Full wwPDB EM Validation Report ⓘ

Mar 15, 2026 – 11:54 AM UTC

PDB ID	:	9CPA / pdb_00009cpa
EMDB ID	:	EMD-3057
Title	:	Structure of a Mammalian DHX29-bound 43S Pre-initiation Complex
Authors	:	Cui, D.; des Georges, A.
Deposited on	:	2024-07-18
Resolution	:	6.00 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:

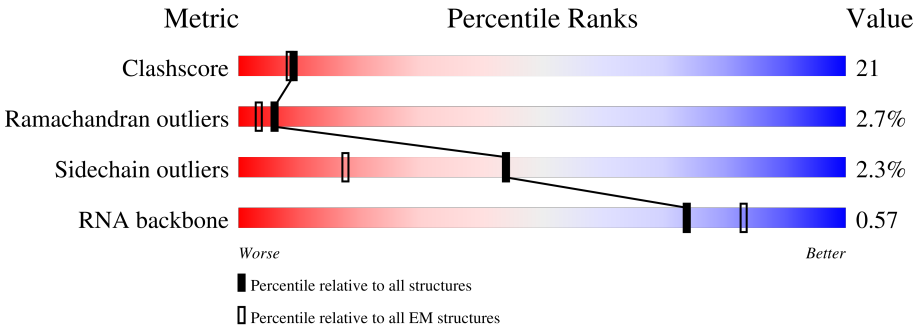
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13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

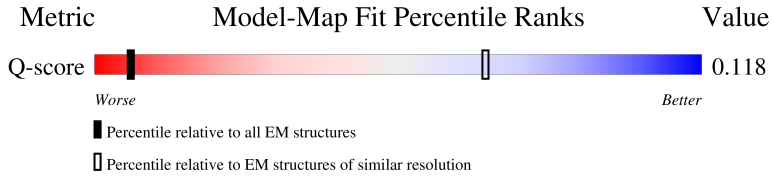
1 Overall quality at a glance

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

The reported resolution of this entry is 6.00 Å.

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





Metric	Whole archive (#Entries)	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	257 (8.50 - 9.50)

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	l	25	16% 100%
2	C	295	7% 64% 12% 24%
3	E	226	9% 94% 6%

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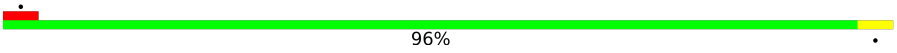
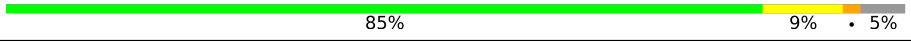
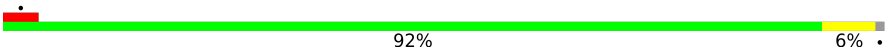
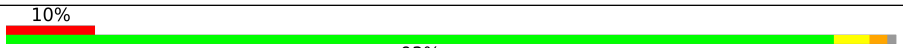
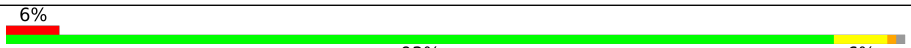
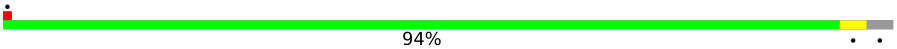
Mol	Chain	Length	Quality of chain
4	G	263	
5	I	249	
6	J	194	
7	K	208	
8	L	194	
9	N	158	
10	P	151	
11	X	83	
12	Y	130	
13	Z	143	
14	a	133	
15	c	84	
16	i	133	
17	2	1863	
18	F	243	
19	H	219	
20	M	165	
21	O	132	
22	S	146	
23	T	135	
24	V	145	
25	W	119	
26	d	69	
27	e	56	
28	f	156	

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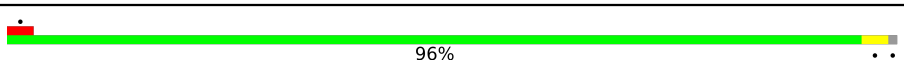
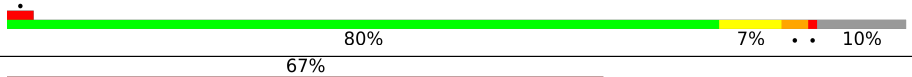
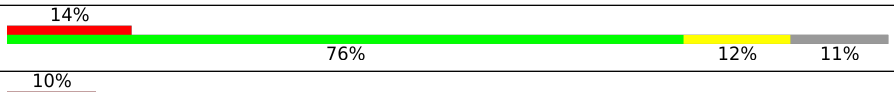
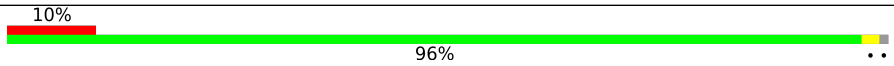
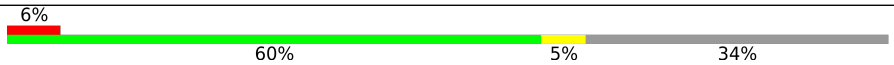
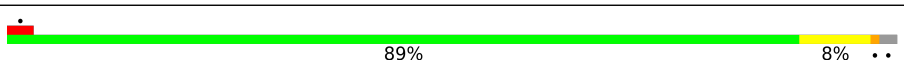
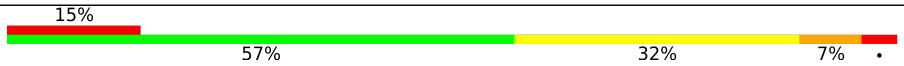
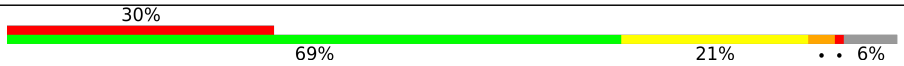
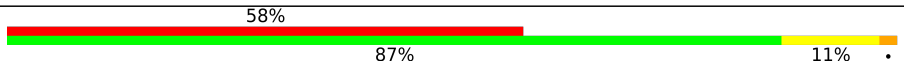
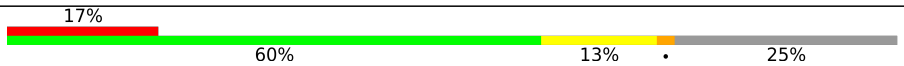
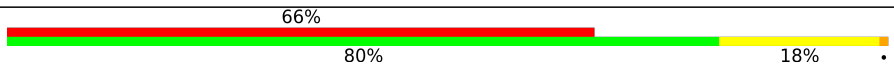
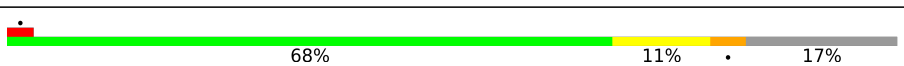
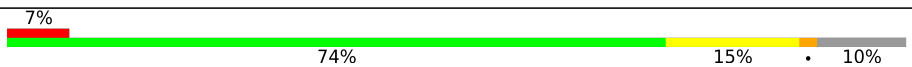
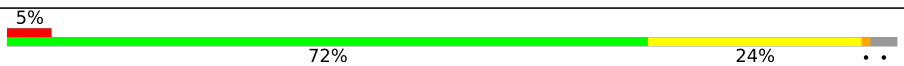
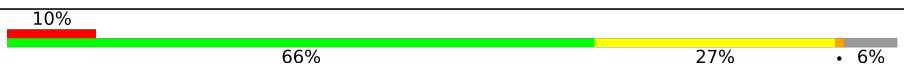
Mol	Chain	Length	Quality of chain
29	g	317	
30	n	124	
31	U	152	
32	R	145	
33	D	557	
34	y	1350	
35	q	364	
36	r	366	
37	s	218	
38	t	564	
39	u	374	
40	1	75	
41	A	284	
42	B	422	
43	p	814	
44	z	342	
45	x	264	
46	0	151	
47	Q	462	
48	j	320	
49	b	115	
50	k	913	
51	h	1369	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
17	I2T	2	1244	-	-	X	-

2 Entry composition (i)

There are 51 unique types of molecules in this entry. The entry contains 129228 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	l	25	240	145	64	28	3	0	0

- Molecule 2 is a protein called uS2 (SA).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	225	1774	1125	310	331	8	0	0

- Molecule 3 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	E	226	1743	1127	300	307	9	0	0

- Molecule 4 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	G	263	2083	1329	385	359	10	0	0

- Molecule 5 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	I	237	1923	1200	387	329	7	0	0

- Molecule 6 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	J	190	1530	975	281	273	1	0	0

- Molecule 7 is a protein called Small ribosomal subunit protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	K	206	Total	C	N	O	S	0	0
			1679	1054	329	291	5		

- Molecule 8 is a protein called Ribosomal protein S9 (Predicted).

Mol	Chain	Residues	Atoms					AltConf	Trace
8	L	173	Total	C	N	O	S	0	0
			1450	925	289	234	2		

- Molecule 9 is a protein called Ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	N	158	Total	C	N	O	S	0	0
			1296	827	241	221	7		

- Molecule 10 is a protein called Ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	P	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 11 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	X	82	Total	C	N	O	S	0	0
			619	378	117	119	5		

- Molecule 12 is a protein called Ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Y	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 13 is a protein called uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Z	142	Total	C	N	O	S	0	0
			1106	698	220	184	4		

- Molecule 14 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	a	126	Total	C	N	O	S	0	0
			1021	645	198	173	5		

- Molecule 15 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	c	84	Total	C	N	O	S	0	0
			659	413	122	116	8		

- Molecule 16 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	i	54	Total	C	N	O	S	0	0
			437	271	96	69	1		

- Molecule 17 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	2	1863	Total	C	N	O	P	0	0
			39726	17732	7093	13039	1862		

- Molecule 18 is a protein called Ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	F	227	Total	C	N	O	S	0	0
			1764	1124	317	315	8		

- Molecule 19 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	H	191	Total	C	N	O	S	0	0
			1509	943	286	273	7		

- Molecule 20 is a protein called S10_plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	M	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 21 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	O	124	Total	C	N	O	S	0	0
			958	600	170	179	9		

- Molecule 22 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 23 is a protein called eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	126	Total	C	N	O	S	0	0
			1019	639	188	187	5		

- Molecule 24 is a protein called eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	141	Total	C	N	O	S	0	0
			1112	701	213	195	3		

- Molecule 25 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	104	Total	C	N	O	S	0	0
			822	514	156	148	4		

- Molecule 26 is a protein called Ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	d	68	Total	C	N	O	S	0	0
			520	317	103	98	2		

- Molecule 27 is a protein called eS29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	e	53	Total	C	N	O	S	0	0
			445	278	90	72	5		

- Molecule 28 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	f	71	Total	C	N	O	S	0	0
			581	367	109	98	7		

- Molecule 29 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	g	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 30 is a protein called eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	n	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 31 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	U	139	Total	C	N	O	S	0	0
			1154	722	236	195	1		

- Molecule 32 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	R	131	Total	C	N	O	S	0	0
			1083	688	205	183	7		

- Molecule 33 is a protein called Eukaryotic translation initiation factor 3 subunit D.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	D	456	Total	C	N	O	S	0	0
			3666	2307	635	704	20		

- Molecule 34 is a protein called Eukaryotic translation initiation factor 3 subunit A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	y	656	Total	C	N	O	S	0	0
			5441	3429	979	1011	22		

- Molecule 35 is a protein called Eukaryotic translation initiation factor 3 subunit F.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	q	272	Total	C	N	O	S	0	0
			2111	1330	359	410	12		

- Molecule 36 is a protein called Eukaryotic translation initiation factor 3 subunit H.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	r	324	Total	C	N	O	S	0	0
			2624	1654	452	503	15		

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
r	29	GLY	LYS	conflict	UNP A0A5F9CZR4
r	30	GLY	PRO	conflict	UNP A0A5F9CZR4
r	31	SER	PHE	conflict	UNP A0A5F9CZR4
r	32	GLY	LEU	conflict	UNP A0A5F9CZR4
r	33	ASP	VAL	conflict	UNP A0A5F9CZR4
r	34	SER	ALA	conflict	UNP A0A5F9CZR4
r	35	ALA	TYR	conflict	UNP A0A5F9CZR4
r	38	GLN	PRO	conflict	UNP A0A5F9CZR4
r	39	VAL	CYS	conflict	UNP A0A5F9CZR4
r	40	GLN	PHE	conflict	UNP A0A5F9CZR4
r	41	ILE	SER	conflict	UNP A0A5F9CZR4
r	42	ASP	ARG	conflict	UNP A0A5F9CZR4
r	43	GLY	THR	conflict	UNP A0A5F9CZR4
r	44	LEU	ARG	conflict	UNP A0A5F9CZR4

- Molecule 37 is a protein called Eukaryotic translation initiation factor 3 subunit K.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	s	215	Total	C	N	O	S	0	0
			1737	1109	285	330	13		

- Molecule 38 is a protein called Eukaryotic translation initiation factor 3 subunit L.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	t	372	Total	C	N	O	S	0	0
			3109	2010	519	563	17		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
t	13	ALA	VAL	conflict	UNP G1SED9
t	53	LYS	ARG	conflict	UNP G1SED9
t	117	ALA	THR	conflict	UNP G1SED9
t	151	GLU	ALA	conflict	UNP G1SED9

- Molecule 39 is a protein called Eukaryotic translation initiation factor 3 subunit M.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	u	365	Total	C	N	O	S	0	0
			2918	1850	493	558	17		

- Molecule 40 is a RNA chain called initiator methionylated tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	1	75	Total	C	N	O	P	0	0
			1614	722	299	519	74		

- Molecule 41 is a protein called Eukaryotic translation initiation factor 2 subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	A	266	Total	C	N	O	S	0	0
			2146	1354	376	405	11		

- Molecule 42 is a protein called protein-synthesizing GTPase.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	B	422	Total	C	N	O	S	0	0
			3214	2044	561	592	17		

- Molecule 43 is a protein called eukaryotic translation initiation factor 3 subunit b.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	p	613	Total	C	N	O	S	0	0
			5034	3228	871	915	20		

- Molecule 44 is a protein called eukaryotic translation initiation factor 3 subunit i.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	z	342	Total	C	N	O	S	0	0
			2693	1711	443	530	9		

- Molecule 45 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	x	220	Total	C	N	O	S	0	0
			1757	1115	312	315	15		

- Molecule 46 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	0	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 47 is a protein called Eukaryotic translation initiation factor 3 subunit E.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Q	447	Total	C	N	O	S	0	0
			3692	2358	626	687	21		

- Molecule 48 is a protein called Eukaryotic translation initiation factor 3 subunit g.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	j	77	Total	C	N	O	0	0
			379	225	77	77		

- Molecule 49 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	b	108	Total	C	N	O	S	0	0
			828	514	168	139	7		

- Molecule 50 is a protein called Eukaryotic translation initiation factor 3 subunit C.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	k	584	Total	C	N	O	S	0	0
			4699	2947	837	882	33		

- Molecule 51 is a protein called ATP-dependent RNA helicase DHX29.

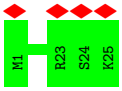
Mol	Chain	Residues	Atoms				AltConf	Trace
51	h	1024	Total	C	N	O	0	0
			5070	3022	1024	1024		

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.

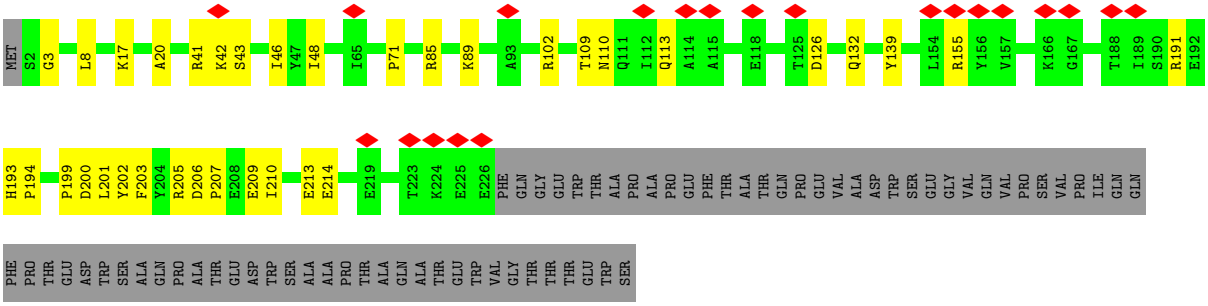
• Molecule 1: eL41

Chain l:



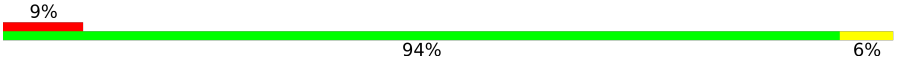
• Molecule 2: uS2 (SA)

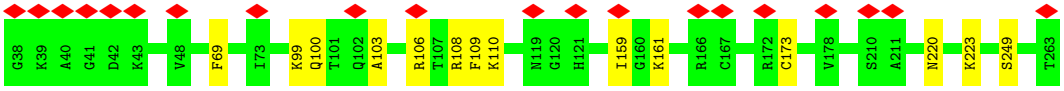
Chain C:



• Molecule 3: Small ribosomal subunit protein uS5

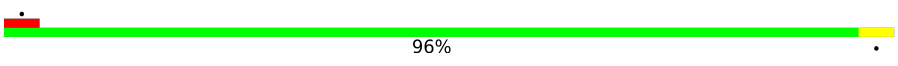
Chain E:

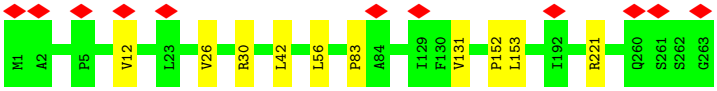




• Molecule 4: 40S ribosomal protein S4

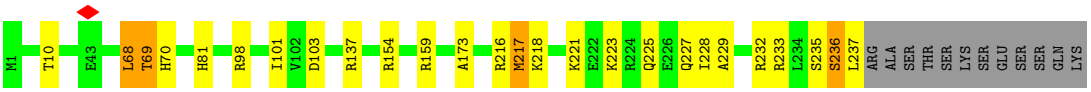
Chain G:





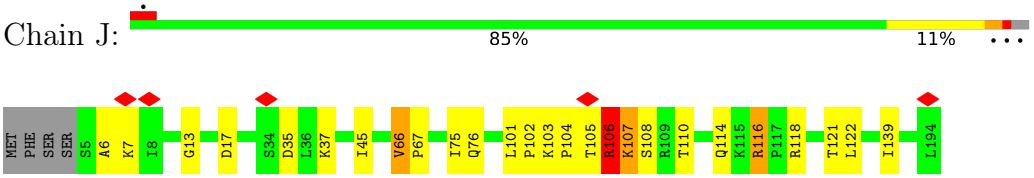
• Molecule 5: 40S ribosomal protein S6

Chain I:



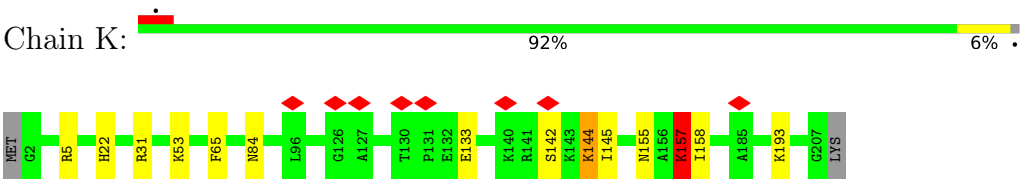
• Molecule 6: 40S ribosomal protein S7

Chain J:



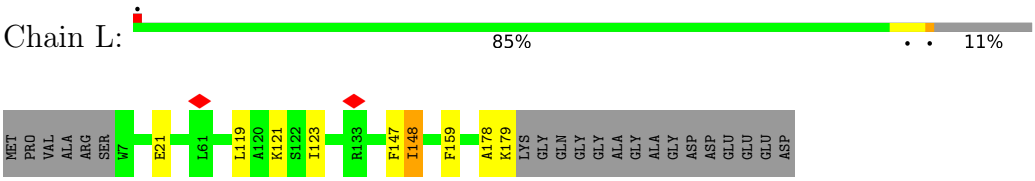
• Molecule 7: Small ribosomal subunit protein eS8

Chain K:



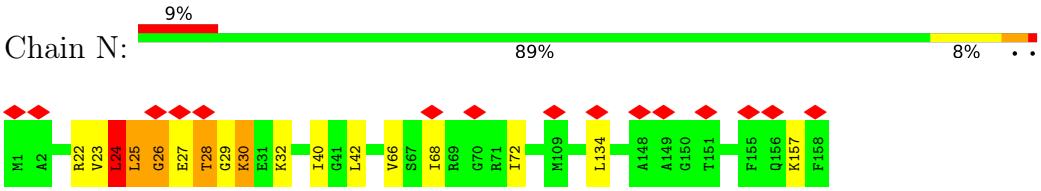
• Molecule 8: Ribosomal protein S9 (Predicted)

Chain L:



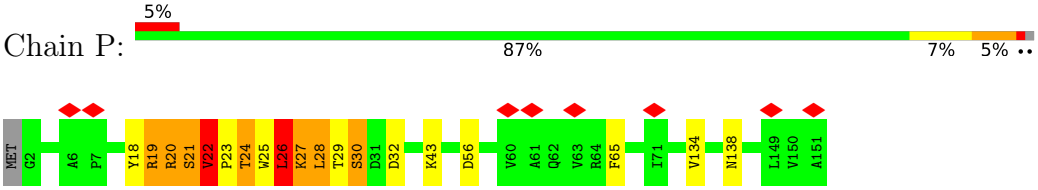
• Molecule 9: Ribosomal protein S11

Chain N:



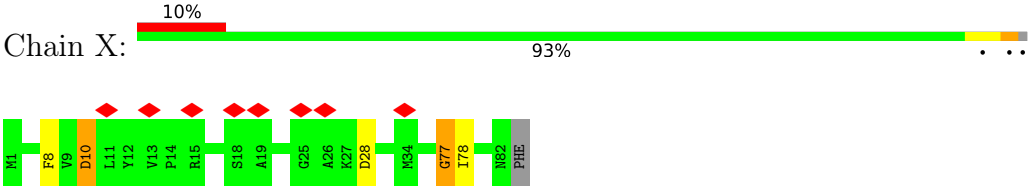
• Molecule 10: Ribosomal protein S13

Chain P:



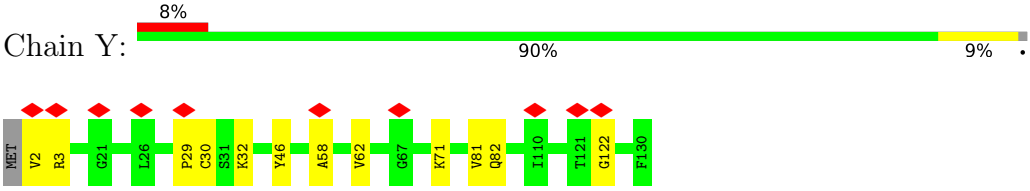
• Molecule 11: 40S ribosomal protein S21

Chain X:



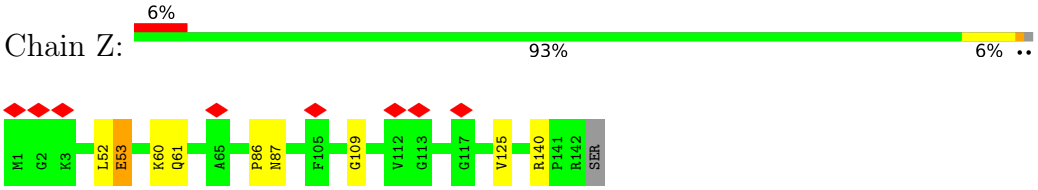
• Molecule 12: Ribosomal protein S15a

Chain Y:



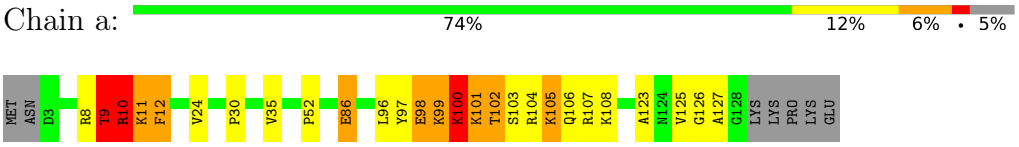
• Molecule 13: uS12

Chain Z:



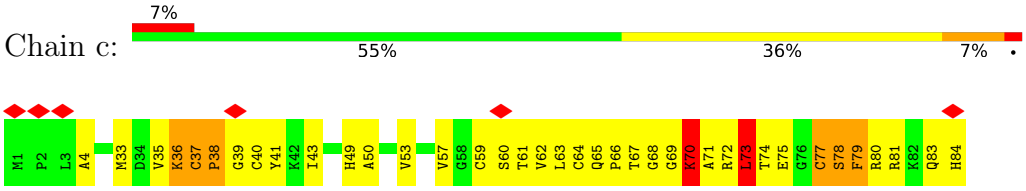
• Molecule 14: 40S ribosomal protein S24

Chain a:



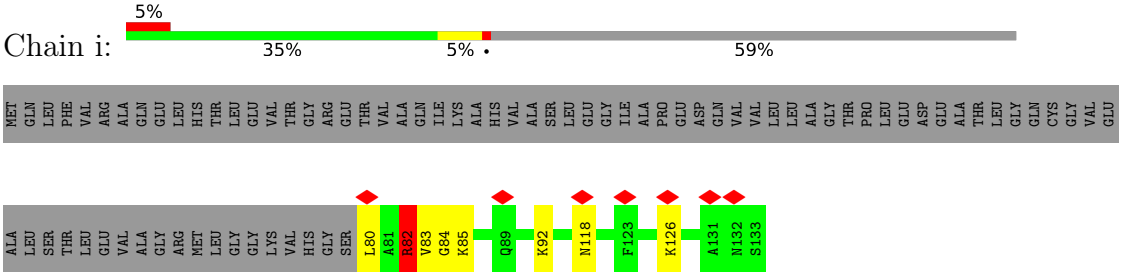
• Molecule 15: 40S ribosomal protein S27

Chain c:



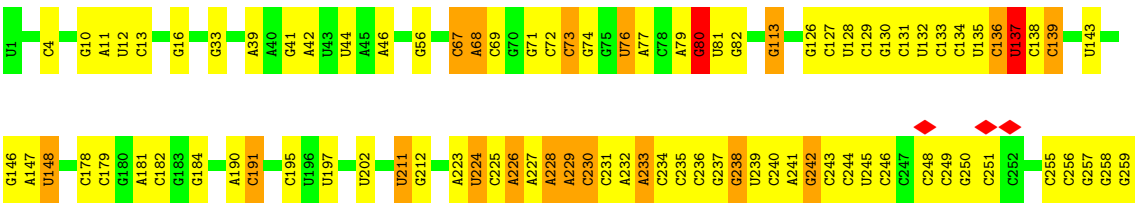
• Molecule 16: 40S ribosomal protein S30

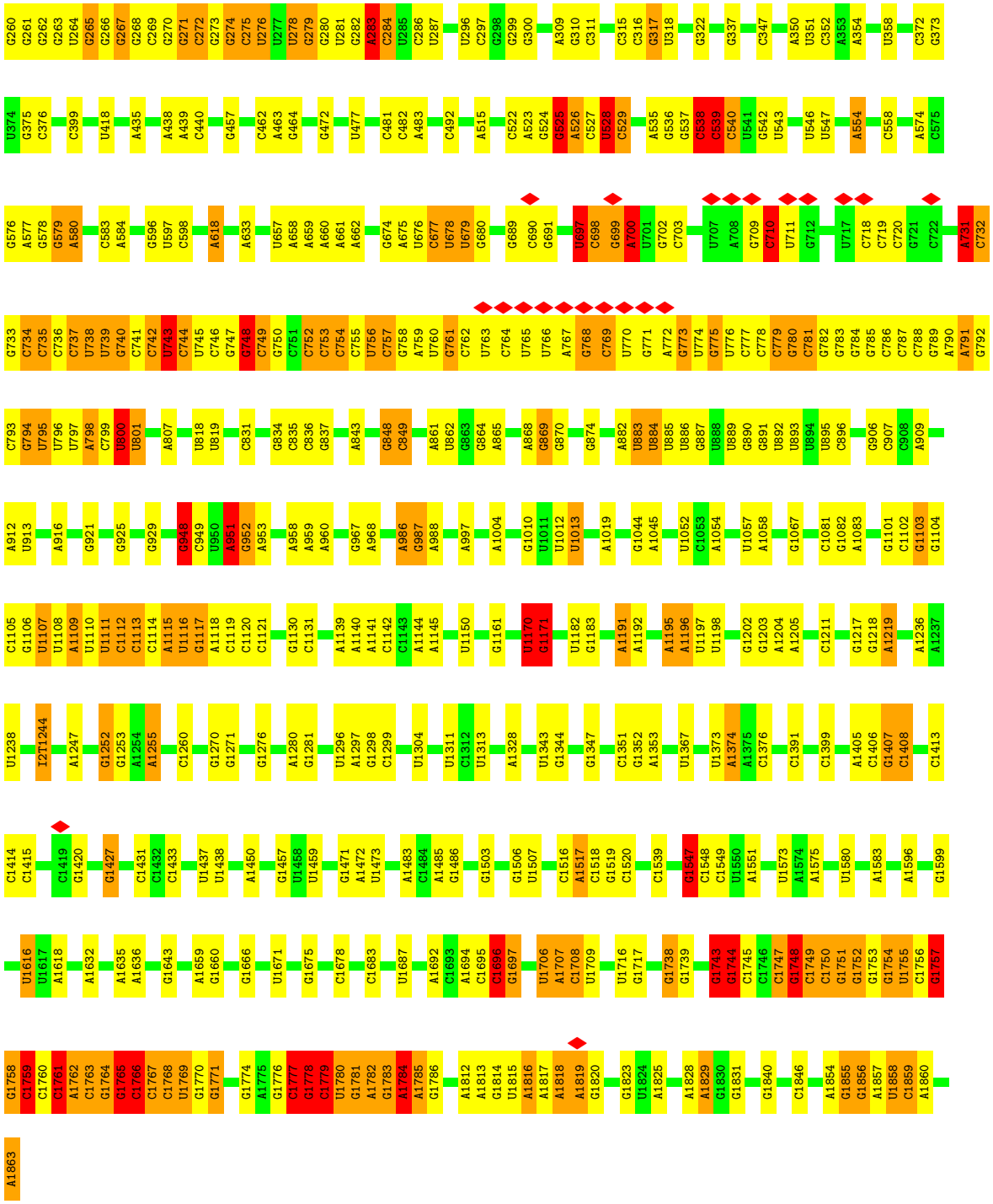
Chain i:



• Molecule 17: 18S ribosomal RNA

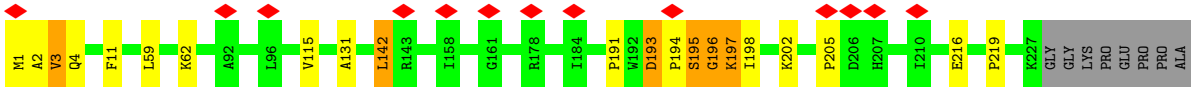
Chain 2:





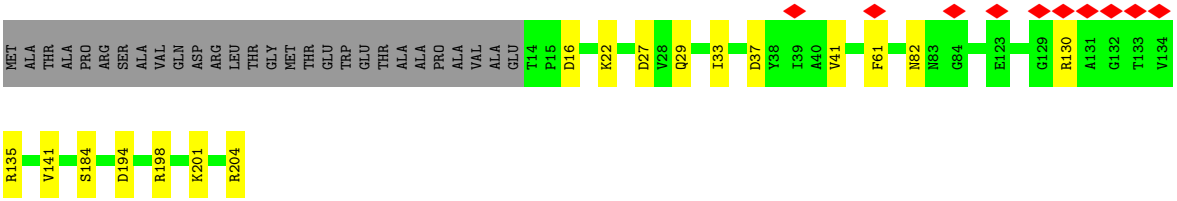
• Molecule 18: Ribosomal protein S3

Chain F:



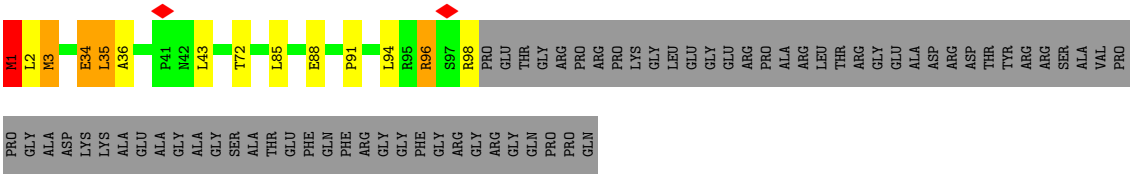
• Molecule 19: Small ribosomal subunit protein uS7

Chain H:



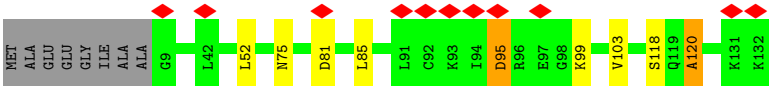
• Molecule 20: S10_plectin domain-containing protein

Chain M:



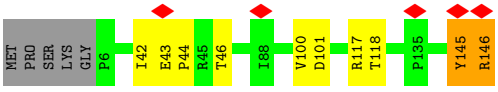
• Molecule 21: 40S ribosomal protein S12

Chain O:



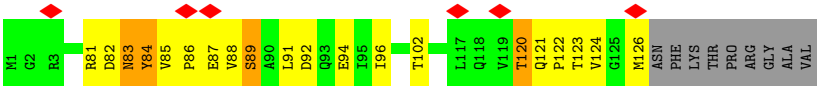
• Molecule 22: uS9

Chain S:



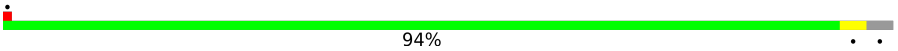
• Molecule 23: eS17

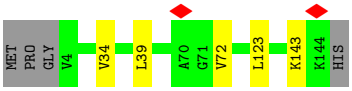
Chain T:



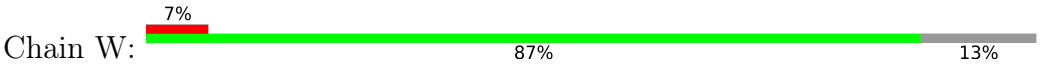
• Molecule 24: eS19

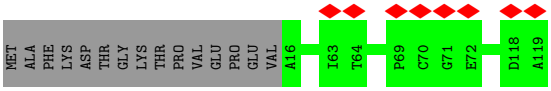
Chain V:



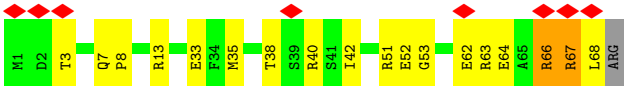


• Molecule 25: uS10

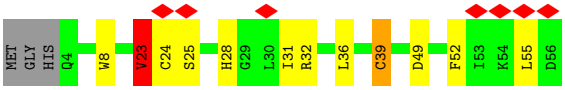




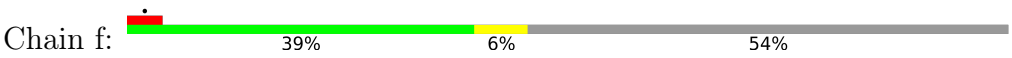
• Molecule 26: Ribosomal protein S28

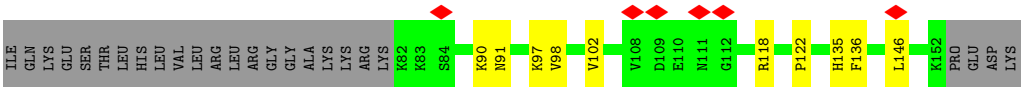


• Molecule 27: eS29

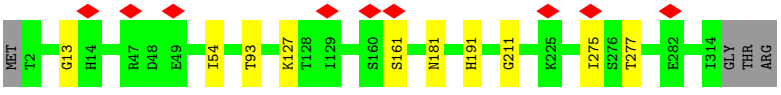


• Molecule 28: Ribosomal protein S27a

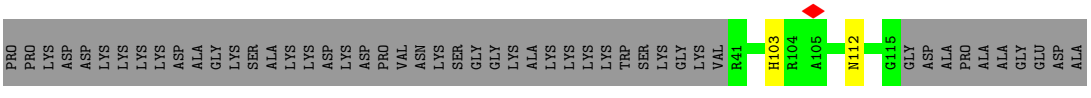




• Molecule 29: RACK1

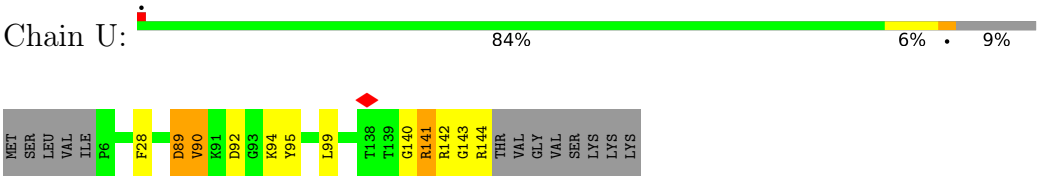


• Molecule 30: eS25



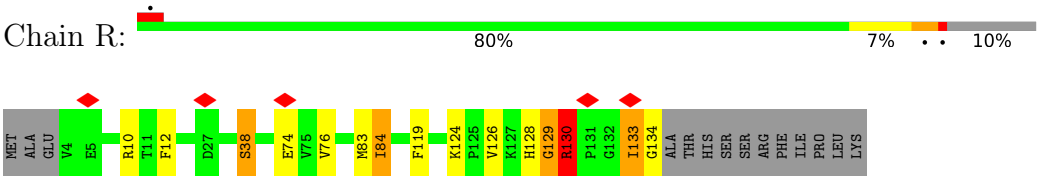
• Molecule 31: uS13

Chain U:



