG:CB	2.31	0.78
13:R:33:ARG:HH22	27:5:58:LEU:HA	1.49	0.78
32:a:1522:U:H2’	32:a:1523:G:H8	1.47	0.78
6:G:32:PRO:HB2	6:G:172:LEU:HD22	1.65	0.78
44:m:3:ARG:HG3	44:m:8:GLU:HG3	1.65	0.78
49:r:45:SER:N	49:r:49:LYS:O	2.17	0.78
1:A:2141:G:H1	1:A:2150:U:H3	1.29	0.78
20:Y:28:LYS:HD2	20:Y:40:GLU:HA	1.65	0.78
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.64	0.78
1:A:1422:G:H1	1:A:1576:U:H3	1.32	0.77
1:A:2838:G:H2’	1:A:2839:G:H5”	1.65	0.77
8:I:72:LEU:HD21	8:I:107:VAL:HG11	1.63	0.77
21:Z:115:GLY:HA2	21:Z:177:PRO:HD3	1.65	0.77
54:C:87:GLU:HG2	54:C:94:VAL:HB	1.66	0.77
10:O:34:THR:N	10:O:37:ASP:OD2	2.16	0.77
32:a:928:G:H4’	32:a:1533:C:H2’	1.66	0.77
35:d:148:VAL:HG21	35:d:158:ILE:HG21	1.64	0.77
55:z:16:U:H3’	55:z:17:C:H5’	1.65	0.77
32:a:104:G:H2’	32:a:105:G:H4’	1.67	0.77
1:A:1153:C:OP1	16:U:92:ARG:NH2	2.18	0.77
2:B:55:U:O2’	6:G:27:ASN:ND2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1365:A:O2'	23:1:11:ARG:NH2	2.16	0.77
5:F:181:LEU:HD11	5:F:186:ILE:HD11	1.65	0.77
32:a:67:C:OP2	32:a:73:G:O2'	2.02	0.77
34:c:183:ASP:HB3	34:c:202:ILE:HB	1.65	0.77
39:h:103:VAL:HG21	39:h:110:ALA:HB2	1.67	0.77
1:A:2143:C:H2'	1:A:2144:U:H5'	1.67	0.77
1:A:1334:G:O3'	19:X:65:ARG:NH1	2.18	0.77
1:A:1920:4OC:HM22	1:A:1921:G:H5'	1.67	0.77
22:0:46:LYS:HD2	22:0:78:TYR:HE1	1.50	0.77
32:a:1256:A:N6	32:a:1278:U:O2'	2.18	0.77
42:k:63:LEU:HD23	42:k:66:LEU:HD12	1.66	0.77
42:k:99:GLN:HG2	42:k:105:VAL:HG21	1.67	0.77
1:A:1125:G:OP2	1:A:1126:A:O2'	2.03	0.77
7:H:26:VAL:HG12	7:H:79:VAL:HG21	1.66	0.77
21:Z:30:ASN:OD1	21:Z:33:LEU:N	2.18	0.77
32:a:116:A:H61	32:a:313:A:H1'	1.50	0.77
32:a:1073:U:O2	33:b:104:ASN:ND2	2.18	0.77
38:g:111:ARG:HH21	38:g:123:GLU:HA	1.49	0.77
1:A:10:G:O2'	1:A:2801(B):A:N6	2.18	0.77
1:A:2689:U:H4'	1:A:2690:C:H5'	1.66	0.77
19:X:4:ALA:HB1	19:X:42:ALA:HA	1.67	0.77
32:a:1060:C:H5"	41:j:51:ARG:HB3	1.67	0.77
54:C:77:ILE:HB	54:C:115:ALA:HB2	1.67	0.77
54:C:73:ARG:HB3	54:C:93:TYR:HE2	1.49	0.77
55:z:21:A:O2'	55:z:22:G:O4'	2.03	0.77
55:z:54:U:O2	55:z:58:A:C5	2.38	0.77
32:a:677:U:H3	32:a:713:G:H22	1.32	0.76
36:e:43:LEU:HB2	36:e:136:MET:HG3	1.65	0.76
37:f:10:LEU:HD23	37:f:61:LEU:HD13	1.64	0.76
56:x:44:G:H4'	56:x:45:C:H5	1.50	0.76
1:A:2175:C:O2'	54:C:219:GLY:O	2.03	0.76
6:G:98:ARG:NH1	26:4:1:MET:SD	2.58	0.76
8:I:5:LEU:HD11	8:I:19:VAL:HG22	1.67	0.76
16:U:102:GLU:HB3	16:U:105:VAL:HB	1.65	0.76
32:a:100:C:H1'	32:a:101:A:H5'	1.66	0.76
54:C:74:VAL:HG21	54:C:153:ILE:HG23	1.67	0.76
13:R:98:LEU:HD22	27:5:57:VAL:HG11	1.66	0.76
15:T:64:ARG:HH12	15:T:103:ARG:HG2	1.48	0.76
32:a:63:C:H41	32:a:98:G:H1'	1.50	0.76
38:g:105:VAL:HG12	38:g:109:ASN:HD21	1.50	0.76
54:C:133:PRO:HA	55:z:56:C:H4'	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2646:C:OP2	1:A:2732:G:O2'	2.03	0.76
11:P:84:ASN:HB3	11:P:117:GLU:HB2	1.67	0.76
18:W:65:LEU:N	18:W:109:GLU:OE2	2.18	0.76
1:A:1148:A:H2'	1:A:1149:G:H5"	1.68	0.76
1:A:1529:G:H1	1:A:1540:U:H3	1.31	0.76
1:A:2291:U:H3	1:A:2341:G:H1	1.33	0.76
1:A:2667:C:H1'	7:H:109:PHE:HD1	1.50	0.76
12:Q:61:GLY:HA2	21:Z:177:PRO:HB2	1.67	0.76
33:b:166:ASP:HB3	33:b:169:LYS:HB3	1.67	0.76
53:y:17(A):C:OP2	53:y:17(B):C:O2'	2.02	0.76
54:C:46:LYS:NZ	54:C:168:THR:O	2.18	0.76
54:C:74:VAL:HG11	54:C:153:ILE:HG12	1.68	0.76
1:A:784:A:O4'	3:D:227:ASN:ND2	2.18	0.76
1:A:2203:U:N3	1:A:2220:G:O6	2.16	0.76
3:D:169:GLU:HG2	3:D:184:LYS:HE2	1.66	0.76
4:E:37:ARG:O	4:E:45:THR:HA	1.85	0.76
9:N:111:PRO:HA	9:N:114:ARG:HE	1.50	0.76
32:a:66:G:C6	32:a:97:G:N1	2.53	0.76
35:d:155:LEU:HD22	35:d:158:ILE:HG12	1.68	0.76
55:z:58:A:O2'	55:z:61:C:N4	2.19	0.76
3:D:5:LYS:HG2	3:D:17:THR:HG22	1.68	0.76
33:b:91:PRO:HG3	33:b:155:LEU:HD23	1.68	0.76
51:t:9:ASN:HB3	51:t:12:ALA:HB3	1.68	0.76
1:A:132:G:H1	1:A:147:U:H3	1.33	0.76
36:e:147:ASP:OD1	36:e:150:ARG:NH2	2.19	0.76
54:C:185:LEU:HA	54:C:188:ASN:HB2	1.68	0.76
12:Q:56:ARG:HD2	21:Z:180:VAL:HG22	1.66	0.76
32:a:1034:G:O2'	32:a:1035:A:O4'	2.03	0.76
32:a:1327:C:H5"	52:u:20:LYS:HB2	1.68	0.76
1:A:764:A:H5'	3:D:210:GLY:HA2	1.67	0.76
1:A:1818:U:OP2	3:D:157:ARG:NE	2.19	0.76
2:B:15:A:OP2	2:B:69:G:N2	2.19	0.76
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.68	0.76
1:A:881:G:N2	1:A:895:U:O2	2.17	0.75
1:A:2684:U:O2'	10:O:68:GLU:OE2	2.03	0.75
2:B:43:C:OP1	26:4:2:LYS:N	2.15	0.75
3:D:143:HIS:ND1	3:D:194:GLY:O	2.18	0.75
32:a:953:G:N7	44:m:104:ARG:NH2	2.34	0.75
44:m:40:ASN:HB3	44:m:43:THR:HG23	1.67	0.75
53:y:22:G:N7	53:y:46:G:N2	2.32	0.75
54:C:20:TYR:O	54:C:225:ASN:N	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:117:G:OP2	1:A:119:A:O2'	2.04	0.75
32:a:93:G:C5'	32:a:100:C:H2'	2.16	0.75
40:i:4:TYR:HB2	40:i:19:LEU:HB2	1.66	0.75
1:A:919:G:N2	1:A:2269:A:OP2	2.19	0.75
26:4:16:CYS:SG	26:4:17:GLY:N	2.60	0.75
32:a:611:A:H61	32:a:629:G:H1	1.32	0.75
1:A:483:A:O2'	20:Y:49:VAL:O	2.03	0.75
1:A:793:A:OP2	1:A:2071:A:O2'	2.05	0.75
1:A:807:U:OP2	11:P:41:ARG:NH2	2.19	0.75
1:A:1507:A:O2'	1:A:1508:A:O4'	2.04	0.75
1:A:2176:A:H4'	54:C:221:SER:HB3	1.67	0.75
2:B:115:G:O2'	14:S:50:SER:OG	2.05	0.75
13:R:8:ARG:HB2	13:R:43:GLU:HG3	1.67	0.75
20:Y:45:VAL:HG22	20:Y:63:LYS:HB3	1.68	0.75
38:g:40:ALA:HB1	40:i:41:VAL:HG11	1.68	0.75
1:A:272(L):U:H4'	1:A:272(M):G:H5'	1.66	0.75
1:A:2130:U:OP1	54:C:5:LYS:N	2.19	0.75
6:G:161:THR:HG22	6:G:163:ALA:H	1.50	0.75
10:O:48:PRO:HB3	32:a:1422:G:H5"	1.67	0.75
32:a:452:A:H62	32:a:480:U:H3	1.35	0.75
32:a:1005:A:O3'	32:a:1037:C:O2'	2.05	0.75
38:g:76:ARG:HD2	38:g:89:MET:HG3	1.67	0.75
49:r:26:LEU:HD21	49:r:42:ARG:HD3	1.68	0.75
55:z:21:A:N6	55:z:46:G:O2'	2.19	0.75
7:H:164:TYR:N	7:H:167:GLU:OE1	2.19	0.75
17:V:6:LYS:HB2	17:V:38:LEU:HD21	1.66	0.75
32:a:72:C:H2'	32:a:73:G:C5'	2.16	0.75
32:a:864:A:O2'	32:a:1078:U:O4	2.04	0.75
32:a:995:C:H1'	45:n:4:LYS:HE2	1.68	0.75
53:y:73:A:H5"	53:y:74:C:H5'	1.67	0.75
54:C:42:GLU:HG2	54:C:174:PRO:HB3	1.68	0.75
1:A:1799:G:N7	3:D:179:SER:OG	2.20	0.75
1:A:2141:G:N2	1:A:2150:U:O2	2.19	0.75
32:a:1160:G:H1	32:a:1176:A:H2	1.30	0.75
33:b:103:THR:HG23	33:b:176:GLU:HG2	1.67	0.75
54:C:50:ASP:N	54:C:56:GLN:OE1	2.20	0.75
1:A:2098:U:H3	1:A:2191:G:H1	1.34	0.75
1:A:2133:G:N2	1:A:2158:A:OP1	2.19	0.75
2:B:106:G:OP1	21:Z:31:ARG:NH2	2.20	0.75
32:a:34:C:H2'	32:a:35:G:H8	1.51	0.75
32:a:611:A:N6	32:a:629:G:H1	1.85	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:k:48:ILE:HD11	42:k:64:ALA:HA	1.67	0.75
7:H:24:VAL:HG13	7:H:37:VAL:HG21	1.69	0.75
11:P:81:GLN:OE1	11:P:107:LYS:N	2.20	0.74
20:Y:45:VAL:O	20:Y:62:GLU:HA	1.87	0.74
21:Z:125:LEU:HG	21:Z:164:ALA:HB3	1.69	0.74
44:m:25:ILE:HD11	44:m:66:LEU:HD13	1.69	0.74
53:y:16:C:OP1	53:y:17(A):C:N4	2.20	0.74
1:A:1332:G:N7	1:A:1609:A:O2'	2.20	0.74
15:T:39:ARG:NH2	32:a:345:C:OP2	2.20	0.74
32:a:62:U:O2'	32:a:63:C:H5'	1.87	0.74
32:a:68:G:O2'	32:a:69:G:OP1	2.04	0.74
32:a:174:C:H2'	32:a:175:C:C6	2.23	0.74
32:a:403:C:H4'	35:d:122:ARG:HH11	1.51	0.74
32:a:646:U:H2'	32:a:647:C:C6	2.22	0.74
48:q:26:GLN:HE21	48:q:37:LYS:HE3	1.52	0.74
55:z:8:U:O2'	55:z:21:A:N1	2.17	0.74
1:A:358:U:H2'	1:A:359:A:H8	1.50	0.74
1:A:845:G:OP2	1:A:845:G:N2	2.18	0.74
1:A:2327:A:H2'	1:A:2328:A:C8	2.22	0.74
23:1:86:SER:OG	23:1:89:GLU:OE1	2.05	0.74
32:a:143:A:H2	32:a:220:G:N1	1.79	0.74
3:D:85:ASP:OD2	3:D:88:ARG:NH1	2.20	0.74
3:D:184:LYS:HG3	3:D:271:ILE:HD11	1.68	0.74
22:0:51:VAL:HG22	22:0:81:VAL:HG23	1.70	0.74
23:1:7:ILE:HD12	23:1:98:LEU:HD11	1.68	0.74
38:g:146:GLU:OE2	38:g:149:ARG:NE	2.20	0.74
41:j:7:LYS:HB2	41:j:97:GLU:HB2	1.69	0.74
1:A:2468:G:O2'	1:A:2481:G:N2	2.21	0.74
3:D:246:PRO:HG2	3:D:255:LYS:HG3	1.70	0.74
7:H:56:SER:OG	7:H:61:HIS:ND1	2.18	0.74
32:a:45:U:H2'	32:a:46:G:H8	1.52	0.74
32:a:126:G:OP1	32:a:605:U:O2'	2.04	0.74
32:a:718:G:H21	49:r:49:LYS:HG2	1.50	0.74
34:c:77:ILE:O	34:c:83:ARG:N	2.21	0.74
40:i:17:VAL:HG23	40:i:63:ILE:HG12	1.70	0.74
42:k:72:ALA:HB1	42:k:77:MET:HB3	1.69	0.74
48:q:58:GLU:O	48:q:74:LEU:N	2.19	0.74
1:A:1087:G:H2'	1:A:1088:A:H5'	1.68	0.74
1:A:1359:A:H2'	1:A:1360:A:H5'	1.69	0.74
1:A:2731:G:OP1	4:E:169:ASN:ND2	2.19	0.74
14:S:85:VAL:HG11	14:S:110:LEU:HD21	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:66:G:C5	32:a:97:G:N1	2.55	0.74
32:a:597:G:H2'	32:a:598:U:H5'	1.67	0.74
32:a:981:U:OP2	32:a:982:U:O2'	2.05	0.74
32:a:1250:A:H4'	40:i:67:GLY:HA2	1.69	0.74
1:A:111:A:O2'	24:2:65:ASN:ND2	2.18	0.74
1:A:2033:A:O2'	1:A:2035:G:OP2	2.05	0.74
1:A:2100:G:N2	1:A:2189:U:O2	2.20	0.74
17:V:33:VAL:HG23	17:V:35:LEU:HD11	1.70	0.74
32:a:1013:G:N2	32:a:1016:A:OP2	2.18	0.74
32:a:1038:C:H2'	32:a:1039:C:C6	2.23	0.74
51:t:41:ILE:HG23	51:t:91:LEU:HD11	1.68	0.74
56:x:31:A:N1	56:x:48:G:N2	2.35	0.74
1:A:2178:C:O2'	54:C:46:LYS:NZ	2.21	0.74
12:Q:67:ARG:NH1	12:Q:105:GLU:OE2	2.21	0.74
32:a:100:C:O2'	32:a:102:G:OP1	2.05	0.74
32:a:673:G:H2'	32:a:674:G:C8	2.23	0.74
32:a:1044:A:H3'	32:a:1045:C:H5"	1.70	0.74
1:A:2816:C:O2	1:A:2883:A:O2'	2.06	0.74
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.70	0.74
1:A:1143:A:H62	9:N:25:ARG:HD3	1.52	0.73
1:A:1935:G:N2	1:A:1964:G:OP2	2.21	0.73
1:A:2850:A:N7	1:A:2868:A:O2'	2.19	0.73
3:D:69:ARG:HG2	3:D:130:ALA:HB3	1.68	0.73
16:U:17:ILE:HG23	16:U:39:LEU:HD12	1.68	0.73
32:a:1291:G:O2'	40:i:38:GLN:OE1	2.06	0.73
51:t:100:ILE:HG22	51:t:101:GLY:H	1.53	0.73
11:P:52:GLU:HB3	11:P:55:ARG:HE	1.54	0.73
32:a:143:A:N1	32:a:220:G:O6	2.21	0.73
33:b:137:ARG:O	33:b:141:GLU:N	2.20	0.73
37:f:42:GLU:OE2	37:f:59:TYR:OH	2.04	0.73
10:O:97:ARG:NH1	32:a:339:C:OP2	2.20	0.73
21:Z:4:ARG:NE	21:Z:60:GLU:OE2	2.20	0.73
32:a:66:G:O2'	32:a:198:G:O2'	2.05	0.73
32:a:1240:U:OP1	38:g:119:ARG:NH2	2.16	0.73
48:q:9:VAL:HG22	48:q:56:VAL:HG22	1.70	0.73
56:x:12:A:O2'	56:x:13:A:O4'	2.03	0.73
1:A:1000:A:OP2	1:A:1154:G:N1	2.19	0.73
1:A:2092:U:OP2	8:I:27:ARG:NH2	2.21	0.73
1:A:2483:C:N3	12:Q:124:LYS:NZ	2.35	0.73
8:I:72:LEU:HD11	8:I:107:VAL:HG11	1.71	0.73
10:O:49:ARG:HH12	32:a:1423:G:H5'	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:W:78:GLU:OE2	18:W:99:ARG:NH1	2.20	0.73
32:a:102:G:O2'	32:a:150:C:O2	2.05	0.73
32:a:1321:C:OP2	32:a:1322:C:O2'	2.06	0.73
33:b:25:ASN:H	33:b:191:ASP:HA	1.52	0.73
35:d:50:ARG:HH12	36:e:10:MET:HB2	1.53	0.73
36:e:54:ALA:O	36:e:58:ALA:N	2.20	0.73
46:o:76:GLU:O	46:o:80:ALA:N	2.20	0.73
54:C:53:ARG:NH2	55:z:62:C:O2'	2.21	0.73
1:A:141:A:O2'	1:A:142(A):A:O4'	2.05	0.73
1:A:1029:A:H5"	12:Q:128:LYS:HE2	1.69	0.73
7:H:61:HIS:O	7:H:65:HIS:HB2	1.88	0.73
7:H:142:GLY:O	7:H:146:ALA:HB2	1.86	0.73
20:Y:38:ILE:HD11	20:Y:66:PRO:HG3	1.69	0.73
32:a:1005:A:H5"	32:a:1006:C:H5	1.51	0.73
46:o:62:GLN:OE1	46:o:65:ARG:NH2	2.22	0.73
2:B:43:C:H5"	26:4:1:MET:HG2	1.71	0.73
5:F:9:ILE:O	5:F:19:GLU:HA	1.88	0.73
5:F:40:GLN:HE22	5:F:182:ASN:HB2	1.52	0.73
32:a:66:G:H3'	32:a:73:G:N3	2.04	0.73
32:a:1009:G:O6	32:a:1020:U:O4	2.06	0.73
35:d:79:PHE:O	35:d:83:SER:N	2.22	0.73
1:A:818:G:N1	1:A:1188:U:OP2	2.20	0.73
8:I:77:LEU:HD21	8:I:100:ALA:HB1	1.71	0.73
32:a:99:U:O2'	51:t:17:ARG:HB2	1.88	0.73
32:a:1498:UR3:OP2	56:x:14:A:O2'	2.05	0.73
33:b:61:LEU:HD23	33:b:68:ILE:HG12	1.70	0.73
33:b:130:ARG:O	33:b:135:GLN:NE2	2.21	0.73
44:m:22:ILE:HB	44:m:25:ILE:HD12	1.71	0.73
1:A:2000:G:OP1	13:R:5:LYS:NZ	2.21	0.73
1:A:2114:A:H1'	1:A:2168:G:H5'	1.69	0.73
3:D:69:ARG:HD2	3:D:119:ALA:HB2	1.71	0.73
4:E:104:VAL:HG22	4:E:198:VAL:HG22	1.68	0.73
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.70	0.73
5:F:132:VAL:HG12	5:F:139:PHE:HA	1.70	0.73
17:V:42:GLY:O	17:V:45:THR:OG1	2.07	0.73
20:Y:12:THR:OG1	20:Y:26:LYS:NZ	2.20	0.73
32:a:1375:A:O2'	38:g:29:LYS:NZ	2.22	0.73
33:b:24:TRP:CZ3	33:b:26:PRO:HA	2.24	0.73
53:y:54:U:O2	53:y:58:A:N7	2.22	0.73
4:E:179:GLU:HG3	15:T:9:LEU:HD21	1.71	0.73
20:Y:9:LYS:NZ	20:Y:28:LYS:O	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:28:G:O2'	32:a:296:U:OP1	2.07	0.73
32:a:99:U:H5"	51:t:18:GLN:HE21	1.53	0.73
32:a:362:G:N2	32:a:365:U:OP2	2.21	0.73
32:a:946:A:H2'	32:a:947:G:C8	2.24	0.73
32:a:1295:G:O2'	44:m:14:ARG:NH1	2.22	0.73
32:a:1371:G:H5"	40:i:68:GLY:HA2	1.71	0.73
53:y:15:G:C6	53:y:48:C:O2	2.42	0.73
54:C:152:ILE:HG22	54:C:156:ILE:HD11	1.69	0.73
1:A:1983:C:H2'	1:A:1984:G:H5"	1.69	0.73
1:A:2750:A:OP2	7:H:62:LYS:NZ	2.16	0.73
7:H:54:ARG:HB2	7:H:61:HIS:HB3	1.69	0.73
54:C:185:LEU:HA	54:C:188:ASN:HD22	1.54	0.73
7:H:137:ASP:OD1	7:H:138:LYS:N	2.21	0.72
32:a:452:A:N3	47:p:72:ARG:NH1	2.37	0.72
32:a:1009:G:H1	32:a:1020:U:H3	0.76	0.72
1:A:300:A:OP1	20:Y:86:ARG:NH2	2.21	0.72
1:A:2117:A:O3'	1:A:2147:G:O2'	2.06	0.72
5:F:155:LEU:HB2	5:F:189:THR:HG21	1.71	0.72
17:V:39:LEU:HG	17:V:47:VAL:HA	1.70	0.72
32:a:136:C:O2'	47:p:65:GLN:NE2	2.21	0.72
32:a:452:A:OP1	47:p:43:LYS:NZ	2.21	0.72
32:a:543:C:OP1	35:d:14:ARG:NE	2.21	0.72
47:p:59:TRP:HA	47:p:62:VAL:HG12	1.70	0.72
1:A:243:U:OP1	30:8:6:THR:OG1	2.05	0.72
1:A:578:A:OP1	1:A:1255:U:O2'	2.07	0.72
5:F:122:LYS:HB3	5:F:191:ARG:HA	1.71	0.72
21:Z:146:ILE:HA	21:Z:174:VAL:HG12	1.70	0.72
32:a:68:G:H3'	32:a:76:C:C2	2.24	0.72
41:j:5:ARG:N	41:j:99:LYS:O	2.22	0.72
41:j:30:SER:OG	41:j:84:GLN:OE1	2.07	0.72
1:A:279:C:N3	1:A:362:U:O4	2.22	0.72
1:A:458:G:N2	1:A:470:A:OP2	2.22	0.72
1:A:1362:C:H2'	1:A:1363:C:H5"	1.72	0.72
1:A:2176:A:OP1	54:C:7:TYR:OH	2.07	0.72
3:D:41:GLY:O	3:D:43:ARG:NH1	2.23	0.72
5:F:140:LEU:HD11	5:F:170:LEU:HD11	1.69	0.72
5:F:155:LEU:HD11	5:F:176:LEU:HD12	1.70	0.72
6:G:120:LEU:N	6:G:179:PRO:O	2.21	0.72
7:H:31:GLY:HA3	7:H:136:ILE:HD11	1.70	0.72
7:H:86:GLU:OE2	7:H:132:ARG:NH2	2.23	0.72
32:a:266:G:OP2	32:a:267:C:N4	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:976:G:OP2	32:a:1358:U:O2'	2.06	0.72
37:f:24:GLU:O	37:f:28:ARG:N	2.22	0.72
1:A:157:U:O3'	1:A:171:G:N2	2.22	0.72
1:A:643:A:N1	1:A:2369:A:O2'	2.19	0.72
5:F:142:TRP:O	5:F:146:ALA:N	2.21	0.72
32:a:1192:C:O2	36:e:25:ARG:NH2	2.21	0.72
32:a:1372:U:H5"	40:i:71:SER:HB3	1.70	0.72
36:e:31:LEU:HD11	36:e:129:ILE:HA	1.69	0.72
36:e:71:LEU:HD11	36:e:115:VAL:HG22	1.71	0.72
41:j:16:LEU:HD23	41:j:94:VAL:HG22	1.72	0.72
41:j:17:ASP:OD1	41:j:70:ARG:NH1	2.22	0.72
55:z:54:U:O2	55:z:58:A:N7	2.21	0.72
1:A:1359:A:OP2	1:A:1371:G:N1	2.19	0.72
1:A:1557:C:OP2	1:A:1558:A:O2'	2.06	0.72
1:A:2061:G:OP1	5:F:68:LYS:NZ	2.22	0.72
1:A:2246:G:H2'	1:A:2247:A:H8	1.54	0.72
1:A:2808:U:O2	1:A:2892:A:C5	2.42	0.72
7:H:122:THR:O	7:H:133:VAL:HA	1.89	0.72
10:O:35:VAL:HG11	10:O:103:ALA:HB3	1.71	0.72
32:a:180:U:O2	32:a:195:A:N7	2.23	0.72
32:a:544:G:OP1	35:d:59:ARG:NH2	2.23	0.72
32:a:1338:G:N3	53:y:41:C:O2'	2.22	0.72
34:c:11:ARG:NH2	34:c:175:LEU:O	2.23	0.72
35:d:68:TYR:HE2	35:d:97:LEU:HB3	1.53	0.72
54:C:70:LYS:HG2	54:C:177:LYS:HE2	1.69	0.72
1:A:272(H):G:H5'	23:1:81:LYS:HD2	1.71	0.72
1:A:604:G:OP2	11:P:90:ARG:NH1	2.22	0.72
1:A:956:G:OP2	12:Q:87:LYS:NZ	2.22	0.72
1:A:1153:C:H5'	16:U:76:TYR:HE2	1.54	0.72
1:A:2422:A:O4'	55:z:76:A:N6	2.22	0.72
1:A:2473:U:OP1	1:A:2529:G:N2	2.22	0.72
7:H:154:PRO:HB3	7:H:163:TYR:HE1	1.55	0.72
21:Z:95:PRO:HB3	21:Z:129:SER:HA	1.71	0.72
32:a:945:G:O6	32:a:1236:A:N1	2.23	0.72
32:a:1367:C:H4'	41:j:48:THR:HG21	1.71	0.72
32:a:1505:G:H4'	32:a:1506:U:H5"	1.70	0.72
42:k:82:VAL:HB	42:k:108:ILE:HA	1.70	0.72
49:r:45:SER:OG	49:r:49:LYS:N	2.22	0.72
51:t:17:ARG:HA	51:t:20:LEU:HD12	1.71	0.72
1:A:1397:U:OP2	1:A:1398:C:N4	2.22	0.72
1:A:2093:G:N2	1:A:2197:U:O2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2679:A:OP2	4:E:160:TYR:OH	2.07	0.72
2:B:77:U:OP1	21:Z:19:ARG:NH2	2.23	0.72
3:D:21:PHE:HB3	3:D:24:ILE:HD12	1.71	0.72
15:T:93:ARG:N	15:T:115:ARG:O	2.23	0.72
32:a:509:A:H5"	35:d:55:ALA:HB2	1.71	0.72
32:a:662:G:H2'	32:a:663:A:C8	2.24	0.72
32:a:1241:G:OP1	38:g:35:LYS:NZ	2.23	0.72
47:p:73:LEU:O	47:p:77:ALA:N	2.23	0.72
1:A:1936:A:OP2	1:A:1962:5MC:N4	2.20	0.72
1:A:2820:A:O2'	1:A:2821:A:OP1	2.08	0.72
15:T:117:ASP:OD2	15:T:120:ARG:NE	2.22	0.72
19:X:50:LYS:N	19:X:87:GLN:OE1	2.21	0.72
28:6:11:LEU:HD23	28:6:51:GLU:HA	1.72	0.72
33:b:119:GLU:OE2	33:b:146:GLN:NE2	2.22	0.72
33:b:215:LEU:HA	33:b:218:ALA:HB3	1.72	0.72
53:y:15:G:O6	53:y:48:C:O2	2.08	0.72
1:A:1470:G:N2	1:A:1520:G:OP2	2.22	0.72
1:A:2620:C:O2'	4:E:157:ALA:O	2.08	0.72
1:A:2749:A:OP1	7:H:3:ARG:NH2	2.23	0.72
45:n:4:LYS:HA	45:n:7:ILE:HG12	1.72	0.72
55:z:18:G:O2'	55:z:19:G:O5'	2.07	0.72
1:A:687:C:H1'	29:7:4:THR:HG22	1.72	0.71
1:A:1426:G:OP2	1:A:1427:A:O2'	2.04	0.71
1:A:2667:C:N3	7:H:110:SER:OG	2.21	0.71
33:b:78:GLN:NE2	33:b:94:ASN:O	2.22	0.71
40:i:24:GLY:N	40:i:60:ASP:OD1	2.23	0.71
43:l:32:PHE:HB3	43:l:84:LEU:HD21	1.71	0.71
1:A:627:A:O4'	1:A:637:A:N6	2.22	0.71
3:D:16:MET:HE1	3:D:208:LYS:HE2	1.71	0.71
5:F:158:THR:O	5:F:164:ARG:NH1	2.23	0.71
32:a:390:C:O3'	47:p:28:ARG:NH2	2.23	0.71
32:a:542:G:O3'	35:d:14:ARG:NH2	2.20	0.71
32:a:545:C:OP1	35:d:61:LYS:NZ	2.23	0.71
32:a:713:G:H2'	32:a:714:G:C8	2.25	0.71
32:a:1328:C:OP1	52:u:21:TYR:OH	2.06	0.71
33:b:28:PHE:HD1	33:b:194:PRO:HG3	1.54	0.71
1:A:2392:A:O2'	11:P:61:ARG:O	2.05	0.71
6:G:19:LEU:HD13	6:G:32:PRO:HD2	1.72	0.71
32:a:944:G:N1	32:a:1338:G:OP2	2.22	0.71
33:b:110:GLN:HA	33:b:113:HIS:HD2	1.55	0.71
53:y:14:A:N1	53:y:21:A:O2'	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1864:U:OP1	1:A:2410:G:O2'	2.05	0.71
21:Z:111:VAL:HG21	21:Z:117:LEU:HB2	1.71	0.71
32:a:101:A:C2'	32:a:152:A:H5"	2.19	0.71
32:a:148:G:H2'	32:a:149:A:C8	2.25	0.71
33:b:28:PHE:HA	33:b:194:PRO:HG2	1.71	0.71
49:r:48:GLY:O	49:r:74:ARG:NH2	2.23	0.71
54:C:56:GLN:O	54:C:165:ASN:ND2	2.22	0.71
1:A:33:U:O4	1:A:446:G:O2'	2.07	0.71
1:A:503:A:H4'	1:A:504:U:H5"	1.71	0.71
1:A:1689:A:OP2	1:A:1698:A:N6	2.19	0.71
1:A:2207:G:H3'	1:A:2208:A:H5"	1.71	0.71
1:A:2564:A:C2	1:A:2647:U:H4'	2.26	0.71
1:A:2884:U:OP2	27:5:43:HIS:NE2	2.22	0.71
32:a:978:A:OP2	32:a:1363(A):C:N4	2.23	0.71
32:a:1179:A:H4'	40:i:103:THR:HA	1.71	0.71
38:g:15:ASP:OD1	38:g:20:ASP:N	2.19	0.71
1:A:52:A:OP2	1:A:117:G:N1	2.24	0.71
10:O:11:ALA:O	10:O:99:PHE:N	2.23	0.71
12:Q:48:GLU:OE2	12:Q:51:ARG:NH2	2.24	0.71
32:a:195:A:O2'	32:a:196:A:O4'	2.09	0.71
32:a:1287:A:H2	32:a:1353:G:H1'	1.54	0.71
43:l:102:ARG:HA	43:l:107:ALA:HB1	1.72	0.71
1:A:641:C:O2'	1:A:2350:C:OP1	2.08	0.71
1:A:1266:G:O6	18:W:13:SER:OG	2.08	0.71
1:A:2135:A:O4'	1:A:2159:G:O2'	2.09	0.71
1:A:2320:A:H4'	1:A:2321:G:H5'	1.73	0.71
7:H:9:ILE:HD11	7:H:69:ARG:HA	1.71	0.71
12:Q:32:TYR:HE2	12:Q:111:GLU:HA	1.55	0.71
32:a:68:G:H5"	32:a:68:G:C4	2.25	0.71
32:a:328:C:H4'	32:a:329:A:H5'	1.72	0.71
32:a:363:A:OP1	43:l:34:ARG:N	2.24	0.71
32:a:562:C:O2	43:l:16:GLU:N	2.23	0.71
32:a:738:C:H5"	37:f:69:GLU:HB2	1.71	0.71
32:a:1316:G:N1	32:a:1319:A:OP2	2.22	0.71
40:i:20:ARG:O	40:i:60:ASP:N	2.24	0.71
54:C:53:ARG:HH22	55:z:63:G:H5'	1.55	0.71
1:A:2099:U:O2	1:A:2190:G:N2	2.24	0.71
1:A:2308:G:O2'	1:A:2310:A:N7	2.21	0.71
2:B:75:G:O3'	21:Z:10:ARG:NH2	2.24	0.71
44:m:5:ALA:HB2	44:m:61:GLU:HG2	1.72	0.71
54:C:4:GLY:O	54:C:8:ARG:N	2.17	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:116:C:O2'	1:A:126:A:N3	2.23	0.71
1:A:1048:A:OP2	1:A:1110:G:N2	2.21	0.71
1:A:2820:A:OP1	13:R:2:ARG:NH1	2.24	0.71
3:D:164:GLN:OE1	3:D:176:ARG:NH2	2.24	0.71
5:F:152:GLU:OE1	5:F:191:ARG:NE	2.20	0.71
14:S:58:LEU:HD12	14:S:65:VAL:HG13	1.73	0.71
22:0:33:ALA:N	22:0:64:ASP:OD1	2.24	0.71
32:a:659:U:OP2	46:o:8:LYS:NZ	2.23	0.71
46:o:4:THR:HG22	46:o:7:GLU:HG3	1.73	0.71
1:A:476:G:N1	1:A:479:A:OP2	2.24	0.71
1:A:1681:G:H21	1:A:1762:A:H3'	1.56	0.71
7:H:44:VAL:HB	7:H:51:ARG:HB2	1.73	0.71
31:9:9:ARG:HE	31:9:16:VAL:HG23	1.56	0.71
32:a:715:A:H2'	32:a:716:A:C8	2.25	0.71
32:a:1319:A:OP2	50:s:3:ARG:NH2	2.23	0.71
1:A:851:U:H2'	1:A:852:G:H8	1.56	0.70
1:A:2688:U:OP1	1:A:2713:A:N6	2.23	0.70
29:7:34:ARG:HG3	29:7:39:ARG:HG3	1.73	0.70
32:a:96:U:H2'	32:a:103:C:N3	2.06	0.70
32:a:99:U:H5'	51:t:15:ARG:HA	1.73	0.70
1:A:1226:A:OP1	17:V:84:LYS:NZ	2.20	0.70
1:A:2357:U:H5'	22:0:20:ARG:HH12	1.55	0.70
9:N:49:GLY:O	9:N:119:ARG:NH1	2.24	0.70
10:O:73:ASP:OD2	15:T:32:TYR:OH	2.08	0.70
32:a:216:G:H2'	32:a:217:C:C6	2.26	0.70
32:a:323:U:H5"	51:t:26:ASN:HD22	1.54	0.70
32:a:737:A:H2'	32:a:738:C:C6	2.26	0.70
54:C:163:PHE:HB3	54:C:192:PHE:HE1	1.54	0.70
55:z:21:A:N6	55:z:48:C:OP2	2.25	0.70
1:A:468:G:N7	29:7:39:ARG:NH2	2.37	0.70
1:A:1106:G:H2'	1:A:1107:G:H8	1.55	0.70
1:A:1721:G:H8	1:A:1741:A:H62	1.37	0.70
5:F:53:THR:HG23	5:F:55:GLY:H	1.55	0.70
32:a:63:C:N4	32:a:98:G:N3	2.39	0.70
32:a:753:A:OP1	46:o:69:TYR:OH	2.07	0.70
32:a:1356:G:H2'	32:a:1357:A:C8	2.25	0.70
36:e:81:GLU:HG2	36:e:90:VAL:HG22	1.74	0.70
55:z:28:G:N2	55:z:43:C:O2	2.23	0.70
1:A:301:G:OP2	20:Y:84:ARG:NH2	2.24	0.70
1:A:746:A:O2'	1:A:2611:U:O2'	2.09	0.70
1:A:2808:U:H5'	1:A:2891:G:O6	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:157:G:H1	32:a:164:U:H3	1.39	0.70
32:a:674:G:H2'	32:a:675:A:H8	1.57	0.70
51:t:53:LEU:HD13	51:t:100:ILE:H	1.56	0.70
1:A:18:C:O2'	1:A:554:U:OP1	2.08	0.70
1:A:495:G:N3	18:W:61:ASN:ND2	2.39	0.70
1:A:2848:G:O2'	1:A:2867:G:N2	2.22	0.70
6:G:131:TYR:HE2	6:G:133:LEU:HD23	1.55	0.70
32:a:174:C:H2'	32:a:175:C:H6	1.56	0.70
32:a:522:C:OP2	43:l:69:TYR:OH	2.07	0.70
32:a:1326:C:OP1	52:u:12:LYS:NZ	2.23	0.70
33:b:197:VAL:HB	33:b:200:ILE:HG13	1.72	0.70
38:g:72:ARG:N	38:g:142:GLU:OE2	2.24	0.70
47:p:53:VAL:HG13	47:p:79:VAL:HA	1.73	0.70
53:y:18:G:H1	53:y:55:U:H1'	1.57	0.70
1:A:1607:C:N4	1:A:1622:G:OP2	2.24	0.70
1:A:1651:G:H5'	13:R:39:PRO:HG2	1.74	0.70
1:A:2128:C:OP1	54:C:36:LYS:N	2.22	0.70
1:A:2696:U:H2'	1:A:2697:G:H8	1.56	0.70
15:T:76:PHE:HB3	15:T:83:ILE:HD11	1.74	0.70
32:a:441:A:H3'	32:a:442:C:H6	1.56	0.70
33:b:71:VAL:HG12	33:b:93:VAL:HG22	1.73	0.70
50:s:53:ASN:OD1	50:s:56:GLN:N	2.19	0.70
1:A:649:G:H2'	1:A:650:C:C6	2.26	0.70
1:A:2102:U:O2	1:A:2187:G:N2	2.25	0.70
1:A:2302:G:N2	6:G:126:ASP:OD1	2.25	0.70
32:a:159:G:N2	32:a:162:A:OP2	2.23	0.70
32:a:509:A:O2'	32:a:510:A:O4'	2.10	0.70
32:a:1497:G:H1'	32:a:1518:MA6:H2	1.73	0.70
46:o:77:ARG:HA	46:o:80:ALA:HB3	1.73	0.70
54:C:59:ARG:HD3	54:C:141:LYS:HG2	1.73	0.70
1:A:23:G:N1	1:A:517:C:N3	2.31	0.70
1:A:729:G:O2'	1:A:763:G:H4'	1.91	0.70
1:A:983:A:O2'	1:A:984:A:O4'	2.05	0.70
1:A:2473:U:OP1	1:A:2475:C:N4	2.24	0.70
19:X:11:PRO:HD3	24:2:37:PHE:CD1	2.27	0.70
32:a:714:G:H2'	32:a:715:A:C8	2.27	0.70
33:b:122:PHE:HA	33:b:127:ILE:HD12	1.73	0.70
1:A:2029:G:N1	1:A:2033:A:OP2	2.19	0.70
1:A:2718:G:O2'	1:A:2847:U:OP1	2.09	0.70
10:O:26:LYS:O	10:O:30:ALA:HB2	1.92	0.70
32:a:67:C:H5'	32:a:76:C:O2'	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:189(E):C:H2'	32:a:189(F):U:O4'	1.91	0.70
32:a:1125:U:O2'	32:a:1126:U:O5'	2.06	0.70
33:b:73:THR:OG1	33:b:170:GLU:OE2	2.04	0.70
51:t:15:ARG:NH1	51:t:18:GLN:OE1	2.25	0.70
55:z:9:A:H5'	55:z:46:G:H1'	1.73	0.70
55:z:51:U:O2	55:z:63:G:N2	2.21	0.70
1:A:499:U:H2'	1:A:500:G:O4'	1.91	0.70
1:A:1084:A:H8	1:A:1085:A:H4'	1.57	0.70
1:A:2316:C:O2'	6:G:128:ARG:NH2	2.21	0.70
32:a:565:U:H3'	32:a:566:G:H2'	1.74	0.70
32:a:1118:C:OP1	40:i:104:ARG:NH1	2.23	0.70
34:c:132:ARG:NH1	56:x:25:A:O2'	2.25	0.70
1:A:84:A:OP2	20:Y:8:LYS:NZ	2.21	0.69
1:A:270:A:OP2	1:A:272(X):G:N1	2.22	0.69
1:A:685:A:H5"	1:A:788:A:H62	1.56	0.69
2:B:8:U:O4	2:B:113:G:O6	2.10	0.69
4:E:48:GLN:HA	4:E:79:ARG:O	1.92	0.69
26:4:16:CYS:HA	26:4:33:VAL:HG23	1.74	0.69
28:6:40:CYS:O	28:6:44:ARG:N	2.25	0.69
32:a:97:G:P	32:a:103:C:H5"	2.32	0.69
32:a:996:A:N1	32:a:1045:C:O2'	2.24	0.69
33:b:33:TYR:HB2	33:b:43:ASP:HA	1.72	0.69
40:i:55:ALA:HB1	40:i:58:HIS:HB2	1.74	0.69
55:z:5:G:N2	55:z:68:C:O2	2.14	0.69
55:z:21:A:O4'	55:z:48:C:N4	2.25	0.69
1:A:1057:A:O2'	1:A:1058:G:OP1	2.10	0.69
1:A:1385:G:O2'	1:A:1396:U:O2	2.10	0.69
1:A:1779:U:OP2	1:A:1784:A:N6	2.22	0.69
1:A:1817:G:OP1	3:D:88:ARG:NH2	2.24	0.69
3:D:260:ARG:NH2	3:D:266:SER:OG	2.26	0.69
32:a:630:G:H3'	32:a:631:G:H8	1.56	0.69
32:a:769:G:H4'	32:a:1513:A:H4'	1.74	0.69
37:f:33:TYR:HD1	37:f:71:ARG:HD3	1.56	0.69
44:m:65:LYS:HE3	44:m:70:LEU:HA	1.73	0.69
48:q:10:VAL:HG12	48:q:53:LEU:HD12	1.74	0.69
1:A:9:U:H2'	1:A:2629:A:H61	1.57	0.69
1:A:300:A:O2'	1:A:318:C:O2	2.10	0.69
1:A:1075:C:H2'	1:A:1076:C:H5'	1.73	0.69
3:D:76:PRO:HG2	3:D:98:VAL:HG11	1.73	0.69
7:H:97:ARG:NE	7:H:104:GLU:OE1	2.23	0.69
32:a:21:G:H2'	32:a:22:G:H8	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:64:G:H4'	32:a:71:C:C4	2.27	0.69
32:a:98:G:C5'	51:t:14:LYS:HD3	2.17	0.69
32:a:191:G:O2'	51:t:101:GLY:HA2	1.92	0.69
32:a:413:G:N2	32:a:428:G:O2'	2.25	0.69
32:a:1135:U:O2'	32:a:1138:G:O6	2.05	0.69
33:b:34:ALA:O	33:b:41:ILE:N	2.25	0.69
40:i:4:TYR:O	40:i:19:LEU:N	2.23	0.69
43:l:37:CYS:O	43:l:80:HIS:N	2.24	0.69
49:r:26:LEU:HD21	49:r:42:ARG:CD	2.22	0.69
1:A:321:G:OP2	5:F:136:THR:N	2.26	0.69
1:A:1053:C:O2'	1:A:1054:A:OP1	2.10	0.69
1:A:1826:G:OP1	3:D:224:ALA:N	2.25	0.69
2:B:9:G:N2	2:B:112:U:O2	2.24	0.69
6:G:18:GLU:OE2	6:G:21:ARG:NH2	2.25	0.69
18:W:6:ILE:HA	18:W:103:ILE:O	1.92	0.69
32:a:65:U:P	32:a:71:C:C4	2.85	0.69
32:a:850:U:H2'	32:a:851:G:H5"	1.74	0.69
32:a:1540:U:H3'	32:a:1541:U:H5"	1.74	0.69
36:e:145:LYS:HA	39:h:107:LEU:HD21	1.74	0.69
54:C:175:VAL:HG21	54:C:189:ILE:HD13	1.73	0.69
55:z:54:U:C2	55:z:58:A:C8	2.78	0.69
1:A:969:U:H5'	25:3:16:PRO:HA	1.75	0.69
1:A:1057:A:N6	1:A:1087:G:OP2	2.25	0.69
1:A:1600:C:OP1	19:X:58:HIS:NE2	2.26	0.69
1:A:2031:A:N3	1:A:2455:G:O2'	2.23	0.69
1:A:2168:G:O6	54:C:134:ARG:NH2	2.25	0.69
6:G:112:PRO:HG3	26:4:43:TYR:HE2	1.57	0.69
6:G:145:THR:HG23	6:G:148:MET:H	1.57	0.69
15:T:91:ARG:HB2	15:T:121:ILE:HG13	1.73	0.69
32:a:65:U:P	32:a:71:C:N3	2.66	0.69
32:a:449:C:N4	32:a:484:G:O6	2.19	0.69
32:a:1314:C:H2'	32:a:1315:U:C6	2.27	0.69
32:a:1402:4OC:H2'	32:a:1403:C:O4'	1.90	0.69
32:a:1491:G:O2'	32:a:1492:A:OP1	2.10	0.69
33:b:87:ARG:NH2	33:b:220:ASP:OD1	2.24	0.69
34:c:140:ARG:HA	34:c:143:GLU:HB2	1.73	0.69
54:C:72:VAL:O	54:C:157:LYS:NZ	2.24	0.69
55:z:55:U:H2'	55:z:57:G:H5"	1.74	0.69
1:A:306:U:H2'	1:A:307:G:O4'	1.91	0.69
1:A:537:C:H1'	9:N:45:ASN:HD21	1.57	0.69
1:A:598:G:O2'	11:P:9:ASN:ND2	2.21	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1028:A:H2'	1:A:1029:A:H8	1.58	0.69
1:A:2882:A:OP1	13:R:96:ARG:NE	2.23	0.69
18:W:73:ALA:O	18:W:106:ILE:HB	1.92	0.69
32:a:1071:C:H2'	32:a:1072:G:H8	1.57	0.69
33:b:136:VAL:O	33:b:140:HIS:N	2.24	0.69
36:e:7:GLU:OE1	36:e:37:ARG:NE	2.25	0.69
1:A:220:G:O2'	1:A:233:A:N3	2.25	0.69
1:A:994:C:OP2	16:U:54:LYS:NZ	2.25	0.69
1:A:1042:G:O6	1:A:1113:U:O2	2.09	0.69
1:A:1278:A:H2'	1:A:1279:G:H8	1.56	0.69
1:A:2175:C:O2'	54:C:215:THR:OG1	2.10	0.69
7:H:27:LYS:HG3	7:H:32:GLU:HB3	1.75	0.69
32:a:104:G:OP2	51:t:25:ARG:NH2	2.26	0.69
32:a:489:C:H2'	32:a:490:G:H8	1.57	0.69
32:a:611:A:N1	32:a:629:G:N2	2.39	0.69
32:a:1325:C:OP1	52:u:15:ARG:NH1	2.26	0.69
1:A:1338:G:N7	19:X:62:LYS:NZ	2.40	0.69
1:A:1418:G:N1	1:A:1579:A:OP2	2.26	0.69
1:A:1580:A:H3'	1:A:1581:G:H8	1.55	0.69
1:A:2100:G:O6	1:A:2189:U:O4	2.10	0.69
1:A:2116:G:OP2	1:A:2165:G:N2	2.26	0.69
1:A:2134:A:H2'	1:A:2159:G:H1'	1.75	0.69
1:A:2246:G:H2'	1:A:2247:A:C8	2.27	0.69
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.75	0.69
7:H:28:GLY:H	7:H:79:VAL:HB	1.58	0.69
13:R:97:VAL:HG22	13:R:114:VAL:HG22	1.73	0.69
32:a:598:U:H2'	32:a:599:C:C6	2.28	0.69
37:f:36:ARG:NH2	37:f:66:GLU:OE1	2.25	0.69
42:k:15:ALA:O	42:k:78:GLN:N	2.26	0.69
43:l:57:LYS:HA	43:l:67:THR:HA	1.73	0.69
44:m:102:ARG:HE	44:m:104:ARG:HB3	1.57	0.69
47:p:8:ARG:HB3	47:p:28:ARG:HH12	1.58	0.69
53:y:55:U:N3	53:y:58:A:OP2	2.22	0.69
1:A:261:G:HO2'	1:A:610:G:HO2'	1.38	0.69
1:A:822:U:H2'	1:A:823:G:H8	1.58	0.69
1:A:889:C:O2'	1:A:890:A:O5'	2.10	0.69
1:A:2680:C:O2'	4:E:11:MET:SD	2.50	0.69
6:G:120:LEU:HD12	6:G:178:PHE:HB3	1.74	0.69
25:3:15:TYR:O	25:3:20:LYS:NZ	2.26	0.69
32:a:96:U:H2'	32:a:103:C:C2	2.28	0.69
32:a:977:A:O2'	32:a:979:C:OP2	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:985:C:H2'	32:a:986:A:H8	1.58	0.69
50:s:50:ALA:HA	50:s:59:PRO:HA	1.74	0.69
54:C:35:ALA:HB3	54:C:39:GLU:HG2	1.75	0.69
1:A:245:G:O6	30:8:8:LYS:NZ	2.25	0.69
1:A:272(K):U:OP1	8:I:50:ARG:NH1	2.25	0.69
1:A:2627:G:N2	1:A:2777:G:OP2	2.26	0.69
32:a:68:G:H5'	32:a:76:C:H2'	1.74	0.69
33:b:28:PHE:CD2	33:b:190:THR:HA	2.28	0.69
41:j:50:ILE:HD12	45:n:41:ARG:HH12	1.57	0.69
46:o:55:GLY:HA2	46:o:58:MET:HE3	1.75	0.69
47:p:19:ILE:N	47:p:37:GLY:O	2.26	0.69
54:C:61:THR:HB	54:C:160:ARG:HD3	1.74	0.69
1:A:566:U:H5"	11:P:29:LYS:HD2	1.75	0.68
1:A:577:G:H2'	1:A:578:A:C8	2.28	0.68
1:A:1011:G:OP2	16:U:66:ASN:ND2	2.26	0.68
1:A:1478:G:O2'	1:A:1558:A:N7	2.26	0.68
3:D:73:VAL:HG13	3:D:120:GLY:HA3	1.75	0.68
6:G:16:ARG:HB2	6:G:17:PRO:HD3	1.74	0.68
17:V:37:VAL:HG23	17:V:56:SER:HA	1.75	0.68
32:a:143:A:C2	32:a:220:G:N1	2.55	0.68
32:a:973:G:H3'	32:a:974:A:H5"	1.75	0.68
42:k:32:ILE:N	42:k:41:THR:O	2.26	0.68
1:A:300:A:OP2	20:Y:84:ARG:NH1	2.25	0.68
1:A:372:G:H1'	1:A:373:U:H5	1.58	0.68
1:A:1428:C:O2'	1:A:1569:A:OP2	2.10	0.68
1:A:2506:U:OP1	4:E:144:ARG:NH1	2.25	0.68
1:A:2738:A:N1	1:A:2766:G:O6	2.26	0.68
3:D:139:GLY:O	3:D:164:GLN:NE2	2.25	0.68
28:6:14:THR:O	28:6:17:LYS:NZ	2.24	0.68
28:6:34:LEU:N	28:6:51:GLU:OE1	2.21	0.68
32:a:1259:C:O2'	32:a:1283:G:N3	2.25	0.68
42:k:65:ALA:HB3	42:k:97:ALA:HB3	1.73	0.68
55:z:27:G:H3'	55:z:28:G:H5"	1.75	0.68
1:A:251:A:OP1	30:8:7:HIS:NE2	2.22	0.68
1:A:297:C:OP1	20:Y:87:LYS:NZ	2.23	0.68
1:A:467:G:OP2	29:7:34:ARG:NH2	2.25	0.68
1:A:605:C:OP1	5:F:104:LYS:NZ	2.27	0.68
1:A:694:U:H2'	1:A:695:G:H5"	1.75	0.68
1:A:1791:A:H4'	3:D:206:LEU:HB2	1.75	0.68
1:A:2188:C:H3'	1:A:2189:U:H5"	1.75	0.68
1:A:2777:G:H1'	1:A:2779:U:H5	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:V:6:LYS:HA	17:V:10:LYS:O	1.94	0.68
32:a:633:G:H2'	32:a:634:C:C6	2.29	0.68
32:a:674:G:N2	42:k:116:HIS:O	2.27	0.68
32:a:967:5MC:OP2	32:a:968:A:O2'	2.11	0.68
32:a:1499:A:C2'	32:a:1500:A:H5'	2.23	0.68
35:d:127:THR:HG22	35:d:132:ARG:HB2	1.74	0.68
38:g:69:VAL:HG22	38:g:135:VAL:HG22	1.74	0.68
51:t:89:ARG:O	51:t:93:GLU:N	2.24	0.68
54:C:58:VAL:HG11	54:C:196:LEU:HD22	1.73	0.68
54:C:114:VAL:HG12	54:C:144:THR:HA	1.76	0.68
1:A:589:C:H2'	1:A:590:A:H8	1.56	0.68
1:A:1773:A:H2'	1:A:1774:C:H5'	1.76	0.68
1:A:2074:U:H2'	1:A:2075:U:C6	2.29	0.68
4:E:47:VAL:O	4:E:80:GLU:HA	1.93	0.68
5:F:198:ALA:HA	5:F:201:VAL:HG22	1.75	0.68
11:P:81:GLN:NE2	11:P:105:LEU:O	2.27	0.68
15:T:51:ARG:HD2	15:T:100:TYR:OH	1.93	0.68
32:a:979:C:O2	45:n:19:ARG:NE	2.26	0.68
32:a:1001(B):G:O2'	32:a:1002:G:OP1	2.12	0.68
32:a:1319:A:O2'	32:a:1323:G:N7	2.18	0.68
35:d:126:ILE:HD13	35:d:148:VAL:HA	1.74	0.68
37:f:45:LEU:HD12	37:f:59:TYR:HD1	1.58	0.68
1:A:671:C:OP1	11:P:43:GLY:N	2.26	0.68
1:A:857:C:OP2	22:0:77:ARG:NH2	2.27	0.68
1:A:864:G:H2'	1:A:865:C:C6	2.27	0.68
1:A:1063:G:N2	1:A:1076:C:O2'	2.25	0.68
1:A:1964:G:O2'	1:A:1967:C:OP2	2.08	0.68
2:B:115:G:HO2'	14:S:50:SER:HG	1.36	0.68
3:D:10:THR:OG1	3:D:13:ARG:HG2	1.93	0.68
15:T:55:ASN:N	15:T:59:THR:OG1	2.26	0.68
18:W:36:LEU:HD13	18:W:48:ALA:HA	1.76	0.68
26:4:48:ARG:HD3	26:4:52:THR:HA	1.76	0.68
32:a:1030(A):C:H3'	32:a:1030(B):G:C8	2.29	0.68
34:c:152:ILE:HG22	34:c:167:TRP:HB2	1.75	0.68
36:e:37:ARG:NH1	36:e:111:GLU:O	2.27	0.68
40:i:121:ARG:NH1	40:i:122:ALA:O	2.27	0.68
1:A:197:A:H62	1:A:2430:A:H2'	1.58	0.68
1:A:630:G:N2	1:A:633:A:OP2	2.24	0.68
1:A:1481:U:O2	1:A:1510:G:N2	2.24	0.68
1:A:1558:A:H4'	1:A:1559:G:H2'	1.75	0.68
1:A:2377:A:O2'	14:S:112:PHE:O	2.07	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2577:A:H5'	27:5:3:LYS:HZ2	1.59	0.68
1:A:2685:G:OP2	15:T:51:ARG:NH1	2.26	0.68
1:A:2734:A:H2'	1:A:2735:G:O4'	1.94	0.68
1:A:2749:A:OP2	1:A:2750:A:O2'	2.10	0.68
3:D:132:PRO:HG3	3:D:190:TYR:HE1	1.59	0.68
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.76	0.68
7:H:13:LYS:HB2	7:H:14:GLY:HA2	1.75	0.68
7:H:117:PRO:HG3	7:H:123:PHE:CD2	2.28	0.68
8:I:133:HIS:HB3	8:I:136:VAL:HG21	1.76	0.68
12:Q:42:ILE:HG22	12:Q:47:ILE:HG13	1.75	0.68
29:7:30:VAL:HG22	29:7:33:ARG:HH21	1.59	0.68
32:a:84:U:O2'	32:a:88:A:O4'	2.12	0.68
32:a:860:A:H2'	32:a:861:G:O4'	1.93	0.68
32:a:976:G:OP1	45:n:32:SER:N	2.25	0.68
32:a:1223:C:OP2	50:s:78:ARG:NH2	2.26	0.68
35:d:68:TYR:CE2	35:d:97:LEU:HB3	2.29	0.68
38:g:50:ILE:HD11	38:g:58:PRO:HB3	1.74	0.68
39:h:82:HIS:N	39:h:138:TRP:O	2.27	0.68
1:A:252:G:OP1	11:P:50:ARG:NH1	2.26	0.68
1:A:652(W):C:H3'	1:A:653:A:H5"	1.76	0.68
1:A:898:C:H2'	1:A:899:A:O4'	1.94	0.68
1:A:1277:G:O2'	13:R:24:GLN:OE1	2.10	0.68
1:A:2006:C:O2'	1:A:2823:A:N3	2.26	0.68
1:A:2258:C:O2'	1:A:2427:C:OP2	2.12	0.68
1:A:2285:C:OP1	28:6:26:ASN:ND2	2.25	0.68
12:Q:21:THR:HG21	12:Q:101:ARG:HA	1.75	0.68
32:a:356:A:N3	32:a:368:U:O2'	2.23	0.68
32:a:539:A:OP2	43:l:115:LYS:NZ	2.22	0.68
32:a:1084:G:OP2	32:a:1085:U:O2'	2.09	0.68
34:c:36:ASP:HB2	34:c:59:ARG:HH21	1.59	0.68
35:d:155:LEU:HD21	35:d:157:LEU:HB3	1.76	0.68
1:A:1218:C:OP2	16:U:15:LYS:NZ	2.27	0.68
1:A:1646:C:H5"	1:A:1647:G:H5"	1.76	0.68
1:A:2075:U:OP1	3:D:244:ARG:NH2	2.26	0.68
18:W:64:MET:HE2	18:W:109:GLU:HG3	1.75	0.68
19:X:61:GLY:N	19:X:75:ASP:OD1	2.25	0.68
35:d:22:LYS:N	35:d:26:CYS:SG	2.61	0.68
37:f:16:GLN:HA	37:f:19:LEU:HB3	1.75	0.68
38:g:91:VAL:O	38:g:96:GLN:NE2	2.27	0.68
41:j:7:LYS:HG2	41:j:71:LEU:HD12	1.75	0.68
41:j:64:GLU:OE2	41:j:66:ARG:NH1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:z:5:G:N1	55:z:68:C:N3	2.34	0.68
1:A:721:C:H2'	1:A:722:A:C8	2.29	0.68
1:A:1165:U:H3	1:A:1184:G:H1	1.41	0.68
1:A:1299:G:N1	1:A:1640:C:OP2	2.21	0.68
1:A:1754:C:N3	1:A:2716:U:O2'	2.26	0.68
1:A:2145:C:O2'	1:A:2147:G:N2	2.26	0.68
12:Q:55:VAL:HG22	21:Z:183:LEU:HD11	1.75	0.68
32:a:64:G:H21	32:a:69:G:H4'	1.58	0.68
32:a:1391:U:H2'	32:a:1392:G:H8	1.59	0.68
35:d:64:LEU:HA	35:d:67:ILE:HD12	1.76	0.68
39:h:124:ALA:O	39:h:128:GLY:N	2.27	0.68
44:m:90:LEU:HD23	44:m:93:ARG:HH21	1.59	0.68
32:a:323:U:H2'	32:a:324:G:O4'	1.93	0.68
32:a:656:C:O2'	46:o:28:GLN:NE2	2.25	0.68
34:c:87:LEU:O	34:c:91:LEU:N	2.22	0.68
39:h:95:VAL:HG11	39:h:133:LEU:HD12	1.76	0.68
46:o:14:GLU:O	46:o:84:LYS:NZ	2.26	0.68
1:A:82:G:N2	1:A:103:A:OP2	2.25	0.67
1:A:1451:C:H3'	1:A:1452:A:H5'	1.76	0.67
1:A:2121:G:N2	54:C:168:THR:OG1	2.27	0.67
11:P:138:LEU:HD23	11:P:145:PRO:HB3	1.74	0.67
32:a:401:C:O2'	32:a:621:A:N3	2.26	0.67
32:a:449:C:H2'	32:a:450:G:O4'	1.94	0.67
32:a:872:A:O2'	32:a:873:A:H3'	1.93	0.67
32:a:1063:C:OP2	32:a:1064:G:O2'	2.11	0.67
32:a:1178:G:N2	32:a:1181:G:OP2	2.27	0.67
35:d:12:CYS:O	35:d:16:GLY:N	2.27	0.67
35:d:108:LEU:HD21	35:d:183:GLY:HA3	1.76	0.67
35:d:154:ASN:HA	35:d:159:ARG:HH21	1.57	0.67
40:i:21:PRO:HA	40:i:59:PHE:HA	1.75	0.67
46:o:62:GLN:HA	46:o:65:ARG:HH21	1.59	0.67
1:A:615:G:OP2	5:F:43:LYS:NZ	2.19	0.67
1:A:673:C:OP1	5:F:54:ARG:NH1	2.24	0.67
1:A:2316:C:H2'	1:A:2317:C:H6	1.60	0.67
1:A:2674:G:O2'	10:O:29:ASN:OD1	2.12	0.67
5:F:132:VAL:HG21	5:F:163:VAL:HG22	1.75	0.67
21:Z:145:GLU:N	21:Z:148:ASP:OD2	2.27	0.67
32:a:439:A:OP2	32:a:493:G:N2	2.27	0.67
32:a:1137:C:O2	32:a:1138:G:N2	2.26	0.67
32:a:1391:U:H2'	32:a:1392:G:C8	2.28	0.67
33:b:123:ALA:HB3	33:b:125:PRO:HD2	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:86:ARG:HD2	43:l:87:GLY:HA3	1.77	0.67
1:A:468:G:OP2	29:7:37:LYS:NZ	2.28	0.67
1:A:969:U:H2'	1:A:970:C:C6	2.29	0.67
1:A:1252:G:N2	16:U:33:ARG:HB3	2.08	0.67
1:A:2223:G:O2'	1:A:2224:G:O5'	2.12	0.67
1:A:2328:A:H2'	1:A:2329:G:C8	2.28	0.67
1:A:2329:G:H2'	1:A:2330:G:H8	1.59	0.67
1:A:2401:U:OP2	1:A:2402:C:N4	2.25	0.67
1:A:2756:U:H1'	1:A:2757:A:H5"	1.75	0.67
13:R:55:ALA:HA	13:R:80:PHE:CE1	2.30	0.67
32:a:106:C:H2'	32:a:107:G:O4'	1.94	0.67
32:a:502:G:OP1	43:l:118:SER:N	2.21	0.67
32:a:986:A:H1'	50:s:55:LYS:HA	1.76	0.67
32:a:1175:G:H2'	32:a:1176:A:H8	1.59	0.67
1:A:214:G:H21	1:A:216:A:H1'	1.60	0.67
1:A:272(K):U:O2	1:A:272(M):G:N2	2.27	0.67
1:A:478:A:N6	1:A:500:G:O2'	2.24	0.67
1:A:652(C):A:H2'	1:A:652(D):G:H8	1.59	0.67
1:A:1265:A:H61	1:A:2013:A:H5"	1.59	0.67
1:A:1272:A:H3'	1:A:1273:U:H5"	1.77	0.67
1:A:2112:G:H2'	1:A:2113:U:O4'	1.93	0.67
2:B:8:U:OP1	14:S:15:ARG:NH2	2.24	0.67
21:Z:132:ASN:O	21:Z:134:PRO:HD3	1.95	0.67
26:4:46:GLN:HB3	26:4:48:ARG:HH22	1.60	0.67
26:4:58:ARG:NH2	50:s:65:ASN:O	2.22	0.67
32:a:73:G:N3	32:a:76:C:H1'	2.10	0.67
32:a:160:A:H2'	32:a:161:A:O4'	1.94	0.67
42:k:33:THR:HA	42:k:40:ILE:H	1.59	0.67
43:l:49:ASN:ND2	43:l:92:0TD:SB	2.64	0.67
44:m:23:TYR:N	44:m:67:GLU:OE2	2.27	0.67
1:A:132:G:N2	1:A:147:U:O2	2.25	0.67
1:A:154(B):C:H2'	1:A:157:U:H4'	1.76	0.67
1:A:589:C:OP1	11:P:16:ARG:NH2	2.24	0.67
1:A:2416:C:OP1	11:P:66:GLY:N	2.20	0.67
2:B:8:U:O5'	14:S:15:ARG:NH1	2.20	0.67
3:D:181:GLU:HG3	3:D:273:ARG:HA	1.77	0.67
8:I:84:GLY:N	8:I:87:LYS:O	2.20	0.67
8:I:90:GLY:O	8:I:121:LYS:NZ	2.26	0.67
12:Q:31:ASP:OD1	12:Q:134:ARG:NH1	2.26	0.67
12:Q:33:GLY:CA	12:Q:104:PHE:O	2.42	0.67
14:S:10:ARG:HG3	14:S:13:ARG:HH21	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:T:54:ARG:HA	15:T:59:THR:HG23	1.75	0.67
25:3:10:LYS:NZ	25:3:15:TYR:OH	2.27	0.67
29:7:30:VAL:HA	29:7:33:ARG:HE	1.60	0.67
32:a:152:A:H3'	32:a:153:C:C5	2.29	0.67
32:a:1160:G:O6	32:a:1176:A:N1	2.27	0.67
32:a:1435:G:H2'	32:a:1436:U:C6	2.29	0.67
1:A:203:C:OP2	1:A:204:A:O2'	2.08	0.67
1:A:704:G:O2'	1:A:726:G:N2	2.26	0.67
1:A:1066:U:O2'	1:A:1068:G:OP2	2.07	0.67
1:A:1666:G:N3	10:O:3:GLN:NE2	2.41	0.67
3:D:146:GLU:HG2	3:D:152:GLY:C	2.20	0.67
7:H:96:ALA:HB2	7:H:105:LEU:HD13	1.77	0.67
8:I:1:MET:N	8:I:20:ASP:OD1	2.22	0.67
13:R:55:ALA:HB2	13:R:79:LEU:HD11	1.74	0.67
21:Z:77:ASP:O	21:Z:81:ARG:N	2.27	0.67
32:a:600:C:H2'	32:a:601:C:H6	1.60	0.67
32:a:738:C:OP1	37:f:92:LYS:NZ	2.24	0.67
32:a:1136:U:OP2	32:a:1137:C:N4	2.28	0.67
1:A:191:A:H2'	1:A:192:C:H6	1.58	0.67
1:A:2124:G:H5'	54:C:174:PRO:HG3	1.76	0.67
1:A:2751:G:H4'	7:H:4:ILE:HD11	1.74	0.67
3:D:13:ARG:NH1	3:D:16:MET:SD	2.68	0.67
6:G:19:LEU:HD11	6:G:172:LEU:HD13	1.76	0.67
8:I:8:PRO:HG2	8:I:134:PRO:HG2	1.77	0.67
8:I:43:ASN:O	8:I:47:LEU:HB2	1.95	0.67
9:N:120:LEU:HD22	9:N:121:LYS:H	1.60	0.67
16:U:102:GLU:OE1	16:U:104:GLN:NE2	2.27	0.67
32:a:45:U:H2'	32:a:46:G:C8	2.30	0.67
32:a:102:G:C1'	32:a:151:A:H1'	2.24	0.67
32:a:107:G:OP1	32:a:325:A:N6	2.17	0.67
32:a:1276:G:H2'	32:a:1277:C:O4'	1.94	0.67
1:A:1262:A:OP2	18:W:97:LYS:NZ	2.27	0.67
1:A:2290:G:H2'	1:A:2291:U:C6	2.30	0.67
1:A:2865:U:OP2	15:T:119:LYS:NZ	2.19	0.67
3:D:106:ILE:HD11	3:D:143:HIS:HD2	1.59	0.67
32:a:374:A:N1	32:a:390:C:O2'	2.27	0.67
32:a:1157:A:H5'	32:a:1158:C:C6	2.30	0.67
36:e:15:ARG:NH1	56:x:23:G:N7	2.42	0.67
43:l:103:GLY:N	43:l:107:ALA:O	2.27	0.67
45:n:5:ALA:O	45:n:9:LYS:N	2.22	0.67
46:o:82:ILE:O	46:o:86:GLY:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:p:53:VAL:HA	47:p:79:VAL:HG22	1.77	0.67
1:A:183:C:O2'	1:A:432:A:N3	2.26	0.67
1:A:2245:U:O2'	1:A:2436:G:OP2	2.11	0.67
1:A:2503:2MA:O2'	1:A:2505:G:OP2	2.08	0.67
1:A:2636:U:HO2'	4:E:44:TYR:HH	1.41	0.67
2:B:91:C:H5'	12:Q:18:LYS:HB3	1.77	0.67
17:V:5:VAL:HG12	17:V:37:VAL:HA	1.76	0.67
19:X:57:LEU:HD22	19:X:78:LYS:HE2	1.76	0.67
24:2:16:LEU:O	24:2:67:LYS:NZ	2.27	0.67
32:a:67:C:H1'	32:a:172:A:C1'	2.16	0.67
32:a:595:G:H1'	32:a:596:C:H5	1.59	0.67
32:a:1175:G:H2'	32:a:1176:A:C8	2.30	0.67
35:d:165:MET:SD	35:d:168:ARG:NE	2.65	0.67
40:i:16:ARG:HB2	40:i:64:THR:HG22	1.75	0.67
1:A:1266:G:O2'	1:A:2012:G:O6	2.07	0.67
1:A:2627:G:O2'	1:A:2781:A:N1	2.28	0.67
17:V:32:THR:HG22	17:V:60:GLU:HB2	1.77	0.67
32:a:64:G:HO3'	32:a:65:U:P	2.15	0.67
32:a:961:U:OP2	32:a:1223:C:O2'	2.05	0.67
32:a:1289:A:H2'	32:a:1290:G:H5'	1.77	0.67
32:a:1419:G:O6	32:a:1481:U:O2	2.12	0.67
43:l:89:ARG:HB2	43:l:97:ARG:HG2	1.77	0.67
1:A:1026:U:O2'	1:A:1027:A:O5'	2.13	0.66
1:A:2014:A:H2'	1:A:2015:A:C8	2.30	0.66
1:A:2376:A:N3	14:S:106:ARG:NH2	2.43	0.66
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.23	0.66
32:a:67:C:H3'	32:a:76:C:O2	1.94	0.66
32:a:452:A:N6	32:a:480:U:H3	1.93	0.66
32:a:790:A:H5'	53:y:39:C:H5'	1.76	0.66
32:a:890:G:O2'	32:a:906:G:O6	2.06	0.66
32:a:1193:G:OP1	34:c:167:TRP:NE1	2.27	0.66
32:a:1226:C:O2'	44:m:103:THR:O	2.10	0.66
35:d:23:GLY:N	35:d:26:CYS:SG	2.64	0.66
36:e:15:ARG:HD2	36:e:26:PHE:HB3	1.75	0.66
45:n:40:CYS:SG	45:n:43:CYS:N	2.57	0.66
54:C:56:GLN:NE2	54:C:203:GLY:O	2.27	0.66
54:C:153:ILE:HA	54:C:156:ILE:HD12	1.77	0.66
56:x:17:U:H3'	56:x:18:U:H6	1.60	0.66
1:A:2030:A:H4'	1:A:2031:A:H8	1.60	0.66
4:E:144:ARG:HG2	4:E:145:LYS:H	1.58	0.66
6:G:64:THR:HB	6:G:94:LEU:HD21	1.75	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:46:GLU:HB2	7:H:49:VAL:O	1.95	0.66
8:I:68:LEU:HD11	8:I:72:LEU:HD12	1.77	0.66
32:a:614:A:H2'	32:a:615:C:C6	2.30	0.66
40:i:32:ASP:N	40:i:35:GLU:OE1	2.22	0.66
44:m:3:ARG:HG3	44:m:8:GLU:CG	2.25	0.66
1:A:1283:G:N2	1:A:1286:A:OP2	2.27	0.66
1:A:2128:C:H4'	54:C:6:ARG:HH21	1.61	0.66
6:G:61:ALA:HB1	26:4:7:PRO:HG2	1.77	0.66
22:0:46:LYS:HB2	22:0:78:TYR:CD1	2.31	0.66
22:0:50:ASN:HB3	22:0:63:VAL:HG22	1.76	0.66
32:a:73:G:C5'	32:a:200:G:H5"	2.25	0.66
32:a:172:A:H3'	32:a:174:C:H41	1.58	0.66
32:a:720:C:H3'	32:a:721:G:H2'	1.77	0.66
32:a:996:A:H2'	32:a:997:U:C6	2.30	0.66
32:a:1060:C:OP1	45:n:45:ARG:NH2	2.23	0.66
32:a:1525:G:H2'	32:a:1526:G:H8	1.59	0.66
1:A:94(A):C:H2'	1:A:94(B):G:O4'	1.96	0.66
1:A:1028:A:H2'	1:A:1029:A:C8	2.30	0.66
2:B:40:U:H2'	26:4:2:LYS:HE3	1.77	0.66
2:B:51:G:H2'	2:B:52:A:C8	2.30	0.66
21:Z:95:PRO:HA	21:Z:130:PRO:HD3	1.78	0.66
32:a:381:C:H2'	32:a:382:A:O4'	1.94	0.66
32:a:507:C:OP2	32:a:508:C:O2'	2.12	0.66
34:c:6:HIS:HD2	34:c:9:GLY:H	1.42	0.66
54:C:52:ARG:NH2	55:z:61:C:O2'	2.28	0.66
1:A:840:C:OP2	1:A:932:G:N2	2.22	0.66
1:A:1064:C:H3'	1:A:1065:U:C5'	2.20	0.66
1:A:2329:G:H2'	1:A:2330:G:C8	2.31	0.66
1:A:2469:A:H2'	1:A:2470:G:O4'	1.95	0.66
2:B:48:A:H2'	2:B:49:C:C6	2.31	0.66
2:B:49:C:H2'	2:B:50:G:H8	1.61	0.66
8:I:30:LEU:HD23	8:I:35:LEU:HD12	1.77	0.66
10:O:20:MET:HE3	10:O:44:LYS:HE3	1.76	0.66
32:a:104:G:H2'	32:a:105:G:C4'	2.25	0.66
32:a:544:G:OP2	35:d:66:ARG:NH2	2.26	0.66
32:a:651:C:H2'	32:a:652:U:C6	2.31	0.66
32:a:1074:G:O2'	32:a:1101:A:N1	2.25	0.66
37:f:48:LEU:HD13	37:f:52:ILE:HD12	1.75	0.66
55:z:24:G:H2'	55:z:25:C:O4'	1.95	0.66
56:x:36:C:H2'	56:x:37:U:O4'	1.95	0.66
1:A:879:G:H2'	1:A:880:G:C8	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2001:A:H2'	1:A:2002:G:C8	2.31	0.66
1:A:2829:C:H2'	1:A:2830:G:H8	1.59	0.66
6:G:68:PRO:HB3	6:G:92:VAL:HB	1.78	0.66
11:P:59:LEU:HD21	30:8:10:ALA:HA	1.78	0.66
32:a:197:A:C6	32:a:221:C:H4'	2.31	0.66
32:a:370:C:H2'	32:a:371:G:H8	1.61	0.66
32:a:460:G:N1	32:a:471:G:OP2	2.19	0.66
32:a:735:C:H5'	49:r:71:LYS:HD2	1.78	0.66
42:k:82:VAL:HG11	42:k:108:ILE:HG12	1.77	0.66
1:A:522:G:H2'	1:A:523:C:C6	2.30	0.66
1:A:922:U:H2'	1:A:923:C:C6	2.31	0.66
1:A:1106:G:H2'	1:A:1107:G:C8	2.31	0.66
1:A:1514:U:H2'	1:A:1515:G:C8	2.30	0.66
1:A:2616:C:H2'	1:A:2617:C:C6	2.31	0.66
5:F:125:LEU:HD23	5:F:194:MET:HB2	1.76	0.66
6:G:3:LEU:HB2	26:4:25:TYR:HE2	1.60	0.66
19:X:88:LYS:NZ	19:X:93:GLU:OE2	2.29	0.66
23:1:60:PHE:HE1	23:1:91:LYS:HG3	1.58	0.66
32:a:99:U:C4	51:t:18:GLN:HA	2.30	0.66
32:a:1030(C):C:H2'	32:a:1030(D):G:H5'	1.77	0.66
34:c:17:ASP:OD2	34:c:21:ARG:NH1	2.28	0.66
39:h:10:LEU:HD22	39:h:83:ILE:HD11	1.78	0.66
45:n:26:ARG:NH1	45:n:43:CYS:SG	2.67	0.66
49:r:45:SER:HG	49:r:49:LYS:N	1.93	0.66
55:z:9:A:H62	55:z:23:A:H62	1.42	0.66
1:A:581:C:H2'	1:A:582:G:H8	1.61	0.66
1:A:1341:U:OP2	1:A:1394:U:O2'	2.08	0.66
1:A:1842:G:H2'	1:A:1843:C:H6	1.60	0.66
1:A:2247:A:H2'	1:A:2248:C:H6	1.61	0.66
1:A:2865:U:OP2	1:A:2866:U:O2'	2.05	0.66
6:G:5:VAL:HG23	6:G:8:LYS:HB3	1.76	0.66
6:G:47:LYS:HB2	6:G:86:MET:HG2	1.77	0.66
7:H:24:VAL:CG2	7:H:35:VAL:HB	2.26	0.66
17:V:39:LEU:HD12	17:V:47:VAL:HG13	1.78	0.66
26:4:48:ARG:HG3	26:4:52:THR:HG23	1.78	0.66
32:a:279:A:N6	48:q:98:LEU:O	2.29	0.66
32:a:1049:U:H4'	32:a:1050:G:H5"	1.78	0.66
33:b:162:ILE:HD11	33:b:184:VAL:HG13	1.78	0.66
40:i:32:ASP:HB3	40:i:35:GLU:HB2	1.78	0.66
47:p:53:VAL:HG13	47:p:79:VAL:HG22	1.77	0.66
55:z:73:A:H2'	55:z:74:C:C6	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:191:A:H2'	1:A:192:C:C6	2.31	0.66
1:A:265:A:N1	1:A:427:U:O2'	2.26	0.66
1:A:629:G:N3	1:A:639:U:O2'	2.28	0.66
1:A:634:C:H2'	1:A:635:C:C6	2.31	0.66
1:A:879:G:H2'	1:A:880:G:H8	1.61	0.66
4:E:53:PRO:HA	4:E:75:VAL:HA	1.77	0.66
12:Q:26:TYR:O	12:Q:67:ARG:NH1	2.22	0.66
13:R:83:ILE:HA	13:R:86:ARG:HG2	1.78	0.66
16:U:103:PRO:O	16:U:107:ALA:HB2	1.96	0.66
18:W:2:GLU:HA	18:W:107:LEU:O	1.95	0.66
24:2:1:MET:HE3	24:2:6:VAL:HG22	1.78	0.66
32:a:312:C:H2'	32:a:313:A:C8	2.31	0.66
32:a:1333:A:H3'	32:a:1334:G:H8	1.60	0.66
35:d:18:LYS:HZ1	35:d:34:GLU:HG2	1.61	0.66
38:g:136:LYS:O	38:g:140:ASP:N	2.24	0.66
42:k:34:ASP:OD1	42:k:38:ASN:N	2.29	0.66
50:s:41:VAL:HG22	50:s:42:PRO:HD2	1.77	0.66
53:y:16:C:O3'	53:y:60:U:O2'	2.13	0.66
1:A:397:G:O2'	1:A:2230:G:N2	2.27	0.66
1:A:884:C:OP2	1:A:885:C:N4	2.28	0.66
1:A:1103:A:H2'	1:A:1104:C:O4'	1.96	0.66
1:A:2781:A:H5"	1:A:2782:G:H5'	1.78	0.66
2:B:14:U:O3'	2:B:108:U:O2'	2.12	0.66
6:G:107:LEU:HD23	6:G:111:LEU:HD12	1.78	0.66
32:a:64:G:N2	32:a:69:G:H4'	2.10	0.66
32:a:299:G:H2'	32:a:300:A:C8	2.31	0.66
32:a:858:G:O6	32:a:869:G:H3'	1.96	0.66
32:a:1422:G:H2'	32:a:1423:G:H8	1.61	0.66
32:a:1466:C:H2'	32:a:1467:G:O4'	1.96	0.66
35:d:154:ASN:HA	35:d:159:ARG:NH2	2.11	0.66
43:l:60:LEU:HD11	43:l:85:ILE:HD11	1.78	0.66
53:y:59:A:H2'	53:y:60:U:O4'	1.95	0.66
1:A:272(J):C:H1'	1:A:272(K):U:H2'	1.77	0.65
1:A:1075:C:C2'	1:A:1076:C:H5'	2.27	0.65
1:A:1274:A:N1	1:A:1644:C:O2'	2.25	0.65
1:A:2010:G:H5"	18:W:42:ARG:HB2	1.77	0.65
1:A:2134:A:O4'	1:A:2157:G:O2'	2.14	0.65
1:A:2173:A:OP2	1:A:2174:C:N4	2.29	0.65
11:P:63:PRO:HB2	30:8:30:ARG:HH21	1.61	0.65
21:Z:116:VAL:HG23	21:Z:177:PRO:HA	1.78	0.65
21:Z:126:VAL:HG13	21:Z:162:GLU:H	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:68:G:H5'	32:a:76:C:C2	2.31	0.65
32:a:70:G:N2	32:a:385:C:O4'	2.29	0.65
32:a:552:U:H4'	43:l:87:GLY:HA2	1.77	0.65
32:a:1513:A:H2'	32:a:1514:C:C6	2.31	0.65
43:l:43:VAL:O	43:l:53:ARG:N	2.29	0.65
55:z:60:U:O2'	55:z:61:C:H5'	1.95	0.65
1:A:1196:C:O2'	1:A:1227:G:O2'	2.13	0.65
1:A:1278:A:H2'	1:A:1279:G:C8	2.30	0.65
8:I:83:ALA:CB	8:I:88:ILE:HA	2.27	0.65
9:N:19:GLU:HG3	9:N:59:LYS:HB3	1.78	0.65
21:Z:17:ALA:O	21:Z:21:ALA:N	2.29	0.65
32:a:427:U:OP2	35:d:36:ARG:NH1	2.27	0.65
32:a:489:C:H2'	32:a:490:G:C8	2.31	0.65
32:a:737:A:H2'	32:a:738:C:H6	1.59	0.65
32:a:1497:G:H2'	32:a:1498:UR3:H6	1.79	0.65
46:o:77:ARG:O	46:o:81:LEU:N	2.29	0.65
1:A:83:G:H1	1:A:102:G:HO2'	1.39	0.65
1:A:273(A):G:N7	1:A:421:U:H2'	2.11	0.65
1:A:589:C:H2'	1:A:590:A:C8	2.32	0.65
1:A:909:A:H2'	1:A:912:C:H5	1.60	0.65
1:A:1062:G:C2'	1:A:1063:G:H5'	2.26	0.65
1:A:1965:C:OP1	1:A:1966:A:O2'	2.13	0.65
1:A:2181:G:H2'	1:A:2182:G:H8	1.61	0.65
7:H:3:ARG:O	7:H:4:ILE:N	2.29	0.65
10:O:16:ALA:HA	10:O:46:ALA:HA	1.76	0.65
12:Q:136:ALA:HA	12:Q:139:GLU:HB2	1.78	0.65
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.96	0.65
32:a:1312:G:H5'	50:s:5:LEU:HD21	1.78	0.65
39:h:41:ARG:NH2	39:h:123:GLU:OE2	2.29	0.65
42:k:21:ILE:HD12	42:k:84:VAL:HG22	1.79	0.65
54:C:200:LYS:HG3	54:C:208:PHE:CD1	2.32	0.65
54:C:200:LYS:HE3	54:C:208:PHE:HB2	1.76	0.65
1:A:272(L):U:C4'	1:A:272(M):G:H5'	2.26	0.65
1:A:299:A:N1	1:A:322:A:O2'	2.24	0.65
1:A:851:U:H2'	1:A:852:G:C8	2.31	0.65
1:A:1528(A):A:OP2	1:A:1542:A:N6	2.29	0.65
1:A:2134:A:N6	1:A:2156:G:O2'	2.29	0.65
1:A:2181:G:H2'	1:A:2182:G:C8	2.32	0.65
1:A:2389:G:H5"	1:A:2390:U:O4'	1.95	0.65
6:G:28:VAL:O	6:G:31:VAL:HG22	1.95	0.65
7:H:41:MET:HE3	7:H:64:LEU:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1:85:LEU:HD23	23:1:89:GLU:HB3	1.77	0.65
32:a:8:A:H5'	36:e:101:ILE:HG22	1.78	0.65
32:a:31:G:O2'	32:a:48:C:N4	2.29	0.65
32:a:68:G:H5'	32:a:76:C:O2	1.96	0.65
32:a:321:A:N6	32:a:332:G:H1	1.94	0.65
32:a:505:G:O2'	32:a:506:G:H5'	1.97	0.65
32:a:738:C:OP1	37:f:4:TYR:OH	2.11	0.65
32:a:1510:U:H2'	32:a:1511:G:C8	2.32	0.65
39:h:84:ARG:NH2	39:h:136:GLU:OE2	2.28	0.65
44:m:82:MET:HG2	44:m:93:ARG:HG3	1.79	0.65
47:p:54:GLU:O	47:p:58:TYR:N	2.29	0.65
47:p:58:TYR:O	47:p:61:SER:OG	2.11	0.65
49:r:47:THR:HG23	49:r:49:LYS:HG3	1.77	0.65
1:A:177:G:OP2	1:A:177:G:N2	2.24	0.65
1:A:272(E):U:H2'	1:A:272(F):C:C6	2.31	0.65
1:A:463:G:N2	1:A:466:A:OP2	2.19	0.65
1:A:585:G:N1	1:A:1253:A:OP2	2.26	0.65
1:A:1049:C:H2'	1:A:1050:A:O4'	1.96	0.65
1:A:1571:A:H2'	1:A:1572:A:C8	2.32	0.65
1:A:2130:U:H2'	1:A:2158:A:N1	2.11	0.65
4:E:49:LEU:O	4:E:78:LEU:HD12	1.97	0.65
6:G:50:ALA:O	6:G:53:LEU:HG	1.97	0.65
8:I:100:ALA:O	8:I:104:GLN:HB3	1.97	0.65
26:4:56:VAL:HG22	26:4:60:GLN:HG3	1.78	0.65
32:a:701:C:OP1	32:a:702:A:O2'	2.14	0.65
32:a:1202:G:O4'	45:n:29:ARG:NH1	2.29	0.65
32:a:1510:U:H3	32:a:1525:G:H1	1.44	0.65
1:A:414:C:H2'	1:A:415:A:C8	2.31	0.65
1:A:706:A:H2'	1:A:707:G:O4'	1.97	0.65
1:A:959:A:H2'	1:A:960:A:C8	2.32	0.65
1:A:1418:G:O2'	1:A:1580:A:N6	2.29	0.65
1:A:1657:C:OP1	4:E:136:ARG:N	2.29	0.65
1:A:1664:A:H61	1:A:1996:C:H42	1.44	0.65
1:A:2696:U:H2'	1:A:2697:G:C8	2.31	0.65
6:G:95:ARG:O	6:G:99:MET:N	2.26	0.65
16:U:91:ASP:N	17:V:11:GLN:OE1	2.29	0.65
32:a:398:C:H2'	32:a:399:G:H8	1.62	0.65
32:a:708:C:H2'	32:a:709:G:C8	2.32	0.65
32:a:1240:U:H4'	38:g:38:LEU:HD21	1.79	0.65
32:a:1458:G:OP1	51:t:35:THR:OG1	2.04	0.65
54:C:41:VAL:HG21	54:C:185:LEU:HD11	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:637:A:C6	1:A:652(A):C:H5'	2.32	0.65
1:A:1062:G:H2'	1:A:1063:G:H5'	1.78	0.65
1:A:1098:A:H3'	1:A:1099:G:C8	2.32	0.65
1:A:1605:C:H2'	1:A:1606:G:O4'	1.96	0.65
1:A:1823:G:H2'	1:A:1824:G:H8	1.62	0.65
8:I:65:ALA:O	8:I:69:LYS:HB2	1.97	0.65
16:U:81:HIS:NE2	16:U:85:LYS:HD2	2.12	0.65
32:a:718:G:N2	49:r:49:LYS:HG2	2.12	0.65
32:a:1024:G:O2'	32:a:1025:U:H4'	1.97	0.65
32:a:1189:C:OP1	41:j:51:ARG:NH2	2.30	0.65
32:a:1314:C:OP2	50:s:4:SER:OG	2.09	0.65
32:a:1356:G:H2'	32:a:1357:A:H8	1.62	0.65
33:b:61:LEU:HD21	33:b:160:ASP:HB2	1.78	0.65
35:d:146:ILE:O	35:d:183:GLY:N	2.24	0.65
39:h:4:ASP:OD2	39:h:85:ARG:NH1	2.29	0.65
49:r:56:THR:HB	49:r:58:LEU:HD23	1.79	0.65
54:C:26:ALA:HB1	54:C:182:PRO:HA	1.79	0.65
1:A:282:A:N7	1:A:358:U:O2	2.30	0.65
1:A:1529:G:N2	1:A:1540:U:O2	2.27	0.65
1:A:1792:G:H5'	3:D:205:VAL:HG13	1.79	0.65
1:A:2514:U:H2'	1:A:2515:C:H6	1.62	0.65
14:S:50:SER:O	14:S:76:LYS:NZ	2.23	0.65
24:2:36:ARG:O	24:2:40:SER:OG	2.10	0.65
32:a:403:C:H4'	35:d:122:ARG:NH1	2.12	0.65
32:a:410:G:N1	32:a:431:A:OP2	2.30	0.65
32:a:1095:U:OP1	32:a:1108:G:N1	2.25	0.65
35:d:119:GLN:HG3	35:d:123:HIS:CE1	2.32	0.65
41:j:9:ARG:HG2	41:j:69:ASN:HD22	1.60	0.65
54:C:175:VAL:HG11	54:C:189:ILE:HA	1.79	0.65
1:A:1577:C:H2'	1:A:1578:U:C6	2.31	0.65
1:A:1798:U:H5'	3:D:259:THR:HG22	1.77	0.65
1:A:2808:U:O2	1:A:2892:A:N7	2.30	0.65
3:D:16:MET:HE2	3:D:211:ARG:HD2	1.78	0.65
4:E:67:PHE:CZ	4:E:75:VAL:HG12	2.32	0.65
5:F:150:GLY:HA2	5:F:172:TRP:CD2	2.32	0.65
7:H:97:ARG:HA	7:H:125:VAL:HG11	1.79	0.65
9:N:70:LYS:HD3	9:N:87:LEU:HD12	1.77	0.65
18:W:13:SER:HB3	18:W:16:LYS:HD2	1.79	0.65
21:Z:110:GLY:HA3	21:Z:145:GLU:HA	1.79	0.65
32:a:66:G:N3	32:a:173:U:H5'	2.12	0.65
32:a:673:G:H5"	37:f:87:ARG:NH1	2.12	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1080:A:C5'	36:e:16:THR:HG21	2.27	0.65
34:c:63:ASN:HB2	34:c:98:ASN:HB2	1.78	0.65
39:h:49:GLU:OE2	39:h:62:TYR:OH	2.15	0.65
51:t:56:MET:HE3	51:t:85:MET:HG2	1.78	0.65
55:z:26:A:H3'	55:z:27:G:C8	2.32	0.65
56:x:2:A:H4'	56:x:3:A:C5'	2.26	0.65
1:A:38:A:H2'	1:A:39:C:C6	2.32	0.65
1:A:602:G:O2'	1:A:655:A:N6	2.30	0.65
1:A:603:A:O4'	1:A:655:A:N6	2.31	0.65
1:A:820:A:N3	1:A:943:U:O2'	2.29	0.65
1:A:1035:U:H3	1:A:1120:G:H1	1.45	0.65
1:A:1223:G:N2	1:A:1226:A:OP2	2.26	0.65
1:A:2286:A:H4'	1:A:2287:A:O4'	1.97	0.65
5:F:108:LYS:O	5:F:112:MET:HG3	1.97	0.65
6:G:107:LEU:HD21	6:G:178:PHE:CD1	2.32	0.65
21:Z:97:GLU:HA	21:Z:127:LYS:HA	1.77	0.65
32:a:985:C:H2'	32:a:986:A:C8	2.32	0.65
32:a:1308:U:OP1	44:m:98:VAL:N	2.30	0.65
1:A:784:A:N6	3:D:229:VAL:HG11	2.12	0.64
1:A:1932:A:H2'	1:A:1933:G:O4'	1.97	0.64
1:A:2469:A:O2'	12:Q:56:ARG:NH1	2.30	0.64
1:A:2824:C:H2'	1:A:2825:C:O4'	1.96	0.64
5:F:7:TYR:HD2	5:F:24:LEU:HD22	1.62	0.64
9:N:128:HIS:CE1	9:N:135:PRO:HG2	2.31	0.64
32:a:68:G:H4'	32:a:76:C:H3'	1.79	0.64
32:a:976:G:N2	32:a:1363(A):C:OP2	2.25	0.64
32:a:1446:U:H4'	32:a:1447:A:C6	2.31	0.64
33:b:115:LEU:HD21	33:b:146:GLN:HG3	1.78	0.64
33:b:187:LEU:HD12	33:b:205:ASP:HA	1.78	0.64
54:C:61:THR:CG2	54:C:142:ALA:HB1	2.27	0.64
1:A:26:G:H1'	1:A:514:A:H61	1.62	0.64
1:A:776:G:N7	1:A:793:A:O2'	2.30	0.64
1:A:981:A:OP2	1:A:982:C:N4	2.21	0.64
1:A:1021:A:O2'	1:A:1123:C:OP1	2.10	0.64
1:A:1093:G:N2	1:A:1098:A:OP2	2.30	0.64
1:A:2241:A:H2'	1:A:2242:G:H8	1.63	0.64
1:A:2313:C:O4'	6:G:40:ASN:ND2	2.30	0.64
3:D:19:ALA:HB2	3:D:204:ILE:HD11	1.79	0.64
7:H:84:SER:OG	7:H:132:ARG:NH1	2.25	0.64
7:H:124:GLU:OE1	7:H:132:ARG:HD2	1.97	0.64
13:R:63:ARG:HG2	13:R:80:PHE:CE2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:246:A:N1	32:a:278:G:O2'	2.25	0.64
32:a:472:A:H2'	32:a:473:G:O4'	1.97	0.64
32:a:652:U:O4	32:a:752:G:O2'	2.15	0.64
32:a:1052:U:O2'	32:a:1055:A:OP2	2.07	0.64
37:f:36:ARG:HH12	37:f:38:GLU:HG2	1.61	0.64
46:o:10:LYS:O	46:o:14:GLU:HG2	1.97	0.64
54:C:63:SER:HA	54:C:160:ARG:HA	1.80	0.64
1:A:585:G:H2'	1:A:1251:C:H42	1.62	0.64
1:A:679:C:H2'	1:A:680:G:H8	1.63	0.64
1:A:732:C:H2'	1:A:733:G:O4'	1.98	0.64
1:A:2703:C:H2'	1:A:2704:C:H6	1.60	0.64
1:A:2732:G:OP1	1:A:2733:A:H1'	1.97	0.64
7:H:76:VAL:O	7:H:80:SER:OG	2.16	0.64
8:I:6:LEU:O	8:I:57:ARG:NH2	2.23	0.64
19:X:43:VAL:HB	19:X:51:VAL:HG21	1.78	0.64
21:Z:180:VAL:HA	21:Z:183:LEU:CD1	2.26	0.64
32:a:622:A:H2'	32:a:623:C:H5'	1.78	0.64
32:a:993:G:O2'	32:a:994:A:N7	2.29	0.64
32:a:1079:G:O2'	36:e:14:ARG:NH2	2.29	0.64
32:a:1376:U:OP2	38:g:94:ARG:NH2	2.30	0.64
32:a:1417:G:N2	32:a:1482:G:H2'	2.12	0.64
32:a:1492:A:H2'	32:a:1493:A:H5"	1.80	0.64
37:f:29:ALA:HA	37:f:32:ASN:HD22	1.62	0.64
54:C:185:LEU:O	54:C:189:ILE:N	2.27	0.64
1:A:1467:C:C5	1:A:1546:C:H2'	2.33	0.64
1:A:1582:C:H2'	1:A:1583:A:H8	1.63	0.64
1:A:2241:A:H2'	1:A:2242:G:C8	2.32	0.64
1:A:2850:A:OP2	1:A:2866:U:N3	2.24	0.64
5:F:140:LEU:HD21	5:F:170:LEU:HD21	1.78	0.64
27:5:33:CYS:N	27:5:38:ALA:O	2.25	0.64
32:a:1060:C:H2'	32:a:1061:G:H8	1.62	0.64
32:a:1130:A:H2'	32:a:1131:G:C8	2.31	0.64
32:a:1160:G:O6	32:a:1182:G:O6	2.15	0.64
1:A:307:G:N1	1:A:310:A:OP2	2.24	0.64
1:A:488:G:N2	1:A:492:A:OP2	2.25	0.64
1:A:557:U:H2'	1:A:558:G:H8	1.62	0.64
1:A:820:A:H4'	1:A:836:G:N2	2.12	0.64
1:A:884:C:H3'	1:A:885:C:C5	2.33	0.64
1:A:1570:A:H2'	1:A:1571:A:C8	2.32	0.64
1:A:2538:C:H2'	1:A:2539:C:H6	1.62	0.64
2:B:24:G:N7	2:B:56:G:H2'	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:62:C:H2'	2:B:63:G:H8	1.61	0.64
8:I:26:ALA:HB2	8:I:30:LEU:HD12	1.79	0.64
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.80	0.64
32:a:66:G:C4	32:a:173:U:H2'	2.33	0.64
32:a:72:C:O2'	32:a:200:G:O3'	2.14	0.64
32:a:413:G:H4'	32:a:414:A:H5'	1.80	0.64
32:a:454:C:H2'	32:a:455:C:H5'	1.78	0.64
32:a:501:C:H2'	32:a:502:G:C8	2.33	0.64
32:a:1028:C:O2	32:a:1034:G:N2	2.27	0.64
32:a:1417:G:H2'	32:a:1482:G:N2	2.12	0.64
33:b:167:PRO:HG2	33:b:192:SER:HB3	1.80	0.64
37:f:69:GLU:O	37:f:72:VAL:HG22	1.98	0.64
40:i:65:VAL:HG21	40:i:73:GLN:HB3	1.80	0.64
53:y:21:A:H61	53:y:46:G:H2'	1.62	0.64
1:A:214:G:O2'	1:A:215:G:O5'	2.16	0.64
1:A:347:A:H2'	1:A:348:G:H8	1.62	0.64
1:A:1389:G:H2'	1:A:1390:U:H6	1.62	0.64
1:A:1753:G:N2	1:A:1756:G:O5'	2.30	0.64
1:A:1796:U:O2	1:A:1823:G:N2	2.25	0.64
1:A:2319:G:N1	14:S:3:ARG:HA	2.13	0.64
1:A:2365:G:N7	30:8:39:LYS:NZ	2.34	0.64
1:A:2547:U:H2'	1:A:2548:G:H8	1.62	0.64
4:E:25:VAL:CG1	4:E:181:LEU:HD12	2.28	0.64
7:H:91:GLY:HA3	7:H:160:LYS:HG3	1.79	0.64
9:N:12:ARG:NH2	9:N:136:GLU:OE1	2.28	0.64
12:Q:135:ASP:H	12:Q:138:ASP:HB2	1.62	0.64
15:T:31:SER:HB2	15:T:85:LYS:HG2	1.78	0.64
16:U:46:ALA:O	16:U:50:ARG:HG3	1.98	0.64
17:V:40:LEU:HB2	17:V:46:VAL:HG12	1.78	0.64
21:Z:147:GLY:N	21:Z:174:VAL:O	2.25	0.64
32:a:279:A:OP2	48:q:95:TYR:OH	2.10	0.64
32:a:452:A:N7	32:a:480:U:O4	2.31	0.64
32:a:595:G:O2'	32:a:641:U:O4	2.13	0.64
32:a:954:G:O2'	32:a:955:U:OP1	2.11	0.64
33:b:118:LEU:HD11	33:b:142:LEU:HB2	1.79	0.64
1:A:112:U:H2'	1:A:113:G:O4'	1.98	0.64
1:A:1114:G:H2'	1:A:1115:G:C8	2.33	0.64
1:A:2478:A:H2'	1:A:2479:G:O4'	1.97	0.64
3:D:26:LYS:NZ	3:D:83:GLU:OE2	2.17	0.64
3:D:78:LYS:NZ	3:D:114:GLY:HA2	2.13	0.64
7:H:171:LEU:HD23	7:H:171:LEU:H	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:135:ASP:O	12:Q:139:GLU:N	2.28	0.64
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.33	0.64
32:a:99:U:OP1	51:t:14:LYS:HD2	1.97	0.64
32:a:579:G:H2'	32:a:580:U:C6	2.32	0.64
32:a:736:C:H2'	32:a:737:A:C8	2.32	0.64
34:c:83:ARG:O	34:c:87:LEU:N	2.30	0.64
46:o:26:GLU:OE2	46:o:77:ARG:NE	2.31	0.64
48:q:24:GLU:OE2	48:q:37:LYS:HD3	1.97	0.64
1:A:229:A:H5"	1:A:230:U:H5'	1.80	0.64
1:A:515:A:H1'	1:A:581:C:H1'	1.80	0.64
1:A:1709:U:O2'	1:A:2859:G:N3	2.31	0.64
1:A:2171:A:H4'	1:A:2172:U:OP1	1.97	0.64
10:O:24:VAL:HG13	10:O:30:ALA:HB3	1.79	0.64
32:a:403:C:H5"	35:d:136:PRO:HD2	1.80	0.64
32:a:501:C:O2	32:a:549:C:O2'	2.13	0.64
32:a:741:G:H5"	46:o:39:LEU:HD11	1.80	0.64
32:a:1316:G:H4'	45:n:18:VAL:HG21	1.80	0.64
33:b:35:GLU:HA	33:b:40:HIS:HA	1.80	0.64
38:g:91:VAL:HG12	38:g:96:GLN:HG3	1.78	0.64
39:h:40:ALA:HB2	39:h:45:ILE:HD11	1.80	0.64
43:l:86:ARG:HD2	43:l:87:GLY:CA	2.28	0.64
1:A:666:G:H2'	1:A:667:U:C6	2.33	0.64
1:A:1518:U:H2'	1:A:1519:G:O4'	1.98	0.64
1:A:2526:G:N2	1:A:2537:U:O2	2.28	0.64
1:A:2636:U:O2'	4:E:44:TYR:OH	2.11	0.64
1:A:2832:U:H4'	1:A:2833:G:H2'	1.80	0.64
4:E:52:LEU:O	4:E:76:ARG:N	2.23	0.64
6:G:26:GLN:N	6:G:30:GLU:OE1	2.31	0.64
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.26	0.64
11:P:95:VAL:HG22	11:P:125:VAL:HG12	1.80	0.64
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.79	0.64
19:X:3:THR:N	19:X:6:ASP:OD2	2.21	0.64
30:8:31:HIS:ND1	30:8:32:LEU:HD13	2.13	0.64
32:a:64:G:C8	32:a:70:G:H5"	2.32	0.64
32:a:134:A:H1'	32:a:325:A:C5	2.33	0.64
32:a:611:A:N6	32:a:629:G:N1	2.37	0.64
32:a:1027:C:H3'	32:a:1028:C:H5"	1.79	0.64
32:a:1236:A:H2'	32:a:1237:C:C6	2.33	0.64
32:a:1247:U:H3	32:a:1290:G:H1	1.44	0.64
32:a:1295:G:O2'	32:a:1302:U:O4	2.10	0.64
34:c:63:ASN:CB	34:c:98:ASN:HB2	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:g:23:VAL:O	38:g:27:ILE:HG12	1.98	0.64
49:r:43:PHE:HA	49:r:51:LEU:HD12	1.79	0.64
54:C:190:ARG:O	54:C:194:ARG:HG2	1.98	0.64
1:A:6:A:H4'	9:N:129:PRO:HB2	1.80	0.64
1:A:624:C:O2'	1:A:657:U:OP1	2.16	0.64
1:A:910:A:H2'	1:A:911:A:C8	2.33	0.64
1:A:1028:A:OP2	1:A:1126:A:N6	2.31	0.64
1:A:1107:G:H2'	1:A:1108:U:C6	2.33	0.64
1:A:1151:G:H4'	16:U:81:HIS:CG	2.31	0.64
1:A:1638:C:OP1	1:A:2710:C:O2'	2.15	0.64
1:A:1742:G:H2'	1:A:1743:C:C6	2.33	0.64
1:A:1797:C:H3'	3:D:274:ARG:NH2	2.13	0.64
1:A:2567:G:H2'	1:A:2568:C:C6	2.33	0.64
1:A:2652:C:H2'	1:A:2653:U:O4'	1.98	0.64
2:B:49:C:H2'	2:B:50:G:C8	2.33	0.64
7:H:119:GLU:O	7:H:121:ILE:HG12	1.98	0.64
14:S:3:ARG:HE	14:S:4:LEU:H	1.44	0.64
32:a:62:U:N3	32:a:98:G:H2'	2.09	0.64
32:a:100:C:H1'	32:a:101:A:C5'	2.28	0.64
32:a:806:C:H2'	32:a:807:A:H8	1.63	0.64
32:a:1387:G:H2'	32:a:1388:C:C6	2.33	0.64
32:a:1499:A:H1'	32:a:1520:G:H5'	1.80	0.64
34:c:140:ARG:O	34:c:144:SER:N	2.31	0.64
39:h:69:ARG:O	39:h:74:PRO:HA	1.98	0.64
44:m:87:TYR:O	44:m:91:ARG:HG2	1.98	0.64
1:A:214:G:H1'	1:A:216:A:O2'	1.98	0.63
1:A:397:G:O2'	1:A:2231:C:H1'	1.97	0.63
1:A:652(C):A:N1	1:A:654:A:O2'	2.27	0.63
1:A:1739:U:O2'	1:A:1740:G:H5'	1.98	0.63
5:F:110:LEU:HA	5:F:183:VAL:HG12	1.79	0.63
19:X:9:LEU:HD11	19:X:31:HIS:HA	1.79	0.63
26:4:44:THR:HG21	26:4:49:PHE:CZ	2.32	0.63
32:a:236:G:H2'	32:a:237:C:O4'	1.98	0.63
32:a:828:A:H2'	32:a:829:G:O4'	1.97	0.63
32:a:1358:U:OP2	32:a:1359:C:N4	2.30	0.63
33:b:84:GLU:HG3	33:b:215:LEU:HB3	1.80	0.63
54:C:6:ARG:HH12	54:C:218:MET:HB3	1.63	0.63
55:z:32:U:H2'	55:z:33:U:O4'	1.97	0.63
1:A:321:G:N3	5:F:165:ARG:HD2	2.13	0.63
1:A:2197:U:O2'	1:A:2198:A:O5'	2.12	0.63
1:A:2698:U:H2'	1:A:2699:C:C6	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:43:LEU:HD11	6:G:153:ARG:HG2	1.80	0.63
6:G:112:PRO:HG3	26:4:43:TYR:CE2	2.32	0.63
7:H:146:ALA:HA	7:H:164:TYR:OH	1.98	0.63
32:a:276:G:O2'	48:q:68:ARG:NH1	2.31	0.63
32:a:714:G:H2'	32:a:715:A:H8	1.62	0.63
32:a:923:A:O2'	32:a:1399:C:OP2	2.17	0.63
32:a:1359:C:H3'	45:n:35:ARG:NH2	2.13	0.63
32:a:1412:C:H2'	32:a:1413:A:C8	2.34	0.63
37:f:46:ARG:HD2	37:f:60:PHE:HE2	1.62	0.63
40:i:8:GLY:N	40:i:15:ALA:O	2.32	0.63
54:C:140:PRO:HD3	54:C:145:VAL:HG21	1.80	0.63
54:C:153:ILE:HA	54:C:156:ILE:HB	1.80	0.63
1:A:433:C:H2'	1:A:434:U:C6	2.34	0.63
1:A:588:U:H2'	1:A:589:C:C6	2.34	0.63
1:A:1212:G:N2	1:A:1236:G:O2'	2.30	0.63
1:A:1877:A:H3'	1:A:1878:G:O4'	1.99	0.63
1:A:2121:G:N2	54:C:166:ASP:OD2	2.29	0.63
1:A:2168:G:N1	1:A:2171:A:OP2	2.31	0.63
3:D:172:TYR:HD2	3:D:184:LYS:HD3	1.63	0.63
13:R:96:ARG:NH1	13:R:115:GLU:OE2	2.25	0.63
32:a:180:U:C2	32:a:195:A:N7	2.66	0.63
32:a:436:C:H2'	32:a:437:U:C6	2.33	0.63
32:a:708:C:OP1	42:k:85:ARG:NH2	2.25	0.63
32:a:727:G:N2	32:a:730:G:OP2	2.30	0.63
32:a:1005:A:H1'	32:a:1025:U:O2	1.98	0.63
41:j:49:VAL:CG2	45:n:41:ARG:HB2	2.28	0.63
54:C:49:ILE:HB	54:C:56:GLN:HB3	1.79	0.63
1:A:632:A:H2'	1:A:633:A:C8	2.33	0.63
1:A:1043:C:H2'	1:A:1044:G:O4'	1.99	0.63
1:A:1284:A:H2'	1:A:1285:G:O4'	1.99	0.63
1:A:1431:U:H2'	1:A:1432:C:C6	2.33	0.63
1:A:1472:A:H2'	1:A:1473:G:O4'	1.98	0.63
1:A:1754:C:OP1	15:T:96:ARG:NH1	2.32	0.63
20:Y:77:PRO:HD2	20:Y:106:LEU:HD23	1.80	0.63
32:a:728:A:H2'	32:a:729:A:H8	1.64	0.63
32:a:744:C:H2'	32:a:745:C:C6	2.33	0.63
32:a:1004:A:N6	32:a:1037:C:OP2	2.32	0.63
32:a:1130:A:O3'	40:i:20:ARG:NH2	2.32	0.63
32:a:1299:A:H2'	32:a:1301:U:C6	2.34	0.63
32:a:1468:A:H2'	32:a:1469:G:O4'	1.98	0.63
39:h:51:VAL:O	39:h:58:TYR:N	2.21	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:i:24:GLY:HA2	40:i:59:PHE:O	1.99	0.63
41:j:9:ARG:HG2	41:j:69:ASN:ND2	2.13	0.63
44:m:102:ARG:HD3	44:m:105:THR:H	1.62	0.63
1:A:528:A:O2'	1:A:529:A:H5'	1.98	0.63
1:A:660:G:O2'	5:F:38:ARG:NH1	2.31	0.63
1:A:1766:U:H2'	1:A:1767:C:H6	1.64	0.63
1:A:2236:C:H2'	1:A:2237:G:O4'	1.99	0.63
1:A:2291:U:H2'	1:A:2292:C:C6	2.33	0.63
9:N:56:ASN:N	9:N:125:GLY:O	2.26	0.63
16:U:74:LEU:CD1	16:U:79:PHE:HB2	2.29	0.63
17:V:73:SER:HA	17:V:83:ARG:O	1.98	0.63
32:a:68:G:H1'	32:a:77:G:C4	2.34	0.63
32:a:130:A:O2'	32:a:131:C:O5'	2.13	0.63
32:a:411:A:H2'	32:a:412:A:H4'	1.80	0.63
32:a:593:G:N2	32:a:646:U:O2	2.21	0.63
32:a:1049:U:H4'	32:a:1050:G:C5'	2.29	0.63
32:a:1096:C:H2'	32:a:1097:C:C6	2.34	0.63
34:c:35:GLU:HG3	34:c:59:ARG:HH22	1.63	0.63
35:d:173:TRP:CD1	35:d:189:PRO:HG3	2.33	0.63
40:i:26:VAL:CG1	40:i:33:PHE:HB2	2.28	0.63
42:k:31:THR:HA	42:k:42:TRP:HA	1.81	0.63
44:m:56:LEU:O	44:m:60:VAL:HG12	1.98	0.63
55:z:18:G:H22	55:z:57:G:H3'	1.64	0.63
1:A:8:A:H2'	1:A:9:U:C6	2.34	0.63
1:A:249:C:O2	30:8:12:LYS:NZ	2.27	0.63
1:A:277:C:H4'	1:A:278:A:O5'	1.98	0.63
1:A:324:A:H2'	1:A:325:G:O4'	1.99	0.63
1:A:394:A:O2'	1:A:395:U:H5'	1.99	0.63
1:A:638:G:H2'	1:A:639:U:C6	2.33	0.63
1:A:1007:C:H5"	9:N:35:ARG:NH1	2.13	0.63
1:A:1050:A:H2'	1:A:1051:G:C8	2.34	0.63
1:A:2280:G:C2'	1:A:2281:C:H5'	2.28	0.63
1:A:2489:G:O2'	1:A:2490:G:H5'	1.99	0.63
1:A:2757:A:N1	7:H:67:LEU:HD22	2.14	0.63
1:A:2769:C:H2'	1:A:2770:G:O4'	1.97	0.63
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.34	0.63
4:E:103:ASP:OD1	4:E:169:ASN:N	2.22	0.63
7:H:46:GLU:H	7:H:50:VAL:HG22	1.63	0.63
16:U:74:LEU:HD23	16:U:114:LYS:HE3	1.80	0.63
17:V:34:GLU:HA	17:V:57:VAL:O	1.99	0.63
18:W:35:ILE:HG23	27:5:28:PRO:HD2	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:142:G:H2'	32:a:143:A:C8	2.34	0.63
32:a:151:A:O2'	32:a:152:A:H5'	1.97	0.63
32:a:404:U:H2'	32:a:405:U:C6	2.34	0.63
32:a:434:U:H2'	32:a:435:C:C6	2.34	0.63
32:a:570:G:H2'	32:a:571:U:C6	2.34	0.63
32:a:744:C:H2'	32:a:745:C:H6	1.63	0.63
32:a:1521:G:H2'	32:a:1522:U:C6	2.33	0.63
33:b:18:GLY:HA3	33:b:42:ILE:HD12	1.79	0.63
37:f:33:TYR:HA	37:f:71:ARG:HH11	1.63	0.63
42:k:79:SER:OG	42:k:104:GLN:O	2.10	0.63
51:t:10:LEU:HG	51:t:14:LYS:CE	2.29	0.63
55:z:14:A:H3'	55:z:15:G:H8	1.63	0.63
1:A:64:A:C5	19:X:66:LEU:HD13	2.34	0.63
1:A:321:G:OP1	5:F:135:LYS:NZ	2.23	0.63
1:A:1468:C:H2'	1:A:1469:A:C8	2.33	0.63
1:A:2180:U:H5"	1:A:2181:G:OP1	1.99	0.63
1:A:2455:G:H2'	1:A:2456:C:C6	2.34	0.63
1:A:2788:C:H1'	1:A:2809:A:C2	2.34	0.63
4:E:13:ARG:HA	4:E:22:PRO:HA	1.80	0.63
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.33	0.63
9:N:34:LEU:HD23	9:N:107:LEU:HD11	1.81	0.63
10:O:23:ARG:NH2	10:O:28:SER:O	2.31	0.63
11:P:144:GLU:HG2	11:P:146:VAL:HG23	1.81	0.63
13:R:8:ARG:HD3	13:R:43:GLU:HG2	1.81	0.63
21:Z:13:GLU:HB3	21:Z:18:LEU:HD11	1.80	0.63
21:Z:53:ILE:HD13	21:Z:99:TYR:HB2	1.80	0.63
26:4:16:CYS:HB2	26:4:36:CYS:HB3	1.79	0.63
32:a:71:C:C6	32:a:71:C:H2'	2.34	0.63
32:a:269:C:H2'	32:a:270:A:C8	2.34	0.63
32:a:302:G:H2'	32:a:303:A:H8	1.64	0.63
32:a:375:U:O2'	47:p:6:LEU:O	2.16	0.63
32:a:421:U:O2'	32:a:423:G:N7	2.32	0.63
32:a:555:C:H2'	32:a:556:C:C6	2.34	0.63
32:a:1148:U:H2'	32:a:1149:C:O4'	1.98	0.63
32:a:1160:G:N7	32:a:1182:G:N1	2.42	0.63
32:a:1189:C:H5"	34:c:5:ILE:HD12	1.80	0.63
32:a:1376:U:H2'	32:a:1377:A:C8	2.34	0.63
33:b:10:LEU:HD11	33:b:48:MET:HE1	1.81	0.63
50:s:33:THR:HG22	50:s:51:VAL:HA	1.80	0.63
54:C:52:ARG:NH2	55:z:62:C:H5'	2.13	0.63
1:A:354:G:H2'	1:A:355:G:H8	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:534:U:H2'	1:A:535:C:C6	2.32	0.63
1:A:1062:G:O6	1:A:1070:A:O2'	2.17	0.63
1:A:1422:G:N2	1:A:1576:U:O2	2.25	0.63
1:A:1831:G:H2'	1:A:1832:C:C6	2.34	0.63
6:G:16:ARG:NH2	6:G:28:VAL:HB	2.13	0.63
11:P:83:VAL:HG22	11:P:112:LEU:HD21	1.81	0.63
12:Q:61:GLY:HA2	21:Z:177:PRO:CB	2.29	0.63
21:Z:120:ILE:N	21:Z:171:ILE:O	2.32	0.63
23:1:54:ALA:HB1	23:1:83:GLU:HG3	1.81	0.63
32:a:65:U:P	32:a:71:C:C6	2.92	0.63
32:a:555:C:H2'	32:a:556:C:H6	1.63	0.63
32:a:653:A:O4'	39:h:56:LYS:HE2	1.98	0.63
32:a:1057:G:H2'	32:a:1058:G:O4'	1.99	0.63
32:a:1305:G:O2'	32:a:1331:G:N2	2.31	0.63
32:a:1327:C:H5"	52:u:20:LYS:CB	2.29	0.63
32:a:1428:A:H2'	32:a:1429:C:C6	2.34	0.63
34:c:58:GLU:HB3	41:j:92:THR:HG21	1.81	0.63
35:d:31:CYS:HB3	35:d:34:GLU:CG	2.27	0.63
35:d:98:GLU:HB3	35:d:189:PRO:HG2	1.80	0.63
54:C:156:ILE:HG12	54:C:160:ARG:NH2	2.14	0.63
1:A:27:G:N2	1:A:512:G:O2'	2.26	0.63
1:A:571:A:O2'	17:V:78:LYS:HE2	1.99	0.63
1:A:644:A:H2'	1:A:646:A:C8	2.34	0.63
1:A:855:G:H2'	1:A:856:C:C6	2.33	0.63
1:A:1198:U:H2'	1:A:1199:U:C6	2.34	0.63
1:A:1583:A:H4'	1:A:1586:A:C8	2.34	0.63
2:B:62:C:H2'	2:B:63:G:C8	2.33	0.63
6:G:11:TYR:OH	6:G:32:PRO:O	2.15	0.63
6:G:106:LEU:HD12	6:G:110:ALA:HB3	1.81	0.63
14:S:10:ARG:NE	14:S:91:PRO:O	2.29	0.63
14:S:30:ARG:HB3	14:S:92:TYR:CE1	2.34	0.63
32:a:21:G:H2'	32:a:22:G:C8	2.34	0.63
32:a:370:C:H2'	32:a:371:G:C8	2.33	0.63
32:a:458:C:H2'	32:a:460:G:O4'	1.99	0.63
32:a:900:A:H2'	32:a:901:A:C8	2.33	0.63
33:b:33:TYR:HB2	33:b:43:ASP:CA	2.29	0.63
37:f:94:GLN:HB3	49:r:32:ARG:NH1	2.14	0.63
42:k:34:ASP:HB3	42:k:40:ILE:HD11	1.80	0.63
43:l:33:ARG:NH1	43:l:62:SER:HB3	2.14	0.63
48:q:51:TYR:HE1	48:q:76:LEU:HB2	1.63	0.63
1:A:633:A:H2'	1:A:634:C:H5'	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1098:A:H3'	1:A:1099:G:H8	1.62	0.62
1:A:1470:G:O2'	1:A:1520:G:O6	2.15	0.62
1:A:1537:G:H2'	1:A:1538:G:H8	1.63	0.62
1:A:2184:G:H2'	1:A:2185:C:C6	2.34	0.62
2:B:105:A:H2'	2:B:106:G:O4'	1.99	0.62
12:Q:74:TYR:N	12:Q:92:GLY:O	2.31	0.62
20:Y:14:LEU:HD12	20:Y:23:ARG:O	1.98	0.62
32:a:65:U:P	32:a:71:C:N1	2.71	0.62
32:a:593:G:H2'	32:a:594:G:H8	1.64	0.62
32:a:1264:C:H2'	32:a:1265:G:C8	2.34	0.62
32:a:1459:C:OP1	51:t:31:SER:OG	2.16	0.62
34:c:187:ALA:HB3	34:c:198:VAL:HB	1.82	0.62
55:z:26:A:H3'	55:z:27:G:H8	1.64	0.62
1:A:108:U:H2'	1:A:109:G:C8	2.34	0.62
1:A:758:C:O2'	1:A:1981:A:N3	2.31	0.62
1:A:911:A:H2'	12:Q:9:TYR:OH	1.98	0.62
1:A:1035:U:H2'	1:A:1036:G:C8	2.34	0.62
1:A:1187:G:H5'	17:V:81:TYR:CE1	2.34	0.62
1:A:1590:U:H2'	1:A:1591:G:H8	1.64	0.62
1:A:1923:U:H2'	1:A:1924:C:C6	2.34	0.62
1:A:2321:G:N2	1:A:2322:A:O4'	2.31	0.62
1:A:2732:G:H3'	1:A:2733:A:H4'	1.82	0.62
3:D:26:LYS:NZ	3:D:28:GLU:O	2.21	0.62
3:D:183:ARG:HG2	3:D:184:LYS:O	1.98	0.62
5:F:31:HIS:NE2	5:F:35:GLU:OE2	2.31	0.62
6:G:144:ILE:HA	6:G:148:MET:SD	2.39	0.62
8:I:85:GLU:OE2	37:f:22:GLU:N	2.31	0.62
11:P:83:VAL:O	11:P:115:LEU:N	2.32	0.62
16:U:112:ARG:HA	16:U:115:ALA:HB3	1.80	0.62
22:0:46:LYS:N	22:0:77:ARG:O	2.28	0.62
28:6:35:GLU:HA	28:6:49:HIS:O	1.99	0.62
32:a:64:G:C3'	32:a:71:C:C2	2.82	0.62
32:a:100:C:O5'	51:t:17:ARG:NH2	2.28	0.62
32:a:407:G:H2'	32:a:408:A:H8	1.64	0.62
32:a:1431:C:H2'	32:a:1432:G:O4'	1.99	0.62
33:b:61:LEU:CD1	33:b:66:GLY:HA3	2.28	0.62
36:e:39:GLY:O	36:e:69:VAL:N	2.31	0.62
1:A:301:G:O2'	1:A:302:C:H5"	1.99	0.62
1:A:322:A:OP2	5:F:169:ASN:HB2	1.99	0.62
1:A:1149:G:H2'	1:A:1150:C:C6	2.34	0.62
1:A:1590:U:H2'	1:A:1591:G:C8	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1637:A:H4'	1:A:2711:A:O2'	1.98	0.62
1:A:2062:A:O2'	1:A:2063:C:O5'	2.16	0.62
1:A:2134:A:OP2	1:A:2156:G:N1	2.32	0.62
1:A:2140:C:H2'	1:A:2141:G:C8	2.35	0.62
1:A:2474:C:OP2	1:A:2475:C:N4	2.32	0.62
2:B:8:U:H3'	2:B:9:G:H5"	1.81	0.62
2:B:11:C:OP2	2:B:12:C:N4	2.27	0.62
18:W:68:ARG:NH1	18:W:111:HIS:HA	2.14	0.62
18:W:88:ARG:NH1	18:W:94:ASP:OD2	2.31	0.62
32:a:66:G:H1'	32:a:173:U:H2'	1.80	0.62
32:a:93:G:H4'	32:a:100:C:H2'	1.81	0.62
32:a:404:U:H2'	32:a:405:U:H6	1.62	0.62
32:a:461:A:O2'	32:a:470:C:H5'	1.98	0.62
32:a:524:G:H2'	32:a:525:C:C6	2.33	0.62
32:a:1201:A:H4'	32:a:1202:G:H5"	1.80	0.62
32:a:1360:A:OP2	45:n:35:ARG:NH2	2.32	0.62
55:z:62:C:H2'	55:z:63:G:C8	2.35	0.62
1:A:32:C:O2'	1:A:33:U:H5'	1.98	0.62
1:A:279:C:O2	1:A:362:U:N3	2.24	0.62
1:A:605:C:H2'	1:A:606:U:O4'	1.98	0.62
1:A:1085:A:H2'	1:A:1086:A:C2	2.33	0.62
1:A:1439:A:H2'	1:A:1440:G:O4'	2.00	0.62
1:A:1537:G:H2'	1:A:1538:G:C8	2.34	0.62
1:A:1567:A:OP2	3:D:84:TYR:OH	2.09	0.62
1:A:2130:U:H2'	1:A:2158:A:C2	2.33	0.62
1:A:2135:A:H1'	1:A:2160:G:O5'	2.00	0.62
1:A:2169:A:H2'	55:z:56:C:O2	2.00	0.62
4:E:9:VAL:HG22	4:E:25:VAL:O	2.00	0.62
6:G:145:THR:HG22	6:G:148:MET:HE3	1.80	0.62
16:U:72:HIS:O	16:U:114:LYS:NZ	2.26	0.62
20:Y:9:LYS:HA	20:Y:27:VAL:CG1	2.29	0.62
32:a:147:G:H2'	32:a:148:G:C8	2.34	0.62
32:a:728:A:H2'	32:a:729:A:C8	2.33	0.62
32:a:920:U:H2'	32:a:921:U:C6	2.33	0.62
38:g:53:LYS:HE3	38:g:125:MET:HE1	1.80	0.62
41:j:57:LYS:HE3	41:j:60:ARG:NH2	2.15	0.62
1:A:195:A:OP1	11:P:46:LYS:NZ	2.20	0.62
1:A:618:C:H2'	1:A:619:G:O4'	2.00	0.62
1:A:698:C:O2'	1:A:734:A:N6	2.33	0.62
1:A:1865:G:N2	1:A:1877:A:OP2	2.31	0.62
1:A:1941:C:N4	1:A:1965:C:OP2	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1952:A:N3	1:A:2560:C:O2'	2.29	0.62
1:A:2052:G:H4'	4:E:143:ASN:O	1.99	0.62
1:A:2830:G:C2'	1:A:2831:G:H5'	2.29	0.62
2:B:106:G:H5"	21:Z:31:ARG:HB3	1.80	0.62
19:X:50:LYS:HB3	19:X:84:ALA:HB2	1.80	0.62
32:a:600:C:H2'	32:a:601:C:C6	2.34	0.62
32:a:601:C:H2'	32:a:602:A:H8	1.64	0.62
40:i:26:VAL:HG11	40:i:33:PHE:HB2	1.80	0.62
41:j:81:THR:O	41:j:85:LEU:HG	1.99	0.62
43:l:57:LYS:HB2	43:l:67:THR:HG22	1.81	0.62
1:A:958:U:O2	2:B:90:A:H4'	2.00	0.62
1:A:1105:U:H2'	1:A:1106:G:C8	2.35	0.62
1:A:1935:G:O2'	1:A:1936:A:H5"	1.99	0.62
1:A:2182:G:H2'	1:A:2183:C:C6	2.34	0.62
1:A:2716:U:O2'	1:A:2717:G:H5'	1.98	0.62
7:H:101:ARG:HH22	7:H:121:ILE:H	1.47	0.62
13:R:64:ARG:O	13:R:68:ARG:HG3	1.99	0.62
18:W:64:MET:CE	18:W:109:GLU:HG3	2.29	0.62
32:a:701:C:H4'	32:a:703:G:C8	2.34	0.62
33:b:95:GLN:HG2	33:b:147:LYS:HG3	1.82	0.62
34:c:152:ILE:HG22	34:c:167:TRP:CB	2.29	0.62
54:C:72:VAL:HG11	54:C:157:LYS:HA	1.81	0.62
1:A:347:A:H2'	1:A:348:G:C8	2.34	0.62
1:A:776:G:N1	1:A:2072:G:OP1	2.30	0.62
1:A:2161:C:C2'	1:A:2162:G:H5'	2.30	0.62
1:A:2163:C:H2'	1:A:2164:C:O4'	1.99	0.62
1:A:2223:G:OP1	3:D:172:TYR:OH	2.18	0.62
1:A:2301:C:H2'	1:A:2302:G:C8	2.35	0.62
1:A:2328:A:H2'	1:A:2329:G:H8	1.62	0.62
1:A:2403:C:H2'	1:A:2404:C:H6	1.64	0.62
30:8:14:VAL:HG11	30:8:22:VAL:HG13	1.80	0.62
32:a:167:G:H2'	32:a:168:G:C8	2.35	0.62
32:a:196:A:OP1	51:t:68:LYS:NZ	2.29	0.62
32:a:403:C:OP2	35:d:74:GLN:NE2	2.28	0.62
32:a:750:G:N3	46:o:23:GLY:HA3	2.14	0.62
32:a:826:C:H2'	32:a:827:U:C6	2.34	0.62
32:a:958:A:H1'	32:a:985:C:O2'	1.99	0.62
32:a:1198:G:H2'	32:a:1199:U:C6	2.34	0.62
33:b:187:LEU:HD22	33:b:201:ILE:O	1.99	0.62
36:e:43:LEU:CB	36:e:136:MET:HG3	2.30	0.62
39:h:104:ARG:HG3	39:h:107:LEU:HB2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:53:ARG:HH12	55:z:63:G:H4'	1.65	0.62
55:z:59:U:H2'	55:z:60:U:O4'	1.99	0.62
1:A:16:G:H5"	27:5:17:ASP:HB2	1.81	0.62
1:A:220:G:H22	1:A:427:U:H2'	1.64	0.62
1:A:304:G:H2'	1:A:305:U:C6	2.35	0.62
1:A:652(A):C:O2'	1:A:652(B):A:O4'	2.08	0.62
1:A:887:A:O2'	1:A:888:C:H3'	1.99	0.62
1:A:2295:C:OP1	14:S:10:ARG:NH1	2.32	0.62
1:A:2641:G:H2'	1:A:2642:G:H8	1.64	0.62
1:A:2648:C:H2'	1:A:2649:U:C6	2.34	0.62
2:B:13:A:O2'	2:B:14:U:H3'	1.99	0.62
8:I:69:LYS:O	8:I:73:GLU:HG3	1.99	0.62
19:X:64:LYS:HG3	19:X:73:ARG:NE	2.14	0.62
32:a:279:A:OP1	32:a:280:C:O2'	2.12	0.62
32:a:720:C:OP2	32:a:721:G:O2'	2.18	0.62
32:a:1526:G:H2'	32:a:1527:C:C6	2.35	0.62
37:f:69:GLU:HA	37:f:72:VAL:HG13	1.82	0.62
39:h:4:ASP:HB2	39:h:89:PRO:HG2	1.82	0.62
41:j:38:ILE:HG13	41:j:71:LEU:HB3	1.80	0.62
54:C:119:VAL:HB	54:C:123:VAL:HG23	1.82	0.62
55:z:18:G:N2	55:z:58:A:O5'	2.32	0.62
56:x:47:C:H2'	56:x:48:G:H8	1.63	0.62
1:A:37:C:H2'	1:A:38:A:H8	1.65	0.62
1:A:451:C:O5'	5:F:52:LYS:NZ	2.29	0.62
1:A:452:G:N2	1:A:457:A:O2'	2.32	0.62
1:A:614(A):U:H2'	1:A:614(B):U:O4'	1.99	0.62
1:A:675:A:N3	1:A:2443:C:O2'	2.30	0.62
1:A:1010:A:OP1	16:U:66:ASN:ND2	2.26	0.62
1:A:1437:C:O2'	1:A:1516:C:O2'	2.10	0.62
1:A:1529:G:O2'	1:A:1530:C:H5'	1.99	0.62
1:A:2073:C:H5"	3:D:229:VAL:HG12	1.82	0.62
1:A:2185:C:H2'	1:A:2186:G:C1'	2.30	0.62
1:A:2306:C:H3'	1:A:2307:G:H2'	1.82	0.62
1:A:2469:A:O3'	12:Q:56:ARG:NH2	2.33	0.62
1:A:2808:U:C2	1:A:2892:A:N7	2.68	0.62
5:F:40:GLN:NE2	5:F:182:ASN:HB2	2.14	0.62
6:G:16:ARG:HH21	6:G:28:VAL:HB	1.64	0.62
8:I:50:ARG:HB3	8:I:54:GLN:HE21	1.63	0.62
12:Q:59:ARG:HA	21:Z:180:VAL:CG2	2.26	0.62
13:R:56:LYS:NZ	13:R:90:ARG:O	2.26	0.62
21:Z:125:LEU:HB3	21:Z:165:VAL:HG13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:98:GLU:HG3	35:d:194:LEU:HD21	1.82	0.62
47:p:52:ASP:OD1	47:p:54:GLU:HG2	2.00	0.62
48:q:43:LEU:HD12	48:q:68:ARG:CG	2.26	0.62
54:C:28:LEU:HA	54:C:31:GLU:HG2	1.80	0.62
1:A:144:C:H2'	1:A:145:G:H8	1.64	0.62
1:A:151:C:H2'	1:A:152:G:C8	2.35	0.62
1:A:153:C:H2'	1:A:154(A):G:C8	2.35	0.62
1:A:611:C:H2'	1:A:612:C:C6	2.35	0.62
1:A:1047:G:H2'	1:A:1110:G:N2	2.15	0.62
1:A:1090:U:H2'	1:A:1091:G:C1'	2.30	0.62
1:A:1289:C:H2'	1:A:1290:C:C6	2.35	0.62
1:A:2394:C:OP1	30:8:30:ARG:NH2	2.33	0.62
1:A:2543:G:H2'	1:A:2544:G:H8	1.65	0.62
1:A:2635:C:O2'	4:E:80:GLU:OE2	2.08	0.62
4:E:34:VAL:CG2	4:E:78:LEU:HD11	2.25	0.62
4:E:51:PHE:O	4:E:77:ILE:HB	1.99	0.62
4:E:94:GLU:OE2	4:E:177:PRO:HB3	2.00	0.62
7:H:11:VAL:HG23	7:H:50:VAL:H	1.65	0.62
16:U:55:ARG:O	16:U:59:ARG:HG3	2.00	0.62
21:Z:185:GLU:HG3	21:Z:186:GLU:HG3	1.82	0.62
23:1:73:LEU:HD11	23:1:98:LEU:HD21	1.82	0.62
32:a:67:C:C1'	32:a:172:A:H1'	2.18	0.62
32:a:410:G:H5"	35:d:30:LYS:HZ2	1.63	0.62
36:e:126:ARG:HA	36:e:131:ILE:HD11	1.81	0.62
42:k:97:ALA:O	42:k:101:SER:HB3	2.00	0.62
43:l:60:LEU:HD11	43:l:85:ILE:CD1	2.30	0.62
51:t:15:ARG:HG3	51:t:18:GLN:CD	2.25	0.62
54:C:73:ARG:HB3	54:C:93:TYR:CE2	2.33	0.62
55:z:23:A:H2'	55:z:24:G:C8	2.34	0.62
1:A:95:G:O2'	24:2:48:HIS:ND1	2.29	0.61
1:A:539:G:H2'	1:A:540:C:C6	2.35	0.61
1:A:634:C:H2'	1:A:635:C:H6	1.64	0.61
1:A:885:C:H2'	1:A:886:C:O4'	2.00	0.61
1:A:1178:C:H2'	1:A:1179:C:H6	1.65	0.61
1:A:1496:A:H2'	1:A:1498:C:C4	2.35	0.61
1:A:1903:G:OP1	3:D:241:PRO:HB2	1.99	0.61
1:A:2206:G:H3'	1:A:2207:G:C8	2.35	0.61
1:A:2512:C:H2'	1:A:2513:G:O4'	2.00	0.61
1:A:2547:U:H2'	1:A:2548:G:C8	2.34	0.61
1:A:2576:G:O2'	1:A:2579:C:OP2	2.13	0.61
7:H:101:ARG:NH2	7:H:118:PRO:O	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:T:91:ARG:O	15:T:117:ASP:N	2.33	0.61
32:a:426:G:H4'	35:d:41:GLY:O	2.00	0.61
32:a:476:G:H2'	32:a:477:A:C8	2.34	0.61
32:a:673:G:H2'	32:a:674:G:H8	1.62	0.61
35:d:22:LYS:H	35:d:26:CYS:HG	1.46	0.61
36:e:152:ARG:HD3	39:h:42:GLU:O	1.99	0.61
43:l:89:ARG:HD3	43:l:97:ARG:HG2	1.81	0.61
54:C:86:ALA:O	54:C:91:ALA:HB3	2.00	0.61
55:z:16:U:N3	55:z:19:G:H5"	2.14	0.61
1:A:177:G:H3'	1:A:178:G:H8	1.65	0.61
1:A:244:A:O2'	11:P:74:GLU:N	2.25	0.61
1:A:358:U:H2'	1:A:359:A:C8	2.34	0.61
1:A:1842:G:H2'	1:A:1843:C:C6	2.34	0.61
1:A:2060:A:OP1	5:F:69:HIS:N	2.29	0.61
1:A:2591:C:H2'	1:A:2592:G:C8	2.34	0.61
2:B:40:U:O4	26:4:1:MET:N	2.32	0.61
21:Z:53:ILE:CD1	21:Z:99:TYR:HB2	2.30	0.61
32:a:302:G:H2'	32:a:303:A:C8	2.36	0.61
32:a:539:A:H2'	32:a:540:G:H8	1.63	0.61
32:a:571:U:H5'	32:a:819:A:C5	2.36	0.61
32:a:711:G:O2'	32:a:712:A:H5'	2.01	0.61
32:a:794:A:H2'	32:a:795:C:C6	2.35	0.61
32:a:806:C:O2'	32:a:807:A:H5'	1.99	0.61
32:a:1149:C:H2'	32:a:1150:U:C6	2.35	0.61
32:a:1286:A:H2'	32:a:1287:A:C4'	2.22	0.61
32:a:1433:A:OP2	32:a:1467:G:N1	2.27	0.61
46:o:82:ILE:HD13	46:o:88:ARG:HH22	1.65	0.61
49:r:21:LYS:HD2	49:r:57:GLY:N	2.14	0.61
54:C:113:VAL:HG12	54:C:138:PRO:HG3	1.81	0.61
1:A:28:A:O2'	1:A:583:G:H5'	1.99	0.61
1:A:309:G:N3	1:A:329:G:O2'	2.32	0.61
1:A:1281:G:H2'	1:A:1282:U:C6	2.36	0.61
1:A:1388:G:H2'	1:A:1389:G:H8	1.65	0.61
1:A:1488:G:H2'	1:A:1489:U:O4'	2.00	0.61
1:A:1550:C:OP1	1:A:1720:U:O2'	2.13	0.61
1:A:1915:5MU:H2'	1:A:1916:A:O4'	2.00	0.61
1:A:2101:G:N2	1:A:2189:U:H1'	2.15	0.61
1:A:2292:C:H2'	1:A:2293:C:H6	1.65	0.61
1:A:2357:U:H2'	1:A:2359:C:OP2	2.00	0.61
1:A:2371:G:O2'	28:6:46:HIS:ND1	2.28	0.61
1:A:2543:G:H5'	1:A:2767:C:OP1	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:37:VAL:HG23	6:G:99:MET:HG3	1.81	0.61
8:I:50:ARG:O	8:I:54:GLN:HG2	2.00	0.61
10:O:68:GLU:OE1	10:O:68:GLU:N	2.30	0.61
11:P:64:LYS:HG3	30:8:13:ARG:HE	1.65	0.61
20:Y:45:VAL:CG2	20:Y:63:LYS:HB3	2.29	0.61
32:a:17:U:O2'	32:a:1079:G:H1'	1.99	0.61
32:a:177:C:H2'	32:a:178:C:C6	2.35	0.61
32:a:460:G:H3'	32:a:461:A:H5"	1.82	0.61
32:a:1046:A:H2'	32:a:1047:G:H5'	1.80	0.61
32:a:1315:U:O2'	32:a:1360:A:N3	2.29	0.61
32:a:1426:C:H2'	32:a:1427:U:C6	2.35	0.61
33:b:19:HIS:CD2	33:b:39:ILE:HG21	2.36	0.61
33:b:137:ARG:HA	33:b:140:HIS:HB3	1.82	0.61
38:g:113:GLU:HG3	38:g:118:VAL:HG12	1.82	0.61
48:q:86:GLU:O	48:q:90:ILE:HG12	2.00	0.61
54:C:73:ARG:NE	54:C:109:ASP:O	2.34	0.61
55:z:19:G:H4'	55:z:57:G:H22	1.64	0.61
1:A:116:C:O2'	1:A:126:A:H1'	2.00	0.61
1:A:297:C:H2'	1:A:298:G:O4'	2.00	0.61
1:A:703:U:H2'	1:A:704:G:O4'	2.00	0.61
1:A:1503:U:H2'	1:A:1504:C:C6	2.35	0.61
1:A:1571:A:H2'	1:A:1572:A:H8	1.63	0.61
1:A:1720:U:O2	1:A:1742:G:N2	2.27	0.61
1:A:2359:C:H2'	1:A:2360:A:O4'	2.01	0.61
1:A:2637:U:H2'	1:A:2638:G:O4'	2.00	0.61
1:A:2884:U:H2'	1:A:2885:C:O4'	2.00	0.61
7:H:9:ILE:HB	7:H:50:VAL:O	2.01	0.61
10:O:45:GLU:HA	10:O:54:GLU:OE2	2.00	0.61
15:T:125:ARG:NH1	32:a:1442(C):A:O3'	2.33	0.61
19:X:12:VAL:HG21	19:X:27:THR:HG22	1.82	0.61
25:3:7:LYS:HD2	25:3:34:GLU:OE2	2.00	0.61
32:a:90:U:H2'	32:a:91:C:C6	2.36	0.61
32:a:428:G:O2'	35:d:36:ARG:NH2	2.30	0.61
32:a:687:A:H4'	32:a:688:G:O5'	1.99	0.61
32:a:929:G:H5'	32:a:1534:A:OP2	2.01	0.61
32:a:1321:C:H3'	32:a:1322:C:H2'	1.82	0.61
32:a:1492:A:H1'	32:a:1493:A:C2	2.36	0.61
33:b:187:LEU:HD21	33:b:203:GLY:HA3	1.82	0.61
44:m:77:ASN:O	44:m:81:LEU:HG	2.01	0.61
55:z:18:G:N1	55:z:55:U:H1'	2.10	0.61
1:A:176:G:O2'	1:A:177:G:H5'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(K):U:O4'	8:I:50:ARG:NE	2.34	0.61
1:A:600:G:H2'	1:A:601:C:C6	2.35	0.61
1:A:2118:U:OP2	1:A:2147:G:H1'	2.01	0.61
1:A:2543:G:H2'	1:A:2544:G:C8	2.35	0.61
1:A:2683:C:OP1	15:T:53:ARG:NH2	2.25	0.61
1:A:2853:C:H2'	1:A:2854:G:H8	1.64	0.61
6:G:131:TYR:HB3	6:G:159:VAL:CG1	2.30	0.61
7:H:96:ALA:HB2	7:H:105:LEU:CD1	2.30	0.61
8:I:9:LEU:HB2	8:I:12:LEU:HB2	1.82	0.61
24:2:12:GLU:O	24:2:16:LEU:HG	1.99	0.61
32:a:429:U:H3'	35:d:9:CYS:SG	2.41	0.61
32:a:947:G:H2'	32:a:948:C:C6	2.36	0.61
32:a:1119:C:H2'	32:a:1120:G:H8	1.63	0.61
32:a:1166:G:N2	32:a:1169:A:H3'	2.16	0.61
36:e:147:ASP:HA	36:e:150:ARG:HE	1.64	0.61
54:C:41:VAL:HG11	54:C:185:LEU:HD13	1.81	0.61
55:z:5:G:H2'	55:z:6:G:H8	1.65	0.61
55:z:35:A:H2'	55:z:36:A:O4'	2.01	0.61
55:z:62:C:H2'	55:z:63:G:H8	1.65	0.61
1:A:482:A:OP2	1:A:507:A:N6	2.26	0.61
1:A:609:A:H2'	1:A:610:G:O4'	2.01	0.61
1:A:923:C:H2'	1:A:924:C:C6	2.36	0.61
1:A:1215:G:N2	1:A:1234:U:O2	2.26	0.61
1:A:2023:G:H2'	1:A:2024:G:H8	1.65	0.61
1:A:2199:A:H5"	23:1:50:ARG:HH22	1.65	0.61
1:A:2373:G:H2'	1:A:2374:C:C6	2.36	0.61
1:A:2655:G:H1'	1:A:2656:U:H5	1.66	0.61
7:H:58:GLU:OE2	7:H:60:ARG:HB3	2.01	0.61
7:H:87:LEU:HD23	7:H:164:TYR:HA	1.81	0.61
8:I:95:LYS:HA	8:I:111:PRO:HB3	1.83	0.61
11:P:80:TYR:HA	11:P:111:ARG:O	2.01	0.61
18:W:1:MET:HE3	18:W:2:GLU:O	2.00	0.61
32:a:594:G:H2'	32:a:595:G:O4'	2.00	0.61
32:a:927:G:H1	32:a:1390:U:H3	1.48	0.61
32:a:951:G:O2'	32:a:970:C:O2'	2.16	0.61
32:a:1044:A:H3'	32:a:1045:C:C5'	2.31	0.61
32:a:1445:C:H2'	32:a:1446:U:O4'	2.01	0.61
34:c:40:ARG:HH12	45:n:52:GLN:HG2	1.64	0.61
35:d:26:CYS:HA	58:d:301:SF4:S1	2.40	0.61
37:f:4:TYR:CD1	37:f:92:LYS:HA	2.35	0.61
43:l:60:LEU:N	43:l:64:TYR:O	2.28	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:p:43:LYS:HG3	47:p:48:TRP:CD2	2.35	0.61
54:C:140:PRO:CB	54:C:145:VAL:HB	2.30	0.61
54:C:152:ILE:O	54:C:156:ILE:HG13	2.00	0.61
1:A:257:A:H2'	1:A:258:G:O4'	2.00	0.61
1:A:668:G:H5'	1:A:669:G:OP2	2.01	0.61
1:A:1080:C:H2'	1:A:1081:U:C6	2.35	0.61
1:A:1316:U:H2'	1:A:1317:A:H8	1.65	0.61
1:A:1366:A:H2'	1:A:1367:A:O4'	2.01	0.61
1:A:1450(B):C:H2'	1:A:1451:C:C6	2.36	0.61
1:A:1636:C:H2'	1:A:1637:A:C8	2.36	0.61
1:A:1900:A:H5'	1:A:1970:A:H5'	1.82	0.61
5:F:159:GLY:HA2	5:F:164:ARG:HH12	1.65	0.61
6:G:106:LEU:HD12	6:G:110:ALA:CB	2.30	0.61
12:Q:116:GLU:OE2	12:Q:119:ARG:NH2	2.32	0.61
17:V:62:LEU:HD21	17:V:95:LEU:HB2	1.83	0.61
19:X:57:LEU:O	19:X:77:LYS:HA	1.99	0.61
25:3:7:LYS:O	25:3:9:VAL:HG13	2.01	0.61
32:a:35:G:H2'	32:a:36:C:C6	2.36	0.61
32:a:443:C:H2'	32:a:444:C:C6	2.36	0.61
32:a:537:G:H5"	43:l:113:ARG:HH12	1.66	0.61
32:a:1172:C:H2'	32:a:1173:G:C8	2.36	0.61
32:a:1292:U:H2'	32:a:1293:G:C8	2.36	0.61
32:a:1312:G:H5'	50:s:5:LEU:CD2	2.30	0.61
32:a:1333:A:H2'	32:a:1334:G:O4'	2.00	0.61
33:b:122:PHE:CZ	33:b:139:LYS:HD3	2.35	0.61
35:d:208:SER:HB2	36:e:101:ILE:HD12	1.83	0.61
38:g:115:ARG:HD3	38:g:118:VAL:HG21	1.83	0.61
42:k:18:ARG:HB2	42:k:33:THR:OG1	2.01	0.61
44:m:14:ARG:NE	44:m:42:ALA:HA	2.16	0.61
47:p:41:PRO:O	47:p:43:LYS:NZ	2.33	0.61
1:A:592:G:HO2'	30:8:64:TYR:HH	1.48	0.61
1:A:637:A:OP1	11:P:133:SER:OG	2.10	0.61
1:A:721:C:H2'	1:A:722:A:H8	1.63	0.61
1:A:1101:U:H2'	1:A:1102:C:C6	2.36	0.61
1:A:1578:U:O2'	1:A:1579:A:H5'	2.01	0.61
1:A:2312:U:C5'	6:G:88:ILE:HD11	2.31	0.61
1:A:2649:U:H2'	1:A:2650:U:H6	1.66	0.61
1:A:2870:C:H2'	1:A:2871:C:O4'	1.99	0.61
7:H:90:LYS:HD2	7:H:163:TYR:CE2	2.36	0.61
20:Y:52:SER:HB2	20:Y:53:PRO:HD2	1.83	0.61
32:a:324:G:OP1	51:t:22:ARG:NH2	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:501:C:H2'	32:a:502:G:H8	1.65	0.61
32:a:743:U:H2'	32:a:744:C:C6	2.35	0.61
32:a:848:C:H2'	32:a:849:C:C6	2.36	0.61
32:a:1129:C:H2'	32:a:1139:G:N7	2.15	0.61
32:a:1244:C:H2'	32:a:1245:A:C8	2.36	0.61
32:a:1427:U:H2'	32:a:1428:A:C8	2.36	0.61
36:e:72:GLN:NE2	36:e:77:PRO:HB3	2.16	0.61
42:k:32:ILE:HB	42:k:41:THR:HG22	1.82	0.61
50:s:31:ILE:O	50:s:49:ILE:HG23	2.01	0.61
51:t:89:ARG:O	51:t:93:GLU:HG2	2.00	0.61
55:z:38:A:H3'	55:z:39:U:H5"	1.83	0.61
1:A:272(K):U:H5'	8:I:50:ARG:HH11	1.65	0.61
1:A:718:A:H2'	1:A:719:C:H5'	1.82	0.61
1:A:762:U:N3	1:A:1431:U:OP1	2.26	0.61
1:A:989:G:OP1	25:3:31:LEU:HD23	2.01	0.61
1:A:1227:G:OP2	16:U:16:LYS:NZ	2.34	0.61
1:A:2292:C:OP1	14:S:17:ARG:NH2	2.32	0.61
1:A:2514:U:H2'	1:A:2515:C:C6	2.36	0.61
1:A:2557:G:H2'	1:A:2558:C:C6	2.36	0.61
1:A:2649:U:H2'	1:A:2650:U:C6	2.36	0.61
1:A:2848:G:O2'	1:A:2849:U:OP2	2.16	0.61
4:E:32:PRO:HD2	4:E:50:GLY:O	2.00	0.61
8:I:127:VAL:HA	8:I:140:LEU:O	2.01	0.61
10:O:8:LEU:HD13	10:O:82:ASN:HB3	1.83	0.61
10:O:104:ARG:N	10:O:122:LEU:O	2.34	0.61
15:T:19:LEU:HB3	15:T:86:ILE:HD12	1.83	0.61
32:a:64:G:H3'	32:a:71:C:N3	2.15	0.61
32:a:147:G:H2'	32:a:148:G:H8	1.65	0.61
32:a:270:A:H2'	32:a:271:C:C6	2.36	0.61
32:a:1086:U:H3	32:a:1099:G:H22	1.49	0.61
35:d:98:GLU:HA	35:d:103:ASN:ND2	2.16	0.61
36:e:33:VAL:HG13	36:e:112:LEU:HD12	1.81	0.61
41:j:81:THR:O	41:j:85:LEU:N	2.33	0.61
53:y:23:C:H2'	53:y:24:U:C6	2.36	0.61
54:C:10:LEU:HA	54:C:32:LEU:HD22	1.83	0.61
54:C:212:VAL:HG12	54:C:224:ILE:HD11	1.81	0.61
1:A:270:A:O2'	1:A:271:A:H5'	2.01	0.61
1:A:336:C:H4'	20:Y:6:HIS:CD2	2.36	0.61
1:A:560:C:H2'	1:A:561:G:C8	2.36	0.61
1:A:667:U:H2'	1:A:668:G:O4'	2.01	0.61
1:A:717:G:H2'	1:A:718:A:O4'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:897:C:H2'	1:A:898:C:C6	2.36	0.61
1:A:1230:C:H2'	1:A:1231:G:C8	2.36	0.61
1:A:1297:C:H2'	1:A:1298:C:H6	1.65	0.61
1:A:1374:G:H2'	1:A:1375:C:C6	2.36	0.61
1:A:2317:C:H3'	1:A:2318:G:N2	2.14	0.61
2:B:16:G:N2	2:B:69:G:H1'	2.15	0.61
4:E:112:GLY:O	4:E:159:HIS:HA	2.01	0.61
11:P:123:LEU:O	11:P:144:GLU:N	2.27	0.61
22:0:23:VAL:HG22	22:0:38:VAL:HG22	1.83	0.61
32:a:1264:C:H2'	32:a:1265:G:H8	1.65	0.61
33:b:52:GLU:HG2	33:b:56:ARG:NE	2.16	0.61
34:c:108:ASN:HD21	34:c:144:SER:HB3	1.64	0.61
42:k:17:GLY:N	42:k:80:VAL:HG12	2.16	0.61
43:l:82:VAL:N	43:l:106:ASP:OD2	2.34	0.61
44:m:4:ILE:HG12	44:m:5:ALA:H	1.65	0.61
54:C:217:THR:HG22	54:C:218:MET:SD	2.40	0.61
1:A:198:C:O2'	1:A:199:A:H5'	2.01	0.60
1:A:1013:C:O2'	1:A:1014:U:H5'	2.01	0.60
1:A:1079:C:H2'	1:A:1080:C:H1'	1.82	0.60
1:A:1410:G:H2'	1:A:1411:C:C6	2.35	0.60
1:A:1480:G:H4'	1:A:1559:G:N2	2.16	0.60
1:A:1655:A:H4'	4:E:115:GLY:N	2.16	0.60
1:A:1710:C:H4'	1:A:2858:C:O2	2.00	0.60
1:A:1721:G:H2'	1:A:1740:G:O6	2.00	0.60
1:A:1815:A:OP2	3:D:54:ARG:NH2	2.34	0.60
1:A:2115:G:H4'	1:A:2167:U:H1'	1.81	0.60
7:H:101:ARG:HG2	7:H:117:PRO:CG	2.30	0.60
19:X:46:ALA:HB1	24:2:33:MET:HE1	1.81	0.60
32:a:397:A:H5'	32:a:398:C:OP1	2.00	0.60
32:a:512:U:H2'	32:a:513:C:C6	2.36	0.60
32:a:736:C:H2'	32:a:737:A:H8	1.66	0.60
32:a:751:U:H2'	32:a:752:G:O4'	2.01	0.60
32:a:1355:G:H2'	32:a:1356:G:H8	1.66	0.60
32:a:1366:C:H2'	32:a:1367:C:C6	2.35	0.60
33:b:87:ARG:HD2	33:b:234:PRO:CD	2.31	0.60
33:b:98:LEU:HB2	33:b:101:MET:CG	2.30	0.60
38:g:106:GLN:HA	38:g:109:ASN:HD22	1.64	0.60
52:u:9:ARG:NH1	52:u:13:ILE:HD11	2.16	0.60
54:C:185:LEU:O	54:C:189:ILE:HG12	2.01	0.60
1:A:129:C:H2'	1:A:130:C:C6	2.36	0.60
1:A:1113:U:O2'	1:A:1114:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1308:A:H2'	1:A:1309:G:O4'	2.01	0.60
1:A:1417:C:H2'	1:A:1418:G:O4'	2.01	0.60
1:A:1438:U:O2'	1:A:1439:A:H5'	2.00	0.60
1:A:1709:U:H2'	1:A:1710:C:C6	2.36	0.60
1:A:1983:C:C2'	1:A:1984:G:H5"	2.31	0.60
1:A:2082:A:H2'	1:A:2083:G:O4'	2.01	0.60
1:A:2111:C:N3	1:A:2145:C:O2'	2.32	0.60
1:A:2301:C:H2'	1:A:2302:G:H8	1.65	0.60
1:A:2526:G:H2'	1:A:2527:C:C6	2.35	0.60
1:A:2636:U:H4'	4:E:80:GLU:OE1	2.01	0.60
1:A:2747:G:O6	1:A:2755:C:H5"	2.01	0.60
13:R:87:TYR:OH	13:R:117:VAL:O	2.10	0.60
21:Z:115:GLY:HA3	21:Z:146:ILE:HG12	1.83	0.60
26:4:59:PHE:HB2	26:4:61:ARG:CB	2.26	0.60
26:4:59:PHE:HA	26:4:60:GLN:HB2	1.82	0.60
32:a:96:U:C6	32:a:97:G:H3'	2.36	0.60
32:a:482:A:H2'	32:a:483:C:O4'	2.01	0.60
32:a:539:A:H2'	32:a:540:G:C8	2.36	0.60
33:b:98:LEU:HB2	33:b:101:MET:HG3	1.83	0.60
33:b:115:LEU:HD23	33:b:145:LEU:HB2	1.83	0.60
40:i:112:LYS:HE2	40:i:116:LYS:O	2.01	0.60
41:j:12:ASP:HB3	41:j:15:THR:OG1	2.01	0.60
54:C:201:PRO:HD2	54:C:208:PHE:CE1	2.36	0.60
55:z:11:C:H2'	55:z:12:U:C6	2.36	0.60
55:z:27:G:O2'	55:z:28:G:O4'	2.15	0.60
1:A:340:A:H2'	1:A:341:G:O4'	2.01	0.60
1:A:555:U:O2'	1:A:556:G:N7	2.26	0.60
1:A:577:G:O2'	1:A:1254:A:OP1	2.19	0.60
1:A:699:A:N3	1:A:1633:G:O2'	2.33	0.60
1:A:747:U:H1'	18:W:92:ARG:HH22	1.65	0.60
1:A:1270:C:H5"	1:A:1271:G:C5'	2.28	0.60
1:A:1301:A:O2'	1:A:1302:A:H3'	2.02	0.60
1:A:1311:G:H2'	29:7:47:ARG:NH2	2.16	0.60
1:A:1435:G:O2'	1:A:1436:G:H5'	2.02	0.60
1:A:1816:G:O6	3:D:35:LYS:NZ	2.29	0.60
1:A:2805:G:H2'	1:A:2807:G:C8	2.36	0.60
2:B:31:C:H4'	6:G:29:TRP:CH2	2.36	0.60
2:B:76:G:H2'	2:B:77:U:C6	2.37	0.60
2:B:76:G:H2'	2:B:77:U:H6	1.65	0.60
7:H:44:VAL:HG12	7:H:46:GLU:HG2	1.82	0.60
7:H:98:LEU:N	7:H:125:VAL:HG21	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:13:VAL:HB	20:Y:72:VAL:CG1	2.32	0.60
31:9:13:LYS:HG3	31:9:28:GLU:OE2	2.02	0.60
32:a:258:G:H2'	32:a:259:G:H8	1.67	0.60
32:a:779:C:H2'	32:a:780:A:O4'	2.01	0.60
32:a:788:U:H2'	32:a:789:U:O4'	2.01	0.60
32:a:938:A:C2	32:a:1376:U:H1'	2.35	0.60
32:a:946:A:H2'	32:a:947:G:H8	1.66	0.60
32:a:1275:A:H2'	32:a:1276:G:O4'	2.02	0.60
32:a:1286:A:O2'	32:a:1288:A:OP1	2.16	0.60
32:a:1309:G:N7	44:m:99:ARG:NH2	2.49	0.60
34:c:148:GLY:HA3	34:c:172:ARG:O	2.01	0.60
36:e:142:LEU:O	36:e:143:ARG:NH1	2.28	0.60
54:C:175:VAL:HG23	54:C:185:LEU:HD22	1.83	0.60
1:A:28:A:H2'	1:A:29:U:O4'	2.01	0.60
1:A:330:A:N7	1:A:1210:A:O2'	2.28	0.60
1:A:680:G:H2'	1:A:681:G:C8	2.35	0.60
1:A:1245:G:OP1	11:P:13:ASN:ND2	2.31	0.60
1:A:1268:A:H2'	1:A:1269:A:O4'	2.01	0.60
1:A:1508:A:H4'	1:A:1509(B):A:C4	2.36	0.60
1:A:1540:U:H2'	1:A:1541:G:O4'	2.01	0.60
1:A:1756:G:H4'	1:A:1758:G:O4'	2.01	0.60
1:A:1859:A:H2'	1:A:1860:G:O4'	2.02	0.60
1:A:2020:A:H5'	27:5:12:SER:HB3	1.83	0.60
1:A:2121:G:H1'	54:C:167:LYS:HD3	1.81	0.60
1:A:2360:A:O2'	11:P:61:ARG:NH1	2.33	0.60
1:A:2537:U:H2'	1:A:2538:C:C6	2.35	0.60
1:A:2683:C:O2	10:O:70:LYS:NZ	2.31	0.60
1:A:2813:A:H2'	1:A:2814:C:H6	1.66	0.60
2:B:114:C:HO2'	14:S:46:VAL:HG13	1.65	0.60
4:E:52:LEU:HB3	4:E:53:PRO:HD2	1.84	0.60
5:F:51:THR:HG21	5:F:92:PRO:HD2	1.82	0.60
19:X:29:TRP:CZ3	19:X:78:LYS:HB3	2.36	0.60
32:a:76:C:H5'	32:a:77:G:OP2	2.02	0.60
32:a:222:U:H2'	32:a:223:U:C6	2.36	0.60
32:a:259:G:H2'	32:a:260:G:H8	1.65	0.60
32:a:399:G:H2'	32:a:400:C:C6	2.36	0.60
32:a:1053:G:H4'	32:a:1054:C:H5"	1.83	0.60
32:a:1250:A:H2'	32:a:1251:A:C8	2.37	0.60
32:a:1328:C:OP2	52:u:7:ARG:NH1	2.34	0.60
32:a:1507:A:H2'	32:a:1508:G:C8	2.36	0.60
38:g:17:VAL:HG12	38:g:18:TYR:CD1	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:h:34:GLU:O	39:h:38:ILE:HG12	2.02	0.60
39:h:104:ARG:HB3	39:h:108:GLY:H	1.66	0.60
41:j:38:ILE:CG1	41:j:71:LEU:HB3	2.32	0.60
54:C:131:LEU:CD1	54:C:137:LEU:HA	2.32	0.60
55:z:68:C:H2'	55:z:69:G:C8	2.36	0.60
1:A:20:C:H2'	1:A:21:A:H8	1.66	0.60
1:A:69:C:H4'	1:A:75:G:N7	2.17	0.60
1:A:817:C:H2'	1:A:818:G:O4'	2.00	0.60
1:A:1315:C:O2'	1:A:1392:A:H1'	2.01	0.60
1:A:1425:G:H2'	1:A:1426:G:C8	2.37	0.60
1:A:1495:A:H2	1:A:1578:U:H1'	1.65	0.60
1:A:1660:C:O2'	1:A:1661:G:H5'	2.01	0.60
1:A:1912:A:O2'	32:a:1494:G:O2'	2.09	0.60
1:A:1954:G:O6	1:A:1986:A:H5"	2.01	0.60
1:A:2103:C:O3'	1:A:2104:G:H5"	2.00	0.60
1:A:2343:C:H2'	1:A:2344:U:C6	2.36	0.60
4:E:178:GLU:OE1	4:E:178:GLU:N	2.29	0.60
5:F:152:GLU:O	5:F:154:VAL:HG23	2.01	0.60
5:F:157:VAL:HB	5:F:194:MET:HG2	1.83	0.60
7:H:54:ARG:HB3	7:H:65:HIS:HB2	1.83	0.60
12:Q:17:LEU:HD21	12:Q:41:TRP:HE1	1.66	0.60
23:1:49:VAL:HB	23:1:60:PHE:HB2	1.82	0.60
28:6:16:CYS:HB3	28:6:43:CYS:SG	2.41	0.60
32:a:65:U:H4'	32:a:73:G:C8	2.37	0.60
32:a:67:C:H5"	32:a:73:G:H21	1.66	0.60
32:a:114:U:O2'	32:a:115:G:H5'	2.02	0.60
32:a:608:A:H2'	32:a:609:A:O4'	2.01	0.60
32:a:1404:5MC:H2'	32:a:1405:G:C8	2.36	0.60
34:c:153:VAL:HG22	34:c:198:VAL:HG22	1.82	0.60
35:d:172:PRO:HB2	35:d:187:ARG:NH2	2.14	0.60
39:h:13:ILE:O	39:h:17:THR:HG23	2.01	0.60
41:j:11:PHE:HE1	41:j:67:THR:HG22	1.65	0.60
42:k:69:ALA:HB1	42:k:101:SER:HB2	1.84	0.60
44:m:11:ARG:HB3	44:m:46:LYS:CB	2.32	0.60
1:A:186:G:H2'	1:A:187:G:H8	1.66	0.60
1:A:272(W):G:O2'	1:A:272(X):G:H5'	2.02	0.60
1:A:626:U:O4	11:P:107:LYS:HE2	2.01	0.60
1:A:694:U:OP1	3:D:59:LYS:NZ	2.24	0.60
1:A:822:U:H2'	1:A:823:G:C8	2.37	0.60
1:A:1066:U:O2'	1:A:1067:A:O5'	2.19	0.60
1:A:2152:G:H2'	1:A:2153:G:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2353:G:O2'	22:0:33:ALA:O	2.19	0.60
1:A:2625:G:H2'	1:A:2626:C:C6	2.36	0.60
10:O:17:ARG:N	10:O:45:GLU:O	2.27	0.60
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.81	0.60
21:Z:57:ILE:O	21:Z:69:THR:OG1	2.14	0.60
32:a:64:G:H5'	32:a:70:G:P	2.41	0.60
32:a:84:U:O2'	32:a:88:A:O5'	2.20	0.60
32:a:322:C:H2'	32:a:323:U:C6	2.36	0.60
32:a:689:C:C2'	32:a:690:G:H5'	2.31	0.60
32:a:1121:U:H2'	32:a:1122:U:C6	2.36	0.60
35:d:127:THR:HG22	35:d:132:ARG:CB	2.32	0.60
35:d:162:LEU:HD11	35:d:181:MET:HG2	1.83	0.60
44:m:108:ARG:O	44:m:112:GLY:N	2.25	0.60
51:t:60:GLU:HG3	51:t:81:LYS:CD	2.31	0.60
55:z:66:U:H2'	55:z:67:C:C6	2.37	0.60
1:A:278:A:H2'	1:A:279:C:C6	2.36	0.60
1:A:323:G:H2'	5:F:169:ASN:ND2	2.16	0.60
1:A:781:A:OP1	3:D:218:ARG:NH2	2.33	0.60
1:A:1490:A:O2'	1:A:1491:G:O5'	2.19	0.60
1:A:1807:G:N2	1:A:1809:A:H3'	2.16	0.60
1:A:1827:C:OP2	3:D:222:ARG:NH1	2.34	0.60
1:A:2078:C:H2'	1:A:2079:U:C6	2.37	0.60
1:A:2292:C:H2'	1:A:2293:C:C6	2.36	0.60
1:A:2731:G:H2'	1:A:2732:G:C8	2.36	0.60
10:O:68:GLU:CB	10:O:78:ARG:HB2	2.32	0.60
12:Q:55:VAL:CG2	21:Z:183:LEU:HD11	2.32	0.60
32:a:99:U:C5	51:t:18:GLN:HA	2.36	0.60
32:a:105:G:N2	32:a:379:C:O3'	2.34	0.60
32:a:688:G:H5'	42:k:46:GLY:C	2.26	0.60
32:a:735:C:H5'	49:r:71:LYS:CD	2.32	0.60
32:a:886:G:N2	32:a:911:U:O2	2.32	0.60
32:a:887:G:H2'	32:a:888:G:O4'	2.01	0.60
32:a:1298:C:N4	38:g:114:ARG:HB3	2.16	0.60
42:k:19:ALA:HB2	42:k:80:VAL:HG21	1.83	0.60
54:C:15:ASP:OD2	54:C:18:LYS:HB2	2.01	0.60
1:A:224:G:O6	1:A:419:C:O2'	2.20	0.60
1:A:820:A:H4'	1:A:836:G:H22	1.66	0.60
1:A:828:U:H4'	1:A:831:G:N1	2.16	0.60
1:A:2845:G:H2'	1:A:2846:G:H8	1.66	0.60
6:G:179:PRO:HG3	26:4:43:TYR:OH	2.01	0.60
8:I:77:LEU:HD12	8:I:101:LEU:HD23	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1:5:CYS:HA	23:1:46:LEU:HD21	1.82	0.60
24:2:35:LEU:HD12	24:2:53:LEU:HD12	1.83	0.60
32:a:62:U:O2	32:a:105:G:O6	2.20	0.60
32:a:96:U:H3'	32:a:97:G:C5'	2.32	0.60
32:a:154:C:O2'	32:a:155:C:H5'	2.02	0.60
32:a:193:C:H2'	32:a:194:C:C6	2.37	0.60
32:a:601:C:H2'	32:a:602:A:C8	2.35	0.60
32:a:911:U:H2'	32:a:912:C:C6	2.37	0.60
32:a:1005:A:H3'	32:a:1006:C:C6	2.37	0.60
32:a:1118:C:H2'	32:a:1119:C:C6	2.37	0.60
32:a:1218:C:H2'	32:a:1219:U:C6	2.36	0.60
41:j:12:ASP:OD2	41:j:15:THR:HG23	2.02	0.60
43:l:83:VAL:CG1	43:l:100:ILE:HG23	2.31	0.60
51:t:99:LEU:HB3	51:t:100:ILE:HG13	1.84	0.60
53:y:60:U:H5"	53:y:61:C:OP2	2.02	0.60
1:A:363(F):U:H3'	1:A:363(G):A:C8	2.36	0.60
1:A:608:A:H2'	1:A:609:A:C8	2.37	0.60
1:A:899:A:C2'	1:A:900:A:H5"	2.31	0.60
1:A:1044:G:H5'	1:A:1045:A:OP1	2.02	0.60
1:A:1210:A:H5"	1:A:1212:G:O4'	2.02	0.60
1:A:1652:A:N6	13:R:11:ASN:OD1	2.32	0.60
1:A:1656:C:H2'	1:A:1657:C:H6	1.67	0.60
1:A:2818:G:OP2	13:R:42:LYS:HD3	2.02	0.60
4:E:34:VAL:HG22	4:E:48:GLN:O	2.02	0.60
4:E:181:LEU:HD21	15:T:6:LEU:HD12	1.83	0.60
5:F:52:LYS:HA	5:F:56:GLU:OE1	2.01	0.60
7:H:124:GLU:HB2	7:H:132:ARG:HB3	1.83	0.60
9:N:67:LEU:O	9:N:88:GLU:HG3	2.02	0.60
20:Y:30:VAL:O	20:Y:32:PRO:HD3	2.02	0.60
32:a:330:C:H2'	32:a:331:G:H5'	1.82	0.60
32:a:521:G:OP2	43:l:54:LYS:NZ	2.19	0.60
32:a:1364:U:O2'	32:a:1365:G:H5'	2.02	0.60
35:d:8:VAL:HB	35:d:115:ARG:HH12	1.66	0.60
37:f:40:VAL:HG23	37:f:63:TYR:CD1	2.37	0.60
51:t:10:LEU:O	51:t:14:LYS:HB2	2.02	0.60
54:C:61:THR:HG22	54:C:162:GLU:CA	2.30	0.60
1:A:74:A:H4'	1:A:75:G:H5"	1.84	0.60
1:A:442:G:N3	5:F:48:THR:OG1	2.32	0.60
1:A:668:G:H2'	1:A:670:A:H62	1.67	0.60
1:A:1142(B):A:O2'	1:A:1143:A:H3'	2.02	0.60
1:A:2175:C:H5"	54:C:7:TYR:CZ	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2176:A:C5'	54:C:221:SER:HB3	2.32	0.60
2:B:83:G:OP1	25:3:19:GLN:NE2	2.29	0.60
7:H:9:ILE:C	7:H:49:VAL:HG23	2.27	0.60
8:I:38:LEU:HD22	8:I:40:THR:HG23	1.84	0.60
19:X:29:TRP:CE3	19:X:78:LYS:HB3	2.36	0.60
32:a:26:A:H61	32:a:558:G:H1'	1.67	0.60
32:a:96:U:OP1	32:a:96:U:H4'	2.00	0.60
32:a:157:G:N2	32:a:164:U:O2	2.30	0.60
32:a:407:G:OP1	35:d:115:ARG:HD3	2.02	0.60
32:a:735:C:O2'	32:a:736:C:H5'	2.02	0.60
32:a:1058:G:O6	32:a:1199:U:O4	2.19	0.60
35:d:175:SER:HB3	35:d:186:LEU:HD11	1.83	0.60
37:f:10:LEU:CB	37:f:59:TYR:HB3	2.32	0.60
40:i:16:ARG:HB2	40:i:64:THR:CG2	2.32	0.60
40:i:50:LEU:HB3	40:i:56:LEU:HD23	1.83	0.60
43:l:32:PHE:CG	43:l:84:LEU:HD11	2.37	0.60
53:y:66:C:H2'	53:y:67:C:C6	2.36	0.60
1:A:760:G:H2'	1:A:761:A:O4'	2.02	0.59
1:A:1646:C:H5"	1:A:1647:G:C5'	2.31	0.59
1:A:1773:A:C2'	1:A:1774:C:H5'	2.32	0.59
1:A:1814:G:OP2	1:A:1815:A:O2'	2.18	0.59
1:A:1942:5MC:OP2	1:A:1943:U:O2'	2.06	0.59
1:A:2319:G:H1	14:S:3:ARG:HA	1.67	0.59
1:A:2366:A:H2'	1:A:2367:G:O4'	2.02	0.59
1:A:2666:C:H2'	1:A:2667:C:O4'	2.01	0.59
1:A:2783:G:H2'	1:A:2784:C:C6	2.38	0.59
1:A:2892:A:N6	1:A:2893:G:O6	2.35	0.59
2:B:57:A:C2'	2:B:58:A:H5'	2.31	0.59
4:E:2:LYS:HA	4:E:84:PHE:CD1	2.37	0.59
5:F:155:LEU:HD11	5:F:176:LEU:CD1	2.32	0.59
6:G:112:PRO:HB3	26:4:40:HIS:HB2	1.83	0.59
6:G:146:TYR:HA	6:G:149:VAL:HG12	1.83	0.59
16:U:74:LEU:HD21	16:U:110:VAL:HG13	1.84	0.59
32:a:608:A:H4'	47:p:32:TYR:OH	2.02	0.59
32:a:715:A:H2'	32:a:716:A:H8	1.65	0.59
32:a:932:C:H4'	38:g:4:ARG:NH2	2.17	0.59
37:f:44:GLY:HA2	37:f:59:TYR:CE1	2.37	0.59
48:q:56:VAL:N	48:q:78:GLU:O	2.35	0.59
50:s:20:LEU:HA	50:s:23:ASN:HB2	1.83	0.59
53:y:21:A:H2'	53:y:46:G:H1	1.66	0.59
54:C:90:GLY:O	54:C:157:LYS:HE3	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:G:O2'	1:A:353:G:O5'	2.16	0.59
1:A:451:C:N4	1:A:454:A:OP2	2.23	0.59
1:A:1907:G:H2'	1:A:1908:C:C6	2.37	0.59
1:A:2554:U:H2'	1:A:2555:U:C6	2.36	0.59
1:A:2792:G:N7	1:A:2893:G:O2'	2.33	0.59
9:N:96:GLU:OE1	9:N:96:GLU:N	2.31	0.59
16:U:47:TYR:HA	16:U:50:ARG:HH21	1.65	0.59
23:1:50:ARG:HA	23:1:58:ILE:O	2.02	0.59
32:a:129(B):G:O4'	32:a:189(I):G:H5'	2.02	0.59
32:a:323:U:H5"	51:t:26:ASN:ND2	2.18	0.59
32:a:397:A:N7	32:a:547:A:O2'	2.33	0.59
32:a:542:G:OP1	35:d:10:ARG:NH1	2.32	0.59
32:a:605:U:H2'	32:a:606:G:O4'	2.02	0.59
32:a:662:G:H2'	32:a:663:A:H8	1.65	0.59
32:a:673:G:OP1	37:f:87:ARG:NH1	2.34	0.59
32:a:674:G:H2'	32:a:675:A:C8	2.37	0.59
32:a:749:C:H2'	32:a:750:G:H8	1.67	0.59
32:a:886:G:H1	32:a:911:U:H3	1.48	0.59
32:a:1177:G:H3'	32:a:1178:G:H8	1.65	0.59
32:a:1258:G:H2'	32:a:1259:C:C6	2.37	0.59
32:a:1287:A:C2	32:a:1353:G:H1'	2.36	0.59
33:b:50:GLU:O	33:b:54:THR:N	2.25	0.59
35:d:11:LEU:CD2	35:d:66:ARG:HD3	2.31	0.59
43:l:34:ARG:O	43:l:61:THR:HG23	2.01	0.59
48:q:58:GLU:HG3	48:q:77:VAL:CG2	2.32	0.59
54:C:66:HIS:CD2	54:C:187:ASP:HB2	2.36	0.59
1:A:229:A:H5"	1:A:230:U:C5'	2.32	0.59
1:A:361:G:H2'	1:A:362:U:C6	2.37	0.59
1:A:633:A:O2'	1:A:2404:C:OP1	2.17	0.59
1:A:680:G:H2'	1:A:681:G:H8	1.68	0.59
1:A:882:G:H2'	1:A:883:G:C8	2.37	0.59
1:A:1295:C:H2'	1:A:1296:G:H8	1.67	0.59
1:A:1476:C:H2'	1:A:1477:A:C8	2.36	0.59
1:A:1658:C:H2'	1:A:1659:U:C6	2.38	0.59
1:A:2015:A:H3'	1:A:2016:U:H6	1.67	0.59
1:A:2162:G:O3'	1:A:2172:U:O2'	2.12	0.59
1:A:2477:C:H5"	1:A:2478:A:OP1	2.03	0.59
5:F:129:PHE:HB3	5:F:132:VAL:CG2	2.31	0.59
15:T:30:VAL:O	15:T:44:ASP:HA	2.02	0.59
16:U:82:GLY:O	16:U:86:ALA:N	2.33	0.59
17:V:1:MET:HE3	17:V:2:PHE:O	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:V:25:LEU:N	17:V:92:THR:OG1	2.35	0.59
32:a:250:A:H1'	32:a:252:U:C5	2.37	0.59
32:a:413:G:N7	35:d:35:ARG:NH1	2.50	0.59
32:a:674:G:O6	32:a:716:A:N1	2.36	0.59
32:a:864:A:H2'	32:a:865:A:C8	2.36	0.59
37:f:72:VAL:HA	37:f:75:LEU:HB3	1.84	0.59
37:f:78:GLU:O	37:f:81:ILE:HG22	2.03	0.59
39:h:6:ILE:HB	39:h:85:ARG:NH1	2.17	0.59
40:i:89:ASN:HB3	40:i:92:TYR:CG	2.37	0.59
54:C:114:VAL:HG23	54:C:149:ILE:HD11	1.84	0.59
1:A:231:C:H2'	1:A:232:G:O4'	2.02	0.59
1:A:678:C:H2'	1:A:679:C:C6	2.37	0.59
1:A:745:G:H2'	1:A:746:A:H5'	1.84	0.59
1:A:1045:A:C5'	1:A:1046:A:H5'	2.30	0.59
1:A:1148:A:C2'	1:A:1149:G:H5"	2.33	0.59
1:A:1558:A:C4'	1:A:1559:G:H2'	2.32	0.59
1:A:2097:C:H2'	1:A:2098:U:C6	2.38	0.59
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.03	0.59
1:A:2281:C:O2'	1:A:2282:G:H5'	2.03	0.59
1:A:2314:C:H2'	1:A:2315:G:C8	2.35	0.59
1:A:2316:C:H2'	1:A:2317:C:C6	2.37	0.59
1:A:2357:U:H5'	22:0:20:ARG:NH1	2.17	0.59
1:A:2516:G:H2'	1:A:2517:C:C6	2.38	0.59
1:A:2580:U:O2'	1:A:2581:G:H5'	2.02	0.59
1:A:2674:G:H2'	1:A:2675:A:C8	2.36	0.59
2:B:58:A:H2'	2:B:59:A:O4'	2.03	0.59
5:F:18:ARG:HG2	5:F:19:GLU:H	1.67	0.59
5:F:184:TYR:O	5:F:188:ARG:HG3	2.02	0.59
6:G:111:LEU:HA	6:G:114:ILE:CD1	2.32	0.59
6:G:126:ASP:CB	6:G:130:ASN:HB2	2.32	0.59
10:O:10:VAL:HG22	10:O:17:ARG:O	2.02	0.59
11:P:80:TYR:CD1	11:P:111:ARG:HB2	2.37	0.59
11:P:91:PHE:O	11:P:121:LYS:NZ	2.25	0.59
15:T:49:VAL:HA	15:T:62:THR:O	2.02	0.59
15:T:88:ILE:HG21	15:T:91:ARG:NE	2.17	0.59
19:X:12:VAL:HG22	19:X:29:TRP:CE2	2.38	0.59
32:a:577:G:O2'	32:a:578:C:H5'	2.02	0.59
32:a:590:C:OP1	39:h:30:ARG:N	2.27	0.59
32:a:614:A:H2'	32:a:615:C:H6	1.65	0.59
32:a:926:G:H3'	32:a:1505:G:H21	1.67	0.59
35:d:150:GLU:HA	35:d:153:ARG:CD	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:79:LEU:HB2	37:f:88:VAL:HG11	1.83	0.59
38:g:75:VAL:HB	38:g:86:GLN:HB3	1.84	0.59
41:j:5:ARG:HA	41:j:73:ASP:CG	2.27	0.59
51:t:50:GLU:HG3	51:t:100:ILE:CD1	2.33	0.59
54:C:163:PHE:HB2	54:C:171:ILE:CD1	2.30	0.59
1:A:522:G:H2'	1:A:523:C:H6	1.67	0.59
1:A:539:G:H2'	1:A:540:C:H6	1.68	0.59
1:A:593:G:H2'	1:A:594:U:C6	2.36	0.59
1:A:793:A:OP2	1:A:2072:G:H5'	2.02	0.59
1:A:1179:C:H2'	1:A:1180:C:C6	2.38	0.59
1:A:1568:G:H5"	3:D:61:LEU:HD23	1.84	0.59
1:A:1796:U:O2'	3:D:256:GLY:N	2.34	0.59
1:A:1910:G:H2'	1:A:1911:PSU:O4'	2.03	0.59
1:A:2132:U:C5	54:C:5:LYS:HG3	2.37	0.59
1:A:2266:A:H4'	1:A:2267:A:N3	2.17	0.59
1:A:2712(A):U:OP1	1:A:2714:G:H4'	2.01	0.59
8:I:26:ALA:HA	8:I:30:LEU:HB2	1.84	0.59
8:I:83:ALA:HB1	8:I:88:ILE:HA	1.83	0.59
12:Q:16:ARG:HG3	12:Q:18:LYS:H	1.67	0.59
12:Q:56:ARG:HA	21:Z:180:VAL:CG2	2.33	0.59
15:T:34:VAL:HG12	15:T:36:GLU:HG3	1.83	0.59
20:Y:11:ASP:HB2	20:Y:27:VAL:HG21	1.83	0.59
23:1:50:ARG:HD2	23:1:57:GLU:OE2	2.02	0.59
32:a:426:G:OP1	35:d:38:TYR:OH	2.19	0.59
32:a:1206:G:H4'	34:c:192:THR:O	2.03	0.59
38:g:115:ARG:H	38:g:115:ARG:HD2	1.67	0.59
54:C:76:ALA:HB3	54:C:94:VAL:CG2	2.33	0.59
54:C:148:ASN:HB2	54:C:151:GLU:HB3	1.83	0.59
1:A:77:C:O3'	24:2:14:ARG:NH2	2.36	0.59
1:A:208:C:O2'	1:A:209:C:H5'	2.02	0.59
1:A:243:U:O2'	1:A:244:A:H5'	2.01	0.59
1:A:582:G:OP1	16:U:14:HIS:ND1	2.27	0.59
1:A:755:C:H2'	1:A:756:C:C6	2.38	0.59
1:A:796:C:H2'	1:A:797:C:C6	2.37	0.59
1:A:888:C:H5'	44:m:93:ARG:HG2	1.84	0.59
1:A:1079:C:H2'	1:A:1080:C:C1'	2.33	0.59
1:A:1114:G:H2'	1:A:1115:G:H8	1.67	0.59
1:A:1406:U:H2'	1:A:1407:C:C6	2.38	0.59
1:A:1680:U:H2'	1:A:1681:G:O4'	2.02	0.59
1:A:2532:G:N2	1:A:2663:G:O2'	2.35	0.59
1:A:2549:G:H2'	1:A:2550:G:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2657:A:O3'	7:H:160:LYS:NZ	2.36	0.59
1:A:2875:C:OP1	15:T:3:ARG:NH1	2.25	0.59
2:B:13:A:O2'	2:B:15:A:H2'	2.03	0.59
13:R:61:HIS:O	13:R:65:LEU:HD23	2.03	0.59
15:T:50:ILE:HG21	15:T:102:ILE:HD11	1.82	0.59
15:T:125:ARG:NH1	32:a:1443:G:H5'	2.16	0.59
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.38	0.59
20:Y:38:ILE:HD12	20:Y:64:GLU:O	2.03	0.59
23:1:6:GLU:OE1	23:1:60:PHE:HA	2.03	0.59
32:a:33:A:H2'	32:a:34:C:C6	2.38	0.59
32:a:201:C:O3'	32:a:202:U:H2'	2.03	0.59
33:b:54:THR:O	33:b:58:ILE:HG12	2.01	0.59
33:b:207:ALA:O	33:b:210:SER:OG	2.10	0.59
41:j:8:LEU:HD23	41:j:96:ILE:HA	1.84	0.59
44:m:81:LEU:HA	44:m:84:ILE:HG12	1.85	0.59
44:m:92:HIS:HA	44:m:110:ARG:NH2	2.17	0.59
47:p:20:VAL:HG21	47:p:32:TYR:CG	2.38	0.59
51:t:50:GLU:HG3	51:t:100:ILE:HD12	1.85	0.59
1:A:217:G:H3'	1:A:218:A:H8	1.68	0.59
1:A:482:A:H1'	1:A:498:G:N2	2.18	0.59
1:A:519:U:H2'	1:A:520:G:H8	1.68	0.59
1:A:637:A:H5"	11:P:117:GLU:OE2	2.02	0.59
1:A:1783:A:HO2'	1:A:2607:G:HO2'	1.50	0.59
1:A:2438:U:O2'	1:A:2439:A:O5'	2.19	0.59
1:A:2756:U:C1'	1:A:2757:A:H5"	2.33	0.59
1:A:2804:C:O2'	1:A:2805:G:H5'	2.03	0.59
1:A:2838:G:C2'	1:A:2839:G:H5"	2.33	0.59
7:H:80:SER:OG	7:H:81:GLU:OE1	2.10	0.59
12:Q:27:VAL:HG11	12:Q:134:ARG:HB2	1.84	0.59
15:T:39:ARG:HH12	15:T:41:ARG:HB3	1.68	0.59
32:a:73:G:H2'	32:a:76:C:C1'	2.33	0.59
32:a:270:A:H2'	32:a:271:C:H6	1.68	0.59
32:a:708:C:H2'	32:a:709:G:H8	1.65	0.59
32:a:1097:C:H5"	33:b:140:HIS:CE1	2.37	0.59
32:a:1187:G:H2'	32:a:1188:A:C8	2.38	0.59
32:a:1254:C:H2'	32:a:1255:G:H8	1.67	0.59
32:a:1414:U:H2'	32:a:1415:G:H8	1.67	0.59
32:a:1527:C:H2'	32:a:1528:U:C6	2.38	0.59
33:b:7:VAL:O	33:b:217:ARG:HD3	2.01	0.59
33:b:61:LEU:HD11	33:b:66:GLY:HA3	1.83	0.59
35:d:9:CYS:HB3	35:d:32:ALA:CB	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:13:ARG:HH22	35:d:40:PRO:HA	1.67	0.59
35:d:194:LEU:HB3	35:d:196:LEU:CD1	2.31	0.59
1:A:143(A):G:H2'	1:A:143(B):C:C6	2.38	0.59
1:A:321:G:C2	1:A:341:G:H4'	2.37	0.59
1:A:576:U:H5"	1:A:2503:2MA:OP1	2.02	0.59
1:A:745:G:C2'	1:A:746:A:H5'	2.31	0.59
1:A:827:U:H4'	1:A:828:U:C6	2.38	0.59
1:A:1120:G:H2'	1:A:1121:C:C6	2.38	0.59
1:A:1296:G:OP1	1:A:2709:G:O2'	2.14	0.59
1:A:1351:C:H2'	1:A:1352:U:C6	2.38	0.59
1:A:1411:C:H2'	1:A:1412:A:C8	2.38	0.59
1:A:1772:G:N2	1:A:1774:C:H5"	2.18	0.59
1:A:1796:U:H2'	1:A:1797:C:C6	2.38	0.59
1:A:2030:A:H4'	1:A:2031:A:C8	2.37	0.59
1:A:2169:A:O2'	55:z:56:C:O2'	2.07	0.59
1:A:2412:A:H2'	1:A:2413:G:O4'	2.02	0.59
1:A:2520:C:HO2'	1:A:2565:A:HO2'	1.50	0.59
5:F:126:VAL:HG21	5:F:129:PHE:CZ	2.37	0.59
15:T:16:ARG:HD2	15:T:19:LEU:HD11	1.84	0.59
18:W:45:TYR:CZ	18:W:49:LYS:HD2	2.37	0.59
20:Y:44:ILE:CG2	20:Y:62:GLU:HB3	2.33	0.59
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.83	0.59
32:a:97:G:OP1	32:a:103:C:H3'	2.03	0.59
32:a:142:G:H2'	32:a:143:A:H8	1.67	0.59
32:a:338:A:H2'	32:a:339:C:C6	2.38	0.59
32:a:602:A:H2'	32:a:603:U:O4'	2.03	0.59
32:a:707:C:H4'	42:k:20:TYR:CD2	2.38	0.59
32:a:1003:G:C2'	32:a:1004:A:H4'	2.28	0.59
32:a:1298:C:C4	38:g:114:ARG:HD3	2.37	0.59
35:d:18:LYS:CA	35:d:33:MET:HG3	2.31	0.59
38:g:113:GLU:OE2	38:g:119:ARG:HA	2.02	0.59
44:m:13:LYS:HA	44:m:44:ARG:HH11	1.68	0.59
49:r:44:LEU:CD1	49:r:80:PRO:HD2	2.33	0.59
54:C:131:LEU:HD11	54:C:138:PRO:HD3	1.84	0.59
55:z:42:C:H3'	55:z:43:C:H4'	1.84	0.59
56:x:24:A:O2'	56:x:25:A:OP2	2.20	0.59
1:A:608:A:H2'	1:A:609:A:H8	1.68	0.59
1:A:864:G:H2'	1:A:865:C:H6	1.66	0.59
1:A:885:C:H2'	1:A:886:C:C4'	2.33	0.59
1:A:1285:G:N2	1:A:1328:G:H5"	2.16	0.59
1:A:1474:C:H2'	1:A:1475:G:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2089:U:H5'	1:A:2090:G:OP2	2.03	0.59
1:A:2285:C:OP2	28:6:6:ARG:NH1	2.36	0.59
1:A:2555:U:H2'	1:A:2556:C:H5'	1.84	0.59
11:P:77:ARG:HB2	11:P:78:PRO:HD2	1.85	0.59
11:P:124:LYS:HE3	11:P:146:VAL:HG21	1.83	0.59
12:Q:59:ARG:HD3	12:Q:60:ARG:HG2	1.84	0.59
12:Q:70:PRO:HA	12:Q:95:ALA:HB2	1.85	0.59
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.33	0.59
32:a:26:A:N6	32:a:558:G:H1'	2.18	0.59
32:a:105:G:C2'	32:a:106:C:H5'	2.32	0.59
32:a:108:G:N1	51:t:15:ARG:HD2	2.17	0.59
32:a:173:U:H1'	32:a:197:A:C5	2.37	0.59
32:a:625:G:H2'	32:a:626:U:C6	2.37	0.59
33:b:19:HIS:NE2	33:b:39:ILE:HD13	2.18	0.59
36:e:137:GLU:OE2	36:e:141:GLN:NE2	2.35	0.59
40:i:22:GLY:N	40:i:58:HIS:O	2.22	0.59
42:k:24:SER:O	42:k:88:GLY:HA3	2.03	0.59
43:l:89:ARG:CB	43:l:97:ARG:HA	2.33	0.59
49:r:59:SER:N	49:r:62:GLU:HB2	2.18	0.59
51:t:60:GLU:HG3	51:t:81:LYS:HD3	1.85	0.59
54:C:72:VAL:CG1	54:C:157:LYS:HA	2.32	0.59
54:C:83:ILE:O	54:C:87:GLU:HG3	2.03	0.59
55:z:14:A:H3'	55:z:15:G:C8	2.38	0.59
1:A:287:C:H2'	1:A:288:C:C6	2.38	0.59
1:A:323:G:O2'	1:A:1205:U:N3	2.34	0.59
1:A:773:U:O2	1:A:778:G:O2'	2.21	0.59
1:A:784:A:O2'	1:A:785:G:O5'	2.19	0.59
1:A:1265:A:N6	1:A:2013:A:H5"	2.18	0.59
1:A:1843:C:H2'	1:A:1844:C:C6	2.38	0.59
1:A:2680:C:OP2	4:E:111:ARG:NH2	2.26	0.59
1:A:2845:G:H2'	1:A:2846:G:C8	2.37	0.59
6:G:4:ASP:OD1	6:G:9:ARG:NH2	2.34	0.59
6:G:78:SER:HB3	53:y:57:A:O4'	2.03	0.59
7:H:86:GLU:HB2	7:H:165:ALA:HB2	1.84	0.59
7:H:95:ARG:HB2	7:H:128:PRO:CB	2.33	0.59
8:I:68:LEU:CD1	8:I:72:LEU:HD12	2.32	0.59
8:I:123:LEU:HD12	8:I:145:VAL:HA	1.83	0.59
12:Q:57:HIS:HD2	12:Q:117:ALA:HB2	1.68	0.59
20:Y:47:LYS:O	20:Y:61:ILE:HG12	2.02	0.59
32:a:64:G:C3'	32:a:71:C:N3	2.66	0.59
32:a:78:G:H2'	32:a:79:G:H5'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:335:C:H2'	32:a:336:C:C6	2.38	0.59
32:a:430:A:OP2	35:d:8:VAL:HG12	2.02	0.59
32:a:966:M2G:H2'	32:a:967:5MC:C6	2.36	0.59
32:a:1064:G:H1'	32:a:1190:G:H21	1.68	0.59
32:a:1120:G:O2'	32:a:1121:U:H5'	2.03	0.59
32:a:1362:C:H2'	32:a:1363(A):C:H5"	1.85	0.59
37:f:20:ALA:HA	37:f:23:LYS:HD3	1.85	0.59
44:m:15:VAL:CG2	44:m:41:PRO:HA	2.33	0.59
44:m:22:ILE:CB	44:m:25:ILE:HD12	2.33	0.59
44:m:59:TYR:O	44:m:63:THR:HG23	2.02	0.59
49:r:47:THR:CA	49:r:83:GLU:HB2	2.30	0.59
1:A:37:C:H2'	1:A:38:A:C8	2.38	0.58
1:A:132:G:H2'	1:A:133:C:C6	2.38	0.58
1:A:289:A:H2'	1:A:290:G:O4'	2.03	0.58
1:A:992:C:OP1	17:V:74:LYS:NZ	2.31	0.58
1:A:1316:U:H2'	1:A:1317:A:C8	2.38	0.58
1:A:1713:U:O2'	1:A:1714:G:H5'	2.02	0.58
1:A:2394:C:H5"	11:P:64:LYS:CD	2.31	0.58
1:A:2563:U:N3	1:A:2566:A:OP2	2.32	0.58
1:A:2853:C:H2'	1:A:2854:G:C8	2.38	0.58
4:E:110:GLY:HA3	4:E:162:ALA:HB2	1.85	0.58
6:G:33:ARG:HB2	6:G:162:THR:CG2	2.32	0.58
8:I:101:LEU:O	8:I:106:GLY:N	2.36	0.58
10:O:53:LYS:HD3	10:O:56:ASP:OD2	2.03	0.58
21:Z:44:PHE:O	21:Z:48:PHE:HB3	2.02	0.58
28:6:38:LYS:HB2	28:6:49:HIS:ND1	2.18	0.58
32:a:184:G:O2'	32:a:185:A:H5'	2.03	0.58
32:a:487:A:H2'	32:a:488:C:O4'	2.03	0.58
32:a:707:C:O2'	32:a:708:C:H5'	2.03	0.58
32:a:1090:U:H2'	32:a:1091:U:C6	2.38	0.58
32:a:1237:C:OP1	32:a:1238:A:H1'	2.03	0.58
33:b:230:VAL:HG22	33:b:231:GLU:H	1.68	0.58
35:d:153:ARG:NH1	35:d:181:MET:HB2	2.18	0.58
35:d:175:SER:OG	35:d:184:LYS:HB2	2.02	0.58
40:i:117:HIS:NE2	40:i:123:PRO:HB3	2.18	0.58
53:y:47:U:O4	53:y:50:U:H5"	2.02	0.58
54:C:133:PRO:HA	55:z:56:C:C4'	2.30	0.58
1:A:10:G:H1'	1:A:2801(B):A:H61	1.67	0.58
1:A:111:A:H4'	24:2:69:ARG:NH1	2.17	0.58
1:A:321:G:OP2	5:F:135:LYS:HD3	2.04	0.58
1:A:570:G:H2'	1:A:2030:A:C5	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:607:U:OP1	5:F:103:LYS:N	2.33	0.58
1:A:856:C:H2'	1:A:857:C:C6	2.37	0.58
1:A:1178:C:H2'	1:A:1179:C:C6	2.37	0.58
1:A:1266:G:OP2	27:5:19:ARG:HD2	2.03	0.58
1:A:1353:A:OP2	1:A:1377:G:N1	2.32	0.58
1:A:1907:G:H2'	1:A:1908:C:H6	1.66	0.58
1:A:2566:A:H61	10:O:28:SER:HB2	1.67	0.58
1:A:2577:A:H5'	27:5:3:LYS:NZ	2.17	0.58
2:B:107:G:H2'	2:B:108:U:C6	2.37	0.58
3:D:138:VAL:HG23	3:D:167:GLY:HA2	1.85	0.58
6:G:41:GLN:O	6:G:89:GLY:HA2	2.04	0.58
12:Q:103:MET:SD	12:Q:127:ILE:HD11	2.44	0.58
15:T:8:LYS:O	15:T:12:SER:HB3	2.03	0.58
21:Z:44:PHE:O	21:Z:48:PHE:CB	2.51	0.58
32:a:99:U:H3'	51:t:15:ARG:CA	2.30	0.58
32:a:110:C:H2'	32:a:111:G:O4'	2.03	0.58
32:a:164:U:H2'	32:a:165:C:C6	2.38	0.58
32:a:438:G:N1	32:a:495:A:OP2	2.22	0.58
32:a:1028:C:H2'	32:a:1029:C:H6	1.67	0.58
32:a:1072:G:H2'	32:a:1073:U:C6	2.38	0.58
32:a:1134:G:C2	32:a:1135:U:H1'	2.38	0.58
32:a:1304:G:OP1	52:u:2:GLY:N	2.36	0.58
33:b:74:LYS:HD3	33:b:76:GLN:NE2	2.19	0.58
39:h:14:ARG:O	39:h:18:ARG:HG2	2.03	0.58
54:C:26:ALA:C	54:C:182:PRO:HB3	2.28	0.58
1:A:17:G:H2'	1:A:18:C:C6	2.38	0.58
1:A:1291:C:H2'	1:A:1292:U:C6	2.38	0.58
1:A:1510:G:H2'	1:A:1511:C:C6	2.37	0.58
1:A:2309:A:H2'	1:A:2310:A:O4'	2.02	0.58
1:A:2356:C:H2'	1:A:2357:U:O4'	2.04	0.58
1:A:2830:G:H2'	1:A:2831:G:H5'	1.85	0.58
2:B:61:G:H2'	2:B:62:C:C6	2.37	0.58
3:D:79:VAL:CG2	3:D:111:LEU:HD11	2.30	0.58
21:Z:144:LEU:HD21	21:Z:150:LEU:HD11	1.85	0.58
25:3:16:PRO:HB2	25:3:18:ASP:OD1	2.04	0.58
26:4:15:ILE:CD1	26:4:21:VAL:HG22	2.33	0.58
28:6:35:GLU:OE2	28:6:50:ARG:NH1	2.36	0.58
32:a:152:A:H3'	32:a:153:C:H5	1.68	0.58
32:a:537:G:H5"	43:l:113:ARG:NH1	2.17	0.58
32:a:590:C:O2'	32:a:591:U:H5'	2.03	0.58
32:a:1355:G:H2'	32:a:1356:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:e:40:ARG:HD3	36:e:68:GLU:HB3	1.84	0.58
43:l:34:ARG:HD3	43:l:105:TYR:CE2	2.38	0.58
53:y:55:U:O2'	53:y:57:A:N7	2.29	0.58
1:A:143(A):G:H4'	19:X:35:THR:HG21	1.84	0.58
1:A:536:A:H2'	1:A:537:C:C6	2.38	0.58
1:A:904:C:H2'	1:A:905:U:C6	2.39	0.58
1:A:916:G:O2'	1:A:917:A:O4'	2.19	0.58
1:A:947:G:H2'	1:A:948:G:H8	1.68	0.58
1:A:1925:C:H2'	1:A:1926:U:C6	2.39	0.58
1:A:1995:U:H3'	1:A:1996:C:H2'	1.83	0.58
1:A:2491:U:O2'	1:A:2570:G:OP1	2.19	0.58
1:A:2619:C:O2'	1:A:2620:C:H5'	2.03	0.58
1:A:2712(A):U:O2'	1:A:2713:A:H5'	2.02	0.58
6:G:173:LEU:HB3	6:G:178:PHE:CD2	2.38	0.58
8:I:79:ILE:HG22	8:I:81:VAL:HG13	1.85	0.58
16:U:89:GLU:O	17:V:11:GLN:NE2	2.31	0.58
17:V:4:ILE:O	17:V:38:LEU:N	2.35	0.58
17:V:32:THR:HA	17:V:60:GLU:HA	1.84	0.58
32:a:68:G:C1'	32:a:93:G:H1	2.17	0.58
32:a:124:G:O2'	32:a:125:U:H5'	2.02	0.58
32:a:389:A:H5"	32:a:390:C:C5	2.38	0.58
32:a:451:A:N6	32:a:480:U:H2'	2.18	0.58
32:a:628:G:H2'	32:a:629:G:O4'	2.02	0.58
32:a:790:A:H2'	32:a:791:G:C8	2.38	0.58
32:a:974:A:P	45:n:29:ARG:HH21	2.26	0.58
32:a:1152:A:O2'	32:a:1153:C:H5'	2.03	0.58
32:a:1192:C:H2'	32:a:1193:G:O4'	2.03	0.58
34:c:112:SER:CB	34:c:115:LEU:HB2	2.33	0.58
36:e:96:PRO:HA	36:e:117:ASP:OD2	2.03	0.58
39:h:95:VAL:HG22	39:h:131:GLY:O	2.02	0.58
42:k:62:GLN:HB2	42:k:93:GLN:HG3	1.85	0.58
49:r:31:LEU:HB3	49:r:65:ILE:HG22	1.85	0.58
51:t:13:LEU:O	51:t:17:ARG:NH1	2.34	0.58
53:y:11:A:H2'	53:y:12:G:C8	2.39	0.58
54:C:37:PHE:CE1	54:C:218:MET:HE1	2.39	0.58
54:C:53:ARG:NH2	55:z:63:G:H5'	2.18	0.58
56:x:47:C:H2'	56:x:48:G:C8	2.38	0.58
1:A:7:G:H5"	9:N:121:LYS:NZ	2.19	0.58
1:A:353:G:O2'	1:A:354:G:H5'	2.03	0.58
1:A:743:G:OP1	4:E:130:GLY:HA2	2.02	0.58
1:A:1327:C:H2'	1:A:1328:G:O4'	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1466:G:HO2'	1:A:1546:C:HO2'	1.35	0.58
1:A:1509(A):C:OP1	1:A:1509(A):C:H2'	2.04	0.58
1:A:1973:G:H2'	1:A:1974:C:C6	2.38	0.58
1:A:2243:U:H2'	1:A:2244:U:C6	2.38	0.58
1:A:2375:G:N2	1:A:2377:A:H3'	2.18	0.58
1:A:2444:G:H2'	1:A:2445:G:H5"	1.85	0.58
1:A:2467:C:H2'	1:A:2468:G:O4'	2.03	0.58
1:A:2492:U:H2'	1:A:2493:U:C6	2.37	0.58
2:B:48:A:H2'	2:B:49:C:H6	1.69	0.58
3:D:69:ARG:HG2	3:D:130:ALA:CB	2.33	0.58
4:E:31:CYS:HB3	4:E:49:LEU:HD23	1.84	0.58
15:T:22:PHE:HB3	15:T:88:ILE:HD11	1.85	0.58
15:T:39:ARG:HH12	15:T:41:ARG:HD3	1.68	0.58
16:U:44:ASN:HD21	17:V:75:PHE:HB3	1.69	0.58
32:a:357:G:O2'	32:a:358:U:H5'	2.04	0.58
32:a:835:U:O2	32:a:851:G:N2	2.28	0.58
32:a:848:C:H2'	32:a:849:C:H6	1.67	0.58
32:a:947:G:H2'	32:a:948:C:H6	1.67	0.58
32:a:1044:A:C6	32:a:1045:C:H1'	2.39	0.58
32:a:1079:G:H2'	32:a:1080:A:C8	2.39	0.58
32:a:1160:G:C6	32:a:1176:A:N1	2.71	0.58
32:a:1163:C:H2'	32:a:1164:G:C8	2.38	0.58
32:a:1230:C:H5'	53:y:30:G:H5"	1.84	0.58
32:a:1315:U:H2'	32:a:1316:G:O4'	2.02	0.58
37:f:99:ALA:O	49:r:28:GLU:HA	2.04	0.58
56:x:35:G:H2'	56:x:36:C:C6	2.38	0.58
1:A:48:G:N1	1:A:177:G:OP2	2.35	0.58
1:A:177:G:H3'	1:A:178:G:C8	2.38	0.58
1:A:242:G:H1'	1:A:243:U:H5	1.69	0.58
1:A:608:A:OP2	1:A:619:G:N1	2.26	0.58
1:A:729:G:H5'	1:A:730:C:H5"	1.85	0.58
1:A:1466:G:H2'	1:A:1547:C:N4	2.19	0.58
1:A:2072:G:H2'	1:A:2073:C:H6	1.68	0.58
1:A:2405:G:O2'	1:A:2411:A:N6	2.35	0.58
3:D:133:LEU:HG	3:D:189:CYS:O	2.04	0.58
4:E:39:PRO:HA	4:E:44:TYR:N	2.19	0.58
8:I:98:ALA:CB	8:I:111:PRO:HG3	2.34	0.58
10:O:49:ARG:NH1	32:a:1423:G:H5'	2.19	0.58
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.32	0.58
21:Z:119:GLU:OE1	21:Z:122:ARG:HG2	2.04	0.58
24:2:2:LYS:O	24:2:6:VAL:HG23	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:64:G:O2'	32:a:71:C:O5'	2.17	0.58
32:a:102:G:O2'	32:a:103:C:OP1	2.20	0.58
32:a:201:C:H3'	32:a:203:U:C5	2.38	0.58
32:a:259:G:H2'	32:a:260:G:C8	2.39	0.58
32:a:406:G:H5'	35:d:5:ILE:CD1	2.31	0.58
32:a:552:U:H2'	32:a:553:A:C8	2.33	0.58
32:a:564:C:O2'	39:h:91:ARG:NH1	2.32	0.58
32:a:571:U:H5"	32:a:572:A:OP2	2.04	0.58
32:a:958:A:H2'	32:a:959:A:C4	2.39	0.58
32:a:1329:A:N7	52:u:7:ARG:NH2	2.51	0.58
33:b:132:LYS:O	33:b:136:VAL:HG23	2.03	0.58
34:c:190:ARG:HA	34:c:195:VAL:HA	1.86	0.58
38:g:105:VAL:HG12	38:g:109:ASN:ND2	2.18	0.58
41:j:78:ASN:O	41:j:81:THR:OG1	2.16	0.58
48:q:40:LYS:HE2	48:q:42:TYR:HE1	1.68	0.58
54:C:22:ILE:HD12	54:C:228:SER:O	2.04	0.58
54:C:47:LEU:HD11	54:C:171:ILE:HB	1.86	0.58
55:z:16:U:H5'	55:z:17:C:OP2	2.03	0.58
1:A:272(K):U:H1'	1:A:272(M):G:H22	1.68	0.58
1:A:844:C:H3'	1:A:845:G:N2	2.18	0.58
1:A:909:A:H2'	1:A:912:C:C5	2.38	0.58
1:A:921:G:H2'	1:A:922:U:C6	2.38	0.58
1:A:996:A:H4'	16:U:91:ASP:OD2	2.02	0.58
1:A:1283:G:H1'	1:A:1329:U:O2	2.03	0.58
1:A:1292:U:H2'	1:A:1293:C:C6	2.38	0.58
1:A:1405:U:H2'	1:A:1406:U:C6	2.39	0.58
1:A:2073:C:O2'	1:A:2074:U:H5'	2.04	0.58
1:A:2134:A:C4	1:A:2157:G:H4'	2.39	0.58
1:A:2592:G:H2'	1:A:2593:U:O4'	2.04	0.58
3:D:78:LYS:HZ3	3:D:114:GLY:HA2	1.68	0.58
6:G:46:ALA:HA	6:G:49:ASP:O	2.04	0.58
13:R:9:LYS:O	13:R:17:ARG:HD3	2.04	0.58
16:U:69:CYS:HB3	16:U:74:LEU:HD12	1.85	0.58
32:a:73:G:O3'	32:a:76:C:H4'	2.03	0.58
32:a:938:A:N3	32:a:1376:U:O2'	2.27	0.58
32:a:972:C:O2'	32:a:973:G:H5'	2.02	0.58
32:a:1212:U:H4'	32:a:1213:A:C8	2.39	0.58
35:d:63:LYS:O	35:d:67:ILE:HG13	2.04	0.58
37:f:23:LYS:HA	37:f:26:ILE:HD12	1.83	0.58
41:j:19:SER:O	41:j:23:ILE:HG12	2.04	0.58
53:y:9:G:H1'	53:y:46:G:H1'	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:y:62:C:H2'	53:y:63:G:C8	2.39	0.58
54:C:58:VAL:HG22	54:C:201:PRO:HD3	1.85	0.58
1:A:581:C:H2'	1:A:582:G:C8	2.38	0.58
1:A:788:A:H4'	1:A:789:A:H5"	1.85	0.58
1:A:922:U:H2'	1:A:923:C:H6	1.69	0.58
1:A:2098:U:H2'	1:A:2099:U:C6	2.38	0.58
1:A:2247:A:H2'	1:A:2248:C:C6	2.39	0.58
1:A:2500:U:O2'	1:A:2504:U:OP1	2.20	0.58
1:A:2531:A:C8	7:H:175:LYS:HB2	2.38	0.58
1:A:2758:A:C2	1:A:2759:G:H1'	2.39	0.58
1:A:2856:C:H2'	1:A:2857:G:O4'	2.04	0.58
1:A:2883:A:OP1	27:5:52:TYR:OH	2.20	0.58
4:E:5:LEU:HB2	4:E:31:CYS:SG	2.44	0.58
5:F:132:VAL:CG2	5:F:163:VAL:HG22	2.32	0.58
8:I:131:LYS:HA	8:I:136:VAL:O	2.03	0.58
9:N:68:GLU:OE1	9:N:68:GLU:N	2.37	0.58
9:N:75:TYR:HA	9:N:81:GLY:O	2.04	0.58
13:R:55:ALA:HA	13:R:80:PHE:HE1	1.65	0.58
32:a:64:G:H3'	32:a:71:C:C2	2.39	0.58
32:a:486:U:H2'	32:a:487:A:C8	2.38	0.58
32:a:600:C:OP1	39:h:97:VAL:N	2.34	0.58
32:a:1318:A:H4'	50:s:10:PHE:CG	2.38	0.58
32:a:1422:G:H2'	32:a:1423:G:C8	2.38	0.58
36:e:100:VAL:HG22	36:e:118:ILE:HG22	1.86	0.58
42:k:85:ARG:HG2	42:k:111:ASP:O	2.04	0.58
50:s:62:ILE:HA	50:s:66:MET:SD	2.44	0.58
1:A:580:C:H2'	1:A:581:C:C6	2.39	0.58
1:A:646:A:H3'	1:A:646:A:OP2	2.04	0.58
1:A:984:A:OP1	1:A:985:C:N4	2.31	0.58
1:A:1255:U:C5	5:F:73:ALA:HA	2.38	0.58
1:A:1414:G:H2'	1:A:1415:U:C6	2.39	0.58
1:A:1506:C:H2'	1:A:1507:A:C8	2.38	0.58
1:A:2167:U:H2'	1:A:2168:G:C4	2.37	0.58
5:F:133:ASN:N	5:F:138:GLU:OE1	2.32	0.58
6:G:33:ARG:HB2	6:G:162:THR:HG21	1.85	0.58
15:T:88:ILE:HG21	15:T:91:ARG:CZ	2.33	0.58
17:V:12:TYR:CD2	17:V:20:LEU:HD21	2.39	0.58
19:X:89:ILE:CG2	19:X:92:LEU:HD13	2.33	0.58
20:Y:76:CYS:N	20:Y:81:LYS:O	2.30	0.58
32:a:97:G:OP1	32:a:103:C:H5"	2.03	0.58
32:a:217:C:H2'	32:a:218:C:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:222:U:H2'	32:a:223:U:H6	1.69	0.58
32:a:473:G:OP1	47:p:75:ARG:HG3	2.03	0.58
32:a:1096:C:H2'	32:a:1097:C:H6	1.68	0.58
32:a:1101:A:H4'	32:a:1102:A:O5'	2.03	0.58
32:a:1402:4OC:HM22	32:a:1403:C:C4'	2.34	0.58
32:a:1452:C:O2'	32:a:1456:G:H5"	2.04	0.58
32:a:1507:A:H2'	32:a:1508:G:H8	1.69	0.58
34:c:173:VAL:HG12	34:c:175:LEU:CD1	2.34	0.58
34:c:185:GLY:O	34:c:200:ALA:N	2.35	0.58
35:d:160:GLN:HA	35:d:163:GLU:CD	2.28	0.58
40:i:53:VAL:HG11	40:i:92:TYR:CD1	2.39	0.58
44:m:45:VAL:HA	44:m:48:LEU:CD1	2.34	0.58
44:m:65:LYS:HB2	44:m:69:GLU:HB3	1.86	0.58
46:o:29:VAL:HG11	46:o:67:LEU:HD21	1.85	0.58
53:y:64:G:H2'	53:y:65:C:C6	2.38	0.58
54:C:44:HIS:CD2	54:C:215:THR:HG22	2.39	0.58
55:z:25:C:H2'	55:z:26:A:H8	1.69	0.58
1:A:43:A:O2'	1:A:44:G:H5'	2.04	0.58
1:A:93:G:H2'	1:A:94(A):C:C6	2.39	0.58
1:A:503:A:H4'	1:A:504:U:C5'	2.34	0.58
1:A:530:G:C6	1:A:2022:U:H5"	2.39	0.58
1:A:557:U:H2'	1:A:558:G:C8	2.38	0.58
1:A:970:C:H2'	1:A:971:C:C6	2.38	0.58
1:A:1269:A:H2'	1:A:1270:C:C6	2.39	0.58
1:A:1431:U:H2'	1:A:1432:C:H6	1.69	0.58
1:A:2024:G:H2'	1:A:2025:C:C6	2.38	0.58
1:A:2222:G:H5"	3:D:186:HIS:NE2	2.19	0.58
5:F:7:TYR:O	5:F:9:ILE:HG13	2.04	0.58
7:H:101:ARG:NE	7:H:117:PRO:HB2	2.19	0.58
7:H:159:GLU:HA	7:H:163:TYR:OH	2.04	0.58
9:N:14:VAL:CG1	9:N:138:LEU:HD12	2.34	0.58
12:Q:73:PRO:HA	12:Q:93:TYR:HD1	1.69	0.58
13:R:96:ARG:HD2	13:R:115:GLU:OE2	2.04	0.58
14:S:51:ALA:CB	14:S:73:LEU:HB2	2.34	0.58
21:Z:95:PRO:CA	21:Z:130:PRO:HD3	2.34	0.58
32:a:64:G:OP1	32:a:70:G:H3'	2.04	0.58
32:a:79:G:H2'	32:a:80:G:O4'	2.04	0.58
32:a:691:G:H1'	32:a:696:A:N6	2.19	0.58
32:a:806:C:H2'	32:a:807:A:C8	2.39	0.58
32:a:822:C:O2'	32:a:823:G:H5'	2.03	0.58
32:a:1254:C:H2'	32:a:1255:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:67:MET:SD	37:f:72:VAL:HG12	2.44	0.58
39:h:33:GLU:OE1	39:h:50:ARG:NH2	2.36	0.58
43:l:32:PHE:CB	43:l:84:LEU:HD11	2.34	0.58
49:r:53:ARG:O	49:r:57:GLY:N	2.23	0.58
53:y:58:A:O2'	53:y:60:U:OP2	2.12	0.58
54:C:75:LEU:O	54:C:113:VAL:HG13	2.04	0.58
55:z:6:G:H2'	55:z:7:A:C8	2.39	0.58
1:A:639:U:H3	1:A:649:G:H1	1.52	0.57
1:A:671:C:OP2	11:P:33:ARG:NH2	2.36	0.57
1:A:783:A:H4'	1:A:2588:G:H4'	1.85	0.57
1:A:1281:G:H2'	1:A:1282:U:H6	1.69	0.57
1:A:1292:U:H2'	1:A:1293:C:H6	1.69	0.57
1:A:2028:U:H2'	1:A:2029:G:C8	2.39	0.57
1:A:2408:U:H2'	1:A:2409:G:H8	1.69	0.57
1:A:2478:A:OP2	31:9:2:LYS:NZ	2.33	0.57
1:A:2579:C:O2'	1:A:2580:U:H5'	2.04	0.57
1:A:2616:C:H2'	1:A:2617:C:H6	1.69	0.57
2:B:92:C:H2'	2:B:93:G:H8	1.68	0.57
6:G:173:LEU:HD22	6:G:178:PHE:CE2	2.39	0.57
10:O:2:ILE:O	10:O:33:ALA:N	2.25	0.57
13:R:28:LEU:O	13:R:32:GLY:N	2.34	0.57
13:R:86:ARG:NH2	13:R:118:GLU:O	2.36	0.57
14:S:14:VAL:HG21	14:S:90:GLY:O	2.04	0.57
23:1:10:LYS:HE3	23:1:66:HIS:HE1	1.69	0.57
32:a:62:U:OP1	32:a:385:C:O2'	2.21	0.57
32:a:185:A:H2'	32:a:186:C:C6	2.39	0.57
32:a:217:C:H2'	32:a:218:C:H6	1.69	0.57
32:a:642:A:N3	39:h:113:SER:OG	2.34	0.57
32:a:675:A:H1'	42:k:116:HIS:ND1	2.19	0.57
32:a:742:G:OP2	46:o:35:ARG:NH2	2.37	0.57
32:a:757:U:H2'	32:a:758:G:O4'	2.04	0.57
33:b:32:ILE:HD13	33:b:40:HIS:CD2	2.39	0.57
33:b:114:ARG:HH12	33:b:118:LEU:HD23	1.69	0.57
34:c:6:HIS:CD2	45:n:49:HIS:HB3	2.38	0.57
44:m:19:LEU:HB3	44:m:25:ILE:HG21	1.85	0.57
50:s:33:THR:CG2	50:s:51:VAL:HA	2.34	0.57
56:x:2:A:H4'	56:x:3:A:H5'	1.85	0.57
56:x:17:U:H3'	56:x:18:U:C6	2.38	0.57
1:A:118:A:OP2	1:A:119:A:H2'	2.04	0.57
1:A:209:C:H2'	1:A:210:C:C6	2.38	0.57
1:A:263:C:H4'	1:A:429:A:O2'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(I):G:O2'	1:A:272(J):C:H5'	2.04	0.57
1:A:678:C:H2'	1:A:679:C:H6	1.68	0.57
1:A:710:G:H2'	1:A:711:G:C8	2.39	0.57
1:A:882:G:H2'	1:A:883:G:H8	1.70	0.57
1:A:1214:A:H2'	1:A:1215:G:O4'	2.04	0.57
1:A:1586:A:H2'	1:A:1587:A:O4'	2.05	0.57
1:A:1747(B):G:H2'	1:A:1748:G:H8	1.68	0.57
1:A:1766:U:H2'	1:A:1767:C:C6	2.40	0.57
1:A:2722:G:C5'	13:R:4:LEU:HD12	2.34	0.57
1:A:2852:G:H2'	1:A:2853:C:C6	2.40	0.57
2:B:40:U:N3	2:B:44:G:OP2	2.25	0.57
4:E:25:VAL:HG12	4:E:181:LEU:HD12	1.85	0.57
6:G:11:TYR:HA	6:G:15:VAL:HB	1.86	0.57
8:I:26:ALA:CB	8:I:30:LEU:HD12	2.34	0.57
9:N:4:TYR:CD2	16:U:100:VAL:HG11	2.39	0.57
10:O:120:GLU:OE1	15:T:67:SER:OG	2.18	0.57
11:P:38:GLN:HG2	11:P:45:LEU:HD23	1.86	0.57
15:T:3:ARG:O	15:T:7:ILE:HG12	2.04	0.57
15:T:91:ARG:HB2	15:T:121:ILE:CG1	2.34	0.57
16:U:90:VAL:HG12	16:U:95:LEU:HD12	1.86	0.57
32:a:7:G:H5'	32:a:298:A:O4'	2.05	0.57
32:a:96:U:OP2	32:a:100:C:H3'	2.03	0.57
32:a:269:C:H2'	32:a:270:A:H8	1.69	0.57
32:a:396:G:O2'	32:a:398:C:OP1	2.18	0.57
32:a:436:C:H2'	32:a:437:U:H6	1.69	0.57
32:a:663:A:H5"	49:r:61:LYS:HZ2	1.69	0.57
32:a:825:G:H2'	32:a:826:C:C6	2.39	0.57
32:a:868:C:H2'	32:a:869:G:O4'	2.03	0.57
32:a:1067:A:O2'	32:a:1094:G:H5'	2.03	0.57
32:a:1095:U:H2'	32:a:1096:C:C6	2.39	0.57
32:a:1245:A:H2'	32:a:1246:C:H6	1.68	0.57
32:a:1270:C:H2'	32:a:1271:G:H8	1.68	0.57
34:c:29:TYR:CE1	45:n:54:PRO:HG2	2.39	0.57
37:f:15:ASP:OD2	37:f:17:SER:HB3	2.04	0.57
37:f:33:TYR:CE2	37:f:78:GLU:HG3	2.39	0.57
40:i:17:VAL:HG23	40:i:63:ILE:CG1	2.34	0.57
44:m:87:TYR:CZ	44:m:91:ARG:HD3	2.39	0.57
54:C:61:THR:HB	54:C:160:ARG:CD	2.34	0.57
54:C:77:ILE:O	54:C:115:ALA:HA	2.03	0.57
1:A:284:U:H2'	1:A:285:C:C6	2.39	0.57
1:A:517:C:O2'	18:W:18:ARG:NH2	2.31	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1135:C:N4	1:A:1138:G:OP2	2.25	0.57
1:A:1533:G:H2'	1:A:1536:C:N3	2.20	0.57
1:A:1664:A:H61	1:A:1996:C:N4	2.01	0.57
1:A:2316:C:HO2'	6:G:128:ARG:HH21	1.49	0.57
1:A:2463:C:O2'	1:A:2464:C:H5'	2.03	0.57
1:A:2884:U:O4	27:5:43:HIS:N	2.37	0.57
2:B:13:A:N1	2:B:69:G:O2'	2.29	0.57
3:D:73:VAL:HG13	3:D:120:GLY:CA	2.34	0.57
6:G:120:LEU:O	6:G:181:ARG:N	2.36	0.57
11:P:84:ASN:CB	11:P:117:GLU:HB2	2.33	0.57
12:Q:111:GLU:O	12:Q:115:MET:HG2	2.02	0.57
21:Z:108:PRO:HB3	21:Z:144:LEU:HB2	1.86	0.57
23:1:12:PRO:HB3	23:1:43:TYR:CD1	2.39	0.57
23:1:19:GLN:O	23:1:35:THR:HG22	2.04	0.57
26:4:15:ILE:O	26:4:33:VAL:N	2.34	0.57
26:4:41:PRO:HG3	26:4:49:PHE:CD2	2.40	0.57
28:6:38:LYS:HB2	28:6:49:HIS:CE1	2.39	0.57
32:a:64:G:C3'	32:a:64:G:HO3'	2.09	0.57
32:a:1025:U:O2'	32:a:1026:G:N7	2.28	0.57
32:a:1212:U:OP1	32:a:1212:U:H3'	2.04	0.57
32:a:1256:A:H5"	32:a:1257:U:OP1	2.03	0.57
32:a:1267:C:O2	32:a:1327:C:H4'	2.03	0.57
32:a:1410:G:H2'	32:a:1411:C:C6	2.39	0.57
33:b:80:ILE:HD13	33:b:212:GLN:HA	1.86	0.57
33:b:82:ARG:HG3	33:b:92:TYR:OH	2.03	0.57
35:d:159:ARG:O	35:d:163:GLU:HG3	2.03	0.57
38:g:14:PRO:HG3	38:g:21:VAL:HG13	1.86	0.57
41:j:33:GLN:O	41:j:74:ILE:HA	2.04	0.57
55:z:5:G:H2'	55:z:6:G:C8	2.38	0.57
55:z:73:A:H2'	55:z:74:C:H6	1.68	0.57
56:x:27:C:H4'	56:x:28:G:O5'	2.03	0.57
1:A:186:G:H2'	1:A:187:G:C8	2.40	0.57
1:A:353:G:H2'	1:A:354:G:C8	2.39	0.57
1:A:354:G:H2'	1:A:355:G:C8	2.39	0.57
1:A:579:G:H2'	1:A:580:C:C6	2.39	0.57
1:A:640:C:H2'	1:A:641:C:C6	2.38	0.57
1:A:669:G:OP2	1:A:669:G:H3'	2.04	0.57
1:A:1587:A:H2'	1:A:1588:C:C6	2.39	0.57
1:A:1958:C:O2'	1:A:1959:G:H5'	2.04	0.57
1:A:2037:G:H2'	1:A:2038:G:C8	2.39	0.57
1:A:2097:C:H2'	1:A:2098:U:H6	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2129:C:P	54:C:6:ARG:HB3	2.44	0.57
1:A:2141:G:H2'	1:A:2142:C:C6	2.40	0.57
1:A:2805:G:H2'	1:A:2807:G:N9	2.20	0.57
1:A:2829:C:H2'	1:A:2830:G:C8	2.39	0.57
2:B:30:C:OP2	14:S:32:LEU:HD11	2.03	0.57
3:D:95:LEU:HD11	3:D:105:ILE:CD1	2.34	0.57
5:F:7:TYR:CZ	5:F:119:ARG:HD3	2.40	0.57
7:H:95:ARG:O	7:H:105:LEU:HD12	2.03	0.57
21:Z:95:PRO:CB	21:Z:129:SER:HA	2.34	0.57
21:Z:128:VAL:HG22	21:Z:129:SER:H	1.68	0.57
28:6:18:ARG:NH2	28:6:42:TRP:HB3	2.19	0.57
32:a:22:G:H2'	32:a:23:C:H6	1.69	0.57
32:a:64:G:H5'	32:a:70:G:O5'	2.04	0.57
32:a:376:G:O2'	32:a:377:G:H5'	2.04	0.57
32:a:413:G:O6	35:d:35:ARG:HD2	2.04	0.57
32:a:646:U:H2'	32:a:647:C:H6	1.66	0.57
32:a:1243:C:H2'	32:a:1244:C:C6	2.39	0.57
32:a:1317:C:H2'	32:a:1318:A:O4'	2.04	0.57
32:a:1434:A:H2'	32:a:1435:G:O4'	2.04	0.57
32:a:1506:U:O2'	32:a:1507:A:H5'	2.04	0.57
33:b:42:ILE:HG21	33:b:202:PRO:O	2.05	0.57
36:e:78:HIS:HE1	36:e:143:ARG:H	1.52	0.57
37:f:8:ILE:HG22	37:f:10:LEU:CD2	2.33	0.57
37:f:19:LEU:HD11	37:f:59:TYR:CZ	2.39	0.57
44:m:86:CYS:O	44:m:90:LEU:N	2.28	0.57
46:o:43:LEU:HD12	46:o:56:LEU:HD22	1.86	0.57
54:C:79:LYS:HA	54:C:83:ILE:CG1	2.32	0.57
1:A:38:A:H2'	1:A:39:C:H6	1.69	0.57
1:A:126:A:H2'	1:A:127:A:C8	2.40	0.57
1:A:181:A:H3'	1:A:182:A:H8	1.70	0.57
1:A:885:C:H3'	1:A:886:C:H5"	1.85	0.57
1:A:974:G:OP1	1:A:1187:G:O2'	2.15	0.57
1:A:1922:G:O2'	1:A:1923:U:H5'	2.05	0.57
1:A:2272:U:H5"	1:A:2273:A:OP1	2.05	0.57
1:A:2393:A:H5"	11:P:63:PRO:HB3	1.86	0.57
1:A:2526:G:H1	1:A:2537:U:H3	1.51	0.57
1:A:2708:G:H2'	1:A:2709:G:H8	1.68	0.57
1:A:2741:A:H2'	1:A:2742:C:O4'	2.04	0.57
1:A:2809:A:H2'	1:A:2810:A:C8	2.39	0.57
1:A:2862:G:H2'	1:A:2863:C:H6	1.70	0.57
3:D:30:GLU:HG2	3:D:33:LEU:HG	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:P:83:VAL:CG2	11:P:112:LEU:HD21	2.33	0.57
32:a:153:C:H2'	32:a:154:C:O4'	2.04	0.57
32:a:696:A:H2'	32:a:697:U:H6	1.68	0.57
32:a:839:U:H3'	32:a:840:C:C5	2.40	0.57
32:a:918:A:H2'	32:a:919:A:C8	2.39	0.57
32:a:1322:C:OP1	50:s:78:ARG:NH2	2.37	0.57
32:a:1402:4OC:HM22	32:a:1403:C:H5'	1.86	0.57
42:k:92:GLU:HA	42:k:95:ILE:HD12	1.85	0.57
44:m:23:TYR:CE2	44:m:70:LEU:HD22	2.39	0.57
46:o:4:THR:OG1	46:o:6:GLU:OE1	2.16	0.57
48:q:56:VAL:HB	48:q:78:GLU:HB3	1.87	0.57
53:y:54:U:H2'	53:y:55:U:O4'	2.04	0.57
53:y:66:C:H2'	53:y:67:C:H6	1.68	0.57
54:C:86:ALA:HB2	54:C:149:ILE:HG23	1.86	0.57
1:A:310:A:O3'	1:A:311:A:H2'	2.04	0.57
1:A:337:C:H2'	1:A:338:G:O4'	2.05	0.57
1:A:638:G:H2'	1:A:639:U:H6	1.70	0.57
1:A:997:G:O2'	1:A:998:C:H5'	2.05	0.57
1:A:2019:A:O3'	16:U:27:LEU:HD12	2.04	0.57
1:A:2023:G:H2'	1:A:2024:G:C8	2.39	0.57
1:A:2119:A:OP1	1:A:2119:A:H2'	2.05	0.57
1:A:2280:G:H2'	1:A:2281:C:H5'	1.86	0.57
1:A:2356:C:O2'	22:0:20:ARG:NH1	2.38	0.57
1:A:2737:G:H2'	1:A:2738:A:C8	2.40	0.57
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.85	0.57
11:P:60:MET:HA	30:8:13:ARG:NH1	2.16	0.57
18:W:27:LYS:HD2	18:W:31:GLU:OE2	2.04	0.57
21:Z:124:ILE:HD11	21:Z:163:LEU:HD11	1.84	0.57
32:a:438:G:H4'	35:d:123:HIS:HD2	1.69	0.57
32:a:697:U:H2'	32:a:698:G:H5'	1.87	0.57
32:a:722:A:H2'	32:a:724:G:C8	2.39	0.57
32:a:768:A:N3	32:a:1512:U:O2'	2.36	0.57
32:a:770:C:O2'	32:a:771:G:H5'	2.05	0.57
33:b:162:ILE:HD11	33:b:184:VAL:HG22	1.87	0.57
48:q:6:LEU:HD22	48:q:42:TYR:HE2	1.70	0.57
1:A:220:G:N2	1:A:427:U:H2'	2.19	0.57
1:A:710:G:H2'	1:A:711:G:H8	1.68	0.57
1:A:794:G:H2'	1:A:795:C:C6	2.39	0.57
1:A:878:A:H5"	1:A:879:G:N7	2.20	0.57
1:A:932:G:H4'	1:A:933:A:O5'	2.04	0.57
1:A:1257:C:H4'	5:F:83:PHE:CD1	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1655:A:H2'	1:A:1656:C:O4'	2.04	0.57
1:A:2419:U:H2'	1:A:2420:C:C6	2.39	0.57
1:A:2694:G:O2'	1:A:2695:C:H5'	2.03	0.57
1:A:2887:U:H2'	1:A:2888:C:C6	2.40	0.57
2:B:22:U:H2'	2:B:23:G:C8	2.40	0.57
11:P:68:GLN:OE1	30:8:12:LYS:HG2	2.04	0.57
21:Z:5:LEU:HD21	21:Z:43:GLU:HB3	1.85	0.57
21:Z:77:ASP:N	21:Z:82:ARG:O	2.31	0.57
23:1:7:ILE:CD1	23:1:98:LEU:HD11	2.34	0.57
32:a:66:G:H1	32:a:172:A:H2	1.51	0.57
32:a:745:C:H2'	32:a:746:A:C8	2.40	0.57
32:a:954:G:H2'	32:a:955:U:O4'	2.05	0.57
32:a:1260:C:OP1	32:a:1284:C:O2'	2.11	0.57
32:a:1318:A:H4'	50:s:10:PHE:CD2	2.40	0.57
32:a:1401:G:O6	32:a:1504:G:N2	2.38	0.57
33:b:121:LEU:O	33:b:127:ILE:HB	2.04	0.57
33:b:221:LEU:HD22	33:b:224:GLN:NE2	2.20	0.57
35:d:150:GLU:HA	35:d:153:ARG:HG3	1.87	0.57
40:i:6:GLY:HA3	40:i:83:ARG:HB2	1.85	0.57
43:l:36:VAL:O	43:l:58:VAL:HG13	2.05	0.57
44:m:108:ARG:HD2	44:m:114:ARG:HE	1.69	0.57
46:o:80:ALA:HA	46:o:83:GLU:OE2	2.04	0.57
54:C:66:HIS:HD2	54:C:187:ASP:HB2	1.68	0.57
54:C:73:ARG:HD2	54:C:93:TYR:OH	2.04	0.57
54:C:78:ALA:HB1	54:C:82:LYS:CB	2.35	0.57
1:A:727:A:OP1	1:A:1431:U:O2'	2.19	0.57
1:A:1123:C:H2'	1:A:1124:C:C6	2.40	0.57
1:A:1434:A:H2'	1:A:1435:G:C8	2.40	0.57
1:A:1709:U:H2'	1:A:1710:C:H6	1.69	0.57
1:A:1831:G:H2'	1:A:1832:C:H6	1.70	0.57
1:A:2134:A:N3	1:A:2158:A:H4'	2.19	0.57
1:A:2134:A:C2'	1:A:2159:G:H1'	2.34	0.57
1:A:2331:G:O2'	1:A:2332:U:H5'	2.04	0.57
1:A:2703:C:H2'	1:A:2704:C:C6	2.39	0.57
1:A:2836:U:H2'	1:A:2837:G:C8	2.39	0.57
6:G:145:THR:HG22	6:G:148:MET:HG2	1.87	0.57
7:H:17:VAL:HG22	7:H:26:VAL:HG22	1.85	0.57
10:O:49:ARG:NH1	32:a:1422:G:O2'	2.36	0.57
12:Q:56:ARG:HA	21:Z:180:VAL:HG22	1.86	0.57
13:R:63:ARG:HA	13:R:80:PHE:HE2	1.70	0.57
20:Y:77:PRO:HD2	20:Y:106:LEU:CD2	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Z:128:VAL:HG23	21:Z:160:GLY:O	2.05	0.57
32:a:266:G:O3'	48:q:67:LYS:HB2	2.04	0.57
32:a:736:C:O2'	32:a:737:A:H5'	2.05	0.57
32:a:977:A:H1'	32:a:982:U:O4	2.03	0.57
32:a:987:G:H2'	32:a:988:G:H8	1.69	0.57
32:a:1179:A:O3'	40:i:103:THR:OG1	2.15	0.57
32:a:1267:C:O2	52:u:20:LYS:HD2	2.04	0.57
32:a:1268:A:H2'	32:a:1269:A:C8	2.39	0.57
34:c:152:ILE:HG13	34:c:199:LYS:HB2	1.86	0.57
40:i:55:ALA:HA	40:i:58:HIS:ND1	2.20	0.57
48:q:10:VAL:CG1	48:q:53:LEU:HA	2.34	0.57
50:s:46:GLY:HA2	50:s:61:TYR:OH	2.04	0.57
54:C:27:ARG:HD3	54:C:182:PRO:HG3	1.86	0.57
1:A:843:G:O2'	1:A:844:C:H5'	2.05	0.57
1:A:959:A:H1'	1:A:2457:U:O2'	2.05	0.57
1:A:1613:G:O2'	29:7:3:ARG:NE	2.38	0.57
1:A:1628:G:H2'	1:A:1629:U:H6	1.70	0.57
1:A:1760:A:H2'	1:A:1761:C:C6	2.40	0.57
1:A:1824:G:O2'	1:A:1825:A:H5'	2.04	0.57
1:A:1939:5MU:OP1	1:A:2604:U:O2'	2.23	0.57
1:A:1998:G:H2'	1:A:1999:C:C6	2.38	0.57
1:A:2025:C:H2'	1:A:2026:C:C6	2.40	0.57
1:A:2127:G:H4'	54:C:37:PHE:CE1	2.39	0.57
1:A:2202:C:H2'	1:A:2203:U:C6	2.40	0.57
1:A:2303:G:N3	6:G:132:ASN:ND2	2.53	0.57
1:A:2334:G:N2	14:S:16:ASN:OD1	2.25	0.57
1:A:2377:A:H2'	1:A:2378:A:C8	2.40	0.57
1:A:2846:G:H2'	1:A:2847:U:C6	2.40	0.57
2:B:74:U:H2'	2:B:75:G:O4'	2.05	0.57
3:D:258:LYS:HE2	3:D:273:ARG:NH2	2.20	0.57
5:F:114:VAL:HG21	5:F:202:PHE:CE1	2.39	0.57
5:F:152:GLU:HA	5:F:190:GLU:OE1	2.04	0.57
8:I:40:THR:OG1	8:I:43:ASN:OD1	2.21	0.57
9:N:7:LYS:O	9:N:9:VAL:HG13	2.05	0.57
13:R:2:ARG:HD2	13:R:2:ARG:O	2.05	0.57
15:T:54:ARG:HA	15:T:59:THR:CG2	2.35	0.57
20:Y:88:LYS:HB3	20:Y:96:ILE:HG13	1.87	0.57
21:Z:47:VAL:HG12	21:Z:51:ALA:CB	2.34	0.57
30:8:63:PRO:HG2	30:8:64:TYR:CD2	2.40	0.57
32:a:407:G:H5"	35:d:115:ARG:CG	2.32	0.57
32:a:419:C:H2'	32:a:420:U:O4'	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1003:G:H2'	32:a:1004:A:C4'	2.30	0.57
32:a:1026:G:H3'	32:a:1026:G:OP2	2.05	0.57
33:b:48:MET:HG2	33:b:51:LEU:HD12	1.86	0.57
35:d:68:TYR:OH	35:d:98:GLU:OE2	2.21	0.57
35:d:134:ASP:O	35:d:136:PRO:HD3	2.05	0.57
46:o:4:THR:HG23	46:o:7:GLU:H	1.70	0.57
51:t:63:ILE:HG22	51:t:77:ALA:HB1	1.87	0.57
53:y:74:C:N3	53:y:75:C:N4	2.53	0.57
55:z:22:G:O2'	55:z:23:A:O5'	2.15	0.57
1:A:23:G:N2	1:A:517:C:O2	2.19	0.57
1:A:709:U:H2'	1:A:710:G:C8	2.40	0.57
1:A:1081:U:H2'	1:A:1082:U:O4'	2.04	0.57
1:A:1188:U:O2'	1:A:1189:A:H5'	2.05	0.57
1:A:1452:A:O3'	13:R:77:ARG:NH2	2.38	0.57
1:A:1897:G:H2'	1:A:1898:U:O4'	2.05	0.57
1:A:2114:A:H3'	1:A:2115:G:H8	1.70	0.57
1:A:2533:A:H2'	1:A:2534:A:O4'	2.05	0.57
1:A:2810:A:H4'	4:E:61:ARG:HD3	1.87	0.57
1:A:2849:U:O4	15:T:23:ARG:NH1	2.35	0.57
2:B:4:C:H2'	2:B:5:C:C6	2.40	0.57
3:D:95:LEU:O	3:D:102:LYS:HA	2.04	0.57
6:G:145:THR:HG22	6:G:148:MET:CE	2.35	0.57
7:H:149:ARG:HD3	7:H:154:PRO:HD3	1.86	0.57
8:I:93:THR:N	8:I:96:ASP:OD2	2.38	0.57
10:O:15:GLY:O	10:O:47:ILE:N	2.29	0.57
10:O:20:MET:CE	10:O:44:LYS:HE3	2.34	0.57
17:V:58:VAL:HG21	17:V:100:ARG:HE	1.70	0.57
23:1:25:LYS:HA	23:1:29:GLY:O	2.04	0.57
32:a:46:G:H2'	32:a:366:C:C5	2.39	0.57
32:a:884:U:H4'	32:a:885:G:H5"	1.86	0.57
32:a:990:C:O2'	32:a:991:U:H5'	2.05	0.57
32:a:1504:G:OP1	32:a:1507:A:H4'	2.05	0.57
33:b:71:VAL:HG23	33:b:164:VAL:HA	1.86	0.57
33:b:221:LEU:HD22	33:b:224:GLN:HE21	1.68	0.57
34:c:30:ARG:HG3	45:n:37:PHE:O	2.05	0.57
35:d:70:ILE:HD11	35:d:74:GLN:HB3	1.86	0.57
37:f:30:LEU:HB3	37:f:35:ALA:HB3	1.86	0.57
40:i:95:LYS:O	40:i:99:LEU:HD13	2.04	0.57
43:l:89:ARG:HA	43:l:97:ARG:HA	1.86	0.57
46:o:35:ARG:CZ	46:o:59:MET:HE2	2.35	0.57
47:p:3:LYS:HG2	47:p:65:GLN:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:z:11:C:H2'	55:z:12:U:H6	1.69	0.57
56:x:46:G:O2'	56:x:47:C:H5'	2.04	0.57
1:A:132:G:H2'	1:A:133:C:H6	1.70	0.56
1:A:275:G:H2'	1:A:276:A:C4	2.40	0.56
1:A:524:U:O2'	1:A:556:G:OP1	2.23	0.56
1:A:679:C:H2'	1:A:680:G:C8	2.40	0.56
1:A:736:C:O2'	1:A:737:C:H5'	2.05	0.56
1:A:904:C:H2'	1:A:905:U:H6	1.67	0.56
1:A:968:G:H2'	1:A:969:U:C6	2.39	0.56
1:A:1101:U:H2'	1:A:1102:C:H6	1.70	0.56
1:A:1485:G:H2'	1:A:1486:A:H8	1.69	0.56
1:A:2115:G:H5'	1:A:2167:U:H4'	1.87	0.56
1:A:2554:U:H2'	1:A:2555:U:H6	1.70	0.56
4:E:1:MET:O	4:E:84:PHE:HB2	2.05	0.56
12:Q:58:PHE:CZ	12:Q:109:VAL:HG21	2.39	0.56
32:a:185:A:O2'	32:a:186:C:H5'	2.05	0.56
32:a:358:U:H2'	32:a:359:U:C6	2.40	0.56
32:a:1118:C:H2'	32:a:1119:C:H6	1.67	0.56
37:f:10:LEU:CD1	37:f:85:VAL:HG22	2.35	0.56
39:h:95:VAL:HA	39:h:99:GLU:OE2	2.05	0.56
54:C:13:LYS:HD3	54:C:32:LEU:HD21	1.87	0.56
55:z:69:G:C2'	55:z:70:G:H5"	2.34	0.56
1:A:414:C:H2'	1:A:415:A:H8	1.70	0.56
1:A:1188:U:H2'	1:A:1189:A:H8	1.70	0.56
1:A:1333:C:H2'	1:A:1334:G:H8	1.69	0.56
1:A:1675:C:C2'	1:A:1676:A:H5'	2.34	0.56
1:A:1827:C:H2'	1:A:1828:G:O4'	2.05	0.56
1:A:2123:G:O2'	54:C:174:PRO:HD3	2.05	0.56
1:A:2152:G:H2'	1:A:2153:G:C8	2.40	0.56
1:A:2206:G:H3'	1:A:2207:G:N7	2.20	0.56
1:A:2296:U:OP2	14:S:9:ARG:NH2	2.26	0.56
1:A:2408:U:H2'	1:A:2409:G:C8	2.39	0.56
1:A:2705:A:O2'	1:A:2852:G:OP1	2.23	0.56
1:A:2809:A:OP2	1:A:2891:G:N1	2.24	0.56
1:A:2873:A:O2'	1:A:2874:C:H5'	2.05	0.56
2:B:5:C:O2'	2:B:6:C:H5'	2.05	0.56
5:F:10:PRO:HB3	5:F:17:ARG:HE	1.68	0.56
6:G:138:GLN:NE2	6:G:151:ALA:O	2.22	0.56
17:V:1:MET:SD	17:V:42:GLY:HA3	2.45	0.56
17:V:57:VAL:HG12	17:V:99:ILE:HG12	1.87	0.56
20:Y:6:HIS:ND1	20:Y:7:VAL:HG23	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:47:LYS:HD3	20:Y:48:ALA:O	2.05	0.56
29:7:12:ARG:HH21	29:7:44:PRO:HB3	1.70	0.56
32:a:65:U:P	32:a:71:C:C5	2.98	0.56
32:a:73:G:H2'	32:a:76:C:O4'	2.05	0.56
32:a:278:G:N2	48:q:95:TYR:HB3	2.19	0.56
32:a:581:G:O2'	32:a:582:U:H5'	2.05	0.56
32:a:930:C:H2'	32:a:931:C:H5"	1.86	0.56
32:a:1071:C:H2'	32:a:1072:G:C8	2.39	0.56
32:a:1424:C:H2'	32:a:1425:U:O4'	2.05	0.56
35:d:57:ARG:NH2	36:e:111:GLU:OE2	2.38	0.56
35:d:173:TRP:HZ3	35:d:193:ASP:HB3	1.70	0.56
54:C:75:LEU:HA	54:C:93:TYR:CB	2.31	0.56
1:A:185:U:H2'	1:A:186:G:H8	1.70	0.56
1:A:272(G):C:H2'	1:A:272(H):G:C8	2.41	0.56
1:A:359:A:H2'	1:A:360:G:O4'	2.05	0.56
1:A:582:G:H2'	1:A:583:G:C8	2.40	0.56
1:A:614(D):A:H4'	5:F:182:ASN:ND2	2.21	0.56
1:A:641:C:H2'	1:A:642:G:O4'	2.05	0.56
1:A:652(A):C:H2'	1:A:652(B):A:C4	2.40	0.56
1:A:1059:G:H2'	1:A:1060:U:C6	2.41	0.56
1:A:1097:U:H2'	1:A:1098:A:C4'	2.35	0.56
1:A:1364:G:N7	23:1:3:LYS:HD2	2.21	0.56
1:A:1569:A:O4'	3:D:59:LYS:NZ	2.32	0.56
1:A:1588:C:H2'	1:A:1589:C:C6	2.40	0.56
1:A:1656:C:H2'	1:A:1657:C:C6	2.40	0.56
1:A:1849:G:H2'	1:A:1850:G:H8	1.70	0.56
1:A:2207:G:H2'	1:A:2208:A:C2	2.41	0.56
1:A:2313:C:O2'	1:A:2314:C:H5'	2.05	0.56
1:A:2457:U:O2'	1:A:2458:G:H5'	2.05	0.56
1:A:2732:G:H3'	1:A:2733:A:C4'	2.36	0.56
1:A:2785:C:OP1	4:E:41:LYS:NZ	2.32	0.56
1:A:2827:C:O2'	1:A:2828:C:H5'	2.06	0.56
1:A:2852:G:H2'	1:A:2853:C:H6	1.69	0.56
2:B:75:G:O2'	21:Z:10:ARG:NH2	2.38	0.56
7:H:16:SER:OG	7:H:27:LYS:HB2	2.05	0.56
7:H:31:GLY:HA3	7:H:136:ILE:CD1	2.35	0.56
7:H:35:VAL:CG1	7:H:71:LEU:HD22	2.31	0.56
7:H:64:LEU:O	7:H:68:THR:OG1	2.18	0.56
10:O:2:ILE:HB	10:O:33:ALA:HB3	1.86	0.56
10:O:61:VAL:O	10:O:84:ALA:HA	2.04	0.56
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:74:TYR:HD2	12:Q:91:GLU:HB2	1.70	0.56
28:6:40:CYS:HB3	28:6:43:CYS:HB2	1.87	0.56
32:a:61:G:H2'	32:a:62:U:C6	2.40	0.56
32:a:256:U:H2'	32:a:257:G:C8	2.41	0.56
32:a:261:U:O4	51:t:83:ARG:NH2	2.39	0.56
32:a:273:A:O2'	32:a:274:A:H5'	2.04	0.56
32:a:312:C:H2'	32:a:313:A:H8	1.69	0.56
32:a:403:C:O2'	32:a:404:U:H5'	2.05	0.56
32:a:409:G:OP2	35:d:22:LYS:HB3	2.05	0.56
32:a:583:A:H2'	32:a:584:G:O4'	2.06	0.56
32:a:768:A:H4'	32:a:1523:G:N2	2.20	0.56
32:a:833:U:H2'	32:a:834:C:C6	2.39	0.56
32:a:1016:A:H2'	32:a:1017:G:O4'	2.05	0.56
32:a:1160:G:N1	32:a:1176:A:C2	2.58	0.56
32:a:1172:C:H2'	32:a:1173:G:H8	1.70	0.56
32:a:1188:A:H2'	32:a:1189:C:O4'	2.05	0.56
32:a:1206:G:H2'	32:a:1207:2MG:O4'	2.05	0.56
32:a:1228:C:H4'	44:m:115:LYS:O	2.05	0.56
32:a:1373:G:OP2	40:i:71:SER:OG	2.17	0.56
32:a:1407:5MC:H2'	32:a:1408:A:H8	1.69	0.56
33:b:102:LEU:HB3	33:b:180:LEU:CD1	2.35	0.56
37:f:2:ARG:C	37:f:66:GLU:HG3	2.30	0.56
37:f:2:ARG:HB2	37:f:4:TYR:CE2	2.41	0.56
38:g:66:VAL:HG12	38:g:70:LYS:HE3	1.85	0.56
39:h:50:ARG:HA	39:h:59:LEU:HD23	1.86	0.56
45:n:9:LYS:O	45:n:12:ARG:HG3	2.05	0.56
46:o:87:ILE:HG22	46:o:88:ARG:H	1.70	0.56
51:t:11:SER:O	51:t:14:LYS:HB3	2.06	0.56
51:t:36:LEU:CD1	51:t:62:LEU:HD12	2.34	0.56
53:y:8:U:H3	53:y:14:A:H8	1.44	0.56
54:C:104:LEU:N	54:C:105:ASP:HA	2.20	0.56
55:z:66:U:H2'	55:z:67:C:H6	1.71	0.56
56:x:44:G:H4'	56:x:45:C:C5	2.36	0.56
1:A:26:G:H1'	1:A:514:A:N6	2.19	0.56
1:A:273(G):C:H2'	1:A:273(H):C:H6	1.69	0.56
1:A:406:G:H2'	1:A:407:G:O4'	2.04	0.56
1:A:410:G:OP1	1:A:411:G:H5'	2.05	0.56
1:A:583:G:OP2	16:U:10:ARG:HD2	2.04	0.56
1:A:994:C:O2	17:V:10:LYS:NZ	2.29	0.56
1:A:1827:C:OP2	3:D:222:ARG:HD2	2.05	0.56
1:A:2065:C:H1'	1:A:2449:U:H3	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2072:G:H2'	1:A:2073:C:C6	2.39	0.56
1:A:2300:G:H2'	1:A:2301:C:H6	1.70	0.56
1:A:2393:A:O3'	11:P:63:PRO:HA	2.06	0.56
2:B:43:C:H4'	6:G:98:ARG:NH2	2.21	0.56
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.40	0.56
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.40	0.56
6:G:66:GLN:OE1	6:G:98:ARG:NE	2.34	0.56
6:G:113:ARG:NH1	6:G:140:ILE:O	2.38	0.56
17:V:16:PRO:HA	17:V:96:ILE:HG22	1.88	0.56
18:W:1:MET:HE2	18:W:62:HIS:ND1	2.21	0.56
20:Y:26:LYS:H	20:Y:40:GLU:HB3	1.70	0.56
21:Z:117:LEU:HD13	21:Z:174:VAL:HG22	1.86	0.56
30:8:52:LYS:O	30:8:56:GLU:HG3	2.05	0.56
32:a:113:G:H2'	32:a:114:U:H6	1.70	0.56
32:a:1104:G:H4'	33:b:111:ARG:CZ	2.34	0.56
32:a:1362:C:C2'	32:a:1363(A):C:H5"	2.36	0.56
34:c:25:GLY:O	34:c:29:TYR:N	2.36	0.56
35:d:162:LEU:CD1	35:d:181:MET:HG2	2.35	0.56
38:g:136:LYS:HD3	38:g:139:GLU:OE1	2.05	0.56
40:i:22:GLY:HA3	40:i:60:ASP:OD2	2.06	0.56
40:i:70:LYS:O	40:i:74:ILE:HG13	2.05	0.56
40:i:76:ALA:O	40:i:80:GLY:N	2.32	0.56
44:m:65:LYS:O	44:m:70:LEU:HD12	2.05	0.56
49:r:61:LYS:O	49:r:65:ILE:HG12	2.05	0.56
54:C:74:VAL:HG11	54:C:153:ILE:CG1	2.35	0.56
1:A:65:C:H2'	1:A:66:C:C6	2.41	0.56
1:A:519:U:H2'	1:A:520:G:C8	2.41	0.56
1:A:640:C:H2'	1:A:641:C:H6	1.70	0.56
1:A:963:U:O2'	1:A:964:C:H5'	2.05	0.56
1:A:1446:C:H2'	1:A:1447:G:C8	2.39	0.56
1:A:1469:A:H2'	1:A:1470:G:O4'	2.04	0.56
1:A:1669:A:H5"	1:A:2550:G:OP1	2.06	0.56
1:A:2147:G:H2'	1:A:2148:G:O4'	2.05	0.56
1:A:2180:U:H5"	1:A:2181:G:P	2.45	0.56
1:A:2776:A:H4'	1:A:2777:G:C5'	2.35	0.56
1:A:2818:G:O2'	1:A:2819:G:H5'	2.05	0.56
3:D:76:PRO:HG2	3:D:98:VAL:CG1	2.35	0.56
5:F:17:ARG:NH1	5:F:19:GLU:OE2	2.34	0.56
5:F:64:ILE:HD12	5:F:65:TRP:CZ3	2.41	0.56
6:G:23:PHE:HB2	6:G:25:TYR:CE2	2.40	0.56
9:N:15:LEU:HD21	9:N:55:VAL:HG13	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:O:68:GLU:HB3	10:O:78:ARG:HB2	1.86	0.56
15:T:23:ARG:HH21	15:T:120:ARG:HE	1.52	0.56
15:T:34:VAL:O	15:T:40:THR:HA	2.04	0.56
30:8:14:VAL:HG22	30:8:24:ALA:HB2	1.88	0.56
30:8:48:PHE:CE2	30:8:50:LEU:HD23	2.41	0.56
32:a:62:U:H3	32:a:98:G:C2'	2.11	0.56
32:a:149:A:H2'	32:a:150:C:C6	2.40	0.56
32:a:223:U:H2'	32:a:224:C:C6	2.41	0.56
32:a:509:A:H4'	32:a:510:A:OP1	2.05	0.56
32:a:519:C:H2'	32:a:520:A:O4'	2.05	0.56
32:a:677:U:O2	32:a:777:A:O2'	2.23	0.56
32:a:1025:U:H3	32:a:1036:G:H1	1.54	0.56
32:a:1357:A:H2'	32:a:1358:U:C6	2.40	0.56
35:d:19:LEU:HD23	35:d:67:ILE:HG12	1.86	0.56
36:e:81:GLU:HG2	36:e:90:VAL:HG13	1.87	0.56
44:m:51:ALA:HA	44:m:54:VAL:HG22	1.87	0.56
50:s:17:GLU:O	50:s:21:GLU:HG3	2.04	0.56
53:y:10:G:H3'	53:y:10:G:OP2	2.06	0.56
54:C:42:GLU:OE1	54:C:44:HIS:NE2	2.25	0.56
54:C:46:LYS:HG2	54:C:210:ARG:NH1	2.13	0.56
55:z:2:C:H2'	55:z:3:C:C6	2.40	0.56
55:z:46:G:O2'	55:z:48:C:OP2	2.24	0.56
1:A:118:A:H2'	1:A:120:U:O4	2.05	0.56
1:A:187:G:H3'	1:A:188:G:H5"	1.86	0.56
1:A:1220:A:OP2	16:U:19:LYS:NZ	2.29	0.56
1:A:1266:G:N7	18:W:15:ARG:HD3	2.21	0.56
1:A:1615:C:OP2	1:A:1617:C:N4	2.24	0.56
1:A:1756:G:O2'	1:A:1757:U:H5"	2.06	0.56
1:A:1876:A:H2'	1:A:1877:A:C1'	2.35	0.56
1:A:2111:C:H4'	1:A:2119:A:OP1	2.06	0.56
1:A:2144:U:H2'	1:A:2146:C:C4	2.41	0.56
1:A:2504:U:O2'	4:E:144:ARG:NH2	2.39	0.56
2:B:8:U:O2'	14:S:40:ILE:HD13	2.05	0.56
2:B:18:G:H2'	2:B:19:G:C8	2.41	0.56
8:I:38:LEU:HD23	8:I:39:ALA:N	2.21	0.56
20:Y:63:LYS:HG2	20:Y:64:GLU:H	1.70	0.56
23:1:47:GLN:O	23:1:61:ARG:HA	2.05	0.56
28:6:5:VAL:O	28:6:27:LYS:HG2	2.05	0.56
32:a:64:G:O2'	32:a:71:C:O4'	2.24	0.56
32:a:189(K):G:H2'	32:a:189(L):U:C6	2.41	0.56
32:a:313:A:H2'	32:a:314:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:691:G:OP2	42:k:26:ASN:HB2	2.05	0.56
32:a:771:G:O2'	32:a:772:U:H5'	2.05	0.56
32:a:813:U:O2'	32:a:814:A:H5'	2.06	0.56
32:a:908:A:H2'	32:a:909:A:H8	1.69	0.56
32:a:908:A:H2'	32:a:909:A:C8	2.40	0.56
32:a:1011:G:H2'	32:a:1012:U:O4'	2.05	0.56
32:a:1064:G:H1'	32:a:1190:G:N2	2.21	0.56
32:a:1239:A:O2'	38:g:114:ARG:O	2.12	0.56
33:b:144:ARG:O	33:b:147:LYS:HB3	2.06	0.56
36:e:63:ARG:NH2	56:x:55:A:OP1	2.38	0.56
36:e:102:ALA:H	36:e:107:ARG:HH21	1.53	0.56
43:l:79:GLU:HG2	43:l:80:HIS:CD2	2.40	0.56
45:n:8:GLU:OE1	45:n:11:LYS:HD2	2.06	0.56
1:A:85:G:O5'	20:Y:30:VAL:HB	2.06	0.56
1:A:272(K):U:H1'	1:A:272(M):G:N2	2.19	0.56
1:A:707:G:H1	1:A:724:U:H3	1.53	0.56
1:A:1035:U:H2'	1:A:1036:G:H8	1.70	0.56
1:A:1077:A:H2'	1:A:1078:U:O4'	2.05	0.56
1:A:1140:C:O2'	1:A:1143:A:O2'	2.18	0.56
1:A:1462:C:H4'	1:A:2703:C:C5'	2.35	0.56
1:A:2141:G:H2'	1:A:2142:C:H6	1.70	0.56
1:A:2173:A:H3'	1:A:2174:C:C6	2.40	0.56
1:A:2611:U:H3'	1:A:2611:U:OP2	2.06	0.56
1:A:2751:G:OP2	7:H:3:ARG:NE	2.39	0.56
1:A:2773:C:O2'	1:A:2774:C:H5'	2.06	0.56
1:A:2888:C:H2'	1:A:2889:C:H6	1.69	0.56
3:D:111:LEU:HD22	3:D:112:GLN:H	1.69	0.56
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.88	0.56
9:N:108:PRO:O	9:N:113:GLY:HA3	2.04	0.56
28:6:9:LEU:HA	28:6:54:ILE:HB	1.88	0.56
30:8:6:THR:HG22	30:8:63:PRO:HD2	1.87	0.56
32:a:93:G:O5'	32:a:100:C:H2'	2.05	0.56
32:a:407:G:H2'	32:a:408:A:C8	2.40	0.56
32:a:553:A:O4'	43:l:31:PRO:HA	2.06	0.56
32:a:1130:A:H5'	40:i:18:PHE:CE2	2.40	0.56
32:a:1148:U:OP1	40:i:7:THR:HG21	2.06	0.56
32:a:1234:C:O2'	32:a:1235:U:H5'	2.06	0.56
32:a:1534:A:O2'	32:a:1535:C:O5'	2.20	0.56
33:b:97:TRP:HZ3	33:b:172:ILE:HG22	1.71	0.56
33:b:187:LEU:HD13	33:b:188:ALA:N	2.21	0.56
35:d:112:VAL:HG13	35:d:161:ASN:ND2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:160:GLN:HA	35:d:163:GLU:OE1	2.05	0.56
44:m:91:ARG:NH2	44:m:96:LEU:HB3	2.20	0.56
48:q:56:VAL:HG12	48:q:77:VAL:HB	1.87	0.56
52:u:5:ASP:O	52:u:11:GLY:HA3	2.06	0.56
54:C:146:GLY:HA3	54:C:152:ILE:HD11	1.87	0.56
1:A:189:G:OP2	23:1:14:VAL:HG11	2.06	0.56
1:A:272(B):C:O2'	1:A:272(C):C:H5'	2.06	0.56
1:A:276:A:H4'	1:A:278:A:C5	2.41	0.56
1:A:449:A:H2'	1:A:450:G:O4'	2.06	0.56
1:A:589:C:O2'	1:A:590:A:H5'	2.06	0.56
1:A:647:G:H2'	1:A:648:G:O4'	2.06	0.56
1:A:853:G:O2'	1:A:854:G:H5'	2.05	0.56
1:A:983:A:H2'	1:A:984:A:C8	2.40	0.56
1:A:1167:U:H2'	1:A:1168:G:C8	2.41	0.56
1:A:1286:A:H1'	1:A:1288:U:OP2	2.06	0.56
1:A:1510:G:H2'	1:A:1511:C:H6	1.71	0.56
1:A:1581:G:H2'	1:A:1582:C:C6	2.41	0.56
1:A:1797:C:O5'	3:D:274:ARG:NH2	2.39	0.56
1:A:1851:U:H2'	1:A:1852:C:O4'	2.06	0.56
1:A:2379:G:H2'	1:A:2380:C:C6	2.41	0.56
1:A:2386:C:H2'	1:A:2387:U:C6	2.41	0.56
1:A:2549:G:O2'	1:A:2550:G:H5'	2.05	0.56
1:A:2722:G:O2'	1:A:2723:C:H5'	2.04	0.56
1:A:2819:G:H2'	1:A:2821:A:N7	2.21	0.56
1:A:2859:G:H2'	1:A:2860:A:C8	2.40	0.56
2:B:4:C:H2'	2:B:5:C:H6	1.71	0.56
4:E:50:GLY:C	4:E:75:VAL:HG21	2.29	0.56
4:E:97:LYS:HB2	4:E:100:GLU:OE2	2.06	0.56
5:F:177:ALA:HB1	5:F:178:PRO:HD2	1.88	0.56
14:S:19:LYS:HE2	14:S:42:ASP:CG	2.30	0.56
16:U:98:LEU:O	16:U:102:GLU:N	2.34	0.56
26:4:61:ARG:O	26:4:61:ARG:HD3	2.06	0.56
32:a:22:G:H2'	32:a:23:C:C6	2.41	0.56
32:a:24:U:O2'	32:a:25:C:H5'	2.06	0.56
32:a:113:G:H2'	32:a:114:U:C6	2.41	0.56
32:a:624:C:H4'	47:p:10:GLY:C	2.30	0.56
32:a:632:A:H2'	32:a:633:G:H5'	1.87	0.56
32:a:1038:C:H2'	32:a:1039:C:H6	1.69	0.56
32:a:1141:C:H2'	32:a:1142:G:C8	2.40	0.56
34:c:88:ARG:HA	34:c:91:LEU:HB3	1.87	0.56
35:d:12:CYS:SG	35:d:19:LEU:HB2	2.46	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:e:15:ARG:NH2	56:x:22:U:O2'	2.38	0.56
37:f:10:LEU:CD2	37:f:61:LEU:HD13	2.34	0.56
41:j:12:ASP:OD1	41:j:13:HIS:N	2.39	0.56
49:r:22:VAL:O	49:r:26:LEU:HD23	2.06	0.56
1:A:130:C:H2'	1:A:131:G:H5"	1.88	0.56
1:A:305:U:H2'	1:A:306:U:C6	2.41	0.56
1:A:1476:C:O2'	1:A:1477:A:H5'	2.06	0.56
1:A:1790:C:O2'	3:D:209:ALA:HB2	2.06	0.56
1:A:1889:A:H2'	1:A:1890:A:C8	2.40	0.56
1:A:2076:U:OP2	1:A:2238:G:N2	2.23	0.56
1:A:2235:G:H2'	1:A:2236:C:C6	2.40	0.56
1:A:2722:G:H5'	13:R:4:LEU:HD12	1.87	0.56
3:D:16:MET:HE2	3:D:211:ARG:CD	2.35	0.56
3:D:35:LYS:HB2	3:D:36:PRO:HD2	1.88	0.56
4:E:54:GLN:NE2	4:E:76:ARG:HG2	2.21	0.56
6:G:94:LEU:HD22	6:G:98:ARG:HB3	1.87	0.56
10:O:98:VAL:CG2	10:O:118:ALA:HA	2.36	0.56
12:Q:42:ILE:HD13	12:Q:97:VAL:HG21	1.88	0.56
21:Z:7:ALA:O	21:Z:62:PRO:HD3	2.05	0.56
32:a:376:G:H4'	47:p:5:ARG:HD2	1.88	0.56
32:a:430:A:OP2	35:d:22:LYS:NZ	2.27	0.56
32:a:1518:MA6:H93	32:a:1519:MA6:H102	1.88	0.56
33:b:163:PHE:HA	33:b:185:ILE:O	2.06	0.56
38:g:131:LYS:N	38:g:135:VAL:HG21	2.21	0.56
50:s:35:SER:HB3	50:s:38:SER:OG	2.05	0.56
51:t:22:ARG:HG2	51:t:25:ARG:NH2	2.21	0.56
53:y:21:A:N6	53:y:46:G:H2'	2.20	0.56
54:C:137:LEU:HD22	54:C:138:PRO:HD2	1.88	0.56
55:z:18:G:N2	55:z:57:G:H3'	2.20	0.56
1:A:329:G:OP2	20:Y:71:LYS:HD2	2.06	0.56
1:A:419:C:O2'	1:A:420:C:H5'	2.06	0.56
1:A:464:U:O2'	1:A:465:G:H5'	2.06	0.56
1:A:517:C:OP1	27:5:16:ARG:NH2	2.39	0.56
1:A:702:G:H2'	1:A:703:U:C6	2.40	0.56
1:A:707:G:H2'	1:A:708:C:C6	2.41	0.56
1:A:1049:C:H3'	1:A:1050:A:C8	2.41	0.56
1:A:1368:G:O2'	1:A:1369:G:H5'	2.06	0.56
1:A:1541:G:OP2	1:A:1542:A:O2'	2.23	0.56
1:A:1580:A:H3'	1:A:1581:G:C8	2.37	0.56
1:A:1607:C:H4'	1:A:1608:A:C5'	2.36	0.56
1:A:2098:U:H2'	1:A:2099:U:H6	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2099:U:H2'	1:A:2100:G:C8	2.41	0.56
1:A:2148:G:H2'	1:A:2149:G:C8	2.41	0.56
1:A:2293:C:H2'	1:A:2294:C:H6	1.71	0.56
1:A:2526:G:H2'	1:A:2527:C:H6	1.69	0.56
1:A:2661:G:H2'	1:A:2662:A:O4'	2.06	0.56
1:A:2750:A:H1'	1:A:2752:C:N4	2.20	0.56
12:Q:32:TYR:HD2	12:Q:114:ALA:HB3	1.70	0.56
12:Q:62:GLY:O	21:Z:116:VAL:HG21	2.05	0.56
12:Q:109:VAL:HG12	12:Q:110:THR:O	2.05	0.56
19:X:73:ARG:HB3	19:X:74:PRO:HD2	1.88	0.56
23:1:56:GLN:HG3	23:1:90:ILE:CD1	2.35	0.56
32:a:41:G:O2'	32:a:42:G:H5'	2.06	0.56
32:a:913:A:H4'	32:a:914:A:O5'	2.06	0.56
32:a:1224:G:O2'	50:s:78:ARG:NH1	2.37	0.56
32:a:1351:U:O2'	32:a:1352:C:H5'	2.06	0.56
33:b:71:VAL:HG21	33:b:164:VAL:HG22	1.87	0.56
36:e:39:GLY:O	36:e:69:VAL:HG12	2.06	0.56
37:f:25:ILE:HA	37:f:28:ARG:HB2	1.88	0.56
44:m:52:GLU:HA	44:m:55:ARG:NH1	2.21	0.56
44:m:95:GLY:O	44:m:110:ARG:HG3	2.06	0.56
56:x:35:G:H2'	56:x:36:C:H6	1.71	0.56
1:A:20:C:H2'	1:A:21:A:C8	2.41	0.55
1:A:86:C:H4'	1:A:104:U:H1'	1.87	0.55
1:A:1232:G:H2'	1:A:1233:C:C6	2.41	0.55
1:A:1557:C:H3'	1:A:1558:A:H2'	1.86	0.55
1:A:1582:C:H2'	1:A:1583:A:C8	2.39	0.55
1:A:1745(A):C:O2'	1:A:1745(B):C:H5'	2.06	0.55
1:A:2037:G:O2'	1:A:2038:G:H5'	2.06	0.55
1:A:2630:G:O2'	1:A:2631:G:H5'	2.06	0.55
1:A:2694:G:H2'	1:A:2695:C:C6	2.40	0.55
3:D:53:PHE:HZ	3:D:221:VAL:HG12	1.69	0.55
8:I:13:GLY:HA3	8:I:17:GLN:OE1	2.05	0.55
8:I:114:LEU:HD22	8:I:115:ALA:H	1.71	0.55
14:S:67:ARG:HD2	14:S:100:ALA:O	2.05	0.55
15:T:64:ARG:HD3	15:T:73:GLU:HG2	1.87	0.55
20:Y:81:LYS:HB3	20:Y:101:LYS:HZ1	1.71	0.55
32:a:73:G:H5"	32:a:200:G:P	2.46	0.55
32:a:132:C:H5'	32:a:262:A:O2'	2.06	0.55
32:a:604:G:H2'	32:a:605:U:O4'	2.05	0.55
32:a:975:A:H4'	32:a:976:G:C5'	2.28	0.55
32:a:1221:G:O2'	50:s:77:THR:OG1	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1241:G:H2'	32:a:1242:C:C6	2.41	0.55
32:a:1245:A:H2'	32:a:1246:C:C6	2.41	0.55
32:a:1298:C:H4'	32:a:1299:A:O4'	2.06	0.55
32:a:1310:G:O2'	32:a:1311:G:H5'	2.06	0.55
32:a:1525:G:O2'	32:a:1526:G:H5'	2.06	0.55
33:b:97:TRP:CZ3	33:b:172:ILE:HG22	2.41	0.55
37:f:30:LEU:HD13	37:f:37:VAL:CG2	2.36	0.55
40:i:25:LYS:HE2	40:i:25:LYS:HA	1.88	0.55
41:j:74:ILE:HG12	41:j:76:ASN:O	2.06	0.55
54:C:74:VAL:HG11	54:C:153:ILE:CD1	2.36	0.55
1:A:273(J):U:H2'	1:A:273(K):C:C6	2.42	0.55
1:A:477:A:H2'	1:A:478:A:O4'	2.07	0.55
1:A:594:U:H2'	1:A:595:C:C6	2.42	0.55
1:A:696:G:O2'	1:A:697:C:H5'	2.07	0.55
1:A:1067:A:N3	1:A:1095:A:H1'	2.21	0.55
1:A:1703:G:H2'	1:A:1704:G:H8	1.70	0.55
1:A:1796:U:H2'	1:A:1797:C:H6	1.69	0.55
1:A:2658:C:H2'	1:A:2659:G:O4'	2.06	0.55
1:A:2693:A:O2'	1:A:2694:G:H5'	2.06	0.55
3:D:53:PHE:CZ	3:D:221:VAL:HG12	2.41	0.55
4:E:167:VAL:HG22	4:E:170:LEU:HD11	1.88	0.55
5:F:81:PRO:CB	5:F:89:VAL:HG23	2.37	0.55
6:G:11:TYR:O	6:G:16:ARG:HG2	2.06	0.55
11:P:90:ARG:HG3	11:P:91:PHE:CD1	2.41	0.55
18:W:11:ARG:O	18:W:11:ARG:HD3	2.06	0.55
23:1:2:SER:HA	23:1:61:ARG:HH12	1.72	0.55
23:1:56:GLN:HE21	23:1:87:PRO:HG3	1.71	0.55
32:a:66:G:N3	32:a:173:U:H2'	2.21	0.55
32:a:123:C:OP1	32:a:312:C:H5'	2.06	0.55
32:a:375:U:OP2	47:p:69:THR:HG21	2.06	0.55
32:a:416:G:H2'	32:a:417:C:C6	2.42	0.55
32:a:427:U:O2'	32:a:541:G:OP1	2.23	0.55
32:a:500:G:H2'	32:a:501:C:C6	2.41	0.55
32:a:538:G:H2'	32:a:539:A:H8	1.71	0.55
32:a:582:U:H2'	32:a:583:A:C8	2.42	0.55
32:a:765:G:N1	32:a:812:C:O2'	2.36	0.55
32:a:883:C:O2'	32:a:884:U:H5'	2.06	0.55
32:a:1047:G:H5"	45:n:4:LYS:CD	2.35	0.55
32:a:1112:C:O2'	34:c:179:ARG:HD3	2.06	0.55
32:a:1230:C:O2'	32:a:1231:G:H5'	2.05	0.55
32:a:1410:G:H2'	32:a:1411:C:H6	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:28:PHE:CD1	33:b:194:PRO:HG3	2.40	0.55
35:d:101:LEU:O	35:d:105:VAL:HG23	2.06	0.55
47:p:20:VAL:HG23	47:p:34:GLU:O	2.07	0.55
50:s:32:LYS:HE3	50:s:57:HIS:CD2	2.42	0.55
53:y:19:G:H3'	53:y:20:U:C5	2.41	0.55
54:C:26:ALA:O	54:C:29:VAL:HG12	2.06	0.55
1:A:234:C:H2'	1:A:235:U:C6	2.42	0.55
1:A:387:U:P	23:1:20:ARG:HH12	2.29	0.55
1:A:491:G:O6	18:W:49:LYS:HE2	2.06	0.55
1:A:553:G:H2'	1:A:554:U:C6	2.41	0.55
1:A:603:A:N1	1:A:625:G:O2'	2.33	0.55
1:A:720:C:H2'	1:A:721:C:C6	2.41	0.55
1:A:877:U:O2'	1:A:878:A:O4'	2.23	0.55
1:A:912:C:O2'	1:A:913:U:H5'	2.06	0.55
1:A:1353:A:H2'	1:A:1354:A:C8	2.41	0.55
1:A:1358:G:N1	1:A:1372:U:OP2	2.23	0.55
1:A:1831:G:O2'	1:A:1832:C:H5'	2.06	0.55
1:A:2788:C:H1'	1:A:2809:A:N3	2.21	0.55
16:U:59:ARG:O	16:U:63:VAL:HG23	2.06	0.55
16:U:94:ASN:HB3	17:V:4:ILE:HD13	1.88	0.55
32:a:67:C:O2'	32:a:171:A:H1'	2.05	0.55
32:a:226:G:O2'	32:a:227:G:H5'	2.07	0.55
32:a:526:C:P	43:l:91:LYS:HE3	2.46	0.55
32:a:625:G:OP1	47:p:9:PHE:HB3	2.06	0.55
32:a:1249:C:O2'	40:i:68:GLY:O	2.22	0.55
33:b:75:LYS:CA	33:b:78:GLN:HB2	2.31	0.55
35:d:121:VAL:HG11	35:d:136:PRO:HA	1.87	0.55
35:d:155:LEU:O	35:d:159:ARG:HG3	2.05	0.55
36:e:91:LEU:HG	36:e:120:THR:CG2	2.33	0.55
44:m:96:LEU:C	44:m:110:ARG:HG2	2.32	0.55
50:s:40:ILE:HA	50:s:44:MET:SD	2.46	0.55
53:y:69:C:H2'	53:y:70:G:C8	2.42	0.55
54:C:64:LEU:HD22	54:C:191:ALA:HB3	1.87	0.55
55:z:41:C:H2'	55:z:42:C:C2	2.41	0.55
1:A:111:A:H2'	1:A:112:U:C6	2.41	0.55
1:A:272(A):A:O2'	1:A:364:C:O2'	2.23	0.55
1:A:878:A:H3'	1:A:879:G:H8	1.71	0.55
1:A:994:C:OP1	16:U:53:ARG:NH2	2.39	0.55
1:A:1005:C:O2'	9:N:28:THR:HG21	2.06	0.55
1:A:1074:G:C2	1:A:1075:C:H1'	2.42	0.55
1:A:1143:A:N6	9:N:25:ARG:HD3	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1192:G:OP2	11:P:17:LYS:NZ	2.27	0.55
1:A:1241:A:H2'	1:A:1242:A:C8	2.42	0.55
1:A:1410:G:H2'	1:A:1411:C:H6	1.70	0.55
1:A:1429:G:H2'	1:A:1430:C:C6	2.42	0.55
1:A:1661:G:O2'	1:A:1662:C:H5'	2.07	0.55
1:A:2273:A:H2'	1:A:2274:A:C8	2.41	0.55
1:A:2443:C:OP1	5:F:68:LYS:HD3	2.06	0.55
1:A:2538:C:H2'	1:A:2539:C:C6	2.41	0.55
1:A:2774:C:H2'	1:A:2775:A:O4'	2.06	0.55
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.88	0.55
9:N:21:LYS:HD3	9:N:26:LEU:HD13	1.87	0.55
12:Q:4:PRO:HD2	12:Q:93:TYR:CD2	2.41	0.55
12:Q:63:LYS:HB2	21:Z:116:VAL:HG11	1.88	0.55
19:X:12:VAL:CG2	19:X:27:THR:HG22	2.37	0.55
21:Z:6:LYS:HD2	21:Z:8:TYR:OH	2.06	0.55
32:a:129(B):G:N2	32:a:189(H):G:OP2	2.36	0.55
32:a:314:C:O2'	32:a:315:A:H5'	2.06	0.55
32:a:340:U:H2'	32:a:341:C:C6	2.41	0.55
32:a:439:A:H2'	32:a:441:A:O4'	2.06	0.55
32:a:447:G:O6	32:a:485:G:O2'	2.15	0.55
32:a:992:U:H4'	32:a:993:G:O5'	2.05	0.55
40:i:14:VAL:HG22	40:i:66:ARG:O	2.06	0.55
44:m:15:VAL:HG13	44:m:43:THR:O	2.06	0.55
44:m:59:TYR:CZ	44:m:63:THR:HG21	2.42	0.55
47:p:25:ARG:H	47:p:25:ARG:HD2	1.70	0.55
50:s:49:ILE:HD13	50:s:62:ILE:HD13	1.89	0.55
1:A:126:A:O2'	1:A:127:A:O4'	2.16	0.55
1:A:498:G:O2'	1:A:499:U:H5'	2.06	0.55
1:A:637:A:H2'	11:P:117:GLU:OE2	2.07	0.55
1:A:1224:C:H2'	1:A:1225:G:C4	2.41	0.55
1:A:2566:A:N6	10:O:28:SER:HB2	2.20	0.55
1:A:2765:A:H5'	1:A:2766:G:OP2	2.06	0.55
4:E:77:ILE:HG21	4:E:195:LEU:HD22	1.87	0.55
5:F:192:LEU:CD2	5:F:194:MET:HG3	2.37	0.55
6:G:129:GLY:O	6:G:161:THR:HB	2.07	0.55
6:G:135:LEU:HB2	6:G:155:MET:HG2	1.88	0.55
7:H:76:VAL:O	7:H:80:SER:CB	2.54	0.55
12:Q:58:PHE:CE1	12:Q:109:VAL:HG11	2.41	0.55
17:V:5:VAL:O	17:V:11:GLN:HA	2.06	0.55
17:V:35:LEU:HB2	17:V:57:VAL:CG2	2.37	0.55
31:9:4:ARG:O	31:9:37:GLY:N	2.28	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:18:C:H5”	36:e:127:ASN:HD21	1.71	0.55
32:a:91:C:N3	32:a:92:C:N4	2.53	0.55
32:a:116:A:H2’	32:a:117:G:O4’	2.06	0.55
32:a:196:A:O3’	32:a:197:A:H2’	2.05	0.55
32:a:199:G:C2’	32:a:200:G:H5’	2.37	0.55
32:a:250:A:H1’	32:a:252:U:C4	2.41	0.55
32:a:789:U:O2’	32:a:791:G:N7	2.36	0.55
32:a:1440:C:H2’	32:a:1441:G:O4’	2.06	0.55
32:a:1496:C:H2’	32:a:1497:G:C8	2.42	0.55
33:b:48:MET:HA	33:b:51:LEU:CD1	2.33	0.55
33:b:61:LEU:HD23	33:b:68:ILE:CG1	2.37	0.55
35:d:99:SER:HB3	35:d:139:ARG:HG3	1.88	0.55
37:f:4:TYR:HD1	37:f:92:LYS:HA	1.71	0.55
39:h:12:ARG:CD	39:h:26:VAL:HG12	2.37	0.55
41:j:82:ILE:HA	41:j:85:LEU:HD12	1.87	0.55
43:l:26:ALA:HA	43:l:64:TYR:CD2	2.42	0.55
43:l:102:ARG:HD2	43:l:107:ALA:HB1	1.88	0.55
47:p:73:LEU:HA	47:p:76:GLN:HB3	1.88	0.55
48:q:45:HIS:HE2	48:q:47:PRO:HB3	1.70	0.55
54:C:46:LYS:CG	54:C:210:ARG:HD3	2.36	0.55
1:A:216:A:H2’	1:A:217:G:C8	2.42	0.55
1:A:642:G:N2	1:A:644:A:H3’	2.21	0.55
1:A:657:U:H2’	1:A:658:C:C6	2.42	0.55
1:A:691:C:H2’	1:A:692:C:C6	2.41	0.55
1:A:844:C:O2’	1:A:845:G:H5’	2.07	0.55
1:A:1059:G:H2’	1:A:1060:U:C5	2.42	0.55
1:A:1094:U:O3’	1:A:1096:A:H5”	2.06	0.55
1:A:1418:G:H1’	1:A:1581:G:N2	2.21	0.55
1:A:1825:A:H2’	1:A:1826:G:H8	1.72	0.55
1:A:1848:A:H3’	1:A:1848:A:OP2	2.07	0.55
1:A:2024:G:H2’	1:A:2025:C:H6	1.68	0.55
1:A:2393:A:H4’	11:P:62:LEU:O	2.07	0.55
1:A:2393:A:H62	1:A:2422:A:H61	1.53	0.55
1:A:2590:A:H2’	1:A:2591:C:H6	1.71	0.55
1:A:2747:G:O3’	7:H:70:THR:HG21	2.06	0.55
3:D:39:LYS:NZ	3:D:57:GLY:O	2.40	0.55
6:G:37:VAL:HG21	6:G:103:LEU:HD21	1.89	0.55
7:H:13:LYS:HA	7:H:15:VAL:HG22	1.89	0.55
19:X:56:THR:C	19:X:57:LEU:HD12	2.31	0.55
21:Z:13:GLU:CB	21:Z:18:LEU:HD11	2.36	0.55
32:a:8:A:N6	35:d:209:ARG:HB2	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:113:G:H1'	32:a:354:G:H5'	1.89	0.55
32:a:1240:U:C4'	38:g:38:LEU:HD21	2.37	0.55
32:a:1525:G:H2'	32:a:1526:G:C8	2.40	0.55
33:b:43:ASP:O	33:b:47:THR:OG1	2.11	0.55
33:b:118:LEU:CD1	33:b:142:LEU:HD12	2.37	0.55
34:c:134:ILE:HG22	34:c:168:ALA:HB3	1.88	0.55
35:d:129:ASN:OD1	35:d:145:GLU:N	2.28	0.55
37:f:19:LEU:HD23	37:f:23:LYS:HD2	1.88	0.55
41:j:44:VAL:HG22	41:j:66:ARG:HG2	1.88	0.55
44:m:81:LEU:HD23	44:m:84:ILE:HD11	1.89	0.55
47:p:27:LYS:HG3	47:p:30:GLY:N	2.22	0.55
48:q:11:VAL:HG11	48:q:22:LEU:HB2	1.87	0.55
54:C:161:ILE:HB	54:C:173:ALA:HB1	1.89	0.55
1:A:247:G:H4'	1:A:386:G:C4	2.42	0.55
1:A:702:G:H2'	1:A:703:U:H6	1.71	0.55
1:A:786:C:O2'	1:A:787:U:H5'	2.06	0.55
1:A:1186:G:H2'	1:A:1187:G:O4'	2.06	0.55
1:A:1341:U:OP1	1:A:1602:U:O2'	2.19	0.55
1:A:1722:A:H1'	1:A:1739:U:C6	2.42	0.55
1:A:1761:C:H3'	1:A:1762:A:H5"	1.89	0.55
1:A:1848:A:C2'	1:A:1849:G:H5'	2.37	0.55
1:A:2133:G:O2'	1:A:2134:A:O5'	2.25	0.55
1:A:2164:C:H3'	1:A:2165:G:H5'	1.88	0.55
1:A:2261:C:OP1	22:0:19:LYS:NZ	2.21	0.55
1:A:2765:A:H3'	1:A:2766:G:H5'	1.88	0.55
2:B:43:C:O2	6:G:95:ARG:NE	2.23	0.55
3:D:166:GLN:N	3:D:174:ILE:O	2.40	0.55
5:F:140:LEU:CD2	5:F:170:LEU:HD21	2.37	0.55
6:G:142:PRO:HB2	26:4:31:ILE:HG21	1.88	0.55
7:H:40:GLU:OE1	7:H:61:HIS:NE2	2.35	0.55
7:H:155:SER:HB3	7:H:158:HIS:O	2.06	0.55
10:O:13:ASN:ND2	10:O:97:ARG:HG2	2.21	0.55
17:V:35:LEU:HB2	17:V:57:VAL:HG22	1.89	0.55
25:3:4:LEU:O	25:3:36:VAL:HA	2.06	0.55
32:a:96:U:OP1	32:a:102:G:H5"	2.06	0.55
32:a:98:G:O2'	32:a:105:G:O6	2.15	0.55
32:a:119:A:OP2	32:a:288:A:N6	2.31	0.55
32:a:192:U:H4'	51:t:57:ARG:CD	2.37	0.55
32:a:288:A:H2'	32:a:289:G:H4'	1.88	0.55
32:a:545:C:O2'	32:a:549:C:OP1	2.25	0.55
32:a:1120:G:H2'	32:a:1121:U:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1147:C:H2'	32:a:1148:U:C6	2.41	0.55
32:a:1179:A:H2'	32:a:1180:A:O4'	2.07	0.55
32:a:1305:G:N2	32:a:1331:G:H1'	2.22	0.55
32:a:1314:C:OP1	50:s:6:LYS:NZ	2.26	0.55
32:a:1342:C:H2'	32:a:1343:G:C8	2.42	0.55
32:a:1443:G:O2'	32:a:1444:C:H5'	2.07	0.55
32:a:1489:G:O2'	32:a:1490:C:H5'	2.06	0.55
33:b:18:GLY:CA	33:b:42:ILE:HD12	2.36	0.55
33:b:58:ILE:HG22	33:b:221:LEU:HD12	1.88	0.55
34:c:157:ILE:HG21	34:c:164:ARG:HH21	1.72	0.55
35:d:176:LEU:HD12	35:d:182:LYS:O	2.07	0.55
39:h:51:VAL:HG21	39:h:60:ARG:HG3	1.87	0.55
41:j:25:GLU:O	41:j:29:ARG:HG2	2.07	0.55
43:l:83:VAL:HG11	43:l:100:ILE:HG23	1.88	0.55
53:y:10:G:N2	53:y:26:G:H1'	2.22	0.55
54:C:57:ASN:HA	54:C:165:ASN:HD21	1.72	0.55
54:C:214:VAL:CG2	54:C:224:ILE:HD13	2.37	0.55
1:A:402:A:O2'	1:A:403:U:H5'	2.07	0.55
1:A:658:C:H2'	1:A:659:C:C6	2.42	0.55
1:A:729:G:C5	3:D:208:LYS:HB2	2.42	0.55
1:A:856:C:H2'	1:A:857:C:H6	1.71	0.55
1:A:1108:U:H2'	1:A:1109:C:C1'	2.37	0.55
1:A:1277:G:H2'	1:A:1278:A:H8	1.72	0.55
1:A:1394:U:H2'	1:A:1395:A:O4'	2.07	0.55
1:A:2000:G:O2'	1:A:2001:A:H5'	2.06	0.55
1:A:2144:U:H1'	1:A:2147:G:O6	2.07	0.55
1:A:2771:C:H2'	1:A:2772:C:C6	2.41	0.55
1:A:2830:G:H5"	4:E:58:ARG:CZ	2.37	0.55
2:B:34:U:P	6:G:2:PRO:HG3	2.47	0.55
3:D:134:ARG:NH2	8:I:87:LYS:HE3	2.21	0.55
3:D:184:LYS:CG	3:D:271:ILE:HD11	2.34	0.55
4:E:110:GLY:CA	4:E:162:ALA:HB2	2.36	0.55
7:H:8:PRO:HB2	7:H:49:VAL:HG21	1.88	0.55
8:I:130:TYR:HD2	8:I:132:PRO:HD3	1.72	0.55
12:Q:134:ARG:HA	12:Q:138:ASP:OD2	2.07	0.55
17:V:56:SER:O	17:V:100:ARG:HB2	2.07	0.55
19:X:57:LEU:HD22	19:X:78:LYS:CE	2.36	0.55
32:a:17:U:H2'	32:a:18:C:H6	1.72	0.55
32:a:309:G:H1'	32:a:608:A:C2	2.42	0.55
32:a:404:U:H5"	35:d:122:ARG:HG2	1.89	0.55
32:a:486:U:H2'	32:a:487:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:820:U:H4'	32:a:821:G:OP2	2.07	0.55
32:a:833:U:H2'	32:a:834:C:H6	1.71	0.55
32:a:1003:G:C5	32:a:1004:A:H1'	2.41	0.55
35:d:149:ALA:O	35:d:153:ARG:N	2.40	0.55
37:f:12:PRO:CB	37:f:45:LEU:HG	2.37	0.55
43:l:89:ARG:HG3	43:l:96:VAL:O	2.06	0.55
47:p:21:VAL:CG1	47:p:34:GLU:HB3	2.37	0.55
54:C:58:VAL:HG21	54:C:208:PHE:HZ	1.71	0.55
55:z:18:G:H21	55:z:58:A:C5'	2.20	0.55
56:x:37:U:O3'	56:x:38:A:H2'	2.06	0.55
1:A:207:A:H2'	1:A:208:C:O4'	2.07	0.55
1:A:221:A:C1'	1:A:233:A:H1'	2.36	0.55
1:A:632:A:O2'	1:A:633:A:O4'	2.23	0.55
1:A:689:A:H2'	1:A:690:G:C8	2.42	0.55
1:A:691:C:H2'	1:A:692:C:H6	1.72	0.55
1:A:907:U:O2'	1:A:908:C:H5'	2.07	0.55
1:A:1466:G:H2'	1:A:1547:C:H41	1.72	0.55
1:A:1531:C:H2'	1:A:1532:C:C6	2.42	0.55
1:A:1548:C:H2'	1:A:1549:C:C6	2.42	0.55
1:A:2066:C:O2'	1:A:2067:G:H5'	2.07	0.55
1:A:2344:U:OP1	28:6:37:ARG:HD3	2.05	0.55
1:A:2356:C:O3'	22:0:20:ARG:NH1	2.39	0.55
1:A:2365:G:O6	30:8:39:LYS:HE3	2.07	0.55
1:A:2650:U:O2'	1:A:2651:C:H5'	2.07	0.55
1:A:2784:C:O2'	1:A:2785:C:H5'	2.07	0.55
2:B:76:G:H5"	21:Z:10:ARG:HH12	1.72	0.55
4:E:38:THR:O	4:E:42:ASP:N	2.32	0.55
4:E:47:VAL:HG11	4:E:86:PRO:CD	2.32	0.55
16:U:28:ARG:NH1	16:U:38:THR:OG1	2.37	0.55
18:W:14:PRO:HG2	18:W:78:GLU:HG3	1.89	0.55
21:Z:73:GLN:HB3	21:Z:87:ASP:OD2	2.07	0.55
32:a:377:G:O2'	32:a:378:G:H5'	2.07	0.55
32:a:565:U:OP2	32:a:566:G:O2'	2.23	0.55
32:a:596:C:H2'	32:a:597:G:H8	1.72	0.55
32:a:625:G:H2'	32:a:626:U:H6	1.71	0.55
32:a:693:G:H5'	56:x:10:A:OP1	2.07	0.55
32:a:850:U:C2'	32:a:851:G:H5"	2.36	0.55
32:a:1034:G:H2'	32:a:1035:A:C8	2.41	0.55
32:a:1292:U:H2'	32:a:1293:G:H8	1.69	0.55
32:a:1312:G:O2'	32:a:1313:U:H5'	2.07	0.55
32:a:1497:G:O2'	32:a:1498:UR3:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:11:LEU:O	33:b:15:VAL:HG22	2.05	0.55
35:d:150:GLU:HA	35:d:153:ARG:CG	2.37	0.55
35:d:150:GLU:HA	35:d:153:ARG:HD2	1.88	0.55
38:g:20:ASP:OD2	38:g:23:VAL:HG23	2.06	0.55
41:j:6:ILE:CD1	41:j:98:ILE:HA	2.35	0.55
42:k:17:GLY:H	42:k:80:VAL:HG12	1.72	0.55
42:k:73:MET:HG3	42:k:103:LEU:HD11	1.89	0.55
47:p:7:ALA:O	47:p:17:TYR:HA	2.07	0.55
1:A:39:C:O2	5:F:46:ARG:NH2	2.40	0.55
1:A:58:G:O2'	1:A:73:A:N1	2.36	0.55
1:A:84:A:N1	1:A:98:G:O2'	2.29	0.55
1:A:314:A:H2'	1:A:315:G:C8	2.41	0.55
1:A:429:A:H2'	1:A:430:G:N9	2.22	0.55
1:A:483:A:OP1	20:Y:50:ARG:NH2	2.39	0.55
1:A:538:G:O2'	1:A:539:G:H5'	2.07	0.55
1:A:1153:C:H2'	1:A:1154:G:O4'	2.07	0.55
1:A:1561:G:H2'	1:A:1562:A:C8	2.42	0.55
1:A:1900:A:H5'	1:A:1970:A:C5'	2.37	0.55
1:A:2165:G:H2'	1:A:2166:G:O4'	2.07	0.55
1:A:2298:A:H2'	1:A:2299:G:O4'	2.07	0.55
1:A:2513:G:H2'	1:A:2514:U:C6	2.42	0.55
1:A:2660:A:H2'	1:A:2661:G:O4'	2.07	0.55
1:A:2825:C:H2'	1:A:2826:A:O4'	2.06	0.55
4:E:14:ILE:HB	15:T:14:TYR:CE2	2.42	0.55
4:E:84:PHE:CD2	4:E:86:PRO:HD3	2.42	0.55
5:F:126:VAL:HG22	5:F:194:MET:O	2.06	0.55
5:F:192:LEU:HD23	5:F:193:VAL:N	2.22	0.55
7:H:44:VAL:O	7:H:50:VAL:HA	2.06	0.55
8:I:14:ASP:OD1	8:I:15:VAL:N	2.40	0.55
17:V:6:LYS:HE3	17:V:9:GLY:HA2	1.89	0.55
32:a:410:G:H5"	35:d:30:LYS:NZ	2.21	0.55
32:a:415:A:H2'	32:a:416:G:C8	2.42	0.55
32:a:441:A:H3'	32:a:442:C:C6	2.40	0.55
32:a:803:G:H2'	32:a:804:U:O4'	2.07	0.55
32:a:1019:C:H2'	32:a:1020:U:O4'	2.07	0.55
32:a:1099:G:H2'	32:a:1100:C:O4'	2.07	0.55
32:a:1141:C:H2'	32:a:1142:G:H8	1.72	0.55
33:b:114:ARG:O	33:b:118:LEU:N	2.26	0.55
35:d:13:ARG:NH2	35:d:40:PRO:HA	2.22	0.55
36:e:145:LYS:HA	39:h:107:LEU:CD2	2.37	0.55
37:f:48:LEU:N	37:f:56:PRO:O	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:89:ARG:HB2	43:l:97:ARG:HA	1.89	0.55
43:l:102:ARG:HB2	43:l:120:TYR:HA	1.89	0.55
44:m:15:VAL:HG12	44:m:48:LEU:HD11	1.89	0.55
44:m:34:LEU:HD13	44:m:41:PRO:HB3	1.89	0.55
47:p:15:PRO:HB2	47:p:41:PRO:HG3	1.89	0.55
54:C:44:HIS:N	54:C:213:TYR:O	2.39	0.55
1:A:234:C:H2'	1:A:235:U:H6	1.72	0.54
1:A:1006:C:O2'	1:A:1007:C:H5'	2.08	0.54
1:A:1374:G:H2'	1:A:1375:C:H6	1.70	0.54
1:A:1430:C:H2'	1:A:1431:U:C6	2.42	0.54
1:A:1923:U:H2'	1:A:1924:C:H6	1.72	0.54
1:A:2692:C:H1'	1:A:2847:U:H1'	1.89	0.54
1:A:2776:A:H4'	1:A:2777:G:H5"	1.88	0.54
1:A:2881:C:H2'	1:A:2882:A:O4'	2.07	0.54
2:B:80:U:H2'	2:B:81:G:H8	1.72	0.54
5:F:46:ARG:HB3	5:F:48:THR:HG23	1.90	0.54
5:F:103:LYS:HG2	5:F:106:ARG:NH2	2.23	0.54
7:H:27:LYS:HG3	7:H:32:GLU:CB	2.36	0.54
10:O:49:ARG:NH1	32:a:1422:G:O3'	2.40	0.54
11:P:80:TYR:HE1	11:P:111:ARG:HD2	1.72	0.54
12:Q:11:LYS:HD3	12:Q:87:LYS:HD3	1.89	0.54
17:V:12:TYR:HE2	17:V:22:VAL:HG12	1.71	0.54
20:Y:38:ILE:HD13	20:Y:66:PRO:HA	1.88	0.54
25:3:39:ASP:OD1	25:3:44:ARG:HB2	2.07	0.54
32:a:101:A:N3	32:a:152:A:H4'	2.22	0.54
32:a:136:C:O2'	32:a:137:C:H5'	2.07	0.54
32:a:384:G:H2'	32:a:385:C:C6	2.42	0.54
32:a:409:G:H5"	35:d:24:GLU:CB	2.37	0.54
32:a:574:A:O2'	32:a:882:C:O2'	2.12	0.54
32:a:712:A:H2'	32:a:713:G:C8	2.41	0.54
32:a:865:A:H2'	32:a:866:C:C6	2.42	0.54
32:a:1251:A:H2'	32:a:1252:A:C8	2.42	0.54
32:a:1263:C:H2'	32:a:1264:C:H6	1.71	0.54
32:a:1330:U:H4'	44:m:23:TYR:CE1	2.42	0.54
32:a:1488:G:O2'	32:a:1489:G:H5'	2.07	0.54
35:d:173:TRP:CZ3	35:d:193:ASP:HB3	2.42	0.54
40:i:86:VAL:HA	40:i:89:ASN:O	2.06	0.54
42:k:79:SER:HB2	42:k:104:GLN:HB3	1.89	0.54
44:m:15:VAL:HG22	44:m:41:PRO:O	2.07	0.54
53:y:64:G:H2'	53:y:65:C:H6	1.72	0.54
54:C:22:ILE:HG23	54:C:189:ILE:HG21	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:175:VAL:HG21	54:C:189:ILE:CD1	2.37	0.54
55:z:43:C:O2'	55:z:44:G:H5'	2.07	0.54
1:A:61:G:O2'	1:A:62:C:H5'	2.06	0.54
1:A:185:U:H2'	1:A:186:G:C8	2.42	0.54
1:A:536:A:O2'	1:A:537:C:H5'	2.07	0.54
1:A:623:G:H2'	1:A:624:C:H6	1.71	0.54
1:A:671:C:H2'	1:A:672:C:C6	2.43	0.54
1:A:936:C:O2'	1:A:937:U:H5'	2.07	0.54
1:A:1239:G:H2'	1:A:1240:U:O4'	2.07	0.54
1:A:1297:C:H2'	1:A:1298:C:C6	2.42	0.54
1:A:1880:C:O2'	1:A:1881:C:H5'	2.07	0.54
1:A:2437:U:O2'	1:A:2438:U:H5'	2.07	0.54
1:A:2522:U:O2'	1:A:2647:U:OP1	2.24	0.54
1:A:2781:A:C5'	1:A:2782:G:H5'	2.37	0.54
1:A:2841:C:H2'	1:A:2842:G:H8	1.72	0.54
9:N:47:ALA:HB2	9:N:112:LEU:CD1	2.37	0.54
12:Q:32:TYR:O	12:Q:105:GLU:HA	2.07	0.54
13:R:26:LYS:HE2	13:R:70:LEU:O	2.07	0.54
14:S:49:VAL:HG12	14:S:73:LEU:HD12	1.89	0.54
14:S:71:ARG:O	14:S:75:GLU:HG2	2.08	0.54
15:T:39:ARG:NH1	15:T:41:ARG:HB3	2.21	0.54
23:1:12:PRO:HA	23:1:44:PRO:HD3	1.89	0.54
25:3:15:TYR:HB3	25:3:19:GLN:OE1	2.07	0.54
32:a:52:G:O2'	32:a:53:A:H5'	2.07	0.54
32:a:509:A:H2'	32:a:510:A:C8	2.41	0.54
32:a:556:C:O2'	32:a:557:G:H5'	2.07	0.54
32:a:1270:C:H2'	32:a:1271:G:C8	2.43	0.54
32:a:1291:G:O2'	32:a:1292:U:H5'	2.07	0.54
33:b:12:GLU:HA	33:b:15:VAL:O	2.07	0.54
33:b:76:GLN:O	33:b:208:ILE:HG12	2.08	0.54
34:c:53:ALA:N	34:c:69:HIS:O	2.35	0.54
35:d:57:ARG:NH2	36:e:107:ARG:HD3	2.22	0.54
36:e:81:GLU:CG	36:e:90:VAL:HG22	2.36	0.54
37:f:6:VAL:HB	37:f:63:TYR:HB2	1.87	0.54
40:i:23:ASN:OD1	40:i:25:LYS:HG2	2.07	0.54
40:i:32:ASP:HB3	40:i:35:GLU:CB	2.37	0.54
41:j:6:ILE:N	41:j:73:ASP:OD1	2.32	0.54
41:j:21:GLN:O	41:j:25:GLU:HG2	2.08	0.54
41:j:39:PRO:HA	41:j:70:ARG:HD3	1.89	0.54
50:s:20:LEU:O	50:s:24:ALA:N	2.40	0.54
54:C:95:GLY:HA2	54:C:99:ILE:HG21	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:114:VAL:HG11	54:C:156:ILE:HD11	1.89	0.54
1:A:83:G:N2	1:A:102:G:H1'	2.22	0.54
1:A:88:G:H2'	1:A:89:G:O4'	2.07	0.54
1:A:180:G:P	29:7:32:LYS:HE3	2.47	0.54
1:A:202:U:H2'	1:A:203:C:O4'	2.07	0.54
1:A:383:U:H2'	1:A:385:C:H5	1.71	0.54
1:A:572:A:H5"	1:A:573:G:OP2	2.07	0.54
1:A:600:G:H2'	1:A:601:C:H6	1.72	0.54
1:A:674:G:H1'	5:F:74:ARG:HD3	1.87	0.54
1:A:819:A:N6	1:A:1189:A:H1'	2.22	0.54
1:A:854:G:O2'	1:A:855:G:H5'	2.07	0.54
1:A:1000:A:H2'	1:A:1001:A:C8	2.42	0.54
1:A:1297:C:OP1	1:A:2710:C:H4'	2.08	0.54
1:A:1751:C:O2'	1:A:1752:C:H5'	2.06	0.54
1:A:1829:A:H3'	1:A:1830:C:H6	1.72	0.54
1:A:2001:A:H2'	1:A:2002:G:H8	1.72	0.54
1:A:2290:G:H2'	1:A:2291:U:H6	1.70	0.54
1:A:2751:G:H3'	1:A:2752:C:H6	1.72	0.54
4:E:1:MET:HE1	4:E:199:ARG:HD2	1.90	0.54
4:E:59:VAL:O	4:E:64:LYS:HE3	2.06	0.54
5:F:62:ARG:HD2	5:F:63:LYS:O	2.07	0.54
19:X:5:TYR:CD1	24:2:30:ARG:HA	2.42	0.54
21:Z:152:ALA:N	21:Z:169:GLU:O	2.40	0.54
32:a:933:G:OP2	38:g:3:ARG:HB2	2.08	0.54
32:a:1028:C:H2'	32:a:1029:C:C6	2.41	0.54
32:a:1207:2MG:O2'	32:a:1208:C:H5'	2.07	0.54
35:d:128:VAL:N	35:d:131:ARG:O	2.36	0.54
39:h:6:ILE:O	39:h:10:LEU:HG	2.07	0.54
51:t:16:HIS:CE1	51:t:20:LEU:HD11	2.42	0.54
1:A:373:U:H2'	1:A:374:A:H8	1.72	0.54
1:A:396:G:H1'	23:1:42:GLN:OE1	2.07	0.54
1:A:500:G:N2	1:A:503:A:O5'	2.30	0.54
1:A:554:U:O2'	1:A:555:U:H5'	2.08	0.54
1:A:569:U:H2'	1:A:570:G:O4'	2.07	0.54
1:A:611:C:H2'	1:A:612:C:H6	1.71	0.54
1:A:953:A:O2'	1:A:954:G:H5'	2.07	0.54
1:A:1045:A:N7	1:A:1111:A:N6	2.56	0.54
1:A:1047:G:H2'	1:A:1110:G:H22	1.71	0.54
1:A:2368:C:H2'	1:A:2369:A:C8	2.42	0.54
4:E:13:ARG:HD2	4:E:20:ALA:HB1	1.89	0.54
5:F:23:ASP:C	5:F:24:LEU:HD12	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:80:ALA:O	5:F:86:GLY:HA3	2.07	0.54
6:G:86:MET:O	6:G:88:ILE:HG23	2.07	0.54
10:O:64:ARG:NH1	15:T:70:VAL:HG21	2.23	0.54
10:O:88:ASN:ND2	10:O:92:GLU:HB2	2.22	0.54
11:P:88:LEU:HD11	11:P:114:ILE:HD12	1.88	0.54
15:T:64:ARG:NH1	15:T:103:ARG:HG2	2.22	0.54
15:T:116:ALA:HB1	15:T:121:ILE:CD1	2.36	0.54
17:V:69:LYS:HA	17:V:87:HIS:O	2.07	0.54
28:6:35:GLU:HG2	28:6:50:ARG:HA	1.88	0.54
32:a:356:A:H2'	32:a:357:G:H5'	1.89	0.54
32:a:479:C:H2'	32:a:480:U:C6	2.41	0.54
32:a:717:C:H4'	42:k:117:ASN:ND2	2.22	0.54
32:a:976:G:H5'	32:a:1358:U:O2'	2.08	0.54
32:a:1307:U:H2'	32:a:1308:U:C6	2.42	0.54
32:a:1473:A:H2'	32:a:1474:G:C8	2.42	0.54
33:b:164:VAL:HB	33:b:186:ALA:CB	2.38	0.54
36:e:40:ARG:HB3	36:e:66:MET:CE	2.38	0.54
38:g:46:ALA:O	38:g:50:ILE:HG12	2.07	0.54
42:k:18:ARG:N	42:k:33:THR:O	2.24	0.54
42:k:79:SER:CB	42:k:104:GLN:HB3	2.37	0.54
46:o:16:ALA:HB1	46:o:18:PHE:O	2.07	0.54
47:p:18:ARG:HG2	47:p:35:LYS:HE3	1.89	0.54
48:q:12:SER:HB3	48:q:20:THR:CB	2.37	0.54
1:A:261:G:O2'	1:A:610:G:O2'	2.15	0.54
1:A:363(E):G:O2'	1:A:363(F):U:H5'	2.08	0.54
1:A:747:U:H1'	18:W:92:ARG:NH2	2.23	0.54
1:A:797:C:P	5:F:62:ARG:HB2	2.47	0.54
1:A:1607:C:H4'	1:A:1608:A:H5'	1.90	0.54
1:A:1654:A:H2'	1:A:1655:A:H8	1.71	0.54
1:A:1675:C:H2'	1:A:1676:A:O4'	2.07	0.54
1:A:2742:C:O2'	1:A:2743:C:H5'	2.07	0.54
1:A:2886:G:H2'	1:A:2887:U:C6	2.42	0.54
7:H:107:VAL:HG21	7:H:152:ARG:HB2	1.89	0.54
12:Q:29:PHE:N	12:Q:105:GLU:OE1	2.34	0.54
22:0:21:LEU:HD23	22:0:39:ARG:HG3	1.89	0.54
32:a:10:A:O2'	32:a:11:G:H5'	2.07	0.54
32:a:147:G:O2'	32:a:148:G:H5'	2.08	0.54
32:a:237:C:OP2	48:q:40:LYS:NZ	2.41	0.54
32:a:1015:A:H2'	32:a:1016:A:C8	2.42	0.54
32:a:1346:A:H2'	38:g:10:ARG:HH22	1.72	0.54
32:a:1469:G:H2'	32:a:1470:G:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:74:GLY:HA2	34:c:77:ILE:HG12	1.89	0.54
34:c:156:ARG:NH2	34:c:161:GLU:HG2	2.23	0.54
35:d:205:GLU:OE2	36:e:100:VAL:HB	2.08	0.54
39:h:17:THR:O	39:h:78:GLN:NE2	2.39	0.54
53:y:65:C:O2'	53:y:66:C:H5'	2.08	0.54
1:A:690:G:H2'	1:A:691:C:C6	2.41	0.54
1:A:715:G:H2'	1:A:716:A:C8	2.43	0.54
1:A:935:C:H2'	1:A:936:C:C6	2.43	0.54
1:A:1342:A:OP1	19:X:36:LYS:NZ	2.29	0.54
1:A:1444:G:H2'	1:A:1445(B):C:C5	2.43	0.54
1:A:1562:A:H2'	1:A:1563:G:C8	2.43	0.54
1:A:1647:G:H3'	1:A:1647:G:OP2	2.08	0.54
1:A:1666:G:H1'	10:O:3:GLN:NE2	2.22	0.54
1:A:1783:A:O2'	1:A:2607:G:O2'	2.21	0.54
1:A:1995:U:H2'	1:A:1996:C:C5	2.43	0.54
1:A:2129:C:H5'	1:A:2130:U:OP2	2.08	0.54
1:A:2261:C:O2'	1:A:2262:U:H5'	2.08	0.54
1:A:2277:G:H3'	22:0:12:ASN:ND2	2.23	0.54
1:A:2403:C:H2'	1:A:2404:C:C6	2.43	0.54
1:A:2418:A:H2'	1:A:2419:U:O4'	2.08	0.54
2:B:119:G:O2'	2:B:120:A:H5'	2.07	0.54
3:D:120:GLY:O	3:D:131:LEU:HG	2.07	0.54
6:G:25:TYR:CD2	6:G:31:VAL:HG12	2.41	0.54
8:I:25:TYR:CE2	8:I:30:LEU:HD11	2.43	0.54
15:T:106:SER:O	15:T:110:ILE:HG13	2.07	0.54
20:Y:31:LEU:O	20:Y:35:TYR:N	2.41	0.54
28:6:9:LEU:HD22	28:6:51:GLU:OE2	2.08	0.54
32:a:683:G:H2'	32:a:684:A:C8	2.43	0.54
32:a:737:A:H1'	37:f:73:ASN:ND2	2.23	0.54
32:a:859:A:OP2	32:a:869:G:N1	2.30	0.54
33:b:52:GLU:HG2	33:b:56:ARG:CZ	2.38	0.54
34:c:32:LEU:HD12	34:c:59:ARG:NH1	2.22	0.54
35:d:50:ARG:NH1	36:e:10:MET:HB2	2.21	0.54
35:d:126:ILE:CD1	35:d:148:VAL:HA	2.37	0.54
40:i:4:TYR:CE1	40:i:88:TYR:HA	2.43	0.54
44:m:86:CYS:O	44:m:90:LEU:HG	2.08	0.54
46:o:40:SER:O	46:o:44:LYS:HG3	2.08	0.54
54:C:35:ALA:HB3	54:C:39:GLU:CG	2.38	0.54
1:A:273(G):C:H2'	1:A:273(H):C:C6	2.42	0.54
1:A:432:A:O2'	1:A:433:C:H5'	2.08	0.54
1:A:578:A:O2'	1:A:580:C:OP2	2.14	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:607:U:OP1	5:F:102:PRO:HA	2.08	0.54
1:A:631:A:N3	1:A:2415:G:O2'	2.30	0.54
1:A:956:G:N2	1:A:960:A:OP2	2.32	0.54
1:A:1195:G:O2'	1:A:1196:C:H5'	2.08	0.54
1:A:1248:G:C5	16:U:3:ARG:HB2	2.42	0.54
1:A:1398:C:H2'	1:A:1399:C:C6	2.43	0.54
1:A:1500:G:O2'	3:D:102:LYS:HE3	2.07	0.54
1:A:1823:G:H2'	1:A:1824:G:C8	2.40	0.54
1:A:2102:U:H3	1:A:2187:G:H1	1.56	0.54
1:A:2147:G:H2'	1:A:2148:G:C4'	2.38	0.54
1:A:2154:G:H2'	1:A:2155:G:H8	1.73	0.54
1:A:2488:A:O2'	1:A:2489:G:H5'	2.07	0.54
1:A:2647:U:H2'	1:A:2648:C:C6	2.43	0.54
2:B:33:G:O2'	2:B:34:U:H5'	2.08	0.54
2:B:104:U:O2'	21:Z:72:ARG:HG2	2.07	0.54
5:F:135:LYS:O	5:F:138:GLU:HB2	2.07	0.54
6:G:173:LEU:HA	6:G:176:LEU:HB2	1.90	0.54
9:N:62:VAL:HG11	9:N:66:LYS:HB2	1.89	0.54
14:S:4:LEU:HA	14:S:8:GLU:OE1	2.07	0.54
21:Z:93:ASP:HA	21:Z:130:PRO:HG2	1.89	0.54
22:0:53:MET:HA	22:0:58:THR:O	2.07	0.54
26:4:58:ARG:HG2	50:s:67:VAL:HB	1.89	0.54
32:a:17:U:H2'	32:a:18:C:C6	2.43	0.54
32:a:68:G:C4'	32:a:76:C:H3'	2.37	0.54
32:a:164:U:H2'	32:a:165:C:H6	1.70	0.54
32:a:284:G:H2'	32:a:285:G:H8	1.72	0.54
32:a:321:A:H5"	32:a:328:C:N4	2.23	0.54
32:a:425:G:O2'	32:a:426:G:H5'	2.08	0.54
32:a:692:U:H2'	32:a:694:A:OP2	2.08	0.54
32:a:891:U:O2'	32:a:892:A:H5'	2.08	0.54
32:a:923:A:H2'	32:a:924:C:C6	2.42	0.54
32:a:1106:G:H2'	32:a:1107:C:C6	2.42	0.54
33:b:223:ILE:HA	33:b:226:ARG:HG2	1.89	0.54
34:c:125:GLU:OE2	34:c:189:ALA:HA	2.07	0.54
36:e:11:ILE:HD11	36:e:33:VAL:HB	1.89	0.54
36:e:78:HIS:HB2	39:h:104:ARG:HD3	1.88	0.54
44:m:25:ILE:HG13	44:m:66:LEU:HD22	1.89	0.54
44:m:88:ARG:HG3	44:m:98:VAL:CG1	2.37	0.54
49:r:44:LEU:HD13	49:r:80:PRO:HD2	1.89	0.54
53:y:8:U:P	53:y:49:G:H5'	2.48	0.54
55:z:47:U:OP1	55:z:47:U:H3'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:195:A:H5"	1:A:196:A:O5'	2.08	0.54
1:A:409:C:H2'	1:A:410:G:C8	2.42	0.54
1:A:575:A:O2'	1:A:576:U:H5'	2.08	0.54
1:A:693:C:H2'	1:A:694:U:C6	2.42	0.54
1:A:1183:G:O2'	25:3:29:ARG:NH1	2.39	0.54
1:A:2064:C:H2'	1:A:2065:C:H6	1.72	0.54
1:A:2093:G:N7	1:A:2225:A:H2'	2.23	0.54
1:A:2251:OMG:C8	1:A:2450:A:H4'	2.42	0.54
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.28	0.54
1:A:2540:C:H2'	1:A:2541:A:O4'	2.08	0.54
2:B:95:C:H2'	2:B:96:U:C6	2.43	0.54
4:E:60:ASN:CG	4:E:62:PRO:HD2	2.33	0.54
6:G:131:TYR:CE2	6:G:133:LEU:HD23	2.41	0.54
7:H:9:ILE:HG13	7:H:69:ARG:HG2	1.88	0.54
10:O:98:VAL:HG21	10:O:118:ALA:HA	1.89	0.54
12:Q:28:ALA:N	12:Q:105:GLU:OE2	2.28	0.54
14:S:58:LEU:CD1	14:S:65:VAL:HG13	2.38	0.54
17:V:19:LYS:HA	17:V:94:LEU:O	2.08	0.54
21:Z:3:TYR:HB3	21:Z:47:VAL:CG1	2.38	0.54
32:a:29:G:O2'	32:a:30:U:H5'	2.08	0.54
32:a:132:C:C4'	32:a:262:A:H1'	2.38	0.54
32:a:200:G:H2'	32:a:201:C:O4'	2.08	0.54
32:a:394:G:H2'	32:a:395:C:C6	2.42	0.54
32:a:865:A:H1'	32:a:918:A:O2'	2.08	0.54
32:a:877:C:H2'	32:a:878:G:H8	1.73	0.54
32:a:1329:A:P	44:m:28:ALA:HB3	2.47	0.54
32:a:1402:4OC:O5'	32:a:1402:4OC:H6	2.07	0.54
33:b:16:HIS:HB2	33:b:210:SER:HB3	1.88	0.54
34:c:71:ALA:HB2	34:c:115:LEU:CD2	2.38	0.54
43:l:102:ARG:HA	43:l:107:ALA:CB	2.37	0.54
44:m:88:ARG:HG3	44:m:98:VAL:HG11	1.89	0.54
46:o:28:GLN:HG2	46:o:66:LEU:HD21	1.88	0.54
48:q:12:SER:HB3	48:q:20:THR:HB	1.90	0.54
50:s:40:ILE:CG2	50:s:67:VAL:HA	2.38	0.54
54:C:45:ALA:HA	54:C:212:VAL:HA	1.89	0.54
54:C:110:PHE:CE2	54:C:136:LEU:HD13	2.43	0.54
1:A:16:G:H5"	27:5:17:ASP:CB	2.38	0.54
1:A:80:G:O2'	1:A:81:G:H5'	2.08	0.54
1:A:558:G:O2'	1:A:559:G:H5'	2.08	0.54
1:A:614(C):G:O2'	1:A:614(D):A:H5"	2.08	0.54
1:A:676:A:H1'	1:A:2443:C:H1'	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:799:G:H3'	1:A:800:A:H2'	1.90	0.54
1:A:995:C:O2	9:N:3:THR:OG1	2.23	0.54
1:A:1036:G:O2'	1:A:1037:G:H5'	2.08	0.54
1:A:1049:C:O2	1:A:1113:U:H4'	2.08	0.54
1:A:1252:G:N3	16:U:33:ARG:NE	2.47	0.54
1:A:1291:C:H2'	1:A:1292:U:H6	1.72	0.54
1:A:1400:G:H2'	1:A:1401:G:H8	1.72	0.54
1:A:1413:G:H2'	1:A:1414:G:C8	2.43	0.54
1:A:1504:C:H2'	1:A:1505:C:H6	1.72	0.54
1:A:1655:A:H1'	4:E:113:PHE:HE2	1.73	0.54
1:A:1713:U:H3	1:A:1746:G:H1	1.56	0.54
1:A:1759:A:O2'	1:A:1760:A:H5'	2.07	0.54
1:A:1825:A:H2'	1:A:1826:G:C8	2.42	0.54
1:A:1864:U:H2'	1:A:1865:G:C8	2.43	0.54
1:A:1999:C:O2'	1:A:2000:G:H5'	2.07	0.54
1:A:2113:U:H2'	1:A:2114:A:O4'	2.08	0.54
1:A:2248:C:C2'	1:A:2249:U:H5'	2.38	0.54
1:A:2366:A:H3'	1:A:2367:G:H8	1.73	0.54
1:A:2648:C:H2'	1:A:2649:U:H6	1.72	0.54
2:B:2:C:H2'	2:B:3:C:C6	2.43	0.54
2:B:28:C:OP1	14:S:34:HIS:HB2	2.08	0.54
2:B:115:G:O4'	14:S:47:THR:HB	2.07	0.54
2:B:117:G:O2'	2:B:118:G:H5'	2.08	0.54
5:F:170:LEU:HD12	5:F:172:TRP:NE1	2.23	0.54
5:F:197:ASP:OD1	5:F:198:ALA:N	2.41	0.54
6:G:11:TYR:HA	6:G:15:VAL:CG2	2.38	0.54
9:N:130:HIS:O	9:N:135:PRO:HD3	2.08	0.54
13:R:51:LEU:HD22	13:R:66:VAL:HG13	1.89	0.54
15:T:22:PHE:HE2	15:T:49:VAL:HG21	1.73	0.54
21:Z:29:TYR:HA	21:Z:33:LEU:HD12	1.90	0.54
22:0:48:GLY:H	22:0:51:VAL:HB	1.73	0.54
26:4:41:PRO:HA	26:4:44:THR:HG22	1.90	0.54
32:a:37:U:O2'	32:a:500:G:H4'	2.08	0.54
32:a:189(C):C:H2'	32:a:189(D):C:C6	2.43	0.54
32:a:474:G:H2'	32:a:475:G:H8	1.73	0.54
32:a:790:A:H5'	53:y:39:C:C5'	2.38	0.54
32:a:831:U:H2'	32:a:832:C:H6	1.73	0.54
32:a:922:G:C4'	36:e:20:GLN:HA	2.31	0.54
32:a:928:G:H4'	32:a:1533:C:C2'	2.37	0.54
32:a:1068:G:O2'	32:a:1069:C:H5'	2.07	0.54
32:a:1116:C:H2'	32:a:1117:G:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1146:A:H5'	32:a:1147:C:OP2	2.08	0.54
32:a:1168:A:H2'	32:a:1169:A:C8	2.43	0.54
32:a:1314:C:H2'	32:a:1315:U:H6	1.72	0.54
32:a:1343:G:H2'	32:a:1344:C:C6	2.43	0.54
32:a:1403:C:O2'	32:a:1499:A:N1	2.41	0.54
32:a:1406:U:H2'	32:a:1407:5MC:O4'	2.08	0.54
32:a:1427:U:H2'	32:a:1428:A:H8	1.72	0.54
33:b:78:GLN:O	33:b:94:ASN:ND2	2.41	0.54
35:d:160:GLN:O	35:d:163:GLU:HB2	2.07	0.54
42:k:22:HIS:HA	42:k:85:ARG:O	2.07	0.54
45:n:26:ARG:NH1	45:n:46:GLU:OE1	2.41	0.54
47:p:27:LYS:HG3	47:p:30:GLY:H	1.73	0.54
48:q:40:LYS:HD3	48:q:42:TYR:OH	2.08	0.54
50:s:31:ILE:HG22	50:s:32:LYS:O	2.08	0.54
54:C:29:VAL:HG22	54:C:41:VAL:HG22	1.90	0.54
54:C:65:PRO:HG2	54:C:187:ASP:HB3	1.89	0.54
54:C:114:VAL:HG12	54:C:144:THR:CA	2.38	0.54
56:x:2:A:H4'	56:x:3:A:O5'	2.08	0.54
1:A:78:A:H2'	1:A:79:G:H8	1.73	0.54
1:A:363(A):G:O2'	1:A:363(B):A:H5'	2.08	0.54
1:A:568:U:OP1	1:A:945:A:N6	2.33	0.54
1:A:656:G:H2'	1:A:657:U:C6	2.43	0.54
1:A:730:C:O2'	1:A:731:C:H5'	2.08	0.54
1:A:878:A:H5'	1:A:879:G:OP2	2.08	0.54
1:A:1291:C:O2'	1:A:1292:U:H5'	2.07	0.54
1:A:1319:G:H2'	1:A:1320:C:C6	2.43	0.54
1:A:1389:G:H2'	1:A:1390:U:C6	2.42	0.54
1:A:1788:C:H2'	1:A:1789:A:O4'	2.09	0.54
1:A:2198:A:O2'	1:A:2199:A:O5'	2.26	0.54
1:A:2339:G:H2'	1:A:2340:G:H8	1.73	0.54
3:D:63:ARG:O	3:D:65:ILE:HG12	2.08	0.54
3:D:165:ILE:HG12	3:D:175:LEU:HD21	1.90	0.54
4:E:1:MET:CE	4:E:199:ARG:HD2	2.38	0.54
12:Q:52:VAL:HA	12:Q:55:VAL:HG12	1.89	0.54
23:1:3:LYS:O	23:1:46:LEU:HD11	2.07	0.54
32:a:173:U:C5	32:a:198:G:H1'	2.43	0.54
32:a:416:G:H2'	32:a:417:C:H6	1.73	0.54
32:a:551:U:O2'	32:a:552:U:H5'	2.08	0.54
32:a:589:C:O2'	32:a:590:C:H5'	2.08	0.54
32:a:1243:C:H2'	32:a:1244:C:H6	1.72	0.54
32:a:1418:A:H3'	32:a:1419:G:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1471:G:O2'	32:a:1472:U:H5'	2.08	0.54
38:g:44:TYR:HA	38:g:47:CYS:SG	2.47	0.54
40:i:50:LEU:CB	40:i:56:LEU:HD23	2.38	0.54
44:m:65:LYS:CD	44:m:69:GLU:HG2	2.36	0.54
53:y:11:A:H2'	53:y:12:G:H8	1.73	0.54
53:y:69:C:H2'	53:y:70:G:H8	1.73	0.54
1:A:10:G:H2'	1:A:11:G:C8	2.42	0.53
1:A:14:A:H5"	1:A:15:G:OP2	2.07	0.53
1:A:21:A:O2'	1:A:22:C:H5'	2.08	0.53
1:A:65:C:H2'	1:A:66:C:H6	1.72	0.53
1:A:141:A:H1'	1:A:1408:C:O2'	2.07	0.53
1:A:272(J):C:H1'	1:A:272(K):U:C2'	2.38	0.53
1:A:272(P):C:H2'	1:A:272(Q):G:C8	2.43	0.53
1:A:335:C:H2'	1:A:336:C:C6	2.43	0.53
1:A:372:G:N2	1:A:400:G:H2'	2.23	0.53
1:A:535:C:O2'	1:A:536:A:H5'	2.09	0.53
1:A:568:U:N3	1:A:571:A:OP2	2.23	0.53
1:A:1364:G:OP2	23:1:3:LYS:HG3	2.08	0.53
1:A:1498:C:H2'	1:A:1499:C:H6	1.70	0.53
1:A:1591:G:H2'	1:A:1592:C:C6	2.43	0.53
1:A:1754:C:H2'	1:A:1755:A:C8	2.42	0.53
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.26	0.53
1:A:2134:A:N9	1:A:2157:G:H4'	2.22	0.53
1:A:2615:U:C6	27:5:7:PRO:HA	2.43	0.53
1:A:2785:C:O2'	1:A:2786:U:H5'	2.09	0.53
1:A:2821:A:H2'	1:A:2822:G:C8	2.44	0.53
2:B:50:G:OP2	14:S:62:LYS:HD2	2.08	0.53
3:D:63:ARG:HG2	3:D:92:ILE:CD1	2.38	0.53
3:D:70:TRP:HB3	3:D:190:TYR:CE2	2.44	0.53
4:E:183:LEU:HD21	15:T:10:VAL:CG1	2.37	0.53
7:H:117:PRO:HG3	7:H:123:PHE:CE2	2.42	0.53
8:I:50:ARG:O	8:I:54:GLN:N	2.35	0.53
9:N:42:TRP:HA	9:N:48:MET:CE	2.35	0.53
10:O:107:ARG:HB3	10:O:112:MET:HE1	1.89	0.53
13:R:33:ARG:HG2	13:R:115:GLU:HB3	1.90	0.53
18:W:19:LEU:HB3	27:5:25:LEU:CD1	2.38	0.53
32:a:31:G:C8	32:a:306:G:H1'	2.42	0.53
32:a:113:G:O4'	32:a:354:G:H4'	2.07	0.53
32:a:176:C:O2'	32:a:177:C:H5'	2.08	0.53
32:a:263:A:OP1	51:t:79:ARG:NH1	2.41	0.53
32:a:439:A:C5	32:a:441:A:H1'	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:653:A:C5	39:h:56:LYS:HD2	2.44	0.53
32:a:660:G:H2'	32:a:661:G:O4'	2.08	0.53
32:a:675:A:O2'	32:a:676:A:H5'	2.08	0.53
32:a:954:G:N2	32:a:1227:A:N6	2.39	0.53
32:a:978:A:N6	32:a:1316:G:H1'	2.23	0.53
32:a:1006:C:H2'	32:a:1007:C:C6	2.43	0.53
32:a:1032:G:H2'	32:a:1033:G:C8	2.43	0.53
32:a:1250:A:H4'	40:i:68:GLY:H	1.73	0.53
32:a:1457:G:H2'	32:a:1458:G:C8	2.43	0.53
32:a:1520:G:O2'	32:a:1521:G:H5'	2.08	0.53
33:b:115:LEU:O	33:b:119:GLU:HG2	2.08	0.53
36:e:39:GLY:HA2	36:e:69:VAL:HG12	1.89	0.53
36:e:100:VAL:O	36:e:101:ILE:HD13	2.08	0.53
38:g:14:PRO:HG3	38:g:21:VAL:CG1	2.38	0.53
39:h:8:ASP:OD2	39:h:12:ARG:NE	2.36	0.53
43:l:89:ARG:HD3	43:l:97:ARG:CG	2.37	0.53
50:s:52:TYR:HB2	50:s:57:HIS:CE1	2.43	0.53
53:y:25:C:H2'	53:y:26:G:O4'	2.07	0.53
1:A:348:G:O2'	1:A:349:G:H5'	2.08	0.53
1:A:970:C:H2'	1:A:971:C:H6	1.72	0.53
1:A:1042:G:O6	1:A:1113:U:C2	2.60	0.53
1:A:1693:U:H1'	3:D:14:ARG:NH1	2.23	0.53
1:A:1740:G:H2'	1:A:1741:A:C8	2.43	0.53
1:A:1879:C:O2'	1:A:1880:C:H5'	2.07	0.53
1:A:2124:G:H2'	1:A:2125:G:O4'	2.08	0.53
1:A:2550:G:O2'	1:A:2551:C:H5'	2.07	0.53
1:A:2867:G:OP2	15:T:119:LYS:HD3	2.07	0.53
6:G:115:ARG:HB2	6:G:136:ARG:HH21	1.73	0.53
8:I:6:LEU:HG	8:I:36:ALA:HA	1.91	0.53
18:W:54:ALA:HB1	18:W:107:LEU:HD13	1.89	0.53
30:8:9:GLY:O	30:8:13:ARG:HD3	2.08	0.53
32:a:73:G:H5"	32:a:200:G:C5'	2.36	0.53
32:a:513:C:H2'	32:a:514:C:C6	2.43	0.53
32:a:642:A:O2'	32:a:643:C:H5'	2.08	0.53
32:a:714:G:N2	42:k:119:CYS:SG	2.80	0.53
32:a:745:C:H2'	32:a:746:A:H8	1.74	0.53
32:a:825:G:H2'	32:a:826:C:H6	1.73	0.53
32:a:962:C:H2'	32:a:963:G:O4'	2.08	0.53
32:a:1135:U:H3'	32:a:1137:C:N4	2.23	0.53
32:a:1347:G:OP2	40:i:107:ARG:HG2	2.08	0.53
33:b:85:ALA:O	33:b:89:GLY:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:101:LEU:N	35:d:138:TYR:O	2.41	0.53
38:g:113:GLU:HG3	38:g:118:VAL:CG1	2.38	0.53
41:j:11:PHE:CE1	41:j:67:THR:HG22	2.41	0.53
42:k:17:GLY:HA2	42:k:35:PRO:CD	2.39	0.53
51:t:43:LEU:HD13	51:t:51:GLU:HB3	1.89	0.53
55:z:44:G:H3'	55:z:45:U:H6	1.74	0.53
1:A:90:U:H1'	1:A:92:A:C8	2.44	0.53
1:A:957:A:OP1	12:Q:76:LYS:HG3	2.08	0.53
1:A:964:C:O2'	1:A:2273:A:H1'	2.08	0.53
1:A:1042:G:H2'	1:A:1043:C:C6	2.44	0.53
1:A:1357:U:H2'	1:A:1358:G:O4'	2.08	0.53
1:A:1365:A:HO2'	23:1:11:ARG:NH2	2.06	0.53
1:A:1681:G:N2	1:A:1762:A:H3'	2.21	0.53
1:A:1790:C:OP2	1:A:1828:G:N1	2.41	0.53
1:A:2176:A:C4'	54:C:221:SER:HB3	2.38	0.53
1:A:2296:U:OP2	14:S:6:ALA:HB2	2.07	0.53
1:A:2367:G:O2'	1:A:2368:C:H5'	2.08	0.53
1:A:2391:G:N2	1:A:2429:G:O4'	2.41	0.53
1:A:2833:G:O2'	1:A:2834:G:H5'	2.08	0.53
1:A:2851:A:C2'	1:A:2852:G:H5'	2.38	0.53
1:A:2867:G:C6	15:T:23:ARG:HD2	2.43	0.53
2:B:28:C:H2'	2:B:29:A:O4'	2.09	0.53
3:D:43:ARG:HA	3:D:48:ARG:O	2.08	0.53
3:D:97:TYR:HD2	3:D:101:GLU:HB3	1.74	0.53
5:F:154:VAL:HA	5:F:191:ARG:O	2.08	0.53
6:G:116:ASP:OD2	44:m:68:GLY:HA3	2.07	0.53
15:T:34:VAL:CG1	15:T:36:GLU:HG3	2.39	0.53
26:4:48:ARG:CD	26:4:52:THR:HA	2.38	0.53
26:4:59:PHE:CB	26:4:61:ARG:HB2	2.28	0.53
27:5:35:GLU:HG3	27:5:51:TYR:HB2	1.90	0.53
28:6:39:TYR:O	28:6:41:PRO:HD3	2.08	0.53
32:a:138:G:O2'	32:a:139:G:H5'	2.08	0.53
32:a:505:G:H2'	32:a:506:G:H8	1.73	0.53
32:a:532:A:H5"	34:c:161:GLU:OE2	2.08	0.53
32:a:639:G:O2'	32:a:640:A:H5'	2.07	0.53
32:a:958:A:H2'	32:a:959:A:C5	2.42	0.53
32:a:1303:C:H2'	32:a:1304:G:O4'	2.09	0.53
32:a:1338:G:O2'	32:a:1339:A:H5'	2.08	0.53
32:a:1399:C:H4'	32:a:1400:5MC:H5"	1.90	0.53
34:c:20:SER:O	45:n:54:PRO:HB3	2.08	0.53
37:f:40:VAL:HG23	37:f:63:TYR:CE1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:g:44:TYR:O	38:g:47:CYS:HB2	2.09	0.53
38:g:99:LEU:HD23	38:g:102:ARG:NH1	2.23	0.53
38:g:111:ARG:NH2	38:g:123:GLU:HA	2.22	0.53
43:l:53:ARG:CG	43:l:93:LEU:HD21	2.35	0.53
49:r:73:ALA:HA	49:r:76:LEU:HB3	1.88	0.53
53:y:50:U:O2'	53:y:51:C:H5'	2.08	0.53
54:C:11:LEU:HA	54:C:14:VAL:HG22	1.89	0.53
55:z:29:G:H2'	55:z:30:G:O4'	2.08	0.53
1:A:69:C:O2'	1:A:70:G:H5'	2.07	0.53
1:A:275:G:H2'	1:A:276:A:N9	2.24	0.53
1:A:476:G:N2	1:A:478:A:H3'	2.23	0.53
1:A:897:C:H2'	1:A:898:C:H6	1.73	0.53
1:A:972:G:OP2	1:A:974:G:H2'	2.07	0.53
1:A:1153:C:H5'	16:U:76:TYR:CE2	2.39	0.53
1:A:1336:A:H2'	1:A:1337:G:C8	2.43	0.53
1:A:1424:G:H2'	1:A:1425:G:C8	2.43	0.53
1:A:1548:C:H2'	1:A:1549:C:H6	1.74	0.53
1:A:2169:A:H4'	54:C:129:ARG:HH12	1.74	0.53
1:A:2406:U:C2	11:P:72:PRO:HG2	2.43	0.53
1:A:2467:C:O2'	1:A:2468:G:H5'	2.09	0.53
1:A:2627:G:H2'	1:A:2628:C:C6	2.43	0.53
7:H:33:LEU:CD2	7:H:79:VAL:HG13	2.39	0.53
8:I:5:LEU:HD11	8:I:19:VAL:CG2	2.37	0.53
13:R:35:THR:HG22	13:R:111:LEU:HD12	1.90	0.53
13:R:63:ARG:HA	13:R:80:PHE:CE2	2.44	0.53
14:S:35:ILE:HG22	14:S:53:SER:HB3	1.90	0.53
16:U:104:GLN:OE1	16:U:104:GLN:N	2.31	0.53
17:V:2:PHE:CE2	17:V:41:GLY:HA3	2.43	0.53
21:Z:7:ALA:HB2	21:Z:59:LEU:HD22	1.91	0.53
32:a:199:G:O2'	32:a:200:G:H5'	2.08	0.53
32:a:255:G:H2'	32:a:256:U:C6	2.43	0.53
32:a:262:A:H2'	32:a:263:A:C8	2.44	0.53
32:a:343:U:H2'	32:a:345:C:C5	2.44	0.53
32:a:701:C:O2'	32:a:702:A:OP1	2.20	0.53
32:a:721:G:H5'	32:a:722:A:C8	2.43	0.53
32:a:769:G:O2'	32:a:770:C:H5'	2.07	0.53
32:a:830:G:H2'	32:a:831:U:H6	1.74	0.53
32:a:974:A:O4'	45:n:31:ARG:HD3	2.09	0.53
32:a:983:A:H5'	32:a:984:C:OP2	2.08	0.53
32:a:988:G:H2'	32:a:989:C:O4'	2.08	0.53
32:a:1017:G:H2'	32:a:1018:C:O4'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1060:C:C5’	41:j:51:ARG:HB3	2.36	0.53
32:a:1403:C:H2’	32:a:1499:A:H61	1.73	0.53
34:c:152:ILE:CG1	34:c:199:LYS:HB2	2.38	0.53
35:d:60:GLU:HG3	35:d:202:LEU:CB	2.38	0.53
36:e:41:VAL:HG23	36:e:136:MET:HE1	1.91	0.53
37:f:44:GLY:O	37:f:60:PHE:N	2.34	0.53
38:g:135:VAL:O	38:g:139:GLU:HG3	2.09	0.53
43:l:89:ARG:CA	43:l:97:ARG:HA	2.38	0.53
44:m:67:GLU:O	44:m:71:ARG:HG3	2.07	0.53
47:p:20:VAL:HG23	47:p:34:GLU:C	2.33	0.53
51:t:56:MET:CE	51:t:85:MET:HG2	2.38	0.53
54:C:76:ALA:HB3	54:C:94:VAL:HG22	1.89	0.53
1:A:182:A:H2’	1:A:183:C:H5’	1.90	0.53
1:A:353:G:H2’	1:A:354:G:H8	1.74	0.53
1:A:542:C:H2’	1:A:543:C:H6	1.73	0.53
1:A:652(B):A:H3’	1:A:652(C):A:C5’	2.38	0.53
1:A:816:C:O2’	1:A:817:C:H5’	2.09	0.53
1:A:966:G:O4’	1:A:2267:A:N6	2.39	0.53
1:A:2040:C:H2’	1:A:2041:U:C6	2.44	0.53
1:A:2544:G:O2’	1:A:2545:G:H5’	2.08	0.53
3:D:2:ALA:N	3:D:200:ASP:OD2	2.42	0.53
7:H:91:GLY:CA	7:H:160:LYS:HG3	2.39	0.53
14:S:23:ARG:HD3	14:S:85:VAL:N	2.24	0.53
20:Y:87:LYS:CG	20:Y:95:LYS:HD2	2.37	0.53
32:a:39:G:O2’	32:a:40:C:H5’	2.07	0.53
32:a:66:G:H1’	32:a:173:U:N1	2.23	0.53
32:a:115:G:H4’	32:a:116:A:O5’	2.08	0.53
32:a:217:C:O2’	32:a:218:C:H5’	2.08	0.53
32:a:344:A:O2’	32:a:346:G:N7	2.40	0.53
32:a:512:U:H2’	32:a:513:C:H6	1.72	0.53
32:a:563:A:H2’	32:a:567:G:C8	2.43	0.53
32:a:689:C:O2’	32:a:690:G:H5’	2.08	0.53
32:a:1003:G:H3’	32:a:1003:G:N3	2.23	0.53
32:a:1480:G:H2’	32:a:1481:U:O4’	2.08	0.53
33:b:118:LEU:CD1	33:b:142:LEU:HB2	2.39	0.53
37:f:23:LYS:O	37:f:26:ILE:HB	2.07	0.53
41:j:89:ASP:O	41:j:91:PRO:HD3	2.08	0.53
47:p:60:LEU:HD22	47:p:64:ALA:HB3	1.91	0.53
53:y:48:C:H5”	53:y:49:G:H5”	1.90	0.53
53:y:50:U:H3	53:y:64:G:H1	1.56	0.53
54:C:152:ILE:HG22	54:C:156:ILE:CD1	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:25:U:O2'	1:A:26:G:H5'	2.08	0.53
1:A:121:G:H4'	1:A:149:A:H5'	1.90	0.53
1:A:136:G:O2'	1:A:137:C:H5'	2.08	0.53
1:A:310:A:OP1	20:Y:21:LYS:HD2	2.09	0.53
1:A:342:G:O2'	1:A:343:C:H5'	2.08	0.53
1:A:705:A:H2'	1:A:706:A:O4'	2.08	0.53
1:A:772:C:H2'	1:A:773:U:H6	1.74	0.53
1:A:921:G:H2'	1:A:922:U:H6	1.74	0.53
1:A:964:C:O2'	1:A:2273:A:N3	2.40	0.53
1:A:1400:G:H2'	1:A:1401:G:C8	2.43	0.53
1:A:1820:U:H4'	1:A:1821:A:OP2	2.08	0.53
1:A:1826:G:H2'	1:A:1827:C:C6	2.44	0.53
1:A:2363:C:O2'	1:A:2364:C:H5'	2.08	0.53
1:A:2450:A:N6	1:A:2501:C:O2	2.40	0.53
1:A:2619:C:H4'	4:E:151:TYR:O	2.08	0.53
3:D:44:ASN:HB3	3:D:50:THR:HG21	1.89	0.53
4:E:59:VAL:HG12	4:E:64:LYS:HG3	1.91	0.53
5:F:195:ASP:OD1	5:F:196:LEU:N	2.42	0.53
6:G:69:ALA:N	6:G:91:ARG:O	2.42	0.53
7:H:30:LYS:HG2	7:H:80:SER:O	2.08	0.53
16:U:97:ASP:OD1	16:U:101:ARG:NE	2.30	0.53
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.91	0.53
28:6:5:VAL:HG22	28:6:26:ASN:OD1	2.09	0.53
30:8:22:VAL:O	30:8:49:VAL:HA	2.08	0.53
31:9:32:HIS:O	31:9:34:GLN:HG3	2.08	0.53
32:a:227:G:H2'	32:a:228:A:C8	2.44	0.53
32:a:664:G:H2'	32:a:666:G:OP1	2.07	0.53
32:a:1077:G:N2	32:a:1080:A:OP2	2.37	0.53
32:a:1112:C:N4	34:c:178:LEU:HD23	2.23	0.53
32:a:1233:G:H2'	32:a:1234:C:C6	2.43	0.53
32:a:1317:C:O2	50:s:37:ARG:NH1	2.41	0.53
32:a:1360:A:N7	45:n:18:VAL:HG13	2.24	0.53
32:a:1383:C:O2'	32:a:1384:C:H5'	2.09	0.53
34:c:72:LYS:NZ	56:x:31:A:O5'	2.42	0.53
38:g:78:ARG:CG	38:g:80:VAL:HG23	2.33	0.53
51:t:55:ILE:HA	51:t:58:LYS:HB3	1.90	0.53
53:y:35:A:H2'	53:y:36:U:O2	2.09	0.53
54:C:130:ILE:C	54:C:133:PRO:HD2	2.34	0.53
55:z:54:U:H2'	55:z:55:U:O4'	2.09	0.53
1:A:262:A:N3	1:A:430:G:O2'	2.26	0.53
1:A:357:A:H2'	1:A:358:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:469:G:O2'	1:A:470:A:O4'	2.26	0.53
1:A:511:U:C2'	1:A:512:G:H5'	2.38	0.53
1:A:942:G:H2'	1:A:943:U:O4'	2.09	0.53
1:A:1398:C:O2'	1:A:1399:C:H5'	2.08	0.53
1:A:1509(B):A:H3'	1:A:1509(C):A:C8	2.37	0.53
1:A:1666:G:O2'	1:A:1667:G:H5'	2.09	0.53
1:A:1719:G:H2'	1:A:1720:U:C6	2.44	0.53
1:A:2154:G:H2'	1:A:2155:G:C8	2.44	0.53
1:A:2295:C:O2'	1:A:2296:U:H5'	2.09	0.53
1:A:2342:C:O2'	1:A:2374:C:H5"	2.09	0.53
1:A:2609:U:O2'	1:A:2610:C:H5'	2.09	0.53
1:A:2813:A:H2'	1:A:2814:C:C6	2.43	0.53
1:A:2841:C:H2'	1:A:2842:G:C8	2.44	0.53
2:B:41:U:OP1	2:B:43:C:N4	2.41	0.53
2:B:91:C:O2'	2:B:92:C:H5'	2.08	0.53
7:H:42:ARG:O	7:H:52:VAL:HA	2.09	0.53
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.39	0.53
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.08	0.53
13:R:52:ILE:O	13:R:55:ALA:HB3	2.09	0.53
14:S:78:LEU:HD11	14:S:109:GLY:HA3	1.90	0.53
15:T:50:ILE:CG2	15:T:102:ILE:HD11	2.39	0.53
17:V:61:VAL:HG12	17:V:94:LEU:CD2	2.39	0.53
19:X:9:LEU:HB2	19:X:29:TRP:O	2.09	0.53
23:1:12:PRO:HB3	23:1:43:TYR:HD1	1.74	0.53
32:a:285:G:O2'	32:a:286:G:H5'	2.09	0.53
32:a:827:U:H2'	32:a:870:U:O4	2.08	0.53
32:a:830:G:O2'	32:a:831:U:H5'	2.09	0.53
32:a:893:C:H2'	32:a:894:G:C8	2.44	0.53
32:a:1126:U:H1'	32:a:1281:U:H1'	1.90	0.53
32:a:1412:C:H2'	32:a:1413:A:H8	1.72	0.53
32:a:1444:C:O2'	32:a:1445:C:H5'	2.08	0.53
32:a:1532:U:OP2	32:a:1533:C:H5'	2.09	0.53
33:b:98:LEU:O	33:b:101:MET:HG3	2.09	0.53
34:c:137:ALA:HA	34:c:140:ARG:NH1	2.24	0.53
37:f:33:TYR:CD1	37:f:71:ARG:HD3	2.42	0.53
38:g:104:LEU:O	38:g:123:GLU:HG2	2.09	0.53
38:g:130:GLY:C	38:g:135:VAL:HG21	2.34	0.53
40:i:9:ARG:HA	40:i:13:ALA:O	2.07	0.53
41:j:37:PRO:HA	41:j:72:VAL:HG12	1.91	0.53
43:l:36:VAL:C	43:l:58:VAL:HG13	2.34	0.53
44:m:13:LYS:HB3	44:m:17:VAL:CG2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:m:99:ARG:HB2	44:m:101:GLN:NE2	2.18	0.53
1:A:77:C:H2'	1:A:78:A:C8	2.44	0.53
1:A:286:C:H2'	1:A:287:C:C6	2.43	0.53
1:A:321:G:C2	5:F:165:ARG:HD2	2.42	0.53
1:A:565:C:H2'	1:A:566:U:C6	2.44	0.53
1:A:859:G:O2'	1:A:916:G:O6	2.26	0.53
1:A:1117:G:O2'	1:A:1118:C:H5'	2.08	0.53
1:A:1151:G:H4'	16:U:81:HIS:ND1	2.24	0.53
1:A:1563:G:O2'	1:A:1564:C:H5'	2.08	0.53
1:A:1591:G:O2'	1:A:1592:C:H5'	2.09	0.53
1:A:1667:G:N1	1:A:1992:G:OP2	2.29	0.53
1:A:2012:G:OP1	18:W:11:ARG:NH2	2.38	0.53
1:A:2341:G:H2'	1:A:2342:C:C6	2.43	0.53
1:A:2487:G:H2'	1:A:2488:A:C8	2.43	0.53
1:A:2570:G:H2'	1:A:2571:C:O4'	2.09	0.53
1:A:2697:G:H2'	1:A:2698:U:C6	2.44	0.53
1:A:2785:C:O3'	4:E:69:LYS:NZ	2.22	0.53
1:A:2877:G:H2'	1:A:2878:U:C6	2.44	0.53
2:B:46:A:H2'	2:B:47:C:O4'	2.09	0.53
2:B:73:A:H2'	2:B:74:U:H5'	1.91	0.53
2:B:113:G:O2'	2:B:114:C:H5'	2.08	0.53
3:D:111:LEU:HD13	3:D:112:GLN:N	2.23	0.53
6:G:3:LEU:HD13	26:4:25:TYR:CE2	2.44	0.53
8:I:38:LEU:HD22	8:I:40:THR:CG2	2.38	0.53
15:T:109:GLU:HG2	15:T:112:ARG:NH2	2.23	0.53
21:Z:119:GLU:OE1	21:Z:122:ARG:NH1	2.41	0.53
32:a:63:C:N4	32:a:98:G:H1'	2.21	0.53
32:a:68:G:H5"	32:a:68:G:N9	2.23	0.53
32:a:71:C:H1'	32:a:381:C:N4	2.23	0.53
32:a:187:C:H2'	32:a:188:C:C6	2.44	0.53
32:a:403:C:H2'	32:a:404:U:H6	1.73	0.53
32:a:406:G:H21	35:d:119:GLN:HE22	1.55	0.53
32:a:1305:G:OP2	52:u:2:GLY:N	2.42	0.53
32:a:1359:C:H3'	45:n:35:ARG:HH21	1.74	0.53
41:j:8:LEU:CD2	41:j:96:ILE:HG13	2.38	0.53
44:m:40:ASN:HB3	44:m:43:THR:CG2	2.38	0.53
46:o:3:ILE:HA	46:o:7:GLU:OE1	2.09	0.53
50:s:39:THR:HA	50:s:70:LYS:HA	1.90	0.53
54:C:10:LEU:HD21	54:C:34:THR:CG2	2.38	0.53
54:C:42:GLU:O	54:C:214:VAL:HA	2.08	0.53
54:C:47:LEU:CD1	54:C:171:ILE:HB	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:91:ALA:CB	54:C:153:ILE:HD13	2.31	0.53
54:C:192:PHE:CZ	54:C:196:LEU:HD11	2.43	0.53
1:A:42:G:O2'	1:A:43:A:H5'	2.09	0.53
1:A:125:G:N3	29:7:48:LYS:HE3	2.24	0.53
1:A:152:G:O2'	1:A:153:C:H5'	2.09	0.53
1:A:356:G:H2'	1:A:357:A:C8	2.44	0.53
1:A:536:A:H2'	1:A:537:C:H6	1.74	0.53
1:A:715:G:O2'	1:A:716:A:H5'	2.08	0.53
1:A:729:G:P	3:D:13:ARG:HD3	2.49	0.53
1:A:1030:G:O2'	1:A:1031:G:H5'	2.09	0.53
1:A:1796:U:O3'	3:D:256:GLY:HA2	2.09	0.53
1:A:1917:PSU:O2'	1:A:1918:A:H5'	2.09	0.53
1:A:1986:A:O2'	1:A:1987:G:H5'	2.09	0.53
1:A:2051:A:H5'	1:A:2578:G:O4'	2.09	0.53
1:A:2122:U:H1'	54:C:166:ASP:OD2	2.09	0.53
1:A:2143:C:H2'	1:A:2144:U:C5'	2.37	0.53
1:A:2370:G:O2'	1:A:2371:G:H5'	2.08	0.53
1:A:2444:G:OP2	5:F:68:LYS:HD2	2.09	0.53
1:A:2667:C:H1'	7:H:109:PHE:CD1	2.39	0.53
1:A:2693:A:H2'	1:A:2694:G:H8	1.74	0.53
1:A:2849:U:H1'	1:A:2866:U:O2	2.09	0.53
2:B:55:U:O2'	2:B:57:A:N7	2.41	0.53
5:F:192:LEU:HD21	5:F:194:MET:HG3	1.90	0.53
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.90	0.53
6:G:151:ALA:O	6:G:153:ARG:NH1	2.42	0.53
7:H:137:ASP:OD1	7:H:139:GLN:N	2.42	0.53
7:H:156:ALA:O	7:H:171:LEU:HB2	2.09	0.53
10:O:64:ARG:HH12	15:T:70:VAL:HG21	1.74	0.53
13:R:22:ARG:O	13:R:26:LYS:HG3	2.09	0.53
20:Y:10:GLY:N	20:Y:27:VAL:HB	2.23	0.53
21:Z:30:ASN:OD1	21:Z:33:LEU:HG	2.09	0.53
21:Z:61:LEU:HB2	21:Z:65:GLN:HB2	1.91	0.53
21:Z:96:VAL:HG22	21:Z:97:GLU:H	1.73	0.53
26:4:16:CYS:HA	26:4:33:VAL:CG2	2.39	0.53
32:a:173:U:OP2	32:a:197:A:H5'	2.09	0.53
32:a:238:G:OP1	48:q:25:ARG:NH2	2.39	0.53
32:a:284:G:O2'	32:a:285:G:H5'	2.08	0.53
32:a:553:A:H2'	32:a:554:C:C6	2.44	0.53
32:a:600:C:H5"	39:h:97:VAL:HG23	1.89	0.53
32:a:630:G:H3'	32:a:631:G:C8	2.40	0.53
32:a:950:U:O2'	32:a:951:G:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:980:C:H2'	32:a:981:U:O4'	2.09	0.53
32:a:1126:U:C1'	32:a:1281:U:H1'	2.39	0.53
32:a:1304:G:O2'	32:a:1333:A:N6	2.34	0.53
32:a:1476:G:O2'	32:a:1477:C:H5'	2.09	0.53
33:b:54:THR:O	33:b:58:ILE:N	2.41	0.53
35:d:95:GLY:O	35:d:99:SER:N	2.41	0.53
38:g:16:LEU:HD11	40:i:45:ALA:CA	2.39	0.53
43:l:26:ALA:HA	43:l:64:TYR:HD2	1.74	0.53
49:r:23:LYS:HD2	49:r:58:LEU:CD1	2.39	0.53
50:s:37:ARG:O	50:s:70:LYS:HD2	2.09	0.53
1:A:250:G:H2'	1:A:251:A:C8	2.44	0.53
1:A:363(D):G:H2'	1:A:363(E):G:C8	2.44	0.53
1:A:492:A:H2'	1:A:493:G:O4'	2.09	0.53
1:A:724:U:O2'	1:A:725:G:H5'	2.09	0.53
1:A:767:U:O2'	1:A:768:G:H5'	2.08	0.53
1:A:849:A:H3'	1:A:850:C:H6	1.74	0.53
1:A:857:C:O2'	1:A:858:U:H5'	2.08	0.53
1:A:948:G:H2'	1:A:949:C:C6	2.43	0.53
1:A:1030:G:OP2	12:Q:128:LYS:NZ	2.42	0.53
1:A:1362:C:C2'	1:A:1363:C:H5"	2.37	0.53
1:A:1562:A:H2'	1:A:1563:G:H8	1.74	0.53
1:A:1645:G:H5"	1:A:1646:C:C5'	2.39	0.53
1:A:1802:A:H2'	1:A:1803:A:C8	2.43	0.53
1:A:2307:G:H4'	1:A:2308:G:O5'	2.09	0.53
1:A:2507:C:C2'	1:A:2508:G:H5'	2.39	0.53
1:A:2574:G:H2'	1:A:2575:C:O4'	2.09	0.53
7:H:9:ILE:CG1	7:H:69:ARG:HG2	2.38	0.53
7:H:20:ALA:HB1	7:H:21:PRO:HD2	1.89	0.53
9:N:15:LEU:HD22	9:N:16:ILE:H	1.72	0.53
12:Q:42:ILE:HD13	12:Q:97:VAL:CG2	2.39	0.53
18:W:66:GLU:HA	18:W:69:LEU:CD1	2.38	0.53
19:X:72:LYS:HG2	19:X:73:ARG:O	2.09	0.53
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.09	0.53
21:Z:48:PHE:HA	21:Z:51:ALA:HB3	1.90	0.53
21:Z:107:THR:O	21:Z:142:SER:HA	2.09	0.53
29:7:30:VAL:HG22	29:7:33:ARG:NH2	2.24	0.53
30:8:38:GLY:O	30:8:42:ARG:HB2	2.08	0.53
32:a:73:G:H1'	32:a:199:G:H4'	1.90	0.53
32:a:150:C:H2'	32:a:151:A:C1'	2.39	0.53
32:a:192:U:H4'	51:t:57:ARG:HD3	1.90	0.53
32:a:520:A:OP1	43:l:52:LEU:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:612:C:O2'	32:a:613:C:H5'	2.08	0.53
32:a:632:A:C2'	32:a:633:G:H5'	2.39	0.53
32:a:707:C:H4'	42:k:20:TYR:CG	2.44	0.53
32:a:934:C:H5	32:a:1344:C:H2'	1.74	0.53
32:a:960:U:H2'	32:a:1225:A:H62	1.74	0.53
32:a:978:A:O2'	32:a:979:C:H5'	2.08	0.53
32:a:1029:C:H5'	32:a:1030(A):C:P	2.48	0.53
32:a:1221:G:OP1	50:s:36:ARG:HD3	2.08	0.53
32:a:1255:G:OP1	34:c:26:LYS:NZ	2.25	0.53
33:b:205:ASP:O	33:b:211:ILE:HD11	2.09	0.53
34:c:173:VAL:HG12	34:c:175:LEU:HD12	1.91	0.53
35:d:108:LEU:CD2	35:d:183:GLY:HA3	2.39	0.53
35:d:173:TRP:HB2	35:d:187:ARG:O	2.09	0.53
36:e:15:ARG:HH21	56:x:22:U:H1'	1.73	0.53
36:e:32:VAL:O	36:e:44:GLY:N	2.41	0.53
38:g:76:ARG:CD	38:g:89:MET:HG3	2.39	0.53
43:l:89:ARG:HG3	43:l:96:VAL:C	2.34	0.53
44:m:87:TYR:HA	44:m:90:LEU:HB2	1.91	0.53
52:u:18:TYR:HB2	52:u:24:ARG:HH21	1.74	0.53
54:C:27:ARG:HD3	54:C:182:PRO:CG	2.39	0.53
54:C:47:LEU:HD21	54:C:196:LEU:HD13	1.91	0.53
54:C:82:LYS:HD3	54:C:85:GLU:OE2	2.08	0.53
55:z:65:G:O2'	55:z:66:U:H5'	2.08	0.53
1:A:328:U:H4'	20:Y:68:HIS:CG	2.44	0.52
1:A:365:C:H2'	1:A:366:C:O4'	2.08	0.52
1:A:596:G:O2'	1:A:597:U:H5'	2.09	0.52
1:A:797:C:OP2	5:F:62:ARG:HB2	2.08	0.52
1:A:831:G:O2'	11:P:38:GLN:OE1	2.26	0.52
1:A:904:C:O2'	21:Z:169:GLU:OE2	2.16	0.52
1:A:1411:C:H2'	1:A:1412:A:H8	1.74	0.52
1:A:1427:A:H4'	1:A:1428:C:O4'	2.09	0.52
1:A:1655:A:O2'	4:E:115:GLY:HA2	2.09	0.52
1:A:1657:C:H2'	1:A:1658:C:C6	2.44	0.52
1:A:1948:G:O2'	1:A:1949:G:H5'	2.08	0.52
1:A:2258:C:O2'	1:A:2426:A:H4'	2.08	0.52
1:A:2416:C:O2'	1:A:2417:C:H5'	2.09	0.52
1:A:2573:C:OP1	1:A:2574:G:H5"	2.09	0.52
1:A:2684:U:O2'	1:A:2685:G:H5'	2.09	0.52
1:A:2823:A:OP1	4:E:113:PHE:HB2	2.08	0.52
2:B:26:A:H2'	2:B:27:C:C6	2.45	0.52
5:F:132:VAL:HA	5:F:138:GLU:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:P:81:GLN:HB2	11:P:110:TYR:CD2	2.43	0.52
17:V:32:THR:HG22	17:V:60:GLU:CB	2.39	0.52
21:Z:10:ARG:HG2	21:Z:37:VAL:N	2.25	0.52
26:4:61:ARG:HD3	26:4:64:GLY:HA3	1.91	0.52
32:a:68:G:N3	32:a:77:G:H1'	2.25	0.52
32:a:146:G:H2'	32:a:147:G:C8	2.44	0.52
32:a:402:G:O2'	32:a:403:C:H5'	2.09	0.52
32:a:596:C:H2'	32:a:597:G:C8	2.44	0.52
32:a:663:A:H5'	32:a:836:G:OP1	2.09	0.52
32:a:865:A:H5'	32:a:1078:U:O4	2.08	0.52
32:a:1128:C:H1'	32:a:1147:C:N3	2.24	0.52
32:a:1166:G:N2	32:a:1170:A:OP2	2.32	0.52
32:a:1386:G:O2'	32:a:1387:G:H5'	2.08	0.52
33:b:93:VAL:CG1	33:b:101:MET:HE1	2.39	0.52
34:c:120:VAL:O	34:c:124:ILE:HG12	2.09	0.52
37:f:95:GLU:O	49:r:32:ARG:HD2	2.09	0.52
39:h:92:ARG:HD2	39:h:132:GLU:OE2	2.09	0.52
40:i:32:ASP:O	40:i:35:GLU:HB3	2.09	0.52
42:k:109:VAL:HA	49:r:85:LEU:O	2.09	0.52
53:y:24:U:H2'	53:y:25:C:O4'	2.09	0.52
1:A:7:G:H5"	9:N:121:LYS:HZ1	1.74	0.52
1:A:39:C:H2'	1:A:40:C:C6	2.44	0.52
1:A:154(B):C:C2'	1:A:157:U:H4'	2.38	0.52
1:A:471:A:H2'	1:A:472:A:O4'	2.08	0.52
1:A:610:G:O2'	1:A:611:C:H5'	2.09	0.52
1:A:730:C:H2'	1:A:731:C:H6	1.74	0.52
1:A:886:C:H1'	1:A:889:C:H41	1.73	0.52
1:A:1138:G:N3	9:N:106:MET:HE2	2.24	0.52
1:A:1165:U:O2	1:A:1184:G:N2	2.37	0.52
1:A:1529:G:O6	1:A:1541:G:N2	2.42	0.52
1:A:1701:A:H2'	1:A:1702:G:H5'	1.89	0.52
1:A:1743:C:O2'	1:A:1744:C:H5'	2.09	0.52
1:A:1797:C:O2'	3:D:259:THR:HG22	2.09	0.52
1:A:1949:G:O2'	1:A:1950:G:H5'	2.08	0.52
1:A:1996:C:H4'	1:A:1997:G:H5'	1.91	0.52
1:A:2169:A:N7	55:z:19:G:N2	2.58	0.52
1:A:2228:G:H2'	1:A:2229:C:O4'	2.09	0.52
2:B:39:A:H2'	2:B:40:U:C6	2.44	0.52
4:E:49:LEU:O	4:E:78:LEU:HA	2.09	0.52
5:F:7:TYR:HB2	5:F:24:LEU:HD13	1.91	0.52
7:H:33:LEU:HD23	7:H:136:ILE:CG2	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:35:VAL:O	7:H:37:VAL:HG23	2.09	0.52
8:I:69:LYS:HG3	8:I:138:ILE:HG12	1.89	0.52
14:S:58:LEU:HD13	14:S:68:GLN:HB2	1.91	0.52
32:a:192:U:H2'	32:a:193:C:H6	1.74	0.52
32:a:193:C:O2'	32:a:194:C:H5'	2.08	0.52
32:a:337:C:H2'	32:a:338:A:H8	1.74	0.52
32:a:606:G:O2'	32:a:632:A:N6	2.42	0.52
32:a:668:G:O2'	32:a:669:U:H5'	2.08	0.52
32:a:688:G:H2'	32:a:689:C:C6	2.44	0.52
32:a:878:G:O2'	32:a:879:C:H5'	2.09	0.52
32:a:972:C:O3'	41:j:57:LYS:HD3	2.09	0.52
32:a:1325:C:H2'	32:a:1326:C:H6	1.74	0.52
32:a:1352:C:H2'	32:a:1353:G:C8	2.44	0.52
32:a:1499:A:H2'	32:a:1500:A:H5'	1.91	0.52
33:b:80:ILE:CD1	33:b:212:GLN:HA	2.40	0.52
33:b:164:VAL:HB	33:b:186:ALA:HB2	1.91	0.52
35:d:156:GLU:HA	35:d:159:ARG:HD2	1.91	0.52
35:d:170:VAL:HG12	35:d:174:LEU:HB2	1.91	0.52
44:m:65:LYS:NZ	44:m:73:GLU:HB2	2.24	0.52
1:A:108:U:H2'	1:A:109:G:H8	1.74	0.52
1:A:530:G:C2	1:A:2022:U:H4'	2.44	0.52
1:A:665:C:H2'	1:A:666:G:H8	1.74	0.52
1:A:689:A:H2'	1:A:690:G:H8	1.75	0.52
1:A:736:C:H2'	1:A:737:C:C6	2.45	0.52
1:A:839:U:H2'	1:A:840:C:C6	2.44	0.52
1:A:848:G:OP2	1:A:928:G:N1	2.22	0.52
1:A:1015:G:O2'	1:A:1016:G:H5'	2.08	0.52
1:A:1252:G:O2'	1:A:1253:A:H5"	2.09	0.52
1:A:1283:G:O2'	1:A:1285:G:N7	2.37	0.52
1:A:1792:G:H2'	1:A:1793:C:C6	2.44	0.52
1:A:1794:U:O2'	1:A:1795:C:H5'	2.09	0.52
1:A:1866:C:H2'	1:A:1876:A:O4'	2.10	0.52
1:A:2016:U:H1'	27:5:6:VAL:CG1	2.40	0.52
1:A:2093:G:O2'	1:A:2094:G:H5'	2.09	0.52
1:A:2219:G:H2'	1:A:2220:G:O4'	2.09	0.52
1:A:2394:C:N3	55:z:76:A:O2'	2.34	0.52
1:A:2472:G:O6	1:A:2475:C:H2'	2.10	0.52
1:A:2788:C:H2'	1:A:2789:C:C6	2.45	0.52
1:A:2807:G:H3'	1:A:2808:U:H5"	1.92	0.52
1:A:2867:G:O6	15:T:23:ARG:HD2	2.09	0.52
10:O:61:VAL:HG21	10:O:111:PHE:CE2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:P:63:PRO:HB2	30:8:30:ARG:NH2	2.23	0.52
12:Q:76:LYS:HB3	12:Q:91:GLU:OE2	2.09	0.52
15:T:29:ARG:CG	15:T:44:ASP:HB3	2.39	0.52
23:1:60:PHE:CE1	23:1:91:LYS:HE3	2.45	0.52
26:4:46:GLN:O	26:4:48:ARG:N	2.42	0.52
32:a:79:G:H2'	32:a:80:G:C4'	2.39	0.52
32:a:125:U:O2'	32:a:126:G:H5'	2.10	0.52
32:a:189(B):C:H2'	32:a:189(C):C:C6	2.44	0.52
32:a:202:U:O2'	32:a:203:U:O5'	2.25	0.52
32:a:663:A:H2'	32:a:664:G:C8	2.45	0.52
32:a:680:C:O2'	32:a:681:C:H5'	2.09	0.52
32:a:965:A:H4'	32:a:966:M2G:O5'	2.09	0.52
32:a:1014:A:H4'	50:s:14:HIS:CG	2.44	0.52
32:a:1086:U:H2'	32:a:1087:G:H5'	1.90	0.52
32:a:1477:C:O2'	32:a:1478:C:H5'	2.08	0.52
33:b:192:SER:O	33:b:194:PRO:HD3	2.09	0.52
34:c:159:GLY:HA2	34:c:193:TYR:CD2	2.44	0.52
38:g:115:ARG:HD3	38:g:118:VAL:CG2	2.39	0.52
41:j:81:THR:HA	41:j:84:GLN:HB3	1.91	0.52
49:r:59:SER:N	49:r:62:GLU:OE1	2.36	0.52
56:x:34:C:O2'	56:x:35:G:H5'	2.10	0.52
1:A:181:A:H1'	1:A:435:C:H5"	1.91	0.52
1:A:335:C:H5"	20:Y:73:ARG:NH1	2.25	0.52
1:A:993:G:O2'	1:A:994:C:H5'	2.10	0.52
1:A:1049:C:N4	1:A:2751:G:O6	2.42	0.52
1:A:1167:U:H2'	1:A:1168:G:H8	1.73	0.52
1:A:1414:G:H2'	1:A:1415:U:H6	1.74	0.52
1:A:1476:C:H2'	1:A:1477:A:H8	1.75	0.52
1:A:1496:A:HO2'	1:A:1577:C:HO2'	1.30	0.52
1:A:1561:G:H2'	1:A:1562:A:H8	1.73	0.52
1:A:1666:G:H1'	10:O:3:GLN:HE21	1.74	0.52
1:A:2049:G:O2'	1:A:2050:C:H5'	2.08	0.52
1:A:2470:G:H5'	12:Q:56:ARG:HH22	1.75	0.52
1:A:2597:G:H2'	1:A:2598:A:C8	2.45	0.52
1:A:2675:A:H2'	1:A:2676:C:C6	2.43	0.52
1:A:2723:C:H2'	1:A:2724:C:O4'	2.09	0.52
2:B:21:G:H2'	2:B:22:U:O4'	2.10	0.52
3:D:175:LEU:O	3:D:182:LEU:HA	2.10	0.52
4:E:6:GLY:HA2	4:E:28:ALA:HA	1.91	0.52
4:E:18:ASP:CB	15:T:82:LEU:HD11	2.40	0.52
4:E:134:ILE:HA	4:E:137:HIS:CD2	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:181:LEU:HD21	15:T:6:LEU:CD1	2.40	0.52
6:G:124:SER:OG	6:G:132:ASN:O	2.15	0.52
7:H:107:VAL:HG21	7:H:152:ARG:CB	2.40	0.52
7:H:147:ASN:O	7:H:151:ILE:HG13	2.09	0.52
15:T:39:ARG:HH22	15:T:41:ARG:HD3	1.73	0.52
16:U:74:LEU:HD23	16:U:114:LYS:CE	2.39	0.52
17:V:61:VAL:HG12	17:V:94:LEU:HD21	1.91	0.52
28:6:9:LEU:HD11	28:6:23:THR:HG23	1.90	0.52
32:a:61:G:H2'	32:a:62:U:O4'	2.08	0.52
32:a:443:C:H2'	32:a:444:C:H6	1.74	0.52
32:a:551:U:H2'	32:a:552:U:C6	2.44	0.52
32:a:617:G:H2'	32:a:618:C:O4'	2.09	0.52
32:a:624:C:O2'	32:a:625:G:H5'	2.09	0.52
32:a:764:C:H5"	46:o:50:HIS:CE1	2.44	0.52
32:a:959:A:O2'	32:a:960:U:OP1	2.17	0.52
32:a:1010:G:O2'	32:a:1011:G:H5'	2.09	0.52
32:a:1027:C:H3'	32:a:1028:C:C5'	2.38	0.52
32:a:1150:U:C2'	32:a:1151:A:H5'	2.40	0.52
33:b:128:GLU:HA	33:b:135:GLN:NE2	2.25	0.52
35:d:116:GLN:NE2	35:d:157:LEU:HD21	2.24	0.52
35:d:143:GLY:N	35:d:185:PHE:O	2.42	0.52
43:l:70:ILE:HD13	43:l:77:LEU:HD12	1.91	0.52
49:r:52:PRO:HD2	49:r:55:ARG:HG3	1.91	0.52
50:s:52:TYR:HA	50:s:56:GLN:O	2.09	0.52
51:t:87:LYS:O	51:t:91:LEU:HG	2.09	0.52
53:y:40:C:O2'	53:y:41:C:H5'	2.09	0.52
1:A:85:G:OP1	20:Y:9:LYS:N	2.41	0.52
1:A:111:A:H2'	1:A:112:U:H6	1.74	0.52
1:A:839:U:H2'	1:A:840:C:H6	1.74	0.52
1:A:892:G:H2'	1:A:893:C:C6	2.44	0.52
1:A:1124:C:H2'	1:A:1125:G:O4'	2.10	0.52
1:A:1289:C:H2'	1:A:1290:C:H6	1.74	0.52
1:A:1428:C:C5	1:A:1569:A:H5"	2.45	0.52
1:A:1628:G:H2'	1:A:1629:U:C6	2.45	0.52
1:A:1747(B):G:H2'	1:A:1748:G:C8	2.43	0.52
1:A:2041:U:H2'	1:A:2042:A:C8	2.44	0.52
1:A:2177:C:H5"	54:C:213:TYR:HB2	1.91	0.52
1:A:2178:C:O2'	54:C:168:THR:HB	2.09	0.52
1:A:2230:G:H1'	23:1:45:ASN:OD1	2.08	0.52
1:A:2420:C:P	30:8:33:ASN:H	2.33	0.52
1:A:2675:A:H2'	1:A:2676:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:3:VAL:CG2	3:D:17:THR:HB	2.40	0.52
5:F:164:ARG:O	5:F:168:ARG:HG3	2.09	0.52
8:I:72:LEU:HD11	8:I:107:VAL:CG1	2.38	0.52
13:R:73:VAL:O	13:R:77:ARG:HG3	2.09	0.52
14:S:85:VAL:CG1	14:S:110:LEU:HD21	2.39	0.52
16:U:49:HIS:HA	16:U:52:ARG:HB3	1.91	0.52
20:Y:39:VAL:HG21	20:Y:67:LEU:HD12	1.91	0.52
20:Y:85:VAL:HG12	20:Y:106:LEU:CD1	2.40	0.52
22:0:17:GLN:O	22:0:19:LYS:HE3	2.10	0.52
32:a:93:G:H1'	32:a:101:A:C2	2.44	0.52
32:a:300:A:H2'	32:a:301:G:O4'	2.10	0.52
32:a:520:A:OP2	43:l:51:ALA:HB1	2.10	0.52
32:a:758:G:H5"	32:a:880:C:H1'	1.92	0.52
32:a:1039:C:O2'	32:a:1040:U:H5'	2.10	0.52
32:a:1423:G:O2'	32:a:1424:C:H5'	2.09	0.52
32:a:1513:A:H2'	32:a:1514:C:H6	1.73	0.52
32:a:1514:C:O2'	32:a:1515:C:H5'	2.09	0.52
34:c:29:TYR:HE1	45:n:54:PRO:HG2	1.74	0.52
41:j:7:LYS:HB2	41:j:97:GLU:CB	2.40	0.52
47:p:8:ARG:HA	47:p:17:TYR:CD1	2.44	0.52
48:q:61:GLU:HA	48:q:71:PHE:CD1	2.44	0.52
53:y:6:G:H2'	53:y:7:G:H8	1.74	0.52
54:C:8:ARG:O	54:C:12:GLU:HG2	2.10	0.52
1:A:107:C:O2'	1:A:108:U:H5'	2.10	0.52
1:A:428:A:O2'	1:A:429:A:H5'	2.09	0.52
1:A:457:A:N6	1:A:471:A:OP2	2.43	0.52
1:A:853:G:C2'	1:A:854:G:H5'	2.39	0.52
1:A:968:G:H2'	1:A:969:U:H6	1.75	0.52
1:A:1094:U:H4'	1:A:1096:A:C8	2.45	0.52
1:A:1512:U:H2'	1:A:1513:C:C6	2.45	0.52
1:A:1711:C:O2'	1:A:1712:C:H5'	2.10	0.52
1:A:1763:G:H2'	1:A:1764:G:O3'	2.08	0.52
1:A:1803:A:O2'	3:D:259:THR:HG21	2.10	0.52
1:A:2024:G:O2'	1:A:2025:C:H5'	2.10	0.52
1:A:2055:C:H5'	1:A:2056:G:O5'	2.09	0.52
1:A:2173:A:H2'	1:A:2174:C:O4'	2.10	0.52
1:A:2199:A:H3'	1:A:2200:C:C6	2.45	0.52
1:A:2364:C:H2'	1:A:2365:G:O4'	2.09	0.52
1:A:2392:A:N6	1:A:2424:C:O2	2.42	0.52
5:F:143:ALA:HA	5:F:146:ALA:HB3	1.91	0.52
6:G:119:GLY:C	6:G:181:ARG:HB2	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:6:LEU:HD11	8:I:37:VAL:HG23	1.92	0.52
10:O:103:ALA:HB1	10:O:105:GLU:OE1	2.10	0.52
14:S:24:LEU:HB2	14:S:85:VAL:HG23	1.92	0.52
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.39	0.52
32:a:557:G:O2'	32:a:558:G:H5'	2.09	0.52
32:a:594:G:H3'	32:a:595:G:H8	1.74	0.52
32:a:678:U:H2'	32:a:679:C:C6	2.45	0.52
32:a:684:A:O2'	32:a:685:G:H5'	2.09	0.52
32:a:703:G:H4'	32:a:704:A:H5'	1.91	0.52
32:a:910:C:O2'	32:a:911:U:H5'	2.10	0.52
32:a:1271:G:O2'	32:a:1272:G:H5'	2.10	0.52
32:a:1392:G:O2'	32:a:1393:U:H5'	2.10	0.52
33:b:166:ASP:HB3	33:b:169:LYS:CB	2.39	0.52
34:c:190:ARG:H	34:c:190:ARG:HD3	1.74	0.52
37:f:97:PHE:HE2	49:r:62:GLU:HG2	1.75	0.52
38:g:80:VAL:HB	38:g:85:TYR:CD2	2.45	0.52
40:i:6:GLY:O	40:i:17:VAL:HG12	2.10	0.52
40:i:78:LYS:O	40:i:81:ILE:HG22	2.10	0.52
42:k:71:LYS:O	42:k:74:ALA:HB3	2.10	0.52
1:A:747:U:O2'	18:W:92:ARG:NH2	2.43	0.52
1:A:1331:A:H2'	1:A:1333:C:C5	2.45	0.52
1:A:1744:C:O2'	1:A:1745(A):C:H5'	2.10	0.52
1:A:1753:G:H2'	1:A:1755:A:OP2	2.09	0.52
1:A:1834:U:H5"	1:A:1835:G:H5'	1.90	0.52
1:A:2343:C:H2'	1:A:2344:U:H6	1.73	0.52
1:A:2656:U:O2	1:A:2665:A:N7	2.42	0.52
1:A:2700:C:O2'	1:A:2701:C:H5'	2.09	0.52
1:A:2780:G:OP1	9:N:118:LYS:HE2	2.09	0.52
2:B:112:U:H2'	2:B:113:G:C8	2.45	0.52
6:G:44:GLY:O	6:G:47:LYS:NZ	2.20	0.52
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.74	0.52
18:W:8:ARG:HG2	18:W:9:TYR:CD2	2.45	0.52
21:Z:59:LEU:HD11	21:Z:88:PHE:CD1	2.45	0.52
26:4:14:ILE:HD12	26:4:22:ILE:CG2	2.40	0.52
27:5:16:ARG:O	27:5:19:ARG:HG2	2.10	0.52
30:8:28:GLY:O	30:8:36:LYS:NZ	2.39	0.52
32:a:359:U:H2'	32:a:360:A:C8	2.45	0.52
32:a:499:A:H4'	32:a:500:G:H5'	1.92	0.52
32:a:692:U:OP2	42:k:26:ASN:ND2	2.27	0.52
32:a:945:G:N2	32:a:1334:G:H4'	2.24	0.52
32:a:1115:C:O2'	32:a:1116:C:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1187:G:H2'	32:a:1188:A:H8	1.73	0.52
32:a:1201:A:H4'	32:a:1202:G:C5'	2.40	0.52
32:a:1255:G:O2'	32:a:1258:G:H1'	2.10	0.52
32:a:1293:G:H2'	32:a:1294:G:H8	1.75	0.52
32:a:1320:C:O2'	32:a:1321:C:H5'	2.09	0.52
33:b:76:GLN:HB2	33:b:208:ILE:HD11	1.91	0.52
34:c:122:GLU:O	34:c:126:ARG:HG3	2.09	0.52
37:f:33:TYR:CD2	37:f:75:LEU:HD23	2.44	0.52
40:i:69:GLY:O	40:i:73:GLN:HG3	2.10	0.52
42:k:25:TYR:CE1	42:k:88:GLY:HA2	2.44	0.52
54:C:65:PRO:CG	54:C:187:ASP:HB3	2.40	0.52
54:C:74:VAL:CG1	54:C:114:VAL:HG22	2.39	0.52
1:A:43:A:H2'	1:A:44:G:C8	2.44	0.52
1:A:272(I):G:H2'	1:A:272(J):C:C6	2.45	0.52
1:A:272(T):C:H2'	1:A:272(U):G:C8	2.44	0.52
1:A:580:C:O2'	1:A:581:C:H5'	2.10	0.52
1:A:652(C):A:H2'	1:A:652(D):G:C8	2.42	0.52
1:A:798:G:O2'	1:A:799:G:H5'	2.09	0.52
1:A:1160:G:O2'	1:A:1161:C:H5'	2.10	0.52
1:A:1295:C:H2'	1:A:1296:G:C8	2.45	0.52
1:A:1479:G:N2	1:A:1512:U:O2	2.32	0.52
1:A:1569:A:H2'	1:A:1570:A:C8	2.45	0.52
1:A:1640:C:O2'	1:A:1641:A:H5'	2.09	0.52
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.92	0.52
1:A:1853:A:H2'	1:A:1854:A:C8	2.45	0.52
1:A:2400:G:H4'	28:6:18:ARG:HG3	1.92	0.52
1:A:2651:C:O2'	1:A:2652:C:H5'	2.09	0.52
1:A:2760:C:O2'	1:A:2761:G:H5'	2.09	0.52
3:D:228:PRO:HG3	3:D:235:GLY:HA3	1.92	0.52
10:O:14:THR:OG1	10:O:86:ILE:HD12	2.09	0.52
12:Q:69:PHE:CD1	12:Q:70:PRO:HD2	2.44	0.52
12:Q:73:PRO:HA	12:Q:93:TYR:CD1	2.45	0.52
13:R:8:ARG:HB2	13:R:43:GLU:CG	2.39	0.52
20:Y:76:CYS:SG	20:Y:99:CYS:HB2	2.50	0.52
32:a:187:C:H2'	32:a:188:C:H6	1.75	0.52
32:a:679:C:O2'	32:a:680:C:H5'	2.10	0.52
32:a:875:C:O2'	39:h:14:ARG:HD2	2.10	0.52
32:a:979:C:N4	45:n:18:VAL:HG12	2.25	0.52
32:a:1065:U:H4'	32:a:1066:C:O5'	2.10	0.52
32:a:1074:G:H2'	32:a:1075:C:C6	2.44	0.52
32:a:1316:G:H4'	45:n:18:VAL:CG2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:162:ILE:HD13	33:b:177:ALA:HB2	1.91	0.52
34:c:22:TRP:HB3	34:c:59:ARG:H	1.74	0.52
34:c:24:ALA:HB3	34:c:29:TYR:HD1	1.75	0.52
35:d:173:TRP:NE1	35:d:189:PRO:HG3	2.25	0.52
36:e:127:ASN:O	36:e:131:ILE:HG12	2.09	0.52
39:h:10:LEU:CD2	39:h:83:ILE:HD11	2.39	0.52
40:i:127:LYS:HE3	53:y:33:U:OP2	2.10	0.52
41:j:6:ILE:HB	41:j:72:VAL:O	2.09	0.52
43:l:86:ARG:HD2	43:l:87:GLY:N	2.25	0.52
52:u:3:LYS:O	52:u:11:GLY:HA2	2.10	0.52
53:y:41:C:H2'	53:y:42:G:O4'	2.10	0.52
54:C:52:ARG:HH21	55:z:62:C:H5'	1.73	0.52
55:z:68:C:H2'	55:z:69:G:H8	1.75	0.52
1:A:590:A:H2'	1:A:591:C:C6	2.44	0.52
1:A:651:G:OP1	30:8:19:SER:N	2.30	0.52
1:A:680:G:O2'	1:A:681:G:H5'	2.10	0.52
1:A:743:G:O2'	1:A:1659:U:OP1	2.23	0.52
1:A:747:U:O2	1:A:2014:A:H1'	2.10	0.52
1:A:813:U:H1'	1:A:1226:A:H1'	1.92	0.52
1:A:863:A:O3'	2:B:101:G:N2	2.43	0.52
1:A:921:G:O2'	1:A:922:U:H5'	2.09	0.52
1:A:1245:G:O2'	1:A:1246:A:H5'	2.10	0.52
1:A:2016:U:H2'	1:A:2017:U:C6	2.45	0.52
1:A:2156:G:H3'	1:A:2157:G:C8	2.45	0.52
1:A:2552:2MU:O5'	1:A:2552:2MU:H6	2.09	0.52
2:B:9:G:H1	2:B:112:U:H3	1.52	0.52
3:D:130:ALA:C	3:D:131:LEU:HD12	2.35	0.52
3:D:181:GLU:HG3	3:D:273:ARG:CA	2.39	0.52
5:F:144:LYS:HA	5:F:148:LEU:O	2.09	0.52
7:H:144:VAL:O	7:H:148:ILE:HG12	2.10	0.52
8:I:125:GLU:OE2	8:I:143:SER:HB3	2.10	0.52
17:V:37:VAL:HB	17:V:52:VAL:CG2	2.39	0.52
20:Y:88:LYS:HB3	20:Y:96:ILE:CG1	2.40	0.52
24:2:18:PRO:O	24:2:22:GLU:HG3	2.10	0.52
30:8:17:THR:OG1	30:8:21:LYS:HB2	2.09	0.52
32:a:34:C:O2'	32:a:35:G:H5'	2.10	0.52
32:a:69:G:OP2	32:a:72:C:N4	2.43	0.52
32:a:880:C:O2'	32:a:881:G:H5'	2.10	0.52
32:a:992:U:OP1	32:a:992:U:H2'	2.10	0.52
32:a:1134:G:H2'	32:a:1135:U:O4'	2.08	0.52
32:a:1323:G:H2'	32:a:1324:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1347:G:N2	32:a:1373:G:H2'	2.25	0.52
34:c:20:SER:HB2	34:c:40:ARG:HH21	1.75	0.52
35:d:108:LEU:HG	35:d:176:LEU:HD13	1.92	0.52
37:f:94:GLN:HB3	49:r:32:ARG:HH11	1.74	0.52
38:g:132:GLY:O	38:g:136:LYS:HG2	2.10	0.52
50:s:51:VAL:O	50:s:58:VAL:N	2.34	0.52
54:C:10:LEU:HD22	54:C:32:LEU:HB3	1.90	0.52
1:A:81:G:HO2'	1:A:295:G:HO2'	1.52	0.52
1:A:220:G:N1	1:A:428:A:OP2	2.41	0.52
1:A:265:A:O2'	1:A:428:A:N6	2.39	0.52
1:A:301:G:H4'	1:A:301:G:OP1	2.10	0.52
1:A:420:C:H2'	1:A:421:U:C6	2.44	0.52
1:A:565:C:OP2	17:V:78:LYS:N	2.40	0.52
1:A:841:A:H2'	1:A:842:G:H8	1.75	0.52
1:A:969:U:H4'	25:3:14:GLY:O	2.10	0.52
1:A:1069:A:C5	1:A:1095:A:H4'	2.45	0.52
1:A:1408:C:H2'	1:A:1409:C:C6	2.45	0.52
1:A:1475:G:O2'	1:A:1476:C:H5'	2.10	0.52
1:A:1515:G:H2'	1:A:1516:C:C6	2.45	0.52
1:A:2304:G:H5'	6:G:124:SER:OG	2.09	0.52
1:A:2377:A:O2'	1:A:2378:A:H5'	2.09	0.52
1:A:2893:G:H4'	1:A:2894:G:O5'	2.09	0.52
4:E:174:ASP:OD1	4:E:175:VAL:N	2.42	0.52
6:G:151:ALA:HB3	6:G:153:ARG:HH11	1.74	0.52
7:H:103:LEU:O	7:H:114:VAL:HA	2.10	0.52
7:H:142:GLY:O	7:H:146:ALA:CB	2.58	0.52
8:I:41:GLU:O	8:I:45:LYS:HG3	2.10	0.52
8:I:72:LEU:HD21	8:I:107:VAL:HG21	1.92	0.52
9:N:94:HIS:CB	9:N:97:ARG:HD3	2.40	0.52
30:8:32:LEU:O	30:8:36:LYS:HE3	2.09	0.52
32:a:134:A:H1'	32:a:325:A:N7	2.24	0.52
32:a:139:G:H2'	32:a:140:A:H8	1.75	0.52
32:a:193:C:H2'	32:a:194:C:H6	1.75	0.52
32:a:222:U:O2'	32:a:223:U:H5'	2.10	0.52
32:a:335:C:H2'	32:a:336:C:H6	1.74	0.52
32:a:640:A:O2'	32:a:641:U:H5'	2.10	0.52
32:a:785:G:O2'	32:a:786:G:H5'	2.10	0.52
32:a:997:U:H2'	32:a:998:G:C8	2.44	0.52
32:a:1097:C:O2'	32:a:1098:C:H5'	2.10	0.52
32:a:1329:A:O2'	32:a:1330:U:H5'	2.10	0.52
33:b:93:VAL:HG11	33:b:101:MET:HE1	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:157:ILE:HD12	34:c:164:ARG:HB3	1.92	0.52
35:d:55:ALA:O	35:d:59:ARG:HG2	2.09	0.52
37:f:8:ILE:HG22	37:f:10:LEU:HD21	1.92	0.52
38:g:150:ALA:HA	42:k:59:TYR:HB3	1.90	0.52
45:n:50:LYS:HG3	45:n:52:GLN:HG3	1.93	0.52
46:o:21:ASP:OD2	46:o:24:SER:OG	2.25	0.52
53:y:75:C:H5"	53:y:76:A:OP2	2.10	0.52
54:C:131:LEU:O	54:C:131:LEU:HD13	2.10	0.52
54:C:216:THR:OG1	54:C:219:GLY:HA3	2.09	0.52
1:A:184:C:O2'	1:A:217:G:N3	2.43	0.51
1:A:272(Q):G:O2'	1:A:272(R):G:H5'	2.10	0.51
1:A:323:G:H2'	5:F:169:ASN:HD22	1.73	0.51
1:A:481:G:O2'	1:A:507:A:N1	2.39	0.51
1:A:582:G:H2'	1:A:583:G:H8	1.73	0.51
1:A:746:A:H5"	1:A:748:G:O4'	2.10	0.51
1:A:935:C:H2'	1:A:936:C:H6	1.75	0.51
1:A:941:A:H2'	1:A:942:G:C8	2.45	0.51
1:A:956:G:OP2	12:Q:14:ARG:NH2	2.43	0.51
1:A:1031:G:H2'	1:A:1032:A:C8	2.45	0.51
1:A:1138:G:C2	9:N:106:MET:HE2	2.45	0.51
1:A:1408:C:O2'	1:A:1409:C:H5'	2.10	0.51
1:A:1504:C:H2'	1:A:1505:C:C6	2.45	0.51
1:A:2224:G:H3'	1:A:2226:C:C5	2.45	0.51
1:A:2264:C:H2'	1:A:2265:U:O4'	2.10	0.51
1:A:2300:G:H2'	1:A:2301:C:C6	2.45	0.51
1:A:2316:C:HO2'	6:G:128:ARG:NH2	2.04	0.51
1:A:2680:C:H5'	4:E:189:PRO:HA	1.90	0.51
1:A:2852:G:O2'	1:A:2853:C:H5'	2.10	0.51
1:A:2862:G:H2'	1:A:2863:C:C6	2.45	0.51
2:B:59:A:H2'	2:B:60:C:O4'	2.10	0.51
3:D:146:GLU:OE1	3:D:150:LYS:N	2.42	0.51
4:E:8:LYS:O	4:E:193:GLY:N	2.22	0.51
5:F:63:LYS:HA	5:F:76:GLY:O	2.10	0.51
5:F:123:LEU:CD1	5:F:192:LEU:HD22	2.39	0.51
6:G:8:LYS:HB2	6:G:100:TRP:CG	2.45	0.51
6:G:138:GLN:OE1	6:G:153:ARG:N	2.43	0.51
7:H:116:GLU:O	7:H:118:PRO:HD3	2.11	0.51
16:U:61:TRP:HB3	16:U:92:ARG:HB3	1.92	0.51
20:Y:13:VAL:HB	20:Y:72:VAL:HG13	1.91	0.51
20:Y:44:ILE:HG23	20:Y:62:GLU:HB3	1.91	0.51
28:6:9:LEU:HG	28:6:23:THR:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:91:C:H2'	32:a:92:C:C6	2.44	0.51
32:a:224:C:O2'	32:a:225:C:H5'	2.10	0.51
32:a:377:G:H2'	32:a:378:G:H8	1.76	0.51
32:a:404:U:H5'	35:d:122:ARG:HD3	1.91	0.51
32:a:505:G:H2'	32:a:506:G:C8	2.45	0.51
32:a:600:C:H5"	39:h:97:VAL:CG2	2.40	0.51
32:a:737:A:H1'	37:f:73:ASN:HD21	1.75	0.51
32:a:1065:U:H1'	32:a:1066:C:OP2	2.09	0.51
32:a:1372:U:H5"	40:i:71:SER:CB	2.40	0.51
34:c:40:ARG:NH1	45:n:52:GLN:HG2	2.25	0.51
35:d:13:ARG:HB3	35:d:38:TYR:O	2.11	0.51
38:g:126:ASP:HB3	38:g:131:LYS:O	2.10	0.51
40:i:81:ILE:O	40:i:85:LEU:HG	2.10	0.51
42:k:79:SER:OG	42:k:104:GLN:HB3	2.10	0.51
48:q:15:MET:HE1	48:q:43:LEU:HD22	1.92	0.51
49:r:45:SER:HA	49:r:51:LEU:HD21	1.92	0.51
54:C:13:LYS:HD3	54:C:32:LEU:CD2	2.40	0.51
54:C:49:ILE:HD12	54:C:56:GLN:O	2.10	0.51
55:z:18:G:H4'	55:z:60:U:C2	2.44	0.51
55:z:19:G:H5'	55:z:20:U:H5	1.74	0.51
1:A:83:G:N1	1:A:102:G:O2'	2.32	0.51
1:A:171:G:O2'	1:A:172:C:H5'	2.10	0.51
1:A:179:G:O2'	1:A:180:G:H5'	2.10	0.51
1:A:271:A:O2'	1:A:272(A):A:H5'	2.09	0.51
1:A:281:G:O2'	1:A:359:A:N6	2.43	0.51
1:A:371:A:H61	1:A:401:A:H3'	1.75	0.51
1:A:614(B):U:H4'	1:A:614(C):G:H5"	1.92	0.51
1:A:673:C:O2'	1:A:674:G:H5'	2.09	0.51
1:A:817:C:O2'	1:A:839:U:H5"	2.10	0.51
1:A:833:U:H2'	1:A:834:C:C6	2.45	0.51
1:A:935:C:O2'	1:A:936:C:H5'	2.09	0.51
1:A:975(B):G:O2'	1:A:1156:A:N1	2.39	0.51
1:A:1065:U:O2'	1:A:1066:U:OP2	2.22	0.51
1:A:1143:A:N7	9:N:25:ARG:NE	2.58	0.51
1:A:1345:C:H2'	1:A:1346:G:C8	2.45	0.51
1:A:1638:C:H2'	1:A:1639:U:O4'	2.10	0.51
1:A:1889:A:H2'	1:A:1890:A:O4'	2.11	0.51
1:A:1924:C:O2'	1:A:1925:C:H5'	2.10	0.51
1:A:2044:C:C2'	1:A:2045:C:H5'	2.40	0.51
1:A:2186:G:H3'	1:A:2187:G:H8	1.75	0.51
1:A:2339:G:H2'	1:A:2340:G:C8	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2677:G:O2'	1:A:2678:C:H5'	2.10	0.51
1:A:2728:U:H5'	10:O:70:LYS:NZ	2.25	0.51
1:A:2751:G:N7	7:H:3:ARG:HB2	2.25	0.51
1:A:2812:G:O2'	1:A:2813:A:H5'	2.11	0.51
1:A:2847:U:H2'	1:A:2848:G:O4'	2.10	0.51
2:B:68:C:H2'	2:B:69:G:O4'	2.10	0.51
3:D:77:ALA:HB2	3:D:97:TYR:CD1	2.46	0.51
3:D:126:GLN:HB2	3:D:129:ASN:ND2	2.25	0.51
3:D:145:VAL:O	3:D:154:LYS:N	2.32	0.51
5:F:118:ALA:HA	5:F:123:LEU:CB	2.41	0.51
6:G:74:LYS:O	6:G:84:LYS:HE2	2.09	0.51
15:T:28:VAL:CG1	15:T:86:ILE:HG23	2.41	0.51
20:Y:9:LYS:HA	20:Y:27:VAL:HG11	1.92	0.51
21:Z:10:ARG:HG3	21:Z:36:LYS:HB3	1.91	0.51
21:Z:24:LEU:HB3	21:Z:39:VAL:CG2	2.40	0.51
21:Z:163:LEU:HD11	21:Z:165:VAL:HG22	1.91	0.51
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.91	0.51
26:4:36:CYS:SG	26:4:38:LYS:N	2.81	0.51
28:6:13:CYS:HB3	28:6:16:CYS:SG	2.51	0.51
32:a:99:U:H3'	51:t:14:LYS:C	2.35	0.51
32:a:161:A:H2'	32:a:162:A:O4'	2.09	0.51
32:a:166:G:O2'	32:a:167:G:H5'	2.10	0.51
32:a:336:C:O2'	32:a:337:C:H5'	2.10	0.51
32:a:340:U:H2'	32:a:341:C:H6	1.75	0.51
32:a:384:G:H2'	32:a:385:C:H6	1.76	0.51
32:a:453:A:N6	32:a:479:C:O2	2.43	0.51
32:a:538:G:O2'	32:a:539:A:H5'	2.10	0.51
32:a:621:A:H2'	32:a:622:A:C8	2.46	0.51
32:a:645:C:O2'	32:a:646:U:H5'	2.09	0.51
32:a:953:G:H5"	32:a:965:A:H61	1.74	0.51
32:a:1039:C:H2'	32:a:1040:U:H6	1.76	0.51
32:a:1062:U:H2'	32:a:1063:C:C6	2.44	0.51
32:a:1162:C:O2'	32:a:1163:C:H5'	2.10	0.51
32:a:1176:A:H2'	32:a:1177:G:C8	2.44	0.51
32:a:1384:C:H2'	32:a:1385:G:H8	1.75	0.51
32:a:1418:A:N6	32:a:1482:G:H1'	2.25	0.51
32:a:1418:A:H5"	32:a:1419:G:OP2	2.08	0.51
32:a:1510:U:O2	32:a:1525:G:N2	2.37	0.51
34:c:17:ASP:OD1	34:c:18:TRP:N	2.43	0.51
34:c:112:SER:OG	34:c:115:LEU:HD13	2.09	0.51
35:d:25:ARG:NH1	35:d:30:LYS:HB3	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:e:92:LYS:N	36:e:119:LEU:O	2.44	0.51
38:g:108:ALA:CB	38:g:120:ILE:HD13	2.40	0.51
39:h:17:THR:HB	39:h:78:GLN:OE1	2.09	0.51
41:j:50:ILE:HB	45:n:41:ARG:NH1	2.25	0.51
42:k:115:PRO:HB2	42:k:117:ASN:C	2.35	0.51
44:m:13:LYS:HA	44:m:44:ARG:NH1	2.25	0.51
51:t:57:ARG:HH12	51:t:100:ILE:HB	1.74	0.51
56:x:42:G:O2'	56:x:43:C:H5'	2.11	0.51
1:A:93:G:H2'	1:A:94(A):C:H6	1.73	0.51
1:A:151:C:H2'	1:A:152:G:H8	1.73	0.51
1:A:272(L):U:C3'	1:A:272(M):G:H5'	2.41	0.51
1:A:302:C:O2'	1:A:303:U:H5'	2.10	0.51
1:A:343:C:O2'	1:A:344:G:H5'	2.10	0.51
1:A:512:G:OP1	1:A:1234:U:O2'	2.28	0.51
1:A:631:A:O2'	1:A:632:A:H5'	2.10	0.51
1:A:840:C:H2'	1:A:841:A:C8	2.46	0.51
1:A:1234:U:O2'	1:A:1235:G:H5'	2.10	0.51
1:A:1485:G:O2'	1:A:1486:A:H5'	2.11	0.51
1:A:1703:G:O2'	1:A:1704:G:H5'	2.11	0.51
1:A:2041:U:H2'	1:A:2042:A:H8	1.74	0.51
1:A:2120:G:N2	54:C:168:THR:HG21	2.24	0.51
1:A:2135:A:C8	1:A:2159:G:H4'	2.44	0.51
1:A:2282:G:H4'	1:A:2389:G:O2'	2.10	0.51
1:A:2786:U:H2'	1:A:2787:C:C6	2.46	0.51
1:A:2807:G:C2	1:A:2808:U:H1'	2.46	0.51
1:A:2828:C:O2'	1:A:2829:C:H5'	2.10	0.51
4:E:31:CYS:CB	4:E:49:LEU:HD23	2.40	0.51
6:G:111:LEU:HD23	6:G:114:ILE:HD11	1.93	0.51
11:P:20:GLY:O	11:P:21:ARG:NE	2.43	0.51
12:Q:51:ARG:HD3	12:Q:66:ILE:HD11	1.92	0.51
12:Q:51:ARG:HA	12:Q:54:MET:CE	2.40	0.51
13:R:103:ARG:HD3	13:R:108:GLY:O	2.11	0.51
14:S:63:THR:O	14:S:67:ARG:HG2	2.11	0.51
17:V:37:VAL:CG2	17:V:56:SER:HA	2.39	0.51
20:Y:5:MET:CE	20:Y:32:PRO:HA	2.40	0.51
24:2:1:MET:HE3	24:2:6:VAL:HA	1.91	0.51
32:a:325:A:H2'	32:a:326:G:O4'	2.09	0.51
32:a:444:C:H2'	32:a:445:G:C8	2.45	0.51
32:a:676:A:H5"	42:k:113:PRO:HB2	1.93	0.51
32:a:710:G:O2'	32:a:711:G:H5'	2.11	0.51
32:a:779:C:H4'	42:k:121:PRO:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:950:U:H2'	32:a:951:G:H8	1.75	0.51
32:a:994:A:N1	32:a:1047:G:H4'	2.24	0.51
32:a:1169:A:H2'	32:a:1170:A:C8	2.46	0.51
32:a:1263:C:H2'	32:a:1264:C:C6	2.45	0.51
32:a:1490:C:O2'	32:a:1491:G:H5'	2.11	0.51
37:f:38:GLU:N	37:f:64:GLN:O	2.43	0.51
37:f:100:ASN:HB2	49:r:27:GLY:O	2.10	0.51
44:m:15:VAL:CG1	44:m:48:LEU:HD21	2.39	0.51
54:C:86:ALA:HB2	54:C:149:ILE:CG2	2.40	0.51
1:A:36:G:O2'	1:A:37:C:H5'	2.09	0.51
1:A:244:A:HO2'	11:P:74:GLU:H	1.55	0.51
1:A:327:G:H2'	1:A:328:U:C6	2.45	0.51
1:A:586:A:H5"	1:A:587:C:OP1	2.11	0.51
1:A:708:C:O2'	1:A:709:U:H5'	2.10	0.51
1:A:849:A:H3'	1:A:850:C:C6	2.45	0.51
1:A:1109:C:H5'	1:A:1110:G:OP2	2.10	0.51
1:A:1113:U:C2'	1:A:1114:G:H5'	2.41	0.51
1:A:1184:G:H2'	1:A:1185:C:C6	2.45	0.51
1:A:1264:G:N1	1:A:2014:A:OP2	2.44	0.51
1:A:1501:C:H2'	1:A:1502:C:C6	2.46	0.51
1:A:1523:U:H2'	1:A:1524:G:C8	2.45	0.51
1:A:1662:C:O2'	1:A:1663:C:H5'	2.11	0.51
1:A:1709:U:O2'	1:A:1710:C:H5'	2.10	0.51
1:A:1750:G:H2'	1:A:1751:C:C6	2.46	0.51
1:A:1759:A:C2'	1:A:1760:A:H5'	2.40	0.51
1:A:1843:C:H2'	1:A:1844:C:H6	1.75	0.51
1:A:2230:G:H1'	23:1:45:ASN:CG	2.35	0.51
1:A:2233:U:H2'	1:A:2234:G:C8	2.46	0.51
1:A:2642:G:O2'	1:A:2643:G:H5'	2.09	0.51
1:A:2646:C:H2'	1:A:2647:U:O4'	2.10	0.51
2:B:77:U:O2'	2:B:78:A:H5'	2.10	0.51
4:E:27:LEU:HD12	4:E:180:ASN:O	2.11	0.51
4:E:50:GLY:HA3	4:E:75:VAL:HG11	1.92	0.51
7:H:61:HIS:O	7:H:65:HIS:CB	2.58	0.51
11:P:91:PHE:HE2	11:P:100:LEU:HD23	1.75	0.51
13:R:28:LEU:HD23	13:R:34:ILE:HG12	1.91	0.51
14:S:49:VAL:HG12	14:S:73:LEU:CD1	2.41	0.51
14:S:63:THR:HG23	14:S:100:ALA:HB2	1.93	0.51
14:S:67:ARG:HH21	14:S:71:ARG:HH22	1.57	0.51
15:T:108:ARG:HH22	32:a:1465:C:P	2.34	0.51
29:7:24:THR:O	29:7:28:ARG:HG3	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:19:C:O2'	32:a:20:U:H5'	2.11	0.51
32:a:102:G:C1'	32:a:151:A:HO2'	2.18	0.51
32:a:400:C:O2'	32:a:401:C:H5'	2.10	0.51
32:a:518:C:O2'	32:a:530:G:N2	2.43	0.51
32:a:541:G:H2'	32:a:542:G:O4'	2.11	0.51
32:a:1263:C:O2'	32:a:1264:C:H5'	2.10	0.51
32:a:1458:G:O2'	32:a:1459:C:H5'	2.10	0.51
33:b:141:GLU:HG2	33:b:145:LEU:HD23	1.91	0.51
34:c:179:ARG:O	34:c:206:GLU:HA	2.10	0.51
39:h:4:ASP:HB2	39:h:89:PRO:CG	2.40	0.51
49:r:21:LYS:HB3	49:r:56:THR:O	2.10	0.51
53:y:63:G:O2'	53:y:64:G:H5'	2.10	0.51
54:C:46:LYS:CG	54:C:210:ARG:HB2	2.41	0.51
55:z:61:C:H2'	55:z:62:C:H6	1.75	0.51
1:A:483:A:H5"	20:Y:50:ARG:HD2	1.93	0.51
1:A:640:C:O2'	1:A:641:C:H5'	2.11	0.51
1:A:706:A:H61	1:A:725:G:H1'	1.76	0.51
1:A:971:C:H2'	1:A:972:G:O4'	2.10	0.51
1:A:1019:U:O2'	1:A:1020:A:H5'	2.10	0.51
1:A:1020:A:N6	1:A:1142(A):U:OP2	2.39	0.51
1:A:1277:G:H2'	1:A:1278:A:C8	2.45	0.51
1:A:1587:A:H2'	1:A:1588:C:H6	1.75	0.51
1:A:1607:C:H4'	1:A:1608:A:O5'	2.11	0.51
1:A:1794:U:H1'	1:A:1900:A:N3	2.26	0.51
1:A:1810:A:H2'	1:A:1811:G:O4'	2.10	0.51
1:A:1916:A:H2'	1:A:1917:PSU:O4'	2.10	0.51
1:A:1985:G:O2'	1:A:1986:A:H5'	2.10	0.51
1:A:2012:G:O3'	18:W:96:ILE:HG23	2.10	0.51
1:A:2037:G:H2'	1:A:2038:G:H8	1.75	0.51
1:A:2064:C:H2'	1:A:2065:C:C6	2.45	0.51
1:A:2093:G:H2'	1:A:2094:G:H8	1.76	0.51
1:A:2129:C:OP1	54:C:6:ARG:HB3	2.11	0.51
6:G:41:GLN:O	6:G:89:GLY:CA	2.59	0.51
6:G:125:PHE:CZ	6:G:170:ARG:HB2	2.45	0.51
8:I:26:ALA:HA	8:I:30:LEU:CG	2.40	0.51
9:N:27:ALA:HA	9:N:30:ILE:HD12	1.91	0.51
10:O:19:ILE:HA	10:O:42:SER:O	2.11	0.51
11:P:80:TYR:CE1	11:P:111:ARG:HB2	2.46	0.51
11:P:95:VAL:CG2	11:P:125:VAL:HG12	2.40	0.51
12:Q:25:ASP:OD2	21:Z:78:LYS:NZ	2.27	0.51
13:R:72:ASP:OD1	13:R:73:VAL:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S:67:ARG:HB3	14:S:71:ARG:HH12	1.75	0.51
21:Z:47:VAL:HG12	21:Z:51:ALA:HB2	1.92	0.51
26:4:14:ILE:HD12	26:4:22:ILE:HB	1.92	0.51
28:6:12:GLU:HB2	28:6:52:VAL:HG21	1.91	0.51
32:a:12:U:O2'	32:a:914:A:OP1	2.28	0.51
32:a:65:U:H5'	32:a:65:U:C6	2.46	0.51
32:a:192:U:H2'	32:a:193:C:C6	2.46	0.51
32:a:204:U:H4'	32:a:216:G:O5'	2.10	0.51
32:a:258:G:H2'	32:a:259:G:C8	2.44	0.51
32:a:294:U:H2'	32:a:295:C:C6	2.44	0.51
32:a:422:C:H4'	32:a:423:G:O4'	2.09	0.51
32:a:483:C:OP2	32:a:484:G:O2'	2.17	0.51
32:a:789:U:N3	32:a:792:A:OP2	2.27	0.51
32:a:1253:G:H2'	32:a:1254:C:C6	2.46	0.51
32:a:1305:G:OP1	52:u:2:GLY:HA3	2.11	0.51
32:a:1350:A:H2'	32:a:1351:U:C6	2.45	0.51
32:a:1426:C:O2'	32:a:1427:U:H5'	2.11	0.51
33:b:95:GLN:CD	33:b:147:LYS:HD2	2.36	0.51
33:b:223:ILE:HD12	33:b:224:GLN:N	2.25	0.51
34:c:21:ARG:O	34:c:58:GLU:HG3	2.11	0.51
36:e:15:ARG:HD2	36:e:26:PHE:CB	2.40	0.51
36:e:34:VAL:O	36:e:42:GLY:N	2.43	0.51
43:l:10:LEU:HD13	48:q:32:TYR:CE1	2.46	0.51
44:m:3:ARG:HH22	44:m:45:VAL:HG13	1.76	0.51
48:q:12:SER:HB3	48:q:20:THR:OG1	2.10	0.51
48:q:82:MET:O	48:q:86:GLU:HG2	2.10	0.51
49:r:59:SER:H	49:r:62:GLU:HB2	1.76	0.51
51:t:17:ARG:CG	51:t:20:LEU:HD12	2.38	0.51
1:A:31:C:O2'	1:A:32:C:H5'	2.10	0.51
1:A:69:C:O2	1:A:73:A:O2'	2.22	0.51
1:A:272(R):G:O2'	1:A:272(S):G:H5'	2.11	0.51
1:A:383:U:H2'	1:A:385:C:C5	2.44	0.51
1:A:727:A:H2'	1:A:728:G:C8	2.45	0.51
1:A:851:U:O2'	25:3:42:ALA:O	2.25	0.51
1:A:939:G:O2'	1:A:940:G:H5'	2.10	0.51
1:A:962:G:O2'	1:A:963:U:H5'	2.11	0.51
1:A:1063:G:OP1	1:A:1065:U:H2'	2.09	0.51
1:A:1166:C:H2'	1:A:1167:U:C6	2.46	0.51
1:A:1206:G:H2'	1:A:1207:C:C6	2.46	0.51
1:A:1527:G:N2	1:A:1544:A:H5"	2.26	0.51
1:A:1628:G:O2'	1:A:1629:U:H5'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1973:G:H2'	1:A:1974:C:H6	1.74	0.51
1:A:2466:C:O2'	1:A:2467:C:H5'	2.11	0.51
1:A:2638:G:H1'	1:A:2778:A:N6	2.26	0.51
1:A:2728:U:H2'	1:A:2729:G:C8	2.46	0.51
1:A:2808:U:O2'	1:A:2809:A:H5'	2.11	0.51
1:A:2830:G:H5"	4:E:58:ARG:NH1	2.26	0.51
3:D:34:VAL:HG12	3:D:63:ARG:HG3	1.93	0.51
3:D:79:VAL:HA	3:D:95:LEU:HD23	1.93	0.51
5:F:53:THR:HG22	5:F:56:GLU:CG	2.39	0.51
6:G:33:ARG:N	6:G:162:THR:OG1	2.43	0.51
8:I:77:LEU:HD21	8:I:100:ALA:CB	2.39	0.51
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.93	0.51
18:W:7:ALA:HB1	18:W:10:VAL:CG2	2.41	0.51
20:Y:51:VAL:HG22	20:Y:58:GLY:N	2.25	0.51
30:8:22:VAL:CG2	30:8:55:ALA:HB1	2.41	0.51
30:8:33:ASN:OD1	30:8:36:LYS:HD2	2.10	0.51
32:a:73:G:O2'	32:a:76:C:O2'	2.23	0.51
32:a:475:G:O2'	32:a:476:G:H5'	2.11	0.51
32:a:643:C:H2'	32:a:644:G:C8	2.46	0.51
32:a:830:G:H2'	32:a:831:U:C6	2.46	0.51
32:a:1071:C:O2'	32:a:1072:G:H5'	2.11	0.51
32:a:1105:A:O2'	32:a:1106:G:H5'	2.10	0.51
32:a:1118:C:H1'	32:a:1179:A:C5	2.46	0.51
32:a:1131:G:O2'	32:a:1132:C:H5'	2.10	0.51
32:a:1384:C:H2'	32:a:1385:G:C8	2.46	0.51
32:a:1426:C:H2'	32:a:1427:U:H6	1.75	0.51
33:b:20:GLU:HB2	33:b:190:THR:CG2	2.40	0.51
33:b:167:PRO:O	33:b:171:ALA:N	2.43	0.51
34:c:117:ALA:CB	34:c:187:ALA:HB2	2.39	0.51
36:e:5:ASP:HB3	56:x:55:A:O3'	2.10	0.51
40:i:2:GLU:O	40:i:21:PRO:HD3	2.09	0.51
40:i:27:THR:HA	40:i:31:GLN:O	2.10	0.51
46:o:62:GLN:HE21	46:o:66:LEU:HD11	1.76	0.51
47:p:5:ARG:HE	47:p:22:THR:HG21	1.75	0.51
53:y:66:C:O2'	53:y:67:C:H5'	2.10	0.51
54:C:6:ARG:HD3	54:C:34:THR:C	2.35	0.51
54:C:91:ALA:CB	54:C:153:ILE:HG21	2.38	0.51
54:C:131:LEU:HD12	54:C:137:LEU:CD2	2.41	0.51
1:A:147:U:H2'	1:A:148:C:C6	2.45	0.51
1:A:500:G:N2	1:A:502:A:H3'	2.24	0.51
1:A:635:C:O2'	1:A:639:U:OP1	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:676:A:H1'	1:A:2443:C:C1'	2.41	0.51
1:A:800:A:O4'	1:A:801:G:H3'	2.10	0.51
1:A:888:C:OP1	44:m:93:ARG:HB3	2.11	0.51
1:A:1084:A:C8	1:A:1085:A:H4'	2.43	0.51
1:A:1323:U:O2'	1:A:1324:G:H5'	2.11	0.51
1:A:1501:C:O2'	1:A:1502:C:H5'	2.11	0.51
1:A:1528(B):A:H2'	1:A:1529:G:O4'	2.11	0.51
1:A:1722:A:O2'	1:A:1739:U:H2'	2.11	0.51
1:A:1750:G:O2'	1:A:1751:C:H5'	2.11	0.51
1:A:1792:G:H2'	1:A:1793:C:H6	1.76	0.51
1:A:2637:U:O2'	1:A:2638:G:H5'	2.10	0.51
1:A:2803:C:H2'	1:A:2804:C:C6	2.45	0.51
1:A:2885:C:H3'	1:A:2886:G:H5"	1.92	0.51
3:D:130:ALA:HB2	3:D:192:THR:OG1	2.10	0.51
4:E:67:PHE:HZ	4:E:75:VAL:HG12	1.73	0.51
5:F:80:ALA:HB1	5:F:81:PRO:HD2	1.93	0.51
8:I:40:THR:O	8:I:44:LEU:HD23	2.11	0.51
9:N:47:ALA:HB2	9:N:112:LEU:HD11	1.93	0.51
9:N:123:TYR:CZ	9:N:129:PRO:HD2	2.46	0.51
18:W:2:GLU:OE2	18:W:72:LYS:NZ	2.29	0.51
25:3:44:ARG:O	25:3:48:GLU:HG3	2.10	0.51
32:a:137:C:O2'	32:a:138:G:H5'	2.10	0.51
32:a:201:C:H5'	32:a:202:U:OP1	2.11	0.51
32:a:337:C:O2'	32:a:338:A:H5'	2.11	0.51
32:a:451:A:H61	32:a:480:U:H2'	1.75	0.51
32:a:522:C:H41	43:l:53:ARG:NH2	2.09	0.51
32:a:688:G:H2'	32:a:689:C:H6	1.75	0.51
32:a:1194:U:H2'	32:a:1195:C:O4'	2.11	0.51
32:a:1198:G:H2'	32:a:1199:U:H6	1.75	0.51
32:a:1233:G:O2'	32:a:1365:G:OP1	2.27	0.51
32:a:1371:G:H2'	32:a:1372:U:C6	2.45	0.51
32:a:1392:G:H2'	32:a:1393:U:H6	1.76	0.51
33:b:36:ARG:H	33:b:41:ILE:HG12	1.74	0.51
33:b:197:VAL:O	33:b:200:ILE:HD11	2.11	0.51
35:d:162:LEU:HD22	35:d:178:VAL:HA	1.93	0.51
38:g:73:MET:HA	38:g:89:MET:O	2.11	0.51
38:g:91:VAL:HG12	38:g:92:SER:O	2.10	0.51
39:h:103:VAL:CG2	39:h:110:ALA:HB2	2.39	0.51
51:t:10:LEU:HG	51:t:14:LYS:NZ	2.26	0.51
1:A:272(J):C:O2	1:A:272(K):U:O2'	2.29	0.51
1:A:832:G:OP1	11:P:39:LYS:N	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1018:C:O2'	1:A:1019:U:H5'	2.10	0.51
1:A:1533:G:H2'	1:A:1536:C:C2	2.45	0.51
1:A:1847:A:H5"	1:A:1847:A:N3	2.25	0.51
1:A:1907:G:H1	1:A:1923:U:H3	1.58	0.51
1:A:2075:U:H4'	1:A:2596:U:O2	2.10	0.51
1:A:2396:G:O2'	1:A:2397:G:H5'	2.11	0.51
1:A:2564:A:N1	1:A:2647:U:H4'	2.25	0.51
1:A:2644:G:O2'	1:A:2645:G:H5'	2.10	0.51
1:A:2668:G:H1'	7:H:110:SER:HB2	1.91	0.51
2:B:50:G:OP1	14:S:62:LYS:N	2.44	0.51
3:D:92:ILE:HD12	3:D:104:TYR:CD1	2.45	0.51
3:D:257:LEU:HD13	3:D:258:LYS:O	2.11	0.51
4:E:5:LEU:CD2	4:E:197:ILE:HG12	2.37	0.51
9:N:120:LEU:HD13	9:N:121:LYS:N	2.26	0.51
11:P:52:GLU:OE1	11:P:55:ARG:NE	2.44	0.51
18:W:17:VAL:HG12	18:W:43:GLY:HA3	1.93	0.51
25:3:29:ARG:N	25:3:33:GLN:OE1	2.27	0.51
25:3:52:HIS:CD2	25:3:53:LEU:HG	2.46	0.51
27:5:40:LYS:HB2	27:5:41:PRO:HD2	1.92	0.51
32:a:32:A:H3'	32:a:33:A:H8	1.76	0.51
32:a:38:G:H22	32:a:397:A:H5"	1.76	0.51
32:a:132:C:H5'	32:a:262:A:H1'	1.93	0.51
32:a:157:G:H2'	32:a:158:G:H8	1.75	0.51
32:a:297:G:N2	32:a:300:A:OP2	2.24	0.51
32:a:310:G:OP2	47:p:27:LYS:NZ	2.30	0.51
32:a:598:U:H2'	32:a:599:C:H6	1.72	0.51
32:a:736:C:O2'	37:f:90:VAL:O	2.28	0.51
32:a:978:A:H61	32:a:1316:G:H1'	1.75	0.51
32:a:1121:U:O2'	32:a:1122:U:H5'	2.11	0.51
32:a:1157:A:H4'	32:a:1158:C:O5'	2.10	0.51
32:a:1261:A:H3'	32:a:1262:C:C6	2.46	0.51
49:r:52:PRO:HD2	49:r:55:ARG:CG	2.41	0.51
53:y:61:C:H2'	53:y:62:C:H6	1.75	0.51
53:y:61:C:O2'	53:y:62:C:H5'	2.10	0.51
54:C:46:LYS:HB3	54:C:211:SER:H	1.75	0.51
54:C:212:VAL:CG1	54:C:224:ILE:HD11	2.41	0.51
55:z:49:C:H2'	55:z:50:U:C6	2.45	0.51
1:A:94(B):G:H2'	1:A:95:G:O4'	2.11	0.51
1:A:180:G:OP1	29:7:32:LYS:HE3	2.11	0.51
1:A:216:A:H2'	1:A:217:G:H8	1.76	0.51
1:A:486:C:O2'	18:W:60:ASN:OD1	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1227:G:C2'	1:A:1228:G:H5'	2.41	0.51
1:A:1710:C:O2'	1:A:1711:C:H5'	2.10	0.51
1:A:2167:U:H5"	1:A:2168:G:OP1	2.10	0.51
1:A:2202:C:O2'	1:A:2203:U:O4'	2.26	0.51
1:A:2552:2MU:H2'	1:A:2554:U:OP2	2.10	0.51
1:A:2561:A:H2'	1:A:2562:U:O4'	2.10	0.51
1:A:2644:G:H2'	1:A:2645:G:O4'	2.11	0.51
1:A:2736:G:O2'	1:A:2737:G:H5'	2.10	0.51
1:A:2745:C:O2'	7:H:139:GLN:O	2.29	0.51
1:A:2758:A:C5	7:H:67:LEU:HD21	2.46	0.51
6:G:11:TYR:CE2	6:G:16:ARG:HD3	2.45	0.51
7:H:106:THR:OG1	7:H:112:PRO:HB3	2.11	0.51
12:Q:103:MET:HE1	12:Q:125:LEU:HD13	1.91	0.51
16:U:69:CYS:HB3	16:U:74:LEU:CD1	2.41	0.51
19:X:12:VAL:HG22	19:X:29:TRP:NE1	2.26	0.51
23:1:60:PHE:CD1	23:1:91:LYS:HE3	2.46	0.51
26:4:14:ILE:O	26:4:15:ILE:HD13	2.11	0.51
32:a:109:A:H61	32:a:324:G:H1'	1.75	0.51
32:a:197:A:H4'	32:a:198:G:O5'	2.11	0.51
32:a:234:C:O2'	32:a:235:C:H5'	2.10	0.51
32:a:260:G:O2'	32:a:261:U:H5'	2.11	0.51
32:a:712:A:O2'	32:a:713:G:H5'	2.11	0.51
32:a:920:U:O2'	32:a:921:U:H5'	2.11	0.51
32:a:973:G:OP1	41:j:57:LYS:NZ	2.33	0.51
32:a:1014:A:H8	32:a:1219:U:H4'	1.76	0.51
32:a:1222:G:O2'	32:a:1223:C:H5'	2.11	0.51
32:a:1288:A:H2'	32:a:1289:A:C8	2.46	0.51
32:a:1313:U:O2'	32:a:1314:C:H5'	2.10	0.51
32:a:1366:C:O2'	32:a:1367:C:H5'	2.10	0.51
32:a:1472:U:O2'	32:a:1473:A:H5'	2.10	0.51
33:b:58:ILE:CG2	33:b:221:LEU:HD12	2.41	0.51
36:e:57:LYS:HG2	36:e:61:TYR:HE2	1.75	0.51
36:e:146:ALA:O	36:e:150:ARG:HG3	2.10	0.51
37:f:14:LEU:HD22	37:f:18:GLN:OE1	2.11	0.51
38:g:48:LYS:O	38:g:52:GLU:HG2	2.11	0.51
43:l:33:ARG:HG3	43:l:60:LEU:HD12	1.92	0.51
44:m:4:ILE:CG2	44:m:22:ILE:HD11	2.41	0.51
47:p:21:VAL:HG21	47:p:59:TRP:CD2	2.46	0.51
1:A:182:A:C2'	1:A:183:C:H5'	2.41	0.51
1:A:307:G:N2	1:A:309:G:H3'	2.25	0.51
1:A:375:C:H2'	1:A:376:C:H6	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:597:U:H2'	1:A:598:G:C8	2.46	0.51
1:A:599:G:O5'	11:P:9:ASN:ND2	2.43	0.51
1:A:643:A:O2'	1:A:644:A:H5'	2.11	0.51
1:A:662:G:O2'	1:A:663:G:H5'	2.10	0.51
1:A:686:G:C2	29:7:11:LYS:HE3	2.46	0.51
1:A:840:C:H2'	1:A:841:A:H8	1.76	0.51
1:A:934:G:O2'	1:A:935:C:H5'	2.11	0.51
1:A:948:G:H2'	1:A:949:C:H6	1.76	0.51
1:A:1112:G:H2'	1:A:1113:U:O4'	2.11	0.51
1:A:1474:C:H2'	1:A:1475:G:H8	1.75	0.51
1:A:1528(A):A:H2'	1:A:1528(B):A:C8	2.47	0.51
1:A:2115:G:H5"	1:A:2166:G:O2'	2.11	0.51
1:A:2182:G:O2'	1:A:2183:C:H5'	2.09	0.51
1:A:2659:G:H2'	1:A:2661:G:OP2	2.11	0.51
1:A:2772:C:O2'	1:A:2773:C:H5'	2.11	0.51
1:A:2783:G:H2'	1:A:2784:C:H6	1.75	0.51
2:B:44:G:OP1	26:4:1:MET:HG3	2.11	0.51
2:B:94:C:H2'	2:B:95:C:C6	2.46	0.51
5:F:63:LYS:HE3	5:F:65:TRP:O	2.11	0.51
7:H:46:GLU:N	7:H:50:VAL:HG22	2.26	0.51
11:P:65:ARG:HH11	30:8:25:MET:HG3	1.76	0.51
12:Q:127:ILE:O	12:Q:129:THR:HG23	2.11	0.51
16:U:44:ASN:ND2	17:V:75:PHE:HB3	2.25	0.51
21:Z:40:ASP:OD2	21:Z:43:GLU:HG3	2.11	0.51
22:0:72:ARG:HH11	22:0:78:TYR:HE2	1.59	0.51
26:4:10:VAL:O	26:4:25:TYR:HA	2.11	0.51
32:a:56:U:H2'	32:a:57:G:C8	2.46	0.51
32:a:144:G:O2'	32:a:145:G:H5'	2.11	0.51
32:a:834:C:O2'	32:a:835:U:H5'	2.11	0.51
32:a:839:U:H5"	32:a:840:C:H5	1.76	0.51
32:a:849:C:O2'	32:a:850:U:H5'	2.11	0.51
32:a:945:G:H21	32:a:1334:G:H4'	1.76	0.51
32:a:1399:C:H4'	32:a:1400:5MC:C5'	2.41	0.51
33:b:30:ARG:HG3	33:b:31:TYR:CD1	2.46	0.51
35:d:149:ALA:O	35:d:153:ARG:HG3	2.11	0.51
45:n:26:ARG:HD3	45:n:43:CYS:HB3	1.93	0.51
46:o:37:ASN:O	46:o:41:GLU:HG2	2.10	0.51
48:q:61:GLU:HA	48:q:71:PHE:CE1	2.46	0.51
48:q:78:GLU:OE2	48:q:81:ARG:HD3	2.11	0.51
54:C:83:ILE:HG23	54:C:94:VAL:CG1	2.41	0.51
1:A:111:A:O2'	1:A:112:U:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:225:A:C2'	1:A:226:G:H5'	2.40	0.50
1:A:272(C):C:O2'	1:A:272(D):G:H5'	2.11	0.50
1:A:443:A:H5"	1:A:444:C:C5'	2.41	0.50
1:A:521:G:H2'	1:A:522:G:H8	1.75	0.50
1:A:812:C:H5"	1:A:1250:G:O2'	2.11	0.50
1:A:901:A:H2'	1:A:902:C:O4'	2.10	0.50
1:A:987:G:H2'	1:A:988:A:O4'	2.11	0.50
1:A:1224:C:O2'	1:A:1225:G:H5'	2.11	0.50
1:A:1422:G:H2'	1:A:1423:G:C8	2.46	0.50
1:A:1485:G:H2'	1:A:1486:A:C8	2.46	0.50
1:A:1676:A:H2'	1:A:1677:A:O4'	2.10	0.50
1:A:1706:U:O2'	1:A:1757:U:H5'	2.11	0.50
1:A:2272:U:OP2	22:0:18:ALA:HB2	2.11	0.50
1:A:2380:C:O2'	1:A:2381:C:H5'	2.11	0.50
1:A:2516:G:O2'	1:A:2517:C:H5'	2.10	0.50
1:A:2779:U:OP1	1:A:2780:G:H2'	2.11	0.50
1:A:2785:C:H2'	1:A:2786:U:C6	2.46	0.50
1:A:2816:C:H2'	1:A:2817:G:C8	2.46	0.50
1:A:2817:G:H2'	1:A:2818:G:O4'	2.10	0.50
5:F:28:ILE:HD11	5:F:116:ASP:HA	1.92	0.50
7:H:29:PRO:HG2	7:H:80:SER:O	2.11	0.50
7:H:94:TYR:HB3	7:H:107:VAL:HG12	1.93	0.50
8:I:1:MET:O	8:I:20:ASP:HA	2.10	0.50
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.41	0.50
15:T:41:ARG:NH1	32:a:346:G:OP1	2.41	0.50
15:T:46:GLU:OE2	15:T:89:VAL:HG21	2.11	0.50
18:W:20:VAL:HG11	18:W:44:ALA:HA	1.93	0.50
18:W:29:LEU:O	18:W:33:ARG:HG3	2.11	0.50
19:X:52:VAL:N	19:X:82:GLN:O	2.35	0.50
21:Z:10:ARG:NH1	21:Z:25:PRO:HB3	2.26	0.50
22:0:21:LEU:HD21	22:0:41:ARG:NH1	2.26	0.50
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.91	0.50
32:a:17:U:O2'	32:a:18:C:H5'	2.11	0.50
32:a:139:G:O2'	32:a:140:A:H5'	2.11	0.50
32:a:325:A:H2'	32:a:326:G:C8	2.46	0.50
32:a:363:A:O2'	32:a:364:A:H5'	2.11	0.50
32:a:409:G:H2'	32:a:410:G:O4'	2.10	0.50
32:a:443:C:O2'	32:a:444:C:H5'	2.10	0.50
32:a:576:G:H3'	32:a:577:G:H5"	1.92	0.50
32:a:647:C:O2'	32:a:648:A:H5'	2.12	0.50
32:a:676:A:O2'	32:a:677:U:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:701:C:H5”	32:a:703:G:O4’	2.11	0.50
32:a:835:U:OP1	49:r:64:ARG:NH2	2.31	0.50
32:a:1030(B):G:C3’	32:a:1030(C):C:H5”	2.42	0.50
32:a:1246:C:O2’	32:a:1247:U:H5’	2.10	0.50
32:a:1256:A:H5’	32:a:1258:G:N9	2.26	0.50
32:a:1292:U:H5’	40:i:38:GLN:OE1	2.11	0.50
32:a:1399:C:O2	32:a:1502:A:N6	2.44	0.50
33:b:25:ASN:N	33:b:191:ASP:HA	2.21	0.50
36:e:19:MET:SD	36:e:24:ARG:HB3	2.50	0.50
43:l:25:PRO:O	43:l:28:LYS:HB2	2.10	0.50
44:m:91:ARG:CB	44:m:98:VAL:HG22	2.41	0.50
45:n:6:LEU:HB3	45:n:23:ARG:NH2	2.26	0.50
48:q:5:VAL:C	48:q:6:LEU:HD12	2.37	0.50
53:y:54:U:C2	53:y:58:A:N7	2.78	0.50
55:z:27:G:C3’	55:z:28:G:H5”	2.41	0.50
1:A:58:G:H2’	1:A:59:U:C6	2.46	0.50
1:A:175:G:O2’	1:A:176:G:H5’	2.12	0.50
1:A:379:G:H2’	1:A:380:U:O4’	2.11	0.50
1:A:389:G:C6	11:P:70:GLN:HG3	2.47	0.50
1:A:485:C:H2’	1:A:486:C:C6	2.46	0.50
1:A:621:A:H5’	1:A:622:G:OP2	2.11	0.50
1:A:794:G:H2’	1:A:795:C:H6	1.77	0.50
1:A:868:U:H2’	1:A:869:G:O4’	2.09	0.50
1:A:872:A:O2’	1:A:873:G:H5’	2.11	0.50
1:A:894:C:H2’	1:A:895:U:H5’	1.93	0.50
1:A:902:C:H2’	1:A:903:C:C6	2.46	0.50
1:A:908:C:O2’	1:A:909:A:H5’	2.11	0.50
1:A:1059:G:OP2	1:A:1060:U:O2’	2.26	0.50
1:A:1123:C:H2’	1:A:1124:C:H6	1.76	0.50
1:A:1290:C:O2’	1:A:1291:C:H5’	2.11	0.50
1:A:1358:G:O2’	1:A:1359:A:H5”	2.12	0.50
1:A:1370:C:H2’	1:A:1371:G:O4’	2.11	0.50
1:A:1495:A:C2	1:A:1578:U:H1’	2.45	0.50
1:A:1653:G:C6	13:R:9:LYS:HB2	2.46	0.50
1:A:1754:C:P	15:T:96:ARG:HH22	2.34	0.50
1:A:1761:C:C3’	1:A:1762:A:H5”	2.42	0.50
1:A:1788:C:OP1	3:D:222:ARG:NH2	2.44	0.50
1:A:2114:A:O2’	1:A:2167:U:H4’	2.11	0.50
1:A:2303:G:H2’	1:A:2304:G:O4’	2.11	0.50
1:A:2579:C:H4’	4:E:134:ILE:HG12	1.94	0.50
1:A:2643:G:H2’	1:A:2644:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2658:C:H5'	7:H:160:LYS:HZ1	1.76	0.50
1:A:2690:C:N4	1:A:2713:A:H1'	2.26	0.50
5:F:133:ASN:O	5:F:162:LEU:HD12	2.10	0.50
6:G:111:LEU:HA	6:G:114:ILE:HD12	1.91	0.50
7:H:45:VAL:HA	7:H:50:VAL:HG22	1.92	0.50
11:P:93:GLY:N	11:P:123:LEU:HD22	2.26	0.50
13:R:93:GLY:O	13:R:117:VAL:HG21	2.11	0.50
19:X:64:LYS:HE3	19:X:73:ARG:NH2	2.26	0.50
21:Z:126:VAL:HG22	21:Z:163:LEU:HA	1.93	0.50
21:Z:144:LEU:HD22	21:Z:148:ASP:HB3	1.93	0.50
32:a:68:G:C2'	32:a:93:G:H1	2.24	0.50
32:a:96:U:C5	32:a:97:G:H3'	2.46	0.50
32:a:189(J):G:O2'	32:a:189(K):G:H5'	2.12	0.50
32:a:708:C:O2'	32:a:709:G:H5'	2.11	0.50
32:a:829:G:O2'	32:a:830:G:H5'	2.12	0.50
32:a:832:C:O2'	32:a:833:U:H5'	2.11	0.50
32:a:861:G:O2'	32:a:862:C:H5'	2.11	0.50
32:a:862:C:H2'	32:a:863:U:O4'	2.11	0.50
32:a:961:U:H2'	32:a:962:C:H5'	1.93	0.50
32:a:977:A:O2'	32:a:981:U:N3	2.36	0.50
32:a:1030(B):G:H1'	32:a:1030(D):G:C5	2.46	0.50
32:a:1046:A:C2'	32:a:1047:G:H5'	2.41	0.50
32:a:1166:G:H2'	32:a:1169:A:OP2	2.11	0.50
32:a:1385:G:O2'	32:a:1386:G:H5'	2.11	0.50
33:b:71:VAL:HG12	33:b:93:VAL:CG2	2.40	0.50
34:c:40:ARG:HD3	34:c:55:VAL:HG11	1.93	0.50
35:d:18:LYS:NZ	35:d:33:MET:HB2	2.27	0.50
41:j:27:ALA:O	41:j:31:GLY:N	2.37	0.50
46:o:36:ILE:HG23	46:o:56:LEU:HD11	1.93	0.50
47:p:1:MET:O	47:p:3:LYS:HG3	2.12	0.50
51:t:40:ALA:HB2	51:t:55:ILE:HG22	1.93	0.50
53:y:64:G:O2'	53:y:65:C:H5'	2.11	0.50
1:A:10:G:H2'	1:A:11:G:O4'	2.10	0.50
1:A:246:C:H2'	1:A:247:G:H5'	1.94	0.50
1:A:445:C:O2'	1:A:446:G:H5'	2.12	0.50
1:A:755:C:H2'	1:A:756:C:H6	1.76	0.50
1:A:1063:G:O2'	1:A:1064:C:H5"	2.11	0.50
1:A:1419:A:H1'	1:A:1420:U:C5	2.45	0.50
1:A:1486:A:O2'	1:A:1487:G:H5'	2.11	0.50
1:A:1509(C):A:H2'	1:A:1510:G:C8	2.47	0.50