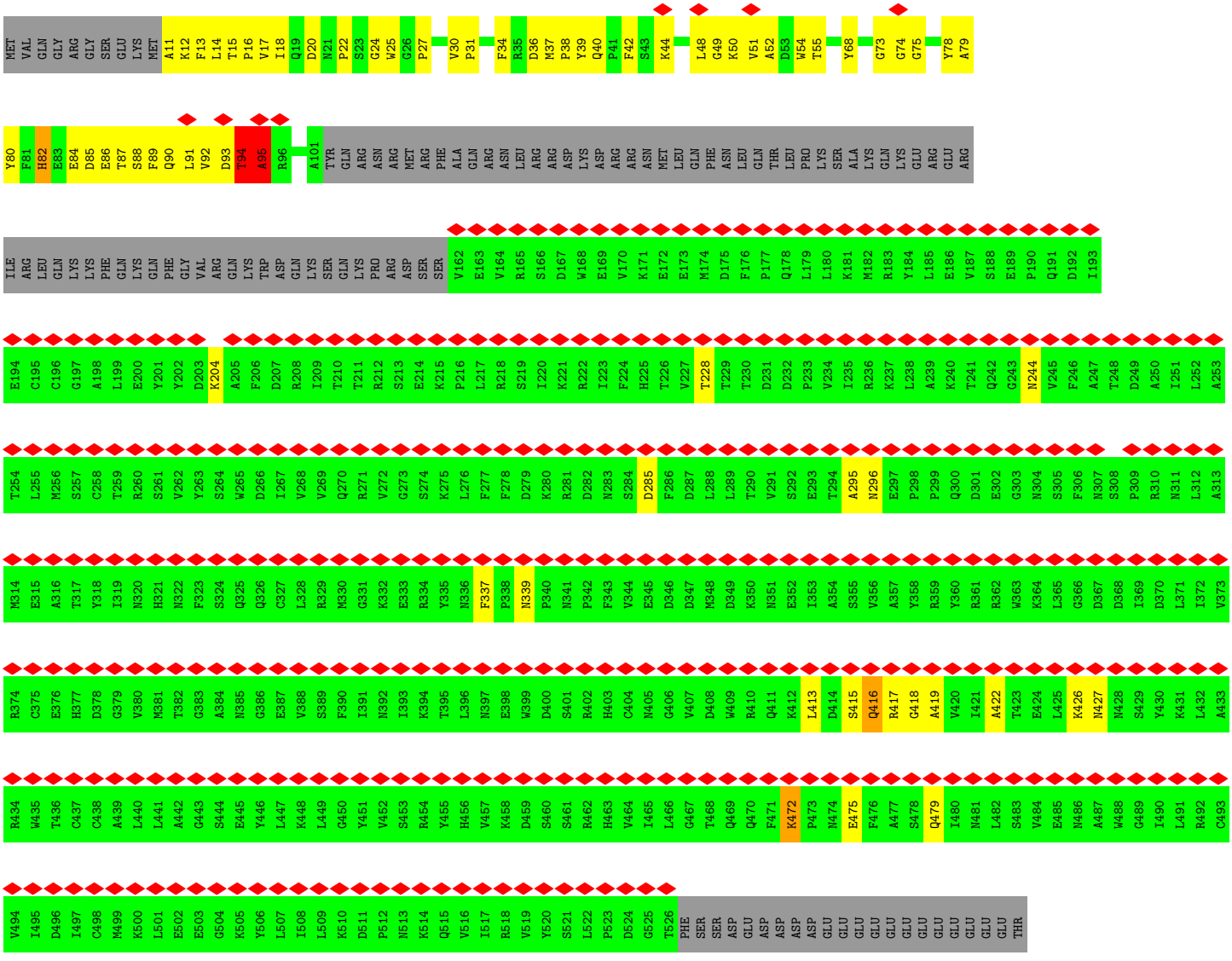
• Molecule 32: uS19

Chain R:



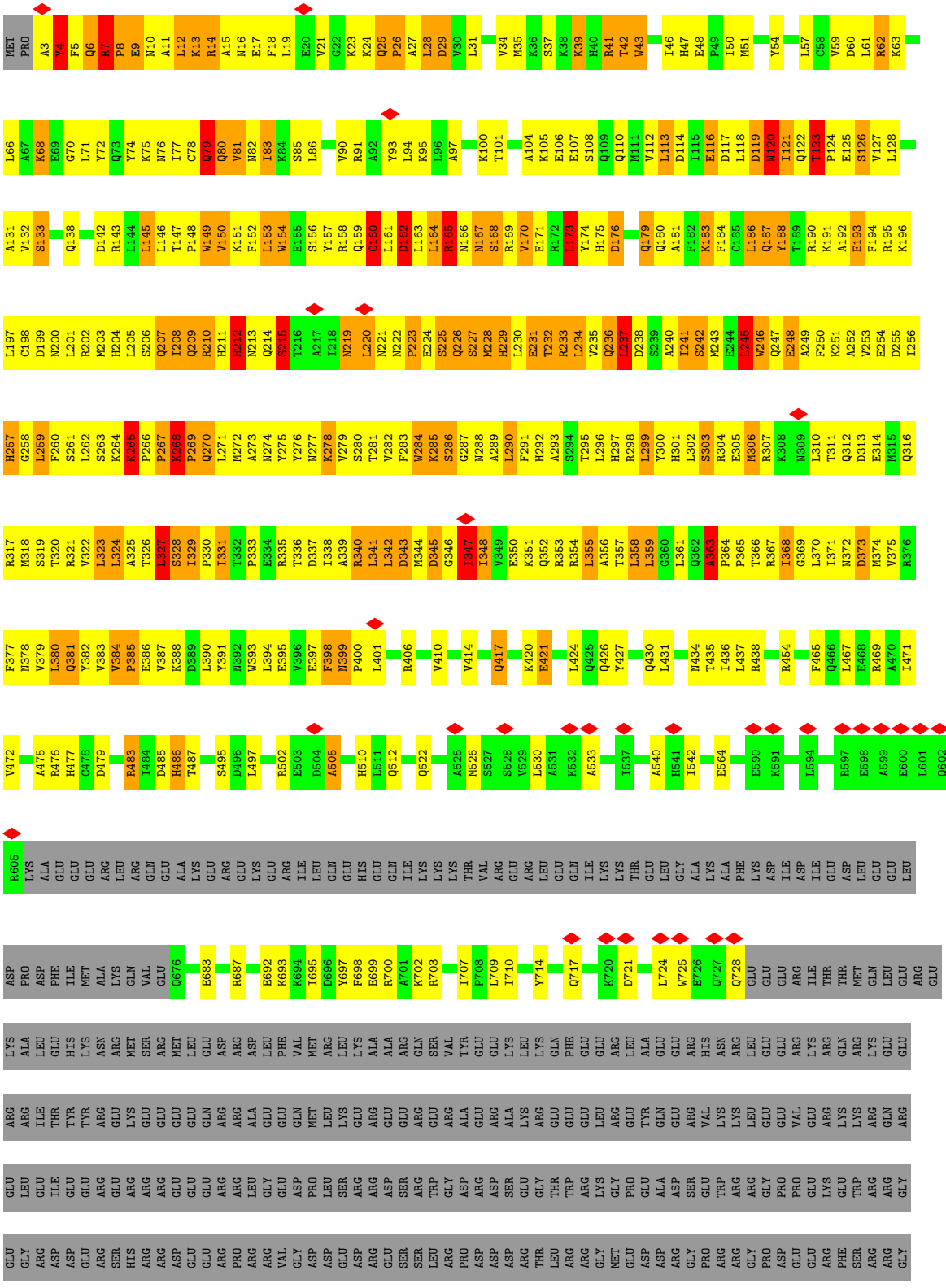
• Molecule 33: Eukaryotic translation initiation factor 3 subunit D

Chain D:



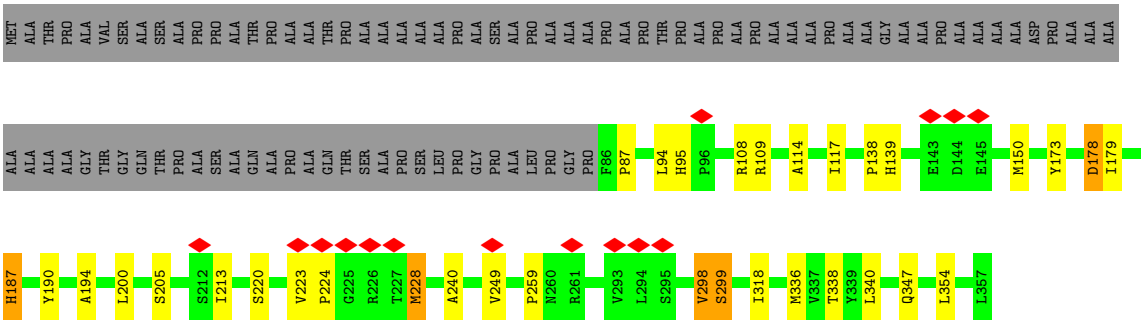
• Molecule 34: Eukaryotic translation initiation factor 3 subunit A

Chain y:



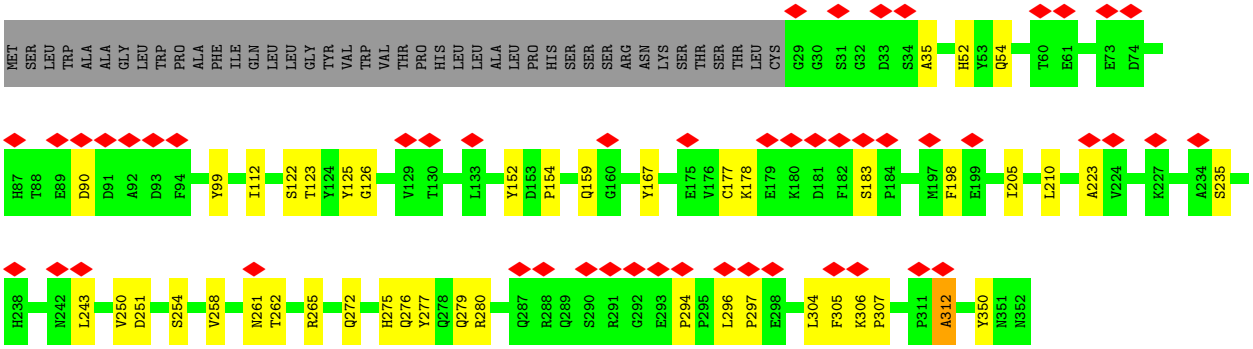
• Molecule 35: Eukaryotic translation initiation factor 3 subunit F

Chain q:



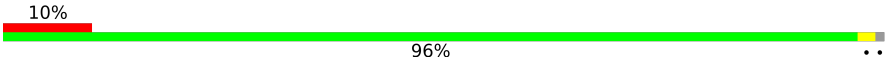
• Molecule 36: Eukaryotic translation initiation factor 3 subunit H

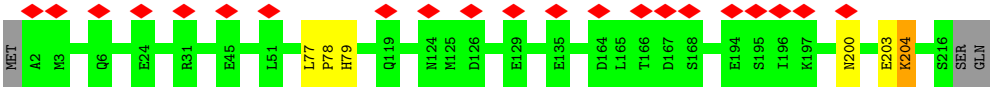
Chain r:



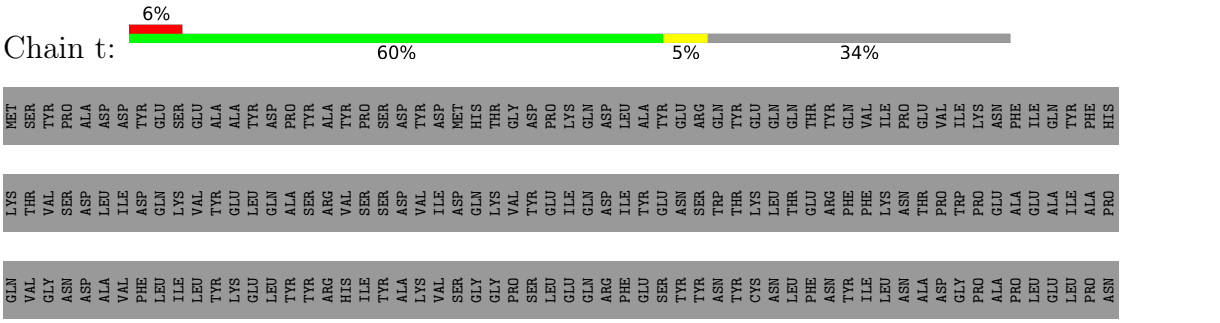
• Molecule 37: Eukaryotic translation initiation factor 3 subunit K

Chain s:

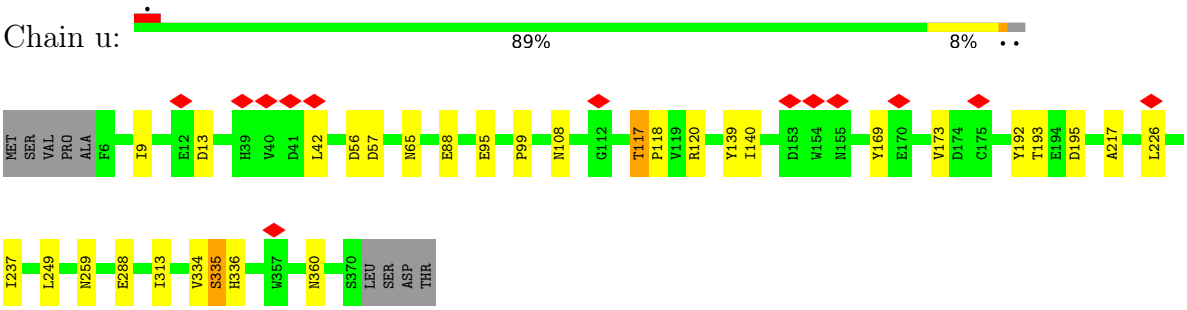




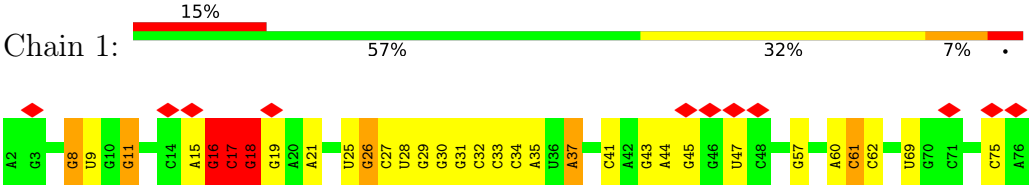
• Molecule 38: Eukaryotic translation initiation factor 3 subunit L



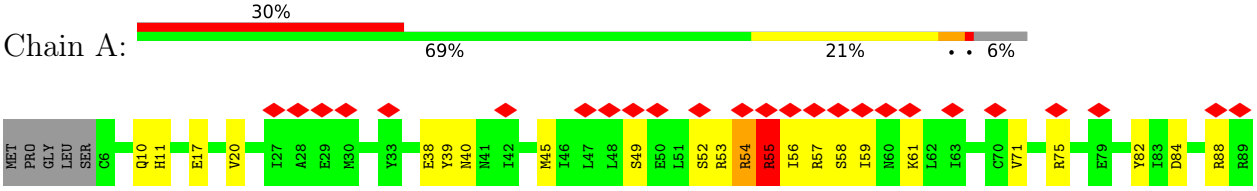
• Molecule 39: Eukaryotic translation initiation factor 3 subunit M

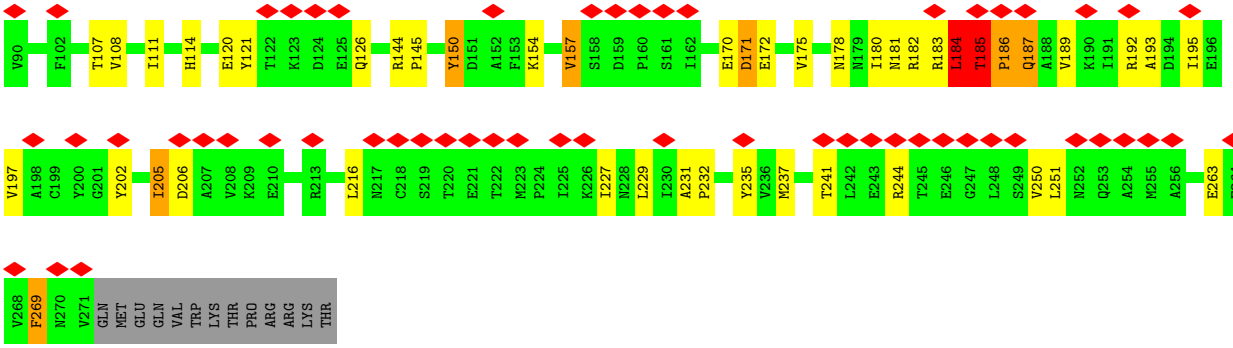


• Molecule 40: initiator methionylated tRNA



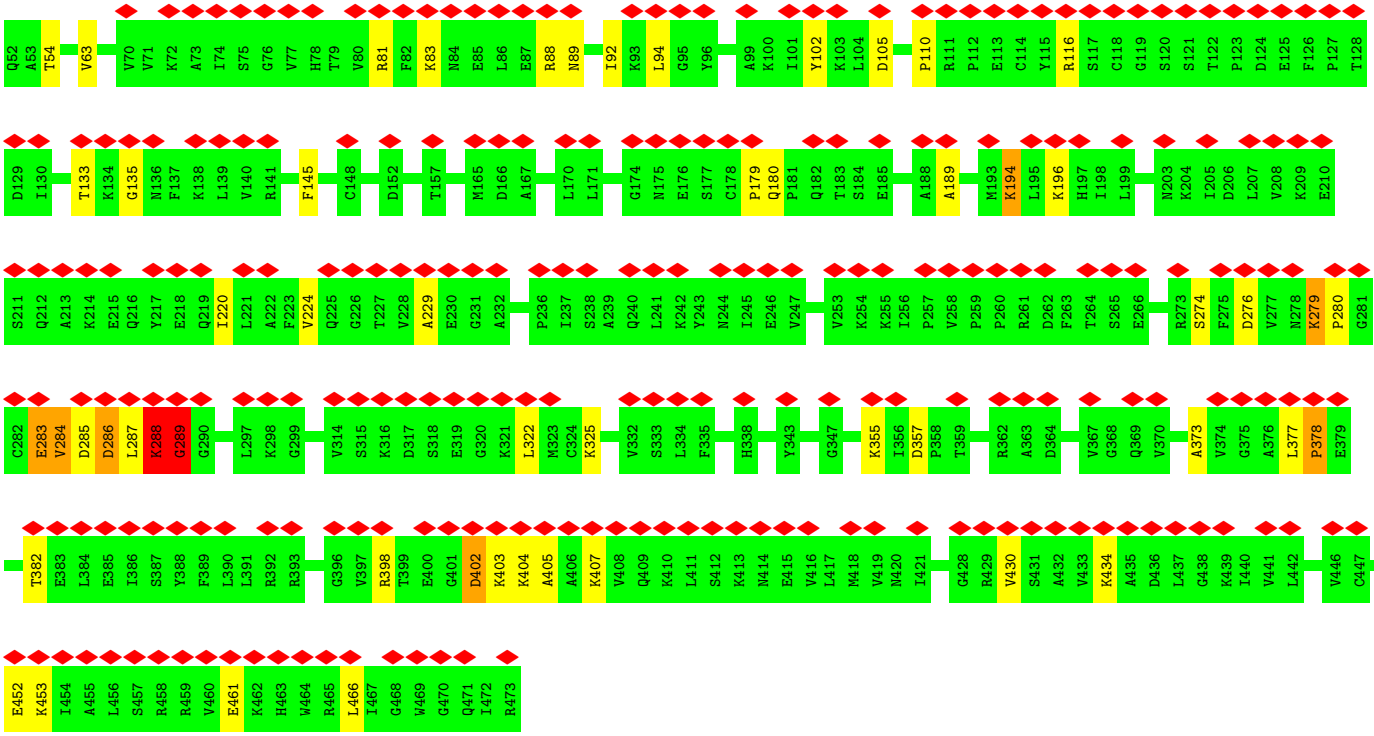
• Molecule 41: Eukaryotic translation initiation factor 2 subunit 1





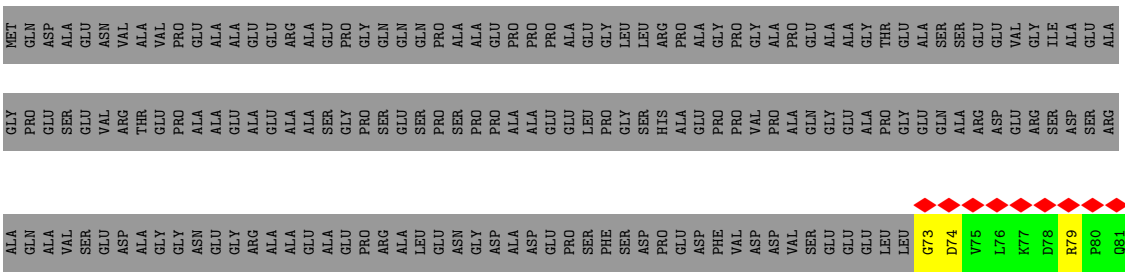
• Molecule 42: protein-synthesizing GTPase

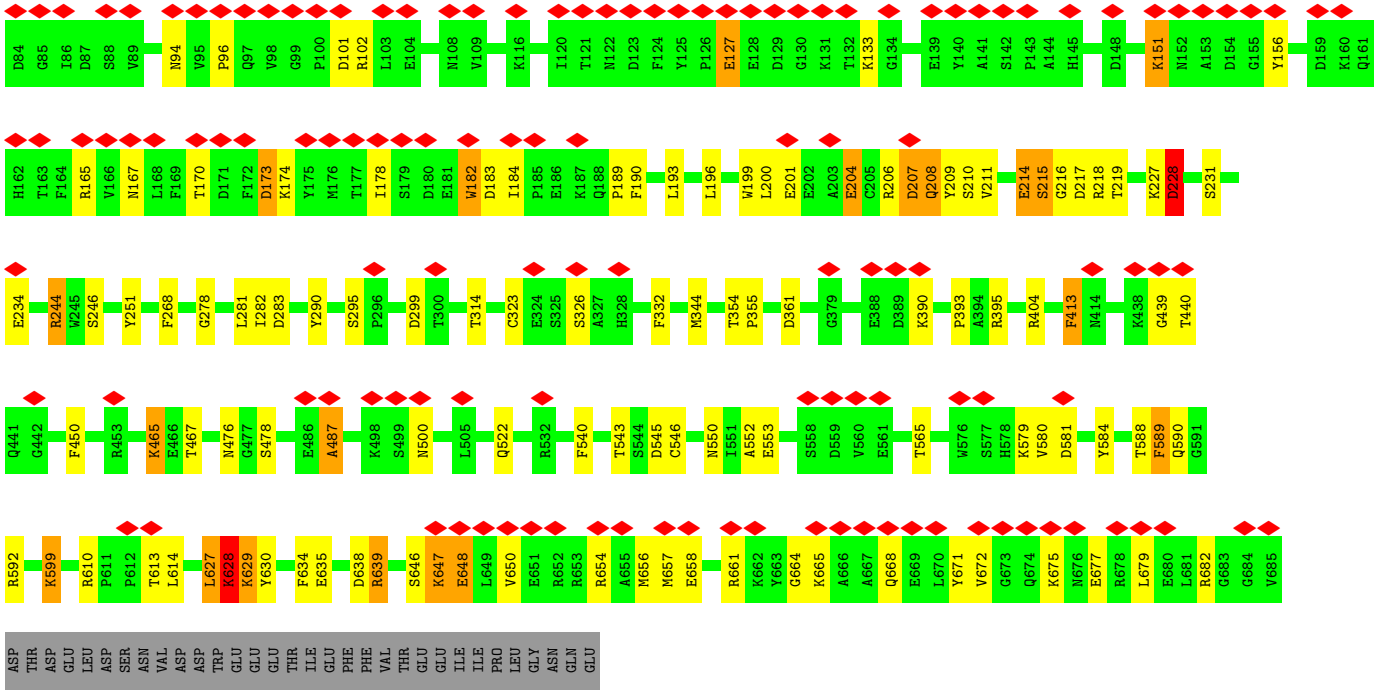
Chain B:



• Molecule 43: eukaryotic translation initiation factor 3 subunit b

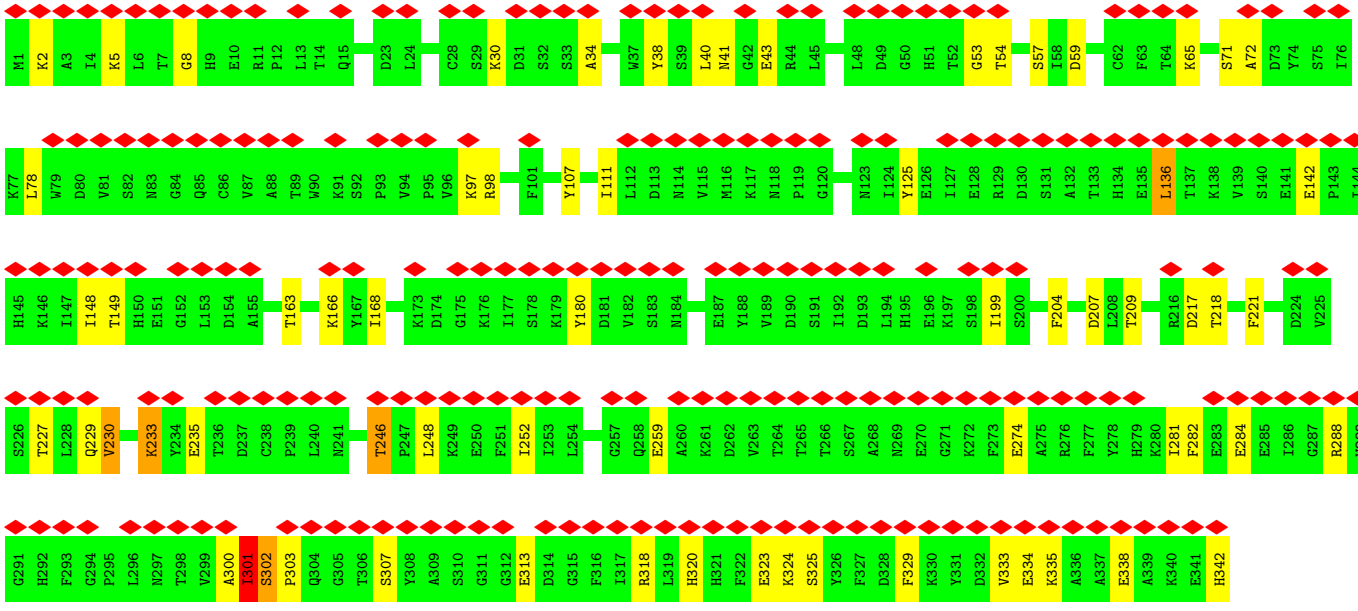
Chain p:





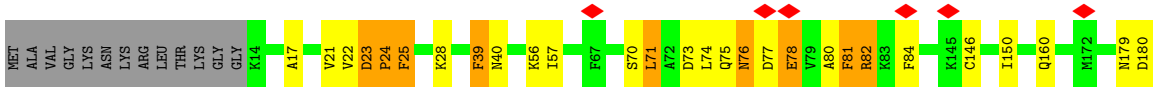
• Molecule 44: eukaryotic translation initiation factor 3 subunit i

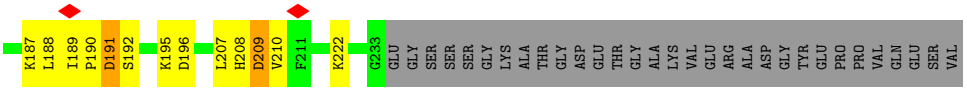
Chain z:



• Molecule 45: Small ribosomal subunit protein eS1

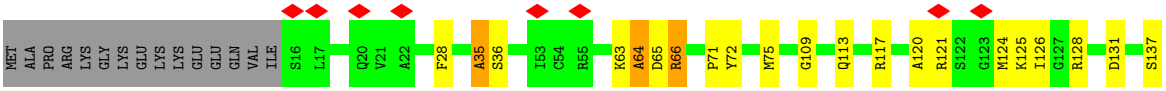
Chain x:

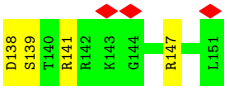




• Molecule 46: Small ribosomal subunit protein uS11

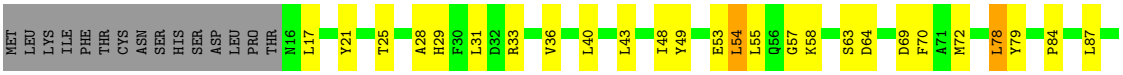
Chain 0:

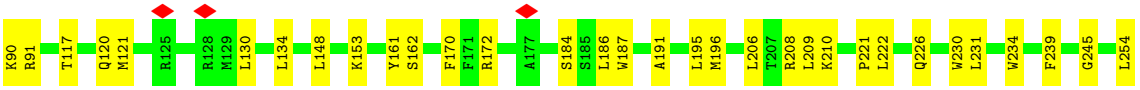


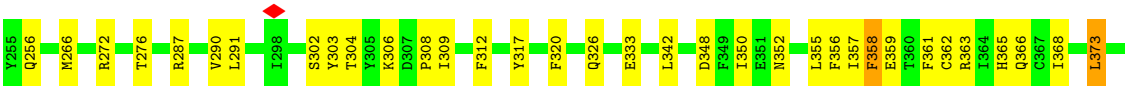


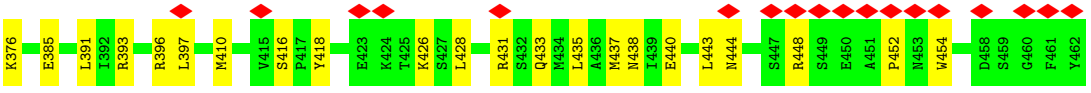
• Molecule 47: Eukaryotic translation initiation factor 3 subunit E

Chain Q:



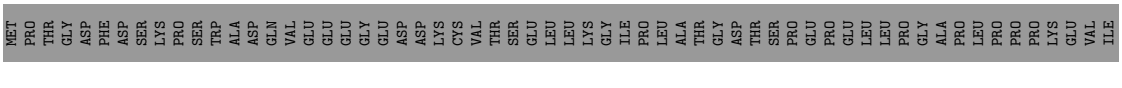


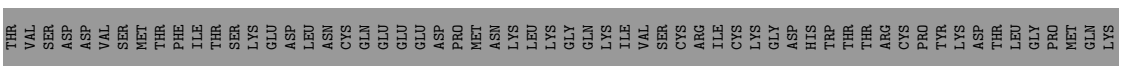


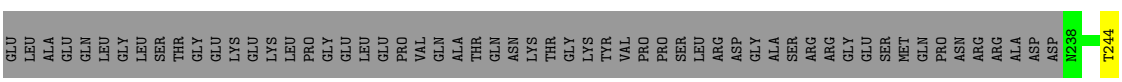


• Molecule 48: Eukaryotic translation initiation factor 3 subunit g

Chain j:

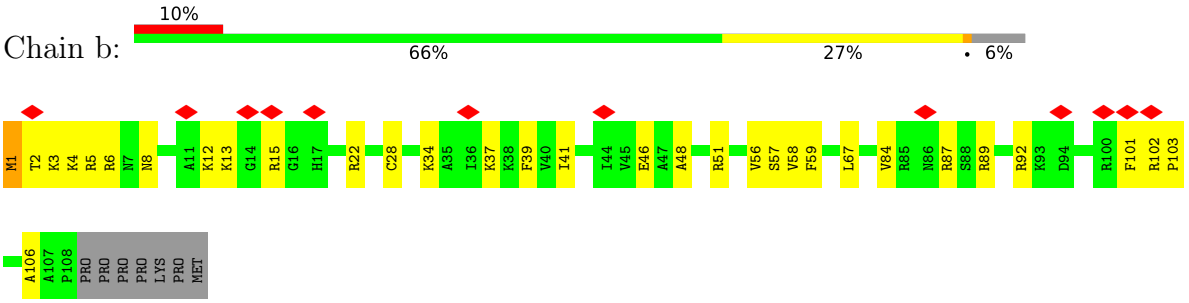






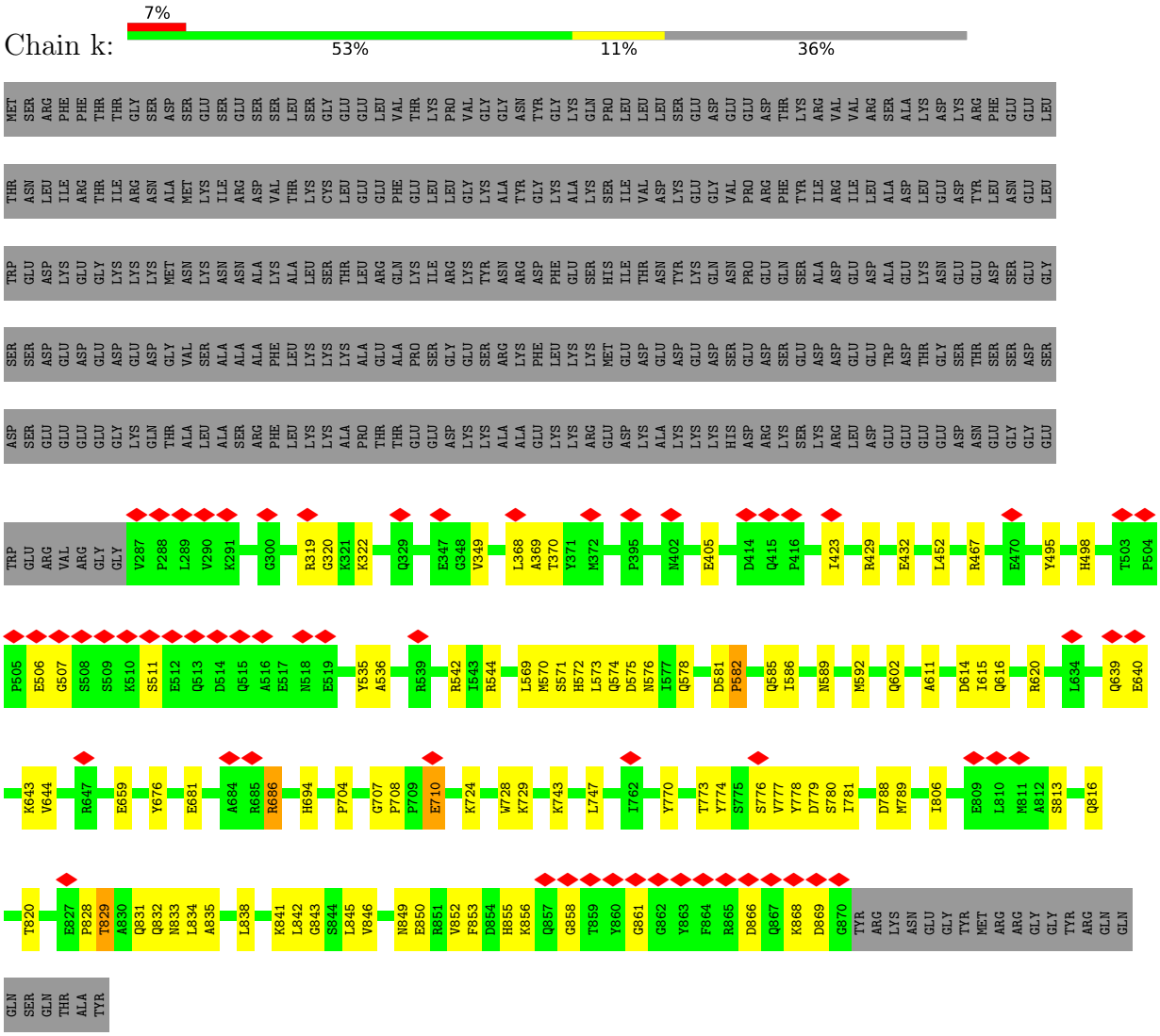
• Molecule 49: 40S ribosomal protein S26