1:A:1579:A:H3'	1:A:1580:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1765:C:O2'	1:A:1766:U:H5'	2.11	0.50
1:A:2581:G:OP2	1:A:2581:G:N2	2.40	0.50
1:A:2635:C:HO2'	4:E:37:ARG:HH21	1.59	0.50
2:B:111:G:O2'	2:B:112:U:H5'	2.10	0.50
3:D:61:LEU:O	3:D:63:ARG:NH1	2.39	0.50
3:D:79:VAL:HG11	3:D:111:LEU:HD11	1.93	0.50
5:F:10:PRO:HB3	5:F:17:ARG:NE	2.26	0.50
5:F:125:LEU:HD21	5:F:194:MET:HE3	1.93	0.50
6:G:126:ASP:HB2	6:G:130:ASN:HB2	1.92	0.50
7:H:137:ASP:C	7:H:141:VAL:HG23	2.36	0.50
10:O:35:VAL:HG11	10:O:103:ALA:CB	2.41	0.50
12:Q:65:PHE:CB	12:Q:105:GLU:O	2.50	0.50
17:V:2:PHE:CZ	17:V:41:GLY:HA3	2.46	0.50
17:V:40:LEU:HB2	17:V:46:VAL:CG1	2.41	0.50
26:4:48:ARG:HB3	26:4:51:ASP:O	2.11	0.50
32:a:77:G:H2'	32:a:78:G:H8	1.76	0.50
32:a:93:G:C4'	32:a:100:C:H2'	2.39	0.50
32:a:411:A:H2	32:a:430:A:H62	1.57	0.50
32:a:413:G:H1'	32:a:428:G:N2	2.25	0.50
32:a:515:G:H2'	32:a:516:PSU:H6	1.76	0.50
32:a:578:C:H2'	32:a:579:G:H8	1.75	0.50
32:a:579:G:H2'	32:a:580:U:H6	1.75	0.50
32:a:691:G:N7	42:k:26:ASN:HB3	2.26	0.50
32:a:697:U:H4'	32:a:786:G:H4'	1.92	0.50
32:a:724:G:H2'	32:a:725:G:H8	1.75	0.50
32:a:787:A:N1	32:a:795:C:N4	2.59	0.50
32:a:902:G:H2'	32:a:903:G:H8	1.76	0.50
32:a:922:G:H2'	32:a:923:A:C8	2.47	0.50
32:a:1106:G:O2'	32:a:1107:C:H5'	2.11	0.50
32:a:1179:A:O2'	32:a:1180:A:H5'	2.11	0.50
32:a:1249:C:O4'	40:i:70:LYS:HE3	2.11	0.50
32:a:1384:C:O2'	32:a:1385:G:H5'	2.11	0.50
32:a:1425:U:O2'	32:a:1426:C:H5'	2.11	0.50
33:b:140:HIS:O	33:b:143:GLU:HB2	2.11	0.50
34:c:71:ALA:HB2	34:c:115:LEU:HD21	1.92	0.50
34:c:82:GLU:HA	34:c:85:ARG:NH2	2.27	0.50
37:f:30:LEU:CA	37:f:35:ALA:HB3	2.41	0.50
39:h:85:ARG:HD2	39:h:134:ILE:O	2.11	0.50
53:y:67:C:O2'	53:y:68:C:H5'	2.11	0.50
56:x:7:A:H2'	56:x:8:A:C8	2.47	0.50
1:A:206:U:H2'	1:A:207:A:H8	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(O):C:H2'	1:A:272(P):C:C6	2.46	0.50
1:A:350:U:H2'	1:A:351:G:O4'	2.12	0.50
1:A:543:C:H2'	1:A:545:G:O4'	2.11	0.50
1:A:646:A:H2'	1:A:647:G:O4'	2.11	0.50
1:A:656:G:H2'	1:A:657:U:H6	1.77	0.50
1:A:729:G:OP2	3:D:13:ARG:HD3	2.11	0.50
1:A:903:C:O2'	1:A:904:C:H5'	2.11	0.50
1:A:966:G:O2'	1:A:967:C:H5'	2.11	0.50
1:A:1086:A:OP2	1:A:1105:U:H5'	2.11	0.50
1:A:1185:C:H5"	1:A:1186:G:OP1	2.11	0.50
1:A:1962:5MC:O3'	1:A:1963:U:H3'	2.11	0.50
1:A:2073:C:C5'	3:D:229:VAL:HG12	2.41	0.50
1:A:2111:C:H5'	1:A:2120:G:OP2	2.11	0.50
1:A:2190:G:O2'	1:A:2191:G:H5'	2.11	0.50
1:A:2300:G:O2'	1:A:2301:C:H5'	2.12	0.50
1:A:2470:G:O2'	1:A:2471:C:H5'	2.11	0.50
1:A:2496:C:H2'	1:A:2497:A:O4'	2.10	0.50
1:A:2671:A:O2'	1:A:2672:G:H5'	2.11	0.50
1:A:2888:C:H2'	1:A:2889:C:C6	2.45	0.50
2:B:21:G:H2'	2:B:22:U:C6	2.46	0.50
2:B:42:C:H2'	2:B:43:C:O4'	2.10	0.50
3:D:36:PRO:HA	3:D:61:LEU:HD13	1.94	0.50
3:D:134:ARG:CZ	8:I:121:LYS:HE2	2.41	0.50
4:E:23:VAL:CG1	4:E:173:VAL:HG21	2.42	0.50
5:F:7:TYR:OH	5:F:119:ARG:HD3	2.11	0.50
5:F:164:ARG:HD2	5:F:175:THR:CG2	2.41	0.50
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.46	0.50
9:N:43:THR:HB	9:N:46:VAL:CG2	2.42	0.50
15:T:64:ARG:HD3	15:T:73:GLU:CG	2.41	0.50
22:0:53:MET:HB2	22:0:59:LEU:HD23	1.92	0.50
24:2:1:MET:HG3	24:2:5:GLU:OE1	2.12	0.50
27:5:50:GLY:HA3	27:5:60:VAL:HG23	1.93	0.50
28:6:9:LEU:CA	28:6:54:ILE:HB	2.41	0.50
32:a:38:G:O2'	32:a:39:G:H5"	2.11	0.50
32:a:477:A:O2'	32:a:479:C:H5'	2.11	0.50
32:a:525:C:H2'	32:a:526:C:C6	2.47	0.50
32:a:742:G:H2'	32:a:743:U:O4'	2.11	0.50
32:a:892:A:O2'	32:a:893:C:H5'	2.11	0.50
32:a:895:G:H2'	32:a:896:C:C6	2.47	0.50
32:a:1270:C:O2'	32:a:1313:U:O2'	2.12	0.50
33:b:131:PRO:O	33:b:135:GLN:HG3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:g:93:PRO:O	38:g:97:GLN:HG3	2.12	0.50
42:k:110:ASP:HB3	49:r:85:LEU:HB3	1.93	0.50
49:r:72:ARG:O	49:r:76:LEU:N	2.30	0.50
54:C:6:ARG:HH22	54:C:218:MET:HB3	1.76	0.50
55:z:33:U:C1'	55:z:36:A:H62	2.24	0.50
1:A:8:A:H5"	9:N:51:PHE:CZ	2.46	0.50
1:A:222:A:N6	1:A:232:G:H1'	2.27	0.50
1:A:628:G:O2'	1:A:629:G:H5'	2.12	0.50
1:A:723:G:H2'	1:A:724:U:C6	2.46	0.50
1:A:740:U:H2'	1:A:741:G:C8	2.46	0.50
1:A:920:G:O2'	1:A:921:G:H5'	2.11	0.50
1:A:1382:G:H2'	1:A:1383:C:O4'	2.11	0.50
1:A:1448:G:H2'	1:A:1449:A:C8	2.47	0.50
1:A:1449:A:C2	1:A:1450(A):G:H1'	2.47	0.50
1:A:1498:C:H2'	1:A:1499:C:C6	2.46	0.50
1:A:2018:G:H3'	27:5:9:LYS:NZ	2.27	0.50
1:A:2023:G:H5'	1:A:2617:C:H4'	1.93	0.50
1:A:2168:G:H2'	1:A:2170:A:OP2	2.11	0.50
1:A:2563:U:O2'	10:O:28:SER:HB3	2.11	0.50
1:A:2612:C:OP2	27:5:2:ALA:HB3	2.10	0.50
1:A:2773:C:H2'	1:A:2774:C:H6	1.76	0.50
2:B:50:G:OP2	14:S:62:LYS:HB2	2.12	0.50
11:P:83:VAL:HG22	11:P:113:LYS:O	2.12	0.50
11:P:125:VAL:HG22	11:P:138:LEU:HD21	1.93	0.50
12:Q:34:LEU:HD11	12:Q:129:THR:OG1	2.11	0.50
19:X:84:ALA:HB3	19:X:87:GLN:CD	2.35	0.50
21:Z:75:ASN:C	21:Z:76:LEU:HD12	2.36	0.50
21:Z:125:LEU:HD23	21:Z:164:ALA:O	2.11	0.50
21:Z:129:SER:HB3	21:Z:132:ASN:CB	2.36	0.50
32:a:64:G:H21	32:a:69:G:P	2.35	0.50
32:a:264:U:H2'	32:a:265:G:O4'	2.12	0.50
32:a:348:G:O2'	32:a:349:A:H5'	2.11	0.50
32:a:429:U:H4'	32:a:430:A:H5"	1.94	0.50
32:a:500:G:H2'	32:a:501:C:H6	1.75	0.50
32:a:599:C:H2'	32:a:600:C:H6	1.77	0.50
32:a:686:U:O4	32:a:703:G:H1'	2.12	0.50
32:a:971:G:OP1	32:a:971:G:H3'	2.11	0.50
32:a:1149:C:P	40:i:9:ARG:HH21	2.34	0.50
32:a:1316:G:H5"	45:n:17:LYS:NZ	2.27	0.50
32:a:1387:G:H2'	32:a:1388:C:H6	1.75	0.50
35:d:165:MET:SD	35:d:168:ARG:HB3	2.52	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:177:ASP:HB3	35:d:182:LYS:CG	2.40	0.50
36:e:152:ARG:HA	39:h:64:LYS:NZ	2.26	0.50
38:g:121:ALA:O	38:g:125:MET:HG3	2.11	0.50
40:i:89:ASN:HB3	40:i:92:TYR:CD2	2.46	0.50
42:k:21:ILE:HB	42:k:84:VAL:HA	1.93	0.50
50:s:69:HIS:HB3	50:s:73:GLU:CD	2.37	0.50
1:A:445:C:H2'	1:A:446:G:O4'	2.11	0.50
1:A:622:G:O2'	1:A:623:G:H5'	2.11	0.50
1:A:1468:C:H2'	1:A:1469:A:H8	1.74	0.50
1:A:1568:G:OP1	3:D:63:ARG:NH1	2.34	0.50
1:A:1741:A:H2'	1:A:1742:G:O4'	2.12	0.50
1:A:1809:A:H2'	1:A:1810:A:C8	2.46	0.50
1:A:1946:U:H2'	1:A:1947:C:C6	2.46	0.50
1:A:2078:C:H2'	1:A:2079:U:H6	1.74	0.50
1:A:2080:G:OP1	23:1:35:THR:HG21	2.12	0.50
1:A:2285:C:OP2	28:6:6:ARG:HD2	2.11	0.50
1:A:2292:C:O2'	1:A:2293:C:H5'	2.11	0.50
1:A:2487:G:H2'	1:A:2488:A:H8	1.75	0.50
1:A:2647:U:H2'	1:A:2648:C:H6	1.77	0.50
1:A:2708:G:O2'	1:A:2709:G:H5'	2.11	0.50
1:A:2751:G:H5"	1:A:2752:C:H5	1.77	0.50
1:A:2762:G:H2'	1:A:2763:G:O4'	2.10	0.50
2:B:31:C:O2'	2:B:53:A:N1	2.29	0.50
4:E:77:ILE:HG21	4:E:195:LEU:CD2	2.42	0.50
5:F:10:PRO:HB3	5:F:17:ARG:HH21	1.77	0.50
6:G:115:ARG:HB2	6:G:136:ARG:NH2	2.26	0.50
6:G:179:PRO:HB3	26:4:43:TYR:HE1	1.77	0.50
10:O:9:GLU:O	10:O:83:ALA:HA	2.12	0.50
10:O:13:ASN:HD21	10:O:96:THR:HG1	1.55	0.50
11:P:106:LEU:HD13	11:P:107:LYS:O	2.11	0.50
15:T:11:GLU:CD	15:T:57:PHE:HB3	2.36	0.50
19:X:11:PRO:O	19:X:13:LEU:HG	2.10	0.50
20:Y:89:PHE:HE1	20:Y:95:LYS:HD3	1.76	0.50
32:a:20:U:O2'	32:a:21:G:H5'	2.12	0.50
32:a:196:A:N3	32:a:222:U:H1'	2.27	0.50
32:a:286:G:H2'	32:a:287:U:O4'	2.12	0.50
32:a:338:A:H2'	32:a:339:C:H6	1.76	0.50
32:a:390:C:H2'	32:a:391:G:C8	2.46	0.50
32:a:402:G:OP1	35:d:74:GLN:HG2	2.12	0.50
32:a:437:U:H2'	32:a:438:G:O4'	2.12	0.50
32:a:460:G:H3'	32:a:461:A:C5'	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:885:G:O2'	32:a:886:G:H5'	2.11	0.50
32:a:976:G:P	45:n:32:SER:H	2.34	0.50
32:a:1298:C:C5	38:g:114:ARG:HD3	2.47	0.50
33:b:211:ILE:O	33:b:215:LEU:HD23	2.11	0.50
37:f:36:ARG:NH1	37:f:38:GLU:HG2	2.26	0.50
37:f:46:ARG:HD2	37:f:60:PHE:CE2	2.44	0.50
44:m:49:THR:O	44:m:53:VAL:HG23	2.10	0.50
45:n:27:CYS:HB3	45:n:43:CYS:SG	2.52	0.50
48:q:58:GLU:OE2	48:q:75:ARG:NH2	2.45	0.50
54:C:3:HIS:O	54:C:8:ARG:NH1	2.45	0.50
1:A:111:A:H4'	24:2:69:ARG:HH12	1.77	0.50
1:A:116:C:O2'	1:A:117:G:H5'	2.11	0.50
1:A:149:A:H2'	1:A:150:C:O4'	2.12	0.50
1:A:644:A:H5"	1:A:645:C:OP1	2.11	0.50
1:A:1160:G:H2'	1:A:1161:C:C6	2.47	0.50
1:A:1265:A:H61	1:A:2013:A:H3'	1.77	0.50
1:A:1408:C:H2'	1:A:1409:C:H6	1.76	0.50
1:A:2178:C:HO2'	54:C:168:THR:HB	1.77	0.50
1:A:2240:C:O2'	1:A:2241:A:H5'	2.11	0.50
1:A:2312:U:C2'	1:A:2313:C:H5'	2.42	0.50
1:A:2315:G:H2'	1:A:2316:C:C6	2.46	0.50
1:A:2372:G:O2'	1:A:2373:G:H5'	2.12	0.50
1:A:2531:A:H5"	7:H:157:TYR:CZ	2.47	0.50
3:D:155:LEU:HD23	3:D:177:LEU:HD22	1.94	0.50
3:D:206:LEU:O	3:D:211:ARG:HD3	2.11	0.50
5:F:196:LEU:O	5:F:199:TRP:HB3	2.12	0.50
8:I:44:LEU:O	8:I:47:LEU:HB3	2.11	0.50
9:N:47:ALA:HB3	9:N:115:ARG:HH12	1.77	0.50
14:S:51:ALA:HB2	14:S:73:LEU:HB2	1.94	0.50
24:2:21:LEU:HD13	24:2:64:LEU:HA	1.94	0.50
25:3:16:PRO:HD2	25:3:19:GLN:CD	2.37	0.50
32:a:92:C:O4'	32:a:100:C:N4	2.45	0.50
32:a:99:U:O4	51:t:22:ARG:HG3	2.12	0.50
32:a:254:G:H2'	32:a:255:G:H8	1.77	0.50
32:a:401:C:H2'	32:a:402:G:C8	2.47	0.50
32:a:593:G:H2'	32:a:594:G:C8	2.44	0.50
32:a:875:C:H3'	32:a:876:G:H5"	1.94	0.50
32:a:1023:G:H2'	32:a:1023:G:N3	2.27	0.50
32:a:1090:U:H2'	32:a:1091:U:H6	1.75	0.50
32:a:1295:G:H2'	32:a:1296:C:O4'	2.10	0.50
32:a:1500:A:O2'	32:a:1501:C:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:98:GLU:CB	35:d:189:PRO:HG2	2.41	0.50
35:d:185:PHE:HZ	35:d:189:PRO:HD3	1.77	0.50
36:e:5:ASP:HB2	56:x:55:A:H5"	1.94	0.50
36:e:31:LEU:HD11	36:e:129:ILE:HG12	1.94	0.50
36:e:71:LEU:HD13	36:e:75:THR:O	2.12	0.50
37:f:10:LEU:N	37:f:59:TYR:O	2.39	0.50
41:j:30:SER:OG	41:j:81:THR:HG22	2.12	0.50
41:j:38:ILE:HG13	41:j:38:ILE:O	2.11	0.50
41:j:46:ARG:HA	41:j:63:PHE:O	2.12	0.50
42:k:59:TYR:CE2	42:k:63:LEU:HD11	2.47	0.50
43:l:38:THR:OG1	43:l:57:LYS:O	2.24	0.50
44:m:24:GLY:HA3	44:m:70:LEU:HD13	1.93	0.50
48:q:97:SER:C	48:q:98:LEU:HD12	2.36	0.50
54:C:85:GLU:OE2	54:C:149:ILE:HG22	2.12	0.50
54:C:171:ILE:HD13	54:C:196:LEU:CD1	2.41	0.50
1:A:950:G:H2'	1:A:951:C:C6	2.47	0.50
1:A:1210:A:H4'	1:A:1211:U:O5'	2.10	0.50
1:A:1415:U:O2'	1:A:1417:C:OP1	2.26	0.50
1:A:1620:G:O2'	1:A:1621:U:H5'	2.11	0.50
1:A:1889:A:H2'	1:A:1890:A:H8	1.75	0.50
1:A:1919:A:N1	32:a:1495:U:O2'	2.34	0.50
1:A:2104:G:H3'	1:A:2105:C:C6	2.47	0.50
1:A:2559:C:O2'	1:A:2560:C:H5'	2.12	0.50
1:A:2641:G:H2'	1:A:2642:G:C8	2.44	0.50
1:A:2887:U:H2'	1:A:2888:C:H6	1.77	0.50
4:E:76:ARG:HB2	4:E:77:ILE:HD12	1.94	0.50
12:Q:56:ARG:O	12:Q:59:ARG:HB2	2.12	0.50
16:U:24:TYR:HB2	16:U:29:SER:HB3	1.94	0.50
16:U:94:ASN:HB3	17:V:4:ILE:CD1	2.41	0.50
20:Y:51:VAL:HG22	20:Y:58:GLY:HA3	1.93	0.50
21:Z:74:VAL:HG13	21:Z:76:LEU:HD11	1.94	0.50
22:0:21:LEU:CD2	22:0:39:ARG:HG3	2.41	0.50
27:5:20:ARG:HG2	27:5:23:HIS:CE1	2.47	0.50
27:5:46:CYS:HB3	27:5:49:CYS:SG	2.52	0.50
31:9:19:ARG:HG2	31:9:20:HIS:ND1	2.26	0.50
32:a:108:G:H5"	32:a:110:C:C5	2.45	0.50
32:a:125:U:H2'	32:a:126:G:C8	2.47	0.50
32:a:148:G:H2'	32:a:149:A:H8	1.73	0.50
32:a:244:U:H4'	32:a:245:C:H5"	1.92	0.50
32:a:371:G:H2'	32:a:372:C:O4'	2.12	0.50
32:a:420:U:O2	32:a:423:G:N1	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:642:A:H2'	32:a:643:C:C6	2.47	0.50
32:a:923:A:H2'	32:a:924:C:H6	1.77	0.50
32:a:987:G:H2'	32:a:988:G:C8	2.45	0.50
32:a:1016:A:H1'	32:a:1218:C:H1'	1.92	0.50
32:a:1151:A:O4'	41:j:39:PRO:HB2	2.12	0.50
32:a:1354:C:H2'	32:a:1355:G:H8	1.77	0.50
32:a:1362:C:O2'	32:a:1363(A):C:O4'	2.28	0.50
32:a:1435:G:H2'	32:a:1436:U:H6	1.75	0.50
33:b:54:THR:HG22	33:b:58:ILE:CG1	2.42	0.50
33:b:223:ILE:O	33:b:228:GLY:N	2.35	0.50
34:c:59:ARG:HA	34:c:64:VAL:HA	1.93	0.50
38:g:65:ALA:HA	38:g:128:ALA:HA	1.94	0.50
39:h:20:TYR:HA	39:h:65:TYR:CZ	2.47	0.50
54:C:82:LYS:HA	54:C:85:GLU:HG3	1.94	0.50
55:z:9:A:H62	55:z:23:A:N6	2.10	0.50
1:A:247:G:H4'	1:A:386:G:C5	2.47	0.50
1:A:566:U:O2'	1:A:809:G:OP2	2.19	0.50
1:A:828:U:H2'	1:A:829:A:C8	2.47	0.50
1:A:1024:G:HO2'	1:A:1144:G:HO2'	1.60	0.50
1:A:1138:G:N2	9:N:106:MET:HE2	2.27	0.50
1:A:1401:G:H2'	1:A:1402:C:C6	2.46	0.50
1:A:1449:A:C4	1:A:1528(B):A:H2	2.29	0.50
1:A:2331:G:H2'	1:A:2332:U:C6	2.47	0.50
1:A:2369:A:O2'	1:A:2370:G:H5'	2.12	0.50
1:A:2436:G:O2'	1:A:2437:U:H5'	2.12	0.50
1:A:2496:C:O2'	1:A:2497:A:H5'	2.12	0.50
1:A:2528:U:H2'	1:A:2530:A:O5'	2.12	0.50
1:A:2536:G:O2'	1:A:2537:U:H5'	2.12	0.50
1:A:2712(B):A:H4'	13:R:13:HIS:CG	2.47	0.50
1:A:2740:A:OP2	1:A:2763:G:N1	2.40	0.50
1:A:2831:G:OP2	1:A:2831:G:H2'	2.11	0.50
3:D:182:LEU:HB2	3:D:272:ALA:HB3	1.94	0.50
7:H:23:ARG:HA	7:H:35:VAL:O	2.12	0.50
8:I:21:VAL:HG21	8:I:26:ALA:HB2	1.94	0.50
8:I:76:THR:HG22	8:I:141:LYS:CB	2.41	0.50
9:N:15:LEU:HD13	9:N:16:ILE:N	2.26	0.50
11:P:132:LYS:O	11:P:136:GLU:HG3	2.12	0.50
12:Q:32:TYR:HE1	12:Q:133:ARG:HG3	1.77	0.50
16:U:35:ALA:O	16:U:39:LEU:HG	2.12	0.50
19:X:36:LYS:HE2	19:X:56:THR:HG23	1.93	0.50
21:Z:3:TYR:HB3	21:Z:47:VAL:HG13	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:2:1:MET:CE	24:2:6:VAL:HG22	2.41	0.50
24:2:21:LEU:HB2	24:2:64:LEU:HD23	1.94	0.50
26:4:58:ARG:NH2	44:m:80:ARG:HH22	2.09	0.50
32:a:91:C:H2'	32:a:92:C:C5	2.47	0.50
32:a:229:U:H2'	32:a:230:G:O4'	2.11	0.50
32:a:254:G:O2'	32:a:255:G:H5'	2.12	0.50
32:a:266:G:H1'	32:a:268:C:OP2	2.12	0.50
32:a:545:C:H2'	32:a:546:G:O4'	2.12	0.50
32:a:978:A:OP1	32:a:1361:G:N2	2.43	0.50
32:a:1113:C:O2'	32:a:1114:C:H5'	2.11	0.50
32:a:1313:U:P	50:s:5:LEU:HG	2.52	0.50
32:a:1360:A:H2'	32:a:1361:G:C8	2.46	0.50
32:a:1446:U:H2'	32:a:1452:C:C6	2.47	0.50
33:b:16:HIS:CE1	33:b:210:SER:HA	2.47	0.50
34:c:83:ARG:O	34:c:87:LEU:HG	2.11	0.50
36:e:31:LEU:HD23	36:e:45:PHE:HB2	1.94	0.50
36:e:69:VAL:HG13	36:e:71:LEU:CD2	2.42	0.50
38:g:65:ALA:HB1	38:g:127:ALA:HB3	1.92	0.50
44:m:5:ALA:N	44:m:61:GLU:OE2	2.45	0.50
54:C:28:LEU:HA	54:C:31:GLU:CG	2.42	0.50
54:C:70:LYS:CG	54:C:177:LYS:HE2	2.42	0.50
1:A:69:C:H2'	1:A:70:G:C8	2.46	0.49
1:A:428:A:H2'	1:A:429:A:C8	2.46	0.49
1:A:483:A:O2'	20:Y:59:GLY:N	2.45	0.49
1:A:521:G:H2'	1:A:522:G:C8	2.47	0.49
1:A:706:A:OP1	3:D:7:LYS:NZ	2.23	0.49
1:A:1257:C:O2'	1:A:1258:C:H5'	2.12	0.49
1:A:1378:A:O2'	1:A:1380:G:N7	2.35	0.49
1:A:1441:G:H2'	1:A:1442:G:H8	1.76	0.49
1:A:2056:G:N2	27:5:5:PRO:HA	2.27	0.49
1:A:2117:A:H3'	1:A:2118:U:C5'	2.41	0.49
1:A:2128:C:H5'	54:C:6:ARG:HE	1.77	0.49
1:A:2331:G:O2'	22:0:43:THR:HG22	2.12	0.49
1:A:2360:A:H2'	1:A:2361:A:O4'	2.12	0.49
1:A:2396:G:P	23:1:25:LYS:HZ2	2.35	0.49
1:A:2513:G:O2'	4:E:154:LYS:NZ	2.45	0.49
1:A:2641:G:P	9:N:74:ARG:HH12	2.35	0.49
1:A:2694:G:H2'	1:A:2695:C:H6	1.76	0.49
4:E:103:ASP:OD2	4:E:201:THR:HA	2.12	0.49
4:E:111:ARG:HD2	4:E:160:TYR:CD2	2.47	0.49
5:F:135:LYS:HB3	5:F:138:GLU:CD	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:149:ARG:HD2	7:H:149:ARG:O	2.12	0.49
8:I:78:THR:HA	8:I:143:SER:O	2.12	0.49
9:N:85:ILE:HG21	9:N:90:MET:HE2	1.94	0.49
11:P:84:ASN:CG	11:P:117:GLU:HB2	2.37	0.49
12:Q:51:ARG:HA	12:Q:54:MET:HE3	1.94	0.49
20:Y:79:CYS:O	20:Y:81:LYS:HG2	2.12	0.49
25:3:8:LEU:HB2	25:3:28:LEU:HD13	1.94	0.49
27:5:52:TYR:HB3	27:5:57:VAL:HG21	1.94	0.49
30:8:22:VAL:CG1	30:8:50:LEU:HD12	2.43	0.49
32:a:356:A:C2'	32:a:357:G:H5'	2.42	0.49
32:a:522:C:H2'	32:a:523:A:C8	2.47	0.49
32:a:580:U:H2'	32:a:581:G:O4'	2.12	0.49
32:a:624:C:O2'	47:p:10:GLY:HA2	2.12	0.49
32:a:688:G:H4'	42:k:47:VAL:HG23	1.94	0.49
32:a:714:G:H1'	32:a:777:A:C8	2.47	0.49
32:a:779:C:O2'	32:a:780:A:H5'	2.12	0.49
32:a:881:G:H2'	32:a:882:C:O4'	2.12	0.49
32:a:979:C:H42	45:n:18:VAL:HG12	1.76	0.49
33:b:16:HIS:NE2	33:b:213:LEU:HD13	2.27	0.49
34:c:66:VAL:N	34:c:100:ALA:O	2.38	0.49
34:c:139:GLN:HG3	34:c:143:GLU:CD	2.37	0.49
39:h:27:PRO:HA	39:h:58:TYR:CD1	2.46	0.49
39:h:37:ARG:HE	39:h:38:ILE:HD13	1.77	0.49
39:h:51:VAL:CG2	39:h:60:ARG:HG3	2.42	0.49
40:i:5:TYR:C	40:i:84:ALA:HB2	2.37	0.49
44:m:11:ARG:HA	44:m:45:VAL:CB	2.37	0.49
45:n:47:LEU:HD22	45:n:52:GLN:OE1	2.11	0.49
48:q:12:SER:O	48:q:20:THR:N	2.28	0.49
51:t:10:LEU:HG	51:t:14:LYS:HE2	1.93	0.49
54:C:64:LEU:HD12	54:C:68:LEU:CD2	2.29	0.49
54:C:73:ARG:N	54:C:111:ASP:HB2	2.16	0.49
55:z:60:U:H2'	55:z:61:C:C6	2.47	0.49
1:A:78:A:H2'	1:A:79:G:C8	2.47	0.49
1:A:288:C:O2'	1:A:289:A:H5'	2.12	0.49
1:A:377:C:H2'	1:A:378:C:H6	1.77	0.49
1:A:412:A:H2'	1:A:413:C:H5'	1.94	0.49
1:A:841:A:H2'	1:A:842:G:C8	2.47	0.49
1:A:995:C:N4	9:N:2:LYS:HD2	2.27	0.49
1:A:1890:A:H3'	1:A:1891:G:H8	1.77	0.49
1:A:1997:G:O2'	1:A:1998:G:H5'	2.12	0.49
1:A:2153:G:H2'	1:A:2154:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2546:U:H5”	1:A:2547:U:H5’	1.93	0.49
1:A:2687:U:H2’	1:A:2688:U:O4’	2.12	0.49
3:D:157:ARG:O	3:D:157:ARG:HD2	2.12	0.49
7:H:9:ILE:HD11	7:H:69:ARG:HG2	1.93	0.49
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.47	0.49
7:H:95:ARG:HB2	7:H:128:PRO:HB2	1.94	0.49
9:N:112:LEU:O	9:N:116:LEU:HG	2.12	0.49
12:Q:61:GLY:O	21:Z:178:GLU:HB3	2.12	0.49
20:Y:5:MET:HE3	20:Y:32:PRO:HA	1.92	0.49
21:Z:34:ASN:O	21:Z:35:ARG:HD2	2.12	0.49
21:Z:51:ALA:HB1	21:Z:57:ILE:HD11	1.94	0.49
30:8:19:SER:OG	30:8:21:LYS:HG3	2.12	0.49
32:a:44:G:O2’	32:a:45:U:H5’	2.12	0.49
32:a:67:C:H5’	32:a:76:C:C2’	2.42	0.49
32:a:189(K):G:H2’	32:a:189(L):U:O4’	2.12	0.49
32:a:375:U:P	47:p:69:THR:HG21	2.51	0.49
32:a:663:A:OP1	49:r:61:LYS:NZ	2.44	0.49
32:a:719:C:O2’	49:r:49:LYS:HB3	2.12	0.49
32:a:738:C:H2’	32:a:739:C:C6	2.47	0.49
32:a:1074:G:H2’	32:a:1075:C:H6	1.77	0.49
32:a:1104:G:H4’	33:b:111:ARG:NH1	2.28	0.49
32:a:1125:U:HO2’	32:a:1126:U:P	2.32	0.49
32:a:1231:G:O2’	32:a:1232:U:H5’	2.12	0.49
32:a:1260:C:P	32:a:1284:C:H4’	2.52	0.49
32:a:1283:G:O2’	32:a:1284:C:H5’	2.12	0.49
32:a:1478:C:H2’	32:a:1479:C:H6	1.77	0.49
32:a:1541:U:H2’	32:a:1542:G:H5”	1.94	0.49
33:b:71:VAL:CG2	33:b:164:VAL:HA	2.42	0.49
34:c:189:ALA:O	34:c:196:LEU:N	2.34	0.49
35:d:99:SER:O	35:d:139:ARG:HA	2.11	0.49
37:f:1:MET:HE2	37:f:68:PRO:HG3	1.94	0.49
37:f:7:ASN:O	37:f:88:VAL:HA	2.12	0.49
54:C:38:ASP:CG	54:C:177:LYS:HB3	2.37	0.49
1:A:314:A:H2’	1:A:315:G:H8	1.76	0.49
1:A:348:G:H2’	1:A:349:G:H8	1.76	0.49
1:A:355:G:O2’	1:A:356:G:H5’	2.12	0.49
1:A:537:C:OP1	1:A:995:C:N4	2.45	0.49
1:A:614(D):A:H4’	5:F:182:ASN:HD22	1.77	0.49
1:A:629:G:H4’	1:A:650:C:O2	2.12	0.49
1:A:693:C:H2’	1:A:694:U:H6	1.78	0.49
1:A:723:G:H2’	1:A:724:U:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:848:G:H2'	1:A:849:A:C8	2.47	0.49
1:A:970:C:H5'	25:3:14:GLY:HA2	1.94	0.49
1:A:1184:G:H2'	1:A:1185:C:H6	1.77	0.49
1:A:1435:G:H2'	1:A:1436:G:C8	2.47	0.49
4:E:174:ASP:O	4:E:182:LEU:HD12	2.13	0.49
9:N:13:TRP:CE2	9:N:133:GLN:HB3	2.47	0.49
9:N:123:TYR:HH	9:N:130:HIS:CD2	2.27	0.49
12:Q:68:ILE:HG22	12:Q:101:ARG:HE	1.76	0.49
15:T:11:GLU:OE1	15:T:57:PHE:HB3	2.11	0.49
21:Z:54:HIS:HA	21:Z:99:TYR:O	2.12	0.49
23:1:69:LYS:O	23:1:72:GLU:HB3	2.12	0.49
26:4:12:ALA:HA	26:4:29:PRO:O	2.12	0.49
32:a:18:C:H5"	36:e:127:ASN:ND2	2.28	0.49
32:a:354:G:N2	32:a:388:G:O2'	2.29	0.49
32:a:399:G:H2'	32:a:400:C:H6	1.73	0.49
32:a:413:G:H4'	32:a:414:A:C5'	2.43	0.49
32:a:599:C:O2'	32:a:600:C:H5'	2.13	0.49
32:a:851:G:O2'	32:a:852:G:H5'	2.11	0.49
32:a:1286:A:C8	32:a:1287:A:H4'	2.47	0.49
32:a:1358:U:H3'	32:a:1359:C:C6	2.47	0.49
32:a:1366:C:H2'	32:a:1367:C:H6	1.75	0.49
32:a:1477:C:H2'	32:a:1478:C:C6	2.47	0.49
33:b:61:LEU:HG	33:b:66:GLY:HA3	1.95	0.49
34:c:69:HIS:CD2	34:c:104:GLN:HB3	2.47	0.49
35:d:65:ARG:NH1	35:d:72:GLU:OE1	2.44	0.49
35:d:174:LEU:HD23	35:d:185:PHE:HA	1.92	0.49
36:e:102:ALA:HB3	36:e:107:ARG:HB2	1.93	0.49
37:f:10:LEU:HD11	37:f:85:VAL:HG22	1.94	0.49
37:f:59:TYR:CE2	37:f:61:LEU:HD11	2.47	0.49
44:m:25:ILE:HD11	44:m:66:LEU:CD1	2.40	0.49
45:n:4:LYS:HA	45:n:7:ILE:CG1	2.41	0.49
47:p:20:VAL:HG21	47:p:32:TYR:CD2	2.47	0.49
54:C:10:LEU:HD11	54:C:34:THR:OG1	2.12	0.49
1:A:228:A:H2'	1:A:229:A:C5'	2.42	0.49
1:A:357:A:H2'	1:A:358:U:O4'	2.13	0.49
1:A:607:U:H5'	5:F:103:LYS:HE3	1.95	0.49
1:A:774:A:N3	1:A:774:A:H2'	2.26	0.49
1:A:902:C:H2'	1:A:903:C:H6	1.78	0.49
1:A:910:A:C6	12:Q:13:GLN:HG3	2.47	0.49
1:A:947:G:H2'	1:A:948:G:C8	2.47	0.49
1:A:1039:G:O2'	1:A:1040:C:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1225:G:H5'	17:V:86:GLY:H	1.78	0.49
1:A:1386:C:H2'	1:A:1387:C:C6	2.47	0.49
1:A:1430:C:O2'	1:A:1431:U:H5'	2.12	0.49
1:A:1451:C:H4'	1:A:1452:A:C8	2.47	0.49
1:A:1494:A:H2'	1:A:1495:A:C8	2.47	0.49
1:A:1513:C:H2'	1:A:1514:U:H6	1.76	0.49
1:A:1657:C:H2'	1:A:1658:C:H6	1.77	0.49
1:A:1837:C:H2'	1:A:1838:C:H5'	1.94	0.49
1:A:1962:5MC:O2'	1:A:1964:G:OP2	2.29	0.49
1:A:2025:C:O2'	1:A:2026:C:H5'	2.12	0.49
1:A:2028:U:H2'	1:A:2029:G:O4'	2.13	0.49
1:A:2128:C:OP1	54:C:36:LYS:HG3	2.12	0.49
1:A:2182:G:H2'	1:A:2183:C:H6	1.75	0.49
1:A:2679:A:H2'	1:A:2680:C:H6	1.78	0.49
1:A:2757:A:OP1	31:9:20:HIS:N	2.45	0.49
1:A:2816:C:O2'	1:A:2817:G:H5'	2.12	0.49
2:B:104:U:O2'	2:B:105:A:H5'	2.13	0.49
5:F:181:LEU:CD1	5:F:186:ILE:HD11	2.39	0.49
7:H:137:ASP:CG	7:H:140:LYS:H	2.20	0.49
8:I:81:VAL:O	8:I:146:ALA:HA	2.12	0.49
11:P:50:ARG:HD3	30:8:7:HIS:CD2	2.48	0.49
11:P:64:LYS:O	30:8:30:ARG:NH2	2.45	0.49
12:Q:3:MET:HB2	12:Q:93:TYR:CD2	2.47	0.49
12:Q:52:VAL:O	12:Q:56:ARG:HG2	2.12	0.49
21:Z:6:LYS:HE3	21:Z:43:GLU:OE1	2.12	0.49
21:Z:23:LYS:HE2	21:Z:23:LYS:HA	1.94	0.49
25:3:18:ASP:OD1	25:3:19:GLN:N	2.46	0.49
32:a:73:G:C3'	32:a:76:C:H4'	2.42	0.49
32:a:334:C:H2'	32:a:335:C:C6	2.48	0.49
32:a:432:A:H3'	32:a:433:C:H6	1.77	0.49
32:a:514:C:H2'	32:a:515:G:H8	1.76	0.49
32:a:600:C:O2'	32:a:601:C:H5'	2.11	0.49
32:a:658:G:O2'	32:a:659:U:H5'	2.13	0.49
32:a:827:U:O2'	39:h:19:VAL:HG11	2.12	0.49
32:a:861:G:HO2'	32:a:874:G:HO2'	1.59	0.49
32:a:963:G:H1'	32:a:973:G:N2	2.27	0.49
32:a:1030(B):G:H2'	32:a:1030(C):C:H3'	1.93	0.49
32:a:1030(B):G:H2'	32:a:1030(D):G:OP2	2.13	0.49
32:a:1056:U:O5'	34:c:163:ALA:HB2	2.11	0.49
32:a:1112:C:C4	34:c:178:LEU:HD23	2.48	0.49
32:a:1202:G:C2'	32:a:1203:C:H5'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1219:U:H2'	32:a:1220:G:C8	2.47	0.49
32:a:1496:C:H2'	32:a:1497:G:H8	1.76	0.49
33:b:88:ALA:HB2	33:b:219:VAL:HG13	1.95	0.49
33:b:115:LEU:HD23	33:b:145:LEU:CB	2.42	0.49
37:f:19:LEU:O	37:f:23:LYS:HG3	2.12	0.49
37:f:68:PRO:HB2	37:f:70:ASP:OD1	2.12	0.49
41:j:5:ARG:HA	41:j:73:ASP:OD1	2.12	0.49
47:p:18:ARG:HD3	47:p:35:LYS:HD2	1.94	0.49
49:r:66:LEU:HG	49:r:70:ILE:CD1	2.43	0.49
50:s:61:TYR:CE2	50:s:63:THR:HG22	2.47	0.49
53:y:61:C:H2'	53:y:62:C:C6	2.47	0.49
54:C:27:ARG:HD3	54:C:182:PRO:CB	2.42	0.49
54:C:115:ALA:HB1	54:C:119:VAL:HG21	1.94	0.49
55:z:54:U:O4	55:z:58:A:O2'	2.17	0.49
1:A:95:G:H1'	24:2:47:ASN:OD1	2.12	0.49
1:A:287:C:H2'	1:A:288:C:H6	1.76	0.49
1:A:565:C:O2'	1:A:566:U:H5'	2.12	0.49
1:A:622:G:H2'	1:A:623:G:H8	1.78	0.49
1:A:722:A:H2'	1:A:723:G:C8	2.47	0.49
1:A:806:C:O2'	1:A:807:U:H5'	2.13	0.49
1:A:847:U:H5'	1:A:848:G:OP2	2.12	0.49
1:A:863:A:O2'	1:A:864:G:H5'	2.13	0.49
1:A:988:A:H3'	25:3:11:SER:HB2	1.95	0.49
1:A:1065:U:H4'	1:A:1065:U:OP1	2.12	0.49
1:A:1400:G:O2'	1:A:1401:G:H5'	2.12	0.49
1:A:1435:G:H2'	1:A:1436:G:H8	1.77	0.49
1:A:1473:G:H2'	1:A:1474:C:O4'	2.12	0.49
1:A:1592:C:H2'	1:A:1593:G:C8	2.48	0.49
1:A:2385:C:O2'	1:A:2386:C:H5'	2.12	0.49
1:A:2459:A:O2'	12:Q:76:LYS:NZ	2.24	0.49
1:A:2567:G:O2'	1:A:2568:C:H5'	2.13	0.49
1:A:2887:U:O2'	1:A:2888:C:H5'	2.12	0.49
3:D:133:LEU:HA	3:D:136:ILE:HD12	1.94	0.49
3:D:165:ILE:HA	3:D:175:LEU:CD2	2.35	0.49
5:F:64:ILE:HD11	5:F:75:HIS:HB2	1.94	0.49
6:G:66:GLN:HA	26:4:6:HIS:ND1	2.27	0.49
7:H:44:VAL:HG11	7:H:51:ARG:NH2	2.27	0.49
7:H:123:PHE:CD1	7:H:133:VAL:HG22	2.47	0.49
9:N:18:ALA:HB3	9:N:57:ALA:HA	1.94	0.49
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.95	0.49
9:N:21:LYS:CD	9:N:26:LEU:HD13	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S:24:LEU:O	14:S:86:ALA:N	2.36	0.49
17:V:81:TYR:C	17:V:82:ARG:HD2	2.38	0.49
18:W:27:LYS:O	18:W:70:TYR:HB2	2.12	0.49
23:1:91:LYS:O	23:1:95:LEU:HD23	2.12	0.49
24:2:32:LEU:HD23	24:2:53:LEU:HB2	1.95	0.49
32:a:99:U:C5	51:t:21:LYS:HE3	2.47	0.49
32:a:102:G:H1'	32:a:151:A:N3	2.28	0.49
32:a:266:G:O2'	32:a:267:C:OP2	2.21	0.49
32:a:334:C:H2'	32:a:335:C:H6	1.77	0.49
32:a:502:G:H2'	32:a:503:C:H6	1.77	0.49
32:a:538:G:OP1	43:l:114:LYS:N	2.39	0.49
32:a:545:C:H5'	35:d:72:GLU:CB	2.42	0.49
32:a:550:G:O2'	32:a:551:U:H5'	2.12	0.49
32:a:675:A:H2'	32:a:676:A:C8	2.48	0.49
32:a:958:A:H5"	32:a:959:A:OP1	2.13	0.49
32:a:1014:A:H2'	32:a:1015:A:O4'	2.12	0.49
32:a:1236:A:OP2	52:u:3:LYS:HD3	2.12	0.49
34:c:117:ALA:HB1	34:c:187:ALA:CB	2.40	0.49
35:d:18:LYS:HZ2	35:d:33:MET:HB2	1.77	0.49
35:d:72:GLU:OE2	35:d:207:TYR:OH	2.28	0.49
35:d:156:GLU:O	35:d:159:ARG:HB2	2.13	0.49
37:f:19:LEU:HD21	37:f:59:TYR:OH	2.12	0.49
39:h:24:THR:O	39:h:60:ARG:HA	2.12	0.49
51:t:55:ILE:O	51:t:59:ALA:N	2.34	0.49
1:A:143(A):G:H2'	1:A:143(B):C:H6	1.75	0.49
1:A:595:C:H2'	1:A:596:G:H8	1.78	0.49
1:A:637:A:H4'	1:A:638:G:O5'	2.11	0.49
1:A:653:A:H2'	1:A:654:A:O4'	2.12	0.49
1:A:711:G:O2'	1:A:712:G:H5'	2.12	0.49
1:A:962:G:H2'	1:A:963:U:C6	2.47	0.49
1:A:1050:A:H2'	1:A:1051:G:H8	1.77	0.49
1:A:1331:A:H2'	1:A:1333:C:H5	1.77	0.49
1:A:1588:C:H2'	1:A:1589:C:H6	1.77	0.49
1:A:1899:G:N3	1:A:1899:G:H2'	2.27	0.49
1:A:2017:U:O2'	1:A:2019:A:OP2	2.24	0.49
1:A:2040:C:O2'	1:A:2041:U:H5'	2.11	0.49
1:A:2166:G:H1	1:A:2172:U:H5	1.60	0.49
1:A:2222:G:O2'	1:A:2223:G:H5'	2.12	0.49
1:A:2511:U:O2'	1:A:2512:C:H5'	2.13	0.49
1:A:2697:G:H2'	1:A:2698:U:H6	1.77	0.49
1:A:2807:G:H2'	1:A:2808:U:C4'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:65:ALA:HB1	8:I:132:PRO:HG2	1.94	0.49
10:O:73:ASP:OD1	10:O:74:GLY:N	2.46	0.49
12:Q:52:VAL:HA	12:Q:55:VAL:CG1	2.43	0.49
21:Z:42:VAL:O	21:Z:46:LYS:HG2	2.13	0.49
23:1:89:GLU:O	23:1:93:GLU:HG2	2.12	0.49
27:5:51:TYR:CD1	27:5:56:LYS:HA	2.47	0.49
32:a:178:C:C2'	32:a:179:A:H5'	2.43	0.49
32:a:197:A:N6	32:a:221:C:H4'	2.26	0.49
32:a:375:U:O2'	32:a:376:G:H5'	2.12	0.49
32:a:625:G:O2'	32:a:626:U:H5'	2.12	0.49
32:a:736:C:H4'	37:f:91:VAL:HG22	1.94	0.49
32:a:1018:C:O2'	32:a:1019:C:H5'	2.12	0.49
32:a:1026:G:O6	32:a:1036:G:N2	2.46	0.49
32:a:1286:A:H8	32:a:1287:A:H4'	1.78	0.49
32:a:1489:G:H2'	32:a:1490:C:C6	2.47	0.49
33:b:114:ARG:NH1	33:b:118:LEU:HD23	2.27	0.49
39:h:12:ARG:HD3	39:h:26:VAL:HG12	1.94	0.49
41:j:38:ILE:CD1	41:j:71:LEU:HD22	2.37	0.49
41:j:42:THR:HG23	41:j:68:HIS:HA	1.95	0.49
46:o:3:ILE:HG13	46:o:38:ARG:NH2	2.27	0.49
50:s:64:GLU:O	50:s:67:VAL:HG23	2.13	0.49
53:y:18:G:O2'	53:y:60:U:N3	2.45	0.49
53:y:67:C:H2'	53:y:68:C:H6	1.78	0.49
54:C:99:ILE:HA	54:C:102:LYS:CB	2.42	0.49
1:A:68:G:H2'	1:A:69:C:O4'	2.12	0.49
1:A:149:A:H2'	1:A:150:C:C6	2.47	0.49
1:A:288:C:H2'	1:A:289:A:H8	1.77	0.49
1:A:996:A:H2'	1:A:997:G:H8	1.77	0.49
1:A:1266:G:P	18:W:15:ARG:HH22	2.35	0.49
1:A:1425:G:O2'	1:A:1426:G:H5'	2.13	0.49
1:A:1752:C:O2'	1:A:1753:G:H5'	2.13	0.49
1:A:1754:C:H5'	15:T:96:ARG:HH12	1.77	0.49
1:A:2534:A:H2'	1:A:2535:G:H5"	1.95	0.49
1:A:2784:C:O3'	4:E:41:LYS:HE3	2.13	0.49
2:B:106:G:O2'	2:B:107:G:H5'	2.12	0.49
7:H:85:LYS:HD3	7:H:141:VAL:HG12	1.94	0.49
9:N:23:LEU:HA	9:N:60:ILE:HD11	1.95	0.49
9:N:39:ARG:HB3	9:N:41:ASP:OD1	2.12	0.49
13:R:8:ARG:HD3	13:R:43:GLU:CG	2.43	0.49
14:S:78:LEU:HD11	14:S:109:GLY:C	2.38	0.49
19:X:26:TYR:O	19:X:81:VAL:HG22	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Z:89:PHE:CE2	21:Z:96:VAL:HG21	2.47	0.49
29:7:34:ARG:HG3	29:7:39:ARG:CG	2.41	0.49
31:9:10:ILE:N	31:9:14:CYS:SG	2.76	0.49
32:a:97:G:H5'	32:a:103:C:C5	2.47	0.49
32:a:98:G:O5'	32:a:99:U:H4'	2.12	0.49
32:a:740:U:O3'	46:o:39:LEU:HD21	2.13	0.49
32:a:780:A:N6	32:a:801:U:OP2	2.45	0.49
32:a:875:C:C3'	32:a:876:G:H5"	2.42	0.49
32:a:929:G:H2'	32:a:930:C:O4'	2.12	0.49
32:a:1053:G:N7	32:a:1200:C:H5'	2.26	0.49
32:a:1063:C:H3'	32:a:1064:G:H2'	1.95	0.49
32:a:1147:C:H2'	32:a:1148:U:H6	1.77	0.49
32:a:1405:G:O2'	32:a:1406:U:H5'	2.12	0.49
32:a:1407:5MC:H2'	32:a:1408:A:C8	2.47	0.49
36:e:33:VAL:HG13	36:e:112:LEU:CD1	2.41	0.49
37:f:3:ARG:NE	37:f:38:GLU:OE2	2.46	0.49
37:f:74:ASP:O	37:f:78:GLU:HG2	2.13	0.49
41:j:45:ARG:O	41:j:64:GLU:HA	2.12	0.49
42:k:95:ILE:HG22	42:k:99:GLN:NE2	2.27	0.49
44:m:34:LEU:O	44:m:38:GLY:N	2.45	0.49
48:q:27:PHE:CZ	48:q:36:ILE:HD11	2.47	0.49
51:t:11:SER:HA	51:t:14:LYS:HD2	1.95	0.49
1:A:209:C:H2'	1:A:210:C:H6	1.76	0.49
1:A:251:A:H2'	1:A:252:G:O4'	2.13	0.49
1:A:335:C:H2'	1:A:336:C:H6	1.76	0.49
1:A:448:U:C4	1:A:583:G:H1'	2.48	0.49
1:A:637:A:N6	1:A:652(A):C:H5'	2.28	0.49
1:A:656:G:O2'	1:A:657:U:H5'	2.12	0.49
1:A:729:G:OP1	3:D:12:SER:HB2	2.12	0.49
1:A:833:U:H2'	1:A:834:C:H6	1.76	0.49
1:A:1497:U:H3'	1:A:1498:C:H6	1.78	0.49
1:A:2001:A:H5"	1:A:2689:U:O2'	2.13	0.49
1:A:2127:G:O2'	54:C:218:MET:HE3	2.13	0.49
1:A:2779:U:OP1	1:A:2779:U:H3'	2.12	0.49
3:D:166:GLN:CG	3:D:176:ARG:HG3	2.43	0.49
3:D:245:PRO:HB3	3:D:253:GLN:NE2	2.28	0.49
3:D:248:SER:HG	3:D:252:TRP:CG	2.30	0.49
5:F:107:LYS:HG3	5:F:205:ARG:O	2.12	0.49
6:G:61:ALA:O	6:G:65:GLY:N	2.45	0.49
8:I:77:LEU:HA	8:I:105:HIS:HE1	1.77	0.49
13:R:97:VAL:C	13:R:98:LEU:HD12	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:U:79:PHE:HE2	16:U:95:LEU:HD23	1.77	0.49
20:Y:28:LYS:HB2	20:Y:38:ILE:O	2.12	0.49
21:Z:89:PHE:CZ	21:Z:96:VAL:HG21	2.47	0.49
22:0:72:ARG:HD3	22:0:78:TYR:CE2	2.48	0.49
32:a:194:C:C2'	32:a:195:A:H5"	2.42	0.49
32:a:516:PSU:O2'	32:a:517:G:H5'	2.12	0.49
32:a:593:G:O2'	32:a:594:G:H5'	2.13	0.49
32:a:663:A:H2	32:a:742:G:H22	1.61	0.49
32:a:676:A:H2'	32:a:677:U:H6	1.78	0.49
32:a:969:A:H2'	32:a:970:C:O4'	2.12	0.49
32:a:1048:G:OP1	45:n:4:LYS:HB2	2.13	0.49
32:a:1125:U:O2'	32:a:1126:U:H2'	2.13	0.49
32:a:1392:G:H2'	32:a:1393:U:C6	2.48	0.49
32:a:1413:A:H2	32:a:1487:G:H22	1.60	0.49
32:a:1526:G:H2'	32:a:1527:C:H6	1.76	0.49
33:b:102:LEU:HB2	33:b:176:GLU:OE1	2.12	0.49
33:b:125:PRO:O	33:b:127:ILE:N	2.41	0.49
33:b:197:VAL:HB	33:b:200:ILE:CG1	2.43	0.49
37:f:35:ALA:HA	37:f:67:MET:HB3	1.95	0.49
38:g:20:ASP:OD2	38:g:22:LEU:HB3	2.12	0.49
46:o:4:THR:HG22	46:o:7:GLU:CG	2.41	0.49
46:o:4:THR:CG2	46:o:7:GLU:HG3	2.42	0.49
47:p:8:ARG:HH12	47:p:15:PRO:HG3	1.78	0.49
53:y:67:C:H2'	53:y:68:C:C6	2.47	0.49
54:C:13:LYS:CB	54:C:32:LEU:HD21	2.38	0.49
54:C:58:VAL:CG1	54:C:196:LEU:HD22	2.42	0.49
54:C:214:VAL:HG23	54:C:224:ILE:HD13	1.94	0.49
54:C:215:THR:OG1	54:C:219:GLY:O	2.30	0.49
1:A:210:C:H2'	1:A:211:A:C8	2.47	0.49
1:A:513:A:O2'	1:A:514:A:H5'	2.13	0.49
1:A:795:C:O2'	1:A:796:C:H5'	2.13	0.49
1:A:828:U:H3'	1:A:828:U:OP2	2.13	0.49
1:A:875:G:H2'	1:A:876:C:O4'	2.12	0.49
1:A:911:A:H2'	12:Q:9:TYR:CZ	2.48	0.49
1:A:1112:G:O2'	1:A:1113:U:H5'	2.13	0.49
1:A:1118:C:O2'	1:A:1119:C:H5'	2.13	0.49
1:A:1145:C:O2'	1:A:1146:C:H5'	2.13	0.49
1:A:1252:G:C2	16:U:33:ARG:HB3	2.48	0.49
1:A:1502:C:O2'	1:A:1503:U:H5'	2.13	0.49
1:A:1797:C:H3'	3:D:274:ARG:HH22	1.75	0.49
1:A:1924:C:H2'	1:A:1925:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2163:C:H3’	1:A:2164:C:H6	1.78	0.49
1:A:2305:A:H5”	6:G:134:GLY:HA3	1.94	0.49
1:A:2373:G:H2’	1:A:2374:C:H6	1.78	0.49
1:A:2818:G:OP1	1:A:2837:G:H1’	2.12	0.49
7:H:97:ARG:O	7:H:104:GLU:HB3	2.13	0.49
8:I:88:ILE:HD11	8:I:144:VAL:HG11	1.94	0.49
9:N:123:TYR:OH	9:N:130:HIS:NE2	2.31	0.49
14:S:19:LYS:HE2	14:S:42:ASP:OD1	2.11	0.49
15:T:99:LEU:O	15:T:102:ILE:HG12	2.13	0.49
21:Z:4:ARG:NH2	21:Z:60:GLU:HG2	2.28	0.49
23:1:52:ARG:HA	23:1:56:GLN:O	2.13	0.49
32:a:72:C:N4	32:a:76:C:H5”	2.28	0.49
32:a:189(M):G:H2’	32:a:190:U:H6	1.78	0.49
32:a:203:U:H2’	32:a:203:U:OP2	2.12	0.49
32:a:489:C:O2’	32:a:490:G:H5’	2.13	0.49
32:a:552:U:H1’	43:l:32:PHE:CE1	2.48	0.49
32:a:610:G:H2’	32:a:611:A:H5’	1.95	0.49
32:a:674:G:H21	42:k:116:HIS:HB2	1.78	0.49
32:a:903:G:O2’	32:a:904:C:H5’	2.12	0.49
32:a:958:A:H2’	32:a:959:A:C8	2.48	0.49
32:a:1011:G:O2’	32:a:1012:U:H5’	2.13	0.49
32:a:1030(C):C:C2’	32:a:1030(D):G:H5’	2.41	0.49
32:a:1247:U:H2’	32:a:1248:A:O4’	2.13	0.49
32:a:1293:G:H2’	32:a:1294:G:C8	2.48	0.49
32:a:1461:G:O2’	32:a:1462:G:H5’	2.13	0.49
32:a:1465:C:O2’	32:a:1466:C:H5’	2.13	0.49
32:a:1478:C:H2’	32:a:1479:C:C6	2.47	0.49
33:b:74:LYS:HB2	33:b:76:GLN:NE2	2.27	0.49
35:d:155:LEU:CD2	35:d:157:LEU:HB3	2.42	0.49
35:d:173:TRP:CD1	35:d:174:LEU:HG	2.48	0.49
43:l:117:ARG:CG	43:l:122:THR:HB	2.35	0.49
48:q:29:HIS:N	48:q:34:LYS:O	2.39	0.49
54:C:39:GLU:O	54:C:178:ALA:N	2.46	0.49
54:C:185:LEU:HD23	54:C:188:ASN:HD22	1.77	0.49
56:x:10:A:H4’	56:x:11:A:OP1	2.11	0.49
1:A:42:G:H2’	1:A:43:A:C8	2.48	0.49
1:A:229:A:OP1	1:A:230:U:H5’	2.12	0.49
1:A:530:G:N2	1:A:2023:G:OP1	2.38	0.49
1:A:533:G:H5’	16:U:24:TYR:CE1	2.48	0.49
1:A:542:C:H2’	1:A:543:C:C6	2.48	0.49
1:A:574:C:N3	4:E:145:LYS:NZ	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:692:C:O2'	1:A:693:C:H5'	2.13	0.49
1:A:745:G:OP2	4:E:133:LYS:HD2	2.13	0.49
1:A:811:U:H2'	11:P:21:ARG:HA	1.94	0.49
1:A:1112:G:H2'	1:A:1113:U:C6	2.48	0.49
1:A:1598:C:O2'	1:A:1599:C:H5'	2.12	0.49
1:A:1684:C:O2'	1:A:1685:C:H5'	2.13	0.49
1:A:1913:A:O2'	1:A:1914:C:OP2	2.29	0.49
1:A:2070:G:H2'	1:A:2071:A:O4'	2.13	0.49
1:A:2134:A:H62	1:A:2156:G:HO2'	1.61	0.49
1:A:2511:U:H2'	1:A:2512:C:C6	2.48	0.49
1:A:2533:A:OP1	1:A:2665:A:O2'	2.30	0.49
1:A:2539:C:O2'	31:9:35:ARG:NH2	2.46	0.49
1:A:2679:A:H2'	1:A:2680:C:C6	2.47	0.49
1:A:2681:C:H5'	4:E:11:MET:SD	2.53	0.49
1:A:2682:U:C2	4:E:22:PRO:HB3	2.48	0.49
1:A:2849:U:H4'	1:A:2868:A:C2	2.47	0.49
4:E:1:MET:HE3	4:E:82:ARG:O	2.13	0.49
4:E:93:VAL:HB	4:E:175:VAL:HG23	1.94	0.49
11:P:86:LYS:HB3	11:P:118:GLY:CA	2.27	0.49
13:R:55:ALA:HB2	13:R:79:LEU:CD1	2.41	0.49
20:Y:11:ASP:O	20:Y:27:VAL:HG23	2.13	0.49
23:1:23:LYS:HB3	23:1:29:GLY:HA3	1.95	0.49
23:1:77:ALA:O	23:1:80:LEU:HB2	2.13	0.49
26:4:37:SER:HA	26:4:43:TYR:CD2	2.48	0.49
26:4:42:PHE:HA	26:4:46:GLN:OE1	2.12	0.49
32:a:68:G:C5'	32:a:76:C:H2'	2.42	0.49
32:a:73:G:H2'	32:a:76:C:C4'	2.43	0.49
32:a:77:G:H2'	32:a:78:G:C8	2.48	0.49
32:a:194:C:H2'	32:a:195:A:H5"	1.95	0.49
32:a:531:U:OP2	32:a:531:U:H2'	2.12	0.49
32:a:573:A:O2'	32:a:574:A:O4'	2.26	0.49
32:a:583:A:H5'	48:q:90:ILE:HG21	1.94	0.49
32:a:613:C:H2'	32:a:614:A:H8	1.76	0.49
32:a:696:A:H2'	32:a:697:U:C6	2.48	0.49
32:a:724:G:O2'	32:a:725:G:H5'	2.12	0.49
32:a:1176:A:H2'	32:a:1177:G:O4'	2.12	0.49
32:a:1347:G:H5'	40:i:108:VAL:O	2.13	0.49
35:d:127:THR:HG22	35:d:132:ARG:CA	2.43	0.49
39:h:29:SER:O	39:h:33:GLU:HG3	2.13	0.49
39:h:45:ILE:HG13	39:h:47:GLY:H	1.78	0.49
44:m:91:ARG:HB2	44:m:98:VAL:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:y:9:G:H1'	53:y:46:G:C1'	2.43	0.49
54:C:78:ALA:HB1	54:C:82:LYS:HB2	1.95	0.49
54:C:115:ALA:O	54:C:145:VAL:HG13	2.13	0.49
55:z:49:C:H2'	55:z:50:U:H6	1.78	0.49
1:A:68:G:H2'	1:A:69:C:C6	2.48	0.48
1:A:229:A:H5"	1:A:230:U:O5'	2.12	0.48
1:A:231:C:O2'	1:A:232:G:H5'	2.13	0.48
1:A:320:A:OP2	5:F:137:LYS:HE3	2.13	0.48
1:A:444:C:OP2	5:F:49:ALA:HB2	2.13	0.48
1:A:799:G:H2'	1:A:800:A:C8	2.48	0.48
1:A:813:U:O2'	1:A:1225:G:H1'	2.13	0.48
1:A:875:G:H5"	21:Z:149:SER:OG	2.13	0.48
1:A:962:G:H2'	1:A:963:U:H6	1.78	0.48
1:A:1021:A:H3'	1:A:1021:A:N3	2.28	0.48
1:A:1137:G:O2'	1:A:1138:G:H5'	2.13	0.48
1:A:1227:G:H2'	1:A:1228:G:H5'	1.95	0.48
1:A:1479:G:H2'	1:A:1480:G:H8	1.78	0.48
1:A:1500:G:O2'	1:A:1501:C:H5'	2.13	0.48
1:A:1540:U:O2'	1:A:1541:G:H5'	2.13	0.48
1:A:1924:C:H2'	1:A:1925:C:H6	1.77	0.48
1:A:2226:C:H42	3:D:268:ARG:HD3	1.78	0.48
1:A:2401:U:H3'	1:A:2402:C:C6	2.47	0.48
1:A:2761:G:O2'	1:A:2762:G:H5'	2.13	0.48
1:A:2810:A:C4'	4:E:61:ARG:HD3	2.43	0.48
2:B:103:G:O2'	2:B:104:U:H5'	2.13	0.48
5:F:187:VAL:HG12	11:P:3:LEU:CD1	2.38	0.48
6:G:118:ARG:O	6:G:181:ARG:HA	2.13	0.48
9:N:1:MET:SD	17:V:13:ARG:HB3	2.53	0.48
15:T:116:ALA:HB1	15:T:121:ILE:HD11	1.95	0.48
18:W:9:TYR:HE1	18:W:80:PRO:HG2	1.78	0.48
25:3:36:VAL:O	25:3:37:LEU:HD23	2.12	0.48
32:a:64:G:H2'	32:a:70:G:H5"	1.95	0.48
32:a:97:G:O2'	32:a:98:G:H4'	2.12	0.48
32:a:157:G:H2'	32:a:158:G:C8	2.48	0.48
32:a:165:C:H2'	32:a:166:G:C8	2.48	0.48
32:a:165:C:H2'	32:a:166:G:H8	1.76	0.48
32:a:184:G:C4'	32:a:224:C:H4'	2.43	0.48
32:a:337:C:H2'	32:a:338:A:C8	2.47	0.48
32:a:389:A:H3'	32:a:390:C:H6	1.77	0.48
32:a:416:G:O2'	32:a:417:C:H5'	2.13	0.48
32:a:475:G:H2'	32:a:476:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:823:G:O2'	32:a:824:C:H5'	2.13	0.48
32:a:1250:A:H4'	40:i:68:GLY:N	2.27	0.48
32:a:1469:G:H2'	32:a:1470:G:H8	1.78	0.48
32:a:1481:U:H2'	32:a:1482:G:C8	2.48	0.48
33:b:158:LEU:HD12	33:b:159:PRO:CD	2.43	0.48
34:c:20:SER:HB2	34:c:40:ARG:NH2	2.28	0.48
36:e:20:GLN:HG3	36:e:21:ALA:O	2.12	0.48
36:e:39:GLY:O	36:e:68:GLU:HA	2.12	0.48
38:g:15:ASP:OD1	38:g:19:GLY:N	2.46	0.48
39:h:26:VAL:O	39:h:58:TYR:HA	2.13	0.48
48:q:22:LEU:HD12	48:q:40:LYS:O	2.13	0.48
48:q:26:GLN:HG2	48:q:37:LYS:HG2	1.95	0.48
49:r:60:ALA:O	49:r:64:ARG:HG3	2.13	0.48
54:C:29:VAL:CG2	54:C:41:VAL:HG22	2.43	0.48
54:C:38:ASP:OD1	54:C:177:LYS:HB3	2.12	0.48
1:A:9:U:C2'	1:A:2629:A:H61	2.25	0.48
1:A:23:G:O6	1:A:517:C:N4	2.31	0.48
1:A:221:A:H1'	1:A:233:A:H1'	1.94	0.48
1:A:239:U:H2'	1:A:240:G:O4'	2.13	0.48
1:A:272(O):C:O2'	1:A:272(P):C:H5'	2.13	0.48
1:A:356:G:H2'	1:A:357:A:H8	1.77	0.48
1:A:360:G:O2'	1:A:361:G:H5'	2.13	0.48
1:A:391:G:H1'	1:A:411:G:O4'	2.12	0.48
1:A:623:G:H2'	1:A:624:C:C6	2.47	0.48
1:A:795:C:H2'	1:A:796:C:C6	2.48	0.48
1:A:814:C:O2'	1:A:815:C:H5'	2.13	0.48
1:A:842:G:H2'	1:A:843:G:H8	1.78	0.48
1:A:844:C:C2'	1:A:845:G:H5'	2.44	0.48
1:A:1282:U:H3'	1:A:1283:G:C8	2.48	0.48
1:A:1333:C:O2'	1:A:1334:G:H5'	2.13	0.48
1:A:1404:C:O2'	1:A:1405:U:H5'	2.12	0.48
1:A:1447:G:O2'	1:A:1448:G:H5'	2.13	0.48
1:A:1512:U:H2'	1:A:1513:C:H6	1.77	0.48
1:A:1633:G:H2'	1:A:1635:G:N7	2.29	0.48
1:A:1792:G:O2'	1:A:1793:C:H5'	2.14	0.48
1:A:1837:C:O2'	1:A:1927:A:H1'	2.12	0.48
1:A:1975:G:H2'	1:A:1976:U:O4'	2.13	0.48
1:A:2090:G:H3'	1:A:2091:U:H6	1.78	0.48
1:A:2462:U:H2'	1:A:2463:C:C6	2.47	0.48
1:A:2689:U:C4'	1:A:2690:C:H5'	2.40	0.48
1:A:2692:C:O2'	1:A:2693:A:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2786:U:H2'	1:A:2787:C:H6	1.77	0.48
6:G:39:ILE:HB	6:G:92:VAL:HG12	1.95	0.48
8:I:54:GLN:O	8:I:57:ARG:HG3	2.13	0.48
14:S:58:LEU:HB2	14:S:65:VAL:HG13	1.94	0.48
19:X:41:ASN:O	19:X:45:THR:HG23	2.13	0.48
20:Y:46:LYS:HD3	20:Y:60:PHE:CD2	2.48	0.48
21:Z:18:LEU:HB3	21:Z:23:LYS:HB2	1.94	0.48
21:Z:23:LYS:HA	21:Z:39:VAL:O	2.13	0.48
24:2:41:ILE:HG13	24:2:43:GLN:H	1.77	0.48
32:a:456:C:H2'	32:a:457:C:H6	1.79	0.48
32:a:513:C:H2'	32:a:514:C:H6	1.76	0.48
32:a:555:C:O2'	32:a:556:C:H5'	2.12	0.48
32:a:644:G:H2'	32:a:645:C:H5'	1.95	0.48
32:a:895:G:H2'	32:a:896:C:H6	1.79	0.48
32:a:1001(B):G:H2'	32:a:1002:G:N9	2.28	0.48
32:a:1095:U:H2'	32:a:1096:C:H6	1.79	0.48
32:a:1149:C:O2'	32:a:1150:U:H5'	2.13	0.48
32:a:1273:G:H3'	32:a:1274:G:H8	1.78	0.48
36:e:30:ALA:O	36:e:45:PHE:HA	2.13	0.48
36:e:69:VAL:HG21	36:e:139:LEU:HD22	1.93	0.48
38:g:16:LEU:HD11	40:i:45:ALA:HA	1.94	0.48
38:g:65:ALA:HB1	38:g:127:ALA:CB	2.42	0.48
44:m:22:ILE:CG2	44:m:66:LEU:HB3	2.43	0.48
47:p:39:TYR:HD1	47:p:49:LEU:HD13	1.79	0.48
49:r:31:LEU:O	49:r:69:THR:HG21	2.14	0.48
51:t:39:LYS:O	51:t:42:GLN:HB3	2.13	0.48
1:A:150:C:O2'	1:A:151:C:H5'	2.13	0.48
1:A:465:G:OP1	29:7:12:ARG:NH2	2.42	0.48
1:A:467:G:O2'	1:A:468:G:H5'	2.13	0.48
1:A:473:G:O2'	1:A:474:G:H5'	2.12	0.48
1:A:614(B):U:C4'	1:A:614(C):G:H5"	2.44	0.48
1:A:637:A:OP2	11:P:116:GLY:N	2.46	0.48
1:A:747:U:H2'	18:W:88:ARG:NH2	2.27	0.48
1:A:1040:C:H2'	1:A:1041:C:C1'	2.43	0.48
1:A:1791:A:H3'	1:A:1792:G:H8	1.77	0.48
1:A:1966:A:N3	1:A:2592:G:O2'	2.43	0.48
1:A:2267:A:H5"	1:A:2268:A:H5"	1.95	0.48
1:A:2317:C:H2'	1:A:2318:G:H5'	1.94	0.48
1:A:2376:A:H2'	1:A:2377:A:O4'	2.14	0.48
1:A:2677:G:H2'	1:A:2678:C:C6	2.49	0.48
2:B:55:U:H2'	2:B:56:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:60:C:O2'	2:B:61:G:H5'	2.13	0.48
6:G:146:TYR:O	6:G:149:VAL:HG12	2.13	0.48
8:I:86:THR:HG22	37:f:18:GLN:NE2	2.29	0.48
11:P:144:GLU:HG2	11:P:146:VAL:CG2	2.42	0.48
13:R:30:THR:HA	13:R:78:LYS:NZ	2.28	0.48
15:T:91:ARG:HD2	15:T:120:ARG:NH1	2.29	0.48
26:4:14:ILE:CB	26:4:22:ILE:HB	2.38	0.48
32:a:68:G:H5'	32:a:76:C:C2'	2.42	0.48
32:a:97:G:H1'	32:a:104:G:O6	2.12	0.48
32:a:104:G:H5"	32:a:174:C:H4'	1.95	0.48
32:a:134:A:H1'	32:a:325:A:C8	2.48	0.48
32:a:438:G:H4'	35:d:123:HIS:CD2	2.46	0.48
32:a:689:C:P	42:k:46:GLY:HA3	2.53	0.48
32:a:797:C:O2'	32:a:798:G:H5'	2.13	0.48
32:a:950:U:O4	44:m:106:ASN:ND2	2.47	0.48
32:a:952:U:H2'	32:a:953:G:H8	1.78	0.48
32:a:967:5MC:H5"	32:a:968:A:OP2	2.12	0.48
32:a:1005:A:H3'	32:a:1006:C:H6	1.76	0.48
32:a:1138:G:O2'	32:a:1140:C:H5'	2.14	0.48
32:a:1225:A:H3'	44:m:103:THR:OG1	2.12	0.48
32:a:1299:A:O2'	32:a:1301:U:O4'	2.26	0.48
32:a:1301:U:H3'	32:a:1302:U:H5"	1.95	0.48
32:a:1511:G:H2'	32:a:1512:U:O4'	2.13	0.48
35:d:23:GLY:O	35:d:26:CYS:HB2	2.12	0.48
35:d:61:LYS:NZ	35:d:62:GLN:OE1	2.31	0.48
37:f:33:TYR:HA	37:f:71:ARG:NH1	2.29	0.48
39:h:9:MET:SD	39:h:32:LYS:HB3	2.53	0.48
53:y:38:A:H2'	53:y:39:C:O4'	2.13	0.48
54:C:23:ASP:O	54:C:27:ARG:NE	2.47	0.48
54:C:40:THR:O	54:C:216:THR:HA	2.13	0.48
56:x:10:A:OP1	56:x:10:A:H4'	2.13	0.48
1:A:24:G:H2'	1:A:25:U:C6	2.48	0.48
1:A:194:G:H2'	1:A:195:A:O4'	2.14	0.48
1:A:298:G:N1	1:A:339:U:OP2	2.26	0.48
1:A:451:C:C5'	5:F:52:LYS:HZ3	2.25	0.48
1:A:614(A):U:H3'	1:A:614(B):U:C6	2.48	0.48
1:A:633:A:N3	1:A:2403:C:H4'	2.28	0.48
1:A:681:G:H2'	1:A:682:G:O4'	2.14	0.48
1:A:722:A:H2'	1:A:723:G:H8	1.78	0.48
1:A:863:A:H2'	1:A:864:G:H8	1.78	0.48
1:A:1088:A:H5"	1:A:1089:G:OP1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1140:C:OP2	9:N:66:LYS:NZ	2.46	0.48
1:A:1186:G:H2'	1:A:1187:G:C8	2.48	0.48
1:A:1512:U:O2'	1:A:1513:C:H5'	2.12	0.48
1:A:1705:G:O2'	1:A:1706:U:H5'	2.13	0.48
1:A:1908:C:O2'	1:A:1909:C:H5'	2.13	0.48
1:A:2420:C:H5'	28:6:54:ILE:HD11	1.95	0.48
1:A:2444:G:P	5:F:68:LYS:HD2	2.53	0.48
1:A:2467:C:O2	12:Q:124:LYS:NZ	2.24	0.48
1:A:2485:G:O2'	1:A:2486:G:H5'	2.13	0.48
1:A:2546:U:H5"	1:A:2547:U:C5'	2.43	0.48
1:A:2714:G:O2'	1:A:2715:C:H5'	2.13	0.48
1:A:2725:A:H1'	1:A:2726:U:C6	2.48	0.48
2:B:18:G:H2'	2:B:19:G:H8	1.77	0.48
2:B:27:C:H2'	2:B:28:C:O4'	2.13	0.48
2:B:41:U:P	2:B:43:C:H41	2.36	0.48
4:E:35:GLN:HB3	4:E:48:GLN:OE1	2.13	0.48
5:F:164:ARG:HB3	5:F:175:THR:CG2	2.43	0.48
8:I:5:LEU:N	8:I:17:GLN:O	2.38	0.48
10:O:76:ALA:O	15:T:74:ARG:HD2	2.13	0.48
10:O:111:PHE:O	10:O:115:VAL:HG23	2.13	0.48
21:Z:28:MET:HA	21:Z:88:PHE:O	2.13	0.48
21:Z:146:ILE:HA	21:Z:174:VAL:CG1	2.42	0.48
23:1:85:LEU:HD23	23:1:89:GLU:CB	2.44	0.48
24:2:23:LYS:O	24:2:27:GLU:HG3	2.14	0.48
26:4:41:PRO:HG3	26:4:49:PHE:CE2	2.49	0.48
31:9:14:CYS:HA	31:9:27:CYS:HB2	1.95	0.48
32:a:66:G:H1'	32:a:173:U:C6	2.49	0.48
32:a:152:A:N6	32:a:169:C:O2'	2.46	0.48
32:a:420:U:H2'	32:a:422:C:C4	2.49	0.48
32:a:601:C:O2'	32:a:602:A:H5'	2.12	0.48
32:a:663:A:H2'	32:a:664:G:O4'	2.14	0.48
32:a:797:C:H2'	32:a:798:G:H8	1.78	0.48
32:a:960:U:H4'	32:a:961:U:H5"	1.96	0.48
32:a:1072:G:H2'	32:a:1073:U:H6	1.75	0.48
32:a:1080:A:H4'	36:e:16:THR:HG21	1.95	0.48
32:a:1177:G:H2'	32:a:1178:G:O4'	2.14	0.48
32:a:1178:G:N2	32:a:1180:A:H3'	2.29	0.48
32:a:1370:G:H5"	40:i:12:GLU:HG3	1.95	0.48
33:b:55:PHE:HA	33:b:58:ILE:CG1	2.44	0.48
33:b:76:GLN:HB2	33:b:208:ILE:CG1	2.43	0.48
34:c:47:LEU:CD1	34:c:68:VAL:HG11	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:142:MET:HG3	34:c:170:GLN:CG	2.42	0.48
35:d:148:VAL:HG12	35:d:149:ALA:O	2.14	0.48
40:i:14:VAL:O	40:i:65:VAL:HA	2.13	0.48
48:q:59:ILE:HD12	48:q:71:PHE:CD2	2.49	0.48
49:r:44:LEU:HD22	49:r:48:GLY:O	2.13	0.48
50:s:40:ILE:N	50:s:69:HIS:O	2.40	0.48
53:y:11:A:O2'	53:y:12:G:H5'	2.14	0.48
54:C:171:ILE:HD13	54:C:196:LEU:HD11	1.95	0.48
1:A:56:A:H2'	1:A:57:C:O4'	2.14	0.48
1:A:144:C:O2'	1:A:145:G:H5'	2.14	0.48
1:A:256:A:O2'	1:A:257:A:H5'	2.13	0.48
1:A:272(K):U:H5'	8:I:50:ARG:HE	1.78	0.48
1:A:273(J):U:H2'	1:A:273(K):C:H6	1.77	0.48
1:A:302:C:H2'	1:A:303:U:C6	2.48	0.48
1:A:483:A:H5"	20:Y:50:ARG:CD	2.44	0.48
1:A:494:G:O2'	1:A:495:G:H5'	2.13	0.48
1:A:535:C:H2'	1:A:536:A:H8	1.79	0.48
1:A:576:U:O2'	1:A:577:G:H5'	2.12	0.48
1:A:744:G:H4'	1:A:1658:C:H4'	1.95	0.48
1:A:744:G:O2'	1:A:745:G:H5'	2.13	0.48
1:A:894:C:C2'	1:A:895:U:H5'	2.44	0.48
1:A:1072:C:H3'	1:A:1094:U:H3	1.78	0.48
1:A:1133:U:O4	1:A:2026:C:H1'	2.13	0.48
1:A:1230:C:H2'	1:A:1231:G:H8	1.76	0.48
1:A:1529:G:H2'	1:A:1530:C:C6	2.49	0.48
1:A:1998:G:H4'	1:A:2724:C:O2'	2.14	0.48
1:A:2206:G:H5"	1:A:2208:A:H61	1.79	0.48
1:A:2345:G:N3	1:A:2381:C:H2'	2.29	0.48
1:A:2545:G:H2'	1:A:2546:U:O4'	2.14	0.48
1:A:2748:A:O2'	1:A:2749:A:H5'	2.12	0.48
1:A:2748:A:H5'	7:H:70:THR:OG1	2.13	0.48
2:B:33:G:C2'	2:B:34:U:H5'	2.44	0.48
2:B:116:G:H2'	2:B:117:G:C8	2.48	0.48
4:E:24:THR:HG23	4:E:186:GLY:O	2.13	0.48
6:G:11:TYR:O	6:G:15:VAL:HB	2.13	0.48
6:G:136:ARG:HD3	6:G:136:ARG:H	1.79	0.48
10:O:16:ALA:HA	10:O:46:ALA:CB	2.44	0.48
11:P:71:VAL:HG23	11:P:72:PRO:HA	1.95	0.48
15:T:2:ASN:O	15:T:6:LEU:HD23	2.14	0.48
16:U:102:GLU:CB	16:U:105:VAL:HB	2.37	0.48
17:V:65:GLY:HA3	17:V:91:TYR:CZ	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:W:4:LYS:HA	18:W:105:VAL:O	2.14	0.48
22:0:51:VAL:CG2	22:0:81:VAL:HG23	2.40	0.48
31:9:11:CYS:SG	31:9:13:LYS:HB2	2.54	0.48
32:a:328:C:H4'	32:a:329:A:C5'	2.43	0.48
32:a:766:A:C2'	32:a:767:A:H5'	2.44	0.48
32:a:768:A:C2'	32:a:769:G:H5'	2.43	0.48
32:a:796:C:H2'	32:a:797:C:H6	1.77	0.48
32:a:993:G:N7	32:a:1213:A:N6	2.61	0.48
32:a:1030(B):G:N2	32:a:1031:G:O6	2.47	0.48
34:c:6:HIS:CG	45:n:49:HIS:HB3	2.49	0.48
34:c:181:ASN:N	34:c:205:GLY:O	2.28	0.48
35:d:100:ARG:O	35:d:104:VAL:HG23	2.13	0.48
36:e:10:MET:HE3	56:x:25:A:N1	2.28	0.48
36:e:36:ASP:CG	36:e:40:ARG:HB2	2.39	0.48
36:e:152:ARG:HA	39:h:64:LYS:HZ2	1.78	0.48
37:f:8:ILE:HB	37:f:61:LEU:HB2	1.95	0.48
41:j:33:GLN:HB2	41:j:75:ILE:CB	2.43	0.48
42:k:15:ALA:HA	42:k:77:MET:CA	2.40	0.48
43:l:109:GLY:HA2	43:l:120:TYR:O	2.14	0.48
45:n:40:CYS:SG	45:n:42:ILE:HB	2.54	0.48
47:p:40:ASP:OD2	47:p:44:THR:N	2.46	0.48
48:q:36:ILE:HD12	48:q:38:ARG:CZ	2.44	0.48
48:q:78:GLU:CD	48:q:81:ARG:HD3	2.39	0.48
51:t:20:LEU:O	51:t:23:ARG:HB3	2.14	0.48
51:t:45:GLN:OE1	51:t:91:LEU:HD22	2.14	0.48
51:t:97:ALA:O	51:t:99:LEU:HD12	2.12	0.48
53:y:8:U:O5'	53:y:48:C:H4'	2.14	0.48
53:y:18:G:H21	53:y:58:A:C5'	2.26	0.48
1:A:100:G:H4'	1:A:102:G:OP2	2.14	0.48
1:A:146:G:O2'	1:A:147:U:H5'	2.13	0.48
1:A:839:U:O2'	1:A:840:C:H5'	2.14	0.48
1:A:972:G:OP2	1:A:973:A:O2'	2.20	0.48
1:A:1401:G:H2'	1:A:1402:C:O4'	2.13	0.48
1:A:1410:G:O2'	1:A:1411:C:H5'	2.12	0.48
1:A:1627:G:O2'	1:A:1628:G:H5'	2.13	0.48
1:A:1747(A):G:O2'	1:A:1747(B):G:H5'	2.13	0.48
1:A:1853:A:H2'	1:A:1854:A:H8	1.77	0.48
1:A:2195:C:O2'	1:A:2196:C:H5'	2.13	0.48
1:A:2294:C:OP1	14:S:10:ARG:HD2	2.14	0.48
1:A:2452:C:O2'	1:A:2453:A:H5'	2.13	0.48
2:B:35:U:O2'	2:B:36:C:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:60:LEU:CB	6:G:68:PRO:HG3	2.44	0.48
6:G:117:PHE:CZ	6:G:179:PRO:HG2	2.49	0.48
9:N:51:PHE:CE1	9:N:119:ARG:HG2	2.48	0.48
9:N:67:LEU:HD13	9:N:87:LEU:HD22	1.95	0.48
12:Q:50:ALA:O	12:Q:54:MET:HG3	2.13	0.48
23:1:22:GLY:O	23:1:32:LYS:NZ	2.47	0.48
32:a:69:G:H21	32:a:76:C:H41	1.61	0.48
32:a:84:U:H4'	32:a:89:C:N4	2.28	0.48
32:a:241:C:O2'	32:a:242:C:H5'	2.14	0.48
32:a:255:G:H1'	48:q:16:GLN:OE1	2.13	0.48
32:a:571:U:C3'	32:a:572:A:H5"	2.43	0.48
32:a:606:G:O5'	32:a:607:A:H5'	2.13	0.48
32:a:642:A:N7	39:h:115:SER:HA	2.29	0.48
32:a:719:C:O2'	49:r:50:ILE:O	2.21	0.48
32:a:729:A:H2'	32:a:730:G:C8	2.49	0.48
32:a:1106:G:H2'	32:a:1107:C:H6	1.79	0.48
32:a:1265:G:H2'	32:a:1266:G:O4'	2.13	0.48
32:a:1376:U:OP1	38:g:98:SER:OG	2.15	0.48
32:a:1473:A:O2'	32:a:1474:G:H5'	2.14	0.48
33:b:101:MET:HA	33:b:108:ILE:HG13	1.95	0.48
34:c:51:GLY:C	34:c:70:VAL:HG23	2.39	0.48
35:d:90:GLY:O	35:d:94:LEU:HG	2.13	0.48
35:d:119:GLN:HG3	35:d:123:HIS:ND1	2.29	0.48
35:d:185:PHE:CZ	35:d:189:PRO:HD3	2.49	0.48
38:g:92:SER:O	38:g:96:GLN:HG3	2.14	0.48
42:k:83:ILE:HA	42:k:109:VAL:CG1	2.43	0.48
44:m:9:ILE:CB	44:m:18:ALA:HB1	2.43	0.48
51:t:11:SER:HA	51:t:14:LYS:CE	2.43	0.48
53:y:10:G:C2	53:y:26:G:H1'	2.48	0.48
54:C:20:TYR:HB2	54:C:223:ARG:O	2.14	0.48
54:C:53:ARG:HH12	55:z:63:G:C4'	2.25	0.48
1:A:187:G:C3'	1:A:188:G:H5"	2.44	0.48
1:A:707:G:H2'	1:A:708:C:H6	1.77	0.48
1:A:841:A:O2'	1:A:842:G:H5'	2.13	0.48
1:A:848:G:O6	1:A:928:G:H2'	2.13	0.48
1:A:924:C:O2'	1:A:925:C:H5'	2.12	0.48
1:A:1009:A:H3'	1:A:1009:A:OP2	2.13	0.48
1:A:1146:C:O2'	1:A:1147:C:H5'	2.12	0.48
1:A:2031:A:O2'	1:A:2032:G:OP1	2.27	0.48
1:A:2175:C:O4'	54:C:218:MET:HA	2.14	0.48
1:A:2495:G:O2'	1:A:2496:C:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2515:C:O2'	1:A:2516:G:H5'	2.14	0.48
1:A:2655:G:N2	1:A:2664:G:H2'	2.29	0.48
1:A:2684:U:P	15:T:53:ARG:HD3	2.54	0.48
1:A:2821:A:H2'	1:A:2822:G:H8	1.79	0.48
1:A:2836:U:H2'	1:A:2837:G:H8	1.78	0.48
2:B:67:G:O2'	2:B:68:C:H5'	2.12	0.48
2:B:77:U:H2'	2:B:78:A:H8	1.78	0.48
7:H:8:PRO:HA	7:H:51:ARG:HG2	1.95	0.48
7:H:58:GLU:OE2	7:H:60:ARG:NE	2.46	0.48
7:H:83:TYR:CZ	7:H:138:LYS:HB2	2.48	0.48
11:P:121:LYS:O	11:P:123:LEU:N	2.47	0.48
13:R:32:GLY:O	13:R:115:GLU:HA	2.14	0.48
13:R:83:ILE:HA	13:R:86:ARG:CG	2.42	0.48
17:V:8:GLY:HA3	17:V:23:GLU:HG3	1.95	0.48
25:3:8:LEU:HA	25:3:54:VAL:HG23	1.95	0.48
32:a:22:G:O2'	32:a:23:C:H5'	2.14	0.48
32:a:156:G:O2'	32:a:157:G:H5'	2.13	0.48
32:a:166:G:H2'	32:a:167:G:H8	1.78	0.48
32:a:192:U:C4'	51:t:101:GLY:HA3	2.44	0.48
32:a:268:C:O2'	32:a:269:C:H5'	2.13	0.48
32:a:418:C:O2'	32:a:419:C:H5'	2.14	0.48
32:a:648:A:O2'	32:a:649:G:H5'	2.12	0.48
32:a:687:A:H1'	32:a:688:G:OP2	2.14	0.48
32:a:1030(E):A:O3'	32:a:1031:G:H5'	2.14	0.48
32:a:1081:G:O2'	32:a:1082:G:H5'	2.14	0.48
32:a:1102:A:H2'	32:a:1103:C:C6	2.49	0.48
32:a:1152:A:H2'	32:a:1153:C:C6	2.48	0.48
32:a:1266:G:N2	32:a:1268:A:H3'	2.28	0.48
32:a:1333:A:C2	32:a:1334:G:H1'	2.49	0.48
34:c:20:SER:OG	34:c:22:TRP:NE1	2.44	0.48
35:d:97:LEU:O	35:d:103:ASN:ND2	2.36	0.48
35:d:200:GLU:OE1	35:d:200:GLU:N	2.39	0.48
39:h:2:LEU:HD13	39:h:3:THR:N	2.28	0.48
51:t:38:LYS:O	51:t:42:GLN:N	2.38	0.48
54:C:161:ILE:HD12	54:C:173:ALA:CB	2.43	0.48
56:x:49:G:H2'	56:x:50:C:H6	1.77	0.48
1:A:99:U:H5"	1:A:102:G:O4'	2.14	0.48
1:A:131:G:O2'	1:A:132:G:H5'	2.13	0.48
1:A:228:A:H2'	1:A:229:A:H5'	1.95	0.48
1:A:514:A:O2'	1:A:515:A:H5'	2.13	0.48
1:A:720:C:H2'	1:A:721:C:H6	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1086:A:P	1:A:1105:U:H5'	2.54	0.48
1:A:1190:G:OP1	11:P:30:THR:OG1	2.29	0.48
1:A:1479:G:H2'	1:A:1480:G:C8	2.49	0.48
1:A:1587:A:O2'	1:A:1588:C:H5'	2.14	0.48
1:A:1680:U:N3	1:A:1764:G:OP2	2.46	0.48
1:A:1988:C:O2'	1:A:1989:G:H5'	2.14	0.48
1:A:2161:C:H2'	1:A:2162:G:H5'	1.96	0.48
1:A:2201:C:N4	1:A:2223:G:O6	2.46	0.48
1:A:2245:U:H5"	1:A:2246:G:H5'	1.95	0.48
2:B:9:G:O2'	2:B:10:C:H5'	2.13	0.48
5:F:37:VAL:HG13	5:F:184:TYR:HD1	1.79	0.48
5:F:107:LYS:CG	5:F:206:ILE:HA	2.44	0.48
6:G:8:LYS:HD2	6:G:100:TRP:CD1	2.49	0.48
6:G:80:PHE:O	6:G:82:LEU:N	2.46	0.48
8:I:26:ALA:HA	8:I:30:LEU:CB	2.43	0.48
8:I:95:LYS:O	8:I:99:GLU:HG3	2.14	0.48
17:V:55:ALA:HA	17:V:101:GLY:O	2.14	0.48
23:1:7:ILE:HG23	23:1:98:LEU:HD11	1.96	0.48
25:3:16:PRO:HD2	25:3:19:GLN:OE1	2.13	0.48
32:a:14:U:N3	32:a:17:U:OP2	2.31	0.48
32:a:737:A:O2'	32:a:738:C:H5'	2.13	0.48
32:a:920:U:H2'	32:a:921:U:H6	1.79	0.48
32:a:939:G:P	38:g:95:ARG:HH22	2.37	0.48
32:a:1027:C:H2'	32:a:1028:C:C6	2.49	0.48
32:a:1112:C:N3	34:c:178:LEU:HD23	2.29	0.48
32:a:1132:C:H2'	32:a:1133:G:C8	2.49	0.48
32:a:1271:G:H2'	32:a:1272:G:H8	1.79	0.48
32:a:1379:G:O6	38:g:2:ALA:HB3	2.13	0.48
33:b:60:ASP:OD1	33:b:64:ARG:NE	2.34	0.48
33:b:74:LYS:HD3	33:b:76:GLN:HE21	1.79	0.48
33:b:103:THR:HG23	33:b:176:GLU:CG	2.40	0.48
34:c:6:HIS:NE2	34:c:8:ILE:HB	2.28	0.48
34:c:135:LYS:NZ	36:e:50:GLU:HG2	2.29	0.48
36:e:39:GLY:N	36:e:113:ALA:O	2.32	0.48
36:e:78:HIS:CD2	39:h:104:ARG:HD2	2.49	0.48
37:f:38:GLU:H	37:f:65:VAL:HA	1.79	0.48
41:j:49:VAL:HG12	41:j:61:GLU:O	2.14	0.48
41:j:58:ASP:O	41:j:60:ARG:HG2	2.14	0.48
46:o:78:TYR:O	46:o:82:ILE:HG12	2.14	0.48
55:z:11:C:O2'	55:z:12:U:H5'	2.14	0.48
55:z:15:G:O2'	55:z:59:U:O4	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:z:28:G:H4'	55:z:29:G:OP1	2.13	0.48
1:A:357:A:H2'	1:A:358:U:H6	1.78	0.48
1:A:500:G:N1	1:A:503:A:OP2	2.23	0.48
1:A:704:G:H1'	1:A:727:A:N6	2.29	0.48
1:A:716:A:H3'	1:A:717:G:H5"	1.96	0.48
1:A:753:C:O2'	1:A:754:C:H5'	2.13	0.48
1:A:773:U:O2'	1:A:778:G:H4'	2.14	0.48
1:A:857:C:H5'	22:0:69:PHE:CD2	2.48	0.48
1:A:858:U:P	22:0:77:ARG:HH12	2.37	0.48
1:A:892:G:H2'	1:A:893:C:H6	1.78	0.48
1:A:1009:A:O2'	1:A:1010:A:O4'	2.19	0.48
1:A:1042:G:H2'	1:A:1043:C:H6	1.79	0.48
1:A:1135:C:H5'	1:A:1136:G:OP2	2.14	0.48
1:A:1152:C:H2'	1:A:1153:C:H6	1.79	0.48
1:A:1216:G:OP1	16:U:11:ARG:NH2	2.26	0.48
1:A:1491:G:O2'	1:A:1492:G:H5'	2.14	0.48
1:A:1697:G:OP2	1:A:1698:A:O2'	2.22	0.48
1:A:1830:C:H2'	1:A:1831:G:H8	1.78	0.48
1:A:2110:G:H5"	1:A:2111:C:C5	2.49	0.48
1:A:2194:G:O2'	1:A:2195:C:H5'	2.13	0.48
1:A:2306:C:OP2	1:A:2307:G:O2'	2.18	0.48
1:A:2637:U:C2'	1:A:2638:G:H5'	2.44	0.48
1:A:2738:A:N1	1:A:2766:G:C6	2.82	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.95	0.48
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.48
4:E:67:PHE:CE1	4:E:75:VAL:HG12	2.49	0.48
7:H:137:ASP:HB3	7:H:140:LYS:HB3	1.95	0.48
8:I:76:THR:HA	8:I:141:LYS:O	2.13	0.48
8:I:94:ALA:HB1	8:I:111:PRO:O	2.14	0.48
9:N:18:ALA:HB2	9:N:54:VAL:CG1	2.44	0.48
12:Q:11:LYS:HZ2	12:Q:87:LYS:HB3	1.79	0.48
12:Q:71:ASP:OD1	12:Q:72:LYS:N	2.47	0.48
13:R:100:LEU:HD23	13:R:112:ALA:HA	1.95	0.48
16:U:65:ILE:HD11	16:U:92:ARG:O	2.13	0.48
17:V:24:LYS:HG3	17:V:64:HIS:HD2	1.79	0.48
17:V:39:LEU:HD23	17:V:40:LEU:C	2.39	0.48
19:X:25:LYS:HA	19:X:81:VAL:O	2.14	0.48
20:Y:20:TYR:HE2	20:Y:43:ASN:HA	1.78	0.48
22:0:40:GLN:NE2	22:0:43:THR:HA	2.29	0.48
24:2:21:LEU:CB	24:2:64:LEU:HD23	2.43	0.48
32:a:78:G:C2'	32:a:79:G:H5'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:88:A:H4'	32:a:89:C:H6	1.78	0.48
32:a:218:C:O2'	32:a:219:C:H5'	2.13	0.48
32:a:247:G:O2'	32:a:248:C:H5'	2.14	0.48
32:a:292:G:OP2	32:a:305:G:N2	2.29	0.48
32:a:537:G:O2'	32:a:538:G:H5'	2.13	0.48
32:a:571:U:H5'	32:a:819:A:C4	2.49	0.48
32:a:600:C:OP1	39:h:97:VAL:HG23	2.14	0.48
32:a:814:A:H2'	32:a:816:A:H5"	1.96	0.48
32:a:1150:U:O4	32:a:1151:A:N6	2.47	0.48
32:a:1291:G:HO2'	32:a:1292:U:H5'	1.79	0.48
32:a:1508:G:H2'	32:a:1509:C:C6	2.48	0.48
38:g:152:ALA:O	38:g:155:ARG:HD2	2.13	0.48
39:h:25:ASP:OD1	39:h:60:ARG:HG2	2.14	0.48
43:l:86:ARG:HG2	43:l:101:VAL:CG2	2.43	0.48
44:m:4:ILE:HG22	44:m:7:VAL:O	2.13	0.48
46:o:29:VAL:HG22	46:o:66:LEU:HB3	1.94	0.48
49:r:23:LYS:HD2	49:r:58:LEU:HD11	1.95	0.48
50:s:46:GLY:N	50:s:62:ILE:O	2.47	0.48
55:z:48:C:O2'	55:z:59:U:H1'	2.14	0.48
1:A:303:U:H2'	1:A:304:G:H8	1.78	0.48
1:A:377:C:H2'	1:A:378:C:C6	2.49	0.48
1:A:485:C:H2'	1:A:486:C:H6	1.79	0.48
1:A:646:A:H2'	1:A:647:G:C8	2.49	0.48
1:A:687:C:O4'	29:7:4:THR:HA	2.13	0.48
1:A:881:G:H2'	1:A:882:G:H8	1.78	0.48
1:A:991:C:OP2	1:A:1186:G:H5'	2.13	0.48
1:A:1131:G:H4'	9:N:82:LEU:HB2	1.96	0.48
1:A:1162:G:O2'	1:A:1163:G:H5'	2.14	0.48
1:A:1165:U:H2'	1:A:1166:C:C6	2.49	0.48
1:A:1348:G:O2'	1:A:1349:A:H5'	2.14	0.48
1:A:1506:C:O2'	1:A:1507:A:H5'	2.14	0.48
1:A:1515:G:H2'	1:A:1516:C:H6	1.79	0.48
1:A:1541:G:H3'	1:A:1542:A:H2'	1.95	0.48
1:A:1666:G:C2'	1:A:1667:G:H5'	2.44	0.48
1:A:1703:G:H2'	1:A:1704:G:C8	2.49	0.48
1:A:1796:U:O4	1:A:1823:G:O6	2.32	0.48
1:A:2072:G:O2'	1:A:2073:C:H5'	2.13	0.48
1:A:2315:G:O2'	6:G:128:ARG:HG3	2.14	0.48
1:A:2333:A:O2'	1:A:2334:G:H5"	2.14	0.48
1:A:2416:C:H2'	1:A:2417:C:H6	1.77	0.48
1:A:2503:2MA:H4'	1:A:2504:U:OP1	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2526:G:O3'	31:9:33:LYS:NZ	2.42	0.48
1:A:2623:G:H2'	1:A:2624:G:H8	1.78	0.48
2:B:105:A:H4'	21:Z:89:PHE:CE1	2.48	0.48
3:D:162:SER:HB3	3:D:195:ALA:CB	2.44	0.48
3:D:168:ARG:HG2	3:D:173:VAL:HG12	1.95	0.48
5:F:136:THR:HG22	5:F:140:LEU:HD23	1.96	0.48
6:G:171:ALA:O	6:G:175:LEU:HD13	2.14	0.48
7:H:86:GLU:HA	7:H:131:VAL:O	2.14	0.48
9:N:35:ARG:HH21	9:N:42:TRP:HZ2	1.61	0.48
10:O:80:ASP:OD2	15:T:71:GLY:HA3	2.14	0.48
15:T:39:ARG:NH1	15:T:41:ARG:HD3	2.29	0.48
17:V:34:GLU:C	17:V:35:LEU:HD12	2.39	0.48
18:W:29:LEU:HD11	18:W:51:LEU:HD11	1.94	0.48
21:Z:95:PRO:HB3	21:Z:128:VAL:C	2.38	0.48
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.44	0.48
32:a:228:A:H2'	32:a:229:U:O4'	2.13	0.48
32:a:398:C:H2'	32:a:399:G:C8	2.45	0.48
32:a:509:A:H2'	32:a:510:A:C5	2.49	0.48
32:a:675:A:H2'	32:a:676:A:H8	1.79	0.48
32:a:749:C:O2'	32:a:750:G:H5'	2.14	0.48
32:a:1294:G:H2'	32:a:1295:G:H8	1.78	0.48
32:a:1487:G:O2'	32:a:1488:G:H5'	2.14	0.48
33:b:222:ILE:O	33:b:226:ARG:HG2	2.13	0.48
34:c:114:PRO:O	34:c:118:GLN:HG3	2.13	0.48
35:d:79:PHE:HA	35:d:93:PHE:CD1	2.49	0.48
36:e:37:ARG:HA	36:e:114:GLY:N	2.28	0.48
37:f:60:PHE:C	37:f:61:LEU:HD12	2.39	0.48
38:g:69:VAL:O	38:g:138:LYS:HG3	2.14	0.48
40:i:6:GLY:C	40:i:17:VAL:HG12	2.38	0.48
41:j:32:ALA:HB1	41:j:33:GLN:NE2	2.29	0.48
42:k:16:SER:HA	42:k:79:SER:O	2.14	0.48
54:C:74:VAL:HA	54:C:112:ALA:O	2.14	0.48
1:A:77:C:H2'	1:A:78:A:H8	1.78	0.47
1:A:298:G:H5"	1:A:299:A:OP1	2.14	0.47
1:A:300:A:H2'	1:A:334:C:H1'	1.95	0.47
1:A:596:G:H2'	1:A:597:U:C6	2.49	0.47
1:A:749:C:H5"	1:A:1271:G:H1'	1.94	0.47
1:A:899:A:H2'	1:A:900:A:H5"	1.97	0.47
1:A:906:G:H5"	12:Q:26:TYR:OH	2.14	0.47
1:A:1029:A:H5"	12:Q:128:LYS:CE	2.40	0.47
1:A:1090:U:H3'	1:A:1091:G:H8	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1126:A:H4'	1:A:1127:A:O5'	2.13	0.47
1:A:1141:U:H4'	1:A:1142(B):A:O4'	2.14	0.47
1:A:1161:C:O2'	1:A:1162:G:H5'	2.14	0.47
1:A:1203:G:H2'	1:A:1241:A:N6	2.29	0.47
1:A:1406:U:H2'	1:A:1407:C:H6	1.79	0.47
1:A:1433:U:O2'	1:A:1434:A:H5'	2.14	0.47
1:A:1467:C:C6	1:A:1546:C:H2'	2.49	0.47
1:A:1651:G:C5'	13:R:39:PRO:HG2	2.43	0.47
1:A:1655:A:H1'	4:E:113:PHE:CE2	2.48	0.47
1:A:1829:A:C2'	1:A:1830:C:H5'	2.44	0.47
1:A:2116:G:H2'	1:A:2117:A:N3	2.29	0.47
1:A:2241:A:O2'	1:A:2242:G:H5'	2.14	0.47
1:A:2250:G:O2'	1:A:2496:C:OP1	2.27	0.47
1:A:2322:A:H2'	1:A:2323:G:O4'	2.14	0.47
2:B:82:G:O2'	2:B:83:G:H5'	2.13	0.47
4:E:34:VAL:HG12	4:E:72:VAL:HG11	1.96	0.47
4:E:170:LEU:HD23	4:E:184:VAL:HG12	1.96	0.47
6:G:14:GLU:C	6:G:17:PRO:HD2	2.38	0.47
7:H:41:MET:CE	7:H:64:LEU:HB2	2.44	0.47
7:H:44:VAL:O	7:H:50:VAL:HG13	2.14	0.47
9:N:16:ILE:HB	9:N:54:VAL:HG22	1.95	0.47
9:N:45:ASN:OD1	9:N:46:VAL:HG13	2.14	0.47
10:O:8:LEU:O	10:O:18:LYS:HA	2.14	0.47
10:O:68:GLU:O	10:O:69:ILE:HD13	2.14	0.47
12:Q:109:VAL:CG1	12:Q:113:GLN:HB2	2.44	0.47
18:W:70:TYR:CE2	18:W:72:LYS:HA	2.49	0.47
20:Y:43:ASN:O	20:Y:64:GLU:HA	2.13	0.47
21:Z:5:LEU:CD2	21:Z:43:GLU:HB3	2.44	0.47
32:a:157:G:O2'	32:a:158:G:H5'	2.14	0.47
32:a:189(K):G:O2'	32:a:189(L):U:H5'	2.14	0.47
32:a:360:A:O2'	32:a:361:G:H5'	2.13	0.47
32:a:405:U:H5"	32:a:406:G:O4'	2.14	0.47
32:a:575:G:O2'	32:a:821:G:OP2	2.27	0.47
32:a:630:G:H5'	32:a:631:G:OP2	2.14	0.47
32:a:674:G:H1	32:a:716:A:H2	1.61	0.47
32:a:678:U:H2'	32:a:679:C:H6	1.79	0.47
32:a:688:G:H4'	42:k:47:VAL:CG2	2.44	0.47
32:a:732:C:H2'	32:a:733:A:H5'	1.96	0.47
33:b:149:LEU:HD22	33:b:152:PHE:CD2	2.48	0.47
34:c:180:ALA:HB1	34:c:203:PHE:HE1	1.79	0.47
36:e:72:GLN:O	36:e:75:THR:HG22	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:2:ARG:O	37:f:66:GLU:HA	2.14	0.47
37:f:26:ILE:O	37:f:30:LEU:HG	2.14	0.47
37:f:53:ALA:HB3	37:f:86:ARG:NH1	2.29	0.47
38:g:13:GLN:OE1	38:g:14:PRO:HD2	2.14	0.47
43:l:33:ARG:O	43:l:85:ILE:HG12	2.14	0.47
44:m:11:ARG:CA	44:m:45:VAL:HB	2.38	0.47
44:m:73:GLU:HG2	44:m:77:ASN:HD21	1.79	0.47
54:C:212:VAL:HG21	54:C:226:PRO:HB3	1.96	0.47
55:z:16:U:H3	55:z:19:G:H8	1.62	0.47
55:z:30:G:H2'	55:z:31:A:H8	1.79	0.47
55:z:59:U:O2'	55:z:60:U:H5'	2.14	0.47
1:A:83:G:OP2	20:Y:95:LYS:NZ	2.46	0.47
1:A:211:A:H5'	1:A:1366:A:O2'	2.15	0.47
1:A:286:C:H2'	1:A:287:C:H6	1.77	0.47
1:A:438:G:H2'	1:A:440:G:H8	1.78	0.47
1:A:652(B):A:H3'	1:A:652(C):A:H5"	1.96	0.47
1:A:690:G:O2'	3:D:43:ARG:NH2	2.47	0.47
1:A:1053:C:H2'	1:A:1054:A:C8	2.49	0.47
1:A:1221(B):C:O2'	1:A:1222:C:H5'	2.14	0.47
1:A:1356:G:O2'	1:A:1357:U:H5'	2.14	0.47
1:A:1466:G:O2'	1:A:1546:C:O2'	2.09	0.47
1:A:1489:U:H5"	1:A:1490:A:OP1	2.13	0.47
1:A:1580:A:H5'	1:A:1581:G:OP2	2.13	0.47
1:A:1591:G:H2'	1:A:1592:C:H6	1.78	0.47
1:A:2123:G:H1'	54:C:172:HIS:HB3	1.95	0.47
1:A:2171:A:OP1	1:A:2171:A:H3'	2.13	0.47
1:A:2340:G:O2'	1:A:2341:G:H5'	2.14	0.47
1:A:2479:G:H2'	1:A:2480:C:O4'	2.14	0.47
1:A:2757:A:H2'	1:A:2758:A:H5'	1.97	0.47
1:A:2840:C:O2'	1:A:2841:C:H5'	2.14	0.47
1:A:2848:G:OP2	15:T:97:ALA:N	2.38	0.47
3:D:77:ALA:HB2	3:D:97:TYR:CE1	2.49	0.47
3:D:148:GLU:OE1	3:D:151:LYS:NZ	2.40	0.47
12:Q:11:LYS:NZ	12:Q:87:LYS:HB3	2.29	0.47
12:Q:75:THR:HA	12:Q:89:ASN:O	2.14	0.47
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.44	0.47
17:V:5:VAL:C	17:V:38:LEU:HD23	2.39	0.47
18:W:36:LEU:HD13	18:W:48:ALA:CA	2.44	0.47
22:0:46:LYS:HB2	22:0:78:TYR:CE1	2.48	0.47
26:4:40:HIS:CD2	26:4:41:PRO:HD2	2.49	0.47
28:6:39:TYR:HA	28:6:46:HIS:HA	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:7:34:ARG:HD2	29:7:42:LEU:O	2.13	0.47
32:a:16:A:O2'	32:a:17:U:H5'	2.14	0.47
32:a:42:G:H2'	32:a:43:C:O4'	2.14	0.47
32:a:339:C:O2'	32:a:340:U:H5'	2.14	0.47
32:a:391:G:H3'	32:a:392:G:H5"	1.95	0.47
32:a:564:C:C4	48:q:31:LEU:HD11	2.49	0.47
32:a:574:A:H5"	32:a:575:G:OP2	2.13	0.47
32:a:599:C:H2'	32:a:600:C:C6	2.49	0.47
32:a:673:G:C4'	49:r:75:ILE:HG23	2.43	0.47
32:a:938:A:H2	32:a:1376:U:H1'	1.78	0.47
32:a:954:G:H2'	32:a:955:U:H6	1.80	0.47
32:a:1121:U:H2'	32:a:1122:U:H6	1.77	0.47
32:a:1318:A:H5"	50:s:3:ARG:NH2	2.28	0.47
32:a:1371:G:H2'	32:a:1372:U:H6	1.78	0.47
33:b:162:ILE:CD1	33:b:184:VAL:HG22	2.44	0.47
35:d:59:ARG:O	35:d:63:LYS:N	2.45	0.47
36:e:91:LEU:HD21	36:e:110:LEU:HD11	1.96	0.47
39:h:19:VAL:CG2	39:h:21:LYS:HD3	2.38	0.47
40:i:79:LEU:HD22	40:i:104:ARG:HA	1.96	0.47
41:j:42:THR:HG23	41:j:67:THR:C	2.39	0.47
43:l:89:ARG:HG2	43:l:90:VAL:O	2.13	0.47
48:q:45:HIS:HB3	48:q:72:ARG:HG2	1.96	0.47
54:C:139:ASN:N	54:C:144:THR:OG1	2.45	0.47
54:C:148:ASN:ND2	54:C:151:GLU:OE1	2.45	0.47
1:A:466:A:H5'	29:7:21:ARG:HH21	1.79	0.47
1:A:689:A:O2'	1:A:690:G:H5'	2.14	0.47
1:A:706:A:N6	1:A:725:G:H1'	2.29	0.47
1:A:740:U:H5"	1:A:1784:A:H3'	1.94	0.47
1:A:813:U:O2'	1:A:814:C:H5'	2.15	0.47
1:A:863:A:H2'	1:A:864:G:C8	2.49	0.47
1:A:905:U:C2'	1:A:906:G:H5'	2.44	0.47
1:A:1005:C:H1'	1:A:1012:U:H3	1.78	0.47
1:A:1035:U:OP1	7:H:59:ARG:NH1	2.47	0.47
1:A:1152:C:H4'	16:U:77:SER:HA	1.95	0.47
1:A:1513:C:O2'	1:A:1514:U:H5'	2.13	0.47
1:A:1607:C:N4	1:A:1621:U:H3'	2.29	0.47
1:A:2032:G:OP2	1:A:2455:G:H5'	2.15	0.47
1:A:2138:C:O2'	1:A:2139:C:H5'	2.13	0.47
1:A:2248:C:H2'	1:A:2249:U:H5'	1.95	0.47
1:A:2412:A:C2	1:A:2413:G:H1'	2.50	0.47
1:A:2615:U:O2'	1:A:2616:C:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2695:C:O2'	1:A:2696:U:H5'	2.14	0.47
1:A:2846:G:P	15:T:54:ARG:HB2	2.54	0.47
3:D:138:VAL:CG2	3:D:167:GLY:HA2	2.43	0.47
3:D:181:GLU:HG3	3:D:272:ALA:O	2.15	0.47
4:E:37:ARG:HD3	4:E:42:ASP:OD2	2.14	0.47
11:P:126:VAL:HA	11:P:146:VAL:O	2.15	0.47
14:S:31:SER:OG	14:S:34:HIS:N	2.47	0.47
17:V:58:VAL:O	17:V:97:LYS:HB2	2.14	0.47
21:Z:54:HIS:HB3	21:Z:101:PRO:CD	2.35	0.47
24:2:24:LEU:O	24:2:28:LYS:HG2	2.14	0.47
30:8:14:VAL:HG13	30:8:23:VAL:O	2.14	0.47
32:a:96:U:H5'	32:a:97:G:P	2.55	0.47
32:a:189(M):G:H2'	32:a:190:U:C6	2.49	0.47
32:a:392:G:OP1	47:p:13:HIS:N	2.38	0.47
32:a:416:G:H2'	32:a:417:C:O4'	2.14	0.47
32:a:472:A:H4'	47:p:80:PHE:O	2.14	0.47
32:a:538:G:H2'	32:a:539:A:C8	2.48	0.47
32:a:1056:U:C5'	34:c:163:ALA:HB2	2.44	0.47
32:a:1106:G:H5"	34:c:172:ARG:HG2	1.95	0.47
32:a:1119:C:H2'	32:a:1120:G:C8	2.48	0.47
32:a:1169:A:H2'	32:a:1170:A:O4'	2.14	0.47
32:a:1269:A:H1'	32:a:1326:C:O4'	2.14	0.47
32:a:1307:U:H2'	32:a:1308:U:H6	1.79	0.47
32:a:1371:G:O2'	32:a:1372:U:H5'	2.13	0.47
32:a:1462:G:H2'	32:a:1463:C:C6	2.48	0.47
32:a:1510:U:H2'	32:a:1511:G:H8	1.79	0.47
33:b:123:ALA:CB	33:b:125:PRO:HD2	2.42	0.47
35:d:58:LEU:CD1	35:d:59:ARG:HH21	2.27	0.47
37:f:45:LEU:HD12	37:f:59:TYR:CD1	2.45	0.47
38:g:92:SER:HB2	38:g:93:PRO:HD2	1.97	0.47
39:h:9:MET:O	39:h:13:ILE:HG13	2.13	0.47
39:h:10:LEU:HD12	39:h:85:ARG:HB2	1.96	0.47
41:j:6:ILE:HD12	41:j:98:ILE:HG12	1.95	0.47
42:k:70:LYS:O	42:k:74:ALA:N	2.44	0.47
43:l:27:LEU:HD23	43:l:30:ALA:O	2.13	0.47
47:p:21:VAL:HG12	47:p:34:GLU:HB3	1.97	0.47
47:p:56:ALA:O	47:p:60:LEU:HD23	2.14	0.47
48:q:10:VAL:HG12	48:q:53:LEU:HA	1.96	0.47
50:s:22:LEU:HD12	50:s:31:ILE:HD11	1.96	0.47
54:C:66:HIS:CG	54:C:184:LYS:HG3	2.48	0.47
54:C:162:GLU:O	54:C:173:ALA:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:17:G:H2'	1:A:18:C:H6	1.78	0.47
1:A:302:C:H2'	1:A:303:U:H6	1.79	0.47
1:A:354:G:O2'	1:A:355:G:H5'	2.14	0.47
1:A:595:C:H2'	1:A:596:G:C8	2.50	0.47
1:A:686:G:H1	29:7:16:HIS:CD2	2.32	0.47
1:A:690:G:H2'	1:A:691:C:H6	1.78	0.47
1:A:778:G:H5"	3:D:48:ARG:HD2	1.96	0.47
1:A:1123:C:H1'	31:9:18:ARG:HH22	1.80	0.47
1:A:1405:U:H2'	1:A:1406:U:H6	1.80	0.47
1:A:1684:C:H2'	1:A:1685:C:H6	1.80	0.47
1:A:1923:U:O2'	1:A:1924:C:H5'	2.15	0.47
1:A:2007:C:O2'	1:A:2008:C:H5'	2.14	0.47
1:A:2290:G:O2'	1:A:2291:U:H5'	2.15	0.47
1:A:2325:G:H2'	1:A:2326:C:C6	2.50	0.47
1:A:2653:U:OP2	1:A:2654:A:O2'	2.20	0.47
1:A:2869:G:H2'	1:A:2870:C:C6	2.50	0.47
5:F:153:SER:HA	5:F:172:TRP:O	2.15	0.47
7:H:24:VAL:HG13	7:H:37:VAL:CG2	2.41	0.47
7:H:77:LYS:HB3	7:H:83:TYR:OH	2.14	0.47
8:I:87:LYS:HE2	8:I:121:LYS:HE3	1.96	0.47
12:Q:67:ARG:O	12:Q:101:ARG:NH2	2.48	0.47
14:S:15:ARG:HG2	14:S:88:ASP:OD2	2.14	0.47
17:V:33:VAL:HG23	17:V:35:LEU:CD1	2.42	0.47
25:3:8:LEU:HD23	25:3:23:LEU:HD11	1.96	0.47
28:6:16:CYS:HB2	28:6:18:ARG:HE	1.80	0.47
32:a:266:G:N3	32:a:266:G:H5"	2.28	0.47
32:a:359:U:H2'	32:a:360:A:H8	1.80	0.47
32:a:734:G:H21	49:r:75:ILE:HD11	1.79	0.47
32:a:1060:C:H2'	32:a:1061:G:C8	2.47	0.47
32:a:1460:A:H2'	32:a:1461:G:O4'	2.14	0.47
35:d:52:SER:O	35:d:56:VAL:HG23	2.14	0.47
35:d:124:GLY:O	35:d:132:ARG:HD2	2.15	0.47
39:h:12:ARG:HD2	39:h:26:VAL:HG12	1.96	0.47
39:h:53:VAL:HB	39:h:58:TYR:CE2	2.48	0.47
42:k:85:ARG:NH2	42:k:111:ASP:OD2	2.46	0.47
43:l:38:THR:HA	43:l:79:GLU:HG3	1.97	0.47
43:l:117:ARG:HG2	43:l:122:THR:O	2.15	0.47
44:m:45:VAL:HA	44:m:48:LEU:HD12	1.97	0.47
54:C:113:VAL:HG12	54:C:138:PRO:CG	2.44	0.47
1:A:116:C:H2'	1:A:117:G:C8	2.49	0.47
1:A:117:G:P	1:A:119:A:HO2'	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(J):C:O3'	1:A:272(K):U:H2'	2.14	0.47
1:A:620:G:H4'	1:A:621:A:H5"	1.97	0.47
1:A:646:A:O2'	1:A:647:G:H5'	2.14	0.47
1:A:660:G:O2'	1:A:661:C:H5'	2.14	0.47
1:A:664:C:O2'	1:A:665:C:H5'	2.14	0.47
1:A:768:G:H2'	1:A:769:G:C8	2.49	0.47
1:A:820:A:O2'	1:A:821:A:H5'	2.15	0.47
1:A:1315:C:O2'	1:A:1316:U:H5'	2.14	0.47
1:A:1386:C:OP2	1:A:1396:U:N3	2.37	0.47
1:A:1425:G:OP2	3:D:31:LYS:HD3	2.14	0.47
1:A:1790:C:H2'	1:A:1791:A:N7	2.30	0.47
1:A:2080:G:H2'	1:A:2081:C:H6	1.80	0.47
1:A:2259:G:H2'	1:A:2260:C:C6	2.49	0.47
1:A:2392:A:H2'	1:A:2393:A:O4'	2.14	0.47
1:A:2689:U:H5'	1:A:2689:U:O2	2.15	0.47
1:A:2821:A:O2'	1:A:2822:G:H5'	2.14	0.47
2:B:43:C:O2'	6:G:95:ARG:HD2	2.13	0.47
2:B:66:A:O4'	2:B:109:C:N4	2.48	0.47
3:D:134:ARG:HH21	8:I:87:LYS:HE3	1.78	0.47
4:E:49:LEU:C	4:E:78:LEU:HD12	2.39	0.47
5:F:7:TYR:OH	5:F:26:ALA:HA	2.14	0.47
6:G:66:GLN:HG3	26:4:6:HIS:CE1	2.49	0.47
7:H:98:LEU:H	7:H:125:VAL:HG21	1.78	0.47
7:H:152:ARG:H	7:H:162:ILE:HD12	1.79	0.47
9:N:43:THR:HB	9:N:46:VAL:HG22	1.97	0.47
11:P:94:GLU:HA	11:P:124:LYS:O	2.14	0.47
21:Z:126:VAL:HG13	21:Z:162:GLU:O	2.13	0.47
22:0:36:ILE:HD12	22:0:58:THR:HG21	1.97	0.47
27:5:40:LYS:HD2	27:5:41:PRO:O	2.15	0.47
28:6:5:VAL:CG2	28:6:28:ARG:HB2	2.45	0.47
32:a:522:C:O2'	32:a:523:A:H5'	2.14	0.47
32:a:926:G:H1	56:x:14:A:P	2.37	0.47
32:a:996:A:O2'	32:a:997:U:H5'	2.14	0.47
32:a:1241:G:H2'	32:a:1242:C:H6	1.80	0.47
32:a:1282:C:H2'	32:a:1283:G:O4'	2.15	0.47
32:a:1363(A):C:H5'	32:a:1363(B):A:OP1	2.14	0.47
32:a:1367:C:O2'	41:j:48:THR:OG1	2.26	0.47
33:b:20:GLU:O	33:b:39:ILE:HG23	2.14	0.47
33:b:54:THR:C	33:b:58:ILE:HG12	2.39	0.47
35:d:144:ASP:O	35:d:184:LYS:HA	2.14	0.47
41:j:82:ILE:O	41:j:85:LEU:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:m:77:ASN:O	44:m:80:ARG:HG2	2.14	0.47
54:C:79:LYS:CE	54:C:83:ILE:HD11	2.44	0.47
1:A:772:C:H2'	1:A:773:U:C6	2.49	0.47
1:A:895:U:O3'	1:A:896:A:H3'	2.14	0.47
1:A:930:U:H4'	1:A:931:G:O5'	2.15	0.47
1:A:1350:C:O2'	1:A:1351:C:H5'	2.15	0.47
1:A:1539:G:O2'	1:A:1540:U:H5'	2.14	0.47
1:A:1612:C:O2'	29:7:5:TRP:O	2.29	0.47
1:A:1678:G:O2'	1:A:1991:U:H4'	2.14	0.47
1:A:2115:G:O2'	1:A:2166:G:N2	2.48	0.47
1:A:2137:C:H2'	1:A:2138:C:C6	2.49	0.47
1:A:2348:U:O2'	1:A:2349:G:H5'	2.14	0.47
1:A:2368:C:H2'	1:A:2369:A:H8	1.77	0.47
1:A:2488:A:H2'	1:A:2489:G:H8	1.78	0.47
1:A:2525:G:O2'	1:A:2526:G:H5'	2.14	0.47
1:A:2638:G:H1'	1:A:2778:A:H61	1.80	0.47
1:A:2811:G:H5"	4:E:60:ASN:HB2	1.96	0.47
4:E:38:THR:OG1	4:E:41:LYS:HB3	2.15	0.47
4:E:152:LYS:HB3	9:N:78:TYR:CE1	2.49	0.47
5:F:125:LEU:HD21	5:F:199:TRP:CE3	2.49	0.47
8:I:129:THR:HA	8:I:138:ILE:O	2.14	0.47
9:N:57:ALA:CB	9:N:99:LEU:HD12	2.41	0.47
10:O:120:GLU:HB2	15:T:68:TYR:HE2	1.78	0.47
11:P:94:GLU:HG3	11:P:124:LYS:O	2.15	0.47
11:P:147:LEU:HD22	11:P:148:LEU:N	2.30	0.47
12:Q:40:ALA:HB3	12:Q:127:ILE:CG2	2.44	0.47
16:U:91:ASP:O	16:U:95:LEU:HD13	2.15	0.47
18:W:68:ARG:O	18:W:109:GLU:HA	2.14	0.47
26:4:41:PRO:O	26:4:46:GLN:HA	2.15	0.47
32:a:34:C:H2'	32:a:35:G:C8	2.41	0.47
32:a:44:G:H2'	32:a:45:U:C6	2.49	0.47
32:a:100:C:OP2	51:t:14:LYS:HG3	2.14	0.47
32:a:127:G:N2	48:q:61:GLU:OE2	2.44	0.47
32:a:186:C:O2'	51:t:85:MET:SD	2.57	0.47
32:a:284:G:H2'	32:a:285:G:C8	2.49	0.47
32:a:613:C:H2'	32:a:614:A:C8	2.49	0.47
32:a:695:A:H2'	32:a:696:A:C8	2.49	0.47
32:a:717:C:O2'	32:a:734:G:O4'	2.32	0.47
32:a:828:A:H4'	32:a:828:A:OP1	2.15	0.47
32:a:948:C:O2'	32:a:949:A:H5'	2.14	0.47
32:a:1086:U:O3'	32:a:1389:C:H4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1250:A:OP1	40:i:66:ARG:HA	2.14	0.47
32:a:1489:G:H2'	32:a:1490:C:H6	1.78	0.47
32:a:1539:C:H5'	32:a:1540:U:OP2	2.15	0.47
34:c:70:VAL:O	34:c:106:VAL:HG23	2.13	0.47
34:c:152:ILE:HD11	34:c:199:LYS:HD2	1.96	0.47
35:d:74:GLN:O	35:d:78:LEU:HG	2.14	0.47
39:h:49:GLU:OE2	39:h:60:ARG:HD3	2.15	0.47
42:k:15:ALA:CA	42:k:77:MET:HA	2.39	0.47
42:k:79:SER:OG	42:k:106:LYS:HG3	2.15	0.47
44:m:92:HIS:HA	44:m:110:ARG:HH21	1.78	0.47
47:p:8:ARG:HB3	47:p:28:ARG:NH1	2.26	0.47
54:C:88:GLU:HG2	54:C:89:ALA:H	1.79	0.47
54:C:185:LEU:HD23	54:C:188:ASN:ND2	2.28	0.47
1:A:74:A:H4'	1:A:75:G:C5'	2.45	0.47
1:A:110:G:O2'	1:A:111:A:H5'	2.15	0.47
1:A:244:A:O3'	11:P:74:GLU:HB2	2.14	0.47
1:A:371:A:N6	1:A:401:A:H3'	2.29	0.47
1:A:494:G:H2'	1:A:495:G:H8	1.80	0.47
1:A:496:G:H1'	18:W:61:ASN:OD1	2.15	0.47
1:A:596:G:H2'	1:A:597:U:H6	1.79	0.47
1:A:901:A:H2'	1:A:902:C:C6	2.50	0.47
1:A:999:U:O2'	1:A:1000:A:H5'	2.15	0.47
1:A:1062:G:P	1:A:1070:A:H5'	2.55	0.47
1:A:1080:C:H2'	1:A:1081:U:H6	1.76	0.47
1:A:1089:G:O2'	1:A:1090:U:O5'	2.32	0.47
1:A:1090:U:H2'	1:A:1091:G:O4'	2.15	0.47
1:A:1111:A:H2'	1:A:1111:A:OP2	2.15	0.47
1:A:1330:C:O2'	1:A:1331:A:H5'	2.15	0.47
1:A:1336:A:H2'	1:A:1337:G:H8	1.80	0.47
1:A:1450(B):C:O2'	1:A:1451:C:H5'	2.15	0.47
1:A:1549:C:O2'	1:A:1550:C:H5'	2.15	0.47
1:A:1748:G:H2'	1:A:1749:A:C8	2.49	0.47
1:A:1849:G:H2'	1:A:1850:G:C8	2.49	0.47
1:A:1890:A:H1'	1:A:2086:U:O2'	2.14	0.47
1:A:2073:C:H2'	1:A:2074:U:H6	1.80	0.47
1:A:2074:U:H2'	1:A:2075:U:H6	1.76	0.47
1:A:2137:C:O2'	1:A:2138:C:H5'	2.15	0.47
1:A:2177:C:O3'	54:C:46:LYS:HB2	2.15	0.47
1:A:2393:A:H4'	11:P:62:LEU:C	2.39	0.47
1:A:2415:G:H4'	11:P:67:MET:N	2.30	0.47
1:A:2468:G:H1	1:A:2481:G:HO2'	1.59	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2850:A:H3'	1:A:2851:A:H8	1.79	0.47
1:A:2877:G:O2'	1:A:2878:U:H5'	2.14	0.47
3:D:124:PRO:O	3:D:129:ASN:ND2	2.48	0.47
3:D:147:LEU:HD11	3:D:183:ARG:NE	2.29	0.47
5:F:158:THR:O	5:F:177:ALA:HA	2.15	0.47
6:G:3:LEU:HD13	26:4:25:TYR:CD2	2.50	0.47
6:G:27:ASN:OD1	6:G:28:VAL:N	2.47	0.47
6:G:76:SER:CB	6:G:83:ARG:HA	2.45	0.47
7:H:58:GLU:CD	7:H:60:ARG:HB3	2.40	0.47
8:I:5:LEU:O	8:I:15:VAL:HA	2.15	0.47
8:I:57:ARG:HD2	8:I:58:LEU:N	2.29	0.47
11:P:90:ARG:HG3	11:P:91:PHE:CE1	2.50	0.47
11:P:111:ARG:HB3	11:P:128:HIS:CG	2.50	0.47
14:S:5:THR:H	14:S:8:GLU:HB2	1.78	0.47
14:S:24:LEU:CB	14:S:85:VAL:HG23	2.45	0.47
15:T:33:LYS:HA	15:T:42:ILE:HG13	1.95	0.47
15:T:41:ARG:CZ	32:a:345:C:H3'	2.45	0.47
16:U:74:LEU:HD23	16:U:114:LYS:HG3	1.96	0.47
16:U:83:LEU:HA	16:U:86:ALA:HB3	1.95	0.47
17:V:18:LEU:HD23	17:V:19:LYS:C	2.40	0.47
18:W:19:LEU:HB3	27:5:25:LEU:HD11	1.96	0.47
18:W:84:ARG:O	18:W:95:ILE:HA	2.14	0.47
19:X:52:VAL:CG2	19:X:84:ALA:HA	2.44	0.47
21:Z:95:PRO:HG3	21:Z:129:SER:HA	1.95	0.47
23:1:95:LEU:HD13	23:1:98:LEU:HD12	1.96	0.47
32:a:71:C:H6	32:a:72:C:N1	2.12	0.47
32:a:103:C:H2'	32:a:174:C:H4'	1.97	0.47
32:a:150:C:H3'	32:a:151:A:C8	2.49	0.47
32:a:175:C:O2'	32:a:176:C:H5'	2.15	0.47
32:a:179:A:N6	32:a:196:A:OP2	2.48	0.47
32:a:192:U:O2'	32:a:193:C:H5'	2.15	0.47
32:a:255:G:OP1	48:q:69:LYS:NZ	2.34	0.47
32:a:432:A:H3'	32:a:433:C:C6	2.49	0.47
32:a:452:A:N6	32:a:480:U:N3	2.54	0.47
32:a:542:G:O2'	32:a:543:C:H5'	2.14	0.47
32:a:609:A:C2'	32:a:610:G:H5'	2.44	0.47
32:a:705:U:H2'	32:a:706:A:O4'	2.14	0.47
32:a:850:U:C3'	32:a:851:G:H5"	2.44	0.47
32:a:1011:G:H2'	32:a:1012:U:C6	2.50	0.47
32:a:1082:G:O2'	32:a:1083:U:H5'	2.14	0.47
32:a:1093:A:N3	32:a:1095:U:H5'	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1251:A:O2'	32:a:1252:A:H5'	2.15	0.47
32:a:1261:A:H3'	32:a:1262:C:C5	2.50	0.47
32:a:1268:A:O2'	52:u:19:GLY:HA2	2.14	0.47
32:a:1283:G:H2'	32:a:1284:C:O4'	2.15	0.47
32:a:1446:U:H2'	32:a:1452:C:C5	2.50	0.47
32:a:1532:U:H4'	32:a:1533:C:C5'	2.37	0.47
33:b:55:PHE:HA	33:b:58:ILE:HB	1.95	0.47
33:b:57:PHE:HE2	33:b:185:ILE:HD11	1.79	0.47
33:b:62:ALA:HB2	33:b:222:ILE:HG22	1.95	0.47
33:b:102:LEU:HB3	33:b:180:LEU:HD12	1.97	0.47
34:c:36:ASP:O	34:c:40:ARG:HG2	2.15	0.47
35:d:102:ASP:OD1	35:d:103:ASN:N	2.48	0.47
41:j:6:ILE:HA	41:j:97:GLU:O	2.14	0.47
43:l:28:LYS:N	43:l:29:GLY:HA2	2.29	0.47
43:l:33:ARG:HH11	43:l:62:SER:HB3	1.78	0.47
44:m:82:MET:HG2	44:m:93:ARG:CG	2.43	0.47
46:o:35:ARG:NH2	46:o:59:MET:HE2	2.30	0.47
46:o:55:GLY:O	46:o:59:MET:HG3	2.15	0.47
47:p:21:VAL:HG11	47:p:59:TRP:CE2	2.50	0.47
48:q:9:VAL:O	48:q:21:VAL:HA	2.14	0.47
48:q:83:ASP:OD1	48:q:84:LEU:N	2.47	0.47
54:C:46:LYS:HG2	54:C:210:ARG:HD3	1.97	0.47
54:C:51:PRO:HG3	54:C:166:ASP:O	2.15	0.47
56:x:26:C:O2'	56:x:27:C:H5'	2.14	0.47
56:x:49:G:H2'	56:x:50:C:C6	2.49	0.47
1:A:59:U:H3	1:A:68:G:H1	1.63	0.47
1:A:537:C:O2'	1:A:538:G:H5'	2.14	0.47
1:A:658:C:O2'	1:A:659:C:H5'	2.15	0.47
1:A:851:U:O2'	25:3:45:GLY:HA3	2.14	0.47
1:A:933:A:C2'	1:A:934:G:H5'	2.45	0.47
1:A:989:G:P	25:3:31:LEU:HD23	2.55	0.47
1:A:1323:U:OP1	18:W:98:LYS:NZ	2.41	0.47
1:A:1338:G:O2'	1:A:1339:G:H5'	2.14	0.47
1:A:1614:A:N1	18:W:87:PRO:HA	2.30	0.47
1:A:1919:A:H2'	1:A:1920:4OC:H5'	1.97	0.47
1:A:1956:U:H2'	1:A:1957:C:H5'	1.96	0.47
1:A:1967:C:H2'	1:A:1968:G:O4'	2.15	0.47
1:A:2075:U:OP2	1:A:2238:G:O2'	2.10	0.47
1:A:2104:G:H3'	1:A:2105:C:H6	1.80	0.47
1:A:2175:C:H5"	54:C:7:TYR:CE1	2.50	0.47
1:A:2279:G:O6	22:0:14:ARG:HD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2715:C:O2'	1:A:2716:U:H5'	2.14	0.47
1:A:2877:G:H2'	1:A:2878:U:H6	1.79	0.47
6:G:61:ALA:HB1	26:4:7:PRO:CG	2.45	0.47
7:H:8:PRO:HB3	7:H:51:ARG:HD3	1.95	0.47
9:N:47:ALA:O	9:N:119:ARG:NH2	2.48	0.47
11:P:71:VAL:CG2	11:P:72:PRO:HA	2.45	0.47
14:S:15:ARG:O	14:S:19:LYS:HD3	2.14	0.47
14:S:54:LEU:O	14:S:57:LYS:HD2	2.14	0.47
15:T:53:ARG:O	15:T:59:THR:HG23	2.14	0.47
17:V:66:ARG:HB2	17:V:88:ARG:NH2	2.30	0.47
19:X:6:ASP:OD1	24:2:29:LYS:HD3	2.14	0.47
21:Z:40:ASP:HB3	21:Z:43:GLU:CB	2.40	0.47
21:Z:108:PRO:HB2	21:Z:111:VAL:HG23	1.96	0.47
24:2:46:GLN:OE1	24:2:49:LYS:HD2	2.15	0.47
32:a:59:A:H1'	32:a:388:G:O2'	2.15	0.47
32:a:394:G:H2'	32:a:395:C:H6	1.80	0.47
32:a:424:G:O2'	32:a:425:G:H5'	2.14	0.47
32:a:524:G:H2'	32:a:525:C:C5	2.50	0.47
32:a:644:G:C2'	32:a:645:C:H5'	2.45	0.47
32:a:663:A:H5"	49:r:61:LYS:NZ	2.30	0.47
32:a:682:G:O2'	32:a:683:G:H5'	2.15	0.47
32:a:831:U:H2'	32:a:832:C:C6	2.49	0.47
32:a:921:U:O2'	36:e:19:MET:O	2.15	0.47
32:a:1514:C:H2'	32:a:1515:C:C6	2.50	0.47
34:c:71:ALA:O	34:c:73:PRO:HD3	2.15	0.47
35:d:31:CYS:SG	35:d:33:MET:HB2	2.54	0.47
37:f:5:GLU:HG3	37:f:93:SER:OG	2.14	0.47
38:g:54:THR:CB	38:g:56:GLN:HE22	2.28	0.47
39:h:81:HIS:N	39:h:138:TRP:O	2.48	0.47
40:i:63:ILE:HD13	40:i:77:ILE:HG23	1.97	0.47
40:i:116:LYS:HB3	40:i:118:LYS:O	2.14	0.47
50:s:20:LEU:HA	50:s:23:ASN:HD22	1.79	0.47
50:s:49:ILE:CD1	50:s:62:ILE:HD13	2.44	0.47
53:y:6:G:H2'	53:y:7:G:C8	2.49	0.47
54:C:11:LEU:HD23	54:C:220:PRO:HB3	1.97	0.47
54:C:42:GLU:HB2	54:C:215:THR:O	2.15	0.47
54:C:77:ILE:HA	54:C:96:GLY:O	2.15	0.47
54:C:110:PHE:HE2	54:C:136:LEU:HD13	1.79	0.47
54:C:155:GLU:O	54:C:160:ARG:HB2	2.15	0.47
54:C:185:LEU:HA	54:C:188:ASN:ND2	2.28	0.47
1:A:116:C:H2'	1:A:117:G:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129:C:H2'	1:A:130:C:H6	1.79	0.47
1:A:665:C:O2'	1:A:666:G:H5'	2.15	0.47
1:A:716:A:H2'	1:A:717:G:C4'	2.45	0.47
1:A:807:U:O2'	1:A:2060:A:N1	2.45	0.47
1:A:933:A:H2'	1:A:934:G:H5'	1.96	0.47
1:A:1183:G:O2'	1:A:1184:G:H5'	2.14	0.47
1:A:1365:A:O3'	23:1:11:ARG:NH2	2.48	0.47
1:A:1412:A:H2'	1:A:1413:G:C8	2.50	0.47
1:A:1917:PSU:H2'	1:A:1918:A:C8	2.50	0.47
1:A:2042:A:H2'	1:A:2043:C:H5'	1.96	0.47
1:A:2045:C:H2'	1:A:2046:G:O4'	2.14	0.47
1:A:2117:A:H3'	1:A:2118:U:H5"	1.96	0.47
1:A:2355:C:O2'	22:0:24:LYS:HE3	2.15	0.47
1:A:2462:U:H2'	1:A:2463:C:O4'	2.14	0.47
1:A:2526:G:O2'	1:A:2527:C:H5'	2.15	0.47
1:A:2748:A:H4'	7:H:66:GLY:C	2.40	0.47
1:A:2792:G:H2'	1:A:2792:G:N3	2.30	0.47
2:B:63:G:O2'	2:B:64:C:H5'	2.14	0.47
2:B:75:G:N2	21:Z:75:ASN:HD21	2.13	0.47
3:D:69:ARG:CD	3:D:119:ALA:HB2	2.44	0.47
3:D:152:GLY:O	3:D:154:LYS:HG2	2.15	0.47
4:E:14:ILE:HB	15:T:14:TYR:HE2	1.80	0.47
4:E:105:THR:HA	4:E:165:VAL:O	2.14	0.47
8:I:77:LEU:HD11	8:I:100:ALA:CB	2.45	0.47
12:Q:76:LYS:HB3	12:Q:91:GLU:CD	2.40	0.47
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.97	0.47
21:Z:120:ILE:HB	21:Z:171:ILE:CA	2.40	0.47
21:Z:158:PRO:HD2	21:Z:161:VAL:HG21	1.97	0.47
27:5:58:LEU:HD23	27:5:59:GLU:C	2.40	0.47
32:a:181:G:H1'	32:a:183:G:C5	2.50	0.47
32:a:575:G:OP1	32:a:575:G:H4'	2.15	0.47
32:a:653:A:C8	39:h:56:LYS:HD2	2.50	0.47
32:a:692:U:O2	32:a:694:A:H3'	2.14	0.47
32:a:974:A:C4'	32:a:975:A:H5'	2.40	0.47
32:a:975:A:H62	41:j:60:ARG:HH12	1.63	0.47
32:a:1123:A:O2'	32:a:1124:G:H5'	2.14	0.47
32:a:1325:C:O2'	32:a:1326:C:H5'	2.15	0.47
33:b:198:ASP:OD1	39:h:68:ARG:NH1	2.33	0.47
34:c:135:LYS:HZ2	36:e:50:GLU:HG2	1.80	0.47
36:e:7:GLU:O	36:e:34:VAL:HA	2.15	0.47
37:f:1:MET:HA	37:f:67:MET:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:g:31:MET:SD	38:g:36:LYS:HB2	2.54	0.47
38:g:41:ARG:O	38:g:45:ASP:N	2.37	0.47
38:g:54:THR:O	38:g:56:GLN:NE2	2.48	0.47
41:j:7:LYS:H	41:j:97:GLU:HB2	1.80	0.47
42:k:95:ILE:O	42:k:99:GLN:HG3	2.15	0.47
43:l:36:VAL:CG1	43:l:80:HIS:HA	2.45	0.47
50:s:40:ILE:HG22	50:s:67:VAL:HA	1.97	0.47
53:y:36:U:H5	56:x:14:A:N1	2.12	0.47
1:A:11:G:H22	1:A:2628:C:P	2.38	0.47
1:A:210:C:H2'	1:A:211:A:H8	1.79	0.47
1:A:338:G:OP1	20:Y:4:LYS:HG3	2.14	0.47
1:A:401:A:H2'	1:A:402:A:C8	2.50	0.47
1:A:483:A:H5"	20:Y:50:ARG:NE	2.29	0.47
1:A:607:U:O4	1:A:620:G:H5'	2.15	0.47
1:A:736:C:H2'	1:A:737:C:H6	1.78	0.47
1:A:808:G:OP2	11:P:36:LYS:HE2	2.14	0.47
1:A:1066:U:C4	1:A:1068:G:H4'	2.50	0.47
1:A:1453:U:H5'	13:R:63:ARG:NH2	2.30	0.47
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.15	0.47
1:A:2123:G:C1'	54:C:172:HIS:HB3	2.44	0.47
1:A:2155:G:C2	1:A:2156:G:H1'	2.50	0.47
1:A:2179:C:H2'	1:A:2180:U:C6	2.49	0.47
1:A:2271:G:H5"	22:0:18:ALA:HB1	1.97	0.47
1:A:2602:A:OP2	53:y:74:C:H5"	2.15	0.47
1:A:2680:C:H1'	4:E:187:ALA:CB	2.44	0.47
1:A:2766:G:N3	1:A:2766:G:H2'	2.30	0.47
1:A:2814:C:O2'	27:5:29:THR:HG21	2.14	0.47
1:A:2862:G:O2'	1:A:2863:C:H5'	2.15	0.47
3:D:20:ASP:OD1	3:D:21:PHE:N	2.49	0.47
7:H:31:GLY:O	7:H:79:VAL:HB	2.13	0.47
9:N:90:MET:HG3	9:N:98:VAL:CG2	2.45	0.47
11:P:97:PRO:O	11:P:101:VAL:HG23	2.14	0.47
12:Q:3:MET:HB2	12:Q:93:TYR:HD2	1.80	0.47
14:S:67:ARG:NH2	14:S:71:ARG:HH22	2.12	0.47
20:Y:39:VAL:HB	20:Y:42:VAL:HB	1.97	0.47
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.97	0.47
32:a:109:A:H2'	32:a:326:G:N2	2.29	0.47
32:a:345:C:H4'	32:a:346:G:C5'	2.45	0.47
32:a:380:G:H5"	32:a:381:C:OP2	2.15	0.47
32:a:386:C:O2'	32:a:387:U:H5'	2.14	0.47
32:a:690:G:H2'	32:a:691:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1101:A:N6	33:b:176:GLU:OE2	2.48	0.47
32:a:1169:A:O2'	32:a:1170:A:H5'	2.15	0.47
32:a:1542:G:N2	56:x:1:U:O5'	2.48	0.47
34:c:32:LEU:O	34:c:59:ARG:NH2	2.48	0.47
37:f:2:ARG:NH1	37:f:69:GLU:HG3	2.30	0.47
37:f:12:PRO:HG3	37:f:57:GLN:C	2.39	0.47
37:f:30:LEU:CB	37:f:35:ALA:HB3	2.45	0.47
38:g:88:PRO:HB3	38:g:145:ALA:O	2.15	0.47
40:i:4:TYR:O	40:i:18:PHE:HA	2.15	0.47
43:l:102:ARG:NH2	43:l:108:ALA:O	2.44	0.47
46:o:87:ILE:HG22	46:o:88:ARG:N	2.30	0.47
48:q:10:VAL:HG23	48:q:55:ASP:O	2.15	0.47
54:C:6:ARG:O	54:C:10:LEU:HG	2.15	0.47
54:C:39:GLU:HB2	54:C:178:ALA:CB	2.36	0.47
55:z:39:U:H4'	55:z:39:U:OP1	2.15	0.47
1:A:85:G:O3'	20:Y:32:PRO:HG2	2.15	0.46
1:A:189:G:H2'	1:A:205:G:N2	2.30	0.46
1:A:272(D):G:O2'	1:A:272(E):U:H5'	2.15	0.46
1:A:272(S):G:O2'	1:A:272(T):C:H5'	2.15	0.46
1:A:783:A:N7	1:A:785:G:H1'	2.30	0.46
1:A:1071:G:H4'	1:A:1089:G:OP2	2.14	0.46
1:A:1317:A:O2'	1:A:1318:C:H5'	2.14	0.46
1:A:1804:C:OP1	3:D:259:THR:OG1	2.33	0.46
1:A:1814:G:O4'	3:D:51:VAL:HG21	2.15	0.46
1:A:2100:G:N1	1:A:2189:U:N3	2.29	0.46
1:A:2257:U:O2'	1:A:2258:C:H5'	2.15	0.46
1:A:2396:G:H5'	23:1:25:LYS:NZ	2.30	0.46
1:A:2691:C:O2'	1:A:2692:C:H5'	2.15	0.46
1:A:2738:A:H2	1:A:2766:G:H1	1.59	0.46
1:A:2753:A:O2'	1:A:2754:U:H5'	2.15	0.46
1:A:2876:G:H2'	1:A:2877:G:H8	1.80	0.46
2:B:35:U:H2'	2:B:36:C:O4'	2.15	0.46
5:F:28:ILE:HD12	5:F:119:ARG:HH21	1.79	0.46
6:G:3:LEU:HD11	6:G:101:ILE:HD11	1.97	0.46
10:O:65:THR:OG1	10:O:67:LYS:O	2.29	0.46
14:S:25:ARG:NH2	14:S:88:ASP:OD2	2.47	0.46
15:T:28:VAL:HG13	15:T:86:ILE:HG23	1.97	0.46
17:V:18:LEU:O	17:V:95:LEU:HA	2.15	0.46
17:V:61:VAL:HA	17:V:94:LEU:CD2	2.42	0.46
21:Z:144:LEU:HD11	21:Z:150:LEU:HD13	1.96	0.46
21:Z:153:SER:N	21:Z:167:PRO:O	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:17:U:O3'	36:e:14:ARG:NH1	2.39	0.46
32:a:105:G:H2'	32:a:106:C:O4'	2.14	0.46
32:a:122:G:H2'	32:a:123:C:O4'	2.15	0.46
32:a:152:A:H3'	32:a:153:C:C6	2.49	0.46
32:a:185:A:H2'	32:a:186:C:H6	1.80	0.46
32:a:411:A:C2'	32:a:412:A:H4'	2.45	0.46
32:a:415:A:H2'	32:a:416:G:H8	1.80	0.46
32:a:535:A:OP1	32:a:535:A:H3'	2.16	0.46
32:a:694:A:H2'	32:a:695:A:O4'	2.15	0.46
32:a:823:G:H2'	32:a:824:C:C6	2.50	0.46
32:a:1006:C:H2'	32:a:1007:C:H6	1.78	0.46
32:a:1074:G:H2'	32:a:1075:C:O4'	2.15	0.46
32:a:1253:G:H2'	32:a:1254:C:H6	1.80	0.46
32:a:1294:G:H2'	32:a:1295:G:C8	2.50	0.46
32:a:1327:C:O2'	32:a:1328:C:H5'	2.14	0.46
32:a:1328:C:O2'	32:a:1329:A:H5'	2.15	0.46
32:a:1433:A:H2'	32:a:1434:A:C8	2.50	0.46
32:a:1492:A:O5'	43:l:47:LYS:HE3	2.14	0.46
34:c:153:VAL:HA	34:c:197:GLY:O	2.14	0.46
36:e:39:GLY:HA2	36:e:69:VAL:CG1	2.45	0.46
37:f:16:GLN:O	37:f:20:ALA:N	2.30	0.46
38:g:108:ALA:HB1	38:g:120:ILE:HD13	1.97	0.46
39:h:36:LEU:HD12	39:h:59:LEU:HD13	1.97	0.46
39:h:116:LYS:NZ	39:h:127:LEU:HD23	2.30	0.46
45:n:29:ARG:HD3	45:n:40:CYS:HB2	1.97	0.46
47:p:1:MET:O	47:p:24:ALA:HB2	2.14	0.46
48:q:92:ARG:HD3	48:q:95:TYR:CE2	2.50	0.46
53:y:72:A:H2'	53:y:73:A:O4'	2.15	0.46
54:C:29:VAL:HG21	54:C:41:VAL:CG1	2.34	0.46
55:z:3:C:O2'	55:z:4:C:H5'	2.15	0.46
1:A:36:G:H4'	1:A:451:C:C2	2.51	0.46
1:A:51:G:H1'	1:A:118:A:N6	2.30	0.46
1:A:81:G:O2'	1:A:82:G:H5'	2.16	0.46
1:A:197:A:N6	1:A:2430:A:H2'	2.27	0.46
1:A:320:A:H4'	1:A:322:A:C8	2.50	0.46
1:A:336:C:O2'	20:Y:35:TYR:OH	2.34	0.46
1:A:580:C:H2'	1:A:581:C:H6	1.79	0.46
1:A:764:A:O4'	3:D:213:ARG:HG3	2.14	0.46
1:A:917:A:H5'	1:A:2268:A:N1	2.30	0.46
1:A:1051:G:O4'	1:A:2751:G:O2'	2.33	0.46
1:A:1296:G:O2'	1:A:1297:C:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1819:A:OP1	3:D:157:ARG:N	2.48	0.46
1:A:1885:A:H3'	1:A:1886:C:H6	1.80	0.46
1:A:2036:C:H2'	1:A:2037:G:H8	1.81	0.46
1:A:2244:U:H2'	1:A:2245:U:O4'	2.16	0.46
1:A:2349:G:H2'	1:A:2350:C:O4'	2.14	0.46
1:A:2406:U:H2'	1:A:2406:U:OP2	2.15	0.46
1:A:2416:C:H2'	1:A:2417:C:C6	2.50	0.46
1:A:2659:G:O2'	7:H:175:LYS:HE2	2.15	0.46
1:A:2684:U:OP1	15:T:53:ARG:HD3	2.16	0.46
1:A:2749:A:P	7:H:4:ILE:HD12	2.55	0.46
2:B:9:G:H2'	2:B:10:C:C6	2.51	0.46
2:B:14:U:H5'	2:B:70:C:O2	2.16	0.46
2:B:30:C:H2'	2:B:31:C:H5'	1.97	0.46
2:B:50:G:P	14:S:62:LYS:HB2	2.55	0.46
5:F:157:VAL:HG22	5:F:176:LEU:HB2	1.97	0.46
7:H:172:LYS:HB2	7:H:173:PRO:HD2	1.98	0.46
8:I:9:LEU:N	8:I:13:GLY:O	2.48	0.46
13:R:96:ARG:HG2	13:R:98:LEU:CD1	2.45	0.46
17:V:6:LYS:HE3	17:V:9:GLY:CA	2.46	0.46
18:W:3:ALA:CB	18:W:58:ALA:HB2	2.45	0.46
18:W:68:ARG:HH11	18:W:111:HIS:HA	1.79	0.46
20:Y:46:LYS:HA	20:Y:61:ILE:O	2.15	0.46
23:1:8:SER:HB3	23:1:66:HIS:CD2	2.50	0.46
23:1:60:PHE:CE1	23:1:91:LYS:HG3	2.45	0.46
32:a:251:G:H4'	32:a:252:U:O5'	2.15	0.46
32:a:303:A:O2'	32:a:304:U:H5'	2.15	0.46
32:a:404:U:OP2	35:d:118:ARG:NH2	2.46	0.46
32:a:515:G:O2'	32:a:516:PSU:H5"	2.14	0.46
32:a:619:U:N3	35:d:134:ASP:OD1	2.31	0.46
32:a:807:A:H2'	32:a:808:C:C6	2.50	0.46
32:a:938:A:H1'	32:a:1376:U:O2'	2.15	0.46
32:a:1470:G:O2'	32:a:1471:G:H5'	2.15	0.46
33:b:103:THR:CG2	33:b:176:GLU:HG2	2.39	0.46
35:d:116:GLN:NE2	35:d:157:LEU:HD11	2.30	0.46
36:e:92:LYS:O	36:e:118:ILE:HD12	2.16	0.46
40:i:48:GLU:OE1	40:i:51:ARG:HD2	2.15	0.46
41:j:38:ILE:HG12	41:j:71:LEU:O	2.15	0.46
43:l:70:ILE:CG1	43:l:100:ILE:HD12	2.45	0.46
44:m:3:ARG:HH22	44:m:45:VAL:CG1	2.28	0.46
48:q:4:LYS:HG3	48:q:6:LEU:CD1	2.46	0.46
48:q:48:GLU:OE1	48:q:50:LYS:HD3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:q:54:GLY:HA3	48:q:82:MET:SD	2.55	0.46
48:q:58:GLU:OE1	48:q:74:LEU:HD12	2.14	0.46
54:C:117:PRO:HD3	54:C:146:GLY:C	2.40	0.46
1:A:13:A:N1	1:A:525:U:H2'	2.30	0.46
1:A:52:A:H2'	1:A:53:A:C8	2.51	0.46
1:A:69:C:H2'	1:A:70:G:H8	1.81	0.46
1:A:111:A:O3'	24:2:65:ASN:ND2	2.47	0.46
1:A:321:G:C4'	5:F:168:ARG:HH21	2.29	0.46
1:A:573:G:OP2	17:V:78:LYS:NZ	2.30	0.46
1:A:635:C:O2'	1:A:636:G:H5'	2.16	0.46
1:A:1057:A:H2'	1:A:1058:G:C8	2.50	0.46
1:A:1422:G:H1'	1:A:1496:A:N1	2.30	0.46
1:A:1453:U:H5'	13:R:63:ARG:CZ	2.45	0.46
1:A:1496:A:H2'	1:A:1498:C:C5	2.50	0.46
1:A:1600:C:P	19:X:58:HIS:HE2	2.38	0.46
1:A:1642:G:H2'	1:A:1643:G:O4'	2.15	0.46
1:A:1664:A:O2'	10:O:67:LYS:NZ	2.44	0.46
1:A:2293:C:H2'	1:A:2294:C:C6	2.49	0.46
1:A:2387:U:H1'	22:0:41:ARG:HE	1.79	0.46
1:A:2697:G:O2'	1:A:2698:U:H5'	2.15	0.46
2:B:72:G:O2'	2:B:73:A:O4'	2.25	0.46
3:D:106:ILE:HD11	3:D:143:HIS:CD2	2.44	0.46
4:E:113:PHE:HA	4:E:159:HIS:HD2	1.80	0.46
5:F:160:ASN:ND2	5:F:163:VAL:HG23	2.29	0.46
7:H:9:ILE:CD1	7:H:69:ARG:HG2	2.46	0.46
7:H:89:ILE:H	7:H:89:ILE:HD12	1.80	0.46
10:O:5:GLN:N	10:O:21:CYS:O	2.42	0.46
10:O:49:ARG:HH22	32:a:1423:G:H5"	1.79	0.46
14:S:61:ASN:O	14:S:64:GLU:HB2	2.15	0.46
15:T:108:ARG:HH21	32:a:1464:G:H5"	1.80	0.46
16:U:32:PHE:HZ	16:U:36:ARG:HH21	1.63	0.46
16:U:101:ARG:C	16:U:103:PRO:HD3	2.40	0.46
20:Y:75:ILE:HD13	20:Y:82:PRO:CA	2.45	0.46
21:Z:5:LEU:HD13	21:Z:6:LYS:O	2.15	0.46
21:Z:53:ILE:HG22	21:Z:71:VAL:HB	1.97	0.46
21:Z:144:LEU:HD11	21:Z:150:LEU:CD1	2.44	0.46
31:9:27:CYS:SG	31:9:28:GLU:N	2.88	0.46
32:a:54:C:OP1	32:a:351:G:N2	2.49	0.46
32:a:60:A:H1'	32:a:61:G:OP2	2.15	0.46
32:a:71:C:C6	32:a:71:C:C2'	2.99	0.46
32:a:101:A:C2	32:a:152:A:H4'	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:254:G:H2'	32:a:255:G:C8	2.49	0.46
32:a:288:A:O2'	32:a:289:G:O3'	2.25	0.46
32:a:417:C:H2'	32:a:418:C:C6	2.50	0.46
32:a:426:G:H2'	32:a:427:U:O4'	2.15	0.46
32:a:432:A:H2'	32:a:433:C:O4'	2.16	0.46
32:a:518:C:H4'	32:a:519:C:H6	1.80	0.46
32:a:552:U:H1'	43:l:32:PHE:HE1	1.81	0.46
32:a:578:C:H2'	32:a:579:G:C8	2.49	0.46
32:a:796:C:O2'	32:a:797:C:H5'	2.15	0.46
32:a:1284:C:OP2	32:a:1285:A:O2'	2.21	0.46
33:b:210:SER:O	33:b:214:ILE:HG12	2.14	0.46
34:c:40:ARG:HD3	34:c:55:VAL:CG1	2.46	0.46
35:d:20:TYR:O	35:d:21:LEU:HD23	2.16	0.46
35:d:142:PRO:HA	35:d:185:PHE:HD2	1.81	0.46
36:e:8:GLU:HA	36:e:33:VAL:O	2.16	0.46
37:f:70:ASP:OD1	37:f:71:ARG:N	2.48	0.46
39:h:17:THR:HG22	39:h:63:LEU:HD23	1.97	0.46
40:i:17:VAL:HG11	40:i:80:GLY:C	2.39	0.46
43:l:75:HIS:ND1	43:l:77:LEU:HB2	2.29	0.46
44:m:91:ARG:HB2	44:m:98:VAL:HG13	1.97	0.46
45:n:50:LYS:HG2	45:n:52:GLN:NE2	2.31	0.46
47:p:19:ILE:HD11	47:p:39:TYR:HB2	1.96	0.46
47:p:39:TYR:CZ	47:p:41:PRO:HA	2.51	0.46
48:q:29:HIS:CG	48:q:30:PRO:HD2	2.50	0.46
52:u:15:ARG:HG3	52:u:17:THR:HG23	1.97	0.46
53:y:57:A:H2'	53:y:58:A:H5'	1.97	0.46
54:C:103:ILE:HD13	54:C:107:TRP:HE3	1.81	0.46
56:x:15:U:H2'	56:x:16:G:O4'	2.16	0.46
1:A:19:C:O2'	1:A:20:C:H5'	2.15	0.46
1:A:274:G:H2'	1:A:275:G:C8	2.50	0.46
1:A:336:C:O2'	1:A:337:C:H5'	2.14	0.46
1:A:621:A:H5'	11:P:108:LYS:NZ	2.30	0.46
1:A:674:G:H1'	5:F:74:ARG:CD	2.45	0.46
1:A:697:C:O2'	1:A:698:C:H5'	2.14	0.46
1:A:924:C:H2'	1:A:925:C:H6	1.80	0.46
1:A:996:A:OP2	16:U:93:LYS:NZ	2.43	0.46
1:A:1163:G:H5"	17:V:24:LYS:NZ	2.30	0.46
1:A:1255:U:C6	5:F:73:ALA:HA	2.51	0.46
1:A:1388:G:H2'	1:A:1389:G:C8	2.47	0.46
1:A:1528(B):A:H61	1:A:1541:G:H1'	1.79	0.46
1:A:1568:G:P	3:D:63:ARG:HH22	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1687:G:H2'	1:A:1688:U:C6	2.50	0.46
1:A:1718:G:H2'	1:A:1719:G:H8	1.80	0.46
1:A:1885:A:H2'	1:A:1886:C:O4'	2.15	0.46
1:A:1903:G:O2'	1:A:1904:G:H5'	2.15	0.46
1:A:1905:C:O2'	1:A:1929:G:H1'	2.15	0.46
1:A:2104:G:H2'	1:A:2105:C:C1'	2.45	0.46
1:A:2130:U:H5"	1:A:2133:G:OP1	2.15	0.46
1:A:2176:A:H4'	54:C:221:SER:CB	2.42	0.46
1:A:2253:G:H2'	1:A:2254:C:C6	2.50	0.46
1:A:2382:G:H21	30:8:42:ARG:NH2	2.12	0.46
1:A:2530:A:N7	7:H:172:LYS:NZ	2.58	0.46
1:A:2591:C:H2'	1:A:2592:G:H8	1.80	0.46
1:A:2675:A:O2'	1:A:2676:C:H5'	2.16	0.46
1:A:2704:C:H2'	1:A:2705:A:O4'	2.15	0.46
1:A:2730:C:O2'	1:A:2731:G:H5'	2.15	0.46
1:A:2746:U:H2'	1:A:2747:G:H5'	1.98	0.46
3:D:79:VAL:HG11	3:D:111:LEU:CD1	2.45	0.46
6:G:114:ILE:CB	6:G:117:PHE:HB2	2.37	0.46
7:H:98:LEU:HD12	7:H:102:ALA:O	2.15	0.46
7:H:101:ARG:CZ	7:H:117:PRO:HB2	2.46	0.46
8:I:78:THR:HA	8:I:143:SER:OG	2.15	0.46
10:O:88:ASN:HD21	10:O:92:GLU:HB2	1.80	0.46
12:Q:70:PRO:O	12:Q:93:TYR:HB3	2.15	0.46
31:9:2:LYS:HB2	31:9:34:GLN:HG2	1.97	0.46
32:a:63:C:H4'	32:a:380:G:O2'	2.14	0.46
32:a:412:A:P	35:d:35:ARG:HH22	2.38	0.46
32:a:643:C:H2'	32:a:644:G:H8	1.79	0.46
32:a:996:A:H2'	32:a:997:U:H6	1.75	0.46
32:a:1005:A:O2'	32:a:1037:C:O2	2.23	0.46
32:a:1009:G:N2	32:a:1020:U:O2	2.33	0.46
32:a:1014:A:H2'	32:a:1015:A:C8	2.51	0.46
32:a:1210:C:H5"	32:a:1211:U:OP2	2.15	0.46
32:a:1218:C:H2'	32:a:1219:U:H6	1.79	0.46
32:a:1255:G:N1	32:a:1279:A:N7	2.64	0.46
32:a:1509:C:O2'	32:a:1510:U:H5'	2.14	0.46
35:d:100:ARG:CZ	35:d:137:SER:HA	2.46	0.46
38:g:13:GLN:O	38:g:24:THR:HG21	2.14	0.46
46:o:15:PHE:CZ	46:o:85:LEU:HD21	2.50	0.46
53:y:23:C:H2'	53:y:24:U:H6	1.78	0.46
54:C:73:ARG:HB2	54:C:111:ASP:N	2.29	0.46
55:z:51:U:H2'	55:z:52:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(P):C:H2'	1:A:272(Q):G:H8	1.81	0.46
1:A:323:G:HO2'	1:A:1205:U:H3	1.53	0.46
1:A:359:A:C2'	1:A:360:G:H5'	2.45	0.46
1:A:825:C:H2'	1:A:826:U:O4'	2.16	0.46
1:A:1214:A:H61	1:A:1235:G:H1'	1.81	0.46
1:A:1612:C:H5'	29:7:7:PRO:HG3	1.97	0.46
1:A:1640:C:H2'	1:A:1641:A:O4'	2.16	0.46
1:A:1710:C:H2'	1:A:1711:C:C6	2.51	0.46
1:A:1710:C:H2'	1:A:1711:C:H6	1.80	0.46
1:A:1748:G:H2'	1:A:1749:A:H8	1.81	0.46
1:A:1823:G:OP1	3:D:54:ARG:NH1	2.48	0.46
1:A:1927:A:O2'	1:A:1928:A:H5'	2.14	0.46
1:A:2357:U:H5'	22:0:20:ARG:HH22	1.79	0.46
1:A:2515:C:H2'	1:A:2516:G:H8	1.80	0.46
1:A:2682:U:O2'	15:T:58:ASN:ND2	2.48	0.46
1:A:2751:G:C5	7:H:3:ARG:HB2	2.51	0.46
3:D:172:TYR:CD2	3:D:184:LYS:HB3	2.50	0.46
4:E:173:VAL:N	4:E:183:LEU:O	2.49	0.46
5:F:95:ARG:HD3	5:F:97:TYR:CZ	2.51	0.46
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.97	0.46
7:H:83:TYR:O	7:H:134:SER:HA	2.16	0.46
7:H:96:ALA:HB1	7:H:104:GLU:O	2.16	0.46
7:H:122:THR:HB	7:H:134:SER:OG	2.15	0.46
10:O:16:ALA:HA	10:O:46:ALA:CA	2.43	0.46
11:P:62:LEU:HD23	30:8:27:THR:CG2	2.46	0.46
11:P:101:VAL:HG22	11:P:106:LEU:O	2.15	0.46
15:T:31:SER:HB3	15:T:42:ILE:HG21	1.97	0.46
16:U:14:HIS:O	16:U:18:LEU:HG	2.15	0.46
26:4:40:HIS:O	26:4:44:THR:HG22	2.16	0.46
26:4:58:ARG:HG3	26:4:59:PHE:HB3	1.98	0.46
28:6:3:SER:OG	28:6:6:ARG:N	2.41	0.46
30:8:23:VAL:CG1	30:8:47:LYS:HD3	2.45	0.46
32:a:195:A:P	51:t:68:LYS:HZ2	2.39	0.46
32:a:313:A:O2'	32:a:314:C:H5'	2.15	0.46
32:a:638:G:H2'	32:a:639:G:H8	1.81	0.46
32:a:691:G:P	42:k:26:ASN:HD22	2.39	0.46
32:a:986:A:H1'	50:s:54:GLY:O	2.16	0.46
32:a:1402:4OC:HM22	32:a:1403:C:C5'	2.44	0.46
33:b:185:ILE:HG13	33:b:199:TYR:HB2	1.98	0.46
34:c:8:ILE:HD12	34:c:16:ARG:NH1	2.31	0.46
35:d:8:VAL:HG22	35:d:21:LEU:HD13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:5:GLU:HA	37:f:63:TYR:O	2.15	0.46
40:i:21:PRO:HA	40:i:59:PHE:HD1	1.80	0.46
40:i:106:ALA:O	40:i:108:VAL:HG23	2.16	0.46
49:r:31:LEU:CD1	49:r:66:LEU:HD13	2.46	0.46
54:C:3:HIS:HB2	54:C:8:ARG:CG	2.45	0.46
54:C:73:ARG:HA	54:C:157:LYS:NZ	2.30	0.46
1:A:112:U:H5'	24:2:65:ASN:ND2	2.31	0.46
1:A:273(G):C:O2'	1:A:273(H):C:H5'	2.15	0.46
1:A:833:U:O2'	30:8:57:ARG:NH1	2.48	0.46
1:A:923:C:H2'	1:A:924:C:H6	1.78	0.46
1:A:1131:G:OP1	9:N:80:GLY:N	2.38	0.46
1:A:1163:G:O2'	1:A:1164:G:H5'	2.15	0.46
1:A:1413:G:H2'	1:A:1414:G:H8	1.80	0.46
1:A:1426:G:N7	3:D:31:LYS:NZ	2.61	0.46
1:A:1448:G:H2'	1:A:1449:A:H8	1.80	0.46
1:A:1471:A:OP2	1:A:1519:G:N1	2.36	0.46
1:A:1687:G:O2'	1:A:1688:U:H5'	2.15	0.46
1:A:1805:U:H5"	3:D:250:TRP:CD2	2.50	0.46
1:A:2199:A:H3'	1:A:2200:C:H6	1.79	0.46
1:A:2225:A:H4'	1:A:2226:C:O5'	2.16	0.46
1:A:2600:A:O2'	1:A:2601:C:H5'	2.15	0.46
1:A:2640:G:OP1	9:N:97:ARG:NH1	2.46	0.46
1:A:2752:C:H2'	1:A:2753:A:O4'	2.16	0.46
1:A:2811:G:O2'	1:A:2812:G:H5'	2.16	0.46
2:B:107:G:H2'	2:B:108:U:H6	1.80	0.46
3:D:156:ALA:HB2	3:D:178:PRO:HD3	1.97	0.46
7:H:4:ILE:CA	7:H:7:LEU:HD23	2.36	0.46
12:Q:43:THR:HA	12:Q:94:VAL:HA	1.97	0.46
14:S:26:LEU:HB3	14:S:87:PHE:HA	1.98	0.46
16:U:108:GLU:O	16:U:111:GLU:HB3	2.15	0.46
18:W:105:VAL:HG12	18:W:107:LEU:CD1	2.46	0.46
21:Z:111:VAL:CG2	21:Z:117:LEU:HB2	2.45	0.46
21:Z:116:VAL:CG2	21:Z:177:PRO:HA	2.46	0.46
26:4:59:PHE:HB2	26:4:61:ARG:N	2.30	0.46
32:a:64:G:C3'	32:a:71:C:C4	2.98	0.46
32:a:282:A:H3'	32:a:283:C:C6	2.50	0.46
32:a:301:G:H4'	32:a:564:C:N4	2.31	0.46
32:a:352:C:H4'	32:a:354:G:OP1	2.15	0.46
32:a:626:U:OP1	47:p:35:LYS:NZ	2.26	0.46
32:a:638:G:O2'	32:a:639:G:H5'	2.16	0.46
32:a:646:U:O2'	32:a:647:C:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:949:A:O2'	32:a:950:U:H5'	2.16	0.46
32:a:1040:U:H2'	32:a:1041:A:C1'	2.46	0.46
32:a:1189:C:H4'	34:c:10:PHE:CE1	2.50	0.46
33:b:61:LEU:CG	33:b:66:GLY:HA3	2.46	0.46
35:d:159:ARG:O	35:d:163:GLU:N	2.42	0.46
36:e:89:ILE:CD1	36:e:122:GLU:HG2	2.45	0.46
37:f:12:PRO:HB3	37:f:45:LEU:HG	1.97	0.46
38:g:20:ASP:OD1	38:g:21:VAL:N	2.48	0.46
38:g:31:MET:SD	38:g:34:GLY:HA2	2.56	0.46
41:j:25:GLU:O	41:j:29:ARG:N	2.48	0.46
44:m:44:ARG:O	44:m:48:LEU:HG	2.16	0.46
49:r:25:THR:C	49:r:26:LEU:HD22	2.40	0.46
50:s:33:THR:HG21	50:s:51:VAL:HG22	1.96	0.46
1:A:182:A:H61	1:A:215:G:H1	1.62	0.46
1:A:438:G:H2'	1:A:440:G:C8	2.51	0.46
1:A:483:A:H1'	20:Y:59:GLY:O	2.15	0.46
1:A:623:G:O2'	1:A:624:C:H5'	2.16	0.46
1:A:742:G:H2'	1:A:743:G:H8	1.80	0.46
1:A:824:A:H2'	1:A:825:C:C6	2.51	0.46
1:A:1007:C:OP1	9:N:37:LYS:NZ	2.34	0.46
1:A:1199:U:H2'	1:A:1200:C:C6	2.50	0.46
1:A:1315:C:H1'	1:A:1393:A:N3	2.31	0.46
1:A:1364:G:OP1	23:1:2:SER:HA	2.15	0.46
1:A:1668:A:H4'	1:A:1669:A:O5'	2.15	0.46
1:A:1820:U:O2'	3:D:159:ALA:HB3	2.16	0.46
1:A:2131:G:N7	1:A:2158:A:N6	2.64	0.46
1:A:2370:G:H2'	1:A:2371:G:C8	2.51	0.46
1:A:2732:G:H5"	1:A:2733:A:O4'	2.16	0.46
1:A:2772:C:H2'	1:A:2773:C:C6	2.51	0.46
3:D:133:LEU:HB3	3:D:173:VAL:HG21	1.98	0.46
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.46
6:G:66:GLN:OE1	6:G:94:LEU:HD23	2.15	0.46
7:H:24:VAL:O	7:H:34:GLU:HB2	2.15	0.46
7:H:122:THR:HG22	7:H:124:GLU:HG3	1.96	0.46
10:O:53:LYS:HD3	10:O:53:LYS:H	1.81	0.46
11:P:84:ASN:OD1	11:P:115:LEU:HB2	2.16	0.46
14:S:51:ALA:CB	14:S:73:LEU:HD13	2.45	0.46
14:S:65:VAL:O	14:S:69:VAL:HG12	2.15	0.46
19:X:64:LYS:HE3	19:X:73:ARG:CZ	2.46	0.46
32:a:342:C:H2'	32:a:343:U:O4'	2.16	0.46
32:a:597:G:C2'	32:a:598:U:H5'	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:738:C:H2'	32:a:739:C:H6	1.80	0.46
32:a:794:A:O2'	32:a:795:C:H5'	2.16	0.46
32:a:893:C:H2'	32:a:894:G:H8	1.81	0.46
32:a:1134:G:N1	32:a:1135:U:H1'	2.31	0.46
32:a:1477:C:H2'	32:a:1478:C:H6	1.81	0.46
32:a:1516:G:N1	32:a:1519:MA6:OP2	2.48	0.46
33:b:35:GLU:HG3	33:b:39:ILE:C	2.40	0.46
33:b:110:GLN:HA	33:b:113:HIS:CD2	2.43	0.46
35:d:92:VAL:O	35:d:96:LEU:HD13	2.16	0.46
38:g:15:ASP:N	38:g:24:THR:OG1	2.49	0.46
40:i:65:VAL:HG21	40:i:73:GLN:CB	2.44	0.46
43:l:45:PRO:HD3	43:l:53:ARG:HG2	1.98	0.46
44:m:51:ALA:HA	44:m:54:VAL:CG2	2.46	0.46
45:n:27:CYS:SG	45:n:29:ARG:HB2	2.56	0.46
48:q:68:ARG:HG3	48:q:68:ARG:O	2.16	0.46
53:y:14:A:O2'	53:y:15:G:H5'	2.16	0.46
1:A:142(A):A:H5"	1:A:142(B):C:OP2	2.16	0.46
1:A:145:G:O2'	1:A:146:G:H5'	2.16	0.46
1:A:282:A:N7	1:A:358:U:C2	2.84	0.46
1:A:327:G:N2	20:Y:70:SER:OG	2.49	0.46
1:A:370:G:H3'	1:A:423:A:C6	2.51	0.46
1:A:425:G:O2'	1:A:426:C:H5'	2.16	0.46
1:A:500:G:H22	1:A:503:A:P	2.39	0.46
1:A:538:G:H1	1:A:555:U:H3	1.63	0.46
1:A:702:G:O2'	1:A:703:U:H5'	2.16	0.46
1:A:771:G:P	29:7:10:ARG:HE	2.39	0.46
1:A:1106:G:O2'	1:A:1107:G:H5'	2.15	0.46
1:A:1388:G:O2'	1:A:1389:G:H5'	2.16	0.46
1:A:1601:G:H2'	1:A:1602:U:O4'	2.16	0.46
1:A:1795:C:O2'	1:A:1796:U:H5'	2.16	0.46
1:A:2029:G:H2'	1:A:2031:A:OP1	2.15	0.46
1:A:2118:U:C3'	1:A:2119:A:H5"	2.46	0.46
1:A:2128:C:C5'	54:C:6:ARG:HH21	2.29	0.46
1:A:2137:C:H2'	1:A:2138:C:H6	1.81	0.46
1:A:2140:C:H2'	1:A:2141:G:H8	1.81	0.46
1:A:2462:U:H2'	1:A:2463:C:H6	1.80	0.46
1:A:2593:U:O2'	1:A:2594:C:H5'	2.15	0.46
1:A:2596:U:H2'	1:A:2597:G:O4'	2.16	0.46
1:A:2751:G:N7	7:H:3:ARG:HD2	2.30	0.46
2:B:61:G:H2'	2:B:62:C:H6	1.80	0.46
2:B:61:G:O2'	2:B:62:C:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:78:LYS:HG3	3:D:114:GLY:O	2.16	0.46
5:F:32:LEU:O	5:F:36:VAL:HG23	2.16	0.46
6:G:25:TYR:HB3	6:G:30:GLU:HB2	1.98	0.46
7:H:9:ILE:HD11	7:H:69:ARG:CA	2.41	0.46
7:H:41:MET:HE3	7:H:65:HIS:N	2.30	0.46
8:I:92:VAL:CG2	8:I:120:ILE:HB	2.46	0.46
17:V:5:VAL:HG12	17:V:37:VAL:HG22	1.98	0.46
17:V:39:LEU:CG	17:V:47:VAL:HA	2.40	0.46
24:2:31:GLU:HG2	24:2:53:LEU:HD11	1.98	0.46
26:4:12:ALA:HB3	26:4:24:THR:HG23	1.98	0.46
32:a:63:C:H1'	32:a:380:G:H4'	1.98	0.46
32:a:191:G:H2'	32:a:192:U:C6	2.51	0.46
32:a:235:C:H2'	32:a:236:G:C8	2.50	0.46
32:a:376:G:OP1	47:p:67:THR:OG1	2.16	0.46
32:a:413:G:H1'	32:a:428:G:H21	1.81	0.46
32:a:502:G:H2'	32:a:503:C:C6	2.51	0.46
32:a:585:G:H2'	32:a:586:C:O4'	2.15	0.46
32:a:595:G:H1'	32:a:596:C:C5	2.46	0.46
32:a:629:G:H2'	32:a:630:G:O4'	2.16	0.46
32:a:707:C:OP1	42:k:85:ARG:HD2	2.16	0.46
32:a:709:G:O2'	32:a:710:G:H5'	2.15	0.46
32:a:741:G:O2'	32:a:742:G:H5'	2.16	0.46
32:a:939:G:H5'	38:g:102:ARG:CZ	2.46	0.46
32:a:1110:A:H2'	32:a:1111:A:O4'	2.16	0.46
32:a:1397:C:O2'	32:a:1398:A:H5'	2.16	0.46
35:d:127:THR:HG22	35:d:132:ARG:HA	1.96	0.46
40:i:84:ALA:O	40:i:87:GLN:HB3	2.16	0.46
47:p:34:GLU:O	47:p:36:ILE:HG23	2.16	0.46
48:q:56:VAL:HG23	48:q:81:ARG:HG3	1.97	0.46
51:t:31:SER:O	51:t:35:THR:OG1	2.33	0.46
51:t:41:ILE:HG23	51:t:91:LEU:CD1	2.40	0.46
54:C:95:GLY:HA2	54:C:99:ILE:CG2	2.46	0.46
54:C:132:GLY:HA2	54:C:137:LEU:HB2	1.97	0.46
55:z:42:C:C3'	55:z:43:C:H4'	2.44	0.46
1:A:273(F):G:O2'	1:A:273(G):C:H5'	2.16	0.46
1:A:783:A:H2'	1:A:784:A:H4'	1.97	0.46
1:A:959:A:O2'	1:A:960:A:H5'	2.15	0.46
1:A:966:G:H2'	1:A:967:C:C6	2.50	0.46
1:A:1071:G:H2'	1:A:1072:C:C6	2.51	0.46
1:A:1120:G:O2'	1:A:1121:C:H5'	2.16	0.46
1:A:1154:G:P	16:U:58:ARG:HE	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1190:G:H5”	11:P:32:THR:O	2.16	0.46
1:A:1461:G:H2’	1:A:1462:C:H6	1.81	0.46
1:A:1990:C:H2’	1:A:1991:U:O4’	2.16	0.46
1:A:2074:U:O2’	1:A:2597:G:H1’	2.15	0.46
1:A:2130:U:O3’	1:A:2133:G:H4’	2.15	0.46
1:A:2336:A:H61	22:0:43:THR:HG22	1.81	0.46
1:A:2485:G:C2’	1:A:2486:G:H5’	2.46	0.46
1:A:2589:A:H2’	1:A:2590:A:H8	1.81	0.46
1:A:2751:G:H3’	1:A:2752:C:C6	2.49	0.46
1:A:2846:G:H2’	1:A:2847:U:H6	1.80	0.46
2:B:2:C:H2’	2:B:3:C:H6	1.80	0.46
2:B:96:U:H2’	2:B:97:G:H8	1.81	0.46
5:F:153:SER:O	5:F:189:THR:HB	2.16	0.46
5:F:183:VAL:O	5:F:187:VAL:HG23	2.16	0.46
6:G:11:TYR:OH	6:G:33:ARG:HG2	2.16	0.46
6:G:113:ARG:HD2	6:G:140:ILE:O	2.15	0.46
8:I:47:LEU:HD11	8:I:51:ILE:HD11	1.98	0.46
9:N:84:LYS:O	9:N:85:ILE:HD13	2.15	0.46
14:S:74:ALA:HB2	14:S:105:ALA:HA	1.98	0.46
15:T:68:TYR:O	15:T:70:VAL:HG23	2.16	0.46
17:V:62:LEU:CD2	17:V:95:LEU:HB2	2.45	0.46
25:3:23:LEU:CD2	25:3:50:VAL:HG11	2.46	0.46
27:5:11:THR:HG21	27:5:19:ARG:HH21	1.80	0.46
32:a:55:A:H2’	32:a:56:U:H5’	1.98	0.46
32:a:72:C:H42	32:a:76:C:H5”	1.79	0.46
32:a:106:C:O2’	32:a:379:C:OP1	2.33	0.46
32:a:200:G:H2’	32:a:201:C:C6	2.51	0.46
32:a:232:G:H2’	32:a:233:C:O4’	2.15	0.46
32:a:261:U:OP2	51:t:79:ARG:NH2	2.48	0.46
32:a:324:G:P	51:t:22:ARG:HH21	2.39	0.46
32:a:342:C:O2’	32:a:343:U:H5’	2.15	0.46
32:a:627:G:O2’	32:a:628:G:H5’	2.16	0.46
32:a:786:G:H2’	32:a:787:A:O4’	2.15	0.46
32:a:919:A:O2’	32:a:920:U:H5’	2.16	0.46
32:a:935:A:H1’	32:a:1384:C:N3	2.30	0.46
32:a:1003:G:O6	32:a:1038:C:N4	2.49	0.46
32:a:1066:C:O2’	32:a:1067:A:H5’	2.16	0.46
32:a:1073:U:O2’	33:b:104:ASN:OD1	2.15	0.46
32:a:1194:U:H2’	32:a:1195:C:C6	2.51	0.46
32:a:1208:C:H2’	32:a:1209:C:O4’	2.16	0.46
32:a:1308:U:H2’	32:a:1309:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1379:G:O2'	32:a:1380:U:H5'	2.15	0.46
32:a:1497:G:H1'	32:a:1518:MA6:C2	2.44	0.46
32:a:1517:G:H2'	32:a:1518:MA6:H8	1.98	0.46
33:b:54:THR:OG1	33:b:201:ILE:HD11	2.16	0.46
39:h:55:GLY:O	39:h:56:LYS:HD3	2.16	0.46
43:l:33:ARG:HD2	43:l:61:THR:OG1	2.16	0.46
54:C:22:ILE:HG23	54:C:189:ILE:CG2	2.45	0.46
1:A:82:G:H2'	1:A:83:G:C8	2.50	0.46
1:A:188:G:H2'	1:A:189:G:H5'	1.98	0.46
1:A:556:G:O2'	1:A:557:U:H5'	2.16	0.46
1:A:627:A:N6	1:A:637:A:O5'	2.40	0.46
1:A:690:G:O2'	1:A:691:C:H5'	2.16	0.46
1:A:858:U:O2	1:A:2268:A:H2'	2.16	0.46
1:A:980:A:O2'	1:A:981:A:H5'	2.15	0.46
1:A:992:C:O2'	1:A:993:G:H5'	2.16	0.46
1:A:1515:G:O2'	1:A:1516:C:H5'	2.16	0.46
1:A:2273:A:O2'	1:A:2274:A:H5'	2.16	0.46
1:A:2477:C:H1'	1:A:2481:G:O6	2.15	0.46
1:A:2765:A:H3'	1:A:2766:G:C5'	2.46	0.46
1:A:2801(B):A:H3'	1:A:2802:G:H5'	1.98	0.46
1:A:2832:U:H1'	1:A:2833:G:OP2	2.16	0.46
2:B:30:C:H1'	2:B:57:A:H61	1.81	0.46
2:B:96:U:H2'	2:B:97:G:C8	2.51	0.46
4:E:53:PRO:O	4:E:76:ARG:HG3	2.15	0.46
4:E:101:ARG:HA	4:E:170:LEU:O	2.16	0.46
5:F:34:TRP:CE2	11:P:8:PRO:HD3	2.51	0.46
8:I:127:VAL:CG2	8:I:139:GLN:HB3	2.46	0.46
9:N:14:VAL:HG13	9:N:138:LEU:HD12	1.98	0.46
9:N:107:LEU:HB3	9:N:108:PRO:HD2	1.98	0.46
10:O:34:THR:HG22	10:O:37:ASP:OD2	2.15	0.46
10:O:107:ARG:CG	10:O:115:VAL:HG11	2.46	0.46
11:P:148:LEU:H	11:P:148:LEU:HD23	1.80	0.46
15:T:26:ASP:OD2	15:T:120:ARG:NH1	2.41	0.46
19:X:20:GLY:HA2	19:X:23:GLU:HG2	1.97	0.46
21:Z:24:LEU:HB3	21:Z:39:VAL:HG22	1.98	0.46
21:Z:117:LEU:HD12	21:Z:173:ALA:O	2.16	0.46
30:8:39:LYS:HA	30:8:42:ARG:NH1	2.31	0.46
32:a:36:C:H2'	32:a:37:U:O4'	2.14	0.46
32:a:109:A:N6	32:a:324:G:H1'	2.30	0.46
32:a:203:U:H4'	32:a:204:U:OP1	2.15	0.46
32:a:292:G:H1'	32:a:608:A:N6	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:358:U:O2'	32:a:359:U:H5'	2.16	0.46
32:a:448:A:O5'	32:a:485:G:N2	2.42	0.46
32:a:474:G:H2'	32:a:475:G:C8	2.49	0.46
32:a:624:C:H4'	47:p:10:GLY:O	2.16	0.46
32:a:671:G:H2'	32:a:672:U:O4'	2.16	0.46
32:a:691:G:O2'	32:a:797:C:H4'	2.16	0.46
32:a:748:C:H1'	32:a:749:C:OP2	2.15	0.46
32:a:877:C:H2'	32:a:878:G:C8	2.50	0.46
32:a:966:M2G:C2	53:y:34:C:H5'	2.51	0.46
32:a:1112:C:C2	34:c:178:LEU:HB2	2.50	0.46
32:a:1214:C:O2'	32:a:1215:G:H5'	2.15	0.46
32:a:1251:A:H2'	32:a:1252:A:O4'	2.16	0.46
32:a:1463:C:H2'	32:a:1464:G:H8	1.80	0.46
32:a:1541:U:H2'	32:a:1542:G:O4'	2.15	0.46
33:b:71:VAL:HA	33:b:93:VAL:HG22	1.97	0.46
37:f:91:VAL:HG11	49:r:72:ARG:NH1	2.30	0.46
38:g:89:MET:SD	38:g:155:ARG:HB2	2.56	0.46
38:g:91:VAL:CG1	38:g:96:GLN:HG3	2.46	0.46
38:g:100:ALA:O	38:g:104:LEU:HD13	2.16	0.46
40:i:17:VAL:HG11	40:i:80:GLY:O	2.16	0.46
41:j:16:LEU:HD12	41:j:68:HIS:HB2	1.97	0.46
41:j:81:THR:HG22	41:j:84:GLN:OE1	2.16	0.46
42:k:27:ASN:OD1	42:k:28:THR:N	2.49	0.46
42:k:48:ILE:CD1	42:k:64:ALA:HA	2.43	0.46
53:y:5:G:H2'	53:y:6:G:H8	1.81	0.46
54:C:20:TYR:HB3	54:C:25:ALA:HB2	1.98	0.46
54:C:153:ILE:CA	54:C:156:ILE:HD12	2.44	0.46
55:z:33:U:O2'	55:z:36:A:N6	2.49	0.46
1:A:44:G:H5"	1:A:45:C:OP1	2.16	0.45
1:A:141:A:H3'	1:A:141:A:OP2	2.16	0.45
1:A:246:C:C2'	1:A:247:G:H5'	2.46	0.45
1:A:350:U:H2'	1:A:351:G:C8	2.50	0.45
1:A:504:U:H5"	1:A:505:A:C5'	2.46	0.45
1:A:808:G:O2'	1:A:809:G:H5'	2.17	0.45
1:A:1042:G:O2'	1:A:1043:C:H5'	2.15	0.45
1:A:1150:C:H2'	1:A:1151:G:C8	2.50	0.45
1:A:1461:G:H2'	1:A:1462:C:C6	2.50	0.45
1:A:1511:C:O2'	1:A:1512:U:H5'	2.16	0.45
1:A:1742:G:H2'	1:A:1743:C:H6	1.78	0.45
1:A:1806:C:O2'	3:D:46:GLN:OE1	2.23	0.45
1:A:2009:G:H1'	13:R:107:ASP:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2113:U:N3	1:A:2168:G:H4'	2.15	0.45
1:A:2307:G:H4'	1:A:2308:G:O4'	2.15	0.45
1:A:2521:C:H2'	1:A:2522:U:O4'	2.16	0.45
1:A:2746:U:C2'	1:A:2747:G:H5'	2.45	0.45
5:F:81:PRO:HA	5:F:87:GLY:O	2.16	0.45
6:G:117:PHE:HZ	6:G:179:PRO:HG2	1.79	0.45
6:G:132:ASN:OD1	6:G:158:ALA:HA	2.17	0.45
9:N:89:LYS:O	9:N:93:THR:HG23	2.16	0.45
12:Q:97:VAL:HG13	12:Q:101:ARG:HG2	1.98	0.45
15:T:49:VAL:HG13	15:T:49:VAL:O	2.15	0.45
15:T:78:LEU:O	15:T:78:LEU:HD13	2.16	0.45
18:W:59:VAL:O	18:W:63:ASP:HA	2.15	0.45
19:X:23:GLU:OE2	19:X:25:LYS:HD2	2.16	0.45
30:8:25:MET:HE1	30:8:45:GLY:O	2.15	0.45
32:a:9:G:O2'	32:a:10:A:H5'	2.16	0.45
32:a:41:G:H2'	32:a:42:G:H8	1.82	0.45
32:a:68:G:H3'	32:a:76:C:C4	2.51	0.45
32:a:76:C:H2'	32:a:76:C:O2	2.15	0.45
32:a:189(H):G:H4'	32:a:189(I):G:OP2	2.17	0.45
32:a:277:C:OP1	48:q:41:LYS:HE3	2.16	0.45
32:a:304:U:O2'	32:a:305:G:H5'	2.16	0.45
32:a:324:G:N1	32:a:327:A:OP2	2.50	0.45
32:a:338:A:O2'	32:a:339:C:H5'	2.16	0.45
32:a:423:G:H2'	32:a:424:G:O4'	2.16	0.45
32:a:429:U:H4'	32:a:430:A:C5'	2.46	0.45
32:a:456:C:H2'	32:a:457:C:C6	2.51	0.45
32:a:545:C:H5'	35:d:72:GLU:HB2	1.97	0.45
32:a:893:C:O2'	32:a:894:G:H5'	2.16	0.45
32:a:940:C:O2'	32:a:941:G:H5'	2.17	0.45
32:a:949:A:H2'	32:a:950:U:C6	2.51	0.45
32:a:1244:C:H2'	32:a:1245:A:H8	1.78	0.45
32:a:1249:C:C1'	40:i:70:LYS:HE3	2.46	0.45
32:a:1312:G:H2'	32:a:1313:U:C6	2.51	0.45
32:a:1381:U:H2'	32:a:1382:C:C6	2.51	0.45
32:a:1491:G:HO2'	32:a:1492:A:P	2.35	0.45
36:e:99:GLY:HA2	36:e:116:THR:O	2.16	0.45
37:f:24:GLU:O	37:f:28:ARG:HG3	2.16	0.45
39:h:121:ASP:OD1	39:h:122:ARG:N	2.48	0.45
42:k:65:ALA:HB3	42:k:97:ALA:CB	2.42	0.45
47:p:20:VAL:HG21	47:p:32:TYR:HB2	1.99	0.45
51:t:60:GLU:HG3	51:t:81:LYS:HD2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:10:LEU:HD21	54:C:34:THR:HG23	1.96	0.45
54:C:59:ARG:HA	54:C:163:PHE:O	2.16	0.45
1:A:17:G:C5'	27:5:14:ALA:HB2	2.47	0.45
1:A:20:C:O2'	1:A:21:A:H5'	2.16	0.45
1:A:39:C:H2'	1:A:40:C:H6	1.80	0.45
1:A:214:G:H2'	1:A:215:G:C8	2.51	0.45
1:A:242:G:H5'	30:8:64:TYR:CG	2.51	0.45
1:A:363(F):U:H3'	1:A:363(G):A:H8	1.80	0.45
1:A:440:G:H2'	1:A:441:U:H6	1.81	0.45
1:A:535:C:H2'	1:A:536:A:C8	2.52	0.45
1:A:671:C:O2'	1:A:672:C:H5'	2.16	0.45
1:A:886:C:O3'	1:A:887:A:H4'	2.15	0.45
1:A:886:C:O2'	1:A:889:C:N4	2.50	0.45
1:A:888:C:H5'	44:m:93:ARG:CG	2.44	0.45
1:A:1005:C:H1'	1:A:1012:U:N3	2.31	0.45
1:A:1042:G:C6	1:A:1113:U:O2	2.69	0.45
1:A:1281:G:O2'	1:A:1282:U:H5'	2.15	0.45
1:A:1497:U:H3'	1:A:1498:C:C6	2.51	0.45
1:A:1498:C:H3'	1:A:1498:C:OP2	2.16	0.45
1:A:1599:C:O2'	1:A:1600:C:H5'	2.15	0.45
1:A:1754:C:H2'	1:A:1755:A:O4'	2.16	0.45
1:A:1777:U:O2'	1:A:1778:U:H5'	2.16	0.45
1:A:1797:C:O2'	1:A:1798:U:H5'	2.15	0.45
1:A:2224:G:P	1:A:2226:C:H41	2.38	0.45
1:A:2784:C:H2'	1:A:2785:C:C6	2.52	0.45
1:A:2810:A:O3'	4:E:61:ARG:HD3	2.16	0.45
3:D:76:PRO:HB2	3:D:116:GLN:HE21	1.81	0.45
4:E:47:VAL:HG13	4:E:84:PHE:O	2.16	0.45
5:F:24:LEU:CD2	5:F:115:ALA:HA	2.46	0.45
6:G:33:ARG:O	6:G:161:THR:HG23	2.16	0.45
7:H:87:LEU:CD2	7:H:164:TYR:HA	2.45	0.45
10:O:13:ASN:ND2	10:O:96:THR:OG1	2.30	0.45
12:Q:75:THR:HG23	12:Q:89:ASN:O	2.17	0.45
17:V:39:LEU:HG	17:V:46:VAL:O	2.16	0.45
18:W:35:ILE:O	18:W:39:THR:OG1	2.20	0.45
19:X:55:ASN:O	19:X:79:ALA:HA	2.16	0.45
21:Z:126:VAL:CG1	21:Z:162:GLU:H	2.29	0.45
21:Z:157:LEU:HD22	21:Z:161:VAL:HG11	1.97	0.45
24:2:52:ASP:O	24:2:56:GLN:HG3	2.16	0.45
25:3:8:LEU:HD12	25:3:31:LEU:HA	1.98	0.45
31:9:11:CYS:N	31:9:14:CYS:SG	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:529:G:O6	43:l:49:ASN:HA	2.16	0.45
32:a:767:A:H2'	32:a:768:A:O4'	2.16	0.45
32:a:808:C:O2'	32:a:809:G:H5'	2.15	0.45
32:a:903:G:H2'	32:a:904:C:H6	1.82	0.45
32:a:1005:A:H5"	32:a:1006:C:C5	2.41	0.45
32:a:1372:U:H2'	32:a:1373:G:O4'	2.16	0.45
32:a:1478:C:O2'	32:a:1479:C:H5'	2.16	0.45
32:a:1524:C:O2'	32:a:1525:G:H5'	2.15	0.45
34:c:112:SER:OG	34:c:114:PRO:HG2	2.16	0.45
35:d:9:CYS:HB3	35:d:32:ALA:HB3	1.98	0.45
38:g:73:MET:CE	38:g:90:GLU:HG3	2.36	0.45
48:q:41:LYS:HE2	48:q:92:ARG:HH21	1.81	0.45
49:r:53:ARG:NH2	49:r:59:SER:HA	2.31	0.45
54:C:124:GLY:O	54:C:128:GLY:HA2	2.16	0.45
55:z:28:G:H1'	55:z:29:G:N7	2.31	0.45
55:z:33:U:H2'	55:z:35:A:OP2	2.16	0.45
55:z:64:A:H2'	55:z:65:G:O4'	2.16	0.45
1:A:436:C:H2'	1:A:437:G:C8	2.51	0.45
1:A:475:U:H2'	1:A:476:G:O4'	2.17	0.45
1:A:741:G:O2'	1:A:742:G:H5'	2.17	0.45
1:A:1652:A:O2'	1:A:1653:G:H5'	2.16	0.45
1:A:1853:A:O2'	1:A:1854:A:H5'	2.16	0.45
1:A:1920:4OC:O5'	1:A:1920:4OC:H6	2.16	0.45
1:A:1921:G:O2'	1:A:1922:G:H5'	2.16	0.45
1:A:1983:C:C3'	1:A:1984:G:H5"	2.46	0.45
1:A:2114:A:H3'	1:A:2115:G:C8	2.51	0.45
1:A:2118:U:OP1	1:A:2148:G:O2'	2.22	0.45
1:A:2124:G:N3	54:C:217:THR:HG23	2.31	0.45
1:A:2293:C:O2'	1:A:2294:C:H5'	2.16	0.45
1:A:2696:U:O2'	1:A:2697:G:H5'	2.16	0.45
1:A:2716:U:H2'	1:A:2717:G:H8	1.82	0.45
1:A:2767:C:O2'	1:A:2768:C:H5'	2.16	0.45
1:A:2808:U:O2	1:A:2892:A:C6	2.69	0.45
2:B:92:C:OP2	12:Q:18:LYS:HB2	2.17	0.45
3:D:127:VAL:HA	3:D:193:VAL:HG23	1.98	0.45
3:D:132:PRO:O	3:D:136:ILE:HG13	2.15	0.45
4:E:178:GLU:HG2	4:E:179:GLU:HG2	1.97	0.45
10:O:9:GLU:OE2	10:O:18:LYS:HE3	2.16	0.45
10:O:17:ARG:HB2	10:O:45:GLU:HG2	1.99	0.45
12:Q:55:VAL:HG13	21:Z:183:LEU:HD11	1.98	0.45
18:W:82:LEU:HB3	18:W:84:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:X:7:VAL:O	19:X:9:LEU:HG	2.16	0.45
20:Y:83:THR:HG21	20:Y:99:CYS:SG	2.56	0.45
32:a:73:G:C1’	32:a:199:G:H4’	2.46	0.45
32:a:261:U:H2’	32:a:263:A:OP2	2.16	0.45
32:a:616:G:H2’	32:a:617:G:C8	2.50	0.45
32:a:746:A:H2’	32:a:747:C:H6	1.82	0.45
32:a:984:C:O2’	32:a:985:C:H5’	2.16	0.45
32:a:1324:A:O2’	32:a:1325:C:H5’	2.16	0.45
33:b:25:ASN:ND2	33:b:193:ASP:HA	2.32	0.45
33:b:91:PRO:HB3	33:b:155:LEU:N	2.31	0.45
33:b:207:ALA:HB3	33:b:210:SER:OG	2.15	0.45
34:c:82:GLU:HA	34:c:85:ARG:CZ	2.47	0.45
35:d:155:LEU:HD23	35:d:157:LEU:N	2.31	0.45
36:e:10:MET:HE3	56:x:25:A:H61	1.80	0.45
40:i:29:ASN:OD1	40:i:64:THR:OG1	2.08	0.45
45:n:2:ALA:O	45:n:6:LEU:HD13	2.17	0.45
51:t:58:LYS:HE3	51:t:62:LEU:HD11	1.98	0.45
54:C:46:LYS:HE2	54:C:210:ARG:NH1	2.31	0.45
54:C:215:THR:HA	54:C:220:PRO:O	2.16	0.45
1:A:205:G:O6	23:1:39:LYS:NZ	2.48	0.45
1:A:262:A:H2’	1:A:263:C:C6	2.52	0.45
1:A:414:C:O2	1:A:1864:U:O2’	2.31	0.45
1:A:416:C:O2’	1:A:417:C:H5’	2.16	0.45
1:A:534:U:H2’	1:A:535:C:H6	1.79	0.45
1:A:768:G:O2’	1:A:1379:A:N1	2.44	0.45
1:A:777:A:O2’	1:A:778:G:H5’	2.17	0.45
1:A:980:A:H2’	1:A:981:A:O4’	2.16	0.45
1:A:1060:U:H1’	1:A:1070:A:C8	2.51	0.45
1:A:1130:U:C2	1:A:2025:C:H5”	2.52	0.45
1:A:1367:A:N7	1:A:1368:G:H1’	2.31	0.45
1:A:1529:G:C2’	1:A:1530:C:H5’	2.47	0.45
1:A:1782:C:O2	1:A:2608:G:O2’	2.33	0.45
1:A:2169:A:N3	55:z:56:C:H2’	2.31	0.45
1:A:2507:C:H2’	1:A:2508:G:H5’	1.97	0.45
1:A:2588:G:C2’	1:A:2589:A:H5’	2.46	0.45
1:A:2683:C:H5”	15:T:53:ARG:HH12	1.81	0.45
1:A:2816:C:N4	1:A:2831:G:O6	2.49	0.45
1:A:2886:G:H2’	1:A:2887:U:H6	1.80	0.45
4:E:14:ILE:CD1	4:E:16:ARG:HB2	2.47	0.45
5:F:154:VAL:HG11	5:F:193:VAL:HG23	1.98	0.45
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:N:15:LEU:HD22	9:N:53:VAL:O	2.17	0.45
12:Q:78:PRO:O	12:Q:81:VAL:HG22	2.16	0.45
16:U:14:HIS:HA	16:U:32:PHE:CD1	2.51	0.45
17:V:6:LYS:HB2	17:V:38:LEU:CD2	2.42	0.45
17:V:75:PHE:HD1	17:V:82:ARG:HG3	1.82	0.45
18:W:29:LEU:HD21	18:W:33:ARG:HH21	1.81	0.45
19:X:4:ALA:CB	19:X:42:ALA:HA	2.42	0.45
20:Y:5:MET:CE	20:Y:35:TYR:HA	2.30	0.45
22:0:19:LYS:HE2	22:0:19:LYS:HA	1.97	0.45
32:a:108:G:H1	51:t:15:ARG:HD2	1.80	0.45
32:a:189(C):C:H2'	32:a:189(D):C:H6	1.80	0.45
32:a:189(K):G:H2'	32:a:189(L):U:H6	1.82	0.45
32:a:550:G:H2'	32:a:551:U:C6	2.51	0.45
32:a:575:G:O2'	32:a:821:G:H5'	2.16	0.45
32:a:621:A:H2'	32:a:622:A:O4'	2.16	0.45
32:a:691:G:H1'	32:a:696:A:H61	1.82	0.45
32:a:867:G:H2'	32:a:868:C:C6	2.51	0.45
32:a:899:C:H2'	32:a:900:A:C8	2.52	0.45
32:a:1254:C:OP2	41:j:43:ARG:NH2	2.41	0.45
32:a:1255:G:H5"	34:c:26:LYS:NZ	2.31	0.45
32:a:1350:A:O2'	38:g:33:ASP:OD1	2.25	0.45
32:a:1403:C:N4	56:x:16:G:OP1	2.49	0.45
33:b:160:ASP:O	33:b:183:PRO:HD2	2.16	0.45
33:b:220:ASP:HA	33:b:223:ILE:CG1	2.47	0.45
34:c:180:ALA:HB1	34:c:203:PHE:CE1	2.52	0.45
35:d:156:GLU:O	35:d:160:GLN:HG3	2.17	0.45
35:d:162:LEU:HD13	35:d:178:VAL:O	2.15	0.45
36:e:81:GLU:CG	36:e:90:VAL:HG13	2.47	0.45
37:f:10:LEU:HD13	37:f:85:VAL:HG22	1.98	0.45
40:i:7:THR:O	40:i:80:GLY:HA2	2.17	0.45
40:i:75:ASP:O	40:i:78:LYS:HB3	2.16	0.45
48:q:9:VAL:HG21	48:q:84:LEU:HD13	1.98	0.45
50:s:63:THR:H	50:s:66:MET:HE3	1.81	0.45
53:y:68:C:O2'	53:y:69:C:H5'	2.16	0.45
54:C:7:TYR:CE2	54:C:11:LEU:HD11	2.52	0.45
54:C:41:VAL:N	54:C:176:GLY:O	2.47	0.45
54:C:74:VAL:CG2	54:C:156:ILE:HG21	2.47	0.45
56:x:45:C:H5"	56:x:46:G:O5'	2.16	0.45
1:A:49:A:H4'	1:A:50:U:H5"	1.98	0.45
1:A:250:G:O2'	1:A:251:A:H5'	2.17	0.45
1:A:315:G:H2'	1:A:316:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:414:C:H1'	1:A:1864:U:H1'	1.98	0.45
1:A:570:G:H2'	1:A:2030:A:C6	2.51	0.45
1:A:699:A:H2'	1:A:700:G:O4'	2.17	0.45
1:A:749:C:H2'	1:A:750:A:O4'	2.17	0.45
1:A:950:G:H2'	1:A:951:C:H6	1.81	0.45
1:A:1148:A:C3'	1:A:1149:G:H5"	2.46	0.45
1:A:1197:G:H5'	1:A:1227:G:O2'	2.16	0.45
1:A:1273:U:H4'	1:A:1275:A:P	2.57	0.45
1:A:1317:A:H2'	1:A:1318:C:O4'	2.17	0.45
1:A:1403:C:OP1	1:A:1520:G:N2	2.45	0.45
1:A:1549:C:H2'	1:A:1550:C:C6	2.51	0.45
1:A:1549:C:H2'	1:A:1550:C:H6	1.80	0.45
1:A:1717:G:H2'	1:A:1718:G:C8	2.52	0.45
1:A:1787:A:H5'	1:A:2589:A:O2'	2.16	0.45
1:A:1842:G:O2'	1:A:1843:C:H5'	2.17	0.45
1:A:2218:U:OP1	1:A:2218:U:H2'	2.16	0.45
1:A:2408:U:O2'	1:A:2409:G:H5'	2.16	0.45
1:A:2558:C:H2'	1:A:2559:C:O4'	2.17	0.45
1:A:2606:C:O2'	1:A:2607:G:H5'	2.17	0.45
3:D:274:ARG:HG3	3:D:274:ARG:O	2.16	0.45
5:F:118:ALA:HA	5:F:123:LEU:HB3	1.98	0.45
6:G:106:LEU:HA	6:G:110:ALA:CB	2.47	0.45
10:O:6:THR:O	10:O:20:MET:HA	2.15	0.45
11:P:101:VAL:CG2	11:P:106:LEU:HD12	2.47	0.45
11:P:120:ALA:HB2	11:P:137:LYS:HB3	1.99	0.45
14:S:83:LYS:HB3	14:S:111:GLU:CD	2.42	0.45
15:T:39:ARG:NH2	15:T:41:ARG:HD3	2.32	0.45
17:V:6:LYS:HG2	17:V:10:LYS:O	2.16	0.45
17:V:24:LYS:HG3	17:V:64:HIS:CD2	2.52	0.45
17:V:29:PRO:HA	17:V:61:VAL:HG23	1.97	0.45
24:2:35:LEU:HB3	24:2:50:ILE:HG12	1.99	0.45
26:4:56:VAL:O	26:4:60:GLN:HG3	2.16	0.45
32:a:100:C:C1'	32:a:101:A:H5'	2.42	0.45
32:a:309:G:H2'	32:a:310:G:H8	1.80	0.45
32:a:327:A:H1'	32:a:329:A:O4'	2.16	0.45
32:a:546:G:OP1	35:d:72:GLU:N	2.49	0.45
32:a:659:U:C2'	32:a:660:G:H5'	2.46	0.45
32:a:778:G:O2'	32:a:779:C:H5'	2.15	0.45
32:a:1017:G:O2'	32:a:1018:C:H5'	2.17	0.45
32:a:1306:A:H2'	32:a:1307:U:C6	2.52	0.45
32:a:1430:C:H2'	32:a:1431:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1457:G:H2'	32:a:1458:G:H8	1.79	0.45
32:a:1527:C:O2'	32:a:1528:U:H5'	2.16	0.45
33:b:212:GLN:NE2	33:b:235:SER:OG	2.50	0.45
36:e:99:GLY:N	36:e:117:ASP:OD1	2.46	0.45
37:f:12:PRO:HB2	37:f:45:LEU:HG	1.97	0.45
37:f:48:LEU:CD1	37:f:52:ILE:HD12	2.46	0.45
37:f:80:ARG:NH1	37:f:88:VAL:O	2.49	0.45
38:g:37:ASN:OD1	40:i:41:VAL:HG23	2.17	0.45
39:h:26:VAL:HG22	39:h:59:LEU:HB2	1.99	0.45
41:j:78:ASN:O	41:j:81:THR:N	2.49	0.45
44:m:97:PRO:N	44:m:110:ARG:HG2	2.31	0.45
47:p:1:MET:HG3	47:p:65:GLN:HG3	1.99	0.45
50:s:50:ALA:HA	50:s:58:VAL:O	2.17	0.45
51:t:11:SER:HA	51:t:14:LYS:CD	2.46	0.45
53:y:5:G:H2'	53:y:6:G:C8	2.52	0.45
53:y:27:U:O2'	53:y:28:C:H5'	2.16	0.45
54:C:114:VAL:O	54:C:149:ILE:HD11	2.16	0.45
1:A:6:A:H2'	1:A:7:G:C8	2.52	0.45
1:A:71:A:H3'	1:A:71:A:OP2	2.17	0.45
1:A:272(F):C:O2'	1:A:272(G):C:H5'	2.17	0.45
1:A:304:G:H2'	1:A:305:U:H6	1.78	0.45
1:A:307:G:H2'	1:A:309:G:N7	2.31	0.45
1:A:494:G:H2'	1:A:495:G:C8	2.52	0.45
1:A:663:G:O2'	1:A:664:C:H5'	2.17	0.45
1:A:685:A:H5"	1:A:788:A:N6	2.28	0.45
1:A:860:U:H1'	1:A:2268:A:H5'	1.98	0.45
1:A:1049:C:H1'	1:A:1113:U:O2'	2.16	0.45
1:A:1402:C:H2'	1:A:1403:C:H5"	1.98	0.45
1:A:1514:U:H2'	1:A:1515:G:H8	1.81	0.45
1:A:1695:G:H1'	3:D:8:PRO:O	2.16	0.45
1:A:1704:G:O2'	1:A:1705:G:H5'	2.16	0.45
1:A:1705:G:H2'	1:A:1706:U:C6	2.52	0.45
1:A:1790:C:H2'	1:A:1791:A:C8	2.52	0.45
1:A:1995:U:H2'	1:A:1996:C:C6	2.52	0.45
1:A:2107:C:H3'	1:A:2108:C:H6	1.81	0.45
1:A:2130:U:O2	1:A:2134:A:H4'	2.16	0.45
1:A:2134:A:O2'	1:A:2159:G:H1'	2.16	0.45
1:A:2163:C:C2'	1:A:2164:C:H5'	2.46	0.45
1:A:2449:U:O2'	1:A:2501:C:N4	2.50	0.45
1:A:2688:U:N3	1:A:2720:U:OP2	2.47	0.45
1:A:2771:C:H2'	1:A:2772:C:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2817:G:O2'	1:A:2818:G:OP1	2.32	0.45
4:E:19:ARG:HA	10:O:72:PRO:O	2.16	0.45
6:G:145:THR:O	6:G:148:MET:HG2	2.17	0.45
7:H:9:ILE:HD13	7:H:72:ILE:HB	1.99	0.45
7:H:44:VAL:HG21	7:H:51:ARG:CZ	2.47	0.45
8:I:88:ILE:CD1	8:I:144:VAL:HG11	2.47	0.45
9:N:20:GLY:O	9:N:61:ARG:NH2	2.44	0.45
10:O:7:TYR:C	10:O:8:LEU:HD22	2.41	0.45
10:O:14:THR:HG21	10:O:86:ILE:HB	1.99	0.45
13:R:33:ARG:NH2	27:5:58:LEU:HA	2.24	0.45
21:Z:99:TYR:CE1	21:Z:125:LEU:HD13	2.51	0.45
23:1:76:ARG:NH2	23:1:97:LEU:HB3	2.32	0.45
26:4:11:PRO:HA	26:4:25:TYR:HD1	1.82	0.45
32:a:259:G:O2'	32:a:260:G:H5'	2.17	0.45
32:a:329:A:H2'	32:a:332:G:O6	2.17	0.45
32:a:344:A:H4'	32:a:345:C:OP2	2.17	0.45
32:a:623:C:O2'	32:a:624:C:H5'	2.16	0.45
32:a:674:G:O2'	32:a:675:A:H5'	2.17	0.45
32:a:929:G:H5"	32:a:1534:A:H5'	1.98	0.45
32:a:994:A:H61	32:a:1047:G:H4'	1.82	0.45
32:a:1473:A:H2'	32:a:1474:G:H8	1.79	0.45
33:b:15:VAL:HG23	33:b:16:HIS:CD2	2.51	0.45
33:b:70:PHE:HD2	33:b:85:ALA:HB2	1.81	0.45
33:b:78:GLN:C	33:b:94:ASN:HD21	2.24	0.45
35:d:208:SER:CB	36:e:101:ILE:HD12	2.46	0.45
36:e:145:LYS:O	36:e:149:GLU:HG3	2.16	0.45
38:g:20:ASP:HB3	38:g:23:VAL:HB	1.98	0.45
43:l:43:VAL:N	43:l:53:ARG:O	2.44	0.45
43:l:89:ARG:HH11	43:l:97:ARG:HG2	1.81	0.45
47:p:74:LEU:O	47:p:78:GLY:N	2.50	0.45
54:C:115:ALA:HB1	54:C:119:VAL:CG2	2.46	0.45
55:z:44:G:H3'	55:z:45:U:C6	2.52	0.45
1:A:7:G:H2'	1:A:8:A:C8	2.52	0.45
1:A:247:G:H5"	1:A:386:G:O2'	2.16	0.45
1:A:272(F):C:H2'	1:A:272(G):C:C6	2.52	0.45
1:A:327:G:H2'	1:A:328:U:H6	1.81	0.45
1:A:357:A:O2'	1:A:358:U:H5'	2.17	0.45
1:A:380:U:H5'	23:1:18:ILE:CD1	2.41	0.45
1:A:636:G:C5	11:P:115:LEU:HD21	2.52	0.45
1:A:646:A:H3'	1:A:646:A:P	2.57	0.45
1:A:735:A:H2'	1:A:736:C:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1024:G:OP1	1:A:1026:U:H4'	2.15	0.45
1:A:1098:A:H5"	1:A:1099:G:OP2	2.16	0.45
1:A:1480:G:O2'	1:A:1481:U:H5'	2.17	0.45
1:A:1529:G:N1	1:A:1540:U:N3	2.43	0.45
1:A:1837:C:O2'	1:A:1927:A:N3	2.41	0.45
1:A:1905:C:H3'	1:A:1930:G:C8	2.51	0.45
1:A:2156:G:H2'	1:A:2157:G:O4'	2.17	0.45
1:A:2207:G:C3'	1:A:2208:A:H5"	2.44	0.45
1:A:2659:G:O3'	7:H:175:LYS:HD3	2.17	0.45
3:D:246:PRO:O	3:D:254:THR:HG22	2.16	0.45
6:G:131:TYR:HB3	6:G:159:VAL:HG13	1.98	0.45
8:I:83:ALA:HA	8:I:89:TYR:H	1.81	0.45
10:O:8:LEU:HB2	10:O:19:ILE:HG13	1.98	0.45
10:O:15:GLY:O	10:O:47:ILE:HG13	2.17	0.45
15:T:42:ILE:HG12	15:T:84:GLN:OE1	2.16	0.45
21:Z:22:GLY:O	21:Z:23:LYS:HE2	2.16	0.45
24:2:60:LEU:O	24:2:64:LEU:N	2.39	0.45
32:a:66:G:OP2	32:a:199:G:H1'	2.17	0.45
32:a:363:A:OP1	43:l:33:ARG:HD3	2.16	0.45
32:a:411:A:OP1	35:d:30:LYS:NZ	2.44	0.45
32:a:516:PSU:H2'	32:a:517:G:O4'	2.16	0.45
32:a:540:G:O2'	32:a:541:G:H5'	2.17	0.45
32:a:571:U:H3'	32:a:572:A:H5"	1.97	0.45
32:a:584:G:OP1	48:q:87:LYS:HE2	2.17	0.45
32:a:697:U:C2'	32:a:698:G:H5'	2.45	0.45
32:a:886:G:H2'	32:a:887:G:O4'	2.16	0.45
32:a:1017:G:H2'	32:a:1018:C:C6	2.51	0.45
32:a:1347:G:C8	40:i:107:ARG:HB3	2.52	0.45
32:a:1362:C:HO2'	32:a:1363(A):C:H6	1.64	0.45
32:a:1495:U:O2'	32:a:1496:C:H5'	2.17	0.45
33:b:47:THR:O	33:b:51:LEU:HG	2.16	0.45
36:e:81:GLU:HA	36:e:89:ILE:O	2.17	0.45
37:f:69:GLU:HA	37:f:72:VAL:CG1	2.46	0.45
41:j:35:SER:HB3	41:j:73:ASP:O	2.16	0.45
42:k:31:THR:HG22	42:k:33:THR:HG23	1.98	0.45
42:k:108:ILE:CG2	49:r:87:ARG:HB2	2.47	0.45
44:m:108:ARG:NH1	44:m:114:ARG:HA	2.32	0.45
46:o:79:ARG:HA	46:o:82:ILE:HD11	1.98	0.45
50:s:53:ASN:OD1	50:s:55:LYS:N	2.47	0.45
54:C:68:LEU:HD11	54:C:161:ILE:HG23	1.99	0.45
54:C:77:ILE:HG21	54:C:123:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:z:10:G:N3	55:z:10:G:H2'	2.32	0.45
1:A:24:G:H2'	1:A:25:U:H6	1.81	0.45
1:A:123:G:O2'	1:A:124:G:H5'	2.16	0.45
1:A:230:U:O2'	1:A:231:C:H5'	2.16	0.45
1:A:272(H):G:H2'	1:A:272(I):G:C8	2.52	0.45
1:A:658:C:H2'	1:A:659:C:H6	1.80	0.45
1:A:720:C:O2'	1:A:721:C:H5'	2.17	0.45
1:A:759:G:H2'	1:A:760:G:C8	2.52	0.45
1:A:1147:C:O2'	1:A:1148:A:H5'	2.16	0.45
1:A:1341:U:OP1	1:A:1397:U:N3	2.26	0.45
1:A:1747(B):G:O2'	1:A:1748:G:H5'	2.16	0.45
1:A:1830:C:O2'	1:A:1831:G:H5'	2.17	0.45
1:A:2047:U:H2'	1:A:2048:G:H8	1.82	0.45
1:A:2059:A:H5"	1:A:2060:A:OP2	2.16	0.45
1:A:2163:C:H3'	1:A:2164:C:C6	2.52	0.45
1:A:2176:A:H2'	1:A:2177:C:C6	2.51	0.45