Chain b:



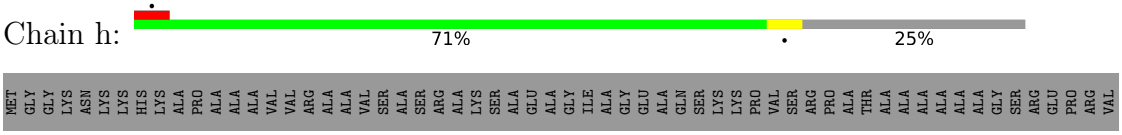
• Molecule 50: Eukaryotic translation initiation factor 3 subunit C

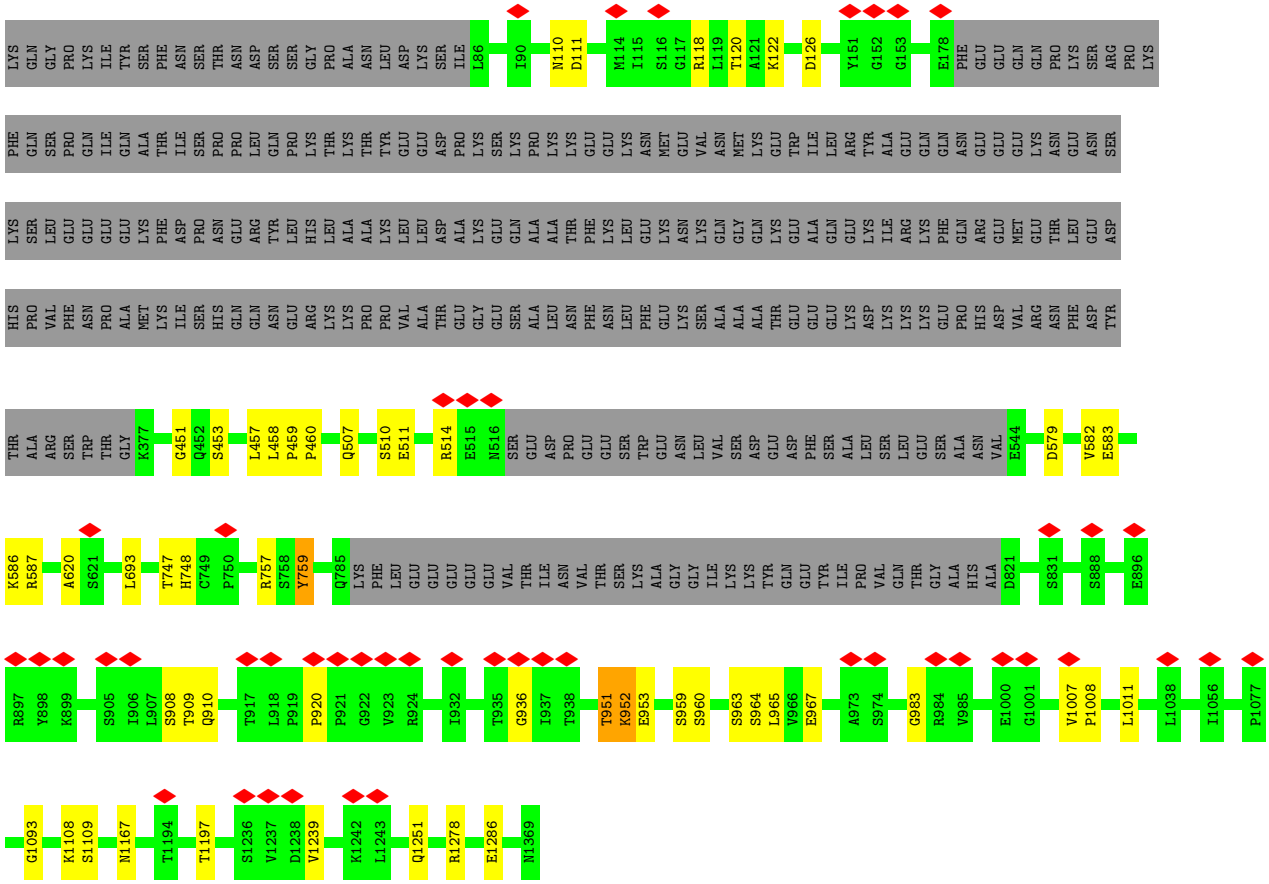
Chain k:



• Molecule 51: ATP-dependent RNA helicase DHX29

Chain h:




LYS GLN GLY PRO LYS ILE TYR SER PHE ASN SER THR ASN ASP SER SER GLY PRO ALA ASN LEU ASP LYS SER ILE L86 I90 N110 D111 M114 I115 S116 G117 R118 L119 T120 A121 K122 D126 Y151 G152 G153 E178 PHE GLU GLU GLN GLN PRO LYS SER ARG PRO LYS
PHE GLN SER PRO GLN ILE GLN ALA THR ILE SER PRO PRO LEU GLN PRO LYS THR LYS THR TYR GLU GLU ASP PRO LYS SER LYS PRO LYS LYS GLU GLU LYS ASN MET GLU VAL ASN MET LYS GLU TRP ILE LEU ARG TYR ALA GLU GLN GLN ASN GLU GLU GLU GLU LYS ASN GLU ASN SER
LYS SER LEU GLU GLU GLU LYS PHE ASP PRO ASN GLU ARG TYR LEU HIS LEU ALA ALA LYS LEU LEU ASP ALA LYS GLU GLN ALA ALA ALA THR PHE LYS LEU GLU LYS ASN LYS GLN GLY GLN LYS GLU ALA GLN GLU LYS ILE ARG LYS PHE GLN ARG GLU MET GLU THR LEU GLU ASP
HIS PRO VAL PHE ASN PRO ALA MET LYS ILE SER HIS GLN GLN ASN GLU ARG LYS LYS PRO PRO VAL ALA THR GLU GLY GLU SER ALA LEU ASN PHE ASN LEU PHE GLU LYS SER ALA ALA ALA THR GLU GLU GLU LYS ASP LYS LYS LYS GLU PRO HIS ASP VAL ARG ASN PHE ASP TYR
THR ALA ARG SER TRP THR GLY K377 G451 Q452 S453 L457 L458 P459 P460 Q507 S510 E511 R514 E515 N516 SER GLU ASP PRO GLU GLU GLU SER TRP GLU ASN LEU VAL SER ASP GLU ASP PHE SER ALA LEU SER LEU GLU GLU SER ALA ASN VAL E544 D579 V582 E583
K586 R587 A620 S621 L693 T747 H748 C749 P750 R757 S758 Y759 Q785 LYS PHE LEU GLU GLU GLU GLU GLU VAL THR ILE ASN VAL THR SER LYS ALA GLY GLY ILE LYS LYS TYR GLN GLU TYR ILE PRO VAL GLN THR GLY ALA HIS ALA D821 S831 S888 E896
R897 Y898 K899 S905 I906 L907 S908 T909 Q910 T917 L918 P919 P920 P921 G922 V923 R924 I932 T935 G936 I937 T938 T951 K952 E953 S959 S960 S963 S964 L965 V966 E967 A973 S974 G983 R984 V985 E1000 G1001 V1007 P1008 L1011 L1038 I1056 P1077
G1093 K1108 S1109 N1167 T1194 T1197 S1236 V1237 D1238 V1239 K1242 L1243 Q1251 R1278 E1286 N1369

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	84850	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	25	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	10000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 BASE (4k x 4k)	Depositor
Maximum map value	0.404	Depositor
Minimum map value	-0.263	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.020	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	498.0, 498.0, 498.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.66, 1.66, 1.66	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: T6A, I2T

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	l	1.60	0/241	1.35	0/305
2	C	1.20	0/1810	1.42	4/2455 (0.2%)
3	E	1.18	0/1779	1.34	4/2399 (0.2%)
4	G	1.26	0/2125	1.36	7/2856 (0.2%)
5	I	1.27	1/1946 (0.1%)	1.33	4/2590 (0.2%)
6	J	1.22	0/1553	1.43	6/2079 (0.3%)
7	K	1.29	0/1708	1.42	6/2278 (0.3%)
8	L	1.34	1/1474 (0.1%)	1.41	0/1969
9	N	1.23	0/1319	1.30	3/1761 (0.2%)
10	P	1.19	0/1232	1.43	3/1656 (0.2%)
11	X	1.42	1/626 (0.2%)	1.44	4/839 (0.5%)
12	Y	1.28	0/1051	1.40	2/1406 (0.1%)
13	Z	1.28	0/1124	1.35	0/1500
14	a	1.37	1/1038 (0.1%)	1.47	7/1380 (0.5%)
15	c	1.10	0/673	1.33	1/902 (0.1%)
16	i	1.36	0/441	1.36	2/579 (0.3%)
17	2	1.05	51/44370 (0.1%)	1.10	118/69138 (0.2%)
18	F	1.24	0/1792	1.36	5/2412 (0.2%)
19	H	1.25	0/1531	1.41	1/2059 (0.0%)
20	M	1.25	0/851	1.49	7/1147 (0.6%)
21	O	1.20	0/968	1.50	5/1296 (0.4%)
22	S	1.31	0/1142	1.45	6/1528 (0.4%)
23	T	1.25	0/1031	1.39	2/1383 (0.1%)
24	V	1.25	0/1132	1.45	4/1517 (0.3%)
25	W	1.29	0/832	1.37	0/1117
26	d	1.25	0/522	1.17	1/701 (0.1%)
27	e	1.35	0/455	1.46	3/603 (0.5%)
28	f	1.24	0/593	1.47	3/786 (0.4%)
29	g	1.23	0/2493	1.33	6/3394 (0.2%)
30	n	1.25	0/604	1.34	2/810 (0.2%)
31	U	1.33	0/1171	1.47	3/1564 (0.2%)
32	R	1.28	0/1103	1.44	8/1470 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	D	1.18	1/3748 (0.0%)	1.32	14/5074 (0.3%)
34	y	0.88	2/5534 (0.0%)	1.22	22/7461 (0.3%)
35	q	1.18	0/2149	1.46	15/2920 (0.5%)
36	r	1.19	0/2675	1.51	20/3609 (0.6%)
37	s	1.12	0/1772	1.41	3/2396 (0.1%)
38	t	1.18	0/3185	1.47	15/4296 (0.3%)
39	u	1.14	0/2963	1.52	20/3998 (0.5%)
40	1	1.43	8/1770 (0.5%)	1.29	11/2759 (0.4%)
41	A	0.98	3/2177 (0.1%)	1.50	11/2935 (0.4%)
42	B	1.19	2/3267 (0.1%)	1.46	24/4415 (0.5%)
43	p	0.87	2/5168 (0.0%)	1.59	56/6985 (0.8%)
44	z	1.30	10/2757 (0.4%)	1.19	8/3733 (0.2%)
45	x	1.14	0/1785	1.40	15/2392 (0.6%)
46	0	1.31	0/1029	1.45	4/1380 (0.3%)
47	Q	0.72	0/3770	1.13	2/5098 (0.0%)
48	j	1.47	2/378 (0.5%)	0.86	3/524 (0.6%)
49	b	0.78	0/840	1.19	1/1128 (0.1%)
50	k	0.84	1/4780 (0.0%)	1.35	4/6450 (0.1%)
51	h	0.88	3/5065 (0.1%)	1.30	12/7053 (0.2%)
All	All	1.11	89/135542 (0.1%)	1.29	487/192485 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	C	0	1
5	I	0	1
6	J	0	2
7	K	0	2
8	L	0	2
11	X	0	1
14	a	0	1
15	c	0	1
16	i	0	2
17	2	1	60
20	M	0	5
22	S	0	2
27	e	0	4
28	f	0	1
31	U	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
33	D	0	1
34	y	0	8
35	q	0	6
36	r	0	10
37	s	0	1
38	t	0	5
39	u	0	9
40	1	3	2
41	A	0	7
42	B	0	8
43	p	3	22
45	x	0	1
46	0	0	2
48	j	0	1
49	b	0	1
50	k	0	5
51	h	0	2
All	All	7	179

All (89) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	2	1195	A	O3'-P	-88.38	0.28	1.61
17	2	1696	C	O3'-P	-45.93	0.92	1.61
17	2	948	G	O3'-P	-42.09	0.98	1.61
51	h	951	THR	C-N	-39.71	0.78	1.33
48	j	271	ALA	C-N	-26.29	0.98	1.33
40	1	17	C	O3'-P	25.64	1.99	1.61
40	1	17	C	C2'-O2'	-22.49	1.07	1.41
17	2	743	U	O3'-P	-21.69	1.28	1.61
17	2	800	U	O3'-P	20.04	1.91	1.61
14	a	9	THR	C-N	19.40	1.60	1.33
40	1	37	T6A	O3'-P	18.83	1.75	1.56
17	2	80	G	O3'-P	-17.63	1.34	1.61
40	1	18	G	O3'-P	17.36	1.87	1.61
33	D	94	THR	C-N	16.05	1.56	1.33
40	1	18	G	C3'-O3'	-15.57	1.18	1.42
17	2	350	A	O3'-P	15.20	1.83	1.61
11	X	77	GLY	C-N	15.19	1.54	1.33
42	B	289	GLY	N-CA	-14.32	1.24	1.45
43	p	648	GLU	N-CA	-13.91	1.19	1.46
17	2	731	A	O3'-P	12.95	1.80	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	2	952	G	O3'-P	-12.41	1.42	1.61
17	2	283	A	O3'-P	11.82	1.78	1.61
50	k	829	THR	C-N	11.49	1.49	1.34
41	A	184	LEU	C-N	11.46	1.57	1.33
17	2	351	U	O3'-P	-10.85	1.44	1.61
48	j	278	GLN	C-N	-10.43	1.19	1.33
40	1	16	G	O3'-P	-10.14	1.46	1.61
17	2	1784	A	O3'-P	-9.17	1.47	1.61
17	2	710	C	O3'-P	-8.99	1.47	1.61
17	2	1766	C	C2'-C1'	-8.41	1.40	1.53
51	h	952	LYS	C-N	8.29	1.46	1.33
17	2	1170	U	O3'-P	-8.19	1.48	1.61
17	2	1763	C	C1'-N1	8.13	1.60	1.48
40	1	18	G	C1'-N9	-8.13	1.35	1.48
17	2	1758	G	C5'-C4'	7.89	1.63	1.51
17	2	1770	G	C5'-C4'	7.88	1.63	1.51
17	2	1171	G	O3'-P	-7.43	1.50	1.61
5	I	217	MET	C-N	-7.08	1.25	1.33
17	2	1766	C	C1'-N1	6.92	1.58	1.48
44	z	168	ILE	N-CA	-6.75	1.38	1.46
17	2	1759	C	C4'-C3'	6.67	1.62	1.52
17	2	1771	G	P-O5'	-6.59	1.49	1.59
17	2	1766	C	C4'-O4'	6.54	1.55	1.45
42	B	288	LYS	C-N	-6.52	1.24	1.33
17	2	1750	C	O3'-P	-6.50	1.51	1.61
17	2	1783	G	C5'-C4'	6.43	1.60	1.51
17	2	1782	A	P-O5'	6.42	1.69	1.59
17	2	1784	A	C3'-O3'	-6.39	1.32	1.42
17	2	1170	U	C1'-N1	6.31	1.57	1.48
17	2	1748	G	C2'-C1'	-6.25	1.44	1.53
43	p	647	LYS	C-N	6.20	1.42	1.33
17	2	67	C	O3'-P	6.14	1.70	1.61
17	2	1778	G	C5'-C4'	6.11	1.60	1.51
17	2	1769	U	C4'-C3'	6.10	1.61	1.52
17	2	1750	C	O4'-C1'	6.02	1.50	1.41
17	2	1765	G	C2'-C1'	-6.01	1.44	1.53
40	1	17	C	C3'-O3'	-5.87	1.34	1.43
41	A	10	GLN	C-O	-5.79	1.17	1.24
44	z	72	ALA	CA-C	-5.58	1.44	1.52
17	2	1780	U	C2'-C1'	-5.57	1.45	1.53
51	h	920	PRO	CA-C	5.54	1.54	1.51
44	z	34	ALA	CA-CB	5.52	1.62	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	2	1782	A	O4'-C1'	5.51	1.50	1.41
17	2	1750	C	C4'-C3'	5.50	1.60	1.52
17	2	1762	A	C2'-C1'	-5.49	1.45	1.53
17	2	1771	G	C3'-C2'	5.47	1.60	1.52
34	y	43	TRP	NE1-CE2	-5.45	1.31	1.37
44	z	78	LEU	C-O	-5.41	1.17	1.24
17	2	689	G	O3'-P	-5.41	1.53	1.61
8	L	121	LYS	CA-C	-5.37	1.50	1.53
17	2	137	U	O3'-P	-5.36	1.53	1.61
17	2	1767	C	O3'-P	-5.31	1.53	1.61
41	A	10	GLN	C-N	5.31	1.41	1.33
17	2	1748	G	C1'-N9	5.30	1.55	1.48
44	z	300	ALA	CA-C	-5.30	1.46	1.52
44	z	168	ILE	CA-CB	-5.23	1.48	1.54
17	2	1751	G	O3'-P	-5.21	1.53	1.61
44	z	301	ILE	C-O	-5.21	1.18	1.24
17	2	1779	C	O3'-P	-5.21	1.53	1.61
17	2	1758	G	C2'-C1'	-5.17	1.45	1.53
17	2	1755	U	C1'-N1	5.16	1.56	1.48
17	2	1777	C	C1'-N1	5.16	1.55	1.47
44	z	204	PHE	CA-C	-5.11	1.46	1.52
17	2	748	G	O3'-P	-5.08	1.53	1.61
34	y	265	LYS	C-N	5.08	1.39	1.33
17	2	1756	C	C2'-C1'	-5.06	1.45	1.53
44	z	318	ARG	N-CA	-5.05	1.40	1.46
44	z	180	TYR	CA-C	-5.04	1.46	1.52
17	2	1781	G	C2'-C1'	-5.03	1.45	1.53

All (487) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	2	1195	A	P-O3'-C3'	-60.35	29.68	120.20
17	2	743	U	P-O3'-C3'	-40.58	59.33	120.20
17	2	800	U	P-O3'-C3'	-39.48	60.97	120.20
17	2	283	A	O3'-P-O5'	-38.98	45.53	104.00
17	2	731	A	OP1-P-O3'	-32.15	11.54	108.00
17	2	1195	A	OP1-P-O3'	-28.41	22.76	108.00
17	2	1784	A	C4'-C3'-O3'	27.44	154.16	113.00
17	2	752	C	P-O3'-C3'	-25.90	81.36	120.20
40	1	17	C	C4'-C3'-O3'	24.16	145.64	109.40
43	p	647	LYS	CA-C-N	23.64	164.26	121.70
43	p	647	LYS	C-N-CA	23.64	164.26	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	2	731	A	P-O3'-C3'	-21.77	87.54	120.20
17	2	743	U	OP2-P-O3'	-20.51	46.47	108.00
17	2	800	U	OP1-P-O3'	-20.51	46.48	108.00
17	2	800	U	O3'-P-O5'	19.89	133.83	104.00
17	2	1696	C	P-O3'-C3'	-19.50	90.95	120.20
40	1	17	C	O3'-P-O5'	17.60	130.39	104.00
40	1	18	G	O3'-P-O5'	17.00	129.50	104.00
40	1	16	G	O3'-P-O5'	16.71	129.07	104.00
14	a	12	PHE	CB-CA-C	16.48	139.78	109.46
17	2	283	A	P-O3'-C3'	15.72	143.78	120.20
17	2	1696	C	OP2-P-O3'	15.34	154.01	108.00
17	2	1696	C	O3'-P-O5'	-14.63	82.05	104.00
17	2	351	U	P-O3'-C3'	14.63	142.14	120.20
17	2	1743	G	C1'-C2'-O2'	-13.80	87.69	108.40
17	2	752	C	O3'-P-O5'	-13.79	83.31	104.00
34	y	245	LEU	O-C-N	-13.74	105.85	123.16
17	2	1171	G	O3'-P-O5'	13.17	123.76	104.00
51	h	1007	VAL	CA-C-N	12.60	135.59	119.84
51	h	1007	VAL	C-N-CA	12.60	135.59	119.84
17	2	1854	A	P-O3'-C3'	12.39	138.78	120.20
17	2	752	C	OP2-P-O3'	12.28	144.85	108.00
17	2	1784	A	C2'-C3'-O3'	-12.19	95.42	113.70
17	2	1755	U	C5'-C4'-C3'	-11.94	98.10	116.00
17	2	1757	G	C5'-C4'-C3'	11.52	133.28	116.00
51	h	1011	LEU	N-CA-C	11.52	123.91	111.36
17	2	350	A	O3'-P-O5'	-11.50	86.75	104.00
43	p	648	GLU	CA-C-O	-11.14	101.86	120.80
17	2	952	G	O3'-P-O5'	-10.89	87.67	104.00
17	2	952	G	P-O3'-C3'	-10.87	103.89	120.20
17	2	283	A	OP1-P-O3'	10.81	140.44	108.00
17	2	743	U	O3'-P-O5'	10.81	120.22	104.00
33	D	94	THR	O-C-N	-10.66	108.54	122.61
17	2	1195	A	OP2-P-O3'	10.58	139.73	108.00
17	2	529	C	C1'-C2'-O2'	-10.39	96.21	111.80
17	2	351	U	O3'-P-O5'	10.26	119.39	104.00
34	y	7	ARG	C-N-CD	-10.20	83.19	125.00
17	2	1765	G	C4'-C3'-C2'	-10.18	92.42	102.60
17	2	731	A	O3'-P-O5'	10.07	119.10	104.00
11	X	78	ILE	N-CA-CB	-10.03	94.45	111.50
17	2	1754	G	P-O3'-C3'	-10.03	105.16	120.20
42	B	288	LYS	CA-C-N	9.86	140.74	121.41
42	B	288	LYS	C-N-CA	9.86	140.74	121.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	2	539	C	N1-C1'-C2'	-9.82	97.27	112.00
17	2	539	C	C4'-C3'-O3'	9.73	127.60	113.00
17	2	948	G	P-O3'-C3'	-9.70	105.64	120.20
51	h	759	TYR	CA-C-N	9.40	129.99	119.93
51	h	759	TYR	C-N-CA	9.40	129.99	119.93
34	y	245	LEU	CA-C-N	-9.32	95.77	122.15
34	y	245	LEU	C-N-CA	-9.32	95.77	122.15
17	2	1744	G	C1'-C2'-O2'	-9.24	94.54	108.40
51	h	951	THR	CA-C-N	9.23	135.46	122.72
51	h	951	THR	C-N-CA	9.23	135.46	122.72
7	K	142	SER	CA-C-N	9.17	138.21	121.70
7	K	142	SER	C-N-CA	9.17	138.21	121.70
17	2	1696	C	OP1-P-O3'	-9.13	80.60	108.00
41	A	184	LEU	CA-C-N	9.10	143.99	121.80
41	A	184	LEU	C-N-CA	9.10	143.99	121.80
48	j	278	GLN	O-C-N	-9.01	112.21	122.75
28	f	135	HIS	CA-CB-CG	8.94	122.73	113.80
41	A	184	LEU	O-C-N	8.75	136.08	122.61
40	1	8	G	P-O3'-C3'	8.53	133.00	120.20
38	t	486	PHE	CA-C-N	8.48	136.96	121.70
38	t	486	PHE	C-N-CA	8.48	136.96	121.70
29	g	181	ASN	N-CA-C	-8.34	105.11	114.62
17	2	528	U	C4'-C3'-O3'	-8.23	97.06	109.40
17	2	538	C	C1'-C2'-O2'	-8.18	96.13	108.40
17	2	1769	U	C1'-C2'-O2'	-8.15	96.17	108.40
17	2	1783	G	O4'-C1'-C2'	-8.10	99.50	107.60
41	A	269	PHE	CA-CB-CG	-8.07	105.73	113.80
17	2	1771	G	O4'-C4'-C3'	-8.07	95.93	104.00
17	2	1170	U	P-O3'-C3'	8.04	132.27	120.20
17	2	67	C	O3'-P-O5'	-8.00	91.99	104.00
43	p	215	SER	N-CA-CB	7.95	123.93	110.49
48	j	271	ALA	CA-C-N	-7.84	109.84	121.05
48	j	271	ALA	C-N-CA	-7.84	109.84	121.05
11	X	78	ILE	N-CA-C	7.82	132.90	111.00
17	2	952	G	OP2-P-O3'	7.77	131.32	108.00
17	2	351	U	OP1-P-O3'	-7.76	84.70	108.00
29	g	54	ILE	N-CA-C	-7.76	102.83	109.19
17	2	1784	A	C4'-C3'-C2'	7.74	110.34	102.60
14	a	125	VAL	CA-C-N	-7.74	106.24	121.41
14	a	125	VAL	C-N-CA	-7.74	106.24	121.41
17	2	1764	G	P-O3'-C3'	-7.70	108.64	120.20
17	2	1765	G	O4'-C1'-N9	7.63	119.95	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
43	p	648	GLU	N-CA-C	7.55	132.16	111.00
17	2	1780	U	C4'-C3'-C2'	-7.55	95.05	102.60
17	2	752	C	OP1-P-O3'	-7.55	85.35	108.00
17	2	1218	G	O3'-P-O5'	-7.53	92.71	104.00
17	2	1754	G	C1'-O4'-C4'	7.51	117.41	109.90
10	P	22	VAL	C-N-CD	7.47	137.04	120.60
17	2	1763	C	P-O3'-C3'	-7.44	109.05	120.20
40	1	16	G	OP2-P-O3'	-7.43	85.72	108.00
17	2	743	U	OP1-P-O3'	7.40	130.20	108.00
40	1	18	G	C4'-C3'-O3'	7.33	124.00	113.00
17	2	1766	C	O4'-C4'-C3'	-7.32	96.68	104.00
43	p	589	PHE	CA-C-N	7.31	130.07	120.28
43	p	589	PHE	C-N-CA	7.31	130.07	120.28
33	D	95	ALA	N-CA-C	7.28	126.31	110.80
17	2	1764	G	C1'-O4'-C4'	7.26	117.16	109.90
43	p	207	ASP	N-CA-C	7.19	118.66	108.74
17	2	1761	C	C3'-C2'-C1'	7.18	108.48	101.30
43	p	151	LYS	CA-C-N	7.17	129.88	120.28
43	p	151	LYS	C-N-CA	7.17	129.88	120.28
17	2	700	A	C4'-C3'-O3'	7.08	123.63	113.00
43	p	173	ASP	CA-CB-CG	7.08	119.68	112.60
17	2	1671	U	P-O3'-C3'	7.05	130.78	120.20
42	B	94	LEU	CA-C-N	7.04	127.03	120.34
42	B	94	LEU	C-N-CA	7.04	127.03	120.34
51	h	1093	GLY	CA-C-N	7.04	132.63	121.08
51	h	1093	GLY	C-N-CA	7.04	132.63	121.08
14	a	86	GLU	N-CA-CB	7.04	122.90	110.37
17	2	834	G	O4'-C1'-N9	6.99	118.99	108.50
36	r	123	THR	N-CA-C	-6.97	96.35	108.69
43	p	543	THR	CA-C-N	6.97	134.24	121.70
43	p	543	THR	C-N-CA	6.97	134.24	121.70
43	p	545	ASP	CA-CB-CG	-6.87	105.73	112.60
17	2	1778	G	C1'-O4'-C4'	6.87	116.77	109.90
41	A	206	ASP	CA-CB-CG	-6.87	105.73	112.60
42	B	289	GLY	N-CA-C	6.86	129.43	113.18
3	E	69	PHE	CA-CB-CG	-6.82	106.98	113.80
43	p	543	THR	O-C-N	-6.80	115.64	123.33
42	B	286	ASP	CA-C-N	-6.77	111.44	122.82
42	B	286	ASP	C-N-CA	-6.77	111.44	122.82
17	2	1756	C	O4'-C1'-N1	6.77	118.66	108.50
12	Y	46	TYR	N-CA-C	-6.74	106.26	114.75
17	2	1755	U	O4'-C4'-C3'	6.74	110.74	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	2	700	A	C1'-C2'-O2'	-6.71	98.33	108.40
31	U	28	PHE	CA-CB-CG	-6.69	107.11	113.80
43	p	326	SER	O-C-N	-6.68	115.21	123.36
43	p	599	LYS	CA-C-N	6.67	129.22	120.28
43	p	599	LYS	C-N-CA	6.67	129.22	120.28
39	u	195	ASP	CA-C-N	6.66	133.68	121.70
39	u	195	ASP	C-N-CA	6.66	133.68	121.70
17	2	529	C	C3'-C2'-O2'	6.65	124.57	114.60
22	S	46	THR	N-CA-C	-6.64	106.38	114.75
44	z	246	THR	CA-C-N	6.64	126.61	120.03
44	z	246	THR	C-N-CA	6.64	126.61	120.03
17	2	1766	C	P-O3'-C3'	-6.61	110.28	120.20
17	2	1769	U	C3'-C2'-C1'	6.60	107.90	101.30
17	2	80	G	O3'-P-O5'	6.60	113.89	104.00
18	F	197	LYS	CA-C-N	6.57	133.52	121.70
18	F	197	LYS	C-N-CA	6.57	133.52	121.70
17	2	1755	U	C2'-C3'-O3'	-6.56	103.85	113.70
45	x	25	PHE	CA-CB-CG	-6.54	107.26	113.80
17	2	525	G	C1'-C2'-O2'	-6.53	98.61	108.40
20	M	1	MET	CA-C-N	6.53	133.44	121.70
20	M	1	MET	C-N-CA	6.53	133.44	121.70
17	2	1765	G	C3'-C2'-C1'	6.52	107.82	101.30
42	B	220	ILE	N-CA-CB	6.48	118.13	110.55
40	1	17	C	P-O3'-C3'	6.47	129.91	120.20
43	p	173	ASP	CB-CA-C	6.47	119.36	109.34
21	O	120	ALA	CA-C-N	6.45	129.25	120.54
21	O	120	ALA	C-N-CA	6.45	129.25	120.54
22	S	145	TYR	CA-C-N	-6.44	110.11	121.70
22	S	145	TYR	C-N-CA	-6.44	110.11	121.70
17	2	1755	U	C1'-O4'-C4'	-6.41	103.49	109.90
17	2	525	G	C4'-C3'-O3'	6.40	122.60	113.00
36	r	210	LEU	CA-C-N	6.39	129.54	120.53
36	r	210	LEU	C-N-CA	6.39	129.54	120.53
17	2	1765	G	C2'-C3'-O3'	-6.35	104.17	113.70
38	t	348	SER	CA-C-N	6.33	133.09	121.70
38	t	348	SER	C-N-CA	6.33	133.09	121.70
18	F	115	VAL	N-CA-C	-6.31	106.38	111.81
17	2	1744	G	N9-C1'-C2'	-6.29	102.56	112.00
33	D	472	LYS	CA-C-N	6.28	125.97	119.56
33	D	472	LYS	C-N-CA	6.28	125.97	119.56
9	N	72	ILE	N-CA-C	-6.22	100.14	108.35
43	p	228	ASP	N-CA-C	-6.21	102.63	108.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	u	139	TYR	CA-C-N	6.19	124.14	120.24
39	u	139	TYR	C-N-CA	6.19	124.14	120.24
22	S	117	ARG	N-CA-C	-6.16	104.58	113.21
39	u	288	GLU	N-CA-C	6.16	117.99	111.28
43	p	545	ASP	CA-C-N	6.14	133.27	121.54
43	p	545	ASP	C-N-CA	6.14	133.27	121.54
43	p	204	GLU	O-C-N	-6.10	115.81	123.01
43	p	73	GLY	CA-C-N	6.08	129.04	120.28
43	p	73	GLY	C-N-CA	6.08	129.04	120.28
27	e	23	VAL	N-CA-CB	6.07	117.65	110.55
17	2	1756	C	P-O5'-C5'	6.06	129.99	120.90
17	2	1784	A	C3'-C2'-O2'	6.06	119.79	110.70
31	U	92	ASP	N-CA-C	-6.05	107.72	114.62
17	2	1671	U	O3'-P-O5'	6.04	113.06	104.00
6	J	107	LYS	N-CA-C	-6.04	107.14	114.75
17	2	848	G	P-O3'-C3'	6.03	129.25	120.20
17	2	697	U	C3'-C2'-O2'	6.02	119.74	110.70
43	p	74	ASP	N-CA-C	6.02	118.63	111.71
36	r	52	HIS	CA-CB-CG	-6.02	107.78	113.80
35	q	220	SER	CA-C-N	6.00	132.50	121.70
35	q	220	SER	C-N-CA	6.00	132.50	121.70
45	x	150	ILE	N-CA-C	-5.98	106.42	113.42
5	I	10	THR	N-CA-C	-5.98	106.97	114.56
17	2	1764	G	C3'-C2'-C1'	5.97	107.27	101.30
17	2	1769	U	P-O5'-C5'	5.97	129.86	120.90
43	p	182	TRP	N-CA-C	5.97	118.01	107.61
42	B	54	THR	N-CA-C	-5.97	107.81	114.62
40	1	18	G	OP1-P-O3'	-5.97	90.09	108.00
17	2	1765	G	C5'-C4'-O4'	-5.96	100.85	109.80
29	g	211	GLY	CA-C-N	5.96	128.26	120.28
29	g	211	GLY	C-N-CA	5.96	128.26	120.28
43	p	208	GLN	N-CA-C	5.94	123.45	110.80
43	p	214	GLU	CA-C-N	5.94	132.88	121.54
43	p	214	GLU	C-N-CA	5.94	132.88	121.54
17	2	1750	C	C4'-C3'-C2'	-5.92	96.67	102.60
35	q	95	HIS	N-CA-C	-5.92	102.89	108.22
17	2	1744	G	C3'-C2'-O2'	5.91	119.57	110.70
23	T	102	THR	N-CA-C	-5.88	105.77	113.12
27	e	55	LEU	N-CA-C	-5.88	107.34	114.75
17	2	1407	G	P-O3'-C3'	5.86	128.99	120.20
34	y	564	GLU	CA-C-N	5.84	128.38	120.38
34	y	564	GLU	C-N-CA	5.84	128.38	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	y	265	LYS	CA-C-N	-5.83	114.37	120.38
34	y	265	LYS	C-N-CA	-5.83	114.37	120.38
34	y	363	ALA	CA-C-N	-5.82	114.39	120.38
34	y	363	ALA	C-N-CA	-5.82	114.39	120.38
38	t	379	PRO	CA-C-N	5.81	132.15	121.70
38	t	379	PRO	C-N-CA	5.81	132.15	121.70
11	X	8	PHE	CA-CB-CG	-5.80	108.00	113.80
43	p	207	ASP	CA-C-N	5.79	132.60	121.54
43	p	207	ASP	C-N-CA	5.79	132.60	121.54
10	P	56	ASP	N-CA-C	5.79	117.67	111.36
17	2	536	G	O3'-P-O5'	5.79	112.68	104.00
44	z	71	SER	N-CA-C	5.76	118.44	109.52
38	t	438	GLU	CA-C-N	5.76	125.61	119.28
38	t	438	GLU	C-N-CA	5.76	125.61	119.28
17	2	1749	C	O4'-C1'-N1	5.75	117.13	108.50
4	G	56	LEU	N-CA-C	-5.74	107.52	114.75
17	2	1752	G	C4'-C3'-O3'	-5.74	104.40	113.00
17	2	1774	G	C4'-C3'-C2'	-5.74	96.86	102.60
42	B	357	ASP	CA-C-N	5.73	127.00	119.84
42	B	357	ASP	C-N-CA	5.73	127.00	119.84
5	I	68	LEU	N-CA-C	5.71	118.34	110.35
7	K	65	PHE	CA-CB-CG	-5.70	108.10	113.80
51	h	693	LEU	CA-C-N	5.69	128.68	120.38
51	h	693	LEU	C-N-CA	5.69	128.68	120.38
43	p	299	ASP	CA-CB-CG	5.68	118.28	112.60
2	C	202	TYR	N-CA-C	-5.68	106.39	113.38
11	X	10	ASP	N-CA-CB	5.68	120.09	110.49
17	2	538	C	C4'-C3'-O3'	5.68	121.52	113.00
36	r	294	PRO	N-CA-C	5.67	117.62	110.70
43	p	487	ALA	O-C-N	-5.67	114.80	121.32
17	2	1754	G	O5'-C5'-C4'	5.67	120.01	111.50
42	B	180	GLN	CA-C-N	5.67	126.93	119.84
42	B	180	GLN	C-N-CA	5.67	126.93	119.84
20	M	91	PRO	N-CA-C	-5.65	106.73	114.98
33	D	285	ASP	CA-C-N	5.65	127.85	120.28
33	D	285	ASP	C-N-CA	5.65	127.85	120.28
32	R	119	PHE	CA-CB-CG	-5.64	108.16	113.80
42	B	377	LEU	CA-C-N	5.64	126.89	119.84
42	B	377	LEU	C-N-CA	5.64	126.89	119.84
38	t	347	LYS	N-CA-C	-5.64	107.64	114.75
43	p	581	ASP	N-CA-C	-5.64	100.78	109.52
45	x	57	ILE	CA-C-N	5.63	128.15	120.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
45	x	57	ILE	C-N-CA	5.63	128.15	120.54
42	B	145	PHE	CA-CB-CG	-5.63	108.17	113.80
41	A	185	THR	N-CA-C	5.61	122.20	109.81
39	u	288	GLU	CA-C-N	5.60	131.79	121.70
39	u	288	GLU	C-N-CA	5.60	131.79	121.70
17	2	73	C	P-O3'-C3'	5.60	128.60	120.20
38	t	417	CYS	CA-C-N	5.60	125.27	119.56
38	t	417	CYS	C-N-CA	5.60	125.27	119.56
36	r	123	THR	N-CA-CB	5.59	120.21	110.81
44	z	59	ASP	CA-C-N	-5.58	115.18	122.94
44	z	59	ASP	C-N-CA	-5.58	115.18	122.94
3	E	109	PHE	CA-CB-CG	-5.58	108.22	113.80
36	r	52	HIS	CA-C-N	5.58	128.55	120.79
36	r	52	HIS	C-N-CA	5.58	128.55	120.79
43	p	278	GLY	CA-C-N	5.58	127.98	120.50
43	p	278	GLY	C-N-CA	5.58	127.98	120.50
40	1	17	C	OP2-P-O3'	-5.58	91.26	108.00
37	s	204	LYS	N-CA-CB	5.56	119.88	110.49
47	Q	348	ASP	CA-CB-CG	5.56	118.16	112.60
30	n	103	HIS	CA-C-N	5.55	127.72	120.28
30	n	103	HIS	C-N-CA	5.55	127.72	120.28
20	M	85	LEU	CA-C-N	5.55	126.10	120.38
20	M	85	LEU	C-N-CA	5.55	126.10	120.38
17	2	528	U	C3'-C2'-O2'	5.55	122.92	114.60
17	2	1219	A	P-O3'-C3'	-5.55	111.88	120.20
41	A	232	PRO	N-CA-C	5.55	117.47	110.70
2	C	8	LEU	N-CA-C	-5.54	107.77	114.75
4	G	26	VAL	N-CA-C	5.53	116.26	110.62
35	q	299	SER	N-CA-C	5.53	122.57	110.80
17	2	1745	C	P-O3'-C3'	5.53	128.49	120.20
42	B	194	LYS	N-CA-CB	5.53	119.83	110.49
32	R	130	ARG	CA-C-N	-5.52	114.27	119.90
32	R	130	ARG	C-N-CA	-5.52	114.27	119.90
35	q	259	PRO	CA-C-N	5.52	131.63	121.70
35	q	259	PRO	C-N-CA	5.52	131.63	121.70
44	z	142	GLU	CA-C-N	-5.52	114.57	120.03
44	z	142	GLU	C-N-CA	-5.52	114.57	120.03
45	x	188	LEU	CA-C-N	5.52	124.75	120.33
45	x	188	LEU	C-N-CA	5.52	124.75	120.33
47	Q	358	PHE	CA-CB-CG	-5.52	108.28	113.80
36	r	297	PRO	CA-C-N	5.50	131.61	121.70
36	r	297	PRO	C-N-CA	5.50	131.61	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	G	12	VAL	N-CA-C	-5.50	105.31	113.39
39	u	88	GLU	CA-C-N	5.49	127.64	120.28
39	u	88	GLU	C-N-CA	5.49	127.64	120.28
17	2	526	A	C4'-C3'-O3'	5.48	121.22	113.00
14	a	35	VAL	CA-C-N	5.47	125.47	119.89
14	a	35	VAL	C-N-CA	5.47	125.47	119.89
17	2	1745	C	O4'-C1'-N1	5.47	116.70	108.50
17	2	1762	A	O4'-C4'-C3'	-5.46	98.54	104.00
15	c	57	VAL	N-CA-C	-5.46	107.48	113.43
31	U	90	VAL	N-CA-C	-5.46	97.99	109.34
39	u	226	LEU	CA-C-N	5.45	127.78	120.58
39	u	226	LEU	C-N-CA	5.45	127.78	120.58
42	B	325	LYS	CA-C-N	5.45	125.45	119.89
42	B	325	LYS	C-N-CA	5.45	125.45	119.89
34	y	483	ARG	CA-C-N	5.44	127.92	120.46
34	y	483	ARG	C-N-CA	5.44	127.92	120.46
17	2	1765	G	O4'-C4'-C3'	5.43	109.43	104.00
39	u	95	GLU	N-CA-C	-5.43	100.05	108.90
17	2	1744	G	C4'-C3'-O3'	5.41	121.12	113.00
33	D	228	THR	CA-C-N	5.41	127.48	120.44
33	D	228	THR	C-N-CA	5.41	127.48	120.44
23	T	89	SER	N-CA-C	-5.41	106.55	114.39
41	A	10	GLN	N-CA-CB	5.41	118.07	110.12
39	u	140	ILE	CB-CA-C	-5.41	108.62	114.35
10	P	134	VAL	N-CA-C	-5.41	107.54	113.43
12	Y	62	VAL	N-CA-C	-5.40	100.06	108.81
43	p	627	LEU	CA-C-N	5.38	131.82	121.54
43	p	627	LEU	C-N-CA	5.38	131.82	121.54
26	d	3	THR	CB-CA-C	-5.38	110.36	116.54
50	k	602	GLN	OE1-CD-NE2	-5.37	117.23	122.60
17	2	1067	G	O3'-P-O5'	5.37	112.05	104.00
17	2	1748	G	P-O5'-C5'	-5.36	112.86	120.90
24	V	72	VAL	CA-C-N	5.36	125.78	119.94
24	V	72	VAL	C-N-CA	5.36	125.78	119.94
21	O	95	ASP	N-CA-CB	5.35	119.54	110.49
16	i	118	ASN	CA-C-N	5.35	131.32	121.70
16	i	118	ASN	C-N-CA	5.35	131.32	121.70
45	x	39	PHE	CA-CB-CG	-5.34	108.46	113.80
42	B	189	ALA	CA-C-N	5.33	127.38	120.56
42	B	189	ALA	C-N-CA	5.33	127.38	120.56
38	t	296	ASN	CA-C-N	5.33	127.36	120.70
38	t	296	ASN	C-N-CA	5.33	127.36	120.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	N	40	ILE	N-CA-C	-5.32	107.64	112.96
43	p	283	ASP	CA-CB-CG	-5.32	107.28	112.60
39	u	360	ASN	CA-C-N	5.32	127.72	120.54
39	u	360	ASN	C-N-CA	5.32	127.72	120.54
7	K	157	LYS	CA-C-N	5.32	131.54	121.97
7	K	157	LYS	C-N-CA	5.32	131.54	121.97
17	2	1755	U	O5'-C5'-C4'	5.32	119.48	111.50
9	N	134	LEU	N-CA-C	-5.31	107.35	113.88
45	x	209	ASP	N-CA-CB	5.30	119.45	110.49
32	R	38	SER	CA-C-N	5.30	128.77	120.82
32	R	38	SER	C-N-CA	5.30	128.77	120.82
35	q	338	THR	CA-C-N	5.30	127.33	120.44
35	q	338	THR	C-N-CA	5.30	127.33	120.44
39	u	173	VAL	N-CA-C	-5.29	107.56	112.43
36	r	296	LEU	CA-C-N	5.29	125.29	119.89
36	r	296	LEU	C-N-CA	5.29	125.29	119.89
42	B	382	THR	N-CA-C	-5.29	107.48	114.04
34	y	542	ILE	N-CA-C	-5.29	107.67	112.96
33	D	94	THR	CA-C-N	5.29	131.63	121.54
33	D	94	THR	C-N-CA	5.29	131.63	121.54
43	p	204	GLU	CA-C-N	5.28	131.21	121.70
43	p	204	GLU	C-N-CA	5.28	131.21	121.70
32	R	124	LYS	CA-C-N	5.28	125.33	119.32
32	R	124	LYS	C-N-CA	5.28	125.33	119.32
39	u	13	ASP	CA-C-N	5.28	131.19	121.70
39	u	13	ASP	C-N-CA	5.28	131.19	121.70
20	M	72	THR	CA-C-N	5.27	127.34	120.28
20	M	72	THR	C-N-CA	5.27	127.34	120.28
29	g	93	THR	N-CA-C	-5.26	108.62	114.62
39	u	13	ASP	CA-CB-CG	5.26	117.86	112.60
33	D	427	ASN	N-CA-C	-5.25	107.89	114.56
35	q	298	VAL	N-CA-C	-5.25	106.57	111.45
46	0	139	SER	CA-C-N	5.24	128.53	120.82
46	0	139	SER	C-N-CA	5.24	128.53	120.82
34	y	384	VAL	CA-C-N	-5.24	113.29	119.84
34	y	384	VAL	C-N-CA	-5.24	113.29	119.84
50	k	694	HIS	CB-CG-CD2	-5.23	124.40	131.20
36	r	223	ALA	N-CA-CB	5.22	119.31	110.49
3	E	249	SER	CA-C-N	5.21	124.53	118.85
3	E	249	SER	C-N-CA	5.21	124.53	118.85
17	2	1767	C	C1'-O4'-C4'	5.21	115.11	109.90
33	D	337	PHE	CA-CB-CG	-5.21	108.59	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	q	150	MET	CA-C-N	5.21	127.78	120.28
35	q	150	MET	C-N-CA	5.21	127.78	120.28
4	G	42	LEU	CA-C-N	5.21	125.20	119.89
4	G	42	LEU	C-N-CA	5.21	125.20	119.89
43	p	210	SER	CA-C-N	5.21	131.07	121.70
43	p	210	SER	C-N-CA	5.21	131.07	121.70
34	y	533	ALA	CA-C-N	5.20	127.25	120.28
34	y	533	ALA	C-N-CA	5.20	127.25	120.28
18	F	11	PHE	CA-CB-CG	-5.20	108.60	113.80
43	p	465	LYS	CA-C-N	5.20	128.09	120.71
43	p	465	LYS	C-N-CA	5.20	128.09	120.71
43	p	540	PHE	CA-CB-CG	-5.20	108.60	113.80
6	J	7	LYS	N-CA-C	-5.20	108.70	114.62
40	1	18	G	P-O3'-C3'	5.20	127.99	120.20
45	x	210	VAL	N-CA-C	-5.19	101.15	108.27
36	r	279	GLN	CA-C-N	5.19	127.23	120.28
36	r	279	GLN	C-N-CA	5.19	127.23	120.28
42	B	92	ILE	N-CA-C	-5.19	108.07	113.10
35	q	205	SER	CA-C-N	5.18	127.22	120.28
35	q	205	SER	C-N-CA	5.18	127.22	120.28
36	r	294	PRO	CA-C-O	-5.18	113.05	120.56
2	C	48	ILE	CA-C-N	5.18	127.44	120.50
2	C	48	ILE	C-N-CA	5.18	127.44	120.50
41	A	171	ASP	CA-C-N	5.17	127.21	120.28
41	A	171	ASP	C-N-CA	5.17	127.21	120.28
43	p	628	LYS	N-CA-CB	5.17	119.22	110.49
7	K	155	ASN	N-CA-C	-5.17	104.79	111.71
51	h	620	ALA	N-CA-CB	5.17	118.07	109.60
45	x	222	LYS	CA-C-N	5.16	127.96	120.79
45	x	222	LYS	C-N-CA	5.16	127.96	120.79
6	J	35	ASP	CA-CB-CG	5.15	117.75	112.60
17	2	1760	C	C4'-C3'-O3'	-5.15	105.28	113.00
21	O	81	ASP	CA-C-N	5.14	127.89	120.38
21	O	81	ASP	C-N-CA	5.14	127.89	120.38
34	y	417	GLN	N-CA-C	5.14	121.18	109.81
49	b	106	ALA	CB-CA-C	-5.14	110.66	116.63
50	k	582	PRO	N-CA-C	5.14	116.97	110.70
33	D	416	GLN	CA-C-N	5.14	127.42	120.38
33	D	416	GLN	C-N-CA	5.14	127.42	120.38
17	2	1754	G	O4'-C1'-N9	5.14	116.20	108.50
14	a	9	THR	O-C-N	5.13	129.41	122.59
32	R	76	VAL	N-CA-C	-5.13	101.09	108.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	t	269	LEU	CA-C-N	5.13	125.21	120.34
38	t	269	LEU	C-N-CA	5.13	125.21	120.34
37	s	203	GLU	CA-C-N	5.12	131.32	121.54
37	s	203	GLU	C-N-CA	5.12	131.32	121.54
24	V	123	LEU	CA-C-N	5.11	128.42	120.60
24	V	123	LEU	C-N-CA	5.11	128.42	120.60
42	B	434	LYS	N-CA-C	-5.11	102.22	110.14
50	k	616	GLN	OE1-CD-NE2	-5.10	117.50	122.60
17	2	1770	G	P-O5'-C5'	5.09	128.54	120.90
35	q	178	ASP	CA-C-N	5.09	131.14	121.97
35	q	178	ASP	C-N-CA	5.09	131.14	121.97
36	r	235	SER	CA-C-N	5.09	127.05	120.44
36	r	235	SER	C-N-CA	5.09	127.05	120.44
17	2	1758	G	C4'-C3'-C2'	-5.08	97.52	102.60
5	I	137	ARG	CA-C-N	5.08	127.36	120.65
5	I	137	ARG	C-N-CA	5.08	127.36	120.65
45	x	146	CYS	CA-C-N	5.08	127.40	120.54
45	x	146	CYS	C-N-CA	5.08	127.40	120.54
39	u	65	ASN	CA-CB-CG	5.08	117.68	112.60
17	2	317	G	P-O3'-C3'	5.08	127.82	120.20
43	p	326	SER	CA-C-N	5.08	130.84	121.70
43	p	326	SER	C-N-CA	5.08	130.84	121.70
46	0	137	SER	CA-C-N	5.08	131.24	121.54
46	0	137	SER	C-N-CA	5.08	131.24	121.54
4	G	221	ARG	CA-C-N	5.08	127.08	120.28
4	G	221	ARG	C-N-CA	5.08	127.08	120.28
43	p	552	ALA	CA-C-N	5.07	127.92	120.71
43	p	552	ALA	C-N-CA	5.07	127.92	120.71
6	J	114	GLN	CA-C-N	5.07	127.07	120.28
6	J	114	GLN	C-N-CA	5.07	127.07	120.28
17	2	1770	G	O4'-C1'-N9	5.07	116.10	108.50
41	A	11	HIS	ND1-CG-CD2	5.07	111.17	106.10
34	y	454	ARG	CA-C-N	5.06	127.77	120.38
34	y	454	ARG	C-N-CA	5.06	127.77	120.38
28	f	97	LYS	CA-C-N	5.05	131.07	121.97
28	f	97	LYS	C-N-CA	5.05	131.07	121.97
6	J	106	ARG	N-CA-CB	5.05	119.03	110.49
45	x	180	ASP	CA-C-N	5.05	128.39	120.82
45	x	180	ASP	C-N-CA	5.05	128.39	120.82
22	S	117	ARG	CA-C-N	5.04	131.17	121.54
22	S	117	ARG	C-N-CA	5.04	131.17	121.54
29	g	277	THR	N-CA-C	-5.04	101.41	109.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	F	142	LEU	N-CA-CB	5.03	119.00	110.49
44	z	230	VAL	N-CA-CB	5.03	116.59	110.95
34	y	471	ILE	N-CA-C	-5.03	106.77	111.45
36	r	198	PHE	CA-C-N	5.03	127.85	120.71
36	r	198	PHE	C-N-CA	5.03	127.85	120.71
43	p	629	LYS	CA-C-N	5.03	131.14	121.54
43	p	629	LYS	C-N-CA	5.03	131.14	121.54
19	H	82	ASN	CA-CB-CG	-5.03	107.57	112.60
17	2	1766	C	N1-C1'-C2'	5.01	119.52	112.00
17	2	1778	G	O4'-C4'-C3'	-5.01	98.98	104.00
43	p	246	SER	CA-C-N	5.01	125.03	119.32
43	p	246	SER	C-N-CA	5.01	125.03	119.32
27	e	23	VAL	CB-CA-C	-5.00	105.57	111.97
34	y	479	ASP	N-CA-C	-5.00	107.35	113.50