1:A:2191:G:H2'	1:A:2192:G:C8	2.51	0.45
1:A:2276:G:O2'	1:A:2277:G:H5'	2.17	0.45
1:A:2306:C:N4	6:G:42:GLY:O	2.48	0.45
1:A:2373:G:O2'	1:A:2374:C:H5'	2.17	0.45
1:A:2463:C:C2'	1:A:2464:C:H5'	2.47	0.45
1:A:2668:G:H4'	7:H:111:HIS:NE2	2.32	0.45
3:D:19:ALA:HB2	3:D:204:ILE:CD1	2.47	0.45
6:G:112:PRO:HA	26:4:40:HIS:CD2	2.52	0.45
8:I:72:LEU:HA	8:I:75:LEU:CD2	2.46	0.45
13:R:98:LEU:HD22	27:5:57:VAL:CG1	2.40	0.45
15:T:27:THR:HG23	15:T:47:GLY:O	2.17	0.45
21:Z:183:LEU:O	21:Z:187:ALA:N	2.50	0.45
24:2:49:LYS:O	24:2:52:ASP:HB2	2.17	0.45
31:9:11:CYS:HB3	31:9:32:HIS:HE1	1.81	0.45
32:a:54:C:H2'	32:a:352:C:H41	1.82	0.45
32:a:66:G:H3'	32:a:73:G:C2	2.50	0.45
32:a:71:C:H6	32:a:72:C:C1'	2.30	0.45
32:a:73:G:C2'	32:a:76:C:H4'	2.47	0.45
32:a:506:G:H2'	32:a:507:C:C6	2.52	0.45
32:a:626:U:H2'	32:a:627:G:C8	2.52	0.45
32:a:722:A:H3'	32:a:722:A:N3	2.31	0.45
32:a:729:A:H2'	32:a:730:G:H8	1.82	0.45
32:a:952:U:O2'	32:a:953:G:H5'	2.17	0.45
32:a:979:C:H2'	32:a:980:C:H5'	1.98	0.45
32:a:1513:A:O2'	32:a:1514:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:25:ASN:HD22	33:b:192:SER:C	2.25	0.45
33:b:178:ARG:NH2	39:h:74:PRO:HB3	2.32	0.45
34:c:60:ALA:N	34:c:63:ASN:O	2.50	0.45
35:d:93:PHE:CE2	35:d:97:LEU:HD11	2.52	0.45
36:e:15:ARG:HB2	36:e:28:PHE:CE1	2.51	0.45
41:j:5:ARG:O	41:j:6:ILE:HD13	2.17	0.45
49:r:73:ALA:O	49:r:77:GLY:N	2.50	0.45
53:y:42:G:O2'	53:y:43:A:H5'	2.16	0.45
54:C:23:ASP:O	54:C:27:ARG:HG2	2.16	0.45
1:A:59:U:H1'	1:A:73:A:H2'	1.99	0.45
1:A:265:A:H4'	1:A:266:G:O5'	2.15	0.45
1:A:444:C:O2'	1:A:445:C:H5'	2.17	0.45
1:A:466:A:H2'	1:A:467:G:H5'	1.98	0.45
1:A:483:A:H3'	1:A:484:C:C6	2.52	0.45
1:A:765:G:O2'	1:A:766:C:H5'	2.17	0.45
1:A:918:A:N3	2:B:80:U:O2'	2.48	0.45
1:A:1034:G:O2'	1:A:1035:U:H5'	2.17	0.45
1:A:1132:A:H2'	1:A:1133:U:C6	2.51	0.45
1:A:1334:G:O2'	1:A:1335:U:H5'	2.16	0.45
1:A:1519:G:H5"	1:A:1520:G:OP1	2.17	0.45
1:A:1614:A:N1	18:W:93:ALA:HB2	2.31	0.45
1:A:1638:C:H5"	1:A:2710:C:O2'	2.17	0.45
1:A:2018:G:H2'	1:A:2019:A:H8	1.81	0.45
1:A:2166:G:H3'	1:A:2167:U:C6	2.52	0.45
1:A:2228:G:H2'	1:A:2229:C:C6	2.51	0.45
5:F:10:PRO:HB3	5:F:17:ARG:NH2	2.32	0.45
6:G:113:ARG:HA	26:4:35:VAL:HG11	1.99	0.45
6:G:150:ASP:OD1	6:G:151:ALA:N	2.49	0.45
7:H:87:LEU:HA	7:H:163:TYR:O	2.17	0.45
18:W:27:LYS:HD2	18:W:31:GLU:CD	2.41	0.45
20:Y:73:ARG:NH2	20:Y:82:PRO:O	2.34	0.45
21:Z:124:ILE:HD11	21:Z:163:LEU:CD1	2.45	0.45
21:Z:126:VAL:HA	21:Z:162:GLU:O	2.16	0.45
32:a:46:G:H2'	32:a:366:C:H5	1.80	0.45
32:a:660:G:OP1	46:o:5:LYS:HE2	2.17	0.45
32:a:1005:A:N3	32:a:1005:A:H2'	2.31	0.45
32:a:1237:C:O2'	32:a:1300:G:N1	2.43	0.45
32:a:1308:U:H2'	32:a:1309:G:C8	2.52	0.45
32:a:1438:G:H2'	32:a:1439:C:C6	2.51	0.45
32:a:1438:G:H2'	32:a:1439:C:H6	1.81	0.45
34:c:106:VAL:HG12	34:c:109:PRO:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:157:ILE:CD1	34:c:164:ARG:HE	2.26	0.45
40:i:14:VAL:CG2	40:i:66:ARG:HB2	2.47	0.45
41:j:82:ILE:HA	41:j:85:LEU:CD1	2.46	0.45
51:t:11:SER:HA	51:t:14:LYS:CB	2.47	0.45
51:t:52:ALA:O	51:t:56:MET:N	2.31	0.45
54:C:77:ILE:HB	54:C:115:ALA:CB	2.41	0.45
54:C:151:GLU:HA	54:C:154:ARG:NH1	2.32	0.45
1:A:21:A:C2'	1:A:22:C:H5'	2.47	0.45
1:A:174:C:H2'	1:A:175:G:C8	2.52	0.45
1:A:412:A:N6	1:A:2412:A:O4'	2.50	0.45
1:A:552:G:H2'	1:A:553:G:H8	1.81	0.45
1:A:1231:G:H2'	1:A:1232:G:H8	1.81	0.45
1:A:1500:G:N2	3:D:100:GLY:HA3	2.24	0.45
1:A:1798:U:H5	3:D:274:ARG:NH1	2.14	0.45
1:A:1882:C:H2'	1:A:1883:G:O4'	2.17	0.45
1:A:2528:U:O2'	1:A:2529:G:H3'	2.17	0.45
1:A:2649:U:O2'	1:A:2650:U:H5'	2.17	0.45
1:A:2728:U:O2'	1:A:2729:G:H5'	2.17	0.45
1:A:2820:A:O2'	4:E:191:PRO:HG3	2.17	0.45
1:A:2864:G:OP1	15:T:119:LYS:HE3	2.17	0.45
1:A:2869:G:O2'	1:A:2870:C:H5'	2.17	0.45
3:D:118:VAL:HG13	3:D:123:ALA:CB	2.46	0.45
3:D:134:ARG:NH1	8:I:121:LYS:HG3	2.32	0.45
5:F:126:VAL:O	5:F:196:LEU:HG	2.17	0.45
7:H:26:VAL:C	7:H:27:LYS:HD2	2.42	0.45
7:H:83:TYR:CE2	7:H:138:LYS:HB2	2.52	0.45
8:I:72:LEU:CD2	8:I:107:VAL:HG11	2.41	0.45
11:P:124:LYS:HA	11:P:144:GLU:HB3	1.99	0.45
12:Q:41:TRP:NE1	12:Q:96:VAL:HG22	2.31	0.45
17:V:1:MET:CE	17:V:40:LEU:HB3	2.47	0.45
20:Y:28:LYS:CD	20:Y:40:GLU:HA	2.40	0.45
20:Y:99:CYS:SG	20:Y:101:LYS:N	2.90	0.45
32:a:139:G:H2'	32:a:140:A:C8	2.50	0.45
32:a:189(A):G:O2'	32:a:189(B):C:H5'	2.16	0.45
32:a:252:U:O2	32:a:252:U:H2'	2.16	0.45
32:a:558:G:H2'	32:a:559:A:C2	2.52	0.45
32:a:583:A:C5'	48:q:90:ILE:HG21	2.47	0.45
32:a:665:A:H1'	32:a:733:A:H5'	1.98	0.45
32:a:837:G:H2'	32:a:838:G:O4'	2.16	0.45
32:a:857:C:H2'	32:a:858:G:O4'	2.16	0.45
32:a:926:G:N2	32:a:1505:G:H2'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:126:ARG:HB2	34:c:128:PHE:CD2	2.52	0.45
39:h:7:ALA:HA	39:h:10:LEU:HD12	1.97	0.45
47:p:42:ARG:HE	47:p:44:THR:HG21	1.81	0.45
50:s:33:THR:CG2	50:s:51:VAL:HG22	2.47	0.45
51:t:47:GLY:HA2	51:t:48:LYS:CB	2.46	0.45
54:C:47:LEU:HD23	54:C:209:LEU:HD23	1.99	0.45
54:C:116:THR:OG1	54:C:118:ASP:OD1	2.26	0.45
1:A:319:C:O2'	1:A:320:A:H5'	2.17	0.44
1:A:356:G:O2'	1:A:357:A:H5'	2.17	0.44
1:A:527:C:H4'	1:A:528:A:O5'	2.17	0.44
1:A:650:C:OP1	30:8:21:LYS:NZ	2.48	0.44
1:A:742:G:H2'	1:A:743:G:C8	2.52	0.44
1:A:1022:G:N7	9:N:66:LYS:HE2	2.32	0.44
1:A:1034:G:H2'	1:A:1035:U:O4'	2.17	0.44
1:A:1091:G:H2'	1:A:1091:G:N3	2.31	0.44
1:A:1166:C:O2'	1:A:1167:U:H5'	2.17	0.44
1:A:1257:C:H2'	1:A:1258:C:C6	2.51	0.44
1:A:1288:U:H1'	1:A:1647:G:N2	2.32	0.44
1:A:1475:G:H2'	1:A:1476:C:C6	2.51	0.44
1:A:1513:C:H2'	1:A:1514:U:C6	2.52	0.44
1:A:1528(A):A:OP2	1:A:1541:G:N1	2.50	0.44
1:A:1561:G:O2'	1:A:1562:A:H5'	2.17	0.44
1:A:1645:G:H5"	1:A:1646:C:H5'	1.98	0.44
1:A:1826:G:OP2	3:D:223:GLY:N	2.35	0.44
1:A:2128:C:P	54:C:36:LYS:H	2.37	0.44
1:A:2208:A:H1'	1:A:2219:G:C6	2.52	0.44
1:A:2609:U:H4'	1:A:2609:U:OP1	2.16	0.44
1:A:2876:G:O2'	1:A:2877:G:H5'	2.16	0.44
2:B:91:C:OP1	12:Q:16:ARG:HD3	2.17	0.44
4:E:151:TYR:CD1	9:N:79:PRO:HG3	2.52	0.44
8:I:128:LEU:O	8:I:139:GLN:HA	2.17	0.44
25:3:26:LEU:HD21	25:3:43:ILE:HG23	1.99	0.44
30:8:23:VAL:HA	30:8:48:PHE:O	2.17	0.44
32:a:8:A:C5'	36:e:101:ILE:HG22	2.46	0.44
32:a:68:G:HO2'	32:a:69:G:P	2.34	0.44
32:a:70:G:O2'	32:a:71:C:OP2	2.26	0.44
32:a:93:G:H4'	32:a:100:C:C2'	2.48	0.44
32:a:321:A:O2'	32:a:322:C:H5'	2.17	0.44
32:a:369:C:OP2	32:a:388:G:N1	2.23	0.44
32:a:408:A:O2'	32:a:409:G:H5'	2.17	0.44
32:a:424:G:H2'	32:a:425:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:552:U:H4'	43:l:87:GLY:CA	2.43	0.44
32:a:609:A:H2'	32:a:610:G:H5'	2.00	0.44
32:a:658:G:H5"	46:o:8:LYS:HE2	1.99	0.44
32:a:742:G:O2'	32:a:743:U:H5'	2.18	0.44
32:a:839:U:H3'	32:a:840:C:C6	2.52	0.44
32:a:1001(B):G:H2'	32:a:1002:G:C8	2.52	0.44
32:a:1147:C:O3'	40:i:5:TYR:OH	2.33	0.44
32:a:1306:A:O2'	32:a:1307:U:H5'	2.17	0.44
34:c:82:GLU:O	34:c:86:VAL:N	2.44	0.44
35:d:199:ASN:OD1	35:d:201:GLN:HB3	2.17	0.44
37:f:97:PHE:CE2	49:r:62:GLU:HG2	2.52	0.44
39:h:11:THR:HG22	39:h:15:ASN:ND2	2.31	0.44
41:j:71:LEU:HD21	41:j:73:ASP:OD2	2.17	0.44
43:l:23:LYS:O	43:l:25:PRO:HD3	2.17	0.44
44:m:22:ILE:HG21	44:m:66:LEU:HD13	2.00	0.44
50:s:63:THR:OG1	50:s:66:MET:HE3	2.17	0.44
53:y:9:G:C1'	53:y:46:G:H1'	2.47	0.44
54:C:20:TYR:HB2	54:C:224:ILE:HA	1.99	0.44
54:C:82:LYS:HA	54:C:82:LYS:HE2	2.00	0.44
54:C:134:ARG:O	54:C:136:LEU:HG	2.17	0.44
54:C:191:ALA:O	54:C:195:ALA:HB2	2.17	0.44
56:x:12:A:H2'	56:x:13:A:C8	2.52	0.44
1:A:77:C:OP1	24:2:59:ARG:HD3	2.17	0.44
1:A:273(E):G:H2'	1:A:273(F):G:H8	1.81	0.44
1:A:321:G:O2'	1:A:340:A:N3	2.48	0.44
1:A:321:G:P	5:F:135:LYS:HD3	2.57	0.44
1:A:386:G:H4'	1:A:387:U:OP2	2.18	0.44
1:A:955:C:OP1	12:Q:13:GLN:HA	2.18	0.44
1:A:1169:G:H2'	1:A:1170:G:H8	1.82	0.44
1:A:1424:G:H2'	1:A:1425:G:O4'	2.17	0.44
1:A:1490:A:C2	3:D:75:ILE:HG12	2.52	0.44
1:A:1501:C:H2'	1:A:1502:C:H6	1.82	0.44
1:A:1551:C:H2'	1:A:1552:G:O4'	2.17	0.44
1:A:1630:G:H2'	1:A:1631(A):C:C6	2.51	0.44
1:A:1684:C:H2'	1:A:1685:C:C6	2.52	0.44
1:A:1692:U:O2'	1:A:1693:U:H2'	2.16	0.44
1:A:1858:G:H1'	1:A:1884:A:N6	2.32	0.44
1:A:1987:G:H2'	1:A:1988:C:H6	1.82	0.44
1:A:2116:G:OP1	1:A:2166:G:N2	2.43	0.44
1:A:2156:G:O6	1:A:2157:G:N2	2.51	0.44
1:A:2613:U:OP2	27:5:5:PRO:HD2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2820:A:HO2'	1:A:2821:A:P	2.33	0.44
2:B:66:A:H4'	2:B:67:G:C8	2.51	0.44
3:D:97:TYR:HE2	3:D:103:ARG:HE	1.63	0.44
3:D:142:VAL:N	3:D:163:ALA:O	2.48	0.44
3:D:144:ALA:C	3:D:153:ALA:HB1	2.42	0.44
5:F:28:ILE:HA	5:F:112:MET:HE2	1.99	0.44
5:F:36:VAL:O	5:F:39:TRP:HB3	2.18	0.44
7:H:41:MET:HE1	7:H:61:HIS:O	2.17	0.44
8:I:8:PRO:CA	8:I:14:ASP:HA	2.27	0.44
11:P:22:GLY:O	11:P:28:GLY:HA3	2.17	0.44
11:P:63:PRO:CB	30:8:30:ARG:HH21	2.28	0.44
13:R:20:LEU:O	13:R:24:GLN:HG2	2.17	0.44
14:S:74:ALA:HB1	14:S:108:GLY:O	2.17	0.44
14:S:78:LEU:HD11	14:S:109:GLY:CA	2.47	0.44
16:U:87:GLY:O	17:V:49:THR:HG23	2.17	0.44
18:W:13:SER:HB3	18:W:16:LYS:CD	2.45	0.44
18:W:14:PRO:HD3	18:W:99:ARG:HB3	2.00	0.44
21:Z:69:THR:HA	21:Z:91:LEU:H	1.81	0.44
26:4:37:SER:HA	26:4:43:TYR:HD2	1.82	0.44
28:6:9:LEU:HD11	28:6:23:THR:CG2	2.47	0.44
30:8:22:VAL:HG11	30:8:50:LEU:HD12	2.00	0.44
32:a:238:G:O2'	32:a:239:U:H5'	2.17	0.44
32:a:603:U:H2'	32:a:604:G:C8	2.52	0.44
32:a:683:G:H2'	32:a:684:A:H8	1.83	0.44
32:a:1030(A):C:N4	32:a:1031:G:O6	2.50	0.44
32:a:1042:G:C2	32:a:1043:C:H1'	2.52	0.44
32:a:1080:A:H5"	36:e:16:THR:HG21	2.00	0.44
32:a:1130:A:H3'	32:a:1130:A:OP2	2.17	0.44
32:a:1138:G:C2'	32:a:1140:C:H5'	2.47	0.44
32:a:1323:G:H2'	32:a:1324:A:H8	1.82	0.44
32:a:1381:U:H2'	32:a:1382:C:H6	1.83	0.44
32:a:1386:G:H2'	32:a:1387:G:H8	1.82	0.44
32:a:1441:G:H5"	32:a:1442(A):G:O5'	2.18	0.44
33:b:8:LYS:H	33:b:8:LYS:HD2	1.82	0.44
36:e:41:VAL:HG11	36:e:113:ALA:HB2	1.99	0.44
36:e:122:GLU:OE2	36:e:131:ILE:HG21	2.16	0.44
40:i:8:GLY:O	40:i:14:VAL:HA	2.17	0.44
42:k:34:ASP:N	42:k:40:ILE:HG12	2.33	0.44
44:m:13:LYS:HE3	44:m:21:TYR:OH	2.18	0.44
44:m:16:ASP:O	44:m:20:THR:HG23	2.17	0.44
50:s:48:THR:C	50:s:49:ILE:HD12	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:27:ARG:N	54:C:182:PRO:HB3	2.32	0.44
54:C:140:PRO:HD3	54:C:145:VAL:CG2	2.45	0.44
55:z:14:A:H2'	55:z:15:G:H5'	1.99	0.44
1:A:93:G:O2'	1:A:94(A):C:H5'	2.18	0.44
1:A:273(I):C:O2'	1:A:273(J):U:H5'	2.16	0.44
1:A:431:U:O2'	1:A:432:A:H5'	2.18	0.44
1:A:492:A:H3'	1:A:493:G:H8	1.81	0.44
1:A:564:C:O2'	1:A:565:C:H5'	2.17	0.44
1:A:633:A:C2'	1:A:634:C:H5'	2.45	0.44
1:A:703:U:O2'	1:A:704:G:H5'	2.16	0.44
1:A:807:U:H2'	1:A:808:G:H8	1.82	0.44
1:A:852:G:O2'	1:A:853:G:H5'	2.17	0.44
1:A:1257:C:H4'	5:F:83:PHE:CE1	2.52	0.44
1:A:1596:A:O2'	1:A:1597:A:H5'	2.16	0.44
1:A:1601:G:O2'	1:A:1602:U:H5'	2.17	0.44
1:A:1642:G:O2'	1:A:1643:G:H5'	2.17	0.44
1:A:1957:C:O2'	1:A:1958:C:H5'	2.17	0.44
1:A:2077:A:H1'	1:A:2435:A:O4'	2.16	0.44
1:A:2184:G:H2'	1:A:2185:C:C5	2.52	0.44
1:A:2206:G:H5"	1:A:2208:A:N6	2.31	0.44
1:A:2271:G:H5"	22:0:18:ALA:CB	2.47	0.44
1:A:2514:U:O2'	1:A:2515:C:H5'	2.16	0.44
2:B:118:G:O2'	2:B:119:G:H5'	2.17	0.44
3:D:12:SER:HB3	3:D:208:LYS:HB3	1.99	0.44
5:F:29:ASN:H	5:F:112:MET:HE2	1.82	0.44
5:F:136:THR:HA	5:F:166:ALA:O	2.16	0.44
6:G:173:LEU:HD13	6:G:178:PHE:CD2	2.53	0.44
9:N:95:PRO:HG2	9:N:124:ALA:HB2	1.99	0.44
12:Q:46:GLN:OE1	12:Q:126:PRO:HG3	2.18	0.44
14:S:23:ARG:HG2	14:S:85:VAL:HA	1.99	0.44
18:W:29:LEU:CD1	18:W:51:LEU:HD11	2.46	0.44
21:Z:150:LEU:O	21:Z:170:THR:HA	2.18	0.44
23:1:58:ILE:CD1	23:1:87:PRO:HB3	2.47	0.44
26:4:59:PHE:HA	26:4:60:GLN:C	2.42	0.44
32:a:88:A:H4'	32:a:89:C:C6	2.52	0.44
32:a:104:G:H2'	32:a:105:G:C5'	2.48	0.44
32:a:128:G:O2'	32:a:129(A):U:H5'	2.17	0.44
32:a:220:G:C2	32:a:221:C:H1'	2.52	0.44
32:a:405:U:H3'	35:d:5:ILE:HD11	1.99	0.44
32:a:711:G:H2'	32:a:712:A:H8	1.83	0.44
32:a:969:A:O2'	32:a:970:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:973:G:C3’	32:a:974:A:H5”	2.46	0.44
32:a:1181:G:H1’	32:a:1182:G:C5	2.53	0.44
32:a:1247:U:O4	32:a:1290:G:O6	2.34	0.44
32:a:1351:U:H1’	38:g:33:ASP:HB3	2.00	0.44
34:c:157:ILE:HD13	34:c:166:GLU:HB2	1.99	0.44
35:d:108:LEU:CG	35:d:176:LEU:HD13	2.47	0.44
36:e:105:VAL:HB	36:e:106:PRO:HD3	1.97	0.44
40:i:49:PRO:HG2	40:i:81:ILE:CG2	2.47	0.44
48:q:43:LEU:O	48:q:69:LYS:HG2	2.17	0.44
52:u:6:ARG:NE	52:u:15:ARG:HH12	2.15	0.44
53:y:9:G:H5”	53:y:10:G:OP2	2.17	0.44
54:C:10:LEU:HB3	54:C:220:PRO:HG3	1.99	0.44
54:C:94:VAL:HG13	54:C:95:GLY:HA3	1.99	0.44
1:A:34:C:H5”	1:A:35:G:OP2	2.17	0.44
1:A:172:C:H2’	1:A:173:G:C8	2.53	0.44
1:A:272(G):C:H2’	1:A:272(H):G:H8	1.80	0.44
1:A:516:C:H2’	1:A:517:C:O4’	2.17	0.44
1:A:713:G:O2’	1:A:714:U:H5’	2.17	0.44
1:A:716:A:OP1	46:o:89:GLY:HA3	2.17	0.44
1:A:853:G:H2’	1:A:854:G:C8	2.52	0.44
1:A:859:G:N2	1:A:916:G:H2’	2.31	0.44
1:A:896:A:C2	21:Z:146:ILE:HG21	2.53	0.44
1:A:907:U:H5’	12:Q:23:GLY:HA3	1.99	0.44
1:A:1214:A:N6	1:A:1235:G:H1’	2.33	0.44
1:A:1357:U:O2’	1:A:1358:G:H5’	2.18	0.44
1:A:1459:G:O2’	1:A:1461:G:H5’	2.18	0.44
1:A:1487:G:H2’	1:A:1488:G:C8	2.53	0.44
1:A:1581:G:H2’	1:A:1582:C:O4’	2.17	0.44
1:A:1721:G:C6	1:A:1739:U:H5”	2.53	0.44
1:A:2127:G:H4’	54:C:37:PHE:HE1	1.79	0.44
1:A:2142:C:H2’	1:A:2143:C:C6	2.52	0.44
1:A:2163:C:H4’	1:A:2172:U:OP2	2.18	0.44
1:A:2472:G:H2’	1:A:2529:G:N2	2.32	0.44
1:A:2527:C:O2’	1:A:2528:U:H5’	2.17	0.44
1:A:2667:C:O2	7:H:110:SER:N	2.39	0.44
2:B:106:G:H5”	21:Z:31:ARG:NH1	2.32	0.44
3:D:96:HIS:CD2	3:D:102:LYS:HG2	2.53	0.44
4:E:73:GLU:CD	4:E:74:PRO:HD2	2.42	0.44
5:F:155:LEU:HB2	5:F:189:THR:CG2	2.44	0.44
5:F:198:ALA:HA	5:F:201:VAL:CG2	2.45	0.44
6:G:122:PRO:HG3	6:G:182:LYS:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:85:GLU:CG	37:f:21:LEU:HD23	2.37	0.44
10:O:65:THR:HA	10:O:82:ASN:OD1	2.18	0.44
11:P:79:ARG:HB2	11:P:110:TYR:CD1	2.52	0.44
12:Q:7:MET:N	12:Q:7:MET:SD	2.90	0.44
12:Q:40:ALA:HB3	12:Q:127:ILE:HG21	2.00	0.44
12:Q:108:GLY:HA3	21:Z:116:VAL:HG13	1.99	0.44
17:V:3:ALA:O	17:V:14:VAL:HG22	2.18	0.44
17:V:12:TYR:CE2	17:V:22:VAL:HG12	2.51	0.44
17:V:72:VAL:HG11	17:V:85:LYS:HD2	2.00	0.44
18:W:72:LYS:N	18:W:106:ILE:O	2.50	0.44
20:Y:51:VAL:HG22	20:Y:58:GLY:CA	2.48	0.44
21:Z:99:TYR:CZ	21:Z:125:LEU:HD13	2.52	0.44
22:0:74:ARG:NH1	22:0:75:LEU:HD21	2.32	0.44
24:2:8:LYS:O	24:2:12:GLU:HG2	2.18	0.44
24:2:13:ALA:HA	24:2:16:LEU:CD1	2.42	0.44
31:9:3:VAL:HA	31:9:35:ARG:O	2.18	0.44
32:a:66:G:C1’	32:a:173:U:H2’	2.47	0.44
32:a:177:C:H2’	32:a:178:C:H6	1.80	0.44
32:a:194:C:OP1	51:t:61:SER:OG	2.35	0.44
32:a:227:G:O2’	32:a:228:A:H5’	2.18	0.44
32:a:358:U:H2’	32:a:359:U:H6	1.78	0.44
32:a:427:U:H3’	32:a:428:G:C8	2.52	0.44
32:a:675:A:H1’	42:k:116:HIS:HD1	1.81	0.44
32:a:882:C:O2’	32:a:883:C:H5’	2.17	0.44
32:a:953:G:O2’	32:a:954:G:H5’	2.17	0.44
32:a:966:M2G:N2	53:y:34:C:H5’	2.33	0.44
32:a:1131:G:C2’	32:a:1132:C:H5’	2.48	0.44
32:a:1140:C:H2’	32:a:1141:C:H6	1.81	0.44
32:a:1421:G:O2’	32:a:1422:G:H5’	2.18	0.44
32:a:1486:G:H2’	32:a:1487:G:O4’	2.17	0.44
33:b:71:VAL:CG2	33:b:164:VAL:HG22	2.47	0.44
35:d:155:LEU:CD2	35:d:158:ILE:H	2.31	0.44
36:e:41:VAL:O	36:e:67:VAL:N	2.46	0.44
36:e:67:VAL:HG12	36:e:136:MET:HE1	1.98	0.44
38:g:15:ASP:OD2	38:g:18:TYR:HB2	2.18	0.44
40:i:28:VAL:HG11	40:i:36:TYR:CD2	2.53	0.44
41:j:6:ILE:HG23	41:j:97:GLU:O	2.17	0.44
44:m:92:HIS:CE1	44:m:98:VAL:HG21	2.52	0.44
45:n:24:CYS:SG	45:n:39:LEU:HA	2.57	0.44
46:o:25:THR:HA	46:o:28:GLN:HB3	2.00	0.44
54:C:99:ILE:HA	54:C:102:LYS:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:z:41:C:H5'	55:z:42:C:OP1	2.17	0.44
1:A:24:G:O2'	1:A:25:U:H5'	2.17	0.44
1:A:272(N):U:H2'	1:A:272(N):U:OP2	2.18	0.44
1:A:304:G:O2'	1:A:305:U:H5'	2.17	0.44
1:A:488:G:H1'	1:A:492:A:N6	2.33	0.44
1:A:718:A:OP2	1:A:719:C:N4	2.51	0.44
1:A:820:A:H1'	1:A:943:U:O2'	2.18	0.44
1:A:974:G:H3'	1:A:975(A):C:C5'	2.48	0.44
1:A:975(B):G:H1'	1:A:990:A:C2	2.52	0.44
1:A:981:A:H5"	1:A:982:C:OP2	2.17	0.44
1:A:999:U:H5"	1:A:1154:G:O6	2.18	0.44
1:A:1278:A:OP1	13:R:36:THR:HG23	2.17	0.44
1:A:1544:A:H2'	1:A:1545:A:C8	2.52	0.44
1:A:1814:G:H2'	1:A:1815:A:C8	2.52	0.44
1:A:1941:C:O2'	1:A:1942:5MC:H5'	2.18	0.44
1:A:1946:U:O2'	1:A:1947:C:H5'	2.17	0.44
1:A:2094:G:H5'	8:I:25:TYR:HB2	2.00	0.44
1:A:2227:A:H2'	1:A:2227:A:N3	2.33	0.44
1:A:2314:C:H2'	1:A:2315:G:H8	1.79	0.44
1:A:2353:G:H5'	22:0:32:ARG:NH1	2.32	0.44
1:A:2427:C:C5'	1:A:2429:G:H5'	2.47	0.44
1:A:2564:A:O2'	1:A:2565:A:H5'	2.17	0.44
1:A:2688:U:O2'	1:A:2721:A:N6	2.50	0.44
3:D:174:ILE:HG12	3:D:271:ILE:CD1	2.47	0.44
4:E:55:ASN:HB3	4:E:58:ARG:HD2	1.99	0.44
5:F:157:VAL:O	5:F:194:MET:HA	2.17	0.44
7:H:124:GLU:C	7:H:126:PRO:HD3	2.41	0.44
7:H:124:GLU:O	7:H:126:PRO:HD3	2.17	0.44
9:N:40:PRO:HD3	16:U:71:GLN:NE2	2.33	0.44
11:P:13:ASN:OD1	11:P:14:LYS:N	2.50	0.44
11:P:114:ILE:HB	11:P:130:PHE:CD1	2.53	0.44
12:Q:62:GLY:C	21:Z:116:VAL:HG21	2.41	0.44
14:S:102:ALA:HB1	14:S:106:ARG:NH1	2.33	0.44
21:Z:75:ASN:ND2	21:Z:85:HIS:HB3	2.24	0.44
26:4:65:ASP:HA	26:4:67:TYR:CE1	2.52	0.44
31:9:24:TYR:CE1	31:9:35:ARG:HG2	2.51	0.44
32:a:28:G:O2'	32:a:29:G:H5'	2.18	0.44
32:a:159:G:H1'	32:a:162:A:N6	2.33	0.44
32:a:460:G:H5"	32:a:461:A:OP2	2.17	0.44
32:a:552:U:O2'	32:a:553:A:H5'	2.17	0.44
32:a:945:G:N3	32:a:945:G:H2'	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1128:C:O2'	32:a:1129:C:OP1	2.30	0.44
32:a:1298:C:H42	38:g:114:ARG:HB3	1.82	0.44
35:d:162:LEU:O	35:d:166:LYS:HG2	2.17	0.44
36:e:102:ALA:HB1	36:e:106:PRO:HG2	1.99	0.44
42:k:15:ALA:HA	42:k:76:GLY:O	2.17	0.44
43:l:30:ALA:CB	43:l:33:ARG:HH21	2.30	0.44
43:l:113:ARG:NE	43:l:115:LYS:O	2.50	0.44
44:m:92:HIS:CE1	44:m:98:VAL:HG11	2.52	0.44
53:y:62:C:H2'	53:y:63:G:H8	1.80	0.44
54:C:75:LEU:HD13	54:C:107:TRP:CH2	2.53	0.44
54:C:212:VAL:O	54:C:224:ILE:HG12	2.17	0.44
55:z:1:G:H2'	55:z:2:C:C6	2.52	0.44
1:A:137:C:O2'	1:A:139(A):G:H5'	2.18	0.44
1:A:245:G:OP1	11:P:69:GLY:HA3	2.17	0.44
1:A:278:A:H2'	1:A:279:C:O4'	2.18	0.44
1:A:495:G:H1'	18:W:57:ASN:OD1	2.18	0.44
1:A:872:A:H2'	1:A:873:G:C8	2.53	0.44
1:A:992:C:H2'	1:A:993:G:H8	1.82	0.44
1:A:1023:U:H2'	1:A:1024:G:O4'	2.18	0.44
1:A:1042:G:H2'	1:A:1043:C:O4'	2.17	0.44
1:A:1498:C:O2'	1:A:1499:C:H5'	2.18	0.44
1:A:1505:C:O2'	1:A:1506:C:H5'	2.18	0.44
1:A:1637:A:H2'	1:A:1638:C:C6	2.52	0.44
1:A:1677:A:H3'	1:A:1678:G:H21	1.83	0.44
1:A:1704:G:H2'	1:A:1705:G:H8	1.82	0.44
1:A:2099:U:H2'	1:A:2100:G:H8	1.81	0.44
1:A:2197:U:H1'	1:A:2198:A:C2	2.52	0.44
1:A:2383:G:O2'	1:A:2384:G:H5'	2.17	0.44
1:A:2659:G:H4'	7:H:175:LYS:HD3	1.99	0.44
2:B:9:G:H2'	2:B:10:C:H6	1.83	0.44
3:D:166:GLN:HG3	3:D:182:LEU:HD21	2.00	0.44
5:F:149:ASP:OD1	5:F:150:GLY:N	2.51	0.44
11:P:106:LEU:HD23	11:P:112:LEU:HD23	2.00	0.44
15:T:22:PHE:HB3	15:T:88:ILE:CD1	2.48	0.44
18:W:64:MET:HE1	18:W:108:GLY:HA2	1.99	0.44
20:Y:10:GLY:H	20:Y:27:VAL:HB	1.81	0.44
20:Y:52:SER:OG	20:Y:55:TYR:N	2.42	0.44
26:4:50:VAL:HG21	44:m:65:LYS:N	2.33	0.44
32:a:195:A:H1'	32:a:222:U:O2'	2.18	0.44
32:a:227:G:H2'	32:a:228:A:H8	1.82	0.44
32:a:256:U:H2'	32:a:257:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:301:G:H2'	32:a:302:G:H8	1.83	0.44
32:a:376:G:H2'	32:a:377:G:H8	1.83	0.44
32:a:383:A:H2'	32:a:384:G:H5'	1.99	0.44
32:a:572:A:HO2'	32:a:916:G:HO2'	1.65	0.44
32:a:667:G:H4'	46:o:51:HIS:ND1	2.33	0.44
32:a:744:C:O2'	32:a:745:C:H5'	2.18	0.44
32:a:757:U:C2'	32:a:758:G:H5'	2.47	0.44
32:a:876:G:O2'	32:a:877:C:H5'	2.17	0.44
32:a:881:G:OP2	43:l:12:ARG:NH2	2.39	0.44
32:a:986:A:H2'	32:a:987:G:C8	2.52	0.44
32:a:1184:G:H2'	32:a:1185:G:H8	1.81	0.44
32:a:1202:G:H2'	32:a:1203:C:H5'	2.00	0.44
32:a:1541:U:C3'	32:a:1542:G:H5"	2.48	0.44
34:c:129:ALA:HB3	34:c:132:ARG:HB2	2.00	0.44
35:d:18:LYS:HG2	35:d:20:TYR:HE1	1.83	0.44
37:f:89:MET:HG2	37:f:91:VAL:HG23	1.99	0.44
38:g:108:ALA:O	38:g:119:ARG:HB3	2.16	0.44
40:i:50:LEU:O	40:i:56:LEU:HG	2.18	0.44
40:i:127:LYS:HE3	53:y:33:U:P	2.57	0.44
41:j:11:PHE:CZ	41:j:65:LEU:HD11	2.53	0.44
41:j:69:ASN:O	41:j:70:ARG:HD3	2.18	0.44
45:n:21:TYR:OH	45:n:23:ARG:NH2	2.50	0.44
45:n:50:LYS:CG	45:n:52:GLN:HG3	2.47	0.44
46:o:82:ILE:HD12	46:o:88:ARG:HH12	1.81	0.44
48:q:45:HIS:NE2	48:q:47:PRO:HB3	2.33	0.44
50:s:22:LEU:CD1	50:s:31:ILE:HD11	2.48	0.44
51:t:49:ALA:HB3	51:t:99:LEU:CD1	2.41	0.44
53:y:8:U:N3	53:y:14:A:H8	2.08	0.44
53:y:30:G:O2'	53:y:31:G:H5'	2.18	0.44
1:A:115:C:O2'	1:A:116:C:H5'	2.18	0.44
1:A:209:C:O2'	1:A:210:C:H5'	2.17	0.44
1:A:284:U:H2'	1:A:285:C:H6	1.83	0.44
1:A:307:G:H22	1:A:310:A:P	2.41	0.44
1:A:436:C:H2'	1:A:437:G:H8	1.81	0.44
1:A:539:G:H1	1:A:554:U:H3	1.65	0.44
1:A:614(C):G:N3	5:F:44:ARG:HD3	2.33	0.44
1:A:842:G:O2'	1:A:843:G:H5'	2.17	0.44
1:A:860:U:C1'	1:A:2268:A:H5'	2.48	0.44
1:A:862:G:H2'	1:A:863:A:O4'	2.17	0.44
1:A:1116:C:H2'	1:A:1117:G:C8	2.52	0.44
1:A:1255:U:H3'	5:F:73:ALA:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1347:G:O2'	1:A:1348:G:H5'	2.18	0.44
1:A:1360:A:H2'	1:A:1361:G:H5'	1.99	0.44
1:A:1473:G:O2'	1:A:1474:C:H5'	2.17	0.44
1:A:1568:G:C5'	3:D:61:LEU:HD23	2.48	0.44
1:A:1573:G:H2'	1:A:1574:C:H5'	2.00	0.44
1:A:1612:C:H4'	29:7:7:PRO:HD3	1.99	0.44
1:A:1827:C:H1'	1:A:1970:A:N3	2.33	0.44
1:A:2018:G:O2'	1:A:2019:A:H5'	2.18	0.44
1:A:2114:A:H1'	1:A:2168:G:C5'	2.44	0.44
1:A:2127:G:H5'	54:C:37:PHE:HD1	1.82	0.44
1:A:2170:A:H5'	54:C:133:PRO:HB2	1.99	0.44
1:A:2198:A:N3	1:A:2198:A:H2'	2.32	0.44
1:A:2353:G:H5"	1:A:2354:G:OP2	2.18	0.44
1:A:2389:G:C5'	1:A:2390:U:H5'	2.47	0.44
1:A:2773:C:H2'	1:A:2774:C:C6	2.53	0.44
1:A:2845:G:H5"	15:T:54:ARG:O	2.18	0.44
4:E:76:ARG:CB	4:E:77:ILE:HD12	2.47	0.44
4:E:119:ARG:NH1	4:E:158:GLY:HA3	2.33	0.44
5:F:140:LEU:CD1	5:F:170:LEU:HD11	2.44	0.44
6:G:39:ILE:HG21	6:G:60:LEU:HD11	1.99	0.44
6:G:46:ALA:O	6:G:51:ARG:HA	2.18	0.44
6:G:105:LYS:NZ	6:G:143:GLU:OE2	2.25	0.44
9:N:1:MET:CE	17:V:13:ARG:HB3	2.48	0.44
10:O:37:ASP:O	10:O:61:VAL:HG23	2.17	0.44
10:O:68:GLU:HB3	10:O:78:ARG:HD3	1.99	0.44
16:U:50:ARG:HH11	17:V:70:ILE:HG23	1.83	0.44
19:X:12:VAL:HG22	19:X:29:TRP:CD1	2.53	0.44
21:Z:179:ASP:O	21:Z:182:LYS:HG2	2.18	0.44
30:8:14:VAL:CG1	30:8:22:VAL:HG13	2.45	0.44
32:a:8:A:N7	35:d:209:ARG:HA	2.31	0.44
32:a:173:U:C6	32:a:198:G:H1'	2.52	0.44
32:a:189(A):G:H2'	32:a:189(B):C:O4'	2.17	0.44
32:a:474:G:O2'	32:a:475:G:H5'	2.18	0.44
32:a:487:A:C2	32:a:488:C:H1'	2.53	0.44
32:a:490:G:O2'	32:a:491:G:H5'	2.17	0.44
32:a:660:G:P	46:o:5:LYS:HE2	2.58	0.44
32:a:950:U:H2'	32:a:951:G:C8	2.53	0.44
32:a:1149:C:H2'	32:a:1150:U:H6	1.80	0.44
32:a:1250:A:O3'	40:i:67:GLY:HA2	2.18	0.44
32:a:1250:A:C4'	40:i:67:GLY:HA2	2.45	0.44
32:a:1377:A:C6	38:g:7:ALA:HB1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:48:MET:HA	33:b:51:LEU:HB2	2.00	0.44
35:d:58:LEU:HD11	35:d:59:ARG:HH21	1.83	0.44
36:e:5:ASP:CB	56:x:55:A:H5"	2.48	0.44
37:f:2:ARG:HD3	37:f:92:LYS:NZ	2.33	0.44
37:f:36:ARG:NH2	37:f:66:GLU:HB3	2.33	0.44
37:f:67:MET:SD	37:f:75:LEU:HG	2.57	0.44
38:g:113:GLU:HG2	38:g:119:ARG:HG3	2.00	0.44
41:j:5:ARG:CB	41:j:100:THR:HA	2.48	0.44
43:l:32:PHE:HB3	43:l:84:LEU:CD2	2.46	0.44
44:m:12:ASN:O	44:m:44:ARG:HD2	2.18	0.44
48:q:23:VAL:N	48:q:40:LYS:O	2.41	0.44
51:t:84:LEU:O	51:t:88:VAL:HG23	2.18	0.44
55:z:50:U:O2'	55:z:51:U:H5'	2.18	0.44
1:A:36:G:N3	1:A:450:G:O2'	2.50	0.44
1:A:450:G:N1	1:A:454:A:OP2	2.42	0.44
1:A:682:G:H5'	29:7:26:GLY:HA3	2.00	0.44
1:A:809:G:O2'	1:A:810:U:H5'	2.17	0.44
1:A:1019:U:H2'	1:A:1020:A:C8	2.53	0.44
1:A:1119:C:O2'	1:A:1120:G:H5'	2.18	0.44
1:A:1198:U:H2'	1:A:1199:U:H6	1.82	0.44
1:A:1252:G:O6	16:U:36:ARG:HD2	2.17	0.44
1:A:1834:U:H5"	1:A:1835:G:OP1	2.18	0.44
1:A:1884:A:C2'	1:A:1885:A:H5'	2.48	0.44
1:A:2018:G:H2'	1:A:2019:A:C8	2.53	0.44
1:A:2191:G:H2'	1:A:2192:G:O4'	2.18	0.44
1:A:2353:G:N2	22:0:34:GLY:O	2.46	0.44
1:A:2771:C:H5"	4:E:202:LYS:HD3	2.00	0.44
4:E:119:ARG:NH1	4:E:157:ALA:O	2.51	0.44
5:F:64:ILE:HG13	5:F:65:TRP:N	2.32	0.44
5:F:132:VAL:HG12	5:F:139:PHE:CA	2.41	0.44
8:I:47:LEU:HD21	8:I:51:ILE:HD11	2.00	0.44
12:Q:21:THR:OG1	12:Q:101:ARG:N	2.51	0.44
14:S:67:ARG:CD	14:S:100:ALA:HB1	2.48	0.44
15:T:25:GLY:HA3	15:T:94:ALA:HB2	2.00	0.44
17:V:60:GLU:HB3	17:V:97:LYS:HE2	1.99	0.44
19:X:5:TYR:CE1	24:2:30:ARG:HA	2.53	0.44
26:4:12:ALA:CB	26:4:26:SER:HB3	2.48	0.44
32:a:132:C:OP1	51:t:75:ASN:ND2	2.34	0.44
32:a:294:U:H2'	32:a:295:C:H6	1.82	0.44
32:a:487:A:C2'	32:a:488:C:H5'	2.47	0.44
32:a:490:G:H2'	32:a:491:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:642:A:H2'	32:a:643:C:H6	1.83	0.44
32:a:689:C:H2'	32:a:690:G:O4'	2.17	0.44
32:a:855:G:O2'	32:a:856:C:H5'	2.18	0.44
32:a:876:G:H2'	32:a:877:C:C6	2.53	0.44
32:a:1070:U:H2'	32:a:1071:C:C6	2.53	0.44
32:a:1160:G:N1	32:a:1176:A:H2	2.08	0.44
32:a:1181:G:H1'	32:a:1182:G:C4	2.52	0.44
35:d:162:LEU:HB3	35:d:178:VAL:CG1	2.40	0.44
37:f:12:PRO:HB2	37:f:45:LEU:CD2	2.48	0.44
41:j:40:LEU:HB3	41:j:41:PRO:HD2	1.99	0.44
42:k:30:VAL:O	42:k:43:SER:N	2.51	0.44
49:r:21:LYS:HA	49:r:55:ARG:O	2.18	0.44
50:s:30:LEU:CD1	50:s:48:THR:HG22	2.40	0.44
51:t:33:ILE:HG23	51:t:63:ILE:HG12	1.98	0.44
51:t:47:GLY:HA3	51:t:92:LEU:HD21	2.00	0.44
51:t:53:LEU:CD1	51:t:100:ILE:H	2.26	0.44
54:C:78:ALA:HB1	54:C:82:LYS:HB3	1.99	0.44
54:C:185:LEU:CA	54:C:188:ASN:HB2	2.43	0.44
55:z:25:C:H2'	55:z:26:A:C8	2.53	0.44
1:A:140:G:H1'	1:A:141:A:N7	2.33	0.44
1:A:181:A:H1'	1:A:435:C:C5'	2.47	0.44
1:A:242:G:N2	1:A:243:U:O4	2.37	0.44
1:A:253:C:H2'	1:A:254:G:O4'	2.18	0.44
1:A:272(E):U:O2'	1:A:272(F):C:H5'	2.18	0.44
1:A:363(E):G:H2'	1:A:363(F):U:O4'	2.18	0.44
1:A:370:G:H4'	1:A:371:A:OP2	2.17	0.44
1:A:575:A:H5'	1:A:2055:C:H5	1.83	0.44
1:A:653:A:C2	1:A:654:A:H1'	2.53	0.44
1:A:678:C:O2'	1:A:679:C:H5'	2.18	0.44
1:A:901:A:H2'	1:A:902:C:H6	1.82	0.44
1:A:970:C:H1'	1:A:984:A:O2'	2.18	0.44
1:A:1130:U:C2	4:E:147:PRO:HB3	2.53	0.44
1:A:1265:A:N6	1:A:2013:A:H3'	2.33	0.44
1:A:1265:A:H4'	1:A:1266:G:OP1	2.18	0.44
1:A:1287:A:N1	1:A:1648:C:O2'	2.46	0.44
1:A:1412:A:H2'	1:A:1413:G:H8	1.82	0.44
1:A:1503:U:O2'	1:A:1504:C:H5'	2.18	0.44
1:A:1799:G:OP1	1:A:1799:G:H3'	2.18	0.44
1:A:2025:C:H2'	1:A:2026:C:H6	1.82	0.44
1:A:2134:A:N1	1:A:2135:A:N6	2.57	0.44
1:A:2232:U:H2'	1:A:2233:U:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2400:G:H4'	28:6:18:ARG:CG	2.48	0.44
1:A:2445:G:OP1	5:F:74:ARG:NH1	2.50	0.44
1:A:2494:G:O2'	12:Q:80:GLU:HA	2.18	0.44
1:A:2587:A:N6	1:A:2608:G:H1'	2.33	0.44
1:A:2612:C:P	27:5:2:ALA:HB3	2.58	0.44
1:A:2693:A:H2'	1:A:2694:G:C8	2.51	0.44
4:E:2:LYS:HA	4:E:84:PHE:CE1	2.53	0.44
6:G:11:TYR:HA	6:G:15:VAL:CB	2.48	0.44
8:I:6:LEU:HD11	8:I:37:VAL:CG2	2.48	0.44
8:I:25:TYR:O	8:I:29:TYR:CB	2.57	0.44
8:I:78:THR:HA	8:I:143:SER:HG	1.82	0.44
8:I:129:THR:HG22	8:I:139:GLN:OE1	2.18	0.44
9:N:42:TRP:CH2	9:N:44:PRO:HB3	2.53	0.44
10:O:10:VAL:HG21	10:O:16:ALA:O	2.17	0.44
12:Q:32:TYR:CE2	12:Q:111:GLU:HG3	2.53	0.44
15:T:23:ARG:HH21	15:T:120:ARG:NE	2.15	0.44
19:X:65:ARG:HB2	19:X:70:LEU:HD23	1.98	0.44
26:4:42:PHE:HA	26:4:46:GLN:CD	2.43	0.44
29:7:26:GLY:O	29:7:30:VAL:HG23	2.17	0.44
32:a:42:G:O2'	32:a:43:C:H5'	2.18	0.44
32:a:437:U:H1'	35:d:119:GLN:NE2	2.33	0.44
32:a:519:C:H2'	32:a:520:A:C8	2.53	0.44
32:a:940:C:H2'	32:a:941:G:C8	2.53	0.44
32:a:1005:A:N9	32:a:1025:U:H1'	2.33	0.44
32:a:1142:G:H3'	32:a:1143:G:H8	1.83	0.44
32:a:1205:U:O2'	34:c:195:VAL:HG23	2.17	0.44
32:a:1333:A:H3'	32:a:1334:G:C8	2.48	0.44
32:a:1403:C:H3'	32:a:1404:5MC:HM51	1.99	0.44
32:a:1438:G:OP2	51:t:34:LYS:NZ	2.49	0.44
32:a:1514:C:H2'	32:a:1515:C:H6	1.82	0.44
33:b:10:LEU:O	33:b:13:ALA:HB3	2.18	0.44
35:d:112:VAL:HG13	35:d:161:ASN:HD21	1.81	0.44
50:s:44:MET:HB3	50:s:62:ILE:HG21	2.00	0.44
51:t:86:ARG:O	51:t:90:GLN:HG3	2.18	0.44
54:C:68:LEU:HG	54:C:159:GLY:CA	2.48	0.44
1:A:132:G:O2'	1:A:133:C:H5'	2.18	0.43
1:A:479:A:H4'	1:A:480:A:H5'	1.99	0.43
1:A:652(B):A:H2'	1:A:652(B):A:N3	2.33	0.43
1:A:1012:U:O5'	1:A:1013:C:H5"	2.18	0.43
1:A:1160:G:H2'	1:A:1161:C:H6	1.82	0.43
1:A:1409:C:O2'	1:A:1410:G:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1499:C:H2'	1:A:1500:G:H8	1.82	0.43
1:A:1564:C:O2'	1:A:1565:C:H5'	2.18	0.43
1:A:1685:C:H2'	1:A:1686:C:H6	1.82	0.43
1:A:1803:A:H3'	1:A:1804:C:C6	2.53	0.43
1:A:1933:G:H2'	1:A:1934:C:O4'	2.18	0.43
1:A:2011:U:H2'	1:A:2012:G:O4'	2.18	0.43
1:A:2128:C:OP2	54:C:36:LYS:HD2	2.17	0.43
1:A:2519:U:H4'	1:A:2520:C:OP1	2.18	0.43
1:A:2578:G:N7	4:E:140:SER:HB2	2.32	0.43
1:A:2653:U:O5'	1:A:2654:A:H2'	2.18	0.43
1:A:2661:G:O6	7:H:175:LYS:NZ	2.41	0.43
1:A:2808:U:N3	1:A:2892:A:C8	2.86	0.43
2:B:69:G:H2'	2:B:70:C:C6	2.53	0.43
3:D:112:GLN:O	3:D:115:GLN:HB3	2.18	0.43
3:D:145:VAL:HG22	3:D:191:ALA:CB	2.48	0.43
4:E:176:ILE:HG22	4:E:179:GLU:HB2	1.99	0.43
7:H:90:LYS:O	7:H:94:TYR:HB2	2.18	0.43
8:I:93:THR:H	8:I:96:ASP:HB2	1.83	0.43
12:Q:21:THR:HG21	12:Q:101:ARG:CA	2.46	0.43
12:Q:24:GLY:HA2	12:Q:67:ARG:NH2	2.32	0.43
12:Q:76:LYS:N	12:Q:91:GLU:HG2	2.33	0.43
14:S:78:LEU:HD21	14:S:109:GLY:O	2.17	0.43
19:X:1:MET:HE1	24:2:26:ARG:HB2	2.00	0.43
19:X:64:LYS:HG3	19:X:73:ARG:HE	1.81	0.43
20:Y:14:LEU:HD13	20:Y:24:VAL:HG22	1.99	0.43
20:Y:39:VAL:CG1	20:Y:42:VAL:HB	2.47	0.43
24:2:1:MET:HE3	24:2:6:VAL:CG2	2.46	0.43
26:4:52:THR:O	26:4:52:THR:HG22	2.18	0.43
28:6:8:LYS:HE2	30:8:34:TRP:CD2	2.52	0.43
31:9:1:MET:SD	31:9:33:LYS:HG2	2.57	0.43
32:a:66:G:H21	32:a:173:U:C5'	2.31	0.43
32:a:187:C:O2'	32:a:188:C:H5'	2.17	0.43
32:a:223:U:H2'	32:a:224:C:H6	1.83	0.43
32:a:406:G:H21	35:d:119:GLN:NE2	2.14	0.43
32:a:423:G:H3'	32:a:423:G:N3	2.32	0.43
32:a:559:A:H4'	32:a:560:U:H3'	2.00	0.43
32:a:774:G:H2'	32:a:775:G:O4'	2.18	0.43
32:a:930:C:C2'	32:a:931:C:H5"	2.48	0.43
32:a:954:G:H2'	32:a:955:U:C6	2.52	0.43
32:a:1010:G:N2	32:a:1020:U:H1'	2.33	0.43
32:a:1028:C:O2'	32:a:1029:C:O4'	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1250:A:O2'	32:a:1251:A:H5'	2.17	0.43
32:a:1315:U:H2'	32:a:1316:G:C8	2.52	0.43
32:a:1494:G:O2'	32:a:1495:U:H5'	2.18	0.43
32:a:1505:G:H5"	32:a:1506:U:O5'	2.18	0.43
34:c:142:MET:HG3	34:c:170:GLN:CD	2.43	0.43
35:d:21:LEU:N	35:d:26:CYS:SG	2.91	0.43
37:f:41:GLU:OE1	49:r:35:ARG:NH1	2.51	0.43
37:f:86:ARG:O	37:f:87:ARG:HD3	2.18	0.43
40:i:23:ASN:O	40:i:57:GLY:HA2	2.18	0.43
40:i:71:SER:HA	40:i:74:ILE:HD12	2.00	0.43
43:l:93:LEU:HA	43:l:94:PRO:HD3	1.84	0.43
44:m:102:ARG:NE	44:m:104:ARG:HB3	2.28	0.43
53:y:13:C:C2'	53:y:14:A:H5'	2.48	0.43
1:A:10:G:C1'	1:A:2801(B):A:H61	2.30	0.43
1:A:116:C:H5"	1:A:128:C:H41	1.82	0.43
1:A:260:G:O4'	1:A:621:A:O2'	2.18	0.43
1:A:348:G:H2'	1:A:349:G:C8	2.53	0.43
1:A:375:C:H2'	1:A:376:C:C6	2.52	0.43
1:A:511:U:H2'	1:A:512:G:H5'	1.99	0.43
1:A:593:G:O2'	1:A:594:U:H5'	2.18	0.43
1:A:619:G:N7	5:F:103:LYS:NZ	2.65	0.43
1:A:940:G:C3'	1:A:941:A:H5"	2.48	0.43
1:A:1086:A:O2'	1:A:1103:A:N1	2.39	0.43
1:A:1293:C:O2'	1:A:1294:U:H5'	2.18	0.43
1:A:1362:C:C3'	1:A:1363:C:H5"	2.48	0.43
1:A:1434:A:H2'	1:A:1435:G:H8	1.80	0.43
1:A:1655:A:O3'	4:E:115:GLY:HA3	2.18	0.43
1:A:1866:C:H2'	1:A:1876:A:C8	2.53	0.43
1:A:1885:A:H3'	1:A:1886:C:C6	2.53	0.43
1:A:1906:G:O2'	1:A:1907:G:H5'	2.18	0.43
1:A:1919:A:OP2	1:A:1920:4OC:H5	2.19	0.43
1:A:1949:G:H2'	1:A:1950:G:C8	2.53	0.43
1:A:2002:G:OP2	13:R:9:LYS:NZ	2.49	0.43
1:A:2132:U:C4	54:C:5:LYS:HG3	2.53	0.43
1:A:2267:A:H5"	1:A:2268:A:C5'	2.48	0.43
1:A:2398:U:H2'	1:A:2399:G:C8	2.52	0.43
1:A:2471:C:H2'	1:A:2472:G:O4'	2.18	0.43
1:A:2830:G:O2'	1:A:2831:G:H5'	2.18	0.43
4:E:84:PHE:CZ	4:E:86:PRO:HB3	2.53	0.43
5:F:23:ASP:O	5:F:24:LEU:HD12	2.18	0.43
8:I:133:HIS:O	8:I:136:VAL:HB	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:P:19:VAL:HB	11:P:31:ALA:CA	2.42	0.43
11:P:65:ARG:NH1	30:8:25:MET:SD	2.90	0.43
11:P:124:LYS:O	11:P:124:LYS:HD3	2.17	0.43
13:R:44:LEU:O	13:R:44:LEU:HD22	2.17	0.43
23:1:73:LEU:HD11	23:1:98:LEU:CD2	2.47	0.43
32:a:224:C:H2'	32:a:225:C:C6	2.53	0.43
32:a:387:U:H5"	32:a:388:G:OP1	2.18	0.43
32:a:453:A:H2'	32:a:454:C:C6	2.52	0.43
32:a:631:G:O3'	32:a:632:A:H8	2.02	0.43
32:a:695:A:OP2	42:k:53:SER:N	2.51	0.43
32:a:741:G:C5'	46:o:39:LEU:HD11	2.48	0.43
32:a:811:C:O2'	32:a:901:A:N1	2.49	0.43
32:a:1146:A:H2'	32:a:1146:A:N3	2.33	0.43
32:a:1177:G:H3'	32:a:1178:G:C8	2.51	0.43
32:a:1443:G:N2	32:a:1460:A:H1'	2.33	0.43
33:b:97:TRP:CZ3	33:b:99:GLY:HA2	2.53	0.43
34:c:26:LYS:HG3	45:n:36:PHE:HD1	1.83	0.43
34:c:60:ALA:HB3	34:c:63:ASN:OD1	2.18	0.43
34:c:63:ASN:HB3	34:c:98:ASN:HB2	1.99	0.43
34:c:152:ILE:HD11	34:c:199:LYS:CG	2.48	0.43
35:d:8:VAL:HB	35:d:115:ARG:NH1	2.30	0.43
36:e:101:ILE:HA	36:e:107:ARG:HH21	1.83	0.43
47:p:54:GLU:O	47:p:57:ARG:HB3	2.18	0.43
52:u:3:LYS:HB3	52:u:14:TRP:CG	2.53	0.43
52:u:11:GLY:O	52:u:15:ARG:N	2.32	0.43
54:C:74:VAL:HG22	54:C:156:ILE:HG21	2.00	0.43
1:A:97:C:O2'	1:A:98:G:H5'	2.19	0.43
1:A:154(A):G:H2'	1:A:154(B):C:O4'	2.17	0.43
1:A:250:G:O6	1:A:386:G:N2	2.34	0.43
1:A:262:A:O2'	1:A:263:C:H5'	2.19	0.43
1:A:272(E):U:H2'	1:A:272(F):C:H6	1.78	0.43
1:A:305:U:O2'	1:A:306:U:H5'	2.19	0.43
1:A:414:C:H1'	1:A:1864:U:O2'	2.18	0.43
1:A:571:A:C5'	1:A:2030:A:H62	2.31	0.43
1:A:1108:U:H2'	1:A:1109:C:H1'	2.00	0.43
1:A:1271:G:N2	1:A:1617:C:O4'	2.51	0.43
1:A:1364:G:P	23:1:61:ARG:HH22	2.42	0.43
1:A:1432:C:O2'	1:A:1433:U:H5'	2.18	0.43
1:A:1843:C:O2'	1:A:1844:C:H5'	2.18	0.43
1:A:2294:C:H2'	1:A:2295:C:H6	1.82	0.43
4:E:109:LYS:HE2	4:E:191:PRO:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:154:VAL:HG13	5:F:191:ARG:O	2.18	0.43
7:H:4:ILE:O	7:H:7:LEU:HB2	2.18	0.43
9:N:67:LEU:HD12	9:N:88:GLU:HG2	2.00	0.43
13:R:7:GLY:HA2	13:R:43:GLU:OE2	2.18	0.43
14:S:83:LYS:O	14:S:111:GLU:HB2	2.17	0.43
17:V:24:LYS:HB2	17:V:90:PRO:HB2	2.01	0.43
20:Y:89:PHE:HA	20:Y:94:LYS:O	2.18	0.43
21:Z:54:HIS:NE2	21:Z:123:ASP:HB3	2.32	0.43
21:Z:75:ASN:C	21:Z:84:GLU:HG2	2.43	0.43
26:4:15:ILE:O	26:4:33:VAL:HG22	2.19	0.43
26:4:50:VAL:HG11	44:m:65:LYS:CB	2.25	0.43
28:6:16:CYS:SG	28:6:18:ARG:HB2	2.58	0.43
32:a:96:U:H5’	32:a:97:G:OP2	2.18	0.43
32:a:295:C:H2’	32:a:296:U:O4’	2.18	0.43
32:a:347:G:C2’	32:a:348:G:H5’	2.48	0.43
32:a:658:G:OP1	46:o:31:LEU:HD13	2.17	0.43
32:a:697:U:C4’	32:a:786:G:H4’	2.48	0.43
32:a:865:A:H2’	32:a:866:C:O4’	2.18	0.43
32:a:898:G:N2	32:a:901:A:OP2	2.42	0.43
32:a:992:U:H5”	32:a:993:G:O4’	2.18	0.43
32:a:1104:G:O5’	33:b:111:ARG:HD2	2.17	0.43
32:a:1138:G:H2’	32:a:1140:C:H5’	2.00	0.43
32:a:1304:G:N1	32:a:1332:A:OP2	2.39	0.43
32:a:1323:G:O2’	32:a:1324:A:H5’	2.18	0.43
32:a:1425:U:H2’	32:a:1426:C:H6	1.83	0.43
32:a:1472:U:H2’	32:a:1473:A:C8	2.53	0.43
32:a:1508:G:H2’	32:a:1509:C:H6	1.83	0.43
33:b:91:PRO:CB	33:b:155:LEU:HB2	2.49	0.43
33:b:163:PHE:HE2	33:b:215:LEU:HD21	1.83	0.43
36:e:79:GLU:HB2	36:e:91:LEU:O	2.18	0.43
37:f:12:PRO:HA	37:f:59:TYR:HB2	2.00	0.43
43:l:113:ARG:HH21	43:l:116:SER:HG	1.62	0.43
50:s:36:ARG:HD2	50:s:52:TYR:O	2.19	0.43
53:y:8:U:O4’	53:y:48:C:H1’	2.17	0.43
53:y:18:G:N1	53:y:55:U:H1’	2.28	0.43
53:y:35:A:C2’	53:y:36:U:H5’	2.49	0.43
54:C:15:ASP:HB3	54:C:18:LYS:HB3	1.99	0.43
54:C:46:LYS:HE2	54:C:210:ARG:HH11	1.83	0.43
1:A:13:A:O2’	1:A:15:G:N7	2.51	0.43
1:A:196:A:O4’	11:P:46:LYS:HD2	2.18	0.43
1:A:694:U:C2’	1:A:695:G:H5”	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:995:C:P	16:U:53:ARG:HH21	2.42	0.43
1:A:1293:C:H2'	1:A:1294:U:H6	1.82	0.43
1:A:1564:C:H2'	1:A:1565:C:C6	2.54	0.43
1:A:1614:A:N6	18:W:92:ARG:O	2.51	0.43
1:A:1766:U:O2'	1:A:1767:C:H5'	2.18	0.43
1:A:1889:A:HO2'	1:A:1890:A:P	2.41	0.43
1:A:2431:U:N3	1:A:2434:A:OP2	2.39	0.43
4:E:12:THR:O	4:E:23:VAL:N	2.32	0.43
7:H:30:LYS:N	7:H:79:VAL:O	2.52	0.43
7:H:148:ILE:HA	7:H:151:ILE:HD12	2.00	0.43
8:I:110:ASP:N	8:I:130:TYR:OH	2.38	0.43
9:N:25:ARG:O	9:N:28:THR:HB	2.19	0.43
9:N:26:LEU:O	9:N:30:ILE:HG13	2.19	0.43
9:N:75:TYR:CE2	9:N:77:GLY:HA2	2.52	0.43
11:P:81:GLN:HE22	11:P:107:LYS:HG3	1.83	0.43
11:P:114:ILE:HB	11:P:130:PHE:HD1	1.84	0.43
14:S:51:ALA:HB2	14:S:73:LEU:HD13	2.01	0.43
16:U:6:THR:HG1	16:U:10:ARG:HH22	1.65	0.43
20:Y:86:ARG:NH1	20:Y:100:ALA:HA	2.33	0.43
21:Z:27:VAL:HG23	21:Z:35:ARG:O	2.19	0.43
23:1:5:CYS:HB3	23:1:8:SER:HG	1.84	0.43
25:3:23:LEU:HD22	25:3:50:VAL:HG21	2.00	0.43
32:a:65:U:O5'	32:a:71:C:C5	2.71	0.43
32:a:137:C:H2'	32:a:138:G:H8	1.83	0.43
32:a:184:G:H2'	32:a:185:A:H8	1.83	0.43
32:a:363:A:C6	43:l:31:PRO:HD2	2.53	0.43
32:a:518:C:H5"	32:a:519:C:C5	2.54	0.43
32:a:1410:G:O2'	32:a:1411:C:H5'	2.18	0.43
33:b:46:LYS:O	33:b:49:GLU:HB2	2.17	0.43
37:f:6:VAL:HG12	37:f:8:ILE:HG13	2.00	0.43
37:f:61:LEU:HD23	37:f:63:TYR:OH	2.18	0.43
38:g:73:MET:SD	38:g:90:GLU:HA	2.58	0.43
38:g:75:VAL:HA	38:g:87:VAL:O	2.19	0.43
39:h:53:VAL:HB	39:h:58:TYR:CD2	2.54	0.43
44:m:81:LEU:HD22	44:m:86:CYS:SG	2.58	0.43
49:r:38:GLU:O	49:r:41:LYS:HB3	2.18	0.43
54:C:161:ILE:HD12	54:C:173:ALA:HB3	1.99	0.43
54:C:165:ASN:HA	54:C:170:ALA:O	2.18	0.43
55:z:30:G:H2'	55:z:31:A:C8	2.53	0.43
1:A:12:U:O2'	1:A:13:A:H5'	2.18	0.43
1:A:253:C:C2'	1:A:254:G:H5'	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:380:U:OP1	23:1:18:ILE:HB	2.18	0.43
1:A:391:G:O2'	1:A:410:G:OP1	2.34	0.43
1:A:654:A:O2'	1:A:655:A:H5'	2.18	0.43
1:A:881:G:H2'	1:A:882:G:C8	2.54	0.43
1:A:1019:U:OP1	1:A:1035:U:O2'	2.15	0.43
1:A:1028:A:N3	1:A:2486:G:O2'	2.46	0.43
1:A:1060:U:OP2	1:A:1060:U:H3'	2.19	0.43
1:A:1113:U:H2'	1:A:1114:G:H8	1.83	0.43
1:A:1358:G:O2'	1:A:1373:A:N6	2.52	0.43
1:A:1430:C:H2'	1:A:1431:U:H6	1.83	0.43
1:A:1570:A:H2'	1:A:1571:A:H8	1.78	0.43
1:A:2065:C:O2'	1:A:2251:OMG:HM21	2.19	0.43
1:A:2093:G:H1	1:A:2197:U:H3	1.67	0.43
1:A:2266:A:H4'	1:A:2267:A:C2	2.54	0.43
1:A:2319:G:OP1	1:A:2319:G:H3'	2.18	0.43
1:A:2378:A:H4'	14:S:23:ARG:NH1	2.32	0.43
1:A:2389:G:O5'	1:A:2390:U:H5'	2.19	0.43
1:A:2618:G:O2'	1:A:2619:C:H5'	2.18	0.43
1:A:2784:C:H2'	1:A:2785:C:H6	1.83	0.43
2:B:46:A:H2'	2:B:47:C:C6	2.54	0.43
2:B:80:U:O2'	2:B:81:G:H5'	2.18	0.43
6:G:20:ILE:O	6:G:24:GLY:N	2.35	0.43
7:H:76:VAL:O	7:H:80:SER:HB3	2.17	0.43
15:T:92:GLY:O	15:T:120:ARG:NH2	2.51	0.43
15:T:105:LEU:O	15:T:110:ILE:HD11	2.18	0.43
21:Z:104:PHE:HD1	21:Z:141:VAL:HG11	1.84	0.43
32:a:71:C:H6	32:a:72:C:H1'	1.82	0.43
32:a:105:G:O2'	32:a:106:C:H5'	2.18	0.43
32:a:118:U:H2'	32:a:119:A:H5'	2.00	0.43
32:a:537:G:H2'	32:a:538:G:H8	1.83	0.43
32:a:582:U:H2'	32:a:583:A:H8	1.81	0.43
32:a:635:G:O2'	32:a:636:U:H5'	2.18	0.43
32:a:743:U:H2'	32:a:744:C:H6	1.80	0.43
32:a:1446:U:H4'	32:a:1447:A:C5	2.53	0.43
33:b:11:LEU:HD23	33:b:217:ARG:NH2	2.33	0.43
33:b:57:PHE:CE2	33:b:185:ILE:HD11	2.52	0.43
40:i:115:GLY:C	40:i:116:LYS:HD2	2.43	0.43
42:k:17:GLY:HA2	42:k:35:PRO:HG3	1.98	0.43
43:l:117:ARG:HD2	43:l:122:THR:HG22	2.00	0.43
44:m:15:VAL:HG11	44:m:48:LEU:HD21	1.99	0.43
46:o:75:PRO:O	46:o:79:ARG:N	2.24	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:s:30:LEU:HD13	50:s:48:THR:CG2	2.41	0.43
51:t:19:SER:O	51:t:23:ARG:HB2	2.18	0.43
54:C:114:VAL:HG11	54:C:156:ILE:CD1	2.48	0.43
56:x:35:G:O2'	56:x:36:C:H5'	2.19	0.43
1:A:83:G:N2	1:A:103:A:OP2	2.51	0.43
1:A:220:G:C4'	1:A:234:C:H4'	2.47	0.43
1:A:303:U:H2'	1:A:304:G:C8	2.53	0.43
1:A:572:A:H2'	1:A:573:G:O4'	2.19	0.43
1:A:986:C:C2'	1:A:987:G:H5'	2.49	0.43
1:A:1049:C:C2'	1:A:1050:A:H5'	2.49	0.43
1:A:1079:C:H2'	1:A:1080:C:O4'	2.19	0.43
1:A:1092:C:H6	1:A:1092:C:P	2.42	0.43
1:A:1294:U:O2'	1:A:1295:C:H5'	2.18	0.43
1:A:1416:G:O2'	1:A:1417:C:OP2	2.26	0.43
1:A:1444:G:O3'	1:A:1445(A):A:H2'	2.18	0.43
1:A:1759:A:H2'	1:A:1760:A:C8	2.54	0.43
1:A:1999:C:O2	1:A:2687:U:O2'	2.36	0.43
1:A:2093:G:H2'	1:A:2094:G:C8	2.53	0.43
1:A:2129:C:H4'	54:C:4:GLY:HA2	2.01	0.43
1:A:2331:G:H2'	1:A:2332:U:H6	1.84	0.43
1:A:2331:G:H4'	22:0:43:THR:H	1.84	0.43
1:A:2588:G:H2'	1:A:2589:A:H5'	2.00	0.43
1:A:2751:G:H4'	7:H:4:ILE:CD1	2.43	0.43
1:A:2840:C:H2'	1:A:2841:C:C6	2.53	0.43
1:A:2852:G:H2'	1:A:2853:C:O4'	2.18	0.43
1:A:2864:G:H2'	1:A:2865:U:O4'	2.19	0.43
2:B:12:C:H2'	22:0:73:GLY:HA3	2.00	0.43
2:B:100:A:H3'	2:B:101:G:H8	1.82	0.43
2:B:105:A:H4'	21:Z:89:PHE:HE1	1.83	0.43
3:D:118:VAL:HG13	3:D:123:ALA:HB2	2.00	0.43
6:G:138:GLN:HB3	6:G:153:ARG:O	2.19	0.43
7:H:26:VAL:HG12	7:H:79:VAL:CG2	2.41	0.43
7:H:41:MET:HE3	7:H:64:LEU:CB	2.47	0.43
8:I:77:LEU:HA	8:I:105:HIS:CE1	2.53	0.43
9:N:12:ARG:O	9:N:50:ASP:HB3	2.19	0.43
9:N:42:TRP:CE3	16:U:63:VAL:HG11	2.53	0.43
10:O:113:LYS:O	10:O:116:SER:OG	2.31	0.43
21:Z:54:HIS:CG	21:Z:101:PRO:HG3	2.53	0.43
21:Z:110:GLY:CA	21:Z:145:GLU:HA	2.48	0.43
32:a:55:A:C2'	32:a:56:U:H5'	2.49	0.43
32:a:64:G:H1'	32:a:71:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:72:C:O2	32:a:73:G:H5'	2.18	0.43
32:a:187:C:H2'	32:a:188:C:O4'	2.19	0.43
32:a:195:A:H2'	32:a:196:A:C4	2.53	0.43
32:a:485:G:N2	32:a:486:U:O4	2.39	0.43
32:a:669:U:H2'	32:a:670:G:C8	2.54	0.43
32:a:734:G:H21	49:r:75:ILE:CD1	2.32	0.43
32:a:740:U:O2'	32:a:741:G:H5'	2.19	0.43
32:a:878:G:C5'	39:h:89:PRO:HB2	2.49	0.43
32:a:1074:G:H4'	33:b:103:THR:O	2.18	0.43
32:a:1340:A:O2'	53:y:31:G:O2'	2.11	0.43
33:b:48:MET:HA	33:b:51:LEU:CG	2.48	0.43
33:b:69:LEU:HD12	33:b:92:TYR:HA	2.01	0.43
33:b:167:PRO:HG2	33:b:192:SER:CB	2.46	0.43
46:o:62:GLN:HA	46:o:65:ARG:HE	1.83	0.43
47:p:20:VAL:HG21	47:p:32:TYR:CB	2.49	0.43
47:p:36:ILE:O	47:p:51:VAL:HG13	2.19	0.43
48:q:15:MET:HE1	48:q:43:LEU:HD13	2.00	0.43
49:r:58:LEU:HB3	49:r:62:GLU:CB	2.49	0.43
53:y:43:A:H2'	53:y:44:A:O4'	2.18	0.43
53:y:44:A:H2'	53:y:45:G:O4'	2.19	0.43
54:C:6:ARG:O	54:C:6:ARG:HD2	2.18	0.43
54:C:25:ALA:HB1	54:C:222:VAL:HG11	2.01	0.43
54:C:46:LYS:O	54:C:210:ARG:N	2.51	0.43
54:C:105:ASP:OD1	54:C:106:GLY:N	2.46	0.43
54:C:119:VAL:HA	54:C:121:GLY:HA3	1.52	0.43
1:A:122:G:O2'	1:A:123:G:H5'	2.19	0.43
1:A:144:C:H2'	1:A:145:G:C8	2.49	0.43
1:A:237:C:H2'	1:A:238:C:C6	2.53	0.43
1:A:374:A:H3'	1:A:375:C:C6	2.54	0.43
1:A:613:G:H2'	1:A:614(A):U:O2	2.17	0.43
1:A:636:G:OP2	11:P:113:LYS:NZ	2.38	0.43
1:A:672:C:H4'	5:F:89:VAL:HG21	1.99	0.43
1:A:1139:G:C5'	9:N:70:LYS:HE2	2.49	0.43
1:A:1143:A:OP1	9:N:25:ARG:NH2	2.52	0.43
1:A:1180:C:O2'	1:A:1181:C:H5'	2.18	0.43
1:A:1287:A:OP1	13:R:106:GLY:N	2.51	0.43
1:A:1337:G:P	19:X:73:ARG:HH22	2.42	0.43
1:A:1499:C:H2'	1:A:1500:G:C8	2.54	0.43
1:A:1557:C:H2'	1:A:1558:A:N7	2.33	0.43
1:A:1578:U:C2'	1:A:1579:A:H5'	2.48	0.43
1:A:1789:A:H2'	1:A:1790:C:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1824:G:P	3:D:52:ARG:HH21	2.41	0.43
1:A:1949:G:C2'	1:A:1950:G:H5'	2.49	0.43
1:A:2124:G:O2'	1:A:2125:G:H5'	2.18	0.43
1:A:2198:A:O2'	1:A:2199:A:H8	2.02	0.43
1:A:2406:U:C4	11:P:72:PRO:HD2	2.54	0.43
1:A:2423:U:H4'	1:A:2424:C:O5'	2.19	0.43
1:A:2645:G:O2'	1:A:2646:C:H5'	2.19	0.43
1:A:2670:A:H2'	1:A:2671:A:C8	2.52	0.43
1:A:2821:A:H61	13:R:2:ARG:HH22	1.67	0.43
2:B:114:C:O2'	14:S:46:VAL:HG13	2.19	0.43
4:E:176:ILE:HB	4:E:181:LEU:HB2	2.01	0.43
5:F:118:ALA:HA	5:F:123:LEU:HB2	2.01	0.43
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.54	0.43
8:I:72:LEU:CD1	8:I:107:VAL:HG11	2.46	0.43
15:T:101:PHE:HD2	15:T:105:LEU:HD11	1.83	0.43
18:W:22:ASP:OD1	18:W:25:ARG:NH2	2.40	0.43
32:a:49:U:O2	32:a:362:G:H1'	2.19	0.43
32:a:103:C:OP2	51:t:21:LYS:HD2	2.18	0.43
32:a:201:C:H3'	32:a:203:U:H5	1.80	0.43
32:a:277:C:H5"	48:q:68:ARG:NH2	2.33	0.43
32:a:324:G:N2	32:a:326:G:H3'	2.34	0.43
32:a:408:A:H2'	32:a:409:G:H8	1.82	0.43
32:a:766:A:H2'	32:a:767:A:O4'	2.19	0.43
32:a:773:G:O2'	32:a:774:G:H5'	2.19	0.43
32:a:819:A:H4'	32:a:820:U:OP2	2.19	0.43
32:a:892:A:C2'	32:a:893:C:H5'	2.49	0.43
32:a:960:U:O2	32:a:1223:C:H5'	2.19	0.43
32:a:1268:A:N3	32:a:1326:C:O2'	2.48	0.43
33:b:158:LEU:HD12	33:b:159:PRO:HD2	2.01	0.43
34:c:138:VAL:HG12	34:c:170:GLN:OE1	2.18	0.43
36:e:152:ARG:HB2	39:h:43:GLY:HA3	2.00	0.43
39:h:85:ARG:HA	39:h:135:CYS:HB3	2.01	0.43
44:m:59:TYR:CE1	44:m:63:THR:HG21	2.53	0.43
47:p:53:VAL:HG13	47:p:79:VAL:HG13	2.01	0.43
50:s:80:TYR:CZ	50:s:82:GLY:HA2	2.54	0.43
51:t:48:LYS:O	51:t:51:GLU:HB2	2.18	0.43
53:y:23:C:O2'	53:y:24:U:H5'	2.19	0.43
53:y:33:U:H2'	53:y:35:A:OP2	2.19	0.43
54:C:131:LEU:HD12	54:C:137:LEU:HD22	2.01	0.43
55:z:51:U:O4	55:z:63:G:O6	2.36	0.43
1:A:470:A:H2'	1:A:471:A:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:536:A:H5'	16:U:53:ARG:HD3	1.99	0.43
1:A:700:G:H2'	1:A:701:G:O4'	2.18	0.43
1:A:718:A:C2'	1:A:719:C:H5'	2.49	0.43
1:A:859:G:N2	1:A:860:U:O4	2.25	0.43
1:A:1264:G:H1'	1:A:2015:A:N6	2.33	0.43
1:A:1341:U:H1'	19:X:55:ASN:HB3	1.99	0.43
1:A:1375:C:H2'	1:A:1376:C:H6	1.83	0.43
1:A:1386:C:H2'	1:A:1387:C:H6	1.84	0.43
1:A:1484:G:O2'	1:A:1485:G:H5'	2.19	0.43
1:A:1529:G:O6	1:A:1540:U:O4	2.36	0.43
1:A:1926:U:H2'	1:A:1928:A:OP2	2.18	0.43
1:A:2176:A:H1'	54:C:215:THR:HG21	1.99	0.43
1:A:2334:G:H4'	1:A:2335:A:OP2	2.18	0.43
1:A:2706:G:H5'	1:A:2852:G:OP1	2.19	0.43
3:D:68:LYS:HB3	3:D:70:TRP:NE1	2.33	0.43
3:D:258:LYS:HE2	3:D:273:ARG:CZ	2.49	0.43
4:E:9:VAL:CG2	4:E:25:VAL:HB	2.49	0.43
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.54	0.43
5:F:188:ARG:HA	11:P:3:LEU:HD11	2.01	0.43
6:G:146:TYR:HA	6:G:149:VAL:CG1	2.49	0.43
8:I:26:ALA:CA	8:I:30:LEU:HD12	2.48	0.43
9:N:35:ARG:HD3	9:N:108:PRO:HD3	2.01	0.43
13:R:86:ARG:HG3	13:R:87:TYR:CD2	2.53	0.43
15:T:29:ARG:HG2	15:T:44:ASP:HB3	2.00	0.43
17:V:39:LEU:CD1	17:V:47:VAL:HA	2.48	0.43
18:W:10:VAL:C	18:W:100:THR:HG23	2.43	0.43
26:4:42:PHE:HD1	26:4:46:GLN:HE22	1.67	0.43
26:4:56:VAL:CG2	26:4:60:GLN:HG3	2.46	0.43
32:a:64:G:N2	32:a:69:G:OP2	2.49	0.43
32:a:130:A:H5"	32:a:189(H):G:O2'	2.19	0.43
32:a:321:A:H5"	32:a:328:C:C4	2.54	0.43
32:a:681:C:H2'	32:a:682:G:H8	1.83	0.43
32:a:728:A:O2'	32:a:729:A:H5'	2.18	0.43
32:a:821:G:O2'	32:a:822:C:H5'	2.18	0.43
32:a:1147:C:H4'	40:i:5:TYR:CZ	2.54	0.43
32:a:1217:C:H2'	32:a:1218:C:H6	1.83	0.43
32:a:1261:A:N6	32:a:1274:G:H1'	2.33	0.43
32:a:1281:U:H5"	32:a:1282:C:C5	2.54	0.43
32:a:1389:C:H2'	32:a:1390:U:O4'	2.18	0.43
33:b:19:HIS:O	33:b:20:GLU:HG2	2.18	0.43
33:b:178:ARG:NH1	33:b:198:ASP:OD1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:127:THR:CA	35:d:132:ARG:HA	2.41	0.43
35:d:180:GLY:HA3	35:d:182:LYS:HE3	1.99	0.43
36:e:28:PHE:CE2	36:e:51:VAL:HG23	2.54	0.43
39:h:50:ARG:HG2	39:h:59:LEU:HD21	2.00	0.43
42:k:32:ILE:HB	42:k:41:THR:CG2	2.46	0.43
42:k:82:VAL:N	42:k:107:SER:O	2.52	0.43
43:l:27:LEU:HB3	43:l:30:ALA:O	2.18	0.43
44:m:11:ARG:O	44:m:44:ARG:HB3	2.18	0.43
48:q:42:TYR:HD2	48:q:59:ILE:HD11	1.84	0.43
49:r:21:LYS:HD2	49:r:56:THR:C	2.44	0.43
51:t:63:ILE:CG2	51:t:77:ALA:HB1	2.48	0.43
53:y:1:C:O2'	53:y:2:G:O5'	2.37	0.43
53:y:35:A:O2'	53:y:36:U:H5'	2.18	0.43
54:C:58:VAL:O	54:C:164:ARG:HA	2.17	0.43
54:C:217:THR:O	54:C:218:MET:HB2	2.19	0.43
55:z:37:A:H3'	55:z:38:A:H8	1.83	0.43
1:A:68:G:H2'	1:A:69:C:H6	1.84	0.43
1:A:75:G:H22	1:A:111:A:H2	1.66	0.43
1:A:202:U:O2'	1:A:203:C:H5'	2.19	0.43
1:A:272(R):G:OP1	23:1:76:ARG:NH1	2.52	0.43
1:A:442:G:O4'	5:F:46:ARG:HG3	2.19	0.43
1:A:459:U:H5"	29:7:40:TRP:CD2	2.54	0.43
1:A:686:G:H21	1:A:788:A:H61	1.65	0.43
1:A:741:G:H2'	1:A:742:G:H8	1.83	0.43
1:A:745:G:P	4:E:133:LYS:HD2	2.59	0.43
1:A:838:C:O2'	1:A:839:U:H5'	2.18	0.43
1:A:917:A:H2'	1:A:918:A:O4'	2.19	0.43
1:A:1211:U:H3'	1:A:1212:G:C5'	2.49	0.43
1:A:1313:U:O3'	1:A:1332:G:H4'	2.18	0.43
1:A:1449:A:H2'	1:A:1450(A):G:O4'	2.19	0.43
1:A:1696:G:H2'	1:A:1697:G:O4'	2.18	0.43
1:A:1754:C:P	15:T:96:ARG:HH12	2.41	0.43
1:A:1998:G:H2'	1:A:1999:C:H6	1.81	0.43
1:A:2391:G:C6	1:A:2427:C:H1'	2.54	0.43
1:A:2521:C:O2'	1:A:2522:U:H5'	2.18	0.43
1:A:2567:G:H2'	1:A:2568:C:H6	1.82	0.43
1:A:2854:G:H2'	1:A:2855:C:C6	2.53	0.43
3:D:51:VAL:CG1	3:D:54:ARG:HD2	2.48	0.43
4:E:31:CYS:O	4:E:91:VAL:N	2.52	0.43
4:E:72:VAL:HG12	4:E:73:GLU:O	2.18	0.43
6:G:173:LEU:O	6:G:177:GLY:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:13:LYS:HA	7:H:15:VAL:N	2.33	0.43
8:I:26:ALA:HA	8:I:30:LEU:HD12	2.00	0.43
8:I:38:LEU:HD23	8:I:39:ALA:H	1.84	0.43
10:O:73:ASP:OD2	10:O:75:SER:OG	2.26	0.43
10:O:87:ILE:HG13	10:O:88:ASN:O	2.19	0.43
11:P:31:ALA:O	11:P:32:THR:OG1	2.22	0.43
13:R:100:LEU:CD2	13:R:112:ALA:HA	2.49	0.43
16:U:66:ASN:CG	16:U:76:TYR:HB2	2.44	0.43
18:W:88:ARG:HG3	18:W:94:ASP:OD2	2.19	0.43
19:X:28:PHE:O	19:X:78:LYS:HA	2.19	0.43
22:0:69:PHE:CE1	22:0:79:VAL:HG22	2.54	0.43
26:4:10:VAL:HG22	26:4:26:SER:O	2.18	0.43
26:4:46:GLN:C	26:4:48:ARG:H	2.25	0.43
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.33	0.43
32:a:66:G:C2	32:a:173:U:H3'	2.54	0.43
32:a:129(B):G:C6	32:a:189(F):U:H4'	2.53	0.43
32:a:279:A:C8	48:q:98:LEU:HD23	2.54	0.43
32:a:294:U:O2'	32:a:295:C:H5'	2.19	0.43
32:a:511:C:O2'	32:a:512:U:OP2	2.30	0.43
32:a:945:G:H1'	32:a:1337:G:H1'	2.01	0.43
32:a:1026:G:H2'	32:a:1026:G:N3	2.34	0.43
32:a:1051:C:H2'	32:a:1052:U:O4'	2.18	0.43
32:a:1250:A:H4'	40:i:67:GLY:CA	2.46	0.43
32:a:1307:U:O2'	32:a:1308:U:H5'	2.18	0.43
33:b:134:GLU:O	33:b:138:LEU:HG	2.18	0.43
35:d:31:CYS:O	35:d:34:GLU:HB2	2.19	0.43
35:d:147:ALA:HA	35:d:182:LYS:HA	2.00	0.43
36:e:84:PHE:CB	36:e:134:ALA:HB2	2.49	0.43
37:f:96:PRO:HA	49:r:30:ASP:OD2	2.19	0.43
38:g:91:VAL:HG13	38:g:95:ARG:HB3	2.00	0.43
39:h:124:ALA:HB1	39:h:129:VAL:O	2.19	0.43
40:i:36:TYR:CZ	40:i:70:LYS:HE2	2.54	0.43
44:m:81:LEU:CD2	44:m:84:ILE:HD11	2.49	0.43
50:s:36:ARG:NH1	50:s:53:ASN:HA	2.34	0.43
54:C:131:LEU:HD12	54:C:137:LEU:HD23	2.01	0.43
1:A:319:C:H2'	1:A:320:A:O4'	2.18	0.43
1:A:488:G:N2	1:A:491:G:H3'	2.34	0.43
1:A:679:C:O2'	1:A:680:G:H5'	2.18	0.43
1:A:833:U:O2'	1:A:834:C:H5'	2.19	0.43
1:A:840:C:P	1:A:932:G:H1	2.42	0.43
1:A:934:G:H2'	1:A:935:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:959:A:O2'	1:A:2457:U:H4'	2.19	0.43
1:A:1051:G:H2'	1:A:1052:C:C1'	2.49	0.43
1:A:1069:A:O4'	1:A:1096:A:H5'	2.19	0.43
1:A:1218:C:O2'	1:A:1219:G:H5'	2.19	0.43
1:A:1471:A:H62	1:A:1519:G:H2'	1.84	0.43
1:A:1654:A:O4'	1:A:2823:A:H5'	2.18	0.43
1:A:1792:G:C5'	3:D:205:VAL:HG13	2.46	0.43
1:A:1949:G:H2'	1:A:1950:G:O4'	2.19	0.43
1:A:1999:C:H5"	1:A:2723:C:O2'	2.18	0.43
1:A:2080:G:H2'	1:A:2081:C:C6	2.54	0.43
1:A:2124:G:O2'	54:C:217:THR:OG1	2.11	0.43
1:A:2357:U:H5'	22:0:20:ARG:NH2	2.34	0.43
1:A:2543:G:O2'	1:A:2544:G:H5'	2.19	0.43
1:A:2626:C:O2'	1:A:2627:G:H5'	2.19	0.43
1:A:2748:A:H4'	7:H:66:GLY:HA3	2.01	0.43
1:A:2786:U:O2'	1:A:2787:C:H5'	2.18	0.43
1:A:2818:G:C2'	1:A:2819:G:H5'	2.49	0.43
6:G:107:LEU:HD23	6:G:111:LEU:CD1	2.45	0.43
6:G:118:ARG:CB	6:G:181:ARG:HG3	2.49	0.43
6:G:126:ASP:N	6:G:130:ASN:O	2.39	0.43
10:O:64:ARG:HG2	10:O:79:PHE:CZ	2.54	0.43
12:Q:41:TRP:C	12:Q:42:ILE:HD12	2.44	0.43
16:U:17:ILE:HG23	16:U:39:LEU:CD1	2.43	0.43
20:Y:99:CYS:HB3	20:Y:102:CYS:O	2.18	0.43
21:Z:10:ARG:H	21:Z:37:VAL:HA	1.84	0.43
24:2:41:ILE:HD11	24:2:43:GLN:HB2	2.00	0.43
32:a:64:G:H2'	32:a:70:G:C5'	2.49	0.43
32:a:143:A:N1	32:a:220:G:C6	2.87	0.43
32:a:330:C:C2'	32:a:331:G:H5'	2.47	0.43
32:a:406:G:H1'	32:a:495:A:N1	2.34	0.43
32:a:406:G:N2	35:d:119:GLN:HE22	2.17	0.43
32:a:768:A:H2'	32:a:769:G:H5'	1.99	0.43
32:a:1001(B):G:H2'	32:a:1002:G:C1'	2.49	0.43
32:a:1060:C:O2'	32:a:1061:G:H5'	2.19	0.43
32:a:1074:G:O3'	33:b:103:THR:HB	2.19	0.43
32:a:1092:A:H2'	32:a:1093:A:C8	2.54	0.43
32:a:1119:C:O2'	32:a:1120:G:H5'	2.19	0.43
32:a:1120:G:H2'	32:a:1121:U:H6	1.80	0.43
32:a:1142:G:H2'	32:a:1143:G:O4'	2.19	0.43
32:a:1157:A:H5'	32:a:1158:C:C5	2.54	0.43
32:a:1304:G:H5"	32:a:1305:G:OP1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1319:A:H4'	32:a:1320:C:OP1	2.19	0.43
32:a:1494:G:OP1	32:a:1494:G:H3'	2.19	0.43
33:b:8:LYS:HD2	33:b:8:LYS:N	2.33	0.43
33:b:162:ILE:HD11	33:b:184:VAL:CG1	2.46	0.43
34:c:19:GLU:O	34:c:56:ASP:HA	2.18	0.43
35:d:63:LYS:HD3	35:d:197:PRO:O	2.19	0.43
36:e:15:ARG:HD3	36:e:28:PHE:HE1	1.84	0.43
36:e:84:PHE:HB3	36:e:134:ALA:HB2	2.01	0.43
44:m:17:VAL:O	44:m:20:THR:OG1	2.35	0.43
44:m:22:ILE:HG23	44:m:67:GLU:OE2	2.19	0.43
44:m:34:LEU:CD1	44:m:41:PRO:HB3	2.48	0.43
45:n:7:ILE:HG22	45:n:23:ARG:HD3	2.00	0.43
46:o:15:PHE:CE1	46:o:84:LYS:HD3	2.53	0.43
46:o:25:THR:O	46:o:29:VAL:HG23	2.19	0.43
47:p:9:PHE:CE2	47:p:18:ARG:HD2	2.54	0.43
47:p:18:ARG:O	47:p:20:VAL:HG12	2.19	0.43
48:q:41:LYS:HD3	48:q:88:TYR:CZ	2.54	0.43
53:y:31:G:H2'	53:y:32:C:H6	1.83	0.43
53:y:34:C:H2'	53:y:35:A:C8	2.54	0.43
54:C:167:LYS:HG3	54:C:168:THR:HG23	2.01	0.43
55:z:55:U:H2'	55:z:57:G:C5'	2.47	0.43
1:A:232:G:H22	1:A:420:C:H5"	1.83	0.42
1:A:240:G:H1'	1:A:257:A:H61	1.84	0.42
1:A:244:A:H2'	1:A:245:G:O4'	2.18	0.42
1:A:429:A:H2'	1:A:430:G:C4	2.54	0.42
1:A:483:A:O4'	20:Y:48:ALA:HB1	2.19	0.42
1:A:850:C:O2'	1:A:851:U:H5'	2.19	0.42
1:A:870:A:C2'	1:A:871:U:H5'	2.49	0.42
1:A:966:G:H2'	1:A:967:C:H6	1.83	0.42
1:A:1084:A:H2'	1:A:1105:U:H4'	2.00	0.42
1:A:1158:C:O2'	1:A:1159:U:H5'	2.19	0.42
1:A:1319:G:H2'	1:A:1320:C:H6	1.84	0.42
1:A:1371:G:H2'	1:A:1372:U:H5	1.84	0.42
1:A:1375:C:H2'	1:A:1376:C:C6	2.54	0.42
1:A:1419:A:H1'	1:A:1420:U:H5	1.83	0.42
1:A:1861:G:O2'	1:A:1862:G:H5'	2.19	0.42
1:A:2134:A:C2	1:A:2159:G:H5'	2.54	0.42
1:A:2181:G:O2'	1:A:2182:G:H5'	2.19	0.42
1:A:2641:G:O2'	1:A:2642:G:H5'	2.19	0.42
2:B:7:G:H5'	14:S:29:PHE:CD1	2.54	0.42
2:B:25:A:H3'	2:B:26:A:H8	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:72:LYS:HD3	3:D:97:TYR:CE2	2.54	0.42
6:G:75:LYS:HA	6:G:84:LYS:CG	2.49	0.42
7:H:27:LYS:CE	7:H:32:GLU:HB2	2.35	0.42
9:N:12:ARG:NH2	9:N:138:LEU:HD11	2.19	0.42
12:Q:37:LEU:HB2	12:Q:128:LYS:O	2.19	0.42
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	2.00	0.42
13:R:60:LEU:O	13:R:63:ARG:HB2	2.18	0.42
13:R:98:LEU:CD2	27:5:57:VAL:HG21	2.49	0.42
14:S:26:LEU:HD23	14:S:28:VAL:HG23	2.01	0.42
15:T:16:ARG:HD2	15:T:19:LEU:CD1	2.49	0.42
15:T:20:PRO:HD2	15:T:86:ILE:HB	2.00	0.42
15:T:119:LYS:O	15:T:123:GLN:HG3	2.19	0.42
20:Y:37:VAL:O	20:Y:66:PRO:HA	2.19	0.42
23:1:83:GLU:HA	23:1:84:GLY:HA2	1.77	0.42
26:4:12:ALA:HB2	26:4:26:SER:HB3	2.00	0.42
26:4:14:ILE:CG2	26:4:22:ILE:HD13	2.49	0.42
32:a:238:G:H2'	32:a:239:U:O4'	2.19	0.42
32:a:277:C:H5'	48:q:68:ARG:NH1	2.33	0.42
32:a:320:C:O2'	32:a:1435:G:O2'	2.26	0.42
32:a:487:A:H3'	32:a:488:C:H6	1.84	0.42
32:a:554:C:O2'	32:a:555:C:H5'	2.19	0.42
32:a:603:U:O2	32:a:635:G:O6	2.37	0.42
32:a:676:A:H1'	42:k:115:PRO:HB3	2.01	0.42
32:a:689:C:OP1	42:k:27:ASN:ND2	2.42	0.42
32:a:914:A:O2'	32:a:915:A:H5'	2.19	0.42
32:a:971:G:H1'	32:a:1365:G:O2'	2.18	0.42
32:a:1238:A:H2'	32:a:1238:A:N3	2.33	0.42
32:a:1269:A:H1'	32:a:1326:C:C1'	2.49	0.42
32:a:1348:U:OP1	40:i:110:GLU:N	2.49	0.42
32:a:1381:U:O2'	32:a:1382:C:H5'	2.19	0.42
33:b:44:LEU:O	33:b:47:THR:HB	2.18	0.42
33:b:149:LEU:HA	33:b:152:PHE:HB3	2.01	0.42
35:d:13:ARG:NH1	35:d:40:PRO:HB3	2.34	0.42
35:d:33:MET:O	35:d:37:PRO:HB3	2.18	0.42
37:f:22:GLU:CD	37:f:82:ARG:HE	2.26	0.42
37:f:99:ALA:HB2	49:r:31:LEU:CD2	2.49	0.42
46:o:16:ALA:HB1	46:o:21:ASP:HB3	2.00	0.42
48:q:40:LYS:HE2	48:q:42:TYR:CE1	2.50	0.42
54:C:171:ILE:HG12	54:C:192:PHE:HZ	1.84	0.42
1:A:70:G:H5"	1:A:112:U:O2	2.19	0.42
1:A:71:A:H5"	1:A:73:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:133:C:O2'	1:A:134:C:H5'	2.18	0.42
1:A:190:A:H3'	1:A:191:A:H8	1.84	0.42
1:A:282:A:H3'	1:A:284:U:O4	2.19	0.42
1:A:393:C:O2'	1:A:394:A:H5'	2.19	0.42
1:A:409:C:H2'	1:A:410:G:H8	1.81	0.42
1:A:440:G:H2'	1:A:441:U:C6	2.55	0.42
1:A:493:G:O2'	1:A:494:G:H5'	2.19	0.42
1:A:784:A:HO2'	1:A:785:G:P	2.42	0.42
1:A:804:A:H2'	1:A:806:C:C4	2.53	0.42
1:A:865:C:H4'	1:A:866:A:OP1	2.19	0.42
1:A:948:G:O2'	1:A:949:C:H5'	2.20	0.42
1:A:1007:C:H5"	9:N:35:ARG:HH12	1.81	0.42
1:A:1063:G:O2'	1:A:1063:G:N3	2.45	0.42
1:A:1179:C:H2'	1:A:1180:C:H6	1.84	0.42
1:A:1352:U:O2'	1:A:1353:A:H5'	2.19	0.42
1:A:1823:G:O2'	1:A:1824:G:H5'	2.19	0.42
1:A:1857:G:H2'	1:A:1858:G:O4'	2.18	0.42
1:A:2008:C:H2'	1:A:2009:G:H8	1.83	0.42
1:A:2053:G:O2'	1:A:2054:A:H5'	2.19	0.42
1:A:2078:C:O2'	1:A:2079:U:H5'	2.18	0.42
1:A:2167:U:H2'	1:A:2168:G:C5	2.54	0.42
1:A:2535:G:O2'	1:A:2536:G:H5'	2.19	0.42
1:A:2637:U:H5"	4:E:82:ARG:NH1	2.35	0.42
2:B:8:U:C3'	2:B:9:G:H5"	2.47	0.42
6:G:134:GLY:C	6:G:135:LEU:HD22	2.43	0.42
8:I:50:ARG:C	8:I:54:GLN:HG2	2.44	0.42
8:I:61:ARG:O	8:I:65:ALA:CB	2.67	0.42
8:I:79:ILE:HD12	8:I:144:VAL:CG2	2.40	0.42
17:V:2:PHE:HA	17:V:14:VAL:O	2.19	0.42
17:V:37:VAL:O	17:V:52:VAL:HG22	2.19	0.42
21:Z:23:LYS:O	21:Z:25:PRO:HD3	2.19	0.42
21:Z:95:PRO:CG	21:Z:129:SER:HA	2.50	0.42
25:3:52:HIS:NE2	25:3:53:LEU:HG	2.35	0.42
32:a:46:G:HO2'	32:a:365:U:C2'	2.25	0.42
32:a:264:U:O2'	48:q:64:PRO:O	2.24	0.42
32:a:430:A:C2	32:a:431:A:H1'	2.54	0.42
32:a:615:C:O2'	32:a:616:G:H5'	2.19	0.42
32:a:721:G:H4'	32:a:722:A:C5'	2.50	0.42
32:a:798:G:OP1	42:k:122:LYS:NZ	2.52	0.42
32:a:826:C:H2'	32:a:827:U:H6	1.84	0.42
32:a:934:C:C5	32:a:1344:C:H2'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:953:G:C5’	32:a:965:A:H61	2.31	0.42
32:a:975:A:C2	32:a:1357:A:H1’	2.55	0.42
32:a:1147:C:O2’	32:a:1148:U:H5’	2.18	0.42
32:a:1328:C:H2’	32:a:1329:A:O4’	2.19	0.42
34:c:22:TRP:CE3	34:c:59:ARG:HD2	2.54	0.42
37:f:3:ARG:HB3	37:f:93:SER:HB2	2.01	0.42
42:k:20:TYR:CE1	42:k:83:ILE:HG21	2.54	0.42
42:k:87:THR:HA	42:k:91:ARG:NH1	2.34	0.42
46:o:75:PRO:CA	46:o:78:TYR:HB3	2.40	0.42
46:o:82:ILE:HG13	46:o:83:GLU:N	2.33	0.42
47:p:2:VAL:HA	47:p:23:ASP:HA	2.02	0.42
51:t:82:SER:O	51:t:86:ARG:HG3	2.19	0.42
54:C:44:HIS:HD2	54:C:215:THR:HG22	1.84	0.42
56:x:11:A:H3’	56:x:11:A:N3	2.34	0.42
1:A:135:G:O2’	1:A:136:G:H5’	2.20	0.42
1:A:749:C:O2	1:A:1618:A:H2’	2.19	0.42
1:A:878:A:H2	1:A:899:A:C2	2.37	0.42
1:A:946:G:O6	1:A:972:G:N2	2.52	0.42
1:A:994:C:H3’	16:U:54:LYS:HE3	2.01	0.42
1:A:1010:A:H5”	1:A:1011:G:OP2	2.19	0.42
1:A:1025:G:C4	1:A:1135:C:H1’	2.54	0.42
1:A:1589:C:O2’	1:A:1590:U:H5’	2.19	0.42
1:A:1800:C:H5’	3:D:147:LEU:HD21	2.01	0.42
1:A:1857:G:H1’	1:A:1885:A:H61	1.84	0.42
1:A:1922:G:H2’	1:A:1923:U:C6	2.54	0.42
1:A:1945:G:O2’	1:A:1946:U:H5’	2.19	0.42
1:A:1947:C:H2’	1:A:1948:G:H8	1.84	0.42
1:A:2098:U:O2	1:A:2191:G:N2	2.44	0.42
1:A:2249:U:O2’	1:A:2252:G:OP2	2.37	0.42
1:A:2347:C:H4’	1:A:2347:C:OP1	2.19	0.42
1:A:2378:A:H5”	14:S:23:ARG:HH12	1.84	0.42
1:A:2643:G:H2’	1:A:2644:G:H8	1.82	0.42
1:A:2661:G:H2’	1:A:2662:A:C8	2.54	0.42
1:A:2771:C:O2’	1:A:2772:C:H5’	2.19	0.42
2:B:40:U:H2’	26:4:2:LYS:CE	2.46	0.42
4:E:20:ALA:O	4:E:22:PRO:HD3	2.19	0.42
4:E:134:ILE:HD12	4:E:134:ILE:O	2.20	0.42
5:F:132:VAL:CG1	5:F:139:PHE:HA	2.44	0.42
6:G:16:ARG:O	6:G:20:ILE:HG13	2.19	0.42
12:Q:11:LYS:HZ3	12:Q:87:LYS:C	2.27	0.42
12:Q:18:LYS:O	12:Q:98:LYS:NZ	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:58:PHE:CE2	12:Q:109:VAL:HG21	2.55	0.42
17:V:62:LEU:N	17:V:93:GLU:O	2.41	0.42
21:Z:163:LEU:CD1	21:Z:165:VAL:HG22	2.50	0.42
23:1:77:ALA:CA	23:1:80:LEU:HD13	2.38	0.42
23:1:82:LEU:O	23:1:85:LEU:HB2	2.19	0.42
24:2:10:LEU:CD2	24:2:59:ARG:HD2	2.37	0.42
27:5:48:GLU:O	27:5:60:VAL:HG11	2.18	0.42
28:6:11:LEU:HB3	28:6:49:HIS:HB3	2.01	0.42
30:8:23:VAL:HG11	30:8:47:LYS:HD3	2.00	0.42
32:a:216:G:O2'	32:a:217:C:O5'	2.26	0.42
32:a:221:C:H5"	32:a:222:U:OP2	2.20	0.42
32:a:391:G:C3'	32:a:392:G:H5"	2.50	0.42
32:a:407:G:O2'	32:a:408:A:H5'	2.19	0.42
32:a:541:G:O2'	32:a:542:G:H5'	2.19	0.42
32:a:579:G:O2'	32:a:580:U:H5'	2.18	0.42
32:a:945:G:O6	32:a:1236:A:C6	2.72	0.42
32:a:967:5MC:H2'	32:a:968:A:C8	2.54	0.42
32:a:971:G:H4'	32:a:972:C:C5'	2.49	0.42
32:a:1053:G:H4'	32:a:1054:C:C5'	2.48	0.42
32:a:1444:C:H2'	32:a:1445:C:C6	2.54	0.42
32:a:1516:G:H2'	32:a:1518:MA6:OP2	2.19	0.42
34:c:58:GLU:OE1	34:c:58:GLU:N	2.52	0.42
35:d:147:ALA:HB2	35:d:182:LYS:CB	2.49	0.42
41:j:57:LYS:HG3	41:j:60:ARG:HH21	1.82	0.42
43:l:70:ILE:HG12	43:l:100:ILE:HD12	2.01	0.42
45:n:44:LEU:HD12	45:n:53:LEU:HD11	2.00	0.42
46:o:79:ARG:HA	46:o:82:ILE:HG12	2.00	0.42
49:r:66:LEU:O	49:r:70:ILE:HG13	2.19	0.42
50:s:39:THR:HG22	50:s:40:ILE:O	2.19	0.42
51:t:57:ARG:NH1	51:t:100:ILE:HB	2.33	0.42
54:C:41:VAL:HG21	54:C:185:LEU:CD1	2.48	0.42
54:C:42:GLU:HA	54:C:174:PRO:HB3	2.01	0.42
54:C:48:GLY:HA3	54:C:207:THR:O	2.19	0.42
54:C:75:LEU:CD1	54:C:93:TYR:HB3	2.48	0.42
1:A:195:A:P	1:A:196:A:H4'	2.59	0.42
1:A:272(F):C:H2'	1:A:272(G):C:O4'	2.20	0.42
1:A:276:A:H4'	1:A:278:A:C4	2.54	0.42
1:A:397:G:OP1	23:1:44:PRO:HA	2.20	0.42
1:A:559:G:O2'	1:A:560:C:H5'	2.19	0.42
1:A:593:G:H2'	1:A:594:U:H6	1.79	0.42
1:A:627:A:H4'	1:A:628:G:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:672:C:O2'	1:A:673:C:H5'	2.19	0.42
1:A:741:G:H2'	1:A:742:G:C8	2.55	0.42
1:A:849:A:H61	1:A:928:G:H1'	1.85	0.42
1:A:856:C:HO2'	1:A:857:C:P	2.42	0.42
1:A:876:C:H2'	1:A:877:U:C6	2.54	0.42
1:A:1238:G:O2'	1:A:1239:G:H5'	2.18	0.42
1:A:1399:C:H2'	1:A:1400:G:H8	1.84	0.42
1:A:1479:G:O2'	1:A:1480:G:H5'	2.19	0.42
1:A:1665:A:O2'	1:A:1666:G:H5'	2.20	0.42
1:A:1759:A:H1'	1:A:2711:A:C2	2.54	0.42
1:A:1946:U:H2'	1:A:1947:C:H6	1.84	0.42
1:A:2019:A:H2'	1:A:2020:A:H5"	2.01	0.42
1:A:2133:G:H21	1:A:2158:A:P	2.40	0.42
1:A:2144:U:O4'	1:A:2148:G:N2	2.52	0.42
1:A:2253:G:H2'	1:A:2254:C:H6	1.84	0.42
1:A:2312:U:H2'	1:A:2313:C:H5'	2.01	0.42
1:A:2317:C:C2'	1:A:2318:G:H5'	2.49	0.42
1:A:2358:G:H1	11:P:55:ARG:HH12	1.66	0.42
1:A:2445:G:O2'	1:A:2446:G:H5'	2.19	0.42
1:A:2461:C:H2'	1:A:2462:U:C6	2.55	0.42
1:A:2553:G:O4'	1:A:2582:G:O2'	2.34	0.42
1:A:2581:G:H2'	1:A:2581:G:N3	2.34	0.42
1:A:2641:G:OP2	9:N:83:LYS:HE3	2.19	0.42
1:A:2819:G:O2'	1:A:2820:A:H5'	2.20	0.42
3:D:274:ARG:HB2	3:D:276:LYS:OXT	2.19	0.42
4:E:6:GLY:CA	4:E:28:ALA:HA	2.49	0.42
4:E:100:GLU:O	4:E:172:VAL:HG23	2.18	0.42
5:F:107:LYS:HE2	5:F:205:ARG:O	2.20	0.42
6:G:7:LEU:HD22	6:G:100:TRP:HE3	1.83	0.42
6:G:107:LEU:HD21	6:G:178:PHE:HD1	1.81	0.42
6:G:138:GLN:OE1	6:G:138:GLN:N	2.53	0.42
8:I:114:LEU:HD13	8:I:115:ALA:N	2.34	0.42
12:Q:21:THR:O	21:Z:78:LYS:HD3	2.19	0.42
15:T:42:ILE:HG21	15:T:84:GLN:OE1	2.19	0.42
18:W:23:LEU:HD13	27:5:25:LEU:O	2.18	0.42
19:X:90:GLU:HA	19:X:93:GLU:HG2	2.00	0.42
21:Z:53:ILE:HD12	21:Z:54:HIS:N	2.35	0.42
23:1:93:GLU:O	23:1:96:LYS:HB3	2.19	0.42
32:a:161:A:H2'	32:a:162:A:C8	2.55	0.42
32:a:254:G:OP1	48:q:68:ARG:N	2.37	0.42
32:a:878:G:C1'	39:h:3:THR:HG21	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1004:A:OP2	32:a:1025:U:H5'	2.19	0.42
32:a:1070:U:O2'	32:a:1071:C:H5'	2.19	0.42
32:a:1127:G:H5'	32:a:1280:A:O2'	2.19	0.42
32:a:1417:G:H2'	32:a:1482:G:H22	1.85	0.42
34:c:131:ARG:NE	34:c:135:LYS:HE3	2.34	0.42
41:j:16:LEU:HD23	41:j:94:VAL:CG2	2.47	0.42
43:l:37:CYS:SG	43:l:83:VAL:HG21	2.59	0.42
47:p:15:PRO:HB2	47:p:41:PRO:CG	2.48	0.42
47:p:20:VAL:CG2	47:p:32:TYR:HB2	2.49	0.42
50:s:69:HIS:HB3	50:s:73:GLU:OE1	2.19	0.42
1:A:272(O):C:H2'	1:A:272(P):C:O4'	2.20	0.42
1:A:321:G:H4'	5:F:168:ARG:HH21	1.85	0.42
1:A:639:U:H2'	1:A:640:C:H6	1.85	0.42
1:A:650:C:H4'	30:8:17:THR:HG21	2.02	0.42
1:A:691:C:O4'	3:D:43:ARG:NH2	2.53	0.42
1:A:780:G:H2'	1:A:782:A:N7	2.34	0.42
1:A:1089:G:N2	1:A:1090:U:O4	2.52	0.42
1:A:1197:G:H2'	1:A:1198:U:C6	2.55	0.42
1:A:1337:G:OP2	19:X:73:ARG:NH2	2.44	0.42
1:A:1355:G:O2'	1:A:1356:G:H5'	2.20	0.42
1:A:1359:A:N3	1:A:1359:A:H5'	2.35	0.42
1:A:1510:G:O2'	1:A:1511:C:H5'	2.20	0.42
1:A:1829:A:H2'	1:A:1830:C:H5'	2.02	0.42
1:A:2000:G:C2'	1:A:2001:A:H5'	2.49	0.42
1:A:2065:C:H2'	1:A:2066:C:H6	1.84	0.42
1:A:2090:G:N2	23:1:45:ASN:OD1	2.53	0.42
1:A:2201:C:O2'	1:A:2202:C:OP1	2.36	0.42
1:A:2348:U:H5'	28:6:21:TYR:OH	2.19	0.42
1:A:2361:A:OP1	30:8:26:LYS:HD2	2.18	0.42
1:A:2675:A:H2'	1:A:2676:C:O4'	2.18	0.42
1:A:2787:C:H2'	1:A:2788:C:H6	1.83	0.42
3:D:3:VAL:HG21	3:D:17:THR:HB	2.01	0.42
3:D:126:GLN:H	3:D:129:ASN:HD22	1.67	0.42
5:F:152:GLU:HG2	5:F:190:GLU:OE1	2.19	0.42
6:G:70:VAL:HG22	6:G:90:LEU:CD2	2.48	0.42
6:G:129:GLY:HA2	6:G:166:ASP:HA	2.01	0.42
6:G:145:THR:H	6:G:148:MET:HG2	1.84	0.42
7:H:14:GLY:O	7:H:29:PRO:HD3	2.19	0.42
7:H:154:PRO:HB3	7:H:163:TYR:CE1	2.45	0.42
8:I:47:LEU:CD1	8:I:51:ILE:HD11	2.49	0.42
8:I:140:LEU:HD23	8:I:141:LYS:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.83	0.42
13:R:44:LEU:O	13:R:44:LEU:HD13	2.19	0.42
15:T:16:ARG:NH2	15:T:81:PRO:HA	2.19	0.42
16:U:94:ASN:O	16:U:98:LEU:HG	2.19	0.42
18:W:45:TYR:CE2	18:W:49:LYS:HD2	2.54	0.42
19:X:65:ARG:CB	19:X:70:LEU:HD23	2.50	0.42
21:Z:17:ALA:HA	21:Z:20:ARG:NH1	2.34	0.42
24:2:41:ILE:CD1	24:2:43:GLN:HB2	2.49	0.42
25:3:12:PRO:HB2	25:3:20:LYS:HG2	2.02	0.42
32:a:70:G:H22	32:a:385:C:C1'	2.32	0.42
32:a:113:G:O2'	32:a:114:U:H5'	2.19	0.42
32:a:162:A:H3'	32:a:163:C:O4'	2.20	0.42
32:a:198:G:H2'	32:a:199:G:C8	2.54	0.42
32:a:401:C:H2'	32:a:402:G:H8	1.83	0.42
32:a:408:A:H2'	32:a:409:G:C8	2.55	0.42
32:a:452:A:H1'	47:p:72:ARG:HH11	1.84	0.42
32:a:484:G:H5'	32:a:486:U:O4'	2.19	0.42
32:a:1030(B):G:H4'	32:a:1030(D):G:C2	2.54	0.42
32:a:1231:G:H2'	32:a:1232:U:C6	2.54	0.42
32:a:1286:A:HO2'	32:a:1288:A:P	2.40	0.42
33:b:54:THR:HG22	33:b:58:ILE:HG12	2.01	0.42
35:d:108:LEU:HD23	35:d:110:PHE:CE2	2.54	0.42
36:e:10:MET:CE	56:x:25:A:H61	2.32	0.42
37:f:39:LYS:CB	37:f:64:GLN:HB3	2.49	0.42
39:h:114:THR:OG1	39:h:117:GLY:O	2.32	0.42
40:i:89:ASN:HB3	40:i:92:TYR:CD1	2.54	0.42
42:k:71:LYS:HA	42:k:74:ALA:HB3	2.01	0.42
47:p:1:MET:HG2	47:p:3:LYS:HG3	2.01	0.42
1:A:9:U:O2'	1:A:10:G:OP1	2.30	0.42
1:A:26:G:H2'	1:A:27:G:O4'	2.19	0.42
1:A:272(S):G:H2'	1:A:272(T):C:C6	2.54	0.42
1:A:331:A:N6	1:A:1210:A:OP2	2.40	0.42
1:A:420:C:H2'	1:A:421:U:H6	1.83	0.42
1:A:464:U:H4'	29:7:5:TRP:CZ3	2.54	0.42
1:A:536:A:H5'	16:U:53:ARG:CD	2.50	0.42
1:A:1069:A:C6	1:A:1095:A:H4'	2.55	0.42
1:A:1149:G:O2'	1:A:1150:C:H5'	2.19	0.42
1:A:1701:A:C2'	1:A:1702:G:H5'	2.49	0.42
1:A:1740:G:H2'	1:A:1741:A:H8	1.83	0.42
1:A:1922:G:H2'	1:A:1923:U:H6	1.84	0.42
1:A:1928:A:H2'	1:A:1929:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1932:A:H3'	1:A:1933:G:H8	1.85	0.42
1:A:1934:C:H2'	1:A:1935:G:H5'	2.00	0.42
1:A:1947:C:O2'	1:A:1948:G:H5'	2.20	0.42
1:A:1999:C:H2'	1:A:2000:G:O4'	2.19	0.42
1:A:2469:A:N6	1:A:2481:G:H1'	2.35	0.42
1:A:2618:G:H2'	1:A:2619:C:C6	2.54	0.42
1:A:2834:G:H4'	4:E:58:ARG:HH21	1.84	0.42
2:B:83:G:H4'	25:3:52:HIS:CG	2.55	0.42
5:F:118:ALA:HB2	5:F:123:LEU:HD22	2.02	0.42
6:G:113:ARG:HD2	6:G:140:ILE:HA	2.01	0.42
8:I:133:HIS:HB3	8:I:136:VAL:CG2	2.47	0.42
11:P:29:LYS:O	11:P:29:LYS:HG2	2.20	0.42
11:P:112:LEU:HD11	11:P:114:ILE:CD1	2.50	0.42
12:Q:31:ASP:OD1	21:Z:122:ARG:NH2	2.52	0.42
13:R:33:ARG:HG2	13:R:115:GLU:CB	2.48	0.42
13:R:81:ASP:O	13:R:85:PRO:HG2	2.20	0.42
13:R:104:ARG:HB2	13:R:111:LEU:CD2	2.42	0.42
17:V:16:PRO:HA	17:V:96:ILE:CG2	2.49	0.42
19:X:36:LYS:CE	19:X:56:THR:HG23	2.50	0.42
20:Y:39:VAL:CG2	20:Y:67:LEU:HD12	2.49	0.42
20:Y:53:PRO:O	20:Y:56:PRO:HD3	2.19	0.42
23:1:15:ALA:HB3	23:1:40:ARG:HD2	2.00	0.42
25:3:15:TYR:CZ	25:3:53:LEU:HD21	2.54	0.42
32:a:63:C:C1'	32:a:380:G:H4'	2.49	0.42
32:a:66:G:H1'	32:a:173:U:C2'	2.47	0.42
32:a:385:C:O2'	32:a:386:C:H5'	2.18	0.42
32:a:554:C:H2'	32:a:555:C:C6	2.54	0.42
32:a:687:A:H2'	32:a:687:A:OP2	2.20	0.42
32:a:791:G:O6	32:a:792:A:N6	2.50	0.42
32:a:894:G:O2'	32:a:895:G:H5'	2.19	0.42
32:a:954:G:HO2'	32:a:955:U:P	2.36	0.42
32:a:1174:G:O2'	32:a:1175:G:H5'	2.19	0.42
32:a:1342:C:O2'	32:a:1343:G:H5'	2.20	0.42
32:a:1347:G:H22	32:a:1374:A:P	2.43	0.42
32:a:1359:C:OP2	45:n:35:ARG:NE	2.52	0.42
33:b:71:VAL:HA	33:b:93:VAL:CG2	2.49	0.42
33:b:162:ILE:HD13	33:b:177:ALA:CB	2.49	0.42
34:c:195:VAL:C	34:c:196:LEU:HD22	2.43	0.42
35:d:125:HIS:O	35:d:126:ILE:HD13	2.19	0.42
35:d:170:VAL:CG1	35:d:174:LEU:HB2	2.49	0.42
37:f:63:TYR:HB3	37:f:65:VAL:HG13	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:97:PHE:O	49:r:30:ASP:HA	2.19	0.42
38:g:113:GLU:HG2	38:g:119:ARG:CG	2.50	0.42
41:j:8:LEU:HA	41:j:95:GLU:O	2.19	0.42
43:l:6:THR:OG1	43:l:9:GLN:HG3	2.19	0.42
44:m:15:VAL:HA	44:m:18:ALA:HB3	2.01	0.42
51:t:9:ASN:HD22	51:t:10:LEU:N	2.18	0.42
55:z:72:C:O2'	55:z:73:A:H5'	2.20	0.42
1:A:514:A:H2'	1:A:515:A:O4'	2.19	0.42
1:A:565:C:H2'	1:A:566:U:H6	1.85	0.42
1:A:803:U:O2'	1:A:804:A:H5'	2.20	0.42
1:A:819:A:C2'	1:A:820:A:H5'	2.50	0.42
1:A:838:C:H2'	1:A:839:U:C6	2.54	0.42
1:A:1069:A:H2'	1:A:1073:A:N7	2.35	0.42
1:A:1197:G:O2'	1:A:1198:U:H5'	2.20	0.42
1:A:1282:U:H2'	1:A:1283:G:O4'	2.20	0.42
1:A:1309:G:OP2	29:7:9:ARG:NH1	2.49	0.42
1:A:1351:C:H2'	1:A:1352:U:O4'	2.20	0.42
1:A:1498:C:H2'	1:A:1499:C:O4'	2.20	0.42
1:A:1702:G:H2'	1:A:1703:G:H8	1.84	0.42
1:A:1764:G:O2'	1:A:1765:C:H5'	2.20	0.42
1:A:1817:G:N3	1:A:1817:G:H2'	2.34	0.42
1:A:1877:A:H5'	1:A:1878:G:OP2	2.19	0.42
1:A:1978:A:O2'	1:A:1979:C:H5'	2.19	0.42
1:A:2049:G:N2	4:E:156:MET:SD	2.92	0.42
1:A:2052:G:O2'	1:A:2053:G:H5'	2.20	0.42
1:A:2677:G:H2'	1:A:2678:C:H6	1.85	0.42
1:A:2700:C:H2'	1:A:2701:C:H6	1.84	0.42
1:A:2772:C:H2'	1:A:2773:C:H6	1.84	0.42
1:A:2847:U:C2'	1:A:2848:G:H5'	2.49	0.42
2:B:26:A:O2'	2:B:27:C:H5'	2.19	0.42
2:B:28:C:OP1	14:S:31:SER:OG	2.34	0.42
2:B:29:A:H2'	2:B:30:C:H6	1.85	0.42
2:B:83:G:H2'	2:B:84:C:O4'	2.19	0.42
3:D:156:ALA:HA	3:D:178:PRO:HG2	2.02	0.42
5:F:34:TRP:NE1	11:P:8:PRO:HD3	2.35	0.42
5:F:101:LEU:HD12	5:F:102:PRO:CD	2.50	0.42
6:G:76:SER:HA	6:G:82:LEU:O	2.20	0.42
7:H:90:LYS:HD2	7:H:163:TYR:CD2	2.55	0.42
12:Q:57:HIS:CD2	12:Q:117:ALA:HB2	2.51	0.42
12:Q:137:TYR:OH	21:Z:45:ASP:OD1	2.23	0.42
13:R:33:ARG:HH21	13:R:113:LEU:HD22	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:U:90:VAL:HA	17:V:11:GLN:OE1	2.20	0.42
17:V:49:THR:HA	17:V:50:PRO:HA	1.89	0.42
20:Y:76:CYS:O	20:Y:80:GLY:N	2.52	0.42
22:0:43:THR:O	22:0:43:THR:HG23	2.20	0.42
23:1:13:ILE:HG12	23:1:42:GLN:HB2	2.01	0.42
23:1:64:ALA:HA	23:1:67:ILE:CD1	2.50	0.42
25:3:6:VAL:CG1	25:3:54:VAL:HG21	2.50	0.42
32:a:61:G:O2'	32:a:62:U:H5'	2.20	0.42
32:a:265:G:H2'	32:a:267:C:H5	1.84	0.42
32:a:338:A:H2'	32:a:339:C:O4'	2.19	0.42
32:a:542:G:H2'	32:a:543:C:H6	1.83	0.42
32:a:644:G:H4'	39:h:92:ARG:HH21	1.85	0.42
32:a:674:G:P	37:f:87:ARG:HH22	2.43	0.42
32:a:676:A:H2	32:a:714:G:H22	1.67	0.42
32:a:863:U:H2'	32:a:865:A:OP2	2.19	0.42
32:a:940:C:H2'	32:a:941:G:O4'	2.19	0.42
32:a:944:G:H2'	32:a:945:G:H5'	2.02	0.42
32:a:1001(B):G:HO2'	32:a:1002:G:P	2.39	0.42
32:a:1020:U:H4'	32:a:1020:U:OP1	2.20	0.42
32:a:1084:G:H5"	32:a:1085:U:OP2	2.19	0.42
32:a:1150:U:H2'	32:a:1151:A:H5'	2.01	0.42
32:a:1152:A:P	41:j:70:ARG:HH21	2.43	0.42
32:a:1190:G:OP1	34:c:5:ILE:HG22	2.19	0.42
32:a:1457:G:O2'	32:a:1458:G:H5'	2.19	0.42
34:c:58:GLU:HB3	41:j:92:THR:CG2	2.49	0.42
36:e:15:ARG:HB2	36:e:28:PHE:HE1	1.85	0.42
40:i:8:GLY:C	40:i:76:ALA:HB1	2.44	0.42
43:l:59:ARG:HB2	43:l:65:GLU:HG3	2.01	0.42
44:m:16:ASP:OD1	44:m:17:VAL:N	2.46	0.42
44:m:107:ALA:HB3	44:m:111:LYS:HD3	2.01	0.42
45:n:3:ARG:O	45:n:7:ILE:HG23	2.20	0.42
50:s:51:VAL:O	50:s:57:HIS:HA	2.20	0.42
53:y:73:A:C5'	53:y:74:C:H5'	2.45	0.42
54:C:28:LEU:HD11	54:C:32:LEU:HD11	2.01	0.42
54:C:200:LYS:CE	54:C:208:PHE:HB2	2.45	0.42
55:z:38:A:H2'	55:z:39:U:O4'	2.20	0.42
55:z:58:A:H4'	55:z:60:U:O4	2.19	0.42
1:A:6:A:H2'	1:A:7:G:O4'	2.20	0.42
1:A:272(D):G:H2'	1:A:272(E):U:C6	2.54	0.42
1:A:768:G:H2'	1:A:769:G:H8	1.84	0.42
1:A:1087:G:C2'	1:A:1088:A:H5'	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1371:G:H2'	1:A:1372:U:C5	2.55	0.42
1:A:1602:U:H3'	1:A:1603:A:H5'	2.01	0.42
1:A:1664:A:N6	1:A:1996:C:H42	2.14	0.42
1:A:2291:U:H2'	1:A:2292:C:H6	1.84	0.42
1:A:2737:G:O2'	1:A:2738:A:H5'	2.19	0.42
4:E:36:ARG:HH12	4:E:86:PRO:HG2	1.84	0.42
4:E:117:MET:O	4:E:121:ASN:N	2.42	0.42
6:G:121:ASN:OD1	6:G:123:ASN:N	2.52	0.42
10:O:107:ARG:HG3	10:O:115:VAL:HG21	2.01	0.42
11:P:138:LEU:HD23	11:P:145:PRO:CB	2.48	0.42
13:R:87:TYR:HE1	13:R:117:VAL:HB	1.85	0.42
20:Y:63:LYS:HG2	20:Y:64:GLU:N	2.35	0.42
21:Z:95:PRO:HB3	21:Z:129:SER:CA	2.45	0.42
23:1:73:LEU:HD22	23:1:97:LEU:HB2	2.01	0.42
29:7:34:ARG:HG3	29:7:39:ARG:HB2	2.02	0.42
32:a:23:C:O2'	32:a:24:U:H5'	2.20	0.42
32:a:109:A:H4'	32:a:110:C:OP2	2.18	0.42
32:a:158:G:H2'	32:a:159:G:O4'	2.20	0.42
32:a:196:A:H5"	32:a:197:A:OP1	2.20	0.42
32:a:320:C:HO2'	32:a:1435:G:HO2'	1.54	0.42
32:a:389:A:H5"	32:a:390:C:H5	1.82	0.42
32:a:559:A:OP2	36:e:126:ARG:NH2	2.51	0.42
32:a:594:G:H3'	32:a:595:G:C8	2.54	0.42
32:a:689:C:OP2	42:k:46:GLY:HA3	2.20	0.42
32:a:1030(A):C:O2	32:a:1030(A):C:H2'	2.19	0.42
32:a:1112:C:H42	34:c:178:LEU:HD23	1.82	0.42
32:a:1250:A:H61	32:a:1354:C:C1'	2.33	0.42
32:a:1278:U:H6	32:a:1278:U:O5'	2.03	0.42
32:a:1388:C:H2'	32:a:1389:C:C6	2.55	0.42
32:a:1507:A:O2'	32:a:1508:G:H5'	2.20	0.42
33:b:115:LEU:HD21	33:b:146:GLN:CG	2.49	0.42
33:b:162:ILE:CD1	33:b:184:VAL:HG13	2.46	0.42
35:d:60:GLU:O	35:d:63:LYS:HB3	2.20	0.42
36:e:6:PHE:CE1	36:e:66:MET:HE2	2.54	0.42
37:f:44:GLY:O	37:f:59:TYR:HA	2.20	0.42
41:j:27:ALA:HB3	41:j:34:VAL:HG12	1.99	0.42
41:j:34:VAL:HG23	41:j:34:VAL:O	2.20	0.42
42:k:71:LYS:HA	42:k:74:ALA:CB	2.50	0.42
43:l:57:LYS:CB	43:l:67:THR:HG22	2.50	0.42
44:m:57:ARG:HG3	44:m:61:GLU:CD	2.44	0.42
45:n:3:ARG:O	45:n:7:ILE:HG12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:p:55:ARG:O	47:p:58:TYR:HB3	2.19	0.42
48:q:9:VAL:HG21	48:q:84:LEU:CD1	2.50	0.42
53:y:68:C:H2'	53:y:69:C:H6	1.84	0.42
54:C:61:THR:CB	54:C:160:ARG:HD3	2.44	0.42
1:A:245:G:O5'	11:P:73:GLY:HA2	2.20	0.42
1:A:327:G:O2'	1:A:328:U:H5'	2.20	0.42
1:A:393:C:C2'	1:A:394:A:H5'	2.50	0.42
1:A:469:G:O6	29:7:37:LYS:HE2	2.19	0.42
1:A:652(V):G:O2'	1:A:652(W):C:H5'	2.20	0.42
1:A:752:A:H1'	1:A:753:C:OP2	2.19	0.42
1:A:854:G:H2'	1:A:855:G:H8	1.84	0.42
1:A:1086:A:H5'	1:A:1104:C:O2'	2.20	0.42
1:A:1150:C:H2'	1:A:1151:G:H8	1.84	0.42
1:A:1152:C:H2'	1:A:1153:C:C6	2.54	0.42
1:A:1169:G:H2'	1:A:1170:G:C8	2.54	0.42
1:A:1223:G:P	17:V:66:ARG:HH12	2.42	0.42
1:A:1439:A:C2'	1:A:1440:G:H5'	2.49	0.42
1:A:1590:U:O2'	1:A:1591:G:H5'	2.20	0.42
1:A:1769:G:O2'	1:A:1958:C:OP1	2.35	0.42
1:A:1989:G:O2'	1:A:1990:C:H5'	2.20	0.42
1:A:2103:C:C3'	1:A:2104:G:H5"	2.50	0.42
1:A:2132:U:O4	54:C:9:ALA:N	2.53	0.42
1:A:2135:A:C2'	1:A:2136:C:H5'	2.45	0.42
1:A:2521:C:O2'	1:A:2564:A:H1'	2.20	0.42
1:A:2602:A:H4'	1:A:2603:G:OP1	2.19	0.42
1:A:2602:A:C5'	53:y:74:C:H5"	2.49	0.42
1:A:2784:C:H1'	4:E:37:ARG:HH12	1.84	0.42
1:A:2838:G:C3'	1:A:2839:G:H5"	2.50	0.42
2:B:25:A:H3'	2:B:26:A:C8	2.55	0.42
3:D:109:ASP:O	3:D:127:VAL:HG11	2.20	0.42
4:E:36:ARG:HG2	4:E:47:VAL:HG12	2.02	0.42
4:E:176:ILE:CG2	4:E:179:GLU:HB2	2.49	0.42
6:G:173:LEU:HD13	6:G:178:PHE:CE2	2.55	0.42
7:H:15:VAL:HG11	7:H:76:VAL:HG13	2.00	0.42
7:H:137:ASP:OD2	7:H:140:LYS:HB2	2.20	0.42
10:O:66:LYS:N	10:O:81:ASP:O	2.53	0.42
12:Q:4:PRO:HG3	12:Q:69:PHE:HE2	1.85	0.42
12:Q:54:MET:HG3	12:Q:121:ALA:HB2	2.01	0.42
13:R:79:LEU:HA	13:R:83:ILE:HD12	2.02	0.42
15:T:11:GLU:O	15:T:15:VAL:HG23	2.20	0.42
16:U:76:TYR:O	16:U:80:ILE:HG12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Y:73:ARG:NH2	20:Y:83:THR:HA	2.35	0.42
20:Y:87:LYS:HG2	20:Y:95:LYS:HD2	2.01	0.42
21:Z:33:LEU:HD11	21:Z:90:VAL:CG2	2.40	0.42
21:Z:75:ASN:O	21:Z:83:PRO:HA	2.20	0.42
25:3:50:VAL:O	25:3:54:VAL:HG12	2.20	0.42
26:4:34:GLU:OE1	26:4:34:GLU:N	2.41	0.42
27:5:46:CYS:O	27:5:50:GLY:N	2.48	0.42
32:a:298:A:H3'	32:a:299:G:C8	2.55	0.42
32:a:313:A:H2'	32:a:314:C:H6	1.83	0.42
32:a:453:A:H2'	32:a:454:C:H6	1.85	0.42
32:a:510:A:N3	32:a:543:C:H1'	2.35	0.42
32:a:690:G:OP1	42:k:27:ASN:HB3	2.20	0.42
32:a:711:G:H2'	32:a:712:A:C8	2.54	0.42
32:a:926:G:H3'	32:a:1505:G:N2	2.31	0.42
32:a:1027:C:H2'	32:a:1027:C:H6	1.64	0.42
32:a:1197:G:C2'	32:a:1198:G:H5'	2.50	0.42
32:a:1226:C:H4'	50:s:80:TYR:CZ	2.55	0.42
32:a:1297:C:OP2	44:m:44:ARG:NH2	2.44	0.42
32:a:1300:G:HO2'	32:a:1301:U:P	2.42	0.42
33:b:102:LEU:HA	33:b:105:PHE:HB2	2.01	0.42
33:b:162:ILE:HG12	33:b:184:VAL:HA	2.02	0.42
35:d:81:GLU:CD	35:d:139:ARG:HH22	2.28	0.42
36:e:44:GLY:N	36:e:62:ALA:HB2	2.35	0.42
36:e:76:ILE:CG1	36:e:93:PRO:HG3	2.39	0.42
36:e:89:ILE:HD13	36:e:122:GLU:HG2	2.01	0.42
37:f:2:ARG:HD2	37:f:69:GLU:HB3	2.01	0.42
38:g:111:ARG:NH2	38:g:126:ASP:OD2	2.29	0.42
38:g:115:ARG:O	38:g:119:ARG:HG3	2.20	0.42
40:i:5:TYR:OH	40:i:7:THR:HG22	2.20	0.42
40:i:6:GLY:CA	40:i:83:ARG:HB2	2.49	0.42
42:k:62:GLN:HB2	42:k:93:GLN:CG	2.48	0.42
44:m:13:LYS:HB3	44:m:17:VAL:HG21	2.01	0.42
50:s:41:VAL:CG1	50:s:44:MET:HG3	2.32	0.42
53:y:15:G:N2	53:y:21:A:H1'	2.34	0.42
54:C:58:VAL:HG12	54:C:163:PHE:CD2	2.54	0.42
1:A:24:G:O2'	18:W:78:GLU:O	2.38	0.42
1:A:232:G:N2	1:A:420:C:H5"	2.35	0.42
1:A:320:A:O2'	1:A:322:A:OP2	2.38	0.42
1:A:459:U:H2'	1:A:460:A:H8	1.85	0.42
1:A:779:U:H2'	1:A:780:G:C8	2.55	0.42
1:A:842:G:H2'	1:A:843:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:956:G:P	12:Q:87:LYS:HG3	2.60	0.42
1:A:1050:A:N3	1:A:2751:G:N1	2.68	0.42
1:A:1290:C:H2'	1:A:1291:C:H6	1.85	0.42
1:A:1315:C:H2'	1:A:1316:U:C6	2.54	0.42
1:A:1360:A:C2'	1:A:1361:G:H5'	2.50	0.42
1:A:1367:A:H5"	1:A:1368:G:OP2	2.19	0.42
1:A:1488:G:C2	1:A:1489:U:H1'	2.54	0.42
1:A:1779:U:C2'	1:A:1783:A:H62	2.32	0.42
1:A:1980:G:O2'	1:A:1982:C:OP2	2.28	0.42
1:A:2102:U:H2'	1:A:2103:C:C6	2.55	0.42
1:A:2200:C:H5"	1:A:2201:C:OP2	2.20	0.42
1:A:2341:G:H2'	1:A:2342:C:O4'	2.20	0.42
1:A:2360:A:C2	1:A:2361:A:H1'	2.54	0.42
1:A:2385:C:H2'	1:A:2386:C:C6	2.55	0.42
1:A:2397:G:H2'	1:A:2398:U:C6	2.55	0.42
1:A:2453:A:H2'	1:A:2454:G:O4'	2.20	0.42
1:A:2549:G:H2'	1:A:2550:G:C8	2.50	0.42
1:A:2591:C:OP1	3:D:239:ARG:HB2	2.20	0.42
1:A:2748:A:H2'	1:A:2749:A:O4'	2.20	0.42
1:A:2812:G:H2'	1:A:2813:A:H8	1.84	0.42
4:E:1:MET:SD	4:E:199:ARG:HB3	2.60	0.42
5:F:33:LEU:O	5:F:37:VAL:HG23	2.20	0.42
6:G:127:GLY:HA2	6:G:166:ASP:OD2	2.20	0.42
6:G:145:THR:CG2	6:G:148:MET:H	2.29	0.42
7:H:70:THR:HG22	7:H:74:ASN:ND2	2.35	0.42
9:N:36:GLY:HA2	9:N:38:HIS:CE1	2.55	0.42
10:O:12:ASP:CG	10:O:14:THR:HG23	2.44	0.42
11:P:93:GLY:O	11:P:123:LEU:HB3	2.20	0.42
12:Q:114:ALA:O	12:Q:118:LEU:HG	2.20	0.42
20:Y:14:LEU:HD13	20:Y:24:VAL:CG2	2.50	0.42
32:a:34:C:H1'	43:l:32:PHE:HE2	1.84	0.42
32:a:40:C:H2'	32:a:41:G:C8	2.55	0.42
32:a:57:G:H2'	32:a:58:C:C6	2.54	0.42
32:a:123:C:H5"	32:a:311:C:O2'	2.20	0.42
32:a:186:C:O2'	32:a:187:C:H5'	2.19	0.42
32:a:308:C:H2'	32:a:309:G:H8	1.85	0.42
32:a:322:C:O2'	32:a:323:U:H5'	2.19	0.42
32:a:390:C:H4'	47:p:28:ARG:HH21	1.85	0.42
32:a:448:A:P	32:a:485:G:H22	2.43	0.42
32:a:547:A:OP2	35:d:2:GLY:N	2.53	0.42
32:a:684:A:N3	42:k:39:PRO:HG2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:696:A:O2'	32:a:697:U:H5'	2.19	0.42
32:a:755:G:H2'	32:a:756:C:C6	2.55	0.42
32:a:994:A:H61	32:a:1047:G:C4'	2.33	0.42
32:a:1012:U:H2'	32:a:1013:G:O4'	2.19	0.42
32:a:1040:U:H3'	32:a:1041:A:H8	1.85	0.42
32:a:1058:G:H2'	32:a:1059:C:C6	2.55	0.42
32:a:1108:G:O5'	34:c:176:HIS:HD2	2.03	0.42
32:a:1123:A:H4'	41:j:36:GLY:HA3	2.02	0.42
32:a:1197:G:H2'	32:a:1198:G:H5'	2.01	0.42
32:a:1220:G:H4'	32:a:1221:G:OP1	2.19	0.42
32:a:1256:A:O3'	32:a:1257:U:H4'	2.20	0.42
32:a:1279:A:H2'	32:a:1279:A:N3	2.34	0.42
32:a:1350:A:H2'	32:a:1351:U:H6	1.85	0.42
32:a:1354:C:O2'	32:a:1355:G:H5'	2.18	0.42
32:a:1497:G:H2'	32:a:1498:UR3:C6	2.47	0.42
32:a:1536:C:H2'	32:a:1537:U:C6	2.55	0.42
33:b:164:VAL:HG11	33:b:167:PRO:HA	2.02	0.42
35:d:148:VAL:HG21	35:d:158:ILE:CG2	2.42	0.42
39:h:68:ARG:HG3	39:h:74:PRO:O	2.20	0.42
42:k:32:ILE:O	42:k:40:ILE:N	2.53	0.42
42:k:65:ALA:O	42:k:69:ALA:N	2.50	0.42
44:m:22:ILE:HG22	44:m:23:TYR:O	2.20	0.42
54:C:42:GLU:HA	54:C:174:PRO:HA	2.00	0.42
54:C:61:THR:HG22	54:C:162:GLU:CB	2.49	0.42
56:x:44:G:O2'	56:x:45:C:O5'	2.34	0.42
1:A:143(B):C:H4'	19:X:38:GLU:OE1	2.20	0.41
1:A:147:U:H2'	1:A:148:C:H6	1.85	0.41
1:A:212:G:H2'	1:A:213:A:C1'	2.49	0.41
1:A:263:C:H1'	1:A:430:G:N3	2.35	0.41
1:A:285:C:H2'	1:A:286:C:C6	2.55	0.41
1:A:458:G:N2	1:A:469:G:H2'	2.35	0.41
1:A:479:A:H1'	1:A:481:G:H5"	2.02	0.41
1:A:527:C:O2'	1:A:2779:U:O2'	2.26	0.41
1:A:704:G:O2'	1:A:705:A:OP2	2.36	0.41
1:A:757:U:H2'	1:A:758:C:O4'	2.20	0.41
1:A:965:C:H2'	1:A:966:G:H8	1.85	0.41
1:A:1690:A:H2'	1:A:1691:C:O4'	2.19	0.41
1:A:1934:C:C2'	1:A:1935:G:H5'	2.50	0.41
1:A:1994:C:O2'	1:A:1995:U:H5'	2.20	0.41
1:A:2590:A:O2'	1:A:2591:C:H5'	2.19	0.41
1:A:2667:C:C2'	1:A:2668:G:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2679:A:O2'	1:A:2680:C:H5'	2.20	0.41
2:B:114:C:O2'	14:S:46:VAL:HA	2.20	0.41
4:E:18:ASP:HB3	15:T:82:LEU:HD11	2.02	0.41
5:F:134:GLY:CA	5:F:166:ALA:HB2	2.50	0.41
5:F:164:ARG:HB3	5:F:175:THR:HG23	2.02	0.41
9:N:71:ILE:HA	9:N:85:ILE:O	2.20	0.41
10:O:66:LYS:O	10:O:78:ARG:HD2	2.20	0.41
10:O:118:ALA:HB3	10:O:121:VAL:HG23	2.02	0.41
16:U:3:ARG:CZ	16:U:5:LYS:HB3	2.50	0.41
20:Y:43:ASN:CG	20:Y:65:ALA:HB3	2.45	0.41
25:3:15:TYR:CE2	25:3:53:LEU:HD21	2.55	0.41
26:4:61:ARG:HG3	50:s:42:PRO:HG3	2.01	0.41
32:a:230:G:H2'	32:a:231:G:O4'	2.19	0.41
32:a:295:C:O2'	32:a:296:U:H5'	2.20	0.41
32:a:473:G:O2'	32:a:474:G:H5'	2.20	0.41
32:a:487:A:H3'	32:a:488:C:C6	2.55	0.41
32:a:576:G:H2'	32:a:578:C:OP2	2.19	0.41
32:a:627:G:H2'	32:a:628:G:H8	1.85	0.41
32:a:1114:C:H2'	32:a:1115:C:C6	2.55	0.41
32:a:1147:C:O2'	40:i:16:ARG:NE	2.39	0.41
32:a:1266:G:H22	32:a:1268:A:H3'	1.84	0.41
32:a:1288:A:N1	32:a:1371:G:H1'	2.35	0.41
32:a:1332:A:H2'	32:a:1333:A:C8	2.55	0.41
32:a:1515:C:O2'	32:a:1516:G:H5'	2.19	0.41
33:b:122:PHE:CD2	33:b:142:LEU:HD13	2.54	0.41
35:d:13:ARG:O	35:d:39:PRO:HA	2.20	0.41
40:i:23:ASN:HA	40:i:57:GLY:O	2.20	0.41
42:k:72:ALA:C	42:k:77:MET:HB3	2.45	0.41
43:l:26:ALA:HB3	43:l:98:TYR:CZ	2.54	0.41
43:l:84:LEU:CB	43:l:104:VAL:HG11	2.50	0.41
44:m:22:ILE:CG2	44:m:25:ILE:HD12	2.50	0.41
44:m:84:ILE:HG13	44:m:86:CYS:H	1.84	0.41
46:o:29:VAL:CG2	46:o:66:LEU:HB3	2.50	0.41
47:p:8:ARG:HH22	47:p:15:PRO:HG3	1.85	0.41
50:s:36:ARG:NH2	50:s:75:ALA:O	2.48	0.41
51:t:11:SER:HA	51:t:14:LYS:HE2	2.00	0.41
51:t:100:ILE:HG22	51:t:101:GLY:N	2.30	0.41
54:C:68:LEU:HD11	54:C:161:ILE:CG2	2.50	0.41
54:C:137:LEU:HD22	54:C:138:PRO:CD	2.49	0.41
1:A:83:G:H1'	1:A:102:G:N2	2.35	0.41
1:A:551:G:O2'	1:A:1220:A:N3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:590:A:H2'	1:A:591:C:O4'	2.20	0.41
1:A:712:G:O2'	1:A:713:G:H5'	2.20	0.41
1:A:1475:G:H2'	1:A:1476:C:H6	1.85	0.41
1:A:1557:C:H2'	1:A:1558:A:C8	2.56	0.41
1:A:1658:C:H2'	1:A:1659:U:H6	1.82	0.41
1:A:2105:C:H3'	1:A:2106:G:H8	1.85	0.41
1:A:2134:A:O2'	1:A:2159:G:N3	2.47	0.41
1:A:2306:C:H2'	1:A:2307:G:C8	2.55	0.41
1:A:2325:G:H3'	1:A:2325:G:OP1	2.20	0.41
1:A:2393:A:O2'	30:8:13:ARG:NH2	2.53	0.41
1:A:2586:C:H2'	1:A:2587:A:O4'	2.20	0.41
1:A:2591:C:OP1	3:D:239:ARG:HD2	2.20	0.41
1:A:2700:C:H2'	1:A:2701:C:C6	2.55	0.41
1:A:2708:G:H2'	1:A:2709:G:C8	2.52	0.41
1:A:2740:A:H2'	1:A:2741:A:C8	2.55	0.41
2:B:89:G:H2'	2:B:90:A:C8	2.54	0.41
2:B:91:C:OP1	12:Q:17:LEU:N	2.50	0.41
2:B:102:A:H2'	2:B:103:G:O4'	2.19	0.41
3:D:175:LEU:O	3:D:182:LEU:HD23	2.20	0.41
5:F:39:TRP:CD1	5:F:101:LEU:HB2	2.55	0.41
8:I:4:ILE:CG1	8:I:18:VAL:HG22	2.50	0.41
20:Y:83:THR:OG1	20:Y:100:ALA:HB3	2.20	0.41
20:Y:90:LEU:C	20:Y:93:GLY:H	2.27	0.41
21:Z:180:VAL:HG22	21:Z:183:LEU:HD12	2.01	0.41
26:4:50:VAL:HG21	44:m:65:LYS:H	1.85	0.41
27:5:49:CYS:SG	27:5:51:TYR:HB2	2.60	0.41
32:a:68:G:H3'	32:a:76:C:N1	2.34	0.41
32:a:68:G:C5'	32:a:76:C:H3'	2.50	0.41
32:a:192:U:H4'	51:t:101:GLY:HA3	2.01	0.41
32:a:543:C:O2'	32:a:544:G:H5'	2.20	0.41
32:a:564:C:P	43:l:15:ARG:HE	2.43	0.41
32:a:695:A:H2'	32:a:696:A:H8	1.85	0.41
32:a:715:A:O2'	32:a:716:A:H5'	2.20	0.41
32:a:995:C:O2	45:n:4:LYS:NZ	2.40	0.41
32:a:1181:G:H4'	32:a:1182:G:H5'	2.01	0.41
32:a:1226:C:OP2	44:m:103:THR:HG21	2.20	0.41
32:a:1287:A:H3'	32:a:1288:A:H8	1.85	0.41
32:a:1309:G:O2'	32:a:1310:G:H5'	2.21	0.41
32:a:1388:C:O2'	32:a:1389:C:H5'	2.19	0.41
32:a:1419:G:C6	32:a:1481:U:O2	2.72	0.41
32:a:1462:G:H2'	32:a:1463:C:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:20:GLU:O	33:b:39:ILE:HA	2.20	0.41
33:b:30:ARG:HH22	33:b:194:PRO:HB2	1.85	0.41
34:c:113:ALA:N	34:c:114:PRO:HD2	2.35	0.41
34:c:153:VAL:HG13	34:c:197:GLY:O	2.21	0.41
35:d:173:TRP:HA	35:d:187:ARG:HG2	2.01	0.41
36:e:15:ARG:HD2	36:e:26:PHE:CG	2.55	0.41
46:o:7:GLU:OE1	46:o:38:ARG:NH2	2.53	0.41
47:p:53:VAL:HG22	47:p:79:VAL:HG22	2.02	0.41
49:r:73:ALA:HB1	49:r:78:LEU:HB2	2.02	0.41
51:t:53:LEU:HA	51:t:56:MET:HB3	2.02	0.41
54:C:28:LEU:HA	54:C:31:GLU:OE2	2.20	0.41
1:A:197:A:H3'	1:A:198:C:C6	2.55	0.41
1:A:272(J):C:O3'	1:A:272(K):U:H6	2.04	0.41
1:A:319:C:OP1	5:F:137:LYS:NZ	2.37	0.41
1:A:513:A:H5"	1:A:1216:G:O2'	2.21	0.41
1:A:639:U:O2'	1:A:640:C:H5'	2.20	0.41
1:A:709:U:H2'	1:A:710:G:O4'	2.20	0.41
1:A:1139:G:H5"	9:N:70:LYS:HE2	2.03	0.41
1:A:1277:G:O2'	1:A:1278:A:H5'	2.20	0.41
1:A:1278:A:O2'	1:A:1279:G:H5'	2.19	0.41
1:A:1311:G:H2'	29:7:47:ARG:CZ	2.51	0.41
1:A:1451:C:H4'	1:A:1452:A:N9	2.35	0.41
1:A:1547:C:H2'	1:A:1548:C:C6	2.55	0.41
1:A:1608:A:H1'	1:A:1610:A:OP2	2.20	0.41
1:A:1654:A:N6	1:A:2006:C:O4'	2.52	0.41
1:A:1721:G:O6	1:A:1739:U:H3'	2.20	0.41
1:A:1854:A:H2'	1:A:1855:G:H5'	2.02	0.41
1:A:2015:A:H3'	1:A:2016:U:C6	2.50	0.41
1:A:2085:C:H2'	1:A:2086:U:O4'	2.20	0.41
1:A:2106:G:H2'	1:A:2107:C:O4'	2.20	0.41
1:A:2367:G:C2'	1:A:2368:C:H5'	2.49	0.41
1:A:2577:A:O4'	27:5:3:LYS:HB2	2.20	0.41
1:A:2589:A:H2'	1:A:2590:A:C8	2.56	0.41
1:A:2625:G:H2'	1:A:2626:C:H6	1.82	0.41
1:A:2641:G:P	9:N:83:LYS:HE3	2.60	0.41
1:A:2735:G:H2'	1:A:2736:G:H8	1.85	0.41
1:A:2817:G:HO2'	1:A:2818:G:P	2.41	0.41
2:B:70:C:H2'	2:B:71:C:H6	1.85	0.41
5:F:12:LEU:HD23	5:F:13:SER:N	2.35	0.41
6:G:170:ARG:O	6:G:174:GLU:HB2	2.21	0.41
9:N:18:ALA:HB2	9:N:54:VAL:HG11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.01	0.41
16:U:52:ARG:HG3	16:U:56:ASP:OD2	2.20	0.41
16:U:103:PRO:O	16:U:107:ALA:CB	2.67	0.41
18:W:14:PRO:HD3	18:W:99:ARG:CB	2.50	0.41
18:W:14:PRO:O	18:W:18:ARG:HG3	2.20	0.41
19:X:90:GLU:OE2	19:X:93:GLU:HG3	2.20	0.41
26:4:35:VAL:HG23	26:4:39:CYS:SG	2.61	0.41
26:4:41:PRO:HA	26:4:44:THR:CG2	2.49	0.41
28:6:6:ARG:HA	28:6:26:ASN:HA	2.02	0.41
31:9:4:ARG:O	31:9:36:GLN:HA	2.20	0.41
32:a:68:G:H3'	32:a:76:C:C6	2.55	0.41
32:a:155:C:O2'	32:a:156:G:H5'	2.20	0.41
32:a:345:C:H4'	32:a:346:G:H5"	2.01	0.41
32:a:506:G:O2'	32:a:507:C:H5'	2.20	0.41
32:a:694:A:H5"	42:k:53:SER:HB3	2.02	0.41
32:a:734:G:H2'	32:a:735:C:C6	2.55	0.41
32:a:738:C:OP1	37:f:2:ARG:NH1	2.45	0.41
32:a:1194:U:H4'	36:e:22:GLY:O	2.20	0.41
32:a:1314:C:O2'	32:a:1315:U:H5'	2.20	0.41
32:a:1330:U:C5'	44:m:24:GLY:H	2.32	0.41
33:b:28:PHE:CE2	33:b:190:THR:HA	2.55	0.41
33:b:48:MET:O	33:b:51:LEU:HB2	2.19	0.41
33:b:87:ARG:CZ	33:b:233:SER:HB3	2.50	0.41
48:q:51:TYR:CE1	48:q:76:LEU:HB2	2.50	0.41
50:s:20:LEU:HD23	50:s:23:ASN:HD22	1.85	0.41
51:t:17:ARG:HG3	51:t:20:LEU:CD1	2.42	0.41
51:t:50:GLU:HB2	51:t:99:LEU:CD2	2.30	0.41
54:C:25:ALA:CB	54:C:224:ILE:HG22	2.50	0.41
55:z:60:U:H2'	55:z:61:C:H6	1.85	0.41
1:A:118:A:OP2	1:A:119:A:H5"	2.21	0.41
1:A:128:C:O2'	1:A:129:C:H5'	2.21	0.41
1:A:285:C:H2'	1:A:286:C:H6	1.85	0.41
1:A:290:G:H2'	1:A:291:C:C6	2.56	0.41
1:A:459:U:OP1	29:7:39:ARG:HA	2.20	0.41
1:A:492:A:H3'	1:A:493:G:C8	2.55	0.41
1:A:715:G:H2'	1:A:716:A:H8	1.84	0.41
1:A:751:A:O4'	18:W:90:ARG:HA	2.21	0.41
1:A:807:U:OP1	11:P:36:LYS:HD3	2.21	0.41
1:A:1017:G:H2'	1:A:1018:C:C6	2.55	0.41
1:A:1099:G:O2'	1:A:1100:C:H5'	2.21	0.41
1:A:1439:A:N6	1:A:1552:G:O2'	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1587:A:HO2'	1:A:1588:C:H5'	1.86	0.41
1:A:1592:C:H2'	1:A:1593:G:H8	1.84	0.41
1:A:1887:C:C2'	1:A:1888:G:H5'	2.50	0.41
1:A:2047:U:H2'	1:A:2048:G:C8	2.55	0.41
1:A:2135:A:N7	1:A:2159:G:H4'	2.35	0.41
1:A:2537:U:O2'	1:A:2538:C:H5'	2.20	0.41
1:A:2758:A:C4	7:H:67:LEU:HD21	2.55	0.41
4:E:199:ARG:HH12	4:E:202:LYS:NZ	2.17	0.41
5:F:36:VAL:CG1	5:F:183:VAL:HG21	2.50	0.41
5:F:123:LEU:HD13	5:F:192:LEU:HD22	2.02	0.41
6:G:10:LYS:O	6:G:15:VAL:HG23	2.21	0.41
11:P:19:VAL:HG21	11:P:31:ALA:HB1	2.01	0.41
12:Q:27:VAL:HB	12:Q:134:ARG:HA	2.02	0.41
12:Q:39:PRO:HD3	12:Q:99:PRO:CG	2.51	0.41
14:S:4:LEU:HB3	14:S:9:ARG:HG3	2.01	0.41
23:1:82:LEU:C	23:1:85:LEU:HD13	2.45	0.41
32:a:64:G:C2	32:a:69:G:H4'	2.54	0.41
32:a:99:U:H5	51:t:21:LYS:HB2	1.85	0.41
32:a:411:A:H1'	32:a:413:G:O4'	2.20	0.41
32:a:508:C:H1'	32:a:509:A:N7	2.35	0.41
32:a:509:A:HO2'	32:a:510:A:C1'	2.30	0.41
32:a:562:C:H1'	43:l:15:ARG:HB3	2.02	0.41
32:a:746:A:H2'	32:a:747:C:C6	2.56	0.41
32:a:756:C:H2'	32:a:757:U:O4'	2.21	0.41
32:a:781:A:OP2	32:a:800:G:N1	2.50	0.41
32:a:1508:G:O2'	32:a:1509:C:H5'	2.20	0.41
34:c:139:GLN:HG3	34:c:143:GLU:OE2	2.21	0.41
35:d:8:VAL:HG21	35:d:21:LEU:HB3	2.03	0.41
35:d:88:VAL:O	35:d:92:VAL:HG23	2.20	0.41
36:e:137:GLU:HA	36:e:140:ARG:NH1	2.35	0.41
37:f:71:ARG:O	37:f:75:LEU:N	2.40	0.41
42:k:29:ILE:HG12	42:k:44:SER:HB3	2.03	0.41
42:k:41:THR:HG21	42:k:71:LYS:CB	2.49	0.41
43:l:23:LYS:C	43:l:25:PRO:HD3	2.45	0.41
47:p:19:ILE:HD12	47:p:19:ILE:H	1.85	0.41
49:r:53:ARG:HG2	49:r:63:GLN:OE1	2.21	0.41
1:A:296:C:OP1	20:Y:4:LYS:HE2	2.20	0.41
1:A:535:C:O2'	16:U:53:ARG:HD3	2.20	0.41
1:A:844:C:H3'	1:A:845:G:C2	2.55	0.41
1:A:918:A:H5"	2:B:98:G:O2'	2.21	0.41
1:A:969:U:O2'	25:3:14:GLY:HA2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1094:U:H4'	1:A:1096:A:N7	2.36	0.41
1:A:1195:G:C2'	1:A:1196:C:H5'	2.50	0.41
1:A:1310:G:O4'	1:A:1611:C:H4'	2.19	0.41
1:A:1487:G:H2'	1:A:1488:G:H8	1.86	0.41
1:A:1654:A:H2'	1:A:1655:A:C8	2.52	0.41
1:A:1664:A:H3'	1:A:1665:A:H8	1.86	0.41
1:A:1803:A:H3'	1:A:1804:C:H6	1.86	0.41
1:A:1845:G:O2'	1:A:1846:G:H5'	2.20	0.41
1:A:2765:A:H3'	1:A:2765:A:N3	2.35	0.41
2:B:21:G:H2'	2:B:22:U:H6	1.84	0.41
9:N:94:HIS:CG	9:N:97:ARG:HD3	2.56	0.41
11:P:126:VAL:CG1	11:P:148:LEU:HD22	2.42	0.41
12:Q:136:ALA:O	12:Q:140:ALA:N	2.38	0.41
12:Q:141:GLN:NE2	21:Z:74:VAL:O	2.53	0.41
15:T:77:PRO:HB2	15:T:80:SER:HB2	2.02	0.41
20:Y:43:ASN:ND2	20:Y:65:ALA:HB3	2.35	0.41
21:Z:100:VAL:O	21:Z:124:ILE:HG22	2.21	0.41
26:4:50:VAL:CG1	44:m:65:LYS:HB3	2.25	0.41
32:a:71:C:H2'	32:a:72:C:H1'	2.02	0.41
32:a:228:A:H4'	47:p:62:VAL:HG21	2.03	0.41
32:a:412:A:C2	35:d:35:ARG:HB3	2.55	0.41
32:a:505:G:C2'	32:a:506:G:H5'	2.50	0.41
32:a:610:G:C2'	32:a:611:A:H5'	2.50	0.41
32:a:883:C:H2'	32:a:884:U:C6	2.55	0.41
32:a:971:G:H4'	32:a:972:C:H5"	2.02	0.41
32:a:982:U:H4'	32:a:983:A:O4'	2.21	0.41
32:a:991:U:H1'	32:a:992:U:OP2	2.20	0.41
32:a:1000:U:H3'	32:a:1001(A):A:H8	1.85	0.41
32:a:1140:C:H2'	32:a:1141:C:C6	2.56	0.41
32:a:1163:C:H2'	32:a:1164:G:H8	1.82	0.41
32:a:1181:G:H1'	32:a:1182:G:C8	2.55	0.41
32:a:1296:C:H4'	32:a:1302:U:C5	2.55	0.41
32:a:1341:U:O2'	32:a:1342:C:H5'	2.20	0.41
33:b:214:ILE:O	33:b:218:ALA:N	2.52	0.41
34:c:9:GLY:HA3	45:n:49:HIS:HA	2.01	0.41
34:c:40:ARG:O	34:c:44:GLU:HB2	2.20	0.41
37:f:29:ALA:HA	37:f:32:ASN:ND2	2.33	0.41
39:h:27:PRO:HA	39:h:58:TYR:HD1	1.84	0.41
42:k:17:GLY:HA2	42:k:35:PRO:HD3	2.01	0.41
42:k:21:ILE:CD1	42:k:84:VAL:HG22	2.49	0.41
44:m:12:ASN:C	44:m:44:ARG:HD2	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:o:79:ARG:HA	46:o:82:ILE:CD1	2.50	0.41
48:q:51:TYR:CE2	48:q:73:VAL:HG11	2.55	0.41
54:C:181:PRO:HD2	54:C:184:LYS:HB3	2.02	0.41
54:C:201:PRO:HD2	54:C:208:PHE:HE1	1.83	0.41
55:z:6:G:O2'	55:z:7:A:H5'	2.20	0.41
56:x:3:A:H2'	56:x:4:G:C8	2.56	0.41
56:x:37:U:C2'	56:x:38:A:H2'	2.50	0.41
1:A:10:G:O2'	1:A:11:G:H5'	2.20	0.41
1:A:40:C:H2'	1:A:41:C:H6	1.85	0.41
1:A:92:A:O2'	1:A:93:G:H5'	2.20	0.41
1:A:207:A:H3'	1:A:208:C:C6	2.56	0.41
1:A:372:G:N2	1:A:373:U:O4	2.52	0.41
1:A:500:G:C2	1:A:502:A:H3'	2.55	0.41
1:A:588:U:O2'	1:A:589:C:H5'	2.21	0.41
1:A:816:C:H2'	1:A:817:C:C6	2.56	0.41
1:A:816:C:H2'	1:A:817:C:H6	1.85	0.41
1:A:1331:A:O2'	1:A:1332:G:H5'	2.20	0.41
1:A:1422:G:H2'	1:A:1423:G:H8	1.86	0.41
1:A:1547:C:H2'	1:A:1548:C:H6	1.85	0.41
1:A:1629:U:H2'	1:A:1630:G:C8	2.55	0.41
1:A:1901:A:OP2	1:A:1901:A:H4'	2.21	0.41
1:A:2135:A:H2'	1:A:2136:C:C5'	2.44	0.41
1:A:2773:C:OP1	4:E:164:ARG:NE	2.53	0.41
6:G:71:THR:OG1	6:G:89:GLY:O	2.12	0.41
6:G:75:LYS:HA	6:G:84:LYS:HD2	2.02	0.41
12:Q:39:PRO:HD3	12:Q:99:PRO:HG3	2.02	0.41
19:X:3:THR:O	19:X:6:ASP:HB2	2.20	0.41
21:Z:100:VAL:HB	21:Z:124:ILE:CG2	2.50	0.41
23:1:5:CYS:CB	23:1:8:SER:HG	2.34	0.41
23:1:19:GLN:C	23:1:35:THR:HG22	2.45	0.41
26:4:20:ASN:CG	26:4:22:ILE:HD11	2.45	0.41
32:a:119:A:H4'	32:a:120:A:C4	2.55	0.41
32:a:253:U:H2'	32:a:254:G:C8	2.56	0.41
32:a:409:G:OP1	35:d:24:GLU:N	2.54	0.41
32:a:498:U:O2'	32:a:499:A:H5'	2.20	0.41
32:a:797:C:H2'	32:a:798:G:C8	2.55	0.41
32:a:1067:A:O2'	32:a:1093:A:O3'	2.10	0.41
32:a:1088:G:H2'	32:a:1089:G:H8	1.86	0.41
32:a:1095:U:P	32:a:1108:G:H1	2.38	0.41
32:a:1227:A:OP2	44:m:111:LYS:HE3	2.20	0.41
32:a:1292:U:H5"	40:i:38:GLN:HE22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1308:U:O2'	32:a:1309:G:H5'	2.21	0.41
32:a:1317:C:OP1	45:n:17:LYS:HE3	2.21	0.41
32:a:1338:G:H21	53:y:41:C:C2'	2.33	0.41
32:a:1519:MA6:H3'	32:a:1520:G:C5'	2.51	0.41
34:c:6:HIS:CD2	34:c:9:GLY:H	2.29	0.41
38:g:64:GLN:O	38:g:68:ASN:ND2	2.54	0.41
38:g:93:PRO:HA	38:g:96:GLN:OE1	2.21	0.41
39:h:94:TYR:CE1	39:h:132:GLU:HB2	2.56	0.41
44:m:15:VAL:O	44:m:18:ALA:HB3	2.20	0.41
44:m:73:GLU:HG2	44:m:77:ASN:ND2	2.35	0.41
44:m:87:TYR:O	44:m:90:LEU:HB2	2.20	0.41
47:p:8:ARG:HA	47:p:17:TYR:HD1	1.83	0.41
50:s:52:TYR:HA	50:s:57:HIS:HA	2.03	0.41
51:t:14:LYS:HB2	51:t:14:LYS:HE2	1.77	0.41
51:t:17:ARG:HA	51:t:20:LEU:CD1	2.43	0.41
51:t:73:HIS:O	51:t:76:ALA:HB3	2.21	0.41
54:C:22:ILE:HD13	54:C:190:ARG:HG2	2.02	0.41
54:C:33:ALA:HA	54:C:39:GLU:OE1	2.21	0.41
54:C:72:VAL:HG11	54:C:156:ILE:O	2.21	0.41
1:A:237:C:H2'	1:A:238:C:H6	1.84	0.41
1:A:412:A:C2'	1:A:413:C:H5'	2.51	0.41
1:A:666:G:H2'	1:A:667:U:H6	1.83	0.41
1:A:729:G:H1'	1:A:763:G:O3'	2.21	0.41
1:A:771:G:H2'	1:A:772:C:C6	2.56	0.41
1:A:921:G:H4'	1:A:2269:A:C5	2.55	0.41
1:A:972:G:H3'	1:A:973:A:H2'	2.02	0.41
1:A:1133:U:H2'	1:A:1137:G:OP1	2.21	0.41
1:A:1192:G:O2'	1:A:1193:G:H5'	2.21	0.41
1:A:1353:A:H2'	1:A:1354:A:H8	1.83	0.41
1:A:1446:C:H2'	1:A:1447:G:H8	1.81	0.41
1:A:1680:U:O2'	1:A:1681:G:H5'	2.21	0.41
1:A:1714:G:O2'	1:A:1717:G:H5'	2.21	0.41
1:A:1782:C:O2	1:A:2609:U:H5"	2.21	0.41
1:A:1814:G:O5'	1:A:1815:A:H2'	2.20	0.41
1:A:1859:A:H61	1:A:1883:G:C2'	2.34	0.41
1:A:2006:C:H5'	1:A:2049:G:OP1	2.20	0.41
1:A:2115:G:H4'	1:A:2167:U:C1'	2.49	0.41
1:A:2731:G:O2'	1:A:2732:G:H5'	2.20	0.41
1:A:2804:C:C2'	1:A:2805:G:H5'	2.50	0.41
2:B:26:A:H2'	2:B:27:C:H6	1.82	0.41
2:B:76:G:O2'	2:B:77:U:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:18:VAL:HG12	3:D:211:ARG:NH1	2.35	0.41
3:D:177:LEU:O	3:D:180:GLY:N	2.39	0.41
3:D:275:LYS:HA	3:D:276:LYS:HA	1.80	0.41
6:G:37:VAL:CG2	6:G:99:MET:HG3	2.49	0.41
6:G:60:LEU:HB2	6:G:68:PRO:HG3	2.02	0.41
6:G:125:PHE:HB3	6:G:166:ASP:CG	2.45	0.41
7:H:38:SER:HB3	7:H:41:MET:CG	2.49	0.41
7:H:137:ASP:O	7:H:138:LYS:HA	2.20	0.41
8:I:77:LEU:HD11	8:I:100:ALA:C	2.45	0.41
8:I:140:LEU:HD22	8:I:142:VAL:HG23	2.03	0.41
9:N:88:GLU:O	9:N:91:LEU:HB2	2.21	0.41
9:N:120:LEU:HD22	9:N:121:LYS:N	2.31	0.41
12:Q:56:ARG:HD2	21:Z:183:LEU:CD1	2.50	0.41
14:S:36:TYR:OH	14:S:54:LEU:HD22	2.21	0.41
16:U:6:THR:HG21	16:U:10:ARG:NH1	2.36	0.41
20:Y:11:ASP:HB2	20:Y:27:VAL:CG2	2.49	0.41
23:1:79:GLY:C	23:1:80:LEU:HD12	2.45	0.41
26:4:40:HIS:CG	26:4:41:PRO:HD2	2.55	0.41
32:a:96:U:H5'	32:a:97:G:O5'	2.21	0.41
32:a:347:G:H2'	32:a:348:G:H5'	2.03	0.41
32:a:452:A:N6	32:a:480:U:C2	2.89	0.41
32:a:501:C:H1'	32:a:549:C:H1'	2.02	0.41
32:a:525:C:H6	32:a:525:C:O5'	2.04	0.41
32:a:538:G:OP2	43:l:115:LYS:HB2	2.19	0.41
32:a:553:A:H2'	32:a:554:C:H6	1.85	0.41
32:a:560:U:H5'	32:a:566:G:N2	2.36	0.41
32:a:923:A:H2'	32:a:924:C:O4'	2.21	0.41
32:a:1316:G:N2	32:a:1318:A:H3'	2.34	0.41
32:a:1452:C:H4'	32:a:1457:G:N9	2.36	0.41
33:b:187:LEU:HD12	33:b:205:ASP:CA	2.48	0.41
36:e:99:GLY:O	36:e:117:ASP:HA	2.21	0.41
38:g:36:LYS:O	38:g:40:ALA:N	2.47	0.41
38:g:50:ILE:HG13	38:g:51:GLN:N	2.35	0.41
40:i:50:LEU:HG	40:i:81:ILE:HD11	2.03	0.41
42:k:115:PRO:HB2	42:k:117:ASN:O	2.21	0.41
44:m:86:CYS:SG	44:m:89:GLY:N	2.71	0.41
51:t:56:MET:HE3	51:t:85:MET:HA	2.02	0.41
53:y:51:C:H2'	53:y:52:G:C8	2.55	0.41
1:A:26:G:O2'	1:A:27:G:H5'	2.21	0.41
1:A:110:G:H2'	1:A:111:A:H8	1.86	0.41
1:A:121:G:C5'	1:A:149:A:H5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:272(Q):G:H2'	1:A:272(R):G:H8	1.85	0.41
1:A:374:A:H1'	1:A:401:A:N6	2.36	0.41
1:A:476:G:H1'	1:A:480:A:N6	2.35	0.41
1:A:523:C:O2'	1:A:524:U:H5'	2.20	0.41
1:A:566:U:O2'	1:A:567:A:H5'	2.20	0.41
1:A:592:G:O2'	30:8:64:TYR:OH	2.28	0.41
1:A:781:A:P	3:D:218:ARG:HH22	2.44	0.41
1:A:852:G:H5'	25:3:45:GLY:HA3	2.02	0.41
1:A:877:U:HO2'	1:A:878:A:C1'	2.31	0.41
1:A:1531:C:H2'	1:A:1532:C:O4'	2.21	0.41
1:A:1789:A:H2'	1:A:1790:C:C6	2.55	0.41
1:A:2126:A:H1'	1:A:2127:G:OP2	2.21	0.41
1:A:2183:C:H2'	1:A:2184:G:C8	2.55	0.41
1:A:2612:C:H2'	1:A:2613:U:H5'	2.03	0.41
1:A:2728:U:H2'	1:A:2729:G:H8	1.82	0.41
2:B:19:G:O2'	2:B:20:C:H5'	2.21	0.41
2:B:56:G:O2'	2:B:59:A:N6	2.53	0.41
2:B:59:A:H2'	2:B:60:C:C6	2.56	0.41
3:D:275:LYS:N	3:D:276:LYS:OXT	2.54	0.41
4:E:51:PHE:HA	4:E:52:LEU:HA	1.94	0.41
5:F:29:ASN:H	5:F:112:MET:CE	2.33	0.41
5:F:123:LEU:HD12	5:F:124:LEU:H	1.85	0.41
5:F:206:ILE:O	5:F:208:GLY:N	2.53	0.41
6:G:126:ASP:HB3	6:G:130:ASN:HB2	1.99	0.41
8:I:9:LEU:CB	8:I:12:LEU:HB2	2.50	0.41
9:N:20:GLY:HA2	9:N:61:ARG:NE	2.36	0.41
9:N:38:HIS:NE2	9:N:39:ARG:HG3	2.36	0.41
14:S:110:LEU:HD23	14:S:112:PHE:CE1	2.56	0.41
15:T:6:LEU:O	15:T:10:VAL:HG23	2.21	0.41
19:X:2:LYS:HE2	19:X:38:GLU:OE2	2.21	0.41
19:X:3:THR:HG21	24:2:29:LYS:HD2	2.03	0.41
20:Y:56:PRO:O	20:Y:57:GLN:HB2	2.20	0.41
20:Y:75:ILE:HA	20:Y:81:LYS:O	2.20	0.41
21:Z:152:ALA:HB3	21:Z:166:SER:O	2.21	0.41
22:0:10:THR:HG22	22:0:12:ASN:N	2.36	0.41
32:a:132:C:C5'	32:a:262:A:H1'	2.51	0.41
32:a:154:C:C2'	32:a:155:C:H5'	2.51	0.41
32:a:240:C:O2'	32:a:241:C:H5'	2.21	0.41
32:a:412:A:N1	35:d:35:ARG:HB3	2.35	0.41
32:a:681:C:H2'	32:a:682:G:C8	2.55	0.41
32:a:746:A:O2'	32:a:747:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:990:C:H2'	32:a:991:U:C6	2.56	0.41
33:b:17:PHE:CB	33:b:44:LEU:HD21	2.37	0.41
33:b:53:ARG:CA	33:b:56:ARG:HH21	2.34	0.41
33:b:105:PHE:CE1	33:b:155:LEU:HD12	2.56	0.41
33:b:221:LEU:O	33:b:224:GLN:HG3	2.20	0.41
36:e:40:ARG:CD	36:e:68:GLU:HB3	2.47	0.41
36:e:79:GLU:OE1	36:e:79:GLU:N	2.40	0.41
38:g:79:ARG:HA	38:g:84:ASN:HA	2.03	0.41
39:h:14:ARG:O	39:h:17:THR:OG1	2.29	0.41
41:j:79:ARG:HA	41:j:82:ILE:CB	2.51	0.41
41:j:81:THR:O	41:j:84:GLN:HB3	2.20	0.41
46:o:9:GLN:O	46:o:13:GLN:HG3	2.21	0.41
47:p:4:ILE:O	47:p:66:PRO:HA	2.21	0.41
47:p:43:LYS:HG3	47:p:48:TRP:CE2	2.56	0.41
54:C:180:PHE:HB2	54:C:185:LEU:HD21	2.01	0.41
1:A:44:G:H2'	1:A:215:G:O2'	2.21	0.41
1:A:79:G:H2'	1:A:80:G:H8	1.86	0.41
1:A:125:G:OP2	29:7:19:ARG:NE	2.43	0.41
1:A:198:C:C2'	1:A:199:A:H5'	2.51	0.41
1:A:207:A:H3'	1:A:208:C:H6	1.86	0.41
1:A:232:G:N2	1:A:420:C:OP1	2.48	0.41
1:A:263:C:O5'	1:A:263:C:H6	2.04	0.41
1:A:295:G:C2'	1:A:296:C:H5'	2.51	0.41
1:A:296:C:H2'	1:A:297:C:H6	1.85	0.41
1:A:340:A:H3'	1:A:341:G:H8	1.86	0.41
1:A:370:G:P	1:A:423:A:H62	2.44	0.41
1:A:429:A:H2'	1:A:430:G:C8	2.56	0.41
1:A:562:U:H6	1:A:562:U:H2'	1.74	0.41
1:A:622:G:OP2	11:P:108:LYS:NZ	2.26	0.41
1:A:871:U:H2'	1:A:872:A:C8	2.56	0.41
1:A:885:C:H3'	1:A:885:C:H6	1.86	0.41
1:A:1036:G:OP1	7:H:59:ARG:HG2	2.20	0.41
1:A:1326:U:H2'	1:A:1327:C:C6	2.55	0.41
1:A:1327:C:H3'	1:A:1328:G:C8	2.56	0.41
1:A:1418:G:H1'	1:A:1581:G:H22	1.86	0.41
1:A:1462:C:H4'	1:A:2703:C:C4'	2.50	0.41
1:A:1480:G:H2'	1:A:1481:U:O4'	2.20	0.41
1:A:1562:A:O2'	1:A:1563:G:H5'	2.19	0.41
1:A:2120:G:H2'	1:A:2121:G:C8	2.56	0.41
1:A:2127:G:H2'	1:A:2128:C:O4'	2.20	0.41
1:A:2207:G:H2'	1:A:2208:A:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2262:U:H4'	1:A:2328:A:C2	2.55	0.41
1:A:2295:C:H5	14:S:13:ARG:HH12	1.67	0.41
1:A:2329:G:O2'	1:A:2330:G:H5'	2.20	0.41
1:A:2343:C:H4'	1:A:2373:G:O3'	2.21	0.41
1:A:2364:C:O2'	1:A:2365:G:H5'	2.21	0.41
1:A:2370:G:H2'	1:A:2371:G:O4'	2.20	0.41
1:A:2393:A:H62	1:A:2422:A:N6	2.17	0.41
1:A:2403:C:O2'	1:A:2404:C:H5'	2.21	0.41
1:A:2406:U:N3	11:P:72:PRO:HG2	2.35	0.41
1:A:2415:G:O4'	11:P:67:MET:HG2	2.21	0.41
1:A:2468:G:N1	1:A:2481:G:O2'	2.41	0.41
1:A:2492:U:O2'	1:A:2493:U:H5'	2.20	0.41
1:A:2747:G:O6	1:A:2754:U:H3'	2.21	0.41
1:A:2768:C:O2'	1:A:2769:C:H5'	2.21	0.41
1:A:2816:C:H2'	1:A:2817:G:H8	1.85	0.41
1:A:2822:G:O2'	1:A:2825:C:N4	2.50	0.41
1:A:2830:G:O3'	4:E:58:ARG:NH2	2.54	0.41
1:A:2864:G:O2'	1:A:2865:U:H5'	2.21	0.41
3:D:17:THR:OG1	3:D:205:VAL:N	2.54	0.41
3:D:145:VAL:HG22	3:D:191:ALA:HB2	2.03	0.41
3:D:172:TYR:CE1	3:D:186:HIS:HA	2.56	0.41
4:E:11:MET:O	4:E:12:THR:OG1	2.36	0.41
4:E:109:LYS:HE2	4:E:191:PRO:HB3	2.03	0.41
6:G:18:GLU:O	6:G:22:ARG:HG3	2.21	0.41
7:H:163:TYR:CE2	7:H:169:VAL:HG21	2.56	0.41
8:I:69:LYS:NZ	8:I:136:VAL:HG13	2.36	0.41
10:O:107:ARG:O	10:O:112:MET:HE2	2.21	0.41
12:Q:55:VAL:CG1	21:Z:183:LEU:HD11	2.50	0.41
18:W:31:GLU:HG2	18:W:35:ILE:CD1	2.51	0.41
20:Y:75:ILE:HD13	20:Y:82:PRO:HA	2.02	0.41
22:0:37:LEU:N	22:0:59:LEU:O	2.40	0.41
24:2:12:GLU:HA	24:2:15:LYS:HZ2	1.86	0.41
26:4:47:GLN:C	26:4:49:PHE:H	2.29	0.41
32:a:19:C:OP1	36:e:125:SER:OG	2.24	0.41
32:a:101:A:H2'	32:a:152:A:C5'	2.42	0.41
32:a:105:G:H2'	32:a:106:C:C6	2.56	0.41
32:a:155:C:H2'	32:a:156:G:C8	2.56	0.41
32:a:246:A:OP1	48:q:100:LYS:HD2	2.21	0.41
32:a:410:G:H3'	35:d:25:ARG:NH2	2.35	0.41
32:a:532:A:HO2'	32:a:533:A:P	2.43	0.41
32:a:564:C:OP2	43:l:15:ARG:NE	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:570:G:O2'	32:a:819:A:H2'	2.21	0.41
32:a:620:C:C6	35:d:135:LEU:HG	2.56	0.41
32:a:673:G:O3'	37:f:87:ARG:NH2	2.53	0.41
32:a:683:G:N2	42:k:39:PRO:HD3	2.36	0.41
32:a:730:G:C5	32:a:731:G:H1'	2.56	0.41
32:a:826:C:H5'	39:h:12:ARG:CZ	2.50	0.41
32:a:878:G:H5"	39:h:89:PRO:HB2	2.03	0.41
32:a:901:A:H5"	32:a:902:G:OP2	2.20	0.41
32:a:938:A:N3	32:a:1376:U:H1'	2.36	0.41
32:a:938:A:O2'	38:g:95:ARG:NH1	2.54	0.41
32:a:952:U:H2'	32:a:953:G:C8	2.54	0.41
32:a:1030(A):C:H42	32:a:1031:G:H1	1.69	0.41
32:a:1036:G:H3'	32:a:1037:C:H6	1.86	0.41
32:a:1278:U:H5"	32:a:1279:A:C8	2.56	0.41
32:a:1306:A:H2'	32:a:1307:U:H6	1.86	0.41
32:a:1403:C:H1'	32:a:1500:A:C6	2.56	0.41
32:a:1419:G:O6	32:a:1481:U:C2	2.73	0.41
33:b:74:LYS:O	33:b:77:ALA:N	2.49	0.41
34:c:47:LEU:HB2	34:c:52:LEU:HD12	2.03	0.41
34:c:156:ARG:HH21	34:c:161:GLU:HG2	1.84	0.41
35:d:18:LYS:HG2	35:d:20:TYR:CE1	2.55	0.41
35:d:64:LEU:CD1	35:d:196:LEU:HD23	2.51	0.41
35:d:200:GLU:O	35:d:204:ILE:HG12	2.21	0.41
36:e:7:GLU:HB3	36:e:112:LEU:HD22	2.02	0.41
36:e:43:LEU:HB2	36:e:136:MET:CG	2.41	0.41
36:e:47:LYS:H	36:e:47:LYS:HD2	1.85	0.41
36:e:57:LYS:HG2	36:e:61:TYR:CE2	2.55	0.41
39:h:5:PRO:O	39:h:8:ASP:HB3	2.21	0.41
39:h:13:ILE:O	39:h:17:THR:N	2.43	0.41
39:h:20:TYR:HA	39:h:65:TYR:OH	2.21	0.41
43:l:37:CYS:HB2	43:l:81:SER:HB2	2.01	0.41
44:m:25:ILE:CD1	44:m:66:LEU:HD13	2.44	0.41
45:n:4:LYS:CA	45:n:7:ILE:HG12	2.44	0.41
46:o:82:ILE:CD1	46:o:88:ARG:HH12	2.34	0.41
47:p:6:LEU:HD23	47:p:17:TYR:CD2	2.56	0.41
47:p:52:ASP:OD2	47:p:55:ARG:HG2	2.20	0.41
48:q:28:PRO:HA	48:q:35:VAL:HA	2.01	0.41
48:q:79:SER:OG	48:q:80:GLY:N	2.54	0.41
49:r:23:LYS:HB2	49:r:58:LEU:HD21	2.03	0.41
50:s:30:LEU:HD12	50:s:48:THR:O	2.20	0.41
51:t:54:LYS:O	51:t:58:LYS:N	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:y:1:C:C4’	53:y:2:G:H5’	2.38	0.41
53:y:16:C:H3’	53:y:17(A):C:C6	2.56	0.41
53:y:44:A:H3’	53:y:45:G:H8	1.86	0.41
53:y:68:C:H2’	53:y:69:C:C6	2.56	0.41
54:C:59:ARG:NH2	54:C:139:ASN:HD22	2.19	0.41
54:C:72:VAL:HG21	54:C:156:ILE:HG22	2.02	0.41
54:C:79:LYS:HD2	54:C:83:ILE:HD11	2.03	0.41
54:C:117:PRO:HG2	54:C:147:PHE:CE2	2.55	0.41
55:z:9:A:C5’	55:z:46:G:H1’	2.48	0.41
1:A:48:G:H1	1:A:177:G:P	2.42	0.41
1:A:123:G:H2’	1:A:124:G:C8	2.56	0.41
1:A:443:A:N7	5:F:45:ARG:HG2	2.36	0.41
1:A:774:A:O2’	1:A:775:G:H5”	2.21	0.41
1:A:813:U:H1’	1:A:1226:A:N3	2.36	0.41
1:A:884:C:H3’	1:A:885:C:C6	2.55	0.41
1:A:924:C:H2’	1:A:925:C:C6	2.56	0.41
1:A:1257:C:H2’	1:A:1258:C:H6	1.84	0.41
1:A:1427:A:H4’	1:A:1428:C:O5’	2.21	0.41
1:A:1450(A):G:H2’	1:A:1450(B):C:C6	2.56	0.41
1:A:1497:U:C3’	1:A:1498:C:H5’	2.51	0.41
1:A:1685:C:H2’	1:A:1686:C:C6	2.56	0.41
1:A:1829:A:H3’	1:A:1830:C:C6	2.53	0.41
1:A:2044:C:O2’	1:A:2045:C:H5’	2.21	0.41
1:A:2116:G:O2’	1:A:2117:A:O4’	2.33	0.41
1:A:2274:A:O2’	1:A:2276:G:OP1	2.32	0.41
1:A:2331:G:C2’	1:A:2332:U:H5’	2.51	0.41
1:A:2488:A:H2’	1:A:2489:G:C8	2.56	0.41
1:A:2635:C:HO2’	4:E:80:GLU:CD	2.14	0.41
2:B:9:G:N1	2:B:112:U:N3	2.57	0.41
2:B:53:A:H2’	2:B:54:G:O4’	2.21	0.41
3:D:72:LYS:HE2	3:D:97:TYR:CD2	2.56	0.41
4:E:103:ASP:CG	4:E:201:THR:HA	2.45	0.41
5:F:134:GLY:HA2	5:F:166:ALA:HB2	2.02	0.41
6:G:76:SER:N	6:G:84:LYS:HB2	2.36	0.41
6:G:119:GLY:HA3	6:G:181:ARG:CA	2.51	0.41
8:I:77:LEU:HD12	8:I:101:LEU:CD2	2.49	0.41
8:I:126:TYR:O	8:I:141:LYS:HA	2.20	0.41
10:O:4:PRO:HA	10:O:21:CYS:O	2.21	0.41
10:O:24:VAL:HG13	10:O:24:VAL:O	2.21	0.41
11:P:83:VAL:CG2	11:P:114:ILE:HD13	2.50	0.41
12:Q:11:LYS:NZ	12:Q:87:LYS:O	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Q:23:GLY:O	12:Q:101:ARG:NH1	2.50	0.41
12:Q:103:MET:CE	12:Q:125:LEU:HD13	2.51	0.41
21:Z:157:LEU:HD13	21:Z:161:VAL:HG12	2.02	0.41
26:4:57:GLU:CB	26:4:58:ARG:HA	2.50	0.41
32:a:68:G:H3'	32:a:76:C:N3	2.34	0.41
32:a:345:C:H5'	32:a:346:G:C8	2.56	0.41
32:a:541:G:C2'	32:a:542:G:H5'	2.50	0.41
32:a:562:C:H5'	32:a:563:A:C5	2.56	0.41
32:a:604:G:O2'	32:a:605:U:H5'	2.21	0.41
32:a:926:G:H21	32:a:1505:G:H2'	1.86	0.41
32:a:930:C:C3'	32:a:931:C:H5"	2.50	0.41
32:a:977:A:N6	32:a:1224:G:OP1	2.52	0.41
32:a:1040:U:H2'	32:a:1041:A:C8	2.56	0.41
32:a:1060:C:H4'	41:j:52:GLY:N	2.36	0.41
32:a:1152:A:H2'	32:a:1153:C:H6	1.85	0.41
32:a:1284:C:H3'	32:a:1285:A:C8	2.55	0.41
33:b:91:PRO:CG	33:b:155:LEU:HD23	2.46	0.41
33:b:119:GLU:O	33:b:123:ALA:HB2	2.21	0.41
34:c:22:TRP:CE2	45:n:54:PRO:HG3	2.55	0.41
36:e:69:VAL:HG13	36:e:71:LEU:HD23	2.02	0.41
37:f:9:VAL:HB	37:f:87:ARG:HB2	2.03	0.41
39:h:38:ILE:HG21	39:h:111:ILE:HG12	2.02	0.41
39:h:95:VAL:HG11	39:h:133:LEU:CD1	2.47	0.41
42:k:59:TYR:CZ	42:k:63:LEU:HD11	2.56	0.41
43:l:51:ALA:C	43:l:52:LEU:HD22	2.46	0.41
50:s:36:ARG:NH1	50:s:75:ALA:HB3	2.36	0.41
51:t:99:LEU:CB	51:t:100:ILE:HG13	2.51	0.41
1:A:123:G:H2'	1:A:124:G:O4'	2.20	0.40
1:A:126:A:H5'	29:7:19:ARG:CD	2.51	0.40
1:A:411:G:OP2	1:A:411:G:H2'	2.21	0.40
1:A:687:C:O2'	1:A:1780:A:N1	2.49	0.40
1:A:765:G:H2'	1:A:766:C:C6	2.56	0.40
1:A:766:C:H2'	1:A:767:U:C6	2.56	0.40
1:A:827:U:H4'	1:A:828:U:C5	2.55	0.40
1:A:836:G:H2'	1:A:837:C:C6	2.56	0.40
1:A:848:G:H2'	1:A:849:A:H8	1.86	0.40
1:A:936:C:H2'	1:A:937:U:C6	2.56	0.40
1:A:1130:U:O2	1:A:2025:C:H5"	2.22	0.40
1:A:1164:G:H2'	1:A:1165:U:O4'	2.21	0.40
1:A:1418:G:N2	1:A:1580:A:C8	2.86	0.40
1:A:1441:G:O2'	1:A:1442:G:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1505:C:H2'	1:A:1506:C:C6	2.56	0.40
1:A:1616:A:H4'	1:A:1617:C:OP2	2.21	0.40
1:A:1709:U:O4'	1:A:2860:A:H1'	2.21	0.40
1:A:1822:G:O2'	1:A:1823:G:H5'	2.21	0.40
1:A:2129:C:O5'	54:C:4:GLY:HA3	2.22	0.40
1:A:2228:G:O2'	1:A:2229:C:H5'	2.21	0.40
1:A:2284:C:H2'	1:A:2285:C:C6	2.56	0.40
1:A:2292:C:P	14:S:17:ARG:HH22	2.44	0.40
1:A:2307:G:OP1	1:A:2307:G:H8	2.04	0.40
1:A:2328:A:H8	1:A:2328:A:O5'	2.03	0.40
1:A:2343:C:O2'	1:A:2344:U:H5'	2.21	0.40
1:A:2390:U:O2'	1:A:2391:G:H5'	2.21	0.40
1:A:2443:C:O2'	1:A:2444:G:H5'	2.21	0.40
1:A:2629:A:O2'	1:A:2630:G:OP2	2.30	0.40
2:B:14:U:H1'	2:B:108:U:H1'	2.03	0.40
9:N:34:LEU:O	9:N:49:GLY:HA3	2.21	0.40
9:N:43:THR:HG23	9:N:44:PRO:HD2	2.03	0.40
9:N:82:LEU:HD12	9:N:82:LEU:HA	1.85	0.40
11:P:112:LEU:O	11:P:128:HIS:N	2.50	0.40
11:P:131:SER:O	11:P:134:ALA:HB3	2.21	0.40
14:S:30:ARG:N	14:S:92:TYR:OH	2.51	0.40
15:T:2:ASN:HB3	15:T:5:ALA:HB3	2.02	0.40
15:T:53:ARG:O	15:T:53:ARG:HG3	2.21	0.40
20:Y:38:ILE:HD13	20:Y:66:PRO:CA	2.52	0.40
20:Y:64:GLU:N	20:Y:64:GLU:OE1	2.54	0.40
21:Z:124:ILE:HG21	21:Z:137:ILE:HD12	2.03	0.40
27:5:46:CYS:SG	27:5:48:GLU:HB2	2.60	0.40
32:a:64:G:H3'	32:a:64:G:P	2.61	0.40
32:a:825:G:O2'	32:a:826:C:H5'	2.22	0.40
32:a:1195:C:H2'	32:a:1197:G:O4'	2.21	0.40
32:a:1518:MA6:H2'	32:a:1519:MA6:C1'	2.50	0.40
33:b:33:TYR:HB3	33:b:41:ILE:O	2.21	0.40
37:f:46:ARG:HB3	37:f:60:PHE:CE2	2.56	0.40
38:g:23:VAL:HG13	38:g:43:PHE:CZ	2.56	0.40
39:h:72:PRO:O	39:h:74:PRO:HD3	2.21	0.40
42:k:42:TRP:CZ3	42:k:47:VAL:HG21	2.56	0.40
42:k:54:ARG:HA	42:k:57:THR:HG23	2.01	0.40
45:n:2:ALA:C	45:n:6:LEU:HD13	2.46	0.40
47:p:60:LEU:HA	47:p:64:ALA:HB3	2.03	0.40
53:y:22:G:O2'	53:y:23:C:H5'	2.21	0.40
53:y:72:A:H2'	53:y:73:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:20:TYR:HD2	54:C:222:VAL:HG13	1.86	0.40
54:C:73:ARG:O	54:C:110:PHE:HB2	2.21	0.40
55:z:11:C:O5'	55:z:11:C:H6	2.04	0.40
1:A:273(H):C:O2'	1:A:273(I):C:H5'	2.21	0.40
1:A:530:G:N1	1:A:2022:U:H5"	2.36	0.40
1:A:768:G:H2'	1:A:769:G:O4'	2.21	0.40
1:A:809:G:H2'	1:A:810:U:C6	2.56	0.40
1:A:946:G:H2'	1:A:947:G:H8	1.86	0.40
1:A:1040:C:H2'	1:A:1041:C:C6	2.57	0.40
1:A:1088:A:H5"	1:A:1089:G:H5"	2.02	0.40
1:A:1092:C:H6	1:A:1092:C:OP2	2.05	0.40
1:A:1197:G:H2'	1:A:1198:U:H6	1.85	0.40
1:A:1241:A:O5'	1:A:1241:A:H8	2.04	0.40
1:A:1345:C:H2'	1:A:1346:G:H8	1.85	0.40
1:A:1466:G:O3'	1:A:1546:C:O2'	2.39	0.40
1:A:1670:C:H2'	1:A:1671:U:O4'	2.22	0.40
1:A:1756:G:OP1	1:A:1756:G:H3'	2.21	0.40
1:A:1821:A:H2'	1:A:1822:G:C8	2.56	0.40
1:A:2040:C:H2'	1:A:2041:U:H6	1.83	0.40
1:A:2070:G:H2'	1:A:2071:A:C8	2.57	0.40
1:A:2121:G:H2'	1:A:2121:G:N3	2.37	0.40
1:A:2218:U:H4'	1:A:2219:G:OP2	2.22	0.40
1:A:2366:A:H3'	1:A:2367:G:C8	2.54	0.40
1:A:2448:A:H3'	1:A:2449:U:H6	1.86	0.40
1:A:2785:C:H2'	1:A:2786:U:H6	1.85	0.40
2:B:30:C:O2'	2:B:57:A:N1	2.47	0.40
2:B:64:C:H2'	2:B:65:C:C6	2.56	0.40
2:B:90:A:N7	2:B:91:C:H1'	2.36	0.40
2:B:112:U:H2'	2:B:113:G:H8	1.84	0.40
3:D:134:ARG:O	3:D:168:ARG:NH2	2.39	0.40
4:E:14:ILE:O	4:E:20:ALA:HA	2.21	0.40
4:E:105:THR:HG23	4:E:165:VAL:O	2.22	0.40
5:F:188:ARG:HA	11:P:3:LEU:CD1	2.51	0.40
6:G:41:GLN:HB3	6:G:43:LEU:CD2	2.51	0.40
6:G:53:LEU:HD23	6:G:53:LEU:HA	1.91	0.40
8:I:8:PRO:C	8:I:9:LEU:HD22	2.46	0.40
8:I:15:VAL:HG11	8:I:58:LEU:HD22	2.03	0.40
8:I:47:LEU:CD2	8:I:51:ILE:HD11	2.51	0.40
8:I:61:ARG:O	8:I:65:ALA:HB2	2.21	0.40
11:P:101:VAL:HA	11:P:106:LEU:O	2.20	0.40
11:P:112:LEU:HD22	11:P:113:LYS:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1:5:CYS:CA	23:1:46:LEU:HD21	2.51	0.40
29:7:34:ARG:CG	29:7:39:ARG:HB2	2.51	0.40
32:a:20:U:H2'	32:a:21:G:O4'	2.21	0.40
32:a:426:G:OP1	35:d:36:ARG:HD2	2.22	0.40
32:a:766:A:H2'	32:a:767:A:H5'	2.03	0.40
32:a:986:A:H2'	32:a:987:G:O4'	2.21	0.40
32:a:1061:G:O2'	32:a:1062:U:H5'	2.22	0.40
32:a:1073:U:C2'	32:a:1074:G:H5'	2.51	0.40
32:a:1417:G:H22	32:a:1482:G:H2'	1.85	0.40
32:a:1517:G:H2'	32:a:1518:MA6:C8	2.50	0.40
35:d:150:GLU:O	35:d:153:ARG:HB2	2.20	0.40
36:e:8:GLU:OE2	36:e:32:VAL:HG11	2.21	0.40
36:e:81:GLU:HG2	36:e:90:VAL:HA	2.03	0.40
38:g:21:VAL:O	38:g:25:ALA:N	2.43	0.40
39:h:52:ASP:OD2	39:h:55:GLY:N	2.54	0.40
39:h:86:ILE:HG21	39:h:133:LEU:HD22	2.02	0.40
43:l:38:THR:HG21	43:l:65:GLU:OE2	2.20	0.40
47:p:42:ARG:HE	47:p:44:THR:CG2	2.34	0.40
48:q:7:THR:HA	48:q:57:VAL:O	2.21	0.40
49:r:66:LEU:HG	49:r:70:ILE:HD12	2.03	0.40
50:s:50:ALA:HA	50:s:59:PRO:CA	2.47	0.40
54:C:113:VAL:CG1	54:C:138:PRO:HG3	2.50	0.40
54:C:132:GLY:N	54:C:133:PRO:HD2	2.37	0.40
1:A:143(A):G:O2'	1:A:143(B):C:H5'	2.21	0.40
1:A:239:U:O2'	1:A:240:G:H5'	2.21	0.40
1:A:272(J):C:H1'	1:A:272(K):U:O2'	2.21	0.40
1:A:353:G:C2'	1:A:354:G:H5'	2.52	0.40
1:A:459:U:H2'	1:A:460:A:C8	2.57	0.40
1:A:589:C:H6	1:A:589:C:O5'	2.04	0.40
1:A:807:U:H2'	1:A:808:G:C8	2.56	0.40
1:A:849:A:N6	1:A:928:G:O2'	2.55	0.40
1:A:888:C:OP1	44:m:93:ARG:HD2	2.22	0.40
1:A:940:G:H2'	1:A:941:A:H5"	2.04	0.40
1:A:1065:U:H1'	1:A:1066:U:C6	2.56	0.40
1:A:1184:G:O2'	1:A:1185:C:H5'	2.21	0.40
1:A:1252:G:N2	16:U:37:GLU:OE2	2.52	0.40
1:A:1279:G:O2'	1:A:1280:G:H5'	2.20	0.40
1:A:1340:U:H4'	1:A:1341:U:OP2	2.21	0.40
1:A:1472:A:C2'	1:A:1473:G:H5'	2.51	0.40
1:A:1503:U:H2'	1:A:1504:C:H6	1.83	0.40
1:A:1850:G:O2'	1:A:1851:U:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2253:G:O2'	1:A:2254:C:H5'	2.21	0.40
1:A:2556:C:H2'	1:A:2557:G:O4'	2.22	0.40
1:A:2596:U:O2'	1:A:2597:G:H5'	2.21	0.40
1:A:2742:C:OP1	31:9:35:ARG:NH1	2.55	0.40
2:B:50:G:C2'	2:B:51:G:H5'	2.51	0.40
2:B:78:A:H2'	2:B:79:C:H5'	2.04	0.40
3:D:106:ILE:O	3:D:106:ILE:HG13	2.21	0.40
3:D:142:VAL:HG22	3:D:191:ALA:HB1	2.03	0.40
4:E:32:PRO:HA	4:E:90:THR:HA	2.03	0.40
4:E:92:THR:O	4:E:95:ILE:HG12	2.21	0.40
6:G:14:GLU:O	6:G:17:PRO:HD2	2.22	0.40
8:I:5:LEU:CD1	8:I:19:VAL:HG22	2.45	0.40
10:O:8:LEU:CD1	10:O:82:ASN:HB3	2.48	0.40
15:T:24:PRO:HA	15:T:49:VAL:O	2.20	0.40
18:W:55:ALA:O	18:W:59:VAL:HG23	2.21	0.40
18:W:66:GLU:HA	18:W:69:LEU:HG	2.03	0.40
23:1:5:CYS:HA	23:1:46:LEU:CD2	2.48	0.40
25:3:4:LEU:HD11	25:3:39:ASP:CG	2.46	0.40
27:5:6:VAL:HG13	27:5:7:PRO:HD2	2.02	0.40
28:6:11:LEU:HD23	28:6:11:LEU:HA	1.85	0.40
32:a:363:A:H5'	43:l:34:ARG:HB2	2.03	0.40
32:a:437:U:H1'	35:d:119:GLN:HE21	1.86	0.40
32:a:500:G:O5'	43:l:124:LYS:NZ	2.54	0.40
32:a:616:G:H2'	32:a:617:G:H8	1.86	0.40
32:a:720:C:H5"	49:r:52:PRO:HA	2.04	0.40
32:a:800:G:H2'	32:a:801:U:C5	2.56	0.40
32:a:943:U:C2'	32:a:944:G:H5'	2.51	0.40
32:a:1030(A):C:H3'	32:a:1030(B):G:N7	2.36	0.40
32:a:1353:G:O2'	32:a:1354:C:H5'	2.20	0.40
33:b:84:GLU:HB3	33:b:219:VAL:CG2	2.33	0.40
34:c:152:ILE:HD11	34:c:199:LYS:HB2	2.03	0.40
37:f:20:ALA:O	37:f:23:LYS:HB2	2.21	0.40
37:f:30:LEU:HD13	37:f:37:VAL:HG21	2.02	0.40
37:f:76:ALA:HB2	37:f:90:VAL:HG21	2.04	0.40
37:f:98:LEU:HD13	49:r:28:GLU:OE2	2.22	0.40
38:g:20:ASP:OD1	38:g:22:LEU:N	2.51	0.40
43:l:34:ARG:HA	43:l:84:LEU:HA	2.04	0.40
43:l:109:GLY:HA3	43:l:121:GLY:O	2.21	0.40
44:m:53:VAL:O	44:m:57:ARG:N	2.29	0.40
47:p:53:VAL:HG13	47:p:79:VAL:CG2	2.49	0.40
53:y:51:C:H2'	53:y:52:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:C:74:VAL:CG2	54:C:153:ILE:HG23	2.45	0.40
55:z:16:U:C2	55:z:19:G:H5"	2.57	0.40
55:z:39:U:H2'	55:z:40:C:C5	2.56	0.40
1:A:154(B):C:H2'	1:A:154(B):C:O2	2.22	0.40
1:A:220:G:O4'	1:A:234:C:H4'	2.22	0.40
1:A:272(Q):G:H2'	1:A:272(R):G:C8	2.56	0.40
1:A:838:C:H2'	1:A:839:U:H6	1.86	0.40
1:A:863:A:O2'	2:B:101:G:N3	2.49	0.40
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.55	0.40
1:A:975(B):G:N2	1:A:1156:A:O2'	2.54	0.40
1:A:1100:C:H2'	1:A:1101:U:C6	2.56	0.40
1:A:1118:C:H2'	1:A:1119:C:C6	2.57	0.40
1:A:1232:G:H2'	1:A:1233:C:H6	1.83	0.40
1:A:1717:G:H2'	1:A:1718:G:H8	1.87	0.40
1:A:1721:G:N1	1:A:1739:U:H5"	2.37	0.40
1:A:1817:G:OP2	3:D:157:ARG:NH2	2.54	0.40
1:A:1834:U:H5"	1:A:1835:G:C5'	2.50	0.40
1:A:2169:A:O2'	54:C:133:PRO:HB3	2.21	0.40
1:A:2169:A:O2'	55:z:56:C:H1'	2.22	0.40
1:A:2207:G:H3'	1:A:2208:A:C5'	2.46	0.40
1:A:2455:G:H2'	1:A:2456:C:H6	1.84	0.40
1:A:2650:U:H2'	1:A:2651:C:H6	1.86	0.40
1:A:2656:U:C2	1:A:2665:A:N7	2.89	0.40
2:B:66:A:H61	2:B:108:U:H2'	1.87	0.40
3:D:134:ARG:NH2	8:I:121:LYS:HG3	2.36	0.40
5:F:132:VAL:HG11	5:F:139:PHE:HD1	1.86	0.40
6:G:7:LEU:CD1	6:G:104:GLU:HA	2.52	0.40
6:G:34:LEU:HD13	6:G:103:LEU:CD1	2.51	0.40
7:H:41:MET:SD	7:H:54:ARG:HA	2.62	0.40
7:H:58:GLU:HG3	7:H:61:HIS:H	1.86	0.40
9:N:6:PRO:HB3	9:N:41:ASP:HB2	2.03	0.40
12:Q:16:ARG:CG	12:Q:18:LYS:HG2	2.52	0.40
14:S:12:PHE:O	14:S:16:ASN:ND2	2.54	0.40
15:T:108:ARG:NE	32:a:1464:G:OP1	2.42	0.40
16:U:68:ALA:CB	16:U:99:ALA:HB1	2.52	0.40
16:U:74:LEU:HD23	16:U:114:LYS:CG	2.52	0.40
16:U:79:PHE:CE1	16:U:83:LEU:HD11	2.57	0.40
17:V:58:VAL:CG2	17:V:100:ARG:HE	2.35	0.40
20:Y:14:LEU:HB2	20:Y:75:ILE:HD11	2.03	0.40
21:Z:144:LEU:HD21	21:Z:150:LEU:CD1	2.49	0.40
26:4:11:PRO:HA	26:4:25:TYR:CD1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:6:4:GLU:O	28:6:27:LYS:HE2	2.21	0.40
32:a:9:G:OP2	36:e:121:LYS:NZ	2.25	0.40
32:a:32:A:H2'	32:a:33:A:C8	2.56	0.40
32:a:113:G:C1'	32:a:354:G:H5'	2.51	0.40
32:a:286:G:O2'	32:a:287:U:H5'	2.21	0.40
32:a:325:A:O2'	32:a:326:G:H5'	2.20	0.40
32:a:377:G:OP1	47:p:3:LYS:HD3	2.21	0.40
32:a:378:G:H2'	32:a:379:C:C6	2.56	0.40
32:a:392:G:H2'	32:a:393:A:C8	2.56	0.40
32:a:581:G:N1	32:a:759:A:OP2	2.47	0.40
32:a:642:A:C5	39:h:115:SER:HA	2.57	0.40
32:a:673:G:O4'	49:r:75:ILE:HG23	2.21	0.40
32:a:692:U:O2'	32:a:694:A:N7	2.35	0.40
32:a:805:C:O2'	32:a:806:C:H5'	2.20	0.40
32:a:886:G:O2'	32:a:887:G:H5'	2.21	0.40
32:a:1017:G:H2'	32:a:1018:C:H6	1.87	0.40
32:a:1051:C:H2'	32:a:1052:U:C6	2.57	0.40
32:a:1225:A:H2'	32:a:1226:C:C6	2.57	0.40
32:a:1388:C:H2'	32:a:1389:C:H6	1.85	0.40
32:a:1391:U:O2'	32:a:1392:G:H5'	2.21	0.40
32:a:1471:G:H2'	32:a:1472:U:C6	2.57	0.40
34:c:184:TYR:HA	34:c:200:ALA:O	2.21	0.40
38:g:16:LEU:HD11	40:i:45:ALA:N	2.36	0.40
38:g:143:ARG:O	38:g:147:ALA:N	2.54	0.40
39:h:113:SER:O	39:h:131:GLY:HA3	2.21	0.40
42:k:79:SER:OG	42:k:106:LYS:HE2	2.21	0.40
49:r:41:LYS:HB3	49:r:41:LYS:HE2	1.87	0.40
54:C:88:GLU:HG2	54:C:89:ALA:N	2.37	0.40
54:C:99:ILE:HA	54:C:102:LYS:HB2	2.03	0.40
54:C:153:ILE:CG1	54:C:156:ILE:HD12	2.51	0.40
55:z:21:A:O2'	55:z:22:G:O5'	2.38	0.40
55:z:54:U:O2'	55:z:55:U:H5'	2.22	0.40
56:x:5:G:H2'	56:x:6:A:O4'	2.21	0.40
1:A:9:U:H4'	1:A:10:G:OP1	2.22	0.40
1:A:56:A:O2'	1:A:57:C:H5'	2.21	0.40
1:A:273(C):G:O2'	1:A:273(D):G:H5'	2.22	0.40
1:A:565:C:H2'	1:A:566:U:O4'	2.21	0.40
1:A:648:G:O2'	1:A:2351:G:H5"	2.21	0.40
1:A:753:C:H2'	1:A:754:C:H6	1.85	0.40
1:A:784:A:C6	3:D:229:VAL:HG11	2.56	0.40
1:A:794:G:O2'	1:A:795:C:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:969:U:OP1	25:3:17:LYS:HB3	2.21	0.40
1:A:1265:A:N1	1:A:2013:A:H5"	2.36	0.40
1:A:1359:A:C2'	1:A:1360:A:H5'	2.44	0.40
1:A:1689:A:H2'	1:A:1690:A:C8	2.56	0.40
1:A:1960:A:O2'	32:a:1484:C:O2'	2.06	0.40
1:A:1975:G:H2'	1:A:1976:U:C6	2.56	0.40
1:A:2116:G:H3'	1:A:2117:A:H5"	2.04	0.40
1:A:2153:G:H2'	1:A:2154:G:H8	1.84	0.40
1:A:2338:G:O2'	1:A:2339:G:H5'	2.21	0.40
1:A:2359:C:H2'	1:A:2360:A:C8	2.56	0.40
1:A:2439:A:N6	1:A:2585:U:H5'	2.36	0.40
1:A:2508:G:H1	1:A:2580:U:H3	1.69	0.40
1:A:2569:G:O2'	1:A:2570:G:H5'	2.22	0.40
1:A:2579:C:C4'	4:E:134:ILE:HG12	2.50	0.40
1:A:2671:A:H2'	1:A:2672:G:C8	2.56	0.40
1:A:2723:C:O3'	13:R:1:MET:HE1	2.21	0.40
3:D:68:LYS:O	3:D:69:ARG:HB3	2.22	0.40
3:D:268:ARG:O	3:D:268:ARG:HG3	2.20	0.40
7:H:16:SER:OG	7:H:27:LYS:N	2.53	0.40
8:I:8:PRO:HG2	8:I:134:PRO:CG	2.50	0.40
11:P:64:LYS:HA	30:8:12:LYS:O	2.21	0.40
12:Q:32:TYR:CE1	12:Q:133:ARG:HG3	2.55	0.40
12:Q:137:TYR:HB3	21:Z:76:LEU:HD21	2.04	0.40
13:R:8:ARG:N	13:R:43:GLU:OE2	2.52	0.40
19:X:34:ALA:O	19:X:77:LYS:NZ	2.52	0.40
21:Z:183:LEU:O	21:Z:186:GLU:N	2.52	0.40
22:0:68:GLU:HB3	22:0:80:HIS:HB2	2.03	0.40
31:9:3:VAL:HG22	31:9:35:ARG:HB3	2.02	0.40
32:a:70:G:H4'	32:a:71:C:OP2	2.21	0.40
32:a:107:G:C2	32:a:108:G:H1'	2.57	0.40
32:a:124:G:H2'	32:a:125:U:C6	2.56	0.40
32:a:393:A:O2'	32:a:394:G:H5'	2.22	0.40
32:a:417:C:H2'	32:a:418:C:H6	1.87	0.40
32:a:500:G:O2'	32:a:501:C:H5'	2.21	0.40
32:a:653:A:C4	39:h:56:LYS:HD2	2.57	0.40
32:a:722:A:H2'	32:a:724:G:H8	1.84	0.40
32:a:738:C:O2'	32:a:739:C:H5'	2.21	0.40
32:a:755:G:H2'	32:a:756:C:H6	1.87	0.40
32:a:782:A:H4'	32:a:1514:C:O2'	2.21	0.40
32:a:824:C:H2'	32:a:825:G:H8	1.85	0.40
32:a:1043:C:O2	32:a:1043:C:H2'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1256:A:H61	32:a:1278:U:H4'	1.86	0.40
32:a:1492:A:OP2	43:l:47:LYS:HE3	2.22	0.40
35:d:60:GLU:HG3	35:d:202:LEU:HB3	2.03	0.40
35:d:64:LEU:O	35:d:67:ILE:HB	2.21	0.40
38:g:69:VAL:O	38:g:71:PRO:HD3	2.21	0.40
39:h:25:ASP:OD1	39:h:60:ARG:HA	2.21	0.40
43:l:52:LEU:HD13	43:l:52:LEU:HA	1.94	0.40
44:m:65:LYS:HZ1	44:m:73:GLU:HB2	1.87	0.40
44:m:87:TYR:HA	44:m:90:LEU:CD1	2.43	0.40
46:o:61:GLY:O	46:o:65:ARG:NE	2.54	0.40
48:q:26:GLN:NE2	48:q:37:LYS:HE3	2.30	0.40
53:y:48:C:C2	53:y:59:A:H1'	2.56	0.40
54:C:15:ASP:CG	54:C:18:LYS:HB2	2.47	0.40
54:C:41:VAL:HG12	54:C:175:VAL:HG22	2.04	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	
3	D	273/275 (99%)	245 (90%)	28 (10%)	0	100	100
4	E	202/204 (99%)	188 (93%)	14 (7%)	0	100	100
5	F	201/203 (99%)	193 (96%)	7 (4%)	1 (0%)	24	59
6	G	179/181 (99%)	160 (89%)	19 (11%)	0	100	100
7	H	166/173 (96%)	152 (92%)	14 (8%)	0	100	100
8	I	144/146 (99%)	135 (94%)	9 (6%)	0	100	100
9	N	138/140 (99%)	127 (92%)	11 (8%)	0	100	100
10	O	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
11	P	147/149 (99%)	135 (92%)	12 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	Q	139/141 (99%)	128 (92%)	11 (8%)	0	100	100
13	R	116/118 (98%)	112 (97%)	4 (3%)	0	100	100
14	S	108/110 (98%)	103 (95%)	5 (5%)	0	100	100
15	T	129/131 (98%)	118 (92%)	11 (8%)	0	100	100
16	U	114/116 (98%)	112 (98%)	2 (2%)	0	100	100
17	V	99/101 (98%)	88 (89%)	11 (11%)	0	100	100
18	W	110/112 (98%)	97 (88%)	13 (12%)	0	100	100
19	X	93/95 (98%)	85 (91%)	8 (9%)	0	100	100
20	Y	105/107 (98%)	97 (92%)	8 (8%)	0	100	100
21	Z	185/187 (99%)	161 (87%)	24 (13%)	0	100	100
22	0	75/77 (97%)	70 (93%)	5 (7%)	0	100	100
23	1	95/97 (98%)	90 (95%)	5 (5%)	0	100	100
24	2	68/70 (97%)	67 (98%)	1 (2%)	0	100	100
25	3	57/59 (97%)	56 (98%)	1 (2%)	0	100	100
26	4	67/69 (97%)	55 (82%)	10 (15%)	2 (3%)	3	23
27	5	57/59 (97%)	53 (93%)	4 (7%)	0	100	100
28	6	51/53 (96%)	46 (90%)	5 (10%)	0	100	100
29	7	46/48 (96%)	46 (100%)	0	0	100	100
30	8	62/64 (97%)	56 (90%)	6 (10%)	0	100	100
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
33	b	229/231 (99%)	209 (91%)	20 (9%)	0	100	100
34	c	204/206 (99%)	185 (91%)	19 (9%)	0	100	100
35	d	206/208 (99%)	201 (98%)	5 (2%)	0	100	100
36	e	146/148 (99%)	141 (97%)	5 (3%)	0	100	100
37	f	98/100 (98%)	85 (87%)	13 (13%)	0	100	100
38	g	153/155 (99%)	145 (95%)	8 (5%)	0	100	100
39	h	135/137 (98%)	123 (91%)	12 (9%)	0	100	100
40	i	124/126 (98%)	112 (90%)	12 (10%)	0	100	100
41	j	94/96 (98%)	82 (87%)	11 (12%)	1 (1%)	11	43
42	k	112/114 (98%)	107 (96%)	5 (4%)	0	100	100
43	l	119/122 (98%)	107 (90%)	12 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
44	m	112/114 (98%)	104 (93%)	8 (7%)	0	100	100
45	n	58/60 (97%)	57 (98%)	1 (2%)	0	100	100
46	o	86/88 (98%)	82 (95%)	4 (5%)	0	100	100
47	p	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
48	q	97/99 (98%)	90 (93%)	7 (7%)	0	100	100
49	r	66/68 (97%)	64 (97%)	2 (3%)	0	100	100
50	s	81/83 (98%)	75 (93%)	6 (7%)	0	100	100
51	t	96/98 (98%)	84 (88%)	12 (12%)	0	100	100
52	u	21/23 (91%)	21 (100%)	0	0	100	100
54	C	221/226 (98%)	199 (90%)	22 (10%)	0	100	100
All	All	5919/6028 (98%)	5464 (92%)	451 (8%)	4 (0%)	49	79