All (7) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
17	2	1784	A	C3'
40	1	17	C	C3',C2'
40	1	18	G	C3'
43	p	211	VAL	CA
43	p	213	PHE	CA
43	p	214	GLU	CA

All (179) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
46	0	35	ALA	Peptide
46	0	36	SER	Peptide
40	1	18	G	Sidechain
40	1	26	G	Sidechain
17	2	1044	G	Sidechain
17	2	1161	G	Sidechain
17	2	1170	U	Sidechain
17	2	1171	G	Sidechain
17	2	1182	U	Sidechain
17	2	1183	G	Sidechain
17	2	1191	A	Sidechain
17	2	1192	A	Sidechain
17	2	1236	A	Sidechain
17	2	1252	G	Sidechain

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Mol	Chain	Res	Type	Group
17	2	1255	A	Sidechain
17	2	126	G	Sidechain
17	2	1304	U	Sidechain
17	2	1405	A	Sidechain
17	2	1427	G	Sidechain
17	2	1437	U	Sidechain
17	2	1438	U	Sidechain
17	2	146	G	Sidechain
17	2	148	U	Sidechain
17	2	1547	G	Sidechain
17	2	1599	G	Sidechain
17	2	1616	U	Sidechain
17	2	1738	G	Sidechain
17	2	1747	C	Sidechain
17	2	1748	G	Sidechain
17	2	1749	C	Sidechain
17	2	1750	C	Sidechain
17	2	1751	G	Sidechain
17	2	1752	G	Sidechain
17	2	1753	G	Sidechain
17	2	1754	G	Sidechain
17	2	1757	G	Sidechain
17	2	1759	C	Sidechain
17	2	1764	G	Sidechain
17	2	1765	G	Sidechain
17	2	1766	C	Sidechain
17	2	1768	C	Sidechain
17	2	1771	G	Sidechain
17	2	1776	G	Sidechain
17	2	1777	C	Sidechain
17	2	1778	G	Sidechain
17	2	1779	C	Sidechain
17	2	1782	A	Sidechain
17	2	1784	A	Sidechain
17	2	1840	G	Sidechain
17	2	195	C	Sidechain
17	2	211	U	Sidechain
17	2	318	U	Sidechain
17	2	39	A	Sidechain
17	2	435	A	Sidechain
17	2	554	A	Sidechain
17	2	574	A	Sidechain

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Mol	Chain	Res	Type	Group
17	2	576	G	Sidechain
17	2	660	A	Sidechain
17	2	71	G	Sidechain
17	2	76	U	Sidechain
17	2	82	G	Sidechain
17	2	869	G	Sidechain
17	2	951	A	Sidechain
17	2	997	A	Sidechain
41	A	150	TYR	Sidechain
41	A	184	LEU	Peptide
41	A	185	THR	Peptide
41	A	186	PRO	Peptide
41	A	187	GLN	Peptide
41	A	192	ARG	Sidechain
41	A	39	TYR	Sidechain
42	B	110	PRO	Peptide
42	B	133	THR	Peptide
42	B	287	LEU	Peptide
42	B	288	LYS	Peptide,Mainchain
42	B	289	GLY	Peptide
42	B	322	LEU	Peptide
42	B	373	ALA	Peptide
2	C	193	HIS	Peptide
33	D	94	THR	Mainchain
5	I	217	MET	Mainchain
6	J	105	THR	Peptide
6	J	66	VAL	Peptide
7	K	144	LYS	Peptide
7	K	157	LYS	Peptide
8	L	147	PHE	Peptide
8	L	148	ILE	Peptide
20	M	1	MET	Peptide
20	M	34	GLU	Peptide
20	M	35	LEU	Peptide
20	M	43	LEU	Peptide
20	M	96	ARG	Sidechain
22	S	42	ILE	Peptide
22	S	43	GLU	Peptide
31	U	89	ASP	Peptide
31	U	94	LYS	Peptide
31	U	99	LEU	Peptide
11	X	77	GLY	Mainchain

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Mol	Chain	Res	Type	Group
14	a	126	GLY	Peptide
49	b	101	PHE	Peptide
15	c	81	ARG	Peptide
27	e	28	HIS	Peptide
27	e	32	ARG	Peptide
27	e	49	ASP	Peptide
27	e	52	PHE	Peptide
28	f	90	LYS	Peptide
51	h	110	ASN	Peptide
51	h	757	ARG	Peptide
16	i	126	LYS	Peptide
16	i	82	ARG	Sidechain
48	j	271	ALA	Mainchain
50	k	467	ARG	Sidechain
50	k	506	GLU	Peptide
50	k	507	GLY	Peptide
50	k	676	TYR	Sidechain
50	k	868	LYS	Peptide
43	p	102	ARG	Sidechain
43	p	156	TYR	Peptide
43	p	165	ARG	Sidechain
43	p	204	GLU	Peptide
43	p	209	TYR	Sidechain
43	p	219	THR	Peptide
43	p	228	ASP	Peptide
43	p	244	ARG	Sidechain
43	p	251	TYR	Sidechain
43	p	281	LEU	Peptide
43	p	290	TYR	Sidechain
43	p	344	MET	Peptide
43	p	354	THR	Peptide
43	p	395	ARG	Sidechain
43	p	404	ARG	Sidechain
43	p	450	PHE	Sidechain
43	p	553	GLU	Peptide
43	p	599	LYS	Peptide
43	p	639	ARG	Sidechain
43	p	647	LYS	Peptide
43	p	648	GLU	Mainchain
43	p	79	ARG	Sidechain
35	q	108	ARG	Peptide
35	q	173	TYR	Sidechain

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Mol	Chain	Res	Type	Group
35	q	190	TYR	Sidechain
35	q	194	ALA	Peptide
35	q	223	VAL	Peptide
35	q	298	VAL	Peptide
36	r	122	SER	Peptide
36	r	126	GLY	Peptide
36	r	152	TYR	Sidechain
36	r	177	CYS	Peptide
36	r	243	LEU	Peptide
36	r	304	LEU	Peptide
36	r	306	LYS	Peptide
36	r	307	PRO	Peptide
36	r	350	TYR	Sidechain
36	r	99	TYR	Sidechain
37	s	200	ASN	Peptide
38	t	317	TYR	Sidechain
38	t	350	PHE	Peptide
38	t	375	LEU	Peptide
38	t	376	THR	Peptide
38	t	434	ASN	Peptide
39	u	117	THR	Peptide
39	u	120	ARG	Sidechain
39	u	169	TYR	Sidechain
39	u	217	ALA	Peptide
39	u	249	LEU	Peptide
39	u	259	ASN	Peptide
39	u	335	SER	Peptide
39	u	42	LEU	Peptide
39	u	56	ASP	Peptide
45	x	208	HIS	Peptide
34	y	245	LEU	Mainchain
34	y	368	ILE	Peptide
34	y	385	PRO	Peptide
34	y	398	PHE	Peptide
34	y	417	GLN	Peptide
34	y	43	TRP	Peptide
34	y	495	SER	Peptide
34	y	505	ALA	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	l	240	0	289	0	0
2	C	1774	0	1771	172	0
3	E	1743	0	1836	20	0
4	G	2083	0	2189	1	0
5	I	1923	0	2088	63	0
6	J	1530	0	1622	78	0
7	K	1679	0	1762	12	0
8	L	1450	0	1562	22	0
9	N	1296	0	1374	42	0
10	P	1208	0	1294	63	0
11	X	619	0	622	0	0
12	Y	1034	0	1080	25	0
13	Z	1106	0	1179	5	0
14	a	1021	0	1085	65	0
15	c	659	0	678	151	0
16	i	437	0	487	19	0
17	2	39726	0	20030	1607	0
18	F	1764	0	1863	25	0
19	H	1509	0	1563	61	0
20	M	827	0	852	37	0
21	O	958	0	993	1	0
22	S	1124	0	1193	24	0
23	T	1019	0	1074	155	0
24	V	1112	0	1149	0	0
25	W	822	0	887	0	0
26	d	520	0	536	84	0
27	e	445	0	442	1	0
28	f	581	0	599	1	0
29	g	2436	0	2393	0	0
30	n	598	0	656	0	0
31	U	1154	0	1206	48	0
32	R	1083	0	1144	12	0
33	D	3666	0	3528	387	0
34	y	5441	0	5501	1280	0
35	q	2111	0	2105	35	0
36	r	2624	0	2592	114	0
37	s	1737	0	1706	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	t	3109	0	3084	92	0
39	u	2918	0	2950	5	0
40	1	1614	0	822	94	0
41	A	2146	0	2188	219	0
42	B	3214	0	3353	48	0
43	p	5034	0	4948	345	0
44	z	2693	0	2608	123	0
45	x	1757	0	1806	87	0
46	0	1016	0	1038	90	0
47	Q	3692	0	3649	363	0
48	j	379	0	176	40	0
49	b	828	0	851	108	0
50	k	4699	0	4637	516	0
51	h	5070	0	2223	77	0
All	All	129228	0	107263	4713	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 21.

All (4713) 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)
17:2:127:C:H2'	17:2:129:C:C6	1.20	1.68
35:q:336:MET:CE	47:Q:418:TYR:HE1	1.04	1.64
41:A:235:TYR:CD1	42:B:285:ASP:CG	1.77	1.64
34:y:246:TRP:CD1	50:k:707:GLY:HA3	1.20	1.63
34:y:710:ILE:CD1	43:p:613:THR:HG21	1.20	1.63
34:y:707:ILE:HD13	43:p:200:LEU:CD1	1.30	1.62
34:y:692:GLU:HA	43:p:589:PHE:CZ	1.09	1.61
5:I:232:ARG:HB2	17:2:781:C:C6	1.16	1.61
17:2:1105:C:C4	23:T:122:PRO:HB2	1.09	1.61
34:y:725:TRP:CE2	43:p:184:ILE:HG23	1.11	1.61
34:y:725:TRP:CZ2	43:p:182:TRP:CD1	1.85	1.61
34:y:246:TRP:CD1	50:k:707:GLY:CA	1.80	1.61
43:p:646:SER:CB	43:p:654:ARG:HH12	1.05	1.61
33:D:18:ILE:CD1	47:Q:36:VAL:HG21	1.15	1.60
34:y:104:ALA:CB	34:y:149:TRP:CD1	1.80	1.59
6:J:103:LYS:NZ	17:2:679:U:C5	1.67	1.59
34:y:208:ILE:HD11	34:y:262:LEU:CD2	1.18	1.59
34:y:230:LEU:CG	34:y:271:LEU:HD22	1.30	1.59
15:c:77:CYS:SG	33:D:91:LEU:HG	1.39	1.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:388:LEU:CA	47:Q:426:LYS:HZ3	0.96	1.57
17:2:1855:G:C4	49:b:1:MET:HE1	1.36	1.56
34:y:692:GLU:CA	43:p:589:PHE:HZ	1.01	1.56
41:A:229:LEU:HD22	42:B:284:VAL:CG2	1.14	1.56
34:y:277:ASN:HA	34:y:299:LEU:CD1	1.15	1.56
34:y:710:ILE:HD11	43:p:613:THR:CG2	1.27	1.56
35:q:336:MET:CE	47:Q:418:TYR:CE1	1.74	1.56
34:y:707:ILE:CD1	43:p:200:LEU:HD12	1.30	1.55
36:r:254:SER:HB2	50:k:834:LEU:CD1	1.09	1.55
34:y:475:ALA:C	50:k:777:VAL:HG11	1.17	1.55
36:r:272:GLN:HE21	50:k:852:VAL:CG1	1.14	1.55
51:h:964:SER:HA	51:h:1278:ARG:CB	1.10	1.55
17:2:776:U:N3	17:2:777:C:C6	1.72	1.54
34:y:330:PRO:HB2	34:y:431:LEU:CD1	1.11	1.54
17:2:776:U:C4	17:2:777:C:C6	1.96	1.53
33:D:16:PRO:CB	47:Q:28:ALA:HB3	1.32	1.53
5:I:70:HIS:HE1	5:I:101:ILE:CG2	1.13	1.52
2:C:85:ARG:HH12	23:T:85:VAL:CG1	1.15	1.52
36:r:280:ARG:NH1	50:k:855:HIS:CG	1.76	1.52
34:y:17:GLU:CB	45:x:190:PRO:HB3	1.39	1.52
17:2:755:C:C2	17:2:782:G:N7	1.73	1.52
34:y:104:ALA:HB3	34:y:149:TRP:CD1	1.34	1.52
34:y:703:ARG:CD	43:p:199:TRP:HE1	1.23	1.51
17:2:776:U:C4	17:2:777:C:C5	1.97	1.51
33:D:25:TRP:CZ3	47:Q:209:LEU:HD21	1.41	1.51
36:r:254:SER:CB	50:k:834:LEU:CD1	1.87	1.51
17:2:710:C:C6	43:p:627:LEU:HG	1.43	1.50
34:y:208:ILE:CD1	34:y:262:LEU:CD2	1.88	1.50
17:2:1739:G:C2	17:2:1783:G:C2	2.00	1.49
10:P:20:ARG:HD2	10:P:65:PHE:CE1	1.48	1.49
41:A:229:LEU:CD2	42:B:284:VAL:HG21	1.43	1.49
17:2:128:U:C1'	17:2:212:G:C8	1.96	1.49
17:2:702:G:C5'	34:y:687:ARG:HH22	1.10	1.48
17:2:1518:C:C4'	31:U:144:ARG:HA	1.41	1.48
20:M:98:ARG:CG	48:j:263:GLY:HA2	1.39	1.48
34:y:284:TRP:CZ2	34:y:426:GLN:HG3	1.49	1.48
34:y:331:ILE:HG23	34:y:430:GLN:CD	1.34	1.48
34:y:284:TRP:CZ2	34:y:426:GLN:CG	1.97	1.47
17:2:754:C:C2	17:2:783:G:N7	1.81	1.47
36:r:254:SER:HB3	50:k:834:LEU:CB	1.02	1.47
17:2:959:A:C5'	41:A:53:ARG:HD3	1.38	1.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:388:LEU:HB2	47:Q:426:LYS:NZ	1.24	1.47
33:D:18:ILE:HD11	47:Q:36:VAL:CG2	1.42	1.46
33:D:54:TRP:CZ2	50:k:585:GLN:HB2	1.48	1.46
5:I:232:ARG:HB2	17:2:781:C:C5	1.47	1.46
34:y:241:ILE:HG21	34:y:282:VAL:CG2	1.41	1.46
34:y:710:ILE:CG2	43:p:196:LEU:HD12	1.39	1.46
26:d:51:ARG:HH21	33:D:416:GLN:CG	1.27	1.46
34:y:725:TRP:CE3	43:p:184:ILE:HG21	1.50	1.46
2:C:210:ILE:HD13	23:T:81:ARG:CD	1.43	1.46
17:2:710:C:C5	43:p:627:LEU:HG	1.49	1.46
17:2:128:U:C2	17:2:212:G:C5	2.05	1.45
33:D:13:PHE:CE1	47:Q:43:LEU:CD1	1.95	1.45
34:y:233:ARG:HD2	34:y:256:ILE:CD1	1.45	1.45
2:C:210:ILE:CG2	23:T:81:ARG:NH1	1.72	1.45
17:2:1203:G:C6	17:2:1831:G:C5	2.05	1.45
33:D:25:TRP:NE1	47:Q:234:TRP:CH2	1.73	1.45
17:2:1743:G:N2	17:2:1781:G:N3	1.61	1.44
36:r:254:SER:CB	50:k:834:LEU:CB	1.91	1.44
43:p:675:LYS:HZ3	44:z:166:LYS:CG	1.30	1.44
33:D:91:LEU:CD1	50:k:644:VAL:HG23	1.44	1.44
33:D:16:PRO:CG	47:Q:28:ALA:CB	1.93	1.43
33:D:24:GLY:CA	47:Q:184:SER:CB	1.94	1.43
34:y:277:ASN:CB	34:y:299:LEU:HD11	1.49	1.43
34:y:725:TRP:CZ2	43:p:182:TRP:NE1	1.73	1.43
43:p:218:ARG:NH1	44:z:2:LYS:HD2	1.12	1.43
26:d:51:ARG:NH2	33:D:416:GLN:HG2	1.31	1.42
38:t:388:LEU:CB	47:Q:426:LYS:HZ3	1.25	1.42
38:t:388:LEU:CB	47:Q:426:LYS:NZ	1.78	1.42
2:C:89:LYS:CE	23:T:82:ASP:O	1.64	1.42
34:y:710:ILE:CG2	43:p:196:LEU:CD1	1.95	1.42
5:I:70:HIS:CE1	5:I:101:ILE:CB	1.79	1.42
33:D:24:GLY:HA2	47:Q:184:SER:CB	1.48	1.42
2:C:20:ALA:HA	23:T:96:ILE:CD1	1.50	1.41
38:t:388:LEU:CA	47:Q:426:LYS:NZ	1.82	1.41
33:D:25:TRP:NE1	47:Q:234:TRP:CZ3	1.70	1.41
43:p:682:ARG:NH1	44:z:248:LEU:HD12	1.26	1.41
17:2:753:C:C2	17:2:784:G:O6	1.73	1.41
17:2:1083:A:N6	49:b:1:MET:HG3	1.19	1.41
17:2:1195:A:C6	17:2:1196:A:C6	2.08	1.41
17:2:1244:I2T:C4	40:1:34:C:H5'	1.47	1.41
17:2:1743:G:N2	17:2:1781:G:C4	1.86	1.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:D:55:THR:CG2	50:k:620:ARG:HH12	1.32	1.41
34:y:277:ASN:CA	34:y:299:LEU:HD11	0.95	1.40
5:I:233:ARG:CD	17:2:781:C:OP2	1.68	1.40
17:2:1244:I2T:C1'	40:1:34:C:H4'	1.48	1.40
34:y:276:TYR:OH	34:y:298:ARG:CG	1.69	1.40
34:y:277:ASN:CA	34:y:299:LEU:CD1	1.77	1.40
34:y:101:THR:HG22	34:y:149:TRP:CB	1.51	1.39
15:c:35:VAL:HG13	15:c:78:SER:CB	1.42	1.39
38:t:388:LEU:H	47:Q:426:LYS:CE	1.34	1.39
51:h:953:GLU:N	51:h:967:GLU:CB	1.85	1.39
2:C:85:ARG:NE	23:T:82:ASP:HA	1.34	1.39
15:c:77:CYS:N	33:D:89:PHE:CZ	1.79	1.39
17:2:1195:A:N6	17:2:1196:A:C6	1.90	1.39
36:r:272:GLN:NE2	50:k:852:VAL:CG1	1.84	1.39
36:r:277:TYR:HD1	50:k:855:HIS:NE2	1.19	1.38
17:2:133:C:N4	17:2:137:U:H3	1.19	1.38
20:M:98:ARG:HG3	48:j:263:GLY:CA	1.53	1.38
17:2:231:C:C6	17:2:891:G:N1	1.91	1.38
33:D:55:THR:HG21	50:k:620:ARG:NH1	1.33	1.38
36:r:277:TYR:CD1	50:k:855:HIS:NE2	1.88	1.38
5:I:232:ARG:CB	17:2:781:C:C6	2.07	1.38
10:P:20:ARG:CD	10:P:65:PHE:CE1	2.05	1.38
15:c:43:ILE:HD11	33:D:84:GLU:CG	1.02	1.38
17:2:1195:A:C6	17:2:1196:A:C5	2.12	1.38
46:0:126:ILE:N	49:b:56:VAL:HG12	1.35	1.37
34:y:175:HIS:CE1	34:y:228:MET:SD	2.17	1.37
34:y:703:ARG:HD3	43:p:199:TRP:CE2	1.58	1.37
34:y:725:TRP:CE2	43:p:184:ILE:CG2	2.06	1.37
34:y:725:TRP:CD2	43:p:184:ILE:CG2	2.06	1.37
17:2:127:C:C2'	17:2:129:C:H6	1.37	1.37
17:2:710:C:C5	43:p:627:LEU:O	1.78	1.37
17:2:1105:C:C4	23:T:122:PRO:CB	2.02	1.37
17:2:127:C:C2'	17:2:129:C:C6	2.04	1.37
17:2:579:G:P	51:h:122:LYS:CB	2.13	1.37
17:2:1203:G:C6	17:2:1831:G:C6	2.13	1.37
20:M:98:ARG:CD	48:j:263:GLY:HA3	1.53	1.37
51:h:964:SER:CA	51:h:1278:ARG:CB	2.02	1.37
2:C:213:GLU:OE2	23:T:86:PRO:CG	1.73	1.36
34:y:17:GLU:HB3	45:x:190:PRO:CB	1.51	1.36
34:y:233:ARG:CD	34:y:256:ILE:HD13	1.52	1.36
34:y:330:PRO:CB	34:y:431:LEU:CD1	2.03	1.36

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:758:G:N7	17:2:779:C:C2	1.92	1.36
17:2:959:A:H5'	41:A:53:ARG:CD	1.02	1.36
2:C:41:ARG:NH2	23:T:124:VAL:HG21	1.39	1.36
36:r:254:SER:CB	50:k:834:LEU:HD13	1.50	1.36
38:t:547:ILE:HD11	47:Q:443:LEU:CD2	1.54	1.36
34:y:342:LEU:HD23	50:k:724:LYS:NZ	1.04	1.36
34:y:725:TRP:CD2	43:p:184:ILE:HG23	1.60	1.36
41:A:49:SER:HB3	46:0:66:ARG:NH2	1.33	1.36
2:C:20:ALA:CA	23:T:96:ILE:HD12	1.54	1.36
5:I:70:HIS:CE1	5:I:101:ILE:HB	1.39	1.36
34:y:101:THR:CG2	34:y:149:TRP:HB3	1.56	1.35
34:y:236:GLN:CG	34:y:252:ALA:HB2	1.56	1.35
34:y:306:MET:O	34:y:310:LEU:N	1.59	1.35
34:y:725:TRP:CZ2	43:p:184:ILE:HG23	1.58	1.35
35:q:336:MET:HE2	47:Q:418:TYR:CE1	0.83	1.35
33:D:24:GLY:CA	47:Q:184:SER:HB3	1.50	1.35
36:r:280:ARG:NH1	50:k:855:HIS:HA	1.35	1.35
5:I:232:ARG:HD2	17:2:781:C:C5	1.60	1.35
17:2:278:U:N3	17:2:287:U:O2	1.60	1.35
17:2:580:A:N6	51:h:126:ASP:CB	1.89	1.34
17:2:1244:I2T:C5	40:1:34:C:C4'	2.05	1.34
17:2:1739:G:C2	17:2:1783:G:N1	1.93	1.34
34:y:101:THR:HA	34:y:149:TRP:CD1	1.61	1.34
34:y:230:LEU:HG	34:y:271:LEU:CD2	1.54	1.34
17:2:731:A:C6	17:2:732:C:N4	1.92	1.34
17:2:755:C:O2	17:2:782:G:C8	1.79	1.34
17:2:1743:G:N2	17:2:1781:G:C2	1.93	1.34
43:p:646:SER:HB2	43:p:654:ARG:CZ	1.55	1.34
43:p:218:ARG:NH1	44:z:2:LYS:CD	1.88	1.34
6:J:116:ARG:NH1	17:2:678:U:OP1	1.61	1.34
15:c:72:ARG:CD	17:2:1116:U:OP2	1.74	1.34
47:Q:361:PHE:CZ	50:k:816:GLN:OE1	1.79	1.34
6:J:103:LYS:CG	17:2:678:U:C2	2.06	1.33
33:D:24:GLY:CA	47:Q:184:SER:OG	1.76	1.33
34:y:236:GLN:HG2	34:y:252:ALA:CB	1.57	1.33
17:2:231:C:C1'	17:2:891:G:N3	1.92	1.33
17:2:759:A:C6	17:2:777:C:C2	2.15	1.33
33:D:54:TRP:CZ2	50:k:585:GLN:CB	2.11	1.33
41:A:235:TYR:CG	42:B:285:ASP:OD2	1.82	1.33
2:C:85:ARG:NH1	23:T:85:VAL:HG13	1.42	1.33
15:c:53:VAL:HG21	50:k:320:GLY:C	1.52	1.33

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:229:A:N1	17:2:892:U:O4	1.57	1.33
2:C:201:LEU:HB2	23:T:83:ASN:C	1.52	1.32
34:y:104:ALA:HB2	34:y:149:TRP:NE1	1.03	1.32
34:y:330:PRO:CB	34:y:431:LEU:HD13	1.58	1.32
17:2:232:A:N1	17:2:889:U:N3	1.77	1.32
31:U:143:GLY:O	31:U:144:ARG:CG	1.78	1.32
38:t:342:TYR:CZ	47:Q:437:MET:HE3	1.64	1.32
43:p:675:LYS:NZ	44:z:166:LYS:CG	1.92	1.32
17:2:759:A:N1	17:2:777:C:C2	1.98	1.32
34:y:293:ALA:CB	34:y:328:SER:HB2	1.59	1.32
15:c:53:VAL:CG2	50:k:320:GLY:O	1.77	1.32
17:2:279:G:N1	17:2:286:C:N3	1.78	1.32
36:r:265:ARG:NH2	50:k:841:LYS:HB3	1.02	1.32
34:y:222:ASN:O	34:y:226:GLN:HG2	1.22	1.31
47:Q:431:ARG:HB3	50:k:850:GLU:OE1	1.26	1.31
5:I:233:ARG:NE	17:2:781:C:OP2	1.61	1.31
15:c:35:VAL:CG1	15:c:78:SER:CB	2.01	1.31
34:y:700:ARG:HH21	43:p:206:ARG:NE	1.25	1.31
36:r:280:ARG:NH1	50:k:855:HIS:CA	1.93	1.31
47:Q:431:ARG:HD3	50:k:850:GLU:CD	1.51	1.31
26:d:63:ARG:HH12	46:0:71:PRO:CG	1.42	1.31
34:y:205:LEU:CD1	34:y:209:GLN:HE21	1.41	1.31
43:p:579:LYS:HB2	51:h:747:THR:O	1.14	1.31
34:y:230:LEU:CD1	34:y:271:LEU:HD22	1.60	1.30
20:M:98:ARG:CG	48:j:263:GLY:CA	2.05	1.30
34:y:246:TRP:NE1	50:k:707:GLY:CA	1.94	1.30
15:c:35:VAL:CG1	15:c:78:SER:HB3	1.55	1.30
17:2:958:A:C2'	41:A:53:ARG:O	1.78	1.29
38:t:342:TYR:OH	47:Q:437:MET:CE	1.80	1.29
15:c:75:GLU:CB	50:k:369:ALA:CB	2.10	1.29
17:2:1142:C:P	49:b:89:ARG:HH21	1.55	1.29
17:2:1195:A:C5	17:2:1196:A:C5	2.19	1.29
34:y:477:HIS:CD2	50:k:774:TYR:HE1	1.40	1.29
34:y:699:GLU:OE2	43:p:565:THR:HG21	1.24	1.29
35:q:336:MET:HG2	47:Q:418:TYR:OH	1.19	1.29
33:D:27:PRO:CG	47:Q:226:GLN:HG3	1.62	1.29
15:c:77:CYS:SG	33:D:91:LEU:CG	2.21	1.29
17:2:127:C:H3'	17:2:129:C:C5	1.68	1.28
34:y:342:LEU:CD2	50:k:724:LYS:NZ	1.93	1.28
38:t:399:LEU:HB3	47:Q:396:ARG:NH2	1.48	1.28
17:2:1083:A:N6	49:b:1:MET:CG	1.95	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:584:TYR:OH	44:z:324:LYS:HE3	1.33	1.28
43:p:675:LYS:NZ	44:z:166:LYS:HG3	1.43	1.28
2:C:201:LEU:HD13	23:T:83:ASN:O	1.26	1.28
19:H:61:PHE:CZ	33:D:415:SER:HB3	1.68	1.28
34:y:390:LEU:CD2	34:y:410:VAL:HB	1.40	1.28
45:x:40:ASN:ND2	45:x:75:GLN:HE22	1.29	1.28
5:I:70:HIS:CE1	5:I:101:ILE:CG2	2.05	1.28
17:2:128:U:O4'	17:2:212:G:C8	1.87	1.28
2:C:201:LEU:CD1	23:T:83:ASN:O	1.81	1.28
14:a:104:ARG:NH2	14:a:108:LYS:NZ	1.79	1.28
35:q:347:GLN:CG	50:k:842:LEU:HD22	1.62	1.28
33:D:39:TYR:CE2	47:Q:221:PRO:HB2	1.67	1.27
34:y:7:ARG:O	34:y:9:GLU:N	1.67	1.27
38:t:349:MET:HE2	47:Q:444:ASN:ND2	1.47	1.27
6:J:103:LYS:HG2	17:2:678:U:N1	1.50	1.27
17:2:225:C:N4	17:2:882:A:O2'	1.65	1.27
17:2:755:C:C2	17:2:782:G:C8	2.21	1.27
34:y:205:LEU:HD11	34:y:209:GLN:NE2	1.47	1.27
36:r:265:ARG:NH2	50:k:841:LYS:CB	1.95	1.27
17:2:752:C:N3	17:2:753:C:C5	2.02	1.27
15:c:75:GLU:OE2	50:k:369:ALA:HB3	1.26	1.27
15:c:77:CYS:SG	33:D:91:LEU:CA	2.23	1.27
17:2:1738:G:C2	17:2:1784:A:N6	2.01	1.27
33:D:34:PHE:HE2	47:Q:266:MET:SD	1.58	1.27
34:y:7:ARG:O	34:y:9:GLU:HG3	1.28	1.27
34:y:368:ILE:O	34:y:371:ILE:HG22	1.16	1.26
34:y:703:ARG:CD	43:p:199:TRP:NE1	1.85	1.26
36:r:261:ASN:ND2	50:k:838:LEU:HD11	1.45	1.26
2:C:41:ARG:NH2	23:T:124:VAL:CG2	1.95	1.26
2:C:213:GLU:OE2	23:T:86:PRO:HG2	1.14	1.26
17:2:241:A:N6	17:2:265:G:H1	1.32	1.26
17:2:731:A:C5	17:2:732:C:N4	1.83	1.26
26:d:53:GLY:O	33:D:419:ALA:HB2	1.17	1.26
34:y:175:HIS:HA	34:y:231:GLU:OE2	1.12	1.26
17:2:1083:A:N6	49:b:1:MET:HE2	1.50	1.26
17:2:230:C:H2'	17:2:891:G:N1	1.49	1.25
34:y:205:LEU:O	34:y:209:GLN:HG3	1.18	1.25
9:N:42:LEU:CA	17:2:282:G:H1'	1.65	1.25
17:2:752:C:C2	17:2:753:C:C6	2.25	1.25
38:t:349:MET:CE	47:Q:444:ASN:HD21	1.47	1.25
6:J:103:LYS:HG3	17:2:678:U:O2	1.35	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:776:U:O4	17:2:777:C:C5	1.83	1.25
19:H:198:ARG:NE	41:A:45:MET:HG3	1.51	1.25
34:y:327:LEU:CD2	34:y:424:LEU:HA	1.66	1.25
17:2:128:U:H4'	17:2:212:G:OP2	1.14	1.25
34:y:8:PRO:HB3	34:y:39:LYS:CD	1.67	1.25
34:y:710:ILE:CG1	43:p:196:LEU:HD13	1.64	1.25
51:h:951:THR:C	51:h:952:LYS:CA	2.09	1.25
2:C:210:ILE:HD13	23:T:81:ARG:CG	1.67	1.25
15:c:43:ILE:CD1	33:D:84:GLU:HG2	0.94	1.25
33:D:18:ILE:CD1	47:Q:36:VAL:CG2	2.00	1.25
2:C:205:ARG:HD3	2:C:207:PRO:CG	1.67	1.24
15:c:75:GLU:HB3	50:k:369:ALA:CB	1.63	1.24
17:2:128:U:C4'	17:2:212:G:OP2	1.85	1.24
26:d:53:GLY:HA3	33:D:416:GLN:OE1	1.23	1.24
41:A:58:SER:OG	41:A:61:LYS:HG2	1.37	1.24
43:p:646:SER:HB2	43:p:654:ARG:NH1	0.92	1.24
17:2:1244:I2T:C5	40:1:34:C:H5'	1.67	1.24
41:A:229:LEU:CD2	42:B:284:VAL:CG2	2.02	1.24
17:2:113:G:N1	17:2:280:G:N2	1.86	1.24
17:2:959:A:O3'	41:A:53:ARG:HD2	1.35	1.24
2:C:201:LEU:CB	23:T:83:ASN:C	2.11	1.24
34:y:475:ALA:C	50:k:777:VAL:CG1	2.09	1.24
2:C:210:ILE:CD1	23:T:81:ARG:HD3	1.51	1.24
34:y:257:HIS:NE2	34:y:358:LEU:HA	1.50	1.24
36:r:254:SER:HB3	50:k:834:LEU:CG	1.66	1.24
36:r:276:GLN:NE2	50:k:855:HIS:O	1.70	1.24
19:H:198:ARG:CZ	41:A:45:MET:HG3	1.67	1.23
34:y:692:GLU:HG3	43:p:589:PHE:CE2	1.71	1.23
34:y:725:TRP:CE3	43:p:184:ILE:CG2	2.19	1.23
17:2:1114:C:H6	33:D:94:THR:OG1	0.91	1.23
17:2:1195:A:C2	17:2:1196:A:C4	2.26	1.23
36:r:280:ARG:CZ	50:k:855:HIS:CD2	2.21	1.23
50:k:858:GLY:O	50:k:861:GLY:HA3	1.09	1.23
34:y:703:ARG:HD3	43:p:199:TRP:NE1	0.90	1.23
38:t:388:LEU:N	47:Q:426:LYS:CE	2.00	1.23
51:h:951:THR:CA	51:h:952:LYS:N	1.99	1.23
33:D:25:TRP:HZ2	47:Q:234:TRP:CE3	1.57	1.23
34:y:477:HIS:CD2	50:k:774:TYR:CE1	2.10	1.23
34:y:246:TRP:NE1	50:k:707:GLY:HA3	1.50	1.23
15:c:77:CYS:SG	33:D:91:LEU:N	2.12	1.22
33:D:91:LEU:CB	50:k:640:GLU:HB3	1.68	1.22