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
26	4	49	PHE
26	4	47	GLN
41	j	55	LYS
5	F	207	GLY

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
3	D	215/217 (99%)	215 (100%)	0	100	100
4	E	164/165 (99%)	164 (100%)	0	100	100
5	F	159/161 (99%)	159 (100%)	0	100	100
6	G	142/155 (92%)	142 (100%)	0	100	100
7	H	143/144 (99%)	143 (100%)	0	100	100
8	I	108/122 (88%)	108 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	N	118/119 (99%)	118 (100%)	0	100	100
10	O	100/100 (100%)	100 (100%)	0	100	100
11	P	115/116 (99%)	115 (100%)	0	100	100
12	Q	111/111 (100%)	111 (100%)	0	100	100
13	R	101/101 (100%)	101 (100%)	0	100	100
14	S	85/87 (98%)	85 (100%)	0	100	100
15	T	113/115 (98%)	113 (100%)	0	100	100
16	U	93/93 (100%)	93 (100%)	0	100	100
17	V	80/82 (98%)	80 (100%)	0	100	100
18	W	90/91 (99%)	90 (100%)	0	100	100
19	X	77/77 (100%)	77 (100%)	0	100	100
20	Y	86/88 (98%)	86 (100%)	0	100	100
21	Z	156/164 (95%)	156 (100%)	0	100	100
22	0	61/62 (98%)	61 (100%)	0	100	100
23	1	81/82 (99%)	81 (100%)	0	100	100
24	2	66/66 (100%)	66 (100%)	0	100	100
25	3	50/51 (98%)	50 (100%)	0	100	100
26	4	54/62 (87%)	54 (100%)	0	100	100
27	5	50/51 (98%)	50 (100%)	0	100	100
28	6	50/51 (98%)	50 (100%)	0	100	100
29	7	41/41 (100%)	41 (100%)	0	100	100
30	8	54/54 (100%)	54 (100%)	0	100	100
31	9	34/34 (100%)	34 (100%)	0	100	100
33	b	187/199 (94%)	187 (100%)	0	100	100
34	c	140/160 (88%)	140 (100%)	0	100	100
35	d	172/180 (96%)	172 (100%)	0	100	100
36	e	114/114 (100%)	114 (100%)	0	100	100
37	f	85/90 (94%)	85 (100%)	0	100	100
38	g	119/126 (94%)	119 (100%)	0	100	100
39	h	114/118 (97%)	114 (100%)	0	100	100
40	i	88/97 (91%)	88 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	j	68/86 (79%)	68 (100%)	0	100	100
42	k	83/86 (96%)	83 (100%)	0	100	100
43	l	96/102 (94%)	96 (100%)	0	100	100
44	m	87/93 (94%)	87 (100%)	0	100	100
45	n	49/49 (100%)	49 (100%)	0	100	100
46	o	78/79 (99%)	78 (100%)	0	100	100
47	p	68/71 (96%)	68 (100%)	0	100	100
48	q	94/94 (100%)	94 (100%)	0	100	100
49	r	59/59 (100%)	59 (100%)	0	100	100
50	s	67/72 (93%)	67 (100%)	0	100	100
51	t	70/76 (92%)	70 (100%)	0	100	100
52	u	18/18 (100%)	18 (100%)	0	100	100
54	C	177/178 (99%)	177 (100%)	0	100	100
All	All	4830/5009 (96%)	4830 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	96	HIS
3	D	116	GLN
4	E	85	ASN
4	E	137	HIS
4	E	159	HIS
5	F	40	GLN
5	F	169	ASN
6	G	41	GLN
7	H	74	ASN
8	I	54	GLN
8	I	105	HIS
9	N	69	GLN
9	N	133	GLN
11	P	9	ASN
11	P	27	HIS
12	Q	141	GLN
13	R	13	HIS