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:710:ILE:HG21	43:p:196:LEU:CD1	1.60	1.22
41:A:17:GLU:CD	46:0:63:LYS:HZ1	1.46	1.22
47:Q:358:PHE:CE1	47:Q:373:LEU:HD11	1.72	1.22
2:C:20:ALA:HB1	23:T:92:ASP:CB	1.67	1.22
17:2:757:C:C1'	17:2:779:C:O2'	1.78	1.22
33:D:91:LEU:HD11	50:k:644:VAL:CG2	1.67	1.22
34:y:204:HIS:O	34:y:208:ILE:HG22	1.35	1.22
5:I:81:HIS:CE1	17:2:1784:A:H4'	1.73	1.22
17:2:1114:C:O2	33:D:93:ASP:OD1	1.58	1.22
38:t:388:LEU:N	47:Q:426:LYS:NZ	1.84	1.22
17:2:1812:A:C2	17:2:1813:A:C8	2.28	1.22
5:I:232:ARG:CB	17:2:781:C:C5	2.22	1.22
17:2:1083:A:H62	49:b:1:MET:CE	1.51	1.22
31:U:143:GLY:O	31:U:144:ARG:HG3	1.07	1.21
34:y:725:TRP:CE2	43:p:182:TRP:HD1	1.56	1.21
2:C:139:TYR:HE2	17:2:1374:A:N6	1.37	1.21
17:2:1142:C:P	49:b:89:ARG:NH2	2.11	1.21
38:t:388:LEU:N	47:Q:426:LYS:HE2	1.54	1.21
43:p:218:ARG:HH11	44:z:2:LYS:CD	1.49	1.21
17:2:754:C:C6	17:2:783:G:O6	1.93	1.21
17:2:1739:G:N2	17:2:1784:A:C6	2.09	1.21
35:q:336:MET:HE2	47:Q:418:TYR:CZ	1.74	1.21
35:q:347:GLN:HG2	50:k:842:LEU:CD1	1.69	1.21
2:C:205:ARG:CD	2:C:207:PRO:HG3	1.70	1.21
5:I:232:ARG:CD	17:2:781:C:H5	1.54	1.21
17:2:699:G:O6	17:2:718:C:O2	1.57	1.21
17:2:1518:C:H4'	31:U:144:ARG:CA	1.70	1.21
17:2:1519:G:P	31:U:144:ARG:HB3	1.80	1.21
38:t:342:TYR:CZ	47:Q:437:MET:CE	2.24	1.21
40:1:17:C:O3'	40:1:18:G:P	1.99	1.21
17:2:524:G:N1	17:2:540:C:N3	1.89	1.21
17:2:1739:G:N2	17:2:1783:G:N3	1.89	1.21
41:A:229:LEU:CG	42:B:284:VAL:HG21	1.68	1.21
15:c:72:ARG:NE	17:2:1116:U:OP2	1.73	1.20
15:c:75:GLU:CD	50:k:369:ALA:HB3	1.66	1.20
17:2:1244:I2T:C5	40:1:34:C:C5'	2.18	1.20
17:2:1573:U:O4	18:F:3:VAL:HG11	1.35	1.20
17:2:1855:G:C4	49:b:1:MET:CE	2.22	1.20
17:2:1083:A:N6	49:b:1:MET:CE	2.05	1.20
34:y:241:ILE:CG2	34:y:282:VAL:CG2	2.17	1.20
38:t:342:TYR:OH	47:Q:437:MET:HE2	1.35	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:c:61:THR:OG1	50:k:319:ARG:NH2	1.74	1.20
17:2:524:G:C6	17:2:540:C:N4	2.08	1.20
46:0:126:ILE:O	49:b:57:SER:HA	1.05	1.20
34:y:201:LEU:HD21	34:y:255:ASP:OD2	1.39	1.19
15:c:75:GLU:CB	50:k:369:ALA:HB2	1.71	1.19
17:2:1102:C:C2'	17:2:1103:G:H5'	1.71	1.19
34:y:104:ALA:CB	34:y:149:TRP:NE1	1.87	1.19
5:I:70:HIS:CE1	5:I:101:ILE:HG22	1.71	1.19
17:2:1707:A:C2	17:2:1708:C:C2	2.30	1.19
43:p:592:ARG:HH22	44:z:342:HIS:CG	1.60	1.19
17:2:1743:G:O6	17:2:1780:U:N3	1.73	1.19
34:y:184:PHE:CE1	34:y:188:TYR:CD2	2.30	1.19
41:A:227:ILE:HD11	41:A:237:MET:HE2	1.25	1.19
17:2:230:C:H2'	17:2:891:G:C2	1.77	1.19
17:2:759:A:C4	17:2:777:C:O2	1.96	1.19
22:S:146:ARG:CZ	40:1:33:C:C6	2.26	1.19
34:y:331:ILE:HG22	34:y:430:GLN:NE2	1.56	1.19
34:y:465:PHE:CZ	50:k:788:ASP:HB3	1.78	1.19
43:p:682:ARG:NH1	44:z:248:LEU:CD1	2.05	1.19
2:C:205:ARG:CG	2:C:210:ILE:HD12	1.73	1.18
12:Y:82:GLN:CG	17:2:800:U:OP1	1.91	1.18
17:2:759:A:C2	17:2:777:C:O2	1.95	1.18
17:2:1244:I2T:C6	40:1:34:C:O4'	1.92	1.18
33:D:27:PRO:HG3	47:Q:226:GLN:CG	1.72	1.18
34:y:398:PHE:CE2	34:y:512:GLN:OE1	1.96	1.18
38:t:399:LEU:CB	47:Q:396:ARG:HH22	1.55	1.18
5:I:70:HIS:HE1	5:I:101:ILE:CB	1.25	1.18
17:2:752:C:C4	17:2:753:C:C5	2.31	1.18
17:2:1195:A:N1	17:2:1196:A:C2	2.11	1.18
17:2:1739:G:N2	17:2:1783:G:C4	2.11	1.18
34:y:175:HIS:HD1	34:y:231:GLU:CD	1.50	1.18
41:A:235:TYR:CD1	42:B:285:ASP:OD2	1.92	1.18
14:a:104:ARG:HH22	14:a:108:LYS:NZ	1.37	1.18
17:2:224:U:O4	17:2:883:U:O5'	1.59	1.18
20:M:98:ARG:NH2	48:j:292:ASP:O	1.77	1.18
47:Q:366:GLN:NE2	50:k:813:SER:CB	2.06	1.18
9:N:42:LEU:N	17:2:282:G:H1'	1.55	1.18
15:c:53:VAL:HG21	50:k:320:GLY:O	1.31	1.18
17:2:757:C:C5	17:2:780:G:C6	2.32	1.18
17:2:1203:G:C5	17:2:1831:G:C6	2.30	1.18
33:D:25:TRP:CZ2	47:Q:234:TRP:CE3	2.29	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:714:TYR:OH	43:p:190:PHE:CD2	1.97	1.18
17:2:523:A:N1	17:2:540:C:N4	1.89	1.17
17:2:958:A:H2'	41:A:53:ARG:O	1.02	1.17
17:2:1106:G:N2	23:T:126:MET:HE3	1.57	1.17
34:y:338:ILE:HD11	50:k:724:LYS:HE2	1.22	1.17
8:L:179:LYS:O	51:h:511:GLU:CB	1.92	1.17
17:2:524:G:C2	17:2:540:C:N3	2.12	1.17
17:2:1105:C:C5	23:T:122:PRO:HB2	1.25	1.17
17:2:1116:U:H2'	17:2:1117:G:C5'	1.73	1.17
17:2:1739:G:N1	17:2:1783:G:C6	2.11	1.17
34:y:283:PHE:CE1	34:y:287:GLY:HA3	1.78	1.17
36:r:254:SER:CB	50:k:834:LEU:HB3	1.64	1.17
14:a:12:PHE:CE1	17:2:836:C:O2'	1.94	1.17
15:c:61:THR:CG2	50:k:319:ARG:HH21	1.57	1.17
33:D:34:PHE:CE2	47:Q:266:MET:SD	2.36	1.17
51:h:965:LEU:N	51:h:1278:ARG:O	1.76	1.17
7:K:193:LYS:NZ	9:N:32:LYS:HZ1	1.40	1.17
17:2:1739:G:C2	17:2:1784:A:N6	2.13	1.17
40:1:18:G:H4'	40:1:61:C:OP1	1.43	1.17
41:A:49:SER:CB	46:0:66:ARG:NH2	2.07	1.17
15:c:75:GLU:OE2	50:k:369:ALA:CB	1.92	1.16
17:2:231:C:C6	17:2:891:G:C2	2.31	1.16
34:y:230:LEU:HD11	34:y:271:LEU:HB3	1.26	1.16
34:y:725:TRP:CZ2	43:p:184:ILE:CG2	2.24	1.16
38:t:403:LYS:HD3	47:Q:396:ARG:HH21	1.04	1.16
17:2:539:C:OP1	43:p:440:THR:OG1	1.62	1.16
17:2:1102:C:H2'	17:2:1103:G:H5'	1.26	1.16
34:y:245:LEU:HB3	34:y:248:GLU:CD	1.70	1.16
34:y:692:GLU:CA	43:p:589:PHE:CZ	1.89	1.16
34:y:725:TRP:CH2	43:p:182:TRP:NE1	1.93	1.16
17:2:710:C:C5	43:p:627:LEU:CG	2.28	1.16
34:y:291:PHE:CE1	34:y:359:LEU:HD13	1.81	1.16
17:2:759:A:N7	17:2:778:C:C2	2.14	1.16
51:h:951:THR:O	51:h:952:LYS:N	1.77	1.16
22:S:146:ARG:NH2	40:1:35:A:OP2	1.78	1.15
36:r:261:ASN:HD22	50:k:838:LEU:CD1	1.58	1.15
41:A:157:VAL:CG1	41:A:180:ILE:HG21	1.76	1.15
17:2:697:U:O4	17:2:720:C:N4	1.79	1.15
34:y:338:ILE:HG13	50:k:724:LYS:HD3	1.22	1.15
17:2:657:U:C4'	49:b:1:MET:HB2	1.74	1.15
26:d:35:MET:HA	33:D:426:LYS:HE2	1.28	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:D:25:TRP:O	47:Q:187:TRP:CD1	1.98	1.15
34:y:469:ARG:HG3	50:k:789:MET:HE3	1.27	1.15
47:Q:431:ARG:HD3	50:k:850:GLU:OE2	1.43	1.15
2:C:102:ARG:CZ	17:2:1373:U:C4	2.29	1.15
17:2:10:G:C5	17:2:1692:A:C2	2.33	1.15
17:2:731:A:H2'	17:2:732:C:C6	1.81	1.15
17:2:1744:G:N2	17:2:1780:U:H1'	1.62	1.15
34:y:8:PRO:CB	34:y:39:LYS:HD2	1.74	1.15
34:y:306:MET:O	34:y:310:LEU:HB3	1.46	1.15
34:y:725:TRP:CE2	43:p:182:TRP:CD1	2.32	1.15
41:A:157:VAL:HG11	41:A:180:ILE:HG21	1.26	1.15
46:0:125:LYS:HA	49:b:56:VAL:CG1	1.77	1.15
33:D:16:PRO:HG2	47:Q:28:ALA:CB	1.70	1.15
34:y:175:HIS:CA	34:y:231:GLU:OE2	1.95	1.15
41:A:227:ILE:CD1	41:A:237:MET:HE2	1.76	1.15
43:p:584:TYR:OH	44:z:324:LYS:CE	1.95	1.15
17:2:750:G:N2	17:2:787:C:O2	1.79	1.14
19:H:37:ASP:OD2	33:D:418:GLY:N	1.80	1.14
36:r:276:GLN:HE21	50:k:855:HIS:C	1.54	1.14
36:r:280:ARG:NH1	50:k:855:HIS:CB	2.09	1.14
7:K:193:LYS:NZ	9:N:32:LYS:NZ	1.93	1.14
17:2:230:C:C2'	17:2:891:G:H1	1.59	1.14
33:D:40:GLN:HG2	50:k:572:HIS:HD2	1.06	1.14
17:2:759:A:C5	17:2:777:C:O2	1.99	1.14
17:2:1195:A:O2'	17:2:1196:A:H5'	1.47	1.14
33:D:25:TRP:H	47:Q:184:SER:CA	1.61	1.14
34:y:276:TYR:OH	34:y:298:ARG:HG2	0.98	1.14
17:2:578:G:H2'	51:h:120:THR:CB	1.76	1.14
17:2:1738:G:N2	17:2:1784:A:N6	1.95	1.14
50:k:858:GLY:O	50:k:861:GLY:CA	1.95	1.14
5:I:233:ARG:NE	17:2:781:C:P	2.20	1.14
17:2:1142:C:OP1	49:b:89:ARG:NH2	1.77	1.14
34:y:710:ILE:CD1	43:p:196:LEU:HD13	1.78	1.14
17:2:703:C:OP1	34:y:687:ARG:CD	1.96	1.13
17:2:959:A:C5'	41:A:53:ARG:CD	1.81	1.13
17:2:1195:A:C4	17:2:1196:A:C8	2.36	1.13
17:2:1244:I2T:C1'	40:1:34:C:C4'	2.26	1.13
33:D:16:PRO:CB	47:Q:28:ALA:CB	2.20	1.13
17:2:232:A:N1	17:2:889:U:C2	2.14	1.13
34:y:17:GLU:O	45:x:190:PRO:HG3	1.46	1.13
34:y:113:LEU:HD11	34:y:138:GLN:HB2	1.19	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:342:LEU:CD2	50:k:724:LYS:HZ2	1.50	1.13
51:h:952:LYS:C	51:h:967:GLU:CB	2.19	1.13
2:C:214:GLU:OE1	23:T:81:ARG:NH2	1.82	1.13
16:i:82:ARG:HH22	16:i:84:GLY:C	1.54	1.13
17:2:230:C:H2'	17:2:891:G:N2	1.64	1.13
17:2:230:C:C2'	17:2:891:G:H22	1.61	1.13
33:D:25:TRP:CZ3	47:Q:209:LEU:CD2	2.31	1.13
33:D:39:TYR:CE2	47:Q:221:PRO:CB	2.31	1.13
43:p:682:ARG:CD	44:z:248:LEU:HD13	1.77	1.13
17:2:1195:A:O2'	17:2:1196:A:C5'	1.96	1.13
17:2:1738:G:N2	17:2:1784:A:C6	2.16	1.13
26:d:53:GLY:CA	33:D:416:GLN:OE1	1.96	1.13
33:D:13:PHE:CE1	47:Q:43:LEU:HD13	1.71	1.13
36:r:272:GLN:CG	50:k:852:VAL:HG11	1.78	1.13
38:t:357:TYR:OH	47:Q:437:MET:HE1	1.47	1.13
2:C:85:ARG:NH1	23:T:85:VAL:CG1	1.98	1.13
17:2:279:G:O6	17:2:286:C:N4	1.81	1.12
34:y:277:ASN:N	34:y:299:LEU:HD11	1.63	1.13
43:p:682:ARG:CZ	44:z:248:LEU:CD1	2.25	1.13
17:2:1083:A:H62	49:b:1:MET:CG	1.56	1.12
10:P:22:VAL:HG12	10:P:26:LEU:HG	1.32	1.12
17:2:231:C:C5	17:2:891:G:C6	2.38	1.12
22:S:146:ARG:CZ	40:1:33:C:C5	2.32	1.12
33:D:18:ILE:HG23	47:Q:31:LEU:O	1.49	1.12
34:y:105:LYS:HG3	34:y:146:LEU:HD22	1.31	1.12
34:y:469:ARG:CG	50:k:789:MET:HE3	1.79	1.12
34:y:725:TRP:CZ3	43:p:184:ILE:CG2	2.33	1.12
46:0:125:LYS:C	49:b:56:VAL:HG12	1.75	1.12
2:C:213:GLU:CD	23:T:86:PRO:HG2	1.73	1.12
15:c:43:ILE:HD13	33:D:84:GLU:HG2	1.31	1.12
15:c:80:ARG:NH2	33:D:86:GLU:C	2.07	1.12
17:2:731:A:C2'	17:2:732:C:C6	2.33	1.12
17:2:1739:G:N3	17:2:1783:G:C2	2.17	1.12
33:D:12:LYS:HG2	47:Q:53:GLU:OE2	1.47	1.12
34:y:241:ILE:CG2	34:y:282:VAL:HG21	1.78	1.12
34:y:293:ALA:CA	34:y:328:SER:HB2	1.78	1.12
34:y:297:HIS:CE1	34:y:325:ALA:HB1	1.83	1.12
34:y:306:MET:O	34:y:310:LEU:CB	1.98	1.12
34:y:338:ILE:HG13	50:k:724:LYS:CD	1.80	1.12
34:y:700:ARG:NH2	43:p:206:ARG:NE	1.95	1.12
17:2:579:G:OP1	51:h:122:LYS:CB	0.82	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:757:C:H1'	17:2:779:C:O2'	1.30	1.12
22:S:146:ARG:NH1	40:1:33:C:O5'	1.83	1.12
34:y:241:ILE:HG21	34:y:282:VAL:HG23	1.22	1.12
15:c:43:ILE:HD11	33:D:84:GLU:HG3	1.31	1.11
33:D:91:LEU:HB2	50:k:640:GLU:CB	1.80	1.11
41:A:185:THR:HB	41:A:187:GLN:HB2	1.28	1.11
2:C:85:ARG:HG3	23:T:82:ASP:CG	1.74	1.11
12:Y:122:GLY:N	17:2:800:U:O2'	1.80	1.11
17:2:13:C:H1'	17:2:1352:G:N2	1.64	1.11
17:2:1202:G:H1'	17:2:1828:A:N9	1.65	1.11
17:2:1706:U:H2'	17:2:1707:A:H8	1.03	1.11
17:2:1744:G:H22	17:2:1780:U:H1'	1.00	1.11
33:D:39:TYR:CD2	47:Q:221:PRO:HB2	1.84	1.11
35:q:347:GLN:HG3	50:k:842:LEU:CD2	1.79	1.11
41:A:58:SER:CB	41:A:61:LYS:HG2	1.81	1.11
43:p:579:LYS:CB	51:h:747:THR:O	1.98	1.11
47:Q:431:ARG:CB	50:k:850:GLU:OE1	1.96	1.11
2:C:85:ARG:HE	23:T:82:ASP:CA	1.62	1.11
15:c:33:MET:HE1	15:c:73:LEU:HD11	1.29	1.11
17:2:958:A:N3	41:A:54:ARG:HA	1.66	1.11
26:d:35:MET:HA	33:D:426:LYS:CE	1.80	1.11
34:y:21:VAL:HG13	45:x:187:LYS:HG2	1.25	1.11
34:y:100:LYS:O	34:y:149:TRP:NE1	1.83	1.11
34:y:283:PHE:HE1	34:y:287:GLY:CA	1.62	1.11
46:0:125:LYS:CA	49:b:56:VAL:HG13	1.80	1.11
13:Z:60:LYS:NZ	17:2:1817:A:OP1	1.84	1.11
15:c:59:CYS:SG	50:k:432:GLU:OE2	2.09	1.11
17:2:959:A:C3'	41:A:53:ARG:HD2	1.72	1.11
17:2:1743:G:C2	17:2:1781:G:C2	2.39	1.11
34:y:293:ALA:HB2	34:y:328:SER:HB2	1.21	1.11
45:x:40:ASN:ND2	45:x:75:GLN:NE2	1.99	1.11
17:2:128:U:C2	17:2:212:G:N7	2.17	1.11
17:2:524:G:N2	17:2:540:C:O2	1.84	1.11
17:2:759:A:C6	17:2:777:C:O2	1.99	1.11
17:2:1106:G:H22	23:T:126:MET:HE3	0.96	1.11
33:D:16:PRO:CG	47:Q:28:ALA:HB3	1.70	1.11
33:D:16:PRO:HB3	47:Q:25:THR:HA	1.32	1.11
34:y:344:MET:HA	34:y:345:ASP:HB3	1.31	1.11
34:y:475:ALA:O	50:k:777:VAL:CG1	1.97	1.11
40:1:17:C:N4	40:1:60:A:N3	1.99	1.11
2:C:205:ARG:HG3	2:C:210:ILE:CD1	1.81	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:232:A:C8	17:2:890:G:C2	2.38	1.10
17:2:1244:I2T:C6	40:1:34:C:C4'	2.29	1.10
34:y:725:TRP:CH2	43:p:184:ILE:CG2	2.34	1.10
36:r:272:GLN:NE2	50:k:852:VAL:HG13	1.57	1.10
43:p:216:GLY:N	44:z:323:GLU:OE1	1.84	1.10
17:2:231:C:H1'	17:2:891:G:N3	1.40	1.10
17:2:1707:A:C2	17:2:1708:C:N1	2.20	1.10
26:d:53:GLY:O	33:D:419:ALA:CB	1.99	1.10
34:y:208:ILE:CD1	34:y:262:LEU:HD23	1.78	1.10
41:A:157:VAL:HG21	41:A:180:ILE:CG2	1.80	1.10
5:I:232:ARG:CD	17:2:781:C:C5	2.31	1.10
17:2:10:G:N7	17:2:1692:A:C2	2.19	1.10
17:2:958:A:H2'	41:A:53:ARG:C	1.77	1.10
34:y:297:HIS:HE1	34:y:325:ALA:HB1	1.08	1.10
17:2:113:G:C6	17:2:280:G:N2	2.18	1.10
17:2:229:A:P	17:2:886:U:H1'	1.88	1.10
34:y:284:TRP:HA	34:y:292:HIS:CG	1.86	1.10
36:r:254:SER:HB2	50:k:834:LEU:HD12	1.10	1.10
2:C:210:ILE:HG23	23:T:81:ARG:NH1	0.83	1.10
17:2:133:C:N4	17:2:137:U:N3	1.99	1.10
19:H:16:ASP:OD2	33:D:204:LYS:CE	1.99	1.10
34:y:246:TRP:NE1	50:k:707:GLY:HA2	1.65	1.10
34:y:330:PRO:HB2	34:y:431:LEU:HD11	1.16	1.10
40:1:18:G:H1'	40:1:61:C:H5'	1.24	1.10
41:A:229:LEU:HD22	42:B:284:VAL:HG23	1.24	1.10
43:p:227:LYS:CE	44:z:335:LYS:HD2	1.82	1.10
17:2:1244:I2T:O4	40:1:34:C:H5'	1.52	1.09
17:2:1739:G:N2	17:2:1783:G:C2	2.16	1.09
36:r:254:SER:CB	50:k:834:LEU:HB2	1.78	1.09
46:0:126:ILE:O	49:b:57:SER:CA	2.00	1.09
47:Q:431:ARG:HD3	50:k:850:GLU:OE1	1.51	1.09
5:I:70:HIS:ND1	5:I:101:ILE:HB	1.68	1.09
12:Y:82:GLN:HG2	17:2:800:U:OP1	1.44	1.09
20:M:98:ARG:HD2	48:j:263:GLY:HA3	1.11	1.09
34:y:327:LEU:HD23	34:y:424:LEU:HA	1.10	1.09
34:y:385:PRO:HB3	34:y:388:LYS:HD3	1.28	1.09
34:y:476:ARG:CA	50:k:777:VAL:HG21	1.82	1.09
34:y:707:ILE:HG21	43:p:200:LEU:HD13	1.32	1.09
38:t:474:LYS:NZ	47:Q:385:GLU:OE1	1.84	1.09
45:x:40:ASN:HD22	45:x:75:GLN:NE2	1.50	1.09
51:h:965:LEU:CB	51:h:1278:ARG:O	1.99	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:D:24:GLY:HA3	47:Q:184:SER:OG	0.93	1.09
34:y:469:ARG:CD	50:k:789:MET:HE3	1.82	1.09
43:p:227:LYS:HD2	44:z:335:LYS:HB3	1.21	1.09
17:2:759:A:C5	17:2:778:C:C1'	2.19	1.09
17:2:1203:G:C8	17:2:1831:G:C2	2.41	1.09
34:y:241:ILE:HG21	34:y:282:VAL:HG21	1.11	1.09
35:q:347:GLN:HG3	50:k:842:LEU:HD22	1.17	1.09
36:r:276:GLN:NE2	50:k:856:LYS:HA	1.67	1.09
17:2:226:A:N7	17:2:884:U:H1'	1.68	1.09
17:2:760:U:H1'	17:2:777:C:H1'	1.27	1.09
18:F:3:VAL:HG22	18:F:4:GLN:H	1.15	1.09
20:M:98:ARG:NE	48:j:292:ASP:CB	2.16	1.09
34:y:150:VAL:CG1	34:y:188:TYR:CD1	2.35	1.09
41:A:235:TYR:CE1	42:B:285:ASP:CG	2.29	1.09
9:N:68:ILE:O	17:2:282:G:N2	1.86	1.08
17:2:128:U:N1	17:2:212:G:C8	2.18	1.08
17:2:130:G:OP1	17:2:184:G:O6	1.71	1.08
26:d:63:ARG:NH1	46:0:71:PRO:HG2	1.68	1.08
34:y:208:ILE:HD11	34:y:262:LEU:HD22	1.12	1.08
34:y:300:TYR:HA	34:y:321:ARG:NH1	1.68	1.08
34:y:476:ARG:HA	50:k:777:VAL:CG2	1.83	1.08
2:C:210:ILE:CD1	23:T:81:ARG:CD	2.18	1.08
17:2:127:C:C3'	17:2:129:C:C5	2.36	1.08
33:D:13:PHE:CE2	47:Q:40:LEU:CD2	2.36	1.08
33:D:25:TRP:CE2	47:Q:234:TRP:CZ3	2.41	1.08
34:y:320:THR:HA	34:y:323:LEU:HD23	1.09	1.08
34:y:475:ALA:O	50:k:777:VAL:HG11	1.53	1.08
31:U:143:GLY:C	31:U:144:ARG:HD2	1.79	1.08
34:y:725:TRP:CD2	43:p:184:ILE:HG21	1.80	1.08
7:K:193:LYS:HZ3	9:N:32:LYS:NZ	1.45	1.08
17:2:128:U:H1'	17:2:212:G:C8	1.88	1.08
17:2:710:C:P	43:p:627:LEU:HD23	1.94	1.08
17:2:1203:G:N7	17:2:1831:G:N1	2.02	1.08
34:y:291:PHE:HZ	34:y:356:ALA:HA	1.15	1.08
41:A:157:VAL:HG11	41:A:180:ILE:CG2	1.83	1.08
51:h:952:LYS:CA	51:h:967:GLU:CB	2.31	1.08
34:y:276:TYR:CZ	34:y:298:ARG:CG	2.35	1.08
5:I:233:ARG:HD3	17:2:781:C:OP2	1.32	1.07
12:Y:81:VAL:O	17:2:800:U:C5'	2.01	1.07
20:M:98:ARG:CD	48:j:263:GLY:CA	2.27	1.07
34:y:283:PHE:HE1	34:y:287:GLY:HA3	1.12	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:342:TYR:CE2	47:Q:437:MET:HE3	1.88	1.07
17:2:754:C:C2	17:2:783:G:C5	2.41	1.07
17:2:1203:G:N1	17:2:1831:G:C5	2.21	1.07
33:D:40:GLN:HG2	50:k:572:HIS:CD2	1.88	1.07
34:y:21:VAL:HG22	45:x:187:LYS:HA	1.34	1.07
34:y:728:GLN:NE2	43:p:314:THR:HG22	1.66	1.07
2:C:89:LYS:HE2	23:T:82:ASP:O	1.25	1.07
2:C:205:ARG:CG	2:C:210:ILE:CD1	2.33	1.07
14:a:104:ARG:HH21	14:a:108:LYS:CE	1.66	1.07
15:c:75:GLU:CG	50:k:369:ALA:HB3	1.83	1.07
17:2:754:C:O2	17:2:783:G:C8	2.07	1.07
17:2:1114:C:N4	50:k:643:LYS:NZ	2.02	1.07
34:y:158:ARG:O	34:y:162:ASP:OD2	1.72	1.07
34:y:368:ILE:O	34:y:371:ILE:CG2	2.03	1.07
41:A:229:LEU:CB	42:B:284:VAL:HG21	1.85	1.07
6:J:103:LYS:HG2	17:2:678:U:C2	1.83	1.07
14:a:104:ARG:HH21	14:a:108:LYS:HE3	1.18	1.07
14:a:104:ARG:O	14:a:105:LYS:HB2	1.49	1.07
17:2:758:G:N7	17:2:779:C:N1	2.02	1.07
17:2:1706:U:H2'	17:2:1707:A:C8	1.90	1.07
17:2:1739:G:N3	17:2:1783:G:N2	2.02	1.07
17:2:1859:C:OP2	49:b:5:ARG:NH2	1.87	1.07
34:y:181:ALA:CB	34:y:196:LYS:HE2	1.85	1.07
34:y:277:ASN:CB	34:y:299:LEU:CD1	2.17	1.07
15:c:61:THR:HG21	50:k:319:ARG:HH21	1.18	1.07
17:2:710:C:C6	43:p:627:LEU:CG	2.37	1.07
17:2:1195:A:C2'	17:2:1196:A:O5'	1.78	1.07
17:2:1696:C:C4	40:1:34:C:C4	2.43	1.07
33:D:13:PHE:CE1	47:Q:43:LEU:HD12	1.87	1.07
2:C:201:LEU:HD12	23:T:83:ASN:CA	1.84	1.06
15:c:75:GLU:CB	50:k:369:ALA:HB3	1.75	1.06
17:2:1695:C:O2	17:2:1697:G:C6	2.08	1.06
32:R:133:ILE:HG23	32:R:134:GLY:H	0.95	1.06
33:D:78:TYR:O	50:k:573:LEU:HD21	1.55	1.06
36:r:280:ARG:HH11	50:k:855:HIS:CA	1.55	1.06
43:p:218:ARG:HH11	44:z:2:LYS:CE	1.65	1.06
17:2:1203:G:C5	17:2:1831:G:N1	2.23	1.06
19:H:204:ARG:O	46:0:72:TYR:CD1	2.08	1.06
34:y:79:GLN:O	34:y:81:VAL:N	1.89	1.06
34:y:338:ILE:CG1	50:k:724:LYS:HD3	1.83	1.06
34:y:692:GLU:CB	43:p:589:PHE:CZ	2.37	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:h:910:GLN:CB	51:h:1167:ASN:CB	2.32	1.06
17:2:279:G:N2	17:2:286:C:O2	1.87	1.06
17:2:523:A:C2	17:2:540:C:N4	2.23	1.06
33:D:13:PHE:CD1	47:Q:43:LEU:HD13	1.90	1.06
33:D:51:VAL:HG23	50:k:614:ASP:HB2	1.32	1.06
34:y:205:LEU:HD12	34:y:209:GLN:HG2	1.08	1.06
34:y:333:PRO:HG3	34:y:437:LEU:HD23	1.34	1.06
35:q:336:MET:CG	47:Q:418:TYR:OH	2.03	1.06
17:2:230:C:H1'	17:2:892:U:O2	1.54	1.06
17:2:703:C:P	34:y:687:ARG:HD2	1.96	1.06
17:2:1518:C:OP1	31:U:143:GLY:CA	2.04	1.06
33:D:25:TRP:H	47:Q:184:SER:HA	0.89	1.06
34:y:159:GLN:HG3	34:y:163:LEU:HD22	1.36	1.06
34:y:246:TRP:HD1	50:k:707:GLY:N	1.54	1.06
34:y:291:PHE:CD1	34:y:359:LEU:HD22	1.90	1.06
34:y:300:TYR:HA	34:y:321:ARG:HH11	1.07	1.06
36:r:254:SER:CB	50:k:834:LEU:CG	2.28	1.06
6:J:103:LYS:CG	17:2:678:U:O2	1.98	1.05
17:2:13:C:C1'	17:2:1352:G:H21	1.69	1.05
17:2:231:C:C6	17:2:891:G:C6	2.43	1.05
17:2:1855:G:N9	49:b:1:MET:HE1	1.71	1.05
33:D:16:PRO:HB2	47:Q:28:ALA:CB	1.83	1.05
34:y:205:LEU:O	34:y:209:GLN:CG	2.03	1.05
17:2:710:C:C4	43:p:628:LYS:NZ	2.23	1.05
17:2:1114:C:C4	50:k:643:LYS:NZ	2.24	1.05
17:2:1115:A:H5'	17:2:1116:U:C4	1.91	1.05
33:D:80:TYR:CE1	50:k:542:ARG:HB2	1.91	1.05
34:y:21:VAL:CG2	45:x:187:LYS:HA	1.87	1.05
34:y:390:LEU:HD21	34:y:410:VAL:HB	1.10	1.05
38:t:481:LEU:HD22	47:Q:393:ARG:NH2	1.67	1.05
41:A:157:VAL:HG21	41:A:180:ILE:HG22	1.39	1.05
2:C:139:TYR:CE2	17:2:1374:A:N6	2.23	1.05
17:2:759:A:C8	17:2:778:C:H1'	1.91	1.05
19:H:16:ASP:OD2	33:D:204:LYS:HE3	1.54	1.05
20:M:98:ARG:HB3	48:j:264:SER:N	1.71	1.05
33:D:36:ASP:CB	50:k:536:ALA:HB2	1.87	1.05
41:A:235:TYR:CD1	42:B:285:ASP:CB	2.39	1.05
46:0:125:LYS:CA	49:b:56:VAL:CG1	2.35	1.05
17:2:1195:A:C2	17:2:1196:A:N3	2.24	1.05
41:A:170:GLU:O	41:A:172:GLU:N	1.90	1.05
43:p:218:ARG:HD3	44:z:2:LYS:HZ3	1.17	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:682:ARG:NE	44:z:248:LEU:HD13	1.72	1.05
15:c:80:ARG:HH22	33:D:86:GLU:C	1.65	1.05
19:H:198:ARG:HD3	41:A:84:ASP:OD1	1.57	1.05
43:p:675:LYS:HZ1	44:z:166:LYS:HD2	1.22	1.05
17:2:1195:A:C5	17:2:1196:A:N7	2.25	1.04
19:H:61:PHE:CE1	33:D:415:SER:HB3	1.90	1.04
22:S:146:ARG:NH1	40:1:33:C:C6	2.24	1.04
34:y:331:ILE:CB	34:y:430:GLN:NE2	2.20	1.04
34:y:339:ALA:HB3	34:y:340:ARG:CZ	1.87	1.04
34:y:699:GLU:CD	43:p:565:THR:CG2	2.30	1.04
10:P:27:LYS:HZ2	10:P:28:LEU:HD23	1.17	1.04
17:2:759:A:N7	17:2:778:C:H1'	1.72	1.04
34:y:338:ILE:HD11	50:k:724:LYS:CE	1.86	1.04
34:y:699:GLU:CD	43:p:565:THR:HG21	1.81	1.04
34:y:725:TRP:CH2	43:p:184:ILE:HG22	1.92	1.04
36:r:272:GLN:HG3	50:k:852:VAL:HG11	1.37	1.04
16:i:82:ARG:NH2	16:i:84:GLY:C	2.15	1.04
17:2:128:U:H4'	17:2:212:G:P	1.98	1.04
17:2:228:A:N6	17:2:884:U:O4	1.90	1.04
17:2:232:A:C2	17:2:889:U:O2	2.08	1.04
17:2:731:A:H2'	17:2:732:C:C5	1.91	1.04
17:2:754:C:C5	17:2:783:G:O6	2.09	1.04
34:y:293:ALA:HB2	34:y:328:SER:CB	1.87	1.04
47:Q:358:PHE:CE1	47:Q:373:LEU:HD21	1.91	1.04
2:C:205:ARG:HG2	2:C:210:ILE:HD12	1.36	1.04
17:2:11:A:C2	17:2:1197:U:O2	2.10	1.04
17:2:1695:C:N3	17:2:1697:G:C2	2.26	1.04
33:D:16:PRO:CG	47:Q:28:ALA:HB2	1.80	1.04
33:D:16:PRO:HG3	47:Q:28:ALA:HB2	1.33	1.04
17:2:224:U:C4	17:2:883:U:O5'	2.10	1.04
26:d:62:GLU:O	46:0:75:MET:HE1	1.55	1.04
33:D:54:TRP:HZ2	50:k:585:GLN:CB	1.59	1.04
34:y:175:HIS:HE1	34:y:228:MET:HA	1.13	1.04
6:J:106:ARG:NH2	17:2:794:G:O2'	1.90	1.03
34:y:300:TYR:CA	34:y:321:ARG:HH11	1.70	1.03
38:t:349:MET:HE2	47:Q:444:ASN:HD21	0.89	1.03
34:y:205:LEU:CD1	34:y:209:GLN:HG2	1.87	1.03
34:y:208:ILE:HD11	34:y:262:LEU:HD21	1.07	1.03
34:y:208:ILE:HD13	34:y:262:LEU:HD23	1.32	1.03
34:y:340:ARG:N	34:y:340:ARG:HD3	1.64	1.03
38:t:463:PHE:HE1	47:Q:393:ARG:HG3	1.17	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:754:C:C6	17:2:783:G:C6	2.45	1.03
17:2:776:U:O4	17:2:777:C:C4	2.12	1.03
17:2:1116:U:H2'	17:2:1117:G:H5"	1.05	1.03
33:D:25:TRP:N	47:Q:184:SER:HA	1.73	1.03
34:y:276:TYR:CE2	34:y:298:ARG:HG3	1.94	1.03
43:p:671:TYR:HD2	43:p:677:GLU:O	1.40	1.03
51:h:952:LYS:HA	51:h:967:GLU:CB	1.89	1.03
17:2:657:U:H4'	49:b:1:MET:HB2	1.06	1.03
17:2:1203:G:C2	17:2:1831:G:C4	2.46	1.03
20:M:96:ARG:HG2	48:j:292:ASP:CB	1.88	1.03
22:S:145:TYR:O	22:S:146:ARG:HG2	1.56	1.03
34:y:246:TRP:CD1	50:k:707:GLY:HA2	1.93	1.03
41:A:49:SER:C	46:0:66:ARG:HH22	1.64	1.03
46:0:125:LYS:HA	49:b:56:VAL:HG13	1.04	1.03
6:J:122:LEU:H	17:2:678:U:H5'	1.22	1.03
17:2:1739:G:N2	17:2:1784:A:N6	2.06	1.03
34:y:246:TRP:HD1	50:k:707:GLY:CA	1.42	1.03
34:y:284:TRP:HA	34:y:292:HIS:CD2	1.93	1.03
34:y:346:GLY:HA2	34:y:347:ILE:HG13	1.39	1.03
41:A:49:SER:CA	46:0:66:ARG:HH22	1.71	1.03
9:N:42:LEU:N	17:2:282:G:C1'	2.22	1.02
12:Y:122:GLY:HA3	17:2:800:U:H4'	1.39	1.02
17:2:230:C:C2'	17:2:891:G:N1	2.20	1.02
26:d:7:GLN:OE1	26:d:8:PRO:CD	2.07	1.02
33:D:27:PRO:CG	47:Q:226:GLN:CG	2.33	1.02
34:y:78:CYS:SG	34:y:86:LEU:HD11	1.99	1.02
34:y:175:HIS:NE2	34:y:228:MET:SD	2.31	1.02
47:Q:361:PHE:CZ	50:k:816:GLN:CD	2.36	1.02
6:J:103:LYS:NZ	17:2:679:U:H5	1.19	1.02
17:2:752:C:C2	17:2:753:C:C5	2.47	1.02
34:y:277:ASN:HA	34:y:299:LEU:HD12	1.04	1.02
35:q:347:GLN:HG2	50:k:842:LEU:HD13	1.05	1.02
36:r:280:ARG:NH1	50:k:855:HIS:CD2	2.27	1.02
2:C:89:LYS:NZ	23:T:82:ASP:O	1.93	1.02
17:2:759:A:N7	17:2:778:C:C1'	2.21	1.02
17:2:1195:A:N1	17:2:1196:A:C4	2.27	1.02
17:2:1244:I2T:C4	40:1:34:C:C5'	2.33	1.02
17:2:1244:I2T:O4'	40:1:34:C:H4'	1.60	1.02
33:D:16:PRO:HG2	47:Q:28:ALA:HB1	1.38	1.02
34:y:291:PHE:CZ	34:y:356:ALA:HA	1.94	1.02
35:q:347:GLN:CG	50:k:842:LEU:CD2	2.34	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:547:ILE:HD11	47:Q:443:LEU:HD21	1.06	1.02
2:C:20:ALA:HB1	23:T:92:ASP:HB2	1.02	1.02
17:2:128:U:O2	17:2:212:G:N7	1.90	1.02
17:2:710:C:N3	43:p:628:LYS:NZ	2.06	1.02
17:2:776:U:N3	17:2:777:C:N1	2.07	1.02
17:2:1518:C:H5'	31:U:144:ARG:HG3	1.36	1.02
19:H:204:ARG:O	46:0:72:TYR:CE1	2.12	1.02
34:y:710:ILE:HD13	43:p:196:LEU:HD13	1.39	1.02
44:z:40:LEU:HD21	51:h:587:ARG:CB	1.90	1.02
2:C:89:LYS:HE3	23:T:83:ASN:HA	1.41	1.01
14:a:104:ARG:HH22	14:a:108:LYS:HZ1	1.07	1.01
15:c:61:THR:CB	50:k:319:ARG:HH21	1.72	1.01
15:c:75:GLU:HB3	50:k:369:ALA:HB2	1.30	1.01
17:2:710:C:H5'	17:2:711:U:H5	1.21	1.01
17:2:1052:U:H5"	41:A:54:ARG:HH22	1.22	1.01
17:2:1518:C:C5'	31:U:144:ARG:HA	1.90	1.01
34:y:104:ALA:HB2	34:y:149:TRP:CD1	1.64	1.01
17:2:758:G:C5	17:2:779:C:C6	2.23	1.01
17:2:1859:C:P	49:b:5:ARG:HH21	1.83	1.01
34:y:327:LEU:CD2	34:y:424:LEU:CA	2.27	1.01
47:Q:361:PHE:CE1	50:k:816:GLN:NE2	2.29	1.01
17:2:127:C:H3'	17:2:129:C:H5	0.84	1.01
17:2:127:C:C3'	17:2:129:C:H5	1.69	1.01
17:2:1105:C:O2'	23:T:121:GLN:NE2	1.94	1.01
34:y:175:HIS:CE1	34:y:228:MET:HA	1.95	1.01
34:y:181:ALA:HB2	34:y:196:LYS:NZ	1.74	1.01
34:y:230:LEU:CD1	34:y:271:LEU:CD2	2.38	1.01
34:y:320:THR:HG23	34:y:421:GLU:CG	1.89	1.01
34:y:331:ILE:CG2	34:y:430:GLN:NE2	0.86	1.01
34:y:367:ARG:HG2	34:y:368:ILE:H	1.23	1.01
17:2:1738:G:N1	17:2:1784:A:N6	1.99	1.01
33:D:80:TYR:HE1	50:k:542:ARG:HB2	1.22	1.01
34:y:293:ALA:CB	34:y:328:SER:CB	2.37	1.01
34:y:371:ILE:HA	34:y:374:MET:SD	2.01	1.01
34:y:485:ASP:HB2	50:k:780:SER:O	1.57	1.01
47:Q:361:PHE:CZ	50:k:816:GLN:NE2	2.28	1.01
17:2:958:A:H2	41:A:54:ARG:HB3	1.25	1.01
18:F:193:ASP:H	18:F:194:PRO:HD2	1.25	1.01
33:D:18:ILE:HG12	47:Q:28:ALA:O	1.61	1.01
34:y:150:VAL:HG11	34:y:188:TYR:CD1	1.96	1.01
34:y:710:ILE:HG23	43:p:196:LEU:CD1	1.69	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:760:U:H1'	17:2:777:C:C1'	1.91	1.00