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Mol	Chain	Res	Type
13	R	61	HIS
15	T	43	GLN
15	T	58	ASN
15	T	90	GLN
16	U	71	GLN
16	U	117	GLN
19	X	82	GLN
20	Y	43	ASN
20	Y	92	ASN
21	Z	34	ASN
21	Z	75	ASN
21	Z	121	HIS
23	1	56	GLN
24	2	65	ASN
25	3	32	GLN
28	6	29	ASN
33	b	40	HIS
33	b	94	ASN
33	b	113	HIS
33	b	212	GLN
33	b	224	GLN
34	c	6	HIS
34	c	108	ASN
35	d	119	GLN
36	e	20	GLN
36	e	78	HIS
37	f	32	ASN
37	f	73	ASN
38	g	56	GLN
38	g	86	GLN
38	g	109	ASN
41	j	33	GLN
41	j	69	ASN
42	k	93	GLN
43	l	80	HIS
44	m	77	ASN
45	n	49	HIS
46	o	28	GLN
46	o	53	HIS
47	p	16	HIS
47	p	65	GLN
48	q	26	GLN

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Mol	Chain	Res	Type
50	s	69	HIS
50	s	83	HIS
51	t	9	ASN
54	C	101	GLN
54	C	188	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2857/2915 (98%)	634 (22%)	46 (1%)
2	B	119/120 (99%)	23 (19%)	0
32	a	1509/1521 (99%)	331 (21%)	0
53	y	76/77 (98%)	13 (17%)	0
55	z	75/76 (98%)	29 (38%)	0
56	x	54/55 (98%)	24 (44%)	0
All	All	4690/4764 (98%)	1054 (22%)	46 (0%)

All (1054) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G
1	A	8	A
1	A	10	G
1	A	12	U
1	A	14	A
1	A	15	G
1	A	34	C
1	A	45	C
1	A	51	G
1	A	61	G
1	A	64	A
1	A	71	A
1	A	74	A
1	A	75	G
1	A	85	G
1	A	92	A
1	A	95	G
1	A	118	A
1	A	119	A
1	A	120	U
1	A	131	G

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Mol	Chain	Res	Type
1	A	141	A
1	A	149	A
1	A	157	U
1	A	181	A
1	A	182	A
1	A	184	C
1	A	185	U
1	A	186	G
1	A	187	G
1	A	188	G
1	A	196	A
1	A	199	A
1	A	205	G
1	A	213	A
1	A	214	G
1	A	215	G
1	A	216	A
1	A	217	G
1	A	221	A
1	A	222	A
1	A	229	A
1	A	230	U
1	A	233	A
1	A	243	U
1	A	248	G
1	A	249	C
1	A	264	C
1	A	265	A
1	A	266	G
1	A	272(A)	A
1	A	272(J)	C
1	A	272(K)	U
1	A	272(L)	U
1	A	272(M)	G
1	A	272(N)	U
1	A	272(O)	C
1	A	272(X)	G
1	A	273(B)	U
1	A	273(C)	G
1	A	277	C
1	A	278	A
1	A	282	A