17:2:1121:C:O4'	23:T:123:THR:CG2	2.09	1.00
17:2:1519:G:O2'	40:1:30:G:OP1	1.79	1.00
18:F:196:GLY:HA2	18:F:197:LYS:C	1.85	1.00
34:y:714:TYR:CB	43:p:193:LEU:HD21	1.90	1.00
17:2:796:U:N3	17:2:861:A:N1	2.08	1.00
17:2:1203:G:C2	17:2:1831:G:N9	2.29	1.00
41:A:229:LEU:HB2	42:B:284:VAL:HG11	1.43	1.00
2:C:201:LEU:HD12	23:T:83:ASN:HA	1.43	1.00
17:2:1203:G:C4	17:2:1831:G:C2	2.49	1.00
26:d:63:ARG:HH12	46:0:71:PRO:HG2	0.88	1.00
33:D:37:MET:SD	50:k:570:MET:SD	2.59	1.00
34:y:132:VAL:C	50:k:747:LEU:HD22	1.87	1.00
38:t:403:LYS:CD	47:Q:396:ARG:HH21	1.74	1.00
43:p:646:SER:CB	43:p:654:ARG:NH1	1.81	1.00
6:J:116:ARG:NH2	17:2:738:U:C4	2.28	1.00
17:2:755:C:N1	17:2:782:G:N7	2.08	1.00
17:2:958:A:C2	41:A:54:ARG:HB3	1.97	1.00
34:y:158:ARG:C	34:y:162:ASP:OD2	2.05	1.00
34:y:164:LEU:O	34:y:165:ARG:HG3	1.60	1.00
26:d:42:ILE:HG21	46:0:117:ARG:NH1	1.76	1.00
2:C:203:PHE:HE2	23:T:88:VAL:HG21	1.25	1.00
10:P:22:VAL:H	10:P:23:PRO:HA	1.23	1.00
34:y:221:ASN:HB3	34:y:224:GLU:OE2	1.61	1.00
34:y:327:LEU:HD23	34:y:424:LEU:CA	1.89	1.00
34:y:338:ILE:CD1	50:k:724:LYS:NZ	2.24	1.00
43:p:218:ARG:HD3	44:z:2:LYS:NZ	1.75	1.00
46:0:126:ILE:H	49:b:56:VAL:HG12	1.27	1.00
17:2:127:C:C1'	17:2:130:G:O6	1.96	0.99
17:2:1739:G:N1	17:2:1783:G:N1	2.07	0.99
34:y:703:ARG:CD	43:p:199:TRP:CE2	2.36	0.99
15:c:77:CYS:SG	33:D:91:LEU:HA	2.00	0.99
17:2:1203:G:C5	17:2:1831:G:C5	2.49	0.99
17:2:1203:G:C4	17:2:1831:G:N3	2.29	0.99
41:A:229:LEU:HD22	42:B:284:VAL:HG22	1.45	0.99
43:p:675:LYS:NZ	44:z:166:LYS:CD	2.25	0.99
47:Q:361:PHE:HE1	50:k:816:GLN:HE22	1.09	0.99
2:C:205:ARG:HD3	2:C:207:PRO:HG3	1.03	0.99
17:2:230:C:H2'	17:2:891:G:H1	1.04	0.99
17:2:731:A:C2'	17:2:732:C:H6	1.71	0.99
17:2:1518:C:O3'	31:U:144:ARG:HB3	1.62	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:476:ARG:HA	50:k:777:VAL:HG21	1.38	0.99
36:r:265:ARG:HH11	50:k:845:LEU:HD12	1.25	0.99
41:A:235:TYR:CE1	42:B:285:ASP:OD1	2.15	0.99
15:c:77:CYS:N	33:D:89:PHE:CE1	2.30	0.99
6:J:103:LYS:CG	17:2:678:U:C1'	2.39	0.99
6:J:118:ARG:CZ	17:2:677:C:C2	2.38	0.99
17:2:1121:C:O4'	23:T:123:THR:HG21	1.63	0.99
41:A:58:SER:HB3	41:A:61:LYS:CG	1.92	0.99
17:2:128:U:O3'	17:2:212:G:OP2	1.80	0.99
41:A:157:VAL:CG1	41:A:180:ILE:HD13	1.92	0.99
19:H:61:PHE:CE1	33:D:415:SER:CB	2.45	0.99
34:y:338:ILE:CG1	50:k:724:LYS:CD	2.40	0.99
2:C:102:ARG:NH2	17:2:1373:U:C4	2.31	0.99
5:I:232:ARG:HD2	17:2:781:C:H5	0.87	0.99
17:2:1518:C:H5'	31:U:143:GLY:O	1.62	0.99
18:F:2:ALA:HB1	18:F:3:VAL:HA	1.42	0.99
34:y:113:LEU:HD11	34:y:138:GLN:CB	1.93	0.99
17:2:754:C:O2	17:2:783:G:N7	1.95	0.99
41:A:58:SER:CB	41:A:61:LYS:CG	2.41	0.99
15:c:67:THR:HG22	50:k:322:LYS:HZ2	1.24	0.98
34:y:101:THR:HA	34:y:149:TRP:CG	1.98	0.98
41:A:205:ILE:HD12	42:B:288:LYS:HB2	1.44	0.98
47:Q:366:GLN:NE2	50:k:813:SER:HB3	1.77	0.98
14:a:12:PHE:CZ	17:2:836:C:O2'	2.15	0.98
17:2:1744:G:N1	17:2:1780:U:C2	2.31	0.98
38:t:388:LEU:HB2	47:Q:426:LYS:CE	1.93	0.98
43:p:679:LEU:HD21	44:z:209:THR:HG21	1.45	0.98
43:p:682:ARG:HD3	44:z:248:LEU:HD13	1.40	0.98
38:t:463:PHE:CE1	47:Q:393:ARG:HG3	1.93	0.98
17:2:230:C:C2'	17:2:891:G:N2	2.22	0.98
17:2:1105:C:N3	23:T:122:PRO:HB2	1.49	0.98
17:2:1244:I2T:C5	40:1:34:C:H4'	1.80	0.98
17:2:228:A:OP2	17:2:885:U:H2'	1.62	0.98
34:y:469:ARG:HG3	50:k:789:MET:CE	1.92	0.98
17:2:524:G:N1	17:2:540:C:C4	2.31	0.98
33:D:93:ASP:OD2	50:k:639:GLN:OE1	1.81	0.98
36:r:250:VAL:HB	50:k:831:GLN:CD	1.87	0.98
17:2:787:C:O3'	17:2:788:C:P	2.21	0.98
17:2:1203:G:C5	17:2:1831:G:C2	2.52	0.98
33:D:36:ASP:HB3	50:k:536:ALA:HB2	1.44	0.98
34:y:339:ALA:HB3	34:y:340:ARG:NH1	1.78	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:463:PHE:CE1	47:Q:393:ARG:CG	2.35	0.98
41:A:17:GLU:CD	46:0:63:LYS:NZ	2.21	0.98
17:2:12:U:C1'	17:2:1353:A:H1'	1.93	0.98
17:2:129:C:H3'	17:2:184:G:C6	1.99	0.98
17:2:710:C:O5'	43:p:627:LEU:HD23	1.61	0.98
33:D:13:PHE:HB2	47:Q:49:TYR:CG	1.99	0.98
17:2:278:U:N3	17:2:287:U:C2	2.31	0.97
17:2:1707:A:C6	17:2:1708:C:C4	2.50	0.97
20:M:96:ARG:NH2	48:j:289:ARG:CB	2.27	0.97
34:y:246:TRP:NE1	50:k:708:PRO:HD2	1.79	0.97
41:A:17:GLU:OE2	46:0:63:LYS:NZ	1.97	0.97
15:c:79:PHE:HB2	33:D:90:GLN:H	1.29	0.97
17:2:1195:A:N1	17:2:1196:A:N3	2.09	0.97
34:y:367:ARG:O	34:y:370:LEU:N	1.97	0.97
34:y:710:ILE:HG23	43:p:196:LEU:HD12	0.99	0.97
2:C:85:ARG:NE	23:T:82:ASP:CA	2.25	0.97
14:a:12:PHE:HE1	17:2:836:C:C2'	1.76	0.97
17:2:1202:G:H4'	17:2:1828:A:C6	1.98	0.97
26:d:7:GLN:OE1	26:d:8:PRO:HD2	1.62	0.97
38:t:547:ILE:CD1	47:Q:443:LEU:HD21	1.93	0.97
43:p:682:ARG:HH11	44:z:248:LEU:HA	1.28	0.97
2:C:102:ARG:NH2	17:2:1373:U:N3	2.12	0.97
17:2:1114:C:C2	33:D:93:ASP:OD1	2.17	0.97
17:2:1203:G:H2'	17:2:1831:G:H21	1.24	0.97
33:D:13:PHE:HE1	47:Q:43:LEU:HD11	1.28	0.97
38:t:388:LEU:HA	47:Q:426:LYS:HZ3	1.28	0.97
43:p:227:LYS:HD2	44:z:335:LYS:CB	1.94	0.97
17:2:745:U:OP2	17:2:746:C:OP2	1.80	0.97
33:D:18:ILE:HD13	47:Q:36:VAL:CG2	1.93	0.97
34:y:338:ILE:CG1	50:k:724:LYS:CE	2.42	0.97
34:y:383:VAL:HG13	34:y:388:LYS:HG2	1.46	0.97
34:y:714:TYR:HB2	43:p:193:LEU:HD21	1.46	0.97
41:A:235:TYR:CB	42:B:285:ASP:OD2	2.12	0.97
6:J:116:ARG:NH2	17:2:678:U:O4'	1.97	0.97
17:2:524:G:N2	17:2:540:C:C2	2.33	0.97
33:D:50:LYS:NZ	50:k:578:GLN:HE21	1.63	0.97
34:y:330:PRO:CB	34:y:431:LEU:HD11	1.79	0.97
41:A:55:ARG:HG2	41:A:55:ARG:HH11	1.29	0.97
10:P:20:ARG:CG	10:P:65:PHE:CE1	2.48	0.97
15:c:75:GLU:HB2	50:k:369:ALA:HB2	1.45	0.97
17:2:128:U:O2	17:2:212:G:C5	2.17	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1738:G:H1	17:2:1784:A:H62	1.05	0.97
34:y:710:ILE:CG1	43:p:613:THR:HG21	1.94	0.97
17:2:800:U:H2'	17:2:801:U:C5'	1.93	0.97
17:2:1520:C:H5'	40:1:30:G:H5"	1.42	0.97
20:M:98:ARG:HD2	48:j:263:GLY:CA	1.94	0.97
34:y:210:ARG:HG3	34:y:212:HIS:CE1	1.99	0.97
17:2:129:C:P	17:2:212:G:OP2	2.23	0.97
17:2:127:C:H1'	17:2:130:G:O6	1.65	0.96
17:2:580:A:H62	51:h:126:ASP:CB	1.75	0.96
17:2:776:U:C2	17:2:777:C:C6	2.51	0.96
19:H:198:ARG:CZ	41:A:45:MET:CG	2.43	0.96
34:y:390:LEU:HG	34:y:410:VAL:CG2	1.70	0.96
34:y:106:GLU:O	34:y:110:GLN:HG2	1.65	0.96
34:y:295:THR:OG1	34:y:359:LEU:HD21	1.65	0.96
38:t:388:LEU:N	47:Q:426:LYS:HZ3	1.53	0.96
2:C:206:ASP:HB3	2:C:209:GLU:OE2	1.65	0.96
14:a:123:ALA:O	14:a:127:ALA:N	1.98	0.96
15:c:77:CYS:SG	33:D:91:LEU:CB	2.53	0.96
17:2:1707:A:C2	17:2:1708:C:C6	2.53	0.96
26:d:63:ARG:NH1	46:0:71:PRO:CB	2.28	0.96
34:y:710:ILE:CG2	43:p:196:LEU:HD13	1.83	0.96
2:C:41:ARG:HH22	23:T:124:VAL:CG2	1.65	0.96
2:C:85:ARG:HG3	23:T:82:ASP:OD1	1.64	0.96
17:2:113:G:H1	17:2:280:G:N2	1.62	0.96
34:y:485:ASP:HB3	50:k:781:ILE:HA	1.48	0.96
17:2:800:U:C4	17:2:801:U:C5	2.53	0.96
17:2:1115:A:H5'	17:2:1116:U:C5	2.00	0.96
2:C:20:ALA:CB	23:T:92:ASP:HB2	1.95	0.96
15:c:61:THR:CB	50:k:319:ARG:NH2	2.27	0.96
17:2:231:C:N1	17:2:891:G:C2	2.21	0.96
34:y:333:PRO:CG	34:y:437:LEU:HD23	1.96	0.96
34:y:390:LEU:HG	34:y:410:VAL:HG21	1.45	0.96
46:0:125:LYS:C	49:b:56:VAL:CG1	2.38	0.96
6:J:118:ARG:NH1	17:2:677:C:N3	2.14	0.96
17:2:231:C:C2	17:2:891:G:C4	2.54	0.96
17:2:1744:G:C2	17:2:1780:U:O2	2.19	0.96
31:U:143:GLY:O	31:U:144:ARG:CD	2.14	0.96
34:y:699:GLU:OE2	43:p:565:THR:CG2	2.13	0.96
2:C:113:GLN:HG2	17:2:1376:C:O2'	1.64	0.96
9:N:30:LYS:HE2	9:N:30:LYS:N	1.81	0.96
34:y:175:HIS:ND1	34:y:231:GLU:CD	2.22	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1116:U:C2'	17:2:1117:G:H5"	1.95	0.96
34:y:276:TYR:CZ	34:y:298:ARG:HG3	2.01	0.96
5:I:81:HIS:HE1	17:2:1784:A:H4'	1.07	0.95
17:2:1203:G:N1	17:2:1831:G:N7	2.13	0.95
22:S:146:ARG:NH1	40:1:33:C:H6	1.63	0.95
34:y:181:ALA:CB	34:y:196:LYS:CE	2.44	0.95
34:y:700:ARG:HH21	43:p:206:ARG:HE	0.97	0.95
34:y:114:ASP:O	34:y:118:LEU:HB2	1.64	0.95
41:A:49:SER:CB	46:0:66:ARG:HH22	1.74	0.95
34:y:7:ARG:O	34:y:9:GLU:CG	2.13	0.95
40:1:16:G:C6	40:1:17:C:H5	1.85	0.95
41:A:49:SER:HB3	46:0:66:ARG:HH21	1.28	0.95
47:Q:431:ARG:CD	50:k:850:GLU:OE1	2.14	0.95
35:q:347:GLN:CG	50:k:842:LEU:HD13	1.96	0.95
17:2:710:C:C4	43:p:627:LEU:O	2.19	0.95
17:2:1203:G:C8	17:2:1831:G:N2	2.34	0.95
33:D:54:TRP:CE2	50:k:585:GLN:HB2	2.00	0.95
34:y:246:TRP:HE1	50:k:708:PRO:HD2	1.31	0.95
41:A:235:TYR:OH	42:B:286:ASP:OD2	1.83	0.95
47:Q:358:PHE:CZ	47:Q:373:LEU:HD11	2.01	0.95
2:C:41:ARG:NH2	23:T:124:VAL:HG22	1.81	0.95
2:C:89:LYS:NZ	23:T:83:ASN:HB3	1.80	0.95
2:C:210:ILE:HD13	23:T:81:ARG:HD3	1.01	0.95
17:2:958:A:C2'	41:A:53:ARG:C	2.36	0.95
17:2:1195:A:C6	17:2:1196:A:C4	2.55	0.95
34:y:246:TRP:HE1	50:k:707:GLY:CA	1.72	0.95
34:y:338:ILE:CD1	50:k:724:LYS:HE2	1.97	0.95
34:y:338:ILE:CD1	50:k:724:LYS:CE	2.44	0.95
36:r:265:ARG:HH22	50:k:841:LYS:HB3	1.18	0.95
38:t:399:LEU:HD22	47:Q:396:ARG:CZ	1.93	0.95
34:y:291:PHE:HZ	34:y:356:ALA:CA	1.79	0.95
34:y:692:GLU:CG	43:p:589:PHE:CE2	2.48	0.95
17:2:1121:C:C1'	23:T:123:THR:HG21	1.97	0.95
34:y:692:GLU:HA	43:p:589:PHE:CE2	2.01	0.95
45:x:76:ASN:HA	45:x:77:ASP:HB3	1.49	0.95
17:2:1707:A:N3	17:2:1708:C:C6	2.35	0.95
33:D:13:PHE:CE2	47:Q:40:LEU:HD22	2.01	0.95
36:r:280:ARG:HH12	50:k:855:HIS:CG	1.66	0.95
2:C:41:ARG:HH22	23:T:124:VAL:HG21	0.80	0.95
18:F:3:VAL:HG22	18:F:4:GLN:N	1.76	0.95
33:D:16:PRO:HB2	47:Q:28:ALA:HB3	0.95	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:710:C:H6	43:p:627:LEU:HG	1.20	0.94
34:y:181:ALA:CB	34:y:196:LYS:NZ	2.30	0.94
36:r:272:GLN:NE2	50:k:852:VAL:HG11	1.80	0.94
6:J:102:PRO:HB3	17:2:738:U:O3'	1.66	0.94
17:2:1203:G:C4	17:2:1831:G:C4	2.54	0.94
17:2:1518:C:H4'	31:U:144:ARG:HA	0.95	0.94
33:D:79:ALA:CB	50:k:576:ASN:HB3	1.97	0.94
34:y:703:ARG:CD	43:p:199:TRP:CZ2	2.51	0.94
17:2:232:A:N6	17:2:889:U:O4	1.99	0.94
26:d:33:GLU:CG	33:D:426:LYS:HZ3	1.79	0.94
34:y:284:TRP:CA	34:y:292:HIS:CD2	2.51	0.94
34:y:306:MET:O	34:y:310:LEU:CA	2.15	0.94
34:y:342:LEU:O	50:k:686:ARG:NH2	1.97	0.94
43:p:584:TYR:HH	44:z:324:LYS:HE3	1.07	0.94
17:2:1195:A:H2'	17:2:1196:A:O5'	1.65	0.94
43:p:682:ARG:HH11	44:z:248:LEU:HD12	1.19	0.94
17:2:731:A:C2'	17:2:732:C:C5	2.49	0.94
26:d:63:ARG:NH1	46:0:71:PRO:CG	2.27	0.94
34:y:475:ALA:O	50:k:777:VAL:CG2	2.16	0.94
34:y:725:TRP:CZ3	43:p:184:ILE:HG21	1.97	0.94
38:t:342:TYR:HD2	47:Q:433:GLN:NE2	1.64	0.94
17:2:128:U:O4'	17:2:212:G:H8	1.33	0.94
34:y:166:ASN:CB	34:y:203:MET:SD	2.54	0.94
34:y:293:ALA:HB2	34:y:328:SER:C	1.92	0.94
47:Q:358:PHE:HE1	47:Q:373:LEU:CD1	1.80	0.94
12:Y:82:GLN:HA	17:2:800:U:O3'	1.65	0.94
17:2:1195:A:N6	17:2:1196:A:N6	2.15	0.94
33:D:44:LYS:NZ	47:Q:303:TYR:OH	2.00	0.94
47:Q:358:PHE:CE1	47:Q:373:LEU:CD1	2.50	0.94
14:a:12:PHE:CE1	17:2:836:C:H1'	2.00	0.94
14:a:104:ARG:NH2	14:a:108:LYS:HZ2	1.58	0.94
17:2:703:C:OP1	34:y:687:ARG:CG	2.14	0.94
17:2:1195:A:H5"	49:b:2:THR:CG2	1.97	0.94
33:D:24:GLY:HA3	47:Q:184:SER:HG	1.13	0.94
33:D:54:TRP:CZ2	50:k:585:GLN:HB3	2.01	0.94
34:y:101:THR:CA	34:y:149:TRP:CD1	2.50	0.94
34:y:190:ARG:NH1	50:k:710:GLU:OE2	1.99	0.94
34:y:320:THR:CG2	34:y:421:GLU:HG3	1.98	0.94
34:y:725:TRP:CZ2	43:p:183:ASP:O	2.21	0.94
36:r:272:GLN:CD	50:k:852:VAL:HG11	1.93	0.94
43:p:675:LYS:HZ1	44:z:166:LYS:CD	1.80	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:222:ASN:O	34:y:226:GLN:CG	2.16	0.94
34:y:241:ILE:CG2	34:y:282:VAL:HG23	1.91	0.94
34:y:338:ILE:HG13	50:k:724:LYS:CE	1.98	0.94
34:y:725:TRP:HH2	43:p:182:TRP:HE1	1.12	0.94
38:t:463:PHE:CD2	47:Q:393:ARG:NH2	2.35	0.94
40:1:18:G:H1'	40:1:61:C:C5'	1.98	0.94
14:a:123:ALA:O	14:a:127:ALA:HB3	1.66	0.94
17:2:232:A:N6	17:2:889:U:H3	1.66	0.94
17:2:1114:C:N4	50:k:643:LYS:HZ3	1.61	0.94
26:d:63:ARG:HH12	46:0:71:PRO:CB	1.81	0.94
34:y:181:ALA:HB2	34:y:196:LYS:HZ3	1.31	0.94
34:y:381:GLN:HE21	34:y:381:GLN:HA	1.32	0.94
17:2:128:U:C2	17:2:212:G:C4	2.56	0.93
36:r:250:VAL:HB	50:k:831:GLN:NE2	1.82	0.93
6:J:102:PRO:HB3	17:2:738:U:C3'	1.96	0.93
17:2:731:A:C6	17:2:732:C:C4	2.19	0.93
32:R:133:ILE:CG2	32:R:134:GLY:H	1.81	0.93
43:p:664:GLY:O	43:p:668:GLN:HG3	1.66	0.93
47:Q:358:PHE:HE1	47:Q:373:LEU:HD11	1.25	0.93
17:2:228:A:H5"	17:2:886:U:O4'	1.68	0.93
34:y:17:GLU:C	45:x:190:PRO:HG3	1.93	0.93
34:y:320:THR:HA	34:y:323:LEU:CD2	1.98	0.93
41:A:235:TYR:CG	42:B:285:ASP:CG	2.39	0.93
43:p:592:ARG:NH2	44:z:342:HIS:CB	2.32	0.93
47:Q:361:PHE:HZ	50:k:816:GLN:CD	1.74	0.93
13:Z:61:GLN:HG2	17:2:1818:A:OP1	1.67	0.93
14:a:101:LYS:NZ	14:a:107:ARG:CZ	2.30	0.93
17:2:710:C:H5'	17:2:711:U:C5	2.01	0.93
17:2:1108:U:C2'	17:2:1109:A:H5'	1.99	0.93
17:2:1203:G:O6	17:2:1831:G:C6	2.20	0.93
34:y:227:SER:HB2	34:y:228:MET:HE2	1.51	0.93
34:y:246:TRP:HE1	50:k:708:PRO:CD	1.82	0.93
34:y:703:ARG:CG	43:p:199:TRP:HE1	1.81	0.93
40:1:18:G:O4'	40:1:61:C:H5"	1.68	0.93
41:A:157:VAL:HG13	41:A:180:ILE:HD13	1.47	0.93
15:c:67:THR:HG22	50:k:322:LYS:NZ	1.83	0.93
22:S:146:ARG:HH22	40:1:33:C:H3'	1.32	0.93
34:y:245:LEU:HB3	34:y:248:GLU:OE1	1.69	0.93
41:A:229:LEU:HD22	42:B:284:VAL:HG21	0.98	0.93
17:2:578:G:C2'	51:h:120:THR:CB	2.45	0.93
17:2:1114:C:C6	33:D:94:THR:N	2.36	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:8:PRO:CB	34:y:39:LYS:CD	2.40	0.93
2:C:20:ALA:CB	23:T:92:ASP:H	1.81	0.93
6:J:103:LYS:HG2	17:2:678:U:C1'	1.86	0.93
15:c:53:VAL:HG22	50:k:320:GLY:O	1.69	0.93
17:2:752:C:C2'	17:2:753:C:H5'	1.96	0.93
34:y:48:GLU:OE2	34:y:85:SER:HB3	1.68	0.93
34:y:475:ALA:CA	50:k:777:VAL:HG11	1.99	0.93
43:p:646:SER:HB3	43:p:654:ARG:HH22	1.34	0.93
5:I:233:ARG:CZ	17:2:781:C:OP2	2.16	0.93
7:K:193:LYS:CE	9:N:32:LYS:NZ	2.31	0.93
17:2:753:C:C2	17:2:784:G:C6	2.57	0.93
34:y:297:HIS:HE1	34:y:325:ALA:CB	1.81	0.93
34:y:721:ASP:OD2	43:p:189:PRO:HG2	1.68	0.93
2:C:17:LYS:HB3	23:T:91:LEU:HD11	1.49	0.93
14:a:101:LYS:HG3	14:a:107:ARG:NH2	1.82	0.93
17:2:703:C:OP1	34:y:687:ARG:HG3	1.69	0.93
18:F:193:ASP:H	18:F:194:PRO:CD	1.81	0.93
34:y:339:ALA:CB	34:y:340:ARG:NH1	2.32	0.93
17:2:113:G:N2	17:2:283:A:H2'	1.82	0.92
34:y:132:VAL:HG13	50:k:747:LEU:O	1.68	0.92
51:h:960:SER:O	51:h:1251:GLN:CB	2.17	0.92
17:2:750:G:C2	17:2:787:C:O2	2.22	0.92
17:2:752:C:O2'	17:2:753:C:H5'	1.69	0.92
32:R:133:ILE:HG23	32:R:134:GLY:N	1.78	0.92
33:D:50:LYS:HZ3	50:k:578:GLN:HE21	1.14	0.92
34:y:320:THR:CA	34:y:323:LEU:HD23	1.99	0.92
17:2:1052:U:C5'	41:A:54:ARG:HH22	1.83	0.92
17:2:1695:C:C4	17:2:1697:G:C2	2.56	0.92
34:y:280:SER:HB2	34:y:295:THR:HG22	1.49	0.92
34:y:342:LEU:HD23	50:k:724:LYS:HZ1	1.10	0.92
2:C:20:ALA:CB	23:T:92:ASP:CB	2.47	0.92
15:c:80:ARG:NH2	33:D:87:THR:N	2.14	0.92
17:2:702:G:H5"	34:y:687:ARG:NH2	0.82	0.92
17:2:754:C:O2'	17:2:782:G:N2	1.99	0.92
34:y:184:PHE:CE1	34:y:188:TYR:CE2	2.58	0.92
34:y:269:PRO:O	34:y:272:MET:HG3	1.70	0.92
34:y:329:ILE:HB	34:y:330:PRO:HD2	1.50	0.92
34:y:158:ARG:O	34:y:162:ASP:HB2	1.69	0.92
15:c:68:GLY:O	17:2:1101:G:H5"	1.70	0.92
17:2:230:C:H2'	17:2:891:G:H22	1.24	0.92
19:H:130:ARG:HH21	26:d:68:LEU:HG	1.30	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:D:16:PRO:HB3	47:Q:25:THR:CA	2.00	0.92
34:y:26:PRO:CB	45:x:195:LYS:HG2	1.99	0.92
34:y:42:THR:HG22	34:y:77:ILE:HA	1.50	0.92
34:y:184:PHE:CD1	34:y:188:TYR:CD2	2.57	0.92
34:y:284:TRP:CG	34:y:427:TYR:HH	1.87	0.92
34:y:709:LEU:HD13	43:p:614:LEU:CD2	2.00	0.92
43:p:671:TYR:CD2	43:p:677:GLU:O	2.22	0.92
15:c:75:GLU:HB2	50:k:369:ALA:CB	1.97	0.92
17:2:1102:C:O2'	17:2:1103:G:H5'	1.70	0.92
17:2:1695:C:C2	17:2:1697:G:C6	2.57	0.92
19:H:27:ASP:HA	33:D:472:LYS:NZ	1.84	0.92
36:r:280:ARG:CZ	50:k:855:HIS:CG	2.44	0.92
40:1:18:G:N2	40:1:57:G:O6	2.02	0.92
34:y:326:THR:HG21	34:y:391:TYR:CE2	2.05	0.92
34:y:472:VAL:HG22	50:k:778:TYR:HE1	1.32	0.92
42:B:284:VAL:HG13	42:B:285:ASP:HB3	1.51	0.92
17:2:12:U:H4'	17:2:1353:A:O4'	1.68	0.92
17:2:1855:G:N3	49:b:1:MET:HE1	1.83	0.92
33:D:25:TRP:HZ2	47:Q:234:TRP:CD2	1.86	0.92
34:y:293:ALA:HA	34:y:328:SER:HB2	1.51	0.92
34:y:725:TRP:HZ2	43:p:182:TRP:CD1	1.75	0.92
45:x:40:ASN:HD21	45:x:75:GLN:HE22	1.12	0.92
47:Q:428:LEU:HD23	50:k:846:VAL:HG11	1.51	0.92
17:2:710:C:H5	43:p:627:LEU:CG	1.80	0.92
17:2:759:A:C2	17:2:777:C:C2	2.48	0.92
17:2:1244:I2T:C31	17:2:1244:I2T:O36	2.14	0.92
38:t:388:LEU:CB	47:Q:426:LYS:CE	2.47	0.92
17:2:755:C:O2	17:2:782:G:H8	1.45	0.91
17:2:1195:A:N6	17:2:1196:A:N1	2.17	0.91
34:y:302:LEU:O	34:y:306:MET:SD	2.27	0.91
34:y:465:PHE:CE1	50:k:788:ASP:HB3	2.04	0.91
34:y:697:TYR:CE1	43:p:635:GLU:OE1	2.23	0.91
43:p:227:LYS:HE2	44:z:335:LYS:HD2	1.52	0.91
15:c:79:PHE:H	33:D:89:PHE:HA	1.35	0.91
19:H:61:PHE:CZ	33:D:415:SER:CB	2.53	0.91
26:d:33:GLU:OE2	33:D:426:LYS:HD3	1.69	0.91
26:d:51:ARG:HH21	33:D:416:GLN:HG2	0.76	0.91
44:z:43:GLU:OE1	51:h:582:VAL:CB	2.19	0.91
6:J:122:LEU:N	17:2:678:U:H5'	1.84	0.91
8:L:179:LYS:CA	51:h:511:GLU:CB	2.49	0.91
9:N:22:ARG:HH21	9:N:24:LEU:HB2	1.33	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:127:C:C2’	17:2:129:C:C5	2.52	0.91
17:2:761:G:O6	17:2:774:U:C2	2.23	0.91
34:y:78:CYS:SG	34:y:86:LEU:CD1	2.57	0.91
34:y:104:ALA:HB2	34:y:149:TRP:HE1	1.11	0.91
34:y:346:GLY:HA2	34:y:347:ILE:CG1	1.99	0.91
34:y:483:ARG:HG3	50:k:779:ASP:HB2	1.53	0.91
36:r:265:ARG:CZ	50:k:841:LYS:HB3	2.00	0.91
51:h:953:GLU:H	51:h:967:GLU:CB	1.71	0.91
17:2:128:U:H5’	17:2:212:G:O4’	1.68	0.91
17:2:795:U:N3	17:2:862:U:O2	1.70	0.91
33:D:91:LEU:HB2	50:k:640:GLU:HB3	0.93	0.91
38:t:547:ILE:CD1	47:Q:443:LEU:CD2	2.47	0.91
19:H:204:ARG:HH21	46:0:72:TYR:HB2	1.34	0.91
34:y:17:GLU:HB2	45:x:190:PRO:HB3	1.50	0.91
34:y:485:ASP:CB	50:k:780:SER:O	2.18	0.91
46:0:126:ILE:N	49:b:56:VAL:CG1	2.31	0.91
17:2:12:U:O4’	17:2:1353:A:H1’	1.69	0.91
10:P:27:LYS:NZ	10:P:28:LEU:HD23	1.85	0.91
17:2:1244:I2T:C1’	40:1:34:C:C5’	2.47	0.91
33:D:51:VAL:HG22	50:k:615:ILE:HG13	1.50	0.91
36:r:280:ARG:NH2	50:k:855:HIS:CE1	2.38	0.91
8:L:179:LYS:C	51:h:511:GLU:CB	2.44	0.91
17:2:754:C:N3	17:2:783:G:N7	2.18	0.91
17:2:1202:G:H1’	17:2:1828:A:C1’	2.01	0.91
34:y:483:ARG:HG3	50:k:779:ASP:CB	2.01	0.91
17:2:1695:C:C2	17:2:1697:G:C5	2.59	0.91
17:2:1707:A:C2’	17:2:1708:C:H5’	2.00	0.91
26:d:62:GLU:O	46:0:75:MET:CE	2.18	0.91
34:y:8:PRO:CD	34:y:39:LYS:HD3	2.00	0.91
41:A:157:VAL:CG1	41:A:180:ILE:CD1	2.49	0.91
43:p:592:ARG:HH22	44:z:342:HIS:CB	1.83	0.91
14:a:123:ALA:O	14:a:127:ALA:CB	2.19	0.91
17:2:225:C:N4	17:2:882:A:C2’	2.34	0.91
26:d:51:ARG:HH21	33:D:416:GLN:HG3	1.33	0.91
33:D:25:TRP:HZ3	47:Q:209:LEU:HD21	1.13	0.91
36:r:276:GLN:HB3	50:k:855:HIS:HB3	1.50	0.91
9:N:42:LEU:CB	17:2:282:G:H1’	2.00	0.90
17:2:12:U:N3	17:2:1196:A:H2	1.68	0.90
17:2:1519:G:OP1	31:U:144:ARG:HB3	1.70	0.90
34:y:48:GLU:HG2	34:y:74:TYR:OH	1.71	0.90
41:A:58:SER:CB	41:A:61:LYS:CD	2.49	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Q:361:PHE:HZ	50:k:816:GLN:OE1	1.29	0.90
33:D:11:ALA:O	47:Q:49:TYR:HA	1.71	0.90
17:2:703:C:OP1	34:y:687:ARG:HD2	1.65	0.90
17:2:1743:G:C2	17:2:1781:G:N1	2.40	0.90
33:D:25:TRP:CH2	47:Q:209:LEU:HD21	2.06	0.90
43:p:227:LYS:HE3	44:z:335:LYS:HD2	1.49	0.90
47:Q:365:HIS:ND1	50:k:816:GLN:HB2	1.87	0.90
47:Q:366:GLN:NE2	50:k:813:SER:HB2	1.84	0.90
5:I:232:ARG:CG	17:2:781:C:C5	2.55	0.90
17:2:127:C:O3'	17:2:128:U:O5'	1.71	0.90
17:2:232:A:N6	17:2:889:U:C4	2.40	0.90
33:D:91:LEU:CB	50:k:640:GLU:CB	2.45	0.90
36:r:272:GLN:HE21	50:k:852:VAL:HG13	0.75	0.90
36:r:280:ARG:HH11	50:k:855:HIS:HA	0.96	0.90
14:a:12:PHE:HE1	17:2:836:C:O2'	1.42	0.90
17:2:754:C:N1	17:2:783:G:C5	2.40	0.90
34:y:12:LEU:CD2	34:y:16:ASN:HD21	1.85	0.90
34:y:710:ILE:HG21	43:p:196:LEU:CB	2.01	0.90
38:t:547:ILE:HD11	47:Q:443:LEU:HD22	1.54	0.90
17:2:10:G:N1	17:2:1198:U:O2	2.04	0.90
17:2:228:A:OP2	17:2:885:U:C2'	2.19	0.90
17:2:1815:U:H2'	17:2:1816:A:H5"	1.53	0.90
34:y:320:THR:CG2	34:y:421:GLU:CG	2.50	0.90
36:r:265:ARG:HH21	50:k:841:LYS:HB3	1.22	0.90
47:Q:78:LEU:HD23	47:Q:79:TYR:CE2	2.06	0.90
17:2:759:A:N7	17:2:778:C:N1	2.04	0.90
34:y:323:LEU:CD1	34:y:424:LEU:HB2	2.01	0.90
41:A:49:SER:C	46:0:66:ARG:NH2	2.30	0.90
2:C:203:PHE:CE2	23:T:88:VAL:HG21	2.07	0.90
6:J:116:ARG:NH2	17:2:738:U:C5	2.38	0.90
15:c:72:ARG:HD2	17:2:1116:U:OP2	1.71	0.90
34:y:390:LEU:CD2	34:y:410:VAL:CB	2.34	0.90
8:L:179:LYS:HA	51:h:511:GLU:CB	2.02	0.90
15:c:65:GLN:HE21	50:k:322:LYS:HG3	1.35	0.90
17:2:128:U:C3'	17:2:212:G:OP2	2.19	0.90
17:2:229:A:P	17:2:886:U:C1'	2.58	0.90
17:2:1203:G:C2	17:2:1831:G:C8	2.59	0.90
34:y:486:HIS:HA	50:k:780:SER:OG	1.71	0.90
34:y:710:ILE:HG12	43:p:196:LEU:HD13	1.52	0.90
17:2:1518:C:OP1	31:U:143:GLY:HA3	1.71	0.90
33:D:25:TRP:CD1	47:Q:187:TRP:C	2.49	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:227:A:OP2	17:2:885:U:H4'	1.71	0.89
17:2:229:A:OP1	17:2:886:U:C2'	2.20	0.89
17:2:1195:A:C2'	17:2:1196:A:C5'	2.49	0.89
17:2:1707:A:N1	17:2:1708:C:N3	2.20	0.89
17:2:1860:A:N6	49:b:84:VAL:HG13	1.87	0.89
31:U:143:GLY:C	31:U:144:ARG:CD	2.45	0.89
34:y:276:TYR:HH	34:y:298:ARG:HG2	1.31	0.89
38:t:342:TYR:HH	47:Q:437:MET:CE	1.82	0.89
6:J:122:LEU:H	17:2:678:U:C5'	1.86	0.89
14:a:104:ARG:NH2	14:a:108:LYS:HZ1	1.58	0.89
17:2:1195:A:C6	17:2:1196:A:N1	2.39	0.89
34:y:8:PRO:HD3	34:y:39:LYS:HD3	1.53	0.89
34:y:699:GLU:HG3	43:p:565:THR:HB	1.53	0.89
34:y:714:TYR:HB2	43:p:193:LEU:CD2	2.03	0.89
2:C:205:ARG:HG3	2:C:210:ILE:HD12	1.45	0.89
15:c:63:LEU:O	15:c:74:THR:HG23	1.73	0.89
17:2:271:G:P	17:2:887:G:OP2	2.29	0.89
17:2:759:A:C4	17:2:778:C:O4'	2.24	0.89
34:y:707:ILE:HD13	43:p:200:LEU:CG	2.02	0.89
33:D:25:TRP:C	47:Q:187:TRP:CD1	2.49	0.89
33:D:18:ILE:CG2	47:Q:31:LEU:O	2.20	0.89
40:1:16:G:C5	40:1:17:C:H5	1.90	0.89
17:2:229:A:OP1	17:2:886:U:O2'	1.90	0.89
17:2:524:G:C6	17:2:540:C:C4	2.61	0.89
17:2:1203:G:N1	17:2:1831:G:C8	2.39	0.89
31:U:143:GLY:C	31:U:144:ARG:CG	2.46	0.89
34:y:230:LEU:CG	34:y:271:LEU:CD2	2.24	0.89
41:A:157:VAL:HG11	41:A:180:ILE:CB	2.03	0.89
41:A:235:TYR:HB3	42:B:285:ASP:OD2	1.73	0.89
17:2:10:G:C6	17:2:1692:A:N1	2.40	0.89
34:y:166:ASN:HB3	34:y:203:MET:SD	2.12	0.89
34:y:318:MET:HG2	34:y:382:TYR:HB3	1.52	0.89
34:y:697:TYR:HE1	43:p:635:GLU:OE1	1.55	0.89
41:A:157:VAL:CG2	41:A:180:ILE:HG21	2.03	0.89
2:C:201:LEU:CD1	23:T:83:ASN:C	2.45	0.89
17:2:752:C:C2'	17:2:753:C:C5'	2.50	0.89
17:2:757:C:C5	17:2:780:G:N1	2.40	0.89
19:H:194:ASP:OD2	41:A:82:TYR:OH	1.91	0.89
33:D:13:PHE:HE1	47:Q:43:LEU:CD1	1.58	0.89
34:y:7:ARG:C	34:y:9:GLU:H	1.79	0.89
51:h:965:LEU:H	51:h:1278:ARG:C	1.80	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:i:92:LYS:HE2	51:h:453:SER:H	1.36	0.89
17:2:128:U:O4'	17:2:212:G:O4'	1.91	0.89
17:2:754:C:N1	17:2:783:G:C6	2.41	0.89
36:r:272:GLN:CB	50:k:852:VAL:CG2	2.50	0.89
40:1:18:G:C1'	40:1:61:C:H5'	2.03	0.89
46:0:126:ILE:HG12	49:b:56:VAL:CG1	2.03	0.89
17:2:752:C:H2'	17:2:753:C:O4'	1.71	0.88
34:y:707:ILE:HD12	43:p:200:LEU:HD12	1.52	0.88
6:J:118:ARG:HD3	17:2:677:C:H1'	1.55	0.88
17:2:657:U:H4'	49:b:1:MET:CB	2.00	0.88
17:2:1114:C:H2'	33:D:94:THR:OG1	1.60	0.88
33:D:39:TYR:HE2	47:Q:221:PRO:CB	1.81	0.88
34:y:75:LYS:HA	34:y:78:CYS:SG	2.12	0.88
34:y:108:SER:HB2	34:y:145:LEU:CD2	2.01	0.88
34:y:205:LEU:CD1	34:y:209:GLN:NE2	2.20	0.88
34:y:717:GLN:HG3	43:p:189:PRO:HG2	1.55	0.88
34:y:181:ALA:HB3	34:y:196:LYS:HE2	1.52	0.88
43:p:218:ARG:HG2	44:z:2:LYS:HZ1	1.37	0.88
2:C:139:TYR:HE2	17:2:1374:A:H62	0.91	0.88
14:a:12:PHE:HE1	17:2:836:C:C1'	1.84	0.88
17:2:1244:I2T:C6	40:1:34:C:H4'	2.01	0.88
17:2:1518:C:C4'	31:U:144:ARG:CA	2.37	0.88
34:y:143:ARG:O	34:y:147:THR:OG1	1.91	0.88
34:y:693:LYS:HG2	43:p:635:GLU:HG2	1.55	0.88
2:C:213:GLU:OE2	23:T:86:PRO:CD	2.21	0.88
17:2:1739:G:C2	17:2:1783:G:C6	2.60	0.88
33:D:12:LYS:CG	47:Q:53:GLU:OE2	2.21	0.88
34:y:476:ARG:HE	50:k:774:TYR:N	1.70	0.88
5:I:81:HIS:HE1	17:2:1784:A:C4'	1.85	0.88
10:P:26:LEU:HD22	10:P:27:LYS:N	1.88	0.88
15:c:61:THR:HG21	50:k:319:ARG:NH2	1.88	0.88
17:2:129:C:C3'	17:2:184:G:C6	2.56	0.88
33:D:17:VAL:O	47:Q:29:HIS:HA	1.72	0.88
34:y:368:ILE:HG23	34:y:371:ILE:HG21	1.56	0.88
34:y:476:ARG:N	50:k:777:VAL:HG11	1.89	0.88
14:a:104:ARG:NH2	14:a:108:LYS:CE	2.31	0.88
17:2:755:C:H1'	17:2:782:G:C4	2.09	0.88
17:2:758:G:C5	17:2:779:C:N1	2.38	0.88
17:2:1083:A:C6	49:b:1:MET:HE2	2.07	0.88
34:y:105:LYS:HG3	34:y:146:LEU:CD2	2.02	0.88
41:A:88:ARG:NE	46:0:64:ALA:O	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:682:ARG:HD3	44:z:248:LEU:CD1	2.02	0.88