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Mol	Chain	Res	Type
1	A	283	A
1	A	294	A
1	A	301	G
1	A	302	C
1	A	311	A
1	A	312	G
1	A	317	G
1	A	329	G
1	A	330	A
1	A	331	A
1	A	332	A
1	A	352	G
1	A	353	G
1	A	354	G
1	A	363(A)	G
1	A	363(G)	A
1	A	386	G
1	A	396	G
1	A	397	G
1	A	398	G
1	A	405	U
1	A	406	G
1	A	411	G
1	A	412	A
1	A	435	C
1	A	444	C
1	A	451	C
1	A	456	C
1	A	457	A
1	A	470	A
1	A	475	U
1	A	479	A
1	A	481	G
1	A	505	A
1	A	508	G
1	A	509	C
1	A	510	C
1	A	513	A
1	A	518	G
1	A	520	G
1	A	522	G
1	A	530	G

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Mol	Chain	Res	Type
1	A	531	C
1	A	532	A
1	A	533	G
1	A	534	U
1	A	556	G
1	A	563	G
1	A	568	U
1	A	573	G
1	A	575	A
1	A	586	A
1	A	603	A
1	A	604	G
1	A	607	U
1	A	613	G
1	A	614(C)	G
1	A	614(D)	A
1	A	615	G
1	A	620	G
1	A	621	A
1	A	627	A
1	A	637	A
1	A	643	A
1	A	645	C
1	A	646	A
1	A	652(A)	C
1	A	652(C)	A
1	A	652(D)	G
1	A	652(V)	G
1	A	653	A
1	A	668	G
1	A	669	G
1	A	675	A
1	A	677	A
1	A	686	G
1	A	695	G
1	A	715	G
1	A	717	G
1	A	727	A
1	A	730	C
1	A	734	A
1	A	736	C
1	A	749	C

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Mol	Chain	Res	Type
1	A	752	A
1	A	753	C
1	A	774	A
1	A	775	G
1	A	776	G
1	A	777	A
1	A	782	A
1	A	784	A
1	A	785	G
1	A	789	A
1	A	792	G
1	A	805	G
1	A	806	C
1	A	812	C
1	A	827	U
1	A	828	U
1	A	831	G
1	A	847	U
1	A	854	G
1	A	857	C
1	A	859	G
1	A	860	U
1	A	869	G
1	A	872	A
1	A	878	A
1	A	880	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	887	A
1	A	889	C
1	A	890	A
1	A	893	C
1	A	894	C
1	A	896	A
1	A	900	A
1	A	901	A
1	A	910	A
1	A	914	C
1	A	917	A
1	A	932	G
1	A	941	A

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Mol	Chain	Res	Type
1	A	945	A
1	A	946	G
1	A	958	U
1	A	959	A
1	A	961	C
1	A	973	A
1	A	974	G
1	A	975(A)	C
1	A	980	A
1	A	983	A
1	A	985	C
1	A	990	A
1	A	996	A
1	A	1008	C
1	A	1009	A
1	A	1012	U
1	A	1013	C
1	A	1018	C
1	A	1020	A
1	A	1022	G
1	A	1023	U
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1041	C
1	A	1042	G
1	A	1044	G
1	A	1045	A
1	A	1046	A
1	A	1047	G
1	A	1052	C
1	A	1053	C
1	A	1054	A
1	A	1057	A
1	A	1058	G
1	A	1060	U
1	A	1063	G
1	A	1064	C
1	A	1065	U
1	A	1066	U
1	A	1067	A
1	A	1068	G

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Mol	Chain	Res	Type
1	A	1069	A
1	A	1070	A
1	A	1071	G
1	A	1073	A
1	A	1074	G
1	A	1075	C
1	A	1076	C
1	A	1080	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1088	A
1	A	1089	G
1	A	1090	U
1	A	1091	G
1	A	1092	C
1	A	1096	A
1	A	1098	A
1	A	1102	C
1	A	1105	U
1	A	1108	U
1	A	1109	C
1	A	1111	A
1	A	1112	G
1	A	1114	G
1	A	1117	G
1	A	1128	A
1	A	1130	U
1	A	1135	C
1	A	1136	G
1	A	1139	G
1	A	1144	G
1	A	1149	G
1	A	1155	A
1	A	1170	G
1	A	1171	G
1	A	1187	G
1	A	1204	A
1	A	1206	G
1	A	1211	U

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Mol	Chain	Res	Type
1	A	1212	G
1	A	1220	A
1	A	1225	G
1	A	1227	G
1	A	1230	C
1	A	1236	G
1	A	1241	A
1	A	1248	G
1	A	1252	G
1	A	1253	A
1	A	1255	U
1	A	1256	G
1	A	1261	C
1	A	1265	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1274	A
1	A	1300	U
1	A	1301	A
1	A	1312	U
1	A	1314	C
1	A	1329	U
1	A	1343	G
1	A	1345	C
1	A	1359	A
1	A	1360	A
1	A	1363	C
1	A	1364	G
1	A	1365	A
1	A	1366	A
1	A	1368	G
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1392	A
1	A	1395	A
1	A	1398	C
1	A	1403	C
1	A	1416	G
1	A	1417	C
1	A	1420	U

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Mol	Chain	Res	Type
1	A	1421	G
1	A	1428	C
1	A	1445(A)	A
1	A	1450(A)	G
1	A	1453	U
1	A	1455	G
1	A	1459	G
1	A	1460	A
1	A	1465	G
1	A	1467	C
1	A	1471	A
1	A	1482	G
1	A	1490	A
1	A	1491	G
1	A	1493	C
1	A	1494	A
1	A	1495	A
1	A	1497	U
1	A	1498	C
1	A	1507	A
1	A	1508	A
1	A	1509(A)	C
1	A	1509(B)	A
1	A	1525	G
1	A	1530	C
1	A	1531	C
1	A	1533	G
1	A	1537	G
1	A	1542	A
1	A	1543	C
1	A	1547	C
1	A	1558	A
1	A	1566	A
1	A	1569	A
1	A	1580	A
1	A	1583	A
1	A	1584	C
1	A	1586	A
1	A	1608	A
1	A	1609	A
1	A	1616	A
1	A	1618	A

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Mol	Chain	Res	Type
1	A	1634	A
1	A	1640	C
1	A	1646	C
1	A	1648	C
1	A	1654	A
1	A	1674	G
1	A	1676	A
1	A	1700	A
1	A	1721	G
1	A	1722	A
1	A	1740	G
1	A	1746	G
1	A	1756	G
1	A	1760	A
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1773	A
1	A	1780	A
1	A	1784	A
1	A	1791	A
1	A	1800	C
1	A	1801	G
1	A	1804	C
1	A	1809	A
1	A	1810	A
1	A	1816	G
1	A	1829	A
1	A	1835	G
1	A	1847	A
1	A	1848	A
1	A	1849	G
1	A	1859	A
1	A	1866	C
1	A	1876	A
1	A	1877	A
1	A	1878	G
1	A	1882	C
1	A	1890	A
1	A	1900	A
1	A	1906	G
1	A	1913	A

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Mol	Chain	Res	Type
1	A	1914	C
1	A	1927	A
1	A	1929	G
1	A	1930	G
1	A	1936	A
1	A	1937	A
1	A	1938	A
1	A	1940	U
1	A	1950	G
1	A	1955	U
1	A	1963	U
1	A	1964	G
1	A	1965	C
1	A	1967	C
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1984	G
1	A	1993	U
1	A	1997	G
1	A	2016	U
1	A	2020	A
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2034	U
1	A	2043	C
1	A	2052	G
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2063	C
1	A	2069	G
1	A	2087	G
1	A	2088	G
1	A	2089	U
1	A	2090	G
1	A	2092	U
1	A	2093	G

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Mol	Chain	Res	Type
1	A	2096	U
1	A	2097	C
1	A	2099	U
1	A	2103	C
1	A	2105	C
1	A	2107	C
1	A	2108	C
1	A	2110	G
1	A	2111	C
1	A	2112	G
1	A	2116	G
1	A	2117	A
1	A	2118	U
1	A	2119	A
1	A	2121	G
1	A	2126	A
1	A	2127	G
1	A	2129	C
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2134	A
1	A	2136	C
1	A	2144	U
1	A	2146	C
1	A	2148	G
1	A	2151	G
1	A	2158	A
1	A	2159	G
1	A	2160	G
1	A	2161	C
1	A	2162	G
1	A	2165	G
1	A	2168	G
1	A	2169	A
1	A	2170	A
1	A	2172	U
1	A	2173	A
1	A	2176	A
1	A	2177	C
1	A	2178	C
1	A	2179	C

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Mol	Chain	Res	Type
1	A	2180	U
1	A	2183	C
1	A	2185	C
1	A	2186	G
1	A	2187	G
1	A	2189	U
1	A	2192	G
1	A	2193	G
1	A	2194	G
1	A	2198	A
1	A	2199	A
1	A	2200	C
1	A	2201	C
1	A	2202	C
1	A	2203	U
1	A	2206	G
1	A	2207	G
1	A	2208	A
1	A	2218	U
1	A	2221	G
1	A	2224	G
1	A	2225	A
1	A	2226	C
1	A	2227	A
1	A	2231	C
1	A	2232	U
1	A	2233	U
1	A	2238	G
1	A	2250	G
1	A	2251	OMG
1	A	2266	A
1	A	2268	A
1	A	2269	A
1	A	2273	A
1	A	2275	C
1	A	2279	G
1	A	2281	C
1	A	2283	C
1	A	2286	A
1	A	2287	A
1	A	2305	A
1	A	2308	G

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Mol	Chain	Res	Type
1	A	2309	A
1	A	2319	G
1	A	2320	A
1	A	2321	G
1	A	2322	A
1	A	2325	G
1	A	2334	G
1	A	2336	A
1	A	2345	G
1	A	2347	C
1	A	2350	C
1	A	2354	G
1	A	2368	C
1	A	2383	G
1	A	2385	C
1	A	2402	C
1	A	2406	U
1	A	2407	G
1	A	2410	G
1	A	2414	G
1	A	2422	A
1	A	2424	C
1	A	2425	A
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2432	A
1	A	2435	A
1	A	2439	A
1	A	2441	C
1	A	2445	G
1	A	2448	A
1	A	2469	A
1	A	2473	U
1	A	2474	C
1	A	2475	C
1	A	2476	A
1	A	2478	A
1	A	2480	C
1	A	2488	A
1	A	2491	U
1	A	2494	G

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Mol	Chain	Res	Type
1	A	2498	C
1	A	2502	G
1	A	2503	2MA
1	A	2505	G
1	A	2506	U
1	A	2518	A
1	A	2535	G
1	A	2554	U
1	A	2556	C
1	A	2564	A
1	A	2566	A
1	A	2567	G
1	A	2572	A
1	A	2573	C
1	A	2578	G
1	A	2586	C
1	A	2602	A
1	A	2603	G
1	A	2609	U
1	A	2611	U
1	A	2612	C
1	A	2629	A
1	A	2630	G
1	A	2633	G
1	A	2636	U
1	A	2646	C
1	A	2656	U
1	A	2674	G
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2702	U
1	A	2703	C
1	A	2712(B)	A
1	A	2713	A
1	A	2714	G
1	A	2726	U
1	A	2733	A
1	A	2744	G
1	A	2751	G
1	A	2757	A
1	A	2758	A

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Mol	Chain	Res	Type
1	A	2765	A
1	A	2766	G
1	A	2778	A
1	A	2789	C
1	A	2808	U
1	A	2816	C
1	A	2817	G
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2831	G
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2836	U
1	A	2839	G
1	A	2849	U
1	A	2852	G
1	A	2857	G
1	A	2872	G
1	A	2879	C
1	A	2884	U
1	A	2886	G
1	A	2889	C
1	A	2894	G
2	B	2	C
2	B	8	U
2	B	9	G
2	B	12	C
2	B	13	A
2	B	14	U
2	B	15	A
2	B	17	C
2	B	24	G
2	B	35	U
2	B	37	C
2	B	42	C
2	B	56	G
2	B	58	A
2	B	63	G
2	B	67	G
2	B	73	A

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Mol	Chain	Res	Type
2	B	85	G
2	B	89	G
2	B	108	U
2	B	110	G
2	B	116	G
2	B	117	G
32	a	7	G
32	a	9	G
32	a	31	G
32	a	32	A
32	a	36	C
32	a	39	G
32	a	47	C
32	a	48	C
32	a	51	A
32	a	61	G
32	a	63	C
32	a	64	G
32	a	65	U
32	a	66	G
32	a	67	C
32	a	68	G
32	a	69	G
32	a	70	G
32	a	71	C
32	a	72	C
32	a	73	G
32	a	76	C
32	a	77	G
32	a	79	G
32	a	80	G
32	a	88	A
32	a	89	C
32	a	92	C
32	a	93	G
32	a	96	U
32	a	97	G
32	a	98	G
32	a	99	U
32	a	100	C
32	a	101	A
32	a	102	G

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Mol	Chain	Res	Type
32	a	103	C
32	a	104	G
32	a	105	G
32	a	106	C
32	a	116	A
32	a	119	A
32	a	121	C
32	a	122	G
32	a	129(B)	G
32	a	131	C
32	a	144	G
32	a	147	G
32	a	148	G
32	a	150	C
32	a	154	C
32	a	163	C
32	a	170	U
32	a	171	A
32	a	172	A
32	a	173	U
32	a	174	C
32	a	182	U
32	a	189(G)	U
32	a	192	U
32	a	195	A
32	a	197	A
32	a	200	G
32	a	202	U
32	a	203	U
32	a	216	G
32	a	217	C
32	a	221	C
32	a	222	U
32	a	231	G
32	a	247	G
32	a	251	G
32	a	266	G
32	a	267	C
32	a	279	A
32	a	289	G
32	a	298	A
32	a	306	G

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Mol	Chain	Res	Type
32	a	321	A
32	a	328	C
32	a	329	A
32	a	330	C
32	a	332	G
32	a	347	G
32	a	351	G
32	a	352	C
32	a	353	A
32	a	354	G
32	a	367	U
32	a	372	C
32	a	373	A
32	a	381	C
32	a	382	A
32	a	389	A
32	a	392	G
32	a	397	A
32	a	398	C
32	a	406	G
32	a	407	G
32	a	412	A
32	a	413	G
32	a	414	A
32	a	423	G
32	a	428	G
32	a	429	U
32	a	430	A
32	a	439	A
32	a	442	C
32	a	443	C
32	a	452	A
32	a	461	A
32	a	470	C
32	a	482	A
32	a	484	G
32	a	485	G
32	a	496	A
32	a	498	U
32	a	506	G
32	a	509	A
32	a	510	A

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Mol	Chain	Res	Type
32	a	511	C
32	a	518	C
32	a	521	G
32	a	524	G
32	a	527	7MG
32	a	531	U
32	a	532	A
32	a	533	A
32	a	536	C
32	a	547	A
32	a	564	C
32	a	571	U
32	a	572	A
32	a	573	A
32	a	575	G
32	a	576	G
32	a	577	G
32	a	579	G
32	a	582	U
32	a	596	C
32	a	618	C
32	a	630	G
32	a	632	A
32	a	642	A
32	a	653	A
32	a	660	G
32	a	665	A
32	a	687	A
32	a	688	G
32	a	690	G
32	a	702	A
32	a	703	G
32	a	721	G
32	a	723	U
32	a	724	G
32	a	731	G
32	a	737	A
32	a	749	C
32	a	755	G
32	a	759	A
32	a	777	A
32	a	790	A

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Mol	Chain	Res	Type
32	a	793	U
32	a	794	A
32	a	815	A
32	a	816	A
32	a	817	C
32	a	819	A
32	a	828	A
32	a	840	C
32	a	841	U
32	a	851	G
32	a	864	A
32	a	872	A
32	a	874	G
32	a	876	G
32	a	902	G
32	a	914	A
32	a	926	G
32	a	927	G
32	a	931	C
32	a	934	C
32	a	935	A
32	a	940	C
32	a	945	G
32	a	955	U
32	a	956	U
32	a	957	U
32	a	959	A
32	a	960	U
32	a	961	U
32	a	968	A
32	a	969	A
32	a	971	G
32	a	974	A
32	a	975	A
32	a	976	G
32	a	977	A
32	a	989	C
32	a	992	U
32	a	993	G
32	a	994	A
32	a	997	U
32	a	1001(B)	G

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Mol	Chain	Res	Type
32	a	1002	G
32	a	1003	G
32	a	1004	A
32	a	1005	A
32	a	1006	C
32	a	1015	A
32	a	1020	U
32	a	1022	G
32	a	1023	G
32	a	1024	G
32	a	1025	U
32	a	1026	G
32	a	1028	C
32	a	1030(B)	G
32	a	1030(C)	C
32	a	1031	G
32	a	1036	G
32	a	1037	C
32	a	1041	A
32	a	1043	C
32	a	1044	A
32	a	1045	C
32	a	1065	U
32	a	1066	C
32	a	1068	G
32	a	1081	G
32	a	1085	U
32	a	1086	U
32	a	1092	A
32	a	1094	G
32	a	1095	U
32	a	1101	A
32	a	1108	G
32	a	1117	G
32	a	1118	C
32	a	1125	U
32	a	1129	C
32	a	1130	A
32	a	1136	U
32	a	1137	C
32	a	1139	G
32	a	1140	C

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Mol	Chain	Res	Type
32	a	1152	A
32	a	1157	A
32	a	1158	C
32	a	1159	U
32	a	1160	G
32	a	1171	G
32	a	1179	A
32	a	1183	A
32	a	1196	U
32	a	1197	G
32	a	1200	C
32	a	1210	C
32	a	1211	U
32	a	1212	U
32	a	1213	A
32	a	1214	C
32	a	1220	G
32	a	1221	G
32	a	1224	G
32	a	1225	A
32	a	1226	C
32	a	1227	A
32	a	1228	C
32	a	1236	A
32	a	1238	A
32	a	1250	A
32	a	1256	A
32	a	1257	U
32	a	1258	G
32	a	1260	C
32	a	1261	A
32	a	1279	A
32	a	1281	U
32	a	1282	C
32	a	1287	A
32	a	1290	G
32	a	1300	G
32	a	1301	U
32	a	1302	U
32	a	1305	G
32	a	1306	A
32	a	1320	C

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Mol	Chain	Res	Type
32	a	1323	G
32	a	1338	G
32	a	1340	A
32	a	1346	A
32	a	1347	G
32	a	1363(A)	C
32	a	1363(B)	A
32	a	1364	U
32	a	1378	C
32	a	1379	G
32	a	1397	C
32	a	1398	A
32	a	1404	5MC
32	a	1419	G
32	a	1428	A
32	a	1442(A)	G
32	a	1442(B)	G
32	a	1442(C)	A
32	a	1447	A
32	a	1452	C
32	a	1457	G
32	a	1492	A
32	a	1500	A
32	a	1503	A
32	a	1504	G
32	a	1506	U
32	a	1517	G
32	a	1519	MA6
32	a	1520	G
32	a	1524	C
32	a	1529	G
32	a	1530	G
32	a	1531	A
32	a	1532	U
32	a	1533	C
32	a	1534	A
32	a	1535	C
32	a	1536	C
32	a	1537	U
32	a	1539	C
32	a	1540	U
32	a	1541	U

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Mol	Chain	Res	Type
32	a	1542	G
53	y	2	G
53	y	8	U
53	y	10	G
53	y	16	C
53	y	17(B)	C
53	y	20	U
53	y	46	G
53	y	47	U
53	y	48	C
53	y	49	G
53	y	61	C
53	y	75	C
53	y	76	A
55	z	16	U
55	z	17	C
55	z	19	G
55	z	21	A
55	z	22	G
55	z	23	A
55	z	24	G
55	z	27	G
55	z	28	G
55	z	29	G
55	z	39	U
55	z	41	C
55	z	42	C
55	z	43	C
55	z	46	G
55	z	47	U
55	z	48	C
55	z	49	C
55	z	54	U
55	z	55	U
55	z	56	C
55	z	57	G
55	z	58	A
55	z	59	U
55	z	61	C
55	z	70	G
55	z	71	G
55	z	74	C

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Mol	Chain	Res	Type
55	z	76	A
56	x	2	A
56	x	3	A
56	x	6	A
56	x	7	A
56	x	8	A
56	x	9	U
56	x	10	A
56	x	11	A
56	x	12	A
56	x	17	U
56	x	18	U
56	x	19	U
56	x	21	G
56	x	22	U
56	x	23	G
56	x	26	C
56	x	28	G
56	x	30	C
56	x	31	A
56	x	38	A
56	x	41	C
56	x	42	G
56	x	45	C
56	x	46	G

All (46) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	68	G
1	A	70	G
1	A	98	G
1	A	99	U
1	A	102	G
1	A	195	A
1	A	214	G
1	A	215	G
1	A	266	G
1	A	272(M)	G
1	A	277	C
1	A	532	A

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Mol	Chain	Res	Type
1	A	752	A
1	A	784	A
1	A	840	C
1	A	856	C
1	A	900	A
1	A	954	G
1	A	959	A
1	A	1053	C
1	A	1056	G
1	A	1057	A
1	A	1065	U
1	A	1067	A
1	A	1210	A
1	A	1240	U
1	A	1379	A
1	A	1491	G
1	A	1493	C
1	A	1889	A
1	A	1992	G
1	A	2126	A
1	A	2133	G
1	A	2171	A
1	A	2172	U
1	A	2201	C
1	A	2321	G
1	A	2438	U
1	A	2601	C
1	A	2602	A
1	A	2689	U
1	A	2756	U
1	A	2816	C
1	A	2817	G
1	A	2832	U

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

24 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
32	5MC	a	967	32	19,22,23	1.44	3 (15%)	26,32,35	1.14	2 (7%)
1	5MC	A	1942	1	19,22,23	1.41	3 (15%)	26,32,35	1.17	2 (7%)
32	M2G	a	966	32	24,27,28	1.30	5 (20%)	33,40,43	1.87	6 (18%)
32	2MG	a	1207	32	23,26,27	1.27	4 (17%)	33,38,41	2.23	10 (30%)
43	0TD	l	92	43	8,9,10	2.21	1 (12%)	6,11,13	1.20	0
32	PSU	a	516	32	18,21,22	1.45	5 (27%)	21,30,33	2.19	5 (23%)
32	MA6	a	1519	32	23,26,27	1.41	5 (21%)	33,38,41	2.48	14 (42%)
1	OMG	A	2251	1,53	23,26,27	1.25	4 (17%)	32,38,41	2.00	6 (18%)
32	4OC	a	1402	32	20,23,24	0.77	1 (5%)	25,32,35	0.93	0
32	5MC	a	1400	32	19,22,23	1.44	3 (15%)	26,32,35	1.20	2 (7%)
1	PSU	A	2605	1	18,21,22	1.45	4 (22%)	21,30,33	2.25	4 (19%)
32	5MC	a	1407	32	19,22,23	1.47	3 (15%)	26,32,35	1.26	2 (7%)
1	5MU	A	1939	1	19,22,23	1.37	3 (15%)	27,32,35	2.35	6 (22%)
1	2MA	A	2503	1	22,25,26	1.46	5 (22%)	32,37,40	2.26	7 (21%)
1	2MU	A	2552	1	19,22,24	1.37	4 (21%)	25,31,36	2.22	6 (24%)
1	5MU	A	1915	1	19,22,23	1.42	5 (26%)	27,32,35	2.44	9 (33%)
1	4OC	A	1920	1	19,22,24	0.81	1 (5%)	25,31,35	0.85	0
1	5MC	A	1962	1	19,22,23	1.42	3 (15%)	26,32,35	1.25	2 (7%)
1	PSU	A	1911	1	18,21,22	1.40	3 (16%)	21,30,33	2.19	4 (19%)
32	UR3	a	1498	32	19,22,23	0.94	2 (10%)	26,32,35	1.76	3 (11%)
32	7MG	a	527	32	23,26,27	1.35	4 (17%)	27,39,42	2.71	7 (25%)
32	5MC	a	1404	32	19,22,23	1.51	3 (15%)	26,32,35	1.25	3 (11%)
32	MA6	a	1518	32	23,26,27	1.41	5 (21%)	33,38,41	2.41	14 (42%)
1	PSU	A	1917	1	18,21,22	1.39	3 (16%)	21,30,33	2.11	5 (23%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	5MC	a	967	32	-	0/7/25/26	0/2/2/2
1	5MC	A	1942	1	-	0/7/25/26	0/2/2/2
32	M2G	a	966	32	-	0/11/29/30	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	2MG	a	1207	32	-	0/9/27/28	0/3/3/3
43	0TD	l	92	43	-	4/7/12/14	-
32	PSU	a	516	32	-	0/7/25/26	0/2/2/2
32	MA6	a	1519	32	-	4/11/29/30	0/3/3/3
1	OMG	A	2251	1,53	-	2/9/27/28	0/3/3/3
32	4OC	a	1402	32	-	0/9/29/30	0/2/2/2
32	5MC	a	1400	32	-	2/7/25/26	0/2/2/2
1	PSU	A	2605	1	-	0/7/25/26	0/2/2/2
32	5MC	a	1407	32	-	0/7/25/26	0/2/2/2
1	5MU	A	1939	1	-	0/7/25/26	0/2/2/2
1	2MA	A	2503	1	-	1/7/25/26	0/3/3/3
1	2MU	A	2552	1	-	0/9/27/28	0/2/2/2
1	5MU	A	1915	1	-	2/7/25/26	0/2/2/2
1	4OC	A	1920	1	-	0/9/27/30	0/2/2/2
1	5MC	A	1962	1	-	0/7/25/26	0/2/2/2
1	PSU	A	1911	1	-	0/7/25/26	0/2/2/2
32	UR3	a	1498	32	-	0/7/25/26	0/2/2/2
32	7MG	a	527	32	-	3/7/37/38	0/3/3/3
32	5MC	a	1404	32	-	1/7/25/26	0/2/2/2
32	MA6	a	1518	32	-	1/11/29/30	0/3/3/3
1	PSU	A	1917	1	-	0/7/25/26	0/2/2/2

All (82) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	1404	5MC	C5-C4	5.05	1.47	1.44
32	a	1407	5MC	C5-C4	5.03	1.47	1.44
43	l	92	0TD	CB-CA	-4.99	1.53	1.54
1	A	1942	5MC	C5-C4	4.86	1.47	1.44
32	a	967	5MC	C5-C4	4.86	1.47	1.44
1	A	1962	5MC	C5-C4	4.80	1.47	1.44
32	a	1400	5MC	C5-C4	4.79	1.47	1.44
32	a	1519	MA6	C5-C4	4.08	1.46	1.39
32	a	1518	MA6	C5-C4	4.06	1.46	1.39
1	A	2503	2MA	C5-C4	3.97	1.46	1.39
32	a	527	7MG	C4-N9	-3.65	1.33	1.37
1	A	2605	PSU	C4-N3	-3.33	1.32	1.38
1	A	1911	PSU	C4-N3	-3.21	1.32	1.38
1	A	2552	2MU	C4-N3	-3.14	1.33	1.38
1	A	1939	5MU	C4-N3	-3.10	1.33	1.38
1	A	1939	5MU	C6-N1	-3.08	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1917	PSU	C4-N3	-3.02	1.33	1.38
32	a	516	PSU	C4-N3	-2.99	1.33	1.38
32	a	527	7MG	C5-C4	2.95	1.46	1.37
32	a	966	M2G	C6-N1	-2.95	1.33	1.38
1	A	2251	OMG	C6-N1	-2.93	1.33	1.38
32	a	1407	5MC	C6-N1	-2.91	1.33	1.38
1	A	1915	5MU	C4-N3	-2.89	1.33	1.38
32	a	1404	5MC	C6-N1	-2.87	1.33	1.38
1	A	1962	5MC	C6-N1	-2.84	1.33	1.38
32	a	966	M2G	C5-C4	2.81	1.46	1.38
32	a	1207	2MG	C6-N1	-2.79	1.33	1.38
1	A	2251	OMG	C5-C4	2.78	1.46	1.38
1	A	2503	2MA	C5-N7	-2.77	1.34	1.39
32	a	1207	2MG	C5-C4	2.75	1.46	1.38
32	a	967	5MC	C6-N1	-2.74	1.33	1.38
32	a	1518	MA6	C5-N7	-2.71	1.34	1.39
32	a	527	7MG	C6-N1	-2.68	1.33	1.38
32	a	1400	5MC	C6-N1	-2.66	1.33	1.38
1	A	1942	5MC	C6-N1	-2.65	1.33	1.38
1	A	2552	2MU	C2-N3	-2.64	1.33	1.38
1	A	1939	5MU	C2-N3	-2.60	1.33	1.38
1	A	1915	5MU	C2-N1	2.59	1.42	1.38
32	a	516	PSU	C6-C5	2.56	1.38	1.35
1	A	1917	PSU	C6-C5	2.56	1.38	1.35
32	a	1400	5MC	C6-C5	2.55	1.38	1.34
1	A	2605	PSU	C2-N3	-2.54	1.33	1.37
1	A	1915	5MU	C6-N1	-2.53	1.33	1.38
32	a	1404	5MC	C6-C5	2.51	1.38	1.34
1	A	2605	PSU	C6-C5	2.49	1.38	1.35
32	a	1518	MA6	C4-N9	-2.48	1.32	1.37
32	a	966	M2G	C5-N7	-2.48	1.34	1.39
32	a	1519	MA6	C5-N7	-2.47	1.34	1.39
1	A	2251	OMG	C5-N7	-2.46	1.34	1.39
32	a	1519	MA6	C5-C6	2.42	1.47	1.41
1	A	1915	5MU	C2-N3	-2.40	1.33	1.38
32	a	1207	2MG	C5-N7	-2.40	1.34	1.39
1	A	2503	2MA	C4-N9	-2.39	1.32	1.37
1	A	1911	PSU	C6-C5	2.37	1.37	1.35
32	a	967	5MC	C6-C5	2.34	1.38	1.34
32	a	1519	MA6	C4-N9	-2.29	1.32	1.37
1	A	1911	PSU	C2-N3	-2.28	1.33	1.37
1	A	2503	2MA	C5-C6	2.26	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1962	5MC	C6-C5	2.25	1.38	1.34
32	a	1519	MA6	C8-N7	2.23	1.36	1.31
32	a	516	PSU	O4'-C1'	-2.22	1.40	1.43
32	a	516	PSU	C2-N3	-2.18	1.33	1.37
32	a	1498	UR3	C5-C4	-2.16	1.38	1.43
32	a	1407	5MC	C6-C5	2.16	1.38	1.34
32	a	1498	UR3	C6-N1	-2.15	1.33	1.38
32	a	527	7MG	C5-N7	-2.15	1.32	1.35
32	a	1207	2MG	C4-N9	-2.15	1.32	1.38
1	A	2552	2MU	C6-N1	-2.15	1.33	1.38
1	A	1942	5MC	C6-C5	2.14	1.38	1.34
1	A	1917	PSU	C2-N3	-2.14	1.33	1.37
32	a	966	M2G	C2-N2	2.13	1.39	1.35
1	A	1915	5MU	C6-C5	2.10	1.38	1.34
32	a	1518	MA6	C5-C6	2.09	1.46	1.41
1	A	2605	PSU	C2-N1	-2.08	1.34	1.36
32	a	966	M2G	C4-N9	-2.07	1.32	1.38
32	a	516	PSU	C2-N1	-2.05	1.34	1.36
32	a	1518	MA6	C8-N9	-2.03	1.34	1.37
32	a	1402	4OC	C6-N1	-2.02	1.33	1.38
1	A	1920	4OC	C6-N1	-2.02	1.33	1.38
1	A	2503	2MA	C8-N9	-2.01	1.34	1.37
1	A	2251	OMG	C4-N9	-2.01	1.33	1.38
1	A	2552	2MU	C5-C4	2.00	1.48	1.43

All (119) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	a	527	7MG	N9-C4-N3	9.30	139.09	125.46
1	A	2503	2MA	C5-C4-N3	-8.18	118.57	127.18
32	a	1498	UR3	C4-N3-C2	-7.06	118.90	124.58
1	A	2605	PSU	N1-C2-N3	6.90	122.45	115.17
32	a	516	PSU	N1-C2-N3	6.80	122.34	115.17
32	a	1207	2MG	C2-N3-C4	6.71	120.39	112.00
1	A	1911	PSU	N1-C2-N3	6.68	122.21	115.17
1	A	1917	PSU	N1-C2-N3	6.52	122.05	115.17
1	A	2503	2MA	N3-C4-N9	6.40	135.12	126.99
1	A	2251	OMG	C5-C4-N3	-6.31	118.35	128.39
32	a	966	M2G	C5-C4-N3	-6.08	118.72	128.39
32	a	1207	2MG	C5-C4-N3	-5.93	118.95	128.39
32	a	527	7MG	N9-C8-N7	-5.88	95.05	103.37
1	A	1939	5MU	C4-N3-C2	-5.69	119.88	127.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	a	1519	MA6	C5-C4-N3	-5.68	118.90	126.72
32	a	1518	MA6	C5-C4-N3	-5.50	119.14	126.72
32	a	527	7MG	C5-C4-N3	-5.44	117.92	128.13
1	A	2552	2MU	C4-N3-C2	-5.30	120.03	126.61
32	a	1519	MA6	C10-N6-C6	-5.21	107.27	120.52
1	A	1915	5MU	C4-N3-C2	-5.16	120.57	127.34
32	a	1518	MA6	C9-N6-C6	-5.10	107.56	120.52
1	A	1939	5MU	O4-C4-C5	-5.08	119.11	124.92
1	A	1939	5MU	C5-C4-N3	5.06	119.72	115.32
1	A	2552	2MU	N3-C2-N1	5.04	121.45	114.89
1	A	2251	OMG	C2-N3-C4	5.02	120.94	112.30
1	A	1915	5MU	C5-C4-N3	5.00	119.67	115.32
1	A	2605	PSU	C4-N3-C2	-4.85	119.69	126.37
1	A	2552	2MU	C2'-C1'-N1	-4.85	105.04	114.24
1	A	2251	OMG	N9-C4-N3	4.82	135.59	125.95
1	A	1911	PSU	C4-N3-C2	-4.75	119.83	126.37
1	A	1939	5MU	N3-C2-N1	4.72	121.04	114.89
32	a	1519	MA6	C9-N6-C6	-4.68	108.61	120.52
1	A	1939	5MU	C5-C6-N1	-4.67	118.24	123.31
32	a	966	M2G	N9-C4-N3	4.66	135.26	125.95
32	a	1518	MA6	N3-C4-N9	4.61	135.01	127.17
1	A	1915	5MU	N3-C2-N1	4.61	120.89	114.89
1	A	1915	5MU	C1'-N1-C6	-4.54	113.68	121.15
32	a	1519	MA6	N3-C4-N9	4.47	134.76	127.17
32	a	1407	5MC	C5-C6-N1	-4.42	118.51	123.31
1	A	1915	5MU	C1'-N1-C2	4.41	125.51	117.59
32	a	516	PSU	C4-N3-C2	-4.39	120.33	126.37
1	A	1917	PSU	C4-N3-C2	-4.37	120.35	126.37
1	A	1962	5MC	C5-C6-N1	-4.27	118.67	123.31
32	a	1404	5MC	C5-C6-N1	-4.26	118.69	123.31
32	a	527	7MG	C2-N3-C4	4.24	119.59	112.30
32	a	1207	2MG	N9-C4-N3	4.22	134.39	125.95
32	a	966	M2G	C2-N3-C4	4.15	120.19	112.51
1	A	1915	5MU	O4-C4-C5	-4.13	120.19	124.92
32	a	1518	MA6	C10-N6-C6	-4.07	110.16	120.52
1	A	1942	5MC	C5-C6-N1	-4.05	118.92	123.31
32	a	1518	MA6	C2-N1-C6	3.99	121.57	111.83
32	a	1519	MA6	C2-N1-C6	3.89	121.32	111.83
32	a	1400	5MC	C5-C6-N1	-3.85	119.13	123.31
32	a	967	5MC	C5-C6-N1	-3.83	119.15	123.31
32	a	516	PSU	O2-C2-N1	-3.79	118.88	122.79
32	a	1519	MA6	C2-N3-C4	3.74	120.97	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1917	PSU	O2-C2-N1	-3.54	119.13	122.79
1	A	1911	PSU	O2-C2-N1	-3.51	119.17	122.79
32	a	1518	MA6	C2-N3-C4	3.50	120.38	111.83
1	A	2552	2MU	C5-C4-N3	3.46	119.65	114.80
1	A	2605	PSU	O2-C2-N1	-3.46	119.22	122.79
32	a	1498	UR3	C5-C4-N3	3.45	119.59	115.04
32	a	1519	MA6	C4-C5-N7	-3.44	106.65	110.58
1	A	2552	2MU	O2-C2-N1	-3.37	118.41	122.80
32	a	1519	MA6	N1-C2-N3	-3.36	123.49	128.58
1	A	1915	5MU	C5-C6-N1	-3.36	119.67	123.31
32	a	1518	MA6	N1-C6-N6	3.25	120.82	116.86
32	a	1207	2MG	C6-C5-N7	3.22	136.16	130.29
1	A	2503	2MA	C4-C5-N7	-3.22	106.90	110.58
1	A	1939	5MU	O2-C2-N1	-3.19	118.64	122.80
32	a	1518	MA6	C4-N9-C8	3.18	109.08	105.74
32	a	1518	MA6	N1-C2-N3	-3.18	123.77	128.58
32	a	1518	MA6	C4-C5-N7	-3.04	107.11	110.58
32	a	1519	MA6	C4-N9-C8	3.04	108.92	105.74
32	a	1207	2MG	N2-C2-N3	-2.94	116.77	120.51
1	A	2251	OMG	C6-C5-N7	2.87	135.51	130.29
1	A	2503	2MA	N6-C6-N1	2.84	120.86	117.03
32	a	1207	2MG	N1-C2-N2	2.83	119.45	116.56
1	A	2552	2MU	O4-C4-C5	-2.80	120.34	125.16
32	a	966	M2G	C6-C5-N7	2.79	135.37	130.29
1	A	1911	PSU	C5-C6-N1	-2.77	118.30	122.14
32	a	1207	2MG	CM2-N2-C2	-2.76	117.71	123.65
1	A	2605	PSU	C5-C6-N1	-2.76	118.31	122.14
32	a	1400	5MC	C5-C4-N3	-2.70	118.98	121.75
32	a	527	7MG	C5-C6-N1	2.69	115.67	110.94
32	a	1518	MA6	C5-C6-N6	-2.64	121.15	125.33
1	A	2503	2MA	C4-N9-C8	2.64	108.51	105.74
1	A	1915	5MU	O2-C2-N3	-2.62	116.65	121.49
32	a	527	7MG	C5-C4-N9	-2.62	102.98	106.33
32	a	1519	MA6	N1-C6-N6	2.62	120.04	116.86
32	a	1207	2MG	C4-C5-N7	-2.57	106.60	110.67
32	a	1519	MA6	C5-N7-C8	2.54	107.45	103.45
32	a	1404	5MC	C5-C4-N3	-2.53	119.16	121.75
32	a	1519	MA6	C5-C6-N6	-2.51	121.37	125.33
32	a	1207	2MG	C2-N1-C6	-2.46	121.58	124.55
32	a	1519	MA6	C10-N6-C9	-2.41	108.45	116.18
1	A	1962	5MC	C5-C4-N3	-2.41	119.29	121.75
1	A	1917	PSU	C5-C6-N1	-2.37	118.84	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2503	2MA	C2-N1-C6	2.36	121.73	118.10
32	a	967	5MC	C5-C4-N3	-2.34	119.35	121.75
32	a	516	PSU	O4'-C1'-C2'	2.34	108.39	105.15
32	a	1519	MA6	N9-C8-N7	-2.33	110.63	113.94
1	A	2503	2MA	C5-N7-C8	2.31	107.08	103.45
1	A	2251	OMG	C4-C5-N7	-2.30	107.02	110.67
32	a	1518	MA6	C5-N7-C8	2.30	107.06	103.45
32	a	966	M2G	C4-C5-N7	-2.26	107.09	110.67
32	a	516	PSU	C5-C6-N1	-2.25	119.02	122.14
32	a	966	M2G	O6-C6-C5	-2.24	120.61	126.53
1	A	1915	5MU	C5M-C5-C4	2.24	121.17	118.78
1	A	1917	PSU	O4'-C1'-C2'	2.18	108.17	105.15
32	a	1207	2MG	O6-C6-C5	-2.14	120.89	126.53
32	a	1518	MA6	N9-C8-N7	-2.14	110.91	113.94
32	a	1404	5MC	O2-C2-N3	-2.13	118.98	122.33
32	a	1407	5MC	C5-C4-N3	-2.11	119.60	121.75
32	a	527	7MG	O6-C6-C5	-2.10	122.46	127.62
32	a	1518	MA6	C10-N6-C9	-2.10	109.44	116.18
1	A	1942	5MC	C5-C4-N3	-2.05	119.65	121.75
1	A	2251	OMG	O6-C6-C5	-2.02	121.21	126.53
32	a	1498	UR3	C3U-N3-C2	2.00	120.82	117.33

There are no chirality outliers.

All (20) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1915	5MU	O4'-C1'-N1-C2
1	A	1915	5MU	O4'-C1'-N1-C6
32	a	527	7MG	C3'-C4'-C5'-O5'
32	a	1519	MA6	O4'-C4'-C5'-O5'
43	l	92	0TD	O-C-CA-CB
43	l	92	0TD	CA-CB-SB-CSB
32	a	527	7MG	O4'-C4'-C5'-O5'
32	a	1519	MA6	C3'-C4'-C5'-O5'
1	A	2251	OMG	O4'-C4'-C5'-O5'
1	A	2251	OMG	C3'-C4'-C5'-O5'
32	a	1400	5MC	O4'-C4'-C5'-O5'
32	a	527	7MG	C4'-C5'-O5'-P
32	a	1518	MA6	C5-C6-N6-C10
32	a	1519	MA6	C5-C6-N6-C9
43	l	92	0TD	CG-CB-SB-CSB
43	l	92	0TD	SB-CB-CG-OD1

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Mol	Chain	Res	Type	Atoms
32	a	1519	MA6	C4'-C5'-O5'-P
32	a	1400	5MC	C3'-C4'-C5'-O5'
32	a	1404	5MC	C4'-C5'-O5'-P
1	A	2503	2MA	O4'-C4'-C5'-O5'

There are no ring outliers.

22 monomers are involved in 63 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	a	967	5MC	4	0
1	A	1942	5MC	2	0
32	a	966	M2G	4	0
32	a	1207	2MG	2	0
43	l	92	0TD	1	0
32	a	516	PSU	4	0
32	a	1519	MA6	4	0
1	A	2251	OMG	4	0
32	a	1402	4OC	5	0
32	a	1400	5MC	2	0
32	a	1407	5MC	3	0
1	A	1939	5MU	1	0
1	A	2503	2MA	3	0
1	A	2552	2MU	2	0
1	A	1915	5MU	1	0
1	A	1920	4OC	4	0
1	A	1962	5MC	3	0
1	A	1911	PSU	1	0
32	a	1498	UR3	4	0
32	a	1404	5MC	2	0
32	a	1518	MA6	7	0
1	A	1917	PSU	3	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 7 ligands modelled in this entry, 6 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
58	SF4	d	301	35	0,12,12	-	-	-		

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	SF4	d	301	35	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	d	301	SF4	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
32	a	4
7	H	3
1	A	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	a	1000:U	O3’	1001(A):A	P	4.17
1	a	1029:C	O3’	1030(A):C	P	4.08
1	A	2103:C	O3’	2104:G	P	3.60
1	A	2180:U	O3’	2181:G	P	3.49
1	H	3:ARG	C	4:ILE	N	3.23
1	a	1030(E):A	O3’	1031:G	P	3.19
1	H	119:GLU	C	120:GLY	N	3.16
1	H	137:ASP	C	138:LYS	N	3.09
1	a	64:G	O3’	65:U	P	2.22

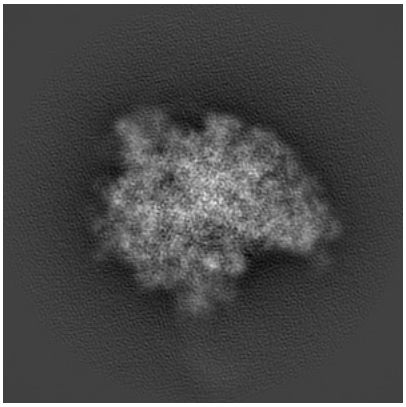
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-8597. These allow visual inspection of the internal detail of the map and identification of artifacts.

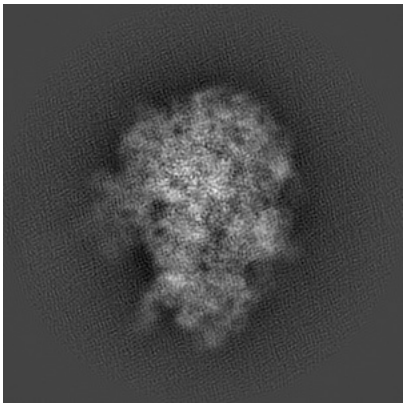
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

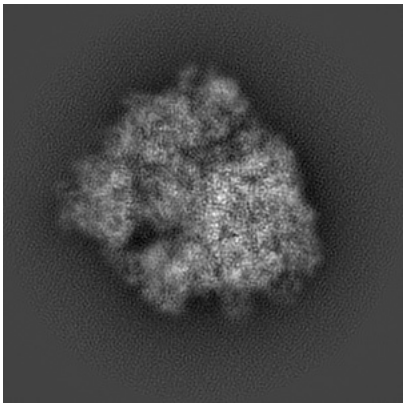
6.1.1 Primary map



X



Y

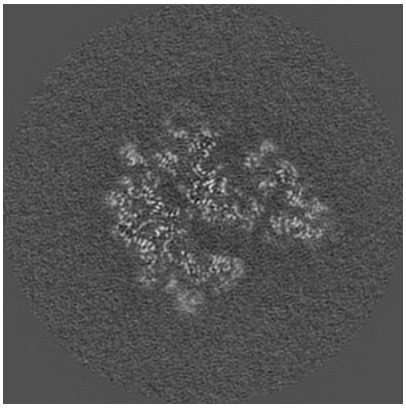


Z

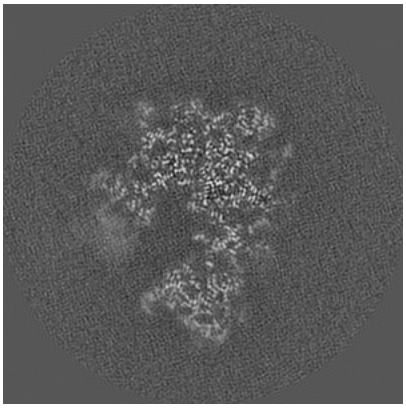
The images above show the map projected in three orthogonal directions.

6.2 Central slices

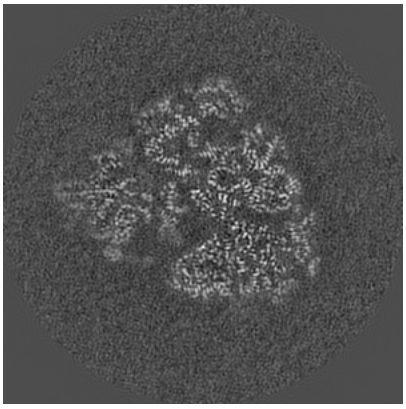
6.2.1 Primary map



X Index: 192



Y Index: 192

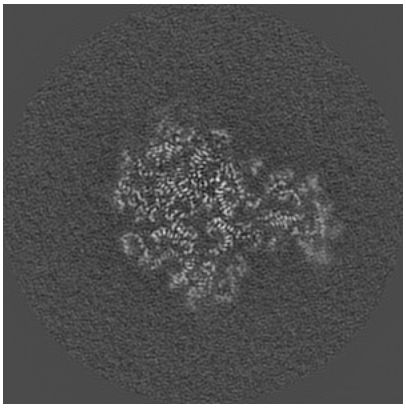


Z Index: 192

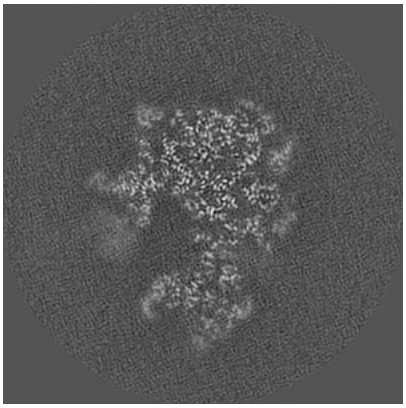
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

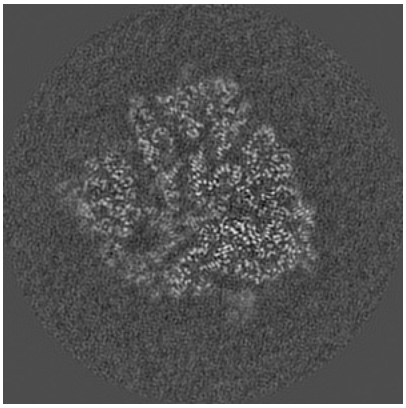
6.3.1 Primary map



X Index: 203



Y Index: 197

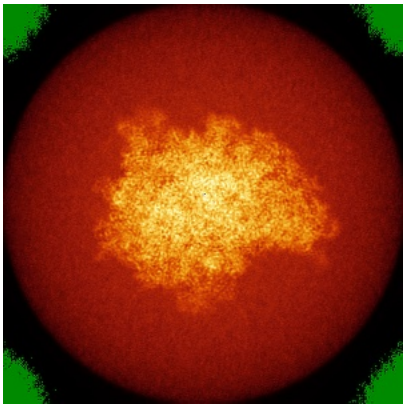


Z Index: 184

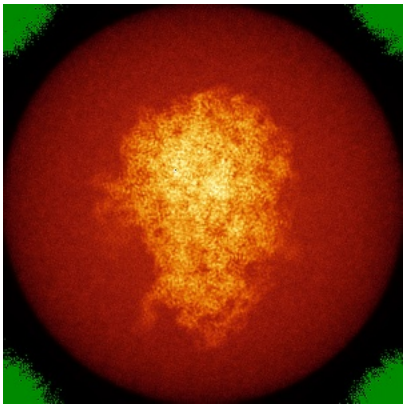
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

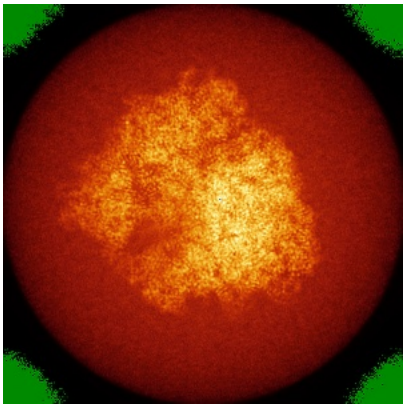
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

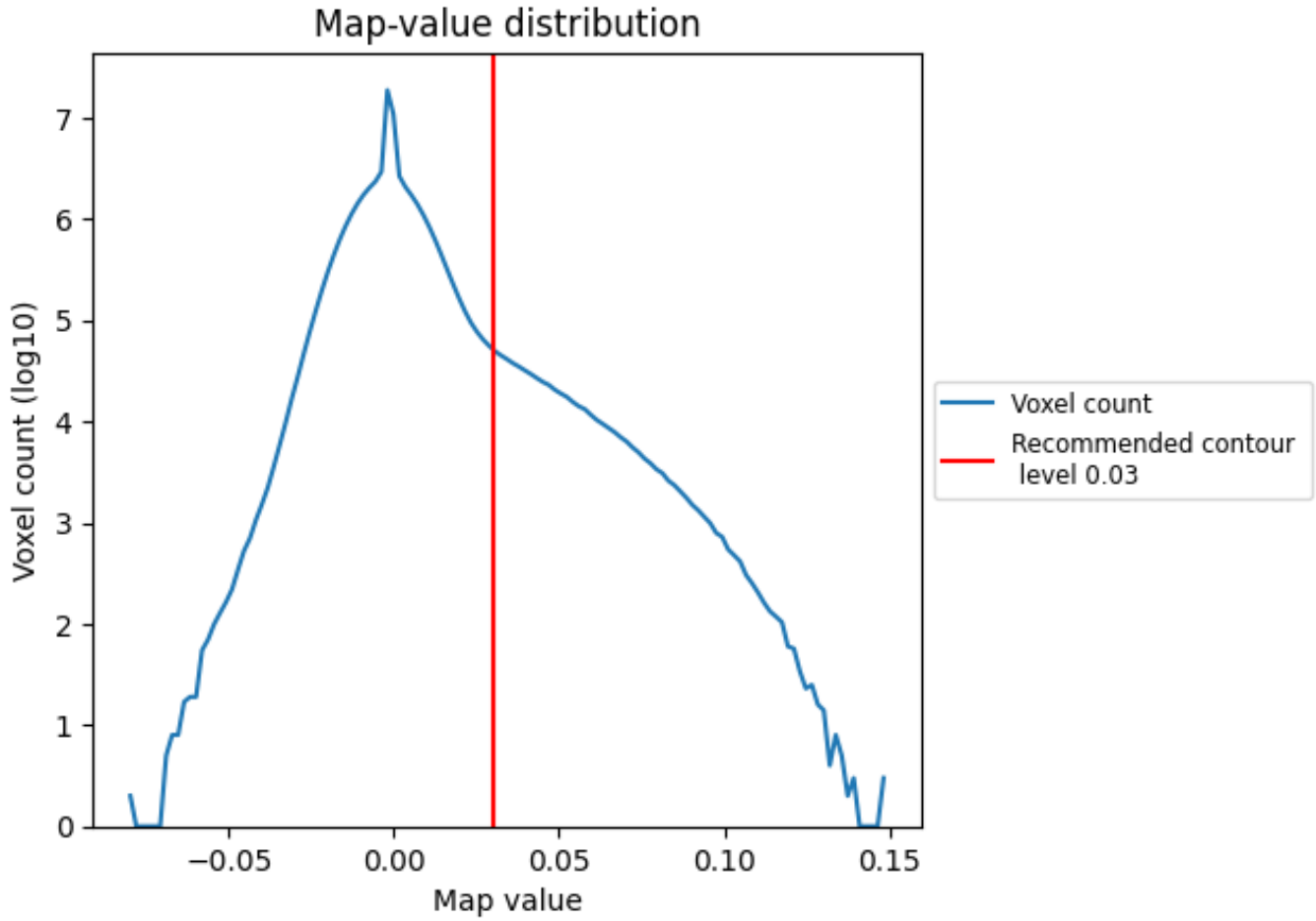
6.6 Mask visualisation (i)

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

7 Map analysis

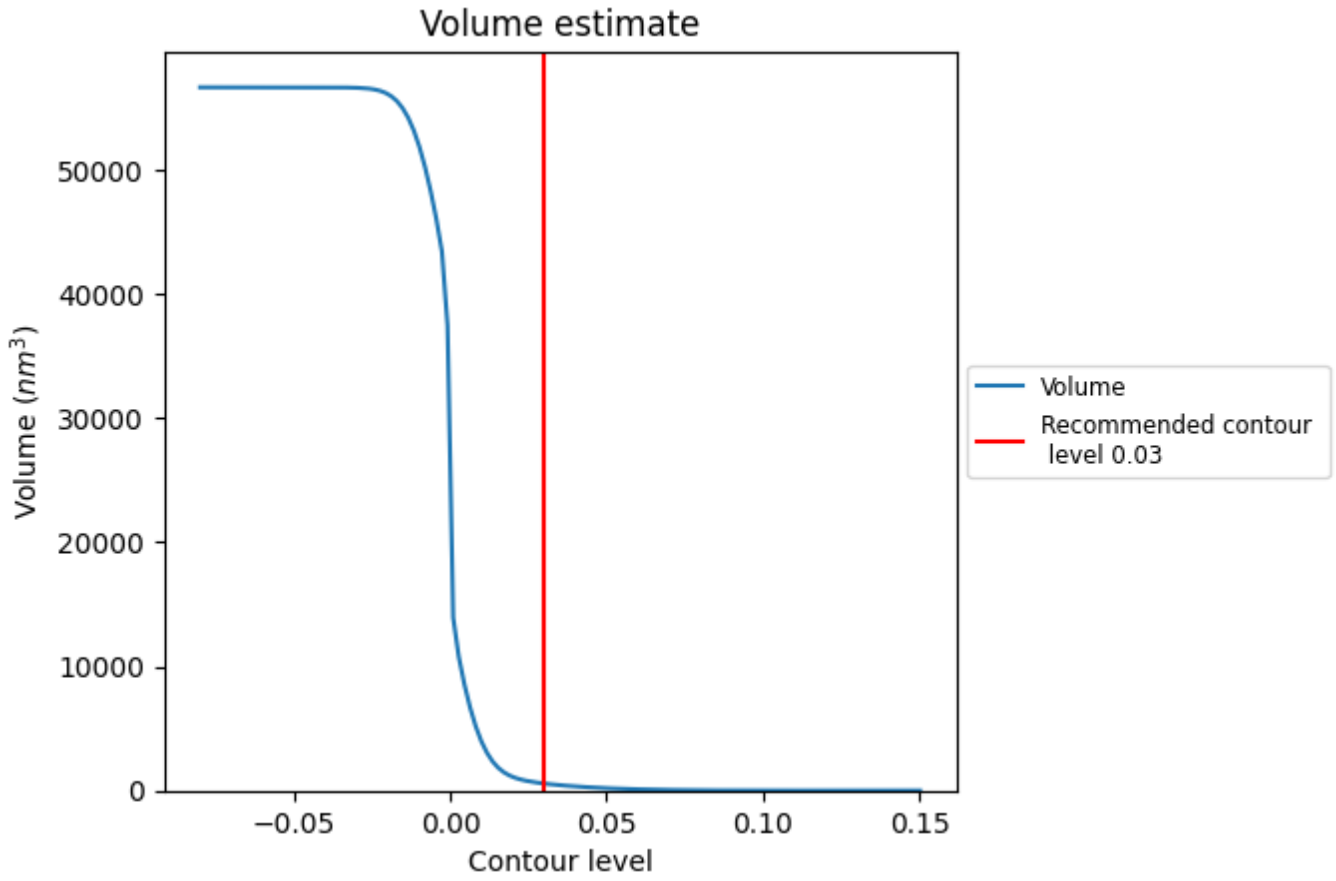
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

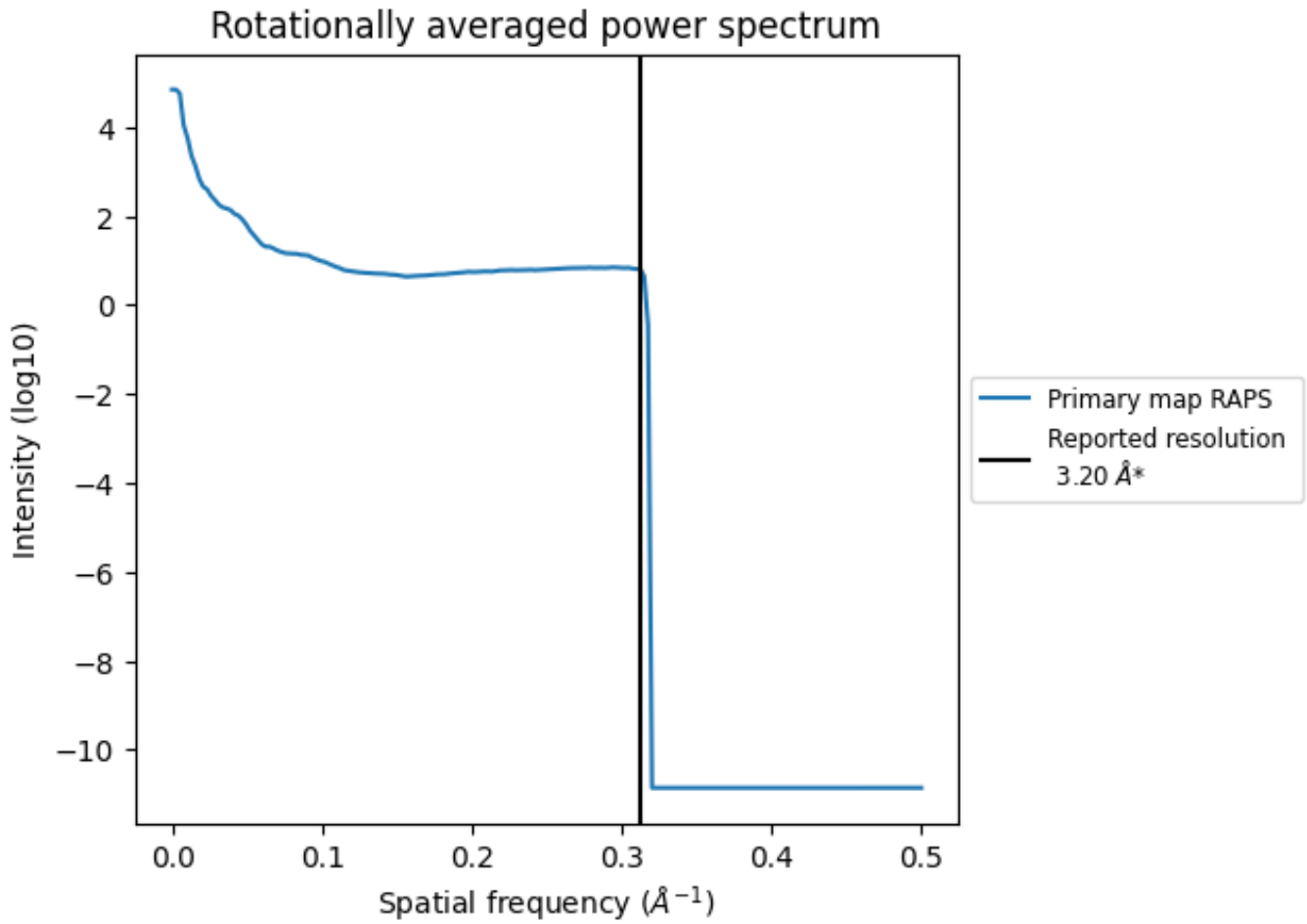
7.2 Volume estimate



The volume at the recommended contour level is 568 nm^3; this corresponds to an approximate mass of 513 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

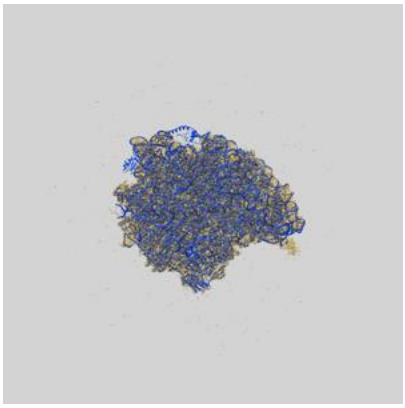
8 Fourier-Shell correlation

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

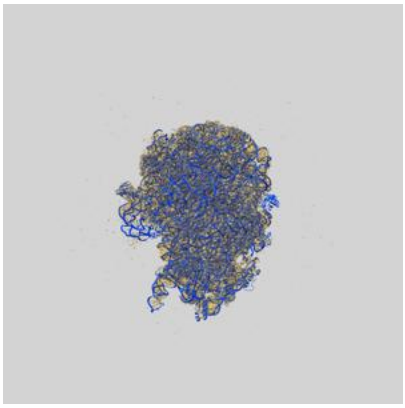
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-8597 and PDB model 5UQ8. Per-residue inclusion information can be found in section 3 on page 16.

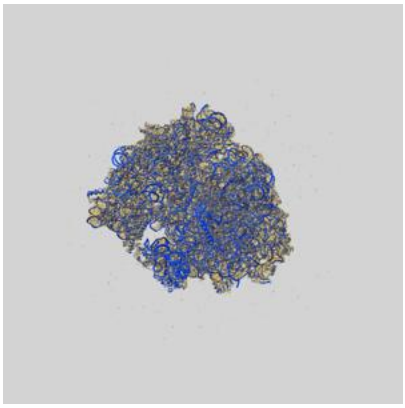
9.1 Map-model overlay



X



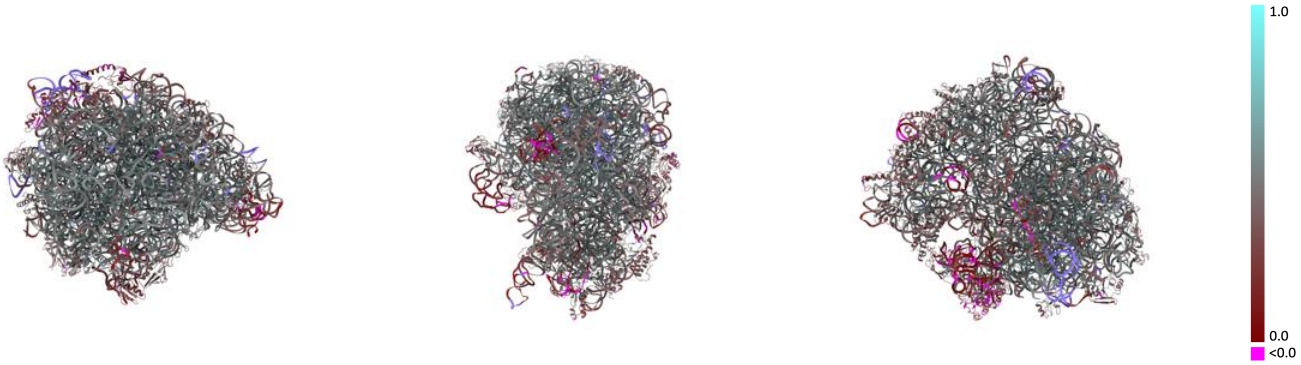
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model



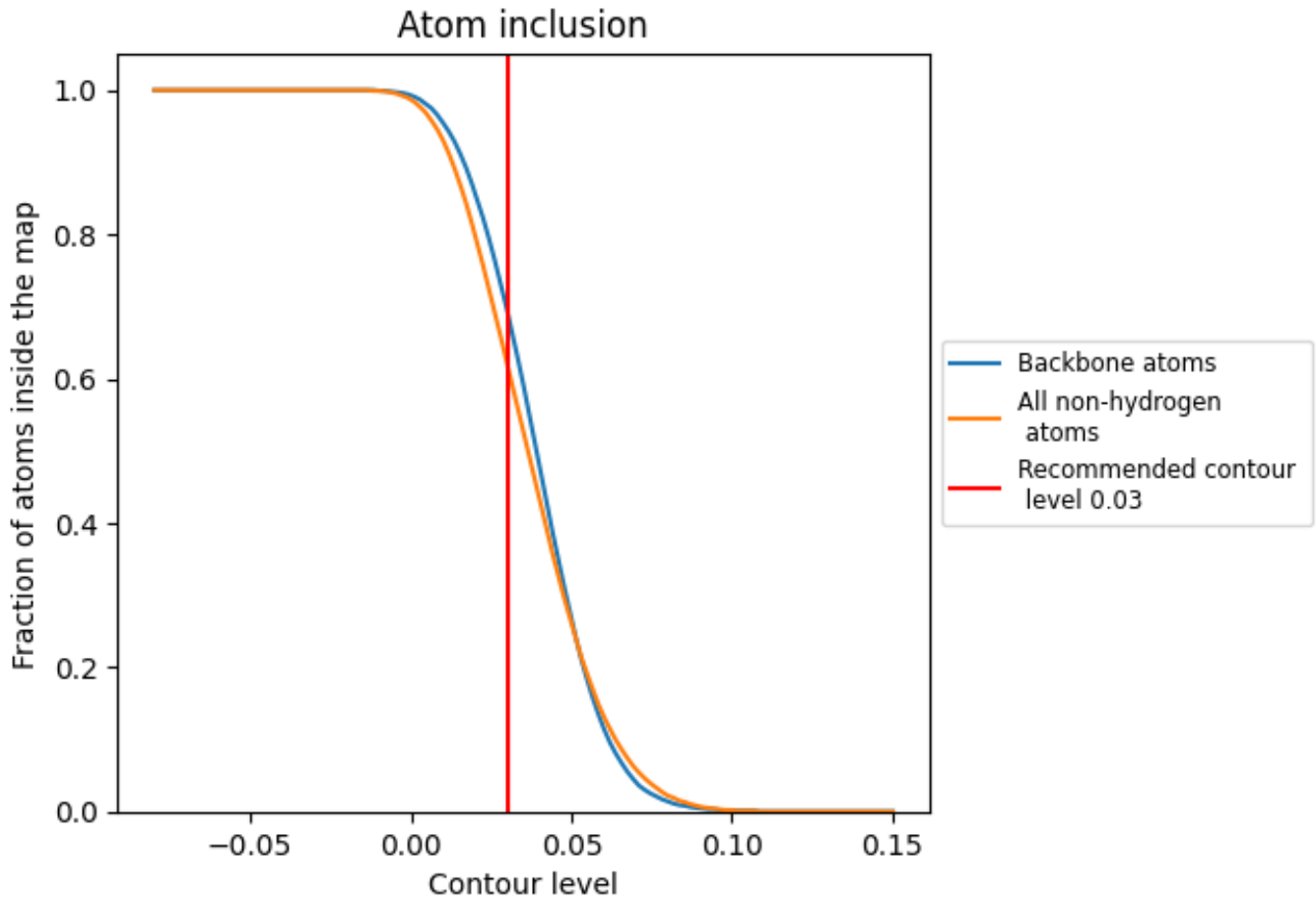
X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model

This section was not generated.

9.4 Atom inclusion (i)



At the recommended contour level, 70% of all backbone atoms, 62% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6210	0.4460
0	0.6220	0.5150
1	0.4800	0.4560
2	0.4580	0.4020
3	0.5340	0.4700
4	0.2580	0.2770
5	0.6240	0.4980
6	0.6010	0.4790
7	0.6310	0.5220
8	0.5980	0.5070
9	0.5630	0.4940
A	0.7190	0.4760
B	0.6900	0.4450
C	0.0040	0.1160
D	0.6390	0.5080
E	0.5950	0.4920
F	0.5630	0.4650
G	0.4270	0.3970
H	0.3290	0.3420
I	0.0860	0.2550
N	0.5440	0.4750
O	0.5470	0.4920
P	0.5390	0.4670
Q	0.5380	0.4550
R	0.6130	0.4880
S	0.5100	0.4270
T	0.5540	0.4570
U	0.6370	0.4910
V	0.5000	0.4490
W	0.5840	0.4930
X	0.5290	0.4570
Y	0.4260	0.4240
Z	0.2590	0.3350
a	0.6970	0.4530
b	0.3650	0.3780

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Chain	Atom inclusion	Q-score
c	0.4980	0.4410
d	0.4770	0.4090
e	0.5410	0.4680
f	0.3390	0.3510
g	0.4250	0.3840
h	0.5610	0.4710
i	0.4220	0.3910
j	0.4030	0.3890
k	0.4760	0.4330
l	0.5440	0.4880
m	0.4260	0.3980
n	0.5790	0.4760
o	0.4890	0.4180
p	0.5700	0.4630
q	0.5150	0.4750
r	0.3600	0.3650
s	0.4030	0.3860
t	0.4630	0.3910
u	0.4890	0.4420
x	0.0590	0.1030
y	0.4630	0.4070
z	0.0920	0.1510