17:2:703:C:P	34:y:687:ARG:CD	2.59	0.88
17:2:759:A:C5	17:2:778:C:O4'	2.24	0.88
17:2:759:A:N3	17:2:777:C:O2	2.07	0.88
33:D:24:GLY:HA3	47:Q:184:SER:CB	1.77	0.88
47:Q:355:LEU:HD23	47:Q:391:LEU:HD12	1.54	0.88
2:C:201:LEU:CB	23:T:83:ASN:O	2.22	0.88
12:Y:82:GLN:NE2	17:2:800:U:OP1	2.05	0.88
17:2:752:C:C4	17:2:753:C:H5	1.88	0.88
34:y:14:ARG:HG2	34:y:14:ARG:HH11	1.37	0.88
34:y:710:ILE:HD13	43:p:196:LEU:CD1	2.02	0.88
41:A:185:THR:HB	41:A:187:GLN:CB	2.02	0.88
17:2:1083:A:N6	49:b:1:MET:SD	2.44	0.87
17:2:1707:A:N1	17:2:1708:C:C4	2.41	0.87
33:D:51:VAL:HG22	50:k:615:ILE:CG1	2.03	0.87
34:y:159:GLN:CG	34:y:163:LEU:HD22	2.05	0.87
34:y:205:LEU:HD12	34:y:209:GLN:CG	2.02	0.87
2:C:85:ARG:HH21	23:T:83:ASN:H	1.17	0.87
2:C:201:LEU:HB2	23:T:84:TYR:N	1.88	0.87
33:D:25:TRP:CD1	47:Q:234:TRP:CH2	2.61	0.87
34:y:714:TYR:CD1	43:p:193:LEU:HG	2.08	0.87
34:y:725:TRP:CG	43:p:184:ILE:HG12	2.10	0.87
43:p:679:LEU:CD2	44:z:209:THR:HG21	2.04	0.87
17:2:580:A:H61	51:h:126:ASP:CB	1.81	0.87
34:y:104:ALA:HB2	34:y:149:TRP:CE2	2.07	0.87
34:y:175:HIS:HE1	34:y:228:MET:CA	1.86	0.87
41:A:229:LEU:HB2	42:B:284:VAL:CG1	2.04	0.87
43:p:218:ARG:CG	44:z:2:LYS:HZ1	1.87	0.87
10:P:22:VAL:CG1	10:P:26:LEU:HG	2.04	0.87
17:2:1818:A:O2'	17:2:1819:A:OP2	1.90	0.87
16:i:82:ARG:NH2	16:i:85:LYS:N	2.23	0.87
17:2:1860:A:H62	49:b:84:VAL:HG13	1.39	0.87
34:y:48:GLU:OE2	34:y:85:SER:CB	2.22	0.87
34:y:707:ILE:HG21	43:p:200:LEU:CD1	2.04	0.87
51:h:951:THR:C	51:h:952:LYS:N	0.78	0.87
17:2:232:A:C8	17:2:890:G:N2	2.42	0.87
19:H:130:ARG:NH2	26:d:68:LEU:O	2.08	0.87
38:t:522:TYR:OH	47:Q:416:SER:HB2	1.75	0.87
40:1:11:G:H1	40:1:25:U:H3	1.21	0.87
43:p:580:VAL:HG22	51:h:748:HIS:CB	2.05	0.87
17:2:1520:C:C5'	40:1:30:G:H5"	2.05	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:H:198:ARG:NE	41:A:45:MET:CG	2.38	0.87
33:D:54:TRP:HZ2	50:k:585:GLN:HB2	0.90	0.87
34:y:338:ILE:CD1	50:k:724:LYS:HZ3	1.88	0.87
34:y:399:ASN:OD1	34:y:400:PRO:HD2	1.74	0.87
34:y:728:GLN:HE22	43:p:314:THR:HG22	1.34	0.87
2:C:206:ASP:C	2:C:209:GLU:HB2	1.99	0.87
15:c:72:ARG:HD3	17:2:1116:U:OP2	1.73	0.87
17:2:228:A:P	17:2:885:U:O2'	2.33	0.87
17:2:230:C:O2'	17:2:891:G:N2	2.05	0.87
34:y:124:PRO:HG2	34:y:127:VAL:N	1.89	0.87
34:y:284:TRP:H	34:y:292:HIS:CD2	1.93	0.87
43:p:675:LYS:NZ	44:z:166:LYS:HD2	1.85	0.87
3:E:220:ASN:ND2	17:2:1351:C:O2	2.08	0.87
17:2:731:A:C1'	17:2:732:C:C6	2.53	0.87
33:D:13:PHE:HE2	47:Q:40:LEU:CD2	1.85	0.87
34:y:48:GLU:CG	34:y:74:TYR:OH	2.22	0.87
34:y:71:LEU:HB3	34:y:164:LEU:HD21	1.53	0.87
14:a:12:PHE:HE1	17:2:836:C:HO2'	1.03	0.86
36:r:272:GLN:HB3	50:k:852:VAL:HG22	1.55	0.86
38:t:403:LYS:HD3	47:Q:396:ARG:NH2	1.88	0.86
14:a:101:LYS:O	14:a:102:THR:OG1	1.92	0.86
17:2:131:C:N3	17:2:178:C:H5'	1.88	0.86
17:2:227:A:P	17:2:885:U:H4'	2.15	0.86
34:y:284:TRP:CH2	34:y:426:GLN:CG	1.96	0.86
34:y:709:LEU:HD13	43:p:614:LEU:HD22	1.56	0.86
17:2:129:C:C2'	17:2:184:G:C6	2.58	0.86
17:2:759:A:N1	17:2:777:C:O2	1.97	0.86
33:D:78:TYR:O	50:k:573:LEU:CD2	2.24	0.86
34:y:190:ARG:HB3	34:y:243:MET:SD	2.15	0.86
2:C:85:ARG:HE	23:T:82:ASP:HA	0.74	0.86
17:2:1203:G:N9	17:2:1831:G:C2	2.43	0.86
33:D:91:LEU:CD1	50:k:644:VAL:CG2	2.35	0.86
36:r:254:SER:HB2	50:k:834:LEU:HD13	0.87	0.86
6:J:116:ARG:NH1	17:2:678:U:P	2.48	0.86
12:Y:81:VAL:O	17:2:800:U:H5"	1.75	0.86
15:c:35:VAL:HG12	15:c:78:SER:CB	2.05	0.86
17:2:128:U:C2	17:2:212:G:C6	2.63	0.86
17:2:129:C:H3'	17:2:184:G:N1	1.91	0.86
20:M:98:ARG:CB	48:j:263:GLY:HA2	2.04	0.86
34:y:201:LEU:CD2	34:y:255:ASP:OD2	2.23	0.86
34:y:320:THR:HG23	34:y:421:GLU:HG2	1.53	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:342:LEU:HA	50:k:681:GLU:OE1	1.75	0.86
8:L:179:LYS:HA	51:h:511:GLU:HA	1.58	0.86
10:P:22:VAL:HB	10:P:24:THR:N	1.90	0.86
15:c:72:ARG:CZ	17:2:1116:U:OP2	2.22	0.86
17:2:702:G:O3'	34:y:687:ARG:CD	2.23	0.86
17:2:1696:C:C4	40:1:34:C:N4	2.43	0.86
2:C:85:ARG:NH2	23:T:84:TYR:H	1.74	0.86
34:y:278:LYS:HD2	34:y:279:VAL:N	1.91	0.86
38:t:481:LEU:CD2	47:Q:393:ARG:NH2	2.32	0.86
32:R:130:ARG:HH11	32:R:130:ARG:HB2	1.41	0.86
34:y:475:ALA:O	50:k:777:VAL:HG21	1.75	0.86
17:2:224:U:N3	17:2:883:U:O5'	2.09	0.85
17:2:1195:A:H2'	17:2:1196:A:C8	2.11	0.85
2:C:210:ILE:HD13	23:T:81:ARG:CB	2.07	0.85
17:2:232:A:H2	17:2:889:U:O2	1.59	0.85
17:2:1202:G:H1'	17:2:1828:A:H1'	1.57	0.85
33:D:39:TYR:HE2	47:Q:221:PRO:HB3	1.40	0.85
34:y:17:GLU:HB3	45:x:190:PRO:HB3	0.87	0.85
34:y:184:PHE:CD1	34:y:188:TYR:HD2	1.92	0.85
41:A:157:VAL:CG2	41:A:180:ILE:CG2	2.54	0.85
10:P:20:ARG:CG	10:P:65:PHE:CD1	2.58	0.85
34:y:346:GLY:CA	34:y:348:ILE:HG13	2.06	0.85
41:A:55:ARG:HH11	41:A:55:ARG:CG	1.89	0.85
17:2:128:U:C2	17:2:212:G:C8	2.61	0.85
36:r:272:GLN:HB3	50:k:852:VAL:CG2	2.06	0.85
17:2:12:U:H1'	17:2:1353:A:H1'	1.58	0.85
34:y:236:GLN:CD	34:y:252:ALA:HB2	2.00	0.85
34:y:306:MET:C	34:y:310:LEU:HB3	2.00	0.85
5:I:236:SER:HG	17:2:781:C:HO3'	1.06	0.85
31:U:143:GLY:C	31:U:144:ARG:HG3	2.02	0.85
33:D:12:LYS:HG2	47:Q:53:GLU:CD	2.01	0.85
34:y:68:LYS:HE3	34:y:163:LEU:HD23	1.58	0.85
26:d:33:GLU:CD	33:D:426:LYS:HZ3	1.83	0.85
34:y:230:LEU:HG	34:y:271:LEU:HD22	0.87	0.85
38:t:399:LEU:HB3	47:Q:396:ARG:HH22	0.71	0.85
43:p:592:ARG:NH2	44:z:342:HIS:CG	2.44	0.85
15:c:37:CYS:HB2	15:c:38:PRO:CD	2.07	0.85
15:c:67:THR:CG2	50:k:322:LYS:HZ2	1.90	0.85
17:2:232:A:N6	17:2:889:U:N3	2.24	0.85
17:2:702:G:C5'	34:y:687:ARG:NH2	1.77	0.85
17:2:800:U:N3	17:2:801:U:C6	2.45	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:d:7:GLN:OE1	26:d:8:PRO:HD3	1.76	0.85
34:y:300:TYR:CA	34:y:321:ARG:NH1	2.33	0.85
38:t:388:LEU:H	47:Q:426:LYS:HE2	0.69	0.85
6:J:103:LYS:HG3	17:2:678:U:C2	1.90	0.85
15:c:79:PHE:N	33:D:89:PHE:HA	1.91	0.85
34:y:320:THR:HG23	34:y:421:GLU:HG3	1.57	0.85
43:p:682:ARG:CZ	44:z:248:LEU:HD13	2.00	0.85
17:2:1518:C:OP1	31:U:143:GLY:C	2.20	0.85
26:d:13:ARG:HD3	33:D:426:LYS:HZ2	1.42	0.85
34:y:236:GLN:HG2	34:y:252:ALA:HB2	0.85	0.85
17:2:1108:U:O2'	17:2:1109:A:C5'	2.24	0.84
17:2:1109:A:O2'	17:2:1110:U:H5'	1.76	0.84
20:M:96:ARG:CG	48:j:292:ASP:CB	2.29	0.84
33:D:13:PHE:CZ	47:Q:40:LEU:CD2	2.60	0.84
33:D:13:PHE:CZ	47:Q:40:LEU:HD23	2.11	0.84
34:y:291:PHE:HD1	34:y:359:LEU:HD22	1.33	0.84
41:A:108:VAL:CG2	41:A:150:TYR:HD1	1.90	0.84
47:Q:358:PHE:HE1	47:Q:373:LEU:CG	1.89	0.84
2:C:205:ARG:HG2	2:C:210:ILE:CD1	2.04	0.84
14:a:101:LYS:HG3	14:a:107:ARG:HH21	1.40	0.84
33:D:40:GLN:CG	50:k:572:HIS:HD2	1.90	0.84
33:D:79:ALA:HB2	50:k:576:ASN:CB	2.07	0.84
34:y:700:ARG:NH2	43:p:206:ARG:CZ	2.39	0.84
41:A:229:LEU:HB2	42:B:284:VAL:HG21	1.57	0.84
17:2:231:C:N1	17:2:891:G:N3	2.25	0.84
26:d:51:ARG:NH2	33:D:416:GLN:CG	2.09	0.84
33:D:51:VAL:HG23	50:k:614:ASP:CB	2.07	0.84
34:y:75:LYS:HG3	34:y:165:ARG:HH12	1.43	0.84
41:A:235:TYR:HD1	42:B:285:ASP:CB	1.90	0.84
12:Y:81:VAL:O	17:2:800:U:H5'	1.77	0.84
17:2:133:C:H41	17:2:137:U:H3	0.85	0.84
17:2:754:C:C2	17:2:783:G:C8	2.63	0.84
17:2:1855:G:C5	49:b:1:MET:CE	2.60	0.84
34:y:710:ILE:CB	43:p:196:LEU:HD13	2.08	0.84
38:t:349:MET:HE2	47:Q:444:ASN:CG	2.01	0.84
17:2:1141:A:O3'	49:b:89:ARG:NH2	2.08	0.84
2:C:113:GLN:HE21	17:2:1376:C:C1'	1.90	0.84
6:J:107:LYS:HB2	17:2:738:U:O2'	1.78	0.84
14:a:101:LYS:CG	14:a:107:ARG:NH2	2.40	0.84
15:c:63:LEU:O	15:c:74:THR:CG2	2.25	0.84
17:2:232:A:C6	17:2:889:U:N3	2.31	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:759:A:N1	17:2:777:C:N1	2.13	0.84
17:2:1202:G:O4'	17:2:1828:A:C5	2.30	0.84
17:2:1518:C:C3'	31:U:144:ARG:HA	2.07	0.84
17:2:1696:C:C5	40:1:34:C:N4	2.46	0.84
36:r:254:SER:CA	50:k:834:LEU:HD13	2.08	0.84
17:2:230:C:C2	17:2:892:U:C2	2.66	0.84
17:2:755:C:H1'	17:2:782:G:C5	2.13	0.84
34:y:8:PRO:CG	34:y:39:LYS:HD3	2.07	0.84
34:y:331:ILE:CG2	34:y:430:GLN:CD	2.12	0.84
17:2:230:C:C1'	17:2:892:U:O2	2.26	0.84
17:2:1116:U:C2'	17:2:1117:G:C5'	2.53	0.84
17:2:1203:G:O6	17:2:1831:G:O6	1.96	0.84
17:2:1696:C:N4	40:1:34:C:C4	2.45	0.84
33:D:52:ALA:HB3	50:k:589:ASN:OD1	1.77	0.84
34:y:230:LEU:HD11	34:y:271:LEU:CB	2.07	0.84
34:y:108:SER:HB2	34:y:145:LEU:HD22	1.56	0.84
14:a:12:PHE:HE1	17:2:836:C:H1'	1.41	0.83
17:2:1108:U:O2'	17:2:1109:A:H5'	1.77	0.83
34:y:101:THR:HA	34:y:149:TRP:HD1	1.42	0.83
34:y:277:ASN:HB3	34:y:299:LEU:HD11	1.58	0.83
34:y:331:ILE:HG23	34:y:430:GLN:CG	2.07	0.83
42:B:284:VAL:HG13	42:B:285:ASP:CB	2.08	0.83
2:C:205:ARG:HD3	2:C:207:PRO:CD	2.08	0.83
3:E:223:LYS:NZ	17:2:1352:G:OP1	2.11	0.83
17:2:1744:G:H22	17:2:1780:U:C1'	1.87	0.83
34:y:224:GLU:O	34:y:228:MET:HE2	1.78	0.83
41:A:108:VAL:HG23	41:A:150:TYR:HD1	1.43	0.83
17:2:11:A:N1	17:2:1197:U:C2	2.46	0.83
17:2:1814:G:O2'	17:2:1815:U:H5'	1.79	0.83
34:y:475:ALA:HB1	50:k:777:VAL:CG1	2.08	0.83
38:t:388:LEU:HB2	47:Q:426:LYS:CD	2.08	0.83
41:A:229:LEU:HB2	42:B:284:VAL:CB	2.08	0.83
15:c:35:VAL:HG13	15:c:78:SER:HB3	0.84	0.83
15:c:80:ARG:NH2	33:D:85:ASP:O	2.12	0.83
17:2:128:U:N3	17:2:212:G:C5	2.45	0.83
51:h:965:LEU:CA	51:h:1278:ARG:O	2.25	0.83
17:2:758:G:C8	17:2:779:C:C2	2.66	0.83
17:2:1695:C:C2	17:2:1697:G:C4	2.67	0.83
17:2:1743:G:C2	17:2:1781:G:C4	2.67	0.83
33:D:14:LEU:O	47:Q:25:THR:HG22	1.78	0.83
34:y:295:THR:OG1	34:y:359:LEU:CD2	2.27	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:28:LEU:HD23	34:y:29:ASP:N	1.93	0.83
17:2:757:C:H5	17:2:780:G:N1	1.74	0.83
36:r:254:SER:OG	50:k:834:LEU:HB2	1.76	0.83
17:2:128:U:C1'	17:2:212:G:H8	1.77	0.83
17:2:1054:A:OP2	41:A:57:ARG:NH2	2.11	0.83
20:M:96:ARG:HH22	48:j:290:ARG:N	1.76	0.83
33:D:13:PHE:HB2	47:Q:49:TYR:CB	2.08	0.83
2:C:85:ARG:HH12	23:T:85:VAL:HG13	0.66	0.83
17:2:1743:G:N1	17:2:1781:G:C5	2.47	0.83
26:d:35:MET:CA	33:D:426:LYS:HE2	2.07	0.83
31:U:140:GLY:O	31:U:141:ARG:HB2	1.77	0.83
34:y:338:ILE:HG13	50:k:724:LYS:HZ3	1.43	0.83
6:J:102:PRO:O	17:2:678:U:O4	1.74	0.82
17:2:228:A:N6	17:2:885:U:C4	2.47	0.82
17:2:958:A:H5'	19:H:135:ARG:NH2	1.93	0.82
22:S:146:ARG:NH2	40:1:33:C:C6	2.46	0.82
34:y:285:LYS:O	34:y:287:GLY:O	1.95	0.82
34:y:342:LEU:CD2	50:k:724:LYS:HZ1	1.72	0.82
34:y:476:ARG:NE	50:k:773:THR:C	2.37	0.82
43:p:592:ARG:NH2	44:z:342:HIS:HB3	1.93	0.82
17:2:743:U:H5'	17:2:744:C:O5'	1.79	0.82
17:2:1083:A:H61	49:b:1:MET:HG3	1.39	0.82
19:H:27:ASP:HA	33:D:472:LYS:HZ3	1.44	0.82
34:y:338:ILE:CG1	50:k:724:LYS:HZ3	1.91	0.82
17:2:800:U:N3	17:2:801:U:C5	2.46	0.82
34:y:68:LYS:C	34:y:68:LYS:HD3	2.05	0.82
34:y:230:LEU:HD12	34:y:271:LEU:HD22	1.61	0.82
35:q:336:MET:HG2	47:Q:418:TYR:HH	0.99	0.82
38:t:522:TYR:OH	47:Q:416:SER:CB	2.26	0.82
41:A:235:TYR:HD1	42:B:285:ASP:CG	1.86	0.82
34:y:5:PHE:C	34:y:6:GLN:HG2	2.03	0.82
34:y:184:PHE:HE1	34:y:188:TYR:CE2	1.97	0.82
34:y:346:GLY:HA2	34:y:348:ILE:HG13	1.61	0.82
36:r:272:GLN:CB	50:k:852:VAL:HG21	2.09	0.82
34:y:158:ARG:CA	34:y:162:ASP:OD2	2.27	0.82
34:y:297:HIS:CE1	34:y:325:ALA:CB	2.59	0.82
35:q:340:LEU:HD21	50:k:835:ALA:CB	2.09	0.82
2:C:89:LYS:CE	23:T:82:ASP:C	2.52	0.82
33:D:25:TRP:CZ2	47:Q:234:TRP:CD2	2.64	0.82
34:y:101:THR:HG22	34:y:149:TRP:CA	2.10	0.82
34:y:150:VAL:HG12	34:y:188:TYR:CG	2.13	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:175:HIS:ND1	34:y:231:GLU:OE1	2.13	0.82
34:y:229:HIS:O	34:y:233:ARG:HG2	1.80	0.82
34:y:725:TRP:HZ2	43:p:182:TRP:NE1	1.62	0.82
36:r:258:VAL:CG2	50:k:841:LYS:HD2	2.08	0.82
43:p:646:SER:CB	43:p:654:ARG:NH2	2.43	0.82
43:p:646:SER:HB2	43:p:654:ARG:NH2	1.94	0.82
43:p:682:ARG:CZ	44:z:248:LEU:HD12	1.99	0.82
2:C:85:ARG:HH21	23:T:84:TYR:H	1.27	0.82
26:d:38:THR:HG23	33:D:296:ASN:CG	2.04	0.82
32:R:128:HIS:HB3	32:R:129:GLY:HA3	1.62	0.82
17:2:1112:C:O2'	17:2:1113:C:OP1	1.95	0.82
26:d:35:MET:HA	33:D:426:LYS:HE3	1.61	0.82
34:y:368:ILE:C	34:y:371:ILE:HG22	2.05	0.82
34:y:476:ARG:C	50:k:777:VAL:HG21	2.05	0.82
17:2:128:U:H5'	17:2:212:G:C4'	2.10	0.82
17:2:232:A:N9	17:2:890:G:C2	2.48	0.82
34:y:370:LEU:O	34:y:373:ASP:HB2	1.79	0.82
34:y:394:LEU:HD21	34:y:435:THR:CG2	2.10	0.82
36:r:265:ARG:HH22	50:k:841:LYS:CB	1.78	0.82
36:r:272:GLN:CG	50:k:852:VAL:CG1	2.57	0.82
41:A:178:ASN:O	41:A:182:ARG:HG2	1.77	0.82
51:h:458:LEU:O	51:h:460:PRO:HA	1.80	0.82
17:2:959:A:H5"	41:A:53:ARG:HD3	1.60	0.82
17:2:1195:A:H2'	17:2:1196:A:H8	1.44	0.82
47:Q:431:ARG:CG	50:k:850:GLU:OE1	2.27	0.82
17:2:127:C:C6	17:2:129:C:C5	2.67	0.81
17:2:279:G:C6	17:2:286:C:N3	2.48	0.81
17:2:1517:A:H5"	31:U:142:ARG:NH2	1.95	0.81
33:D:93:ASP:O	33:D:95:ALA:N	2.13	0.81
34:y:279:VAL:O	34:y:282:VAL:HG12	1.79	0.81
34:y:291:PHE:CE1	34:y:359:LEU:HD22	2.15	0.81
47:Q:358:PHE:CE1	47:Q:373:LEU:CD2	2.63	0.81
51:h:964:SER:CB	51:h:1278:ARG:CB	2.58	0.81
34:y:277:ASN:HB3	34:y:299:LEU:CD1	2.09	0.81
34:y:291:PHE:CE1	34:y:359:LEU:CD1	2.63	0.81
43:p:656:MET:HE1	44:z:282:PHE:HA	1.61	0.81
2:C:201:LEU:HB2	23:T:83:ASN:CA	2.10	0.81
2:C:201:LEU:HB3	23:T:83:ASN:C	2.04	0.81
34:y:246:TRP:CD1	50:k:707:GLY:N	2.36	0.81
34:y:253:VAL:O	34:y:256:ILE:HG22	1.78	0.81
34:y:257:HIS:NE2	34:y:358:LEU:HD23	1.95	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:721:ASP:OD2	43:p:189:PRO:CG	2.28	0.81
40:1:18:G:C1'	40:1:61:C:C5'	2.57	0.81
47:Q:361:PHE:CE2	50:k:816:GLN:OE1	2.34	0.81
17:2:1195:A:C4	17:2:1196:A:N9	2.48	0.81
17:2:1695:C:O2	17:2:1697:G:C5	2.33	0.81
17:2:1863:A:O4'	49:b:41:ILE:HD11	1.80	0.81
34:y:230:LEU:CD1	34:y:271:LEU:HB3	2.09	0.81
17:2:958:A:O2'	41:A:53:ARG:C	2.23	0.81
17:2:1121:C:H1'	23:T:123:THR:HG21	1.62	0.81
17:2:1573:U:C4	18:F:3:VAL:HG11	2.15	0.81
26:d:38:THR:OG1	33:D:296:ASN:ND2	2.13	0.81
34:y:476:ARG:NE	50:k:774:TYR:N	2.29	0.81
36:r:272:GLN:NE2	50:k:852:VAL:HG12	1.95	0.81
17:2:755:C:N1	17:2:782:G:C5	2.48	0.81
19:H:198:ARG:CD	41:A:84:ASP:OD1	2.29	0.81
33:D:16:PRO:CB	47:Q:25:THR:HA	2.10	0.81
34:y:204:HIS:O	34:y:208:ILE:CG2	2.24	0.81
34:y:250:PHE:O	34:y:253:VAL:HG22	1.79	0.81
36:r:254:SER:HB3	50:k:834:LEU:HB3	0.82	0.81
34:y:156:SER:O	34:y:160:CYS:HB2	1.81	0.81
34:y:276:TYR:O	34:y:279:VAL:HG12	1.79	0.81
34:y:380:LEU:HD23	34:y:380:LEU:H	1.46	0.81
36:r:261:ASN:HD22	50:k:838:LEU:HD11	0.70	0.81
36:r:272:GLN:CD	50:k:852:VAL:CG1	2.53	0.81
43:p:656:MET:HE2	44:z:281:ILE:O	1.81	0.81
7:K:193:LYS:HE2	9:N:32:LYS:NZ	1.96	0.81
8:L:179:LYS:HA	51:h:511:GLU:CA	2.11	0.81
17:2:743:U:H5'	17:2:744:C:C5'	2.11	0.81
20:M:98:ARG:CZ	48:j:292:ASP:C	2.54	0.81
34:y:291:PHE:CD1	34:y:359:LEU:HD13	2.15	0.81
34:y:302:LEU:HG	34:y:306:MET:SD	2.21	0.81
34:y:302:LEU:HD11	34:y:306:MET:HE1	1.63	0.81
38:t:481:LEU:HD22	47:Q:393:ARG:HH22	1.45	0.81
17:2:232:A:N1	17:2:889:U:O2	2.07	0.81
17:2:1202:G:C4'	17:2:1828:A:C5	2.64	0.81
34:y:330:PRO:C	34:y:431:LEU:HD13	2.06	0.81
34:y:342:LEU:CA	50:k:681:GLU:OE1	2.17	0.81
34:y:390:LEU:HD11	34:y:410:VAL:C	2.00	0.81
43:p:218:ARG:CD	44:z:2:LYS:NZ	2.44	0.81
43:p:646:SER:CB	43:p:654:ARG:HH22	1.93	0.81
8:L:159:PHE:CZ	43:p:413:PHE:CE1	2.68	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:K:193:LYS:CE	9:N:32:LYS:HZ3	1.91	0.80
10:P:22:VAL:N	10:P:23:PRO:HA	1.93	0.80
34:y:268:LYS:HA	34:y:268:LYS:HE3	1.60	0.80
34:y:284:TRP:HZ2	34:y:426:GLN:HG3	0.91	0.80
34:y:363:ALA:HB1	34:y:364:PRO:CD	2.09	0.80
34:y:469:ARG:HD3	50:k:789:MET:HG2	1.63	0.80
34:y:710:ILE:HD13	43:p:196:LEU:CG	2.11	0.80
43:p:650:VAL:HG13	44:z:333:VAL:CG1	2.10	0.80
2:C:20:ALA:CB	23:T:92:ASP:CG	2.55	0.80
6:J:102:PRO:O	17:2:738:U:O2	1.99	0.80
10:P:24:THR:O	10:P:26:LEU:HD12	1.81	0.80
17:2:1518:C:O3'	31:U:144:ARG:CB	2.29	0.80
33:D:13:PHE:N	47:Q:49:TYR:CD1	2.49	0.80
33:D:79:ALA:HB2	50:k:576:ASN:HB3	1.63	0.80
34:y:21:VAL:CG1	45:x:187:LYS:HG2	2.09	0.80
34:y:465:PHE:HZ	50:k:788:ASP:HB3	1.41	0.80
38:t:388:LEU:HB3	47:Q:426:LYS:HD3	1.62	0.80
40:1:17:C:H2'	40:1:18:G:H5'	1.63	0.80
17:2:231:C:N1	17:2:891:G:C4	2.50	0.80
33:D:51:VAL:CG2	50:k:614:ASP:HB2	2.11	0.80
33:D:54:TRP:CE2	50:k:585:GLN:CB	2.60	0.80
34:y:68:LYS:HB2	34:y:159:GLN:OE1	1.81	0.80
34:y:101:THR:CB	34:y:149:TRP:HB3	2.11	0.80
34:y:326:THR:HG21	34:y:391:TYR:HE2	1.42	0.80
9:N:25:LEU:HD22	9:N:28:THR:O	1.81	0.80
17:2:752:C:N3	17:2:753:C:C4	2.50	0.80
17:2:1106:G:H22	23:T:126:MET:CE	1.89	0.80
34:y:710:ILE:CD1	43:p:613:THR:CG2	2.12	0.80
36:r:276:GLN:NE2	50:k:856:LYS:CA	2.45	0.80
17:2:1203:G:C2'	17:2:1831:G:H21	1.93	0.80
17:2:1707:A:N1	17:2:1708:C:C2	2.50	0.80
43:p:646:SER:CB	43:p:654:ARG:CZ	2.44	0.80
51:h:458:LEU:C	51:h:460:PRO:HA	2.07	0.80
17:2:1244:I2T:N1	40:1:34:C:O4'	2.13	0.80
17:2:1707:A:O2'	17:2:1708:C:H5'	1.82	0.80
20:M:96:ARG:CZ	48:j:293:ALA:H	1.93	0.80
17:2:753:C:N1	17:2:784:G:O6	2.14	0.80
17:2:1695:C:N3	17:2:1697:G:N1	2.30	0.80
34:y:230:LEU:HD12	34:y:271:LEU:CD2	2.12	0.80
34:y:291:PHE:CD1	34:y:359:LEU:CD2	2.65	0.80
36:r:254:SER:O	50:k:834:LEU:HD22	1.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:c:39:GLY:CA	50:k:429:ARG:HH12	1.94	0.80
17:2:12:U:N3	17:2:1196:A:C2	2.50	0.80
17:2:1202:G:C4'	17:2:1828:A:C6	2.64	0.80
17:2:1518:C:OP1	31:U:143:GLY:O	2.00	0.80
34:y:302:LEU:CD1	34:y:306:MET:HE1	2.11	0.80
34:y:338:ILE:HG13	50:k:724:LYS:NZ	1.95	0.80
10:P:20:ARG:CD	10:P:65:PHE:HE1	1.64	0.80
15:c:35:VAL:HG12	15:c:36:LYS:H	1.47	0.80
16:i:82:ARG:NH1	51:h:457:LEU:CB	2.45	0.80
17:2:1102:C:C2'	17:2:1103:G:C5'	2.58	0.80
17:2:1518:C:P	31:U:143:GLY:HA3	2.22	0.80
17:2:1573:U:O4	18:F:3:VAL:CG1	2.26	0.80
38:t:403:LYS:NZ	47:Q:396:ARG:HE	1.79	0.80
17:2:958:A:C5'	19:H:135:ARG:NH2	2.44	0.79
34:y:284:TRP:HZ2	34:y:426:GLN:CG	1.62	0.79
35:q:336:MET:HE1	47:Q:418:TYR:CE1	2.08	0.79
2:C:210:ILE:CB	23:T:81:ARG:NH1	2.46	0.79
34:y:208:ILE:CD1	34:y:262:LEU:HD21	1.76	0.79
36:r:276:GLN:CB	50:k:855:HIS:HB3	2.12	0.79
43:p:227:LYS:HE2	44:z:335:LYS:CD	2.12	0.79
14:a:101:LYS:HZ2	14:a:107:ARG:CZ	1.95	0.79
34:y:226:GLN:OE1	34:y:269:PRO:HG3	1.82	0.79
34:y:284:TRP:N	34:y:292:HIS:CD2	2.50	0.79
17:2:229:A:C2	17:2:893:U:N3	2.50	0.79
17:2:757:C:C4	17:2:780:G:C6	2.71	0.79
34:y:283:PHE:CE1	34:y:287:GLY:CA	2.50	0.79
34:y:319:SER:O	34:y:322:VAL:HG22	1.81	0.79
34:y:725:TRP:CD1	43:p:184:ILE:HG12	2.18	0.79
43:p:580:VAL:CG2	51:h:748:HIS:CB	2.61	0.79
43:p:592:ARG:CZ	44:z:342:HIS:HB3	2.13	0.79
16:i:82:ARG:HH21	16:i:85:LYS:N	1.80	0.79
17:2:1195:A:N3	17:2:1196:A:N9	2.30	0.79
26:d:40:ARG:HH12	46:0:121:ARG:CZ	1.94	0.79
33:D:55:THR:HG21	50:k:620:ARG:CZ	2.13	0.79
34:y:693:LYS:CG	43:p:635:GLU:HG2	2.13	0.79
41:A:88:ARG:CZ	46:0:64:ALA:C	2.56	0.79
41:A:205:ILE:HD12	42:B:288:LYS:CB	2.13	0.79
43:p:671:TYR:CD2	43:p:677:GLU:C	2.59	0.79
5:I:233:ARG:CZ	17:2:781:C:P	2.70	0.79
17:2:10:G:C5	17:2:1692:A:N1	2.49	0.79
17:2:1203:G:C5	17:2:1831:G:C4	2.69	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:145:TYR:O	22:S:146:ARG:CG	2.31	0.79
35:q:347:GLN:CG	50:k:842:LEU:CD1	2.57	0.79
15:c:43:ILE:CD1	33:D:84:GLU:CG	1.81	0.79
17:2:225:C:H41	17:2:882:A:HO2'	1.30	0.79
34:y:68:LYS:CG	34:y:163:LEU:CD2	2.61	0.79
10:P:20:ARG:HD2	10:P:65:PHE:HE1	0.86	0.79
17:2:1203:G:H2'	17:2:1831:G:N2	1.97	0.79
17:2:1816:A:O2'	17:2:1817:A:C8	2.35	0.79
34:y:150:VAL:CG1	34:y:188:TYR:CG	2.66	0.79
34:y:700:ARG:NH1	43:p:638:ASP:OD2	2.16	0.79
9:N:42:LEU:HB2	17:2:282:G:H1'	1.65	0.79
17:2:231:C:H2'	17:2:890:G:N2	1.98	0.79
17:2:800:U:C2'	17:2:801:U:H5'	2.13	0.79
17:2:958:A:N3	41:A:54:ARG:CA	2.44	0.79
34:y:394:LEU:CD2	34:y:435:THR:HG23	2.13	0.79
5:I:70:HIS:CD2	5:I:103:ASP:OD2	2.36	0.79
17:2:1244:I2T:C32	17:2:1244:I2T:O2	2.31	0.79
34:y:397:GLU:HG3	34:y:398:PHE:O	1.83	0.79
14:a:104:ARG:HH22	14:a:108:LYS:HZ2	1.19	0.78
17:2:1696:C:N3	40:1:34:C:N3	2.31	0.78
17:2:1743:G:N1	17:2:1781:G:C6	2.50	0.78
34:y:181:ALA:HB1	34:y:196:LYS:HE2	1.63	0.78
35:q:336:MET:HE3	47:Q:418:TYR:HE1	1.42	0.78
2:C:102:ARG:NE	17:2:1373:U:C5	2.50	0.78
17:2:13:C:C1'	17:2:1352:G:N2	2.34	0.78
17:2:710:C:C5	43:p:627:LEU:C	2.62	0.78
17:2:1108:U:H2'	17:2:1109:A:H5'	1.63	0.78
10:P:27:LYS:NZ	10:P:27:LYS:HB2	1.99	0.78
17:2:1202:G:H4'	17:2:1828:A:N1	1.98	0.78
17:2:1812:A:N1	17:2:1813:A:N7	2.32	0.78
34:y:166:ASN:HA	34:y:203:MET:SD	2.22	0.78
41:A:111:ILE:HD11	41:A:183:ARG:HH12	1.48	0.78
17:2:10:G:N1	17:2:1198:U:C2	2.51	0.78
33:D:93:ASP:C	33:D:95:ALA:H	1.88	0.78
36:r:280:ARG:HH11	50:k:855:HIS:CB	1.86	0.78
45:x:76:ASN:ND2	45:x:77:ASP:HB3	1.98	0.78
50:k:858:GLY:C	50:k:861:GLY:HA3	2.05	0.78
34:y:270:GLN:HG3	34:y:271:LEU:H	1.47	0.78
6:J:103:LYS:CG	17:2:678:U:N1	2.25	0.78
17:2:133:C:H42	17:2:137:U:H3	1.31	0.78
34:y:166:ASN:CA	34:y:203:MET:SD	2.72	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:221:ASN:CB	34:y:224:GLU:OE2	2.31	0.78
35:q:347:GLN:HG2	50:k:842:LEU:HD22	1.63	0.78
43:p:675:LYS:HZ1	44:z:166:LYS:CG	1.93	0.78
45:x:39:PHE:CD1	45:x:74:LEU:HD22	2.18	0.78
10:P:20:ARG:HG2	10:P:65:PHE:CD1	2.17	0.78
2:C:85:ARG:HH22	23:T:84:TYR:C	1.92	0.78
17:2:128:U:N3	17:2:212:G:C6	2.52	0.78
17:2:1116:U:O2'	17:2:1117:G:O5'	2.00	0.78
17:2:1863:A:C4	49:b:39:PHE:CE2	2.72	0.78
34:y:725:TRP:HZ2	43:p:183:ASP:O	1.61	0.78
36:r:265:ARG:NH1	50:k:845:LEU:HD12	1.71	0.78
17:2:129:C:H2'	17:2:184:G:C2	2.18	0.78
17:2:703:C:P	34:y:687:ARG:NE	2.56	0.78
17:2:800:U:O2'	17:2:801:U:H5'	1.83	0.78
17:2:1203:G:C6	17:2:1831:G:N7	2.52	0.78
17:2:1695:C:C2	17:2:1697:G:C2	2.72	0.78
20:M:98:ARG:HB3	48:j:263:GLY:C	2.08	0.78
6:J:118:ARG:CZ	17:2:677:C:N3	2.46	0.78
17:2:1202:G:C1'	17:2:1828:A:N9	2.47	0.78
33:D:91:LEU:HD11	50:k:644:VAL:HG23	0.78	0.78
34:y:277:ASN:CB	34:y:299:LEU:HD13	2.13	0.78
10:P:19:ARG:HH22	10:P:23:PRO:HB2	1.49	0.77
17:2:710:C:C5	43:p:627:LEU:CD1	2.67	0.77
22:S:146:ARG:NH1	40:1:33:C:P	2.57	0.77
34:y:158:ARG:O	34:y:162:ASP:CB	2.33	0.77
34:y:280:SER:HB2	34:y:295:THR:CG2	2.13	0.77
38:t:388:LEU:HB2	47:Q:426:LYS:HZ2	0.98	0.77
43:p:227:LYS:CD	44:z:335:LYS:HB3	2.10	0.77
17:2:1202:G:H1'	17:2:1828:A:C8	2.19	0.77
20:M:98:ARG:NH2	48:j:292:ASP:C	2.42	0.77
47:Q:291:LEU:HD21	47:Q:317:TYR:CZ	2.18	0.77
5:I:232:ARG:CB	17:2:781:C:H6	1.95	0.77
34:y:8:PRO:HB3	34:y:39:LYS:HD2	0.83	0.77
17:2:698:C:O2	17:2:720:C:O2	2.02	0.77
34:y:291:PHE:HD1	34:y:359:LEU:CD2	1.98	0.77
34:y:390:LEU:HD21	34:y:410:VAL:CB	2.03	0.77
34:y:703:ARG:NH1	43:p:610:ARG:CD	2.48	0.77
47:Q:63:SER:O	47:Q:90:LYS:NZ	2.16	0.77
14:a:100:LYS:HA	14:a:101:LYS:C	2.09	0.77
34:y:236:GLN:CG	34:y:252:ALA:CB	2.35	0.77
43:p:646:SER:CA	43:p:654:ARG:HH12	1.97	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:76:ASN:CA	45:x:77:ASP:HB3	2.14	0.77
2:C:214:GLU:OE1	23:T:81:ARG:CZ	2.32	0.77
17:2:129:C:H2'	17:2:184:G:N1	2.00	0.77
17:2:702:G:O3'	34:y:687:ARG:HD2	1.82	0.77
17:2:1119:C:O2	23:T:126:MET:HE1	1.84	0.77
33:D:13:PHE:CZ	47:Q:43:LEU:HD12	2.18	0.77
33:D:91:LEU:CG	50:k:644:VAL:HG23	2.15	0.77
34:y:330:PRO:O	34:y:331:ILE:HG12	1.85	0.77
40:1:16:G:H2'	40:1:17:C:H5"	1.66	0.77
17:2:753:C:O2	17:2:784:G:C6	2.37	0.77
34:y:59:VAL:CG2	34:y:93:TYR:HE1	1.97	0.77
34:y:205:LEU:HD11	34:y:209:GLN:HE21	0.64	0.77
34:y:330:PRO:HB2	34:y:431:LEU:HD13	0.77	0.77
34:y:399:ASN:OD1	39:u:313:ILE:HG21	1.85	0.77
17:2:128:U:N1	17:2:212:G:N9	2.32	0.77
17:2:1083:A:N7	49:b:1:MET:HE3	2.00	0.77
34:y:714:TYR:HB3	43:p:193:LEU:HD21	1.67	0.77
45:x:39:PHE:CG	45:x:74:LEU:HD22	2.20	0.77
9:N:42:LEU:HA	17:2:282:G:H1'	1.65	0.77
17:2:10:G:C8	17:2:1692:A:N3	2.53	0.77
17:2:524:G:C2	17:2:540:C:C2	2.70	0.77
17:2:1695:C:C4	17:2:1697:G:N2	2.53	0.77
33:D:27:PRO:HG3	47:Q:226:GLN:HG3	0.80	0.77
34:y:714:TYR:CB	43:p:193:LEU:CD2	2.61	0.77
36:r:262:THR:OG1	50:k:841:LYS:HD3	1.85	0.77
47:Q:431:ARG:CD	50:k:850:GLU:OE2	2.29	0.77
17:2:1111:U:H6	17:2:1113:C:H41	1.30	0.76
41:A:229:LEU:HB2	42:B:284:VAL:CG2	2.14	0.76
17:2:1195:A:C6	17:2:1196:A:C2	2.70	0.76
17:2:1203:G:N3	17:2:1831:G:C4	2.53	0.76
17:2:1687:U:H4'	49:b:92:ARG:NH2	1.99	0.76
33:D:51:VAL:HG21	50:k:614:ASP:C	2.10	0.76
34:y:104:ALA:HB3	34:y:149:TRP:HD1	0.97	0.76
10:P:20:ARG:HD3	10:P:65:PHE:CE1	2.15	0.76
17:2:1121:C:O4'	23:T:123:THR:HG23	1.83	0.76
41:A:58:SER:HB3	41:A:61:LYS:CD	2.12	0.76
17:2:755:C:C1'	17:2:782:G:C5	2.68	0.76
34:y:100:LYS:O	34:y:149:TRP:CD1	2.38	0.76
15:c:79:PHE:HE2	33:D:92:VAL:CG2	1.98	0.76
20:M:98:ARG:HB3	48:j:264:SER:H	1.50	0.76
34:y:113:LEU:CD1	34:y:138:GLN:HB2	2.09	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:179:LYS:O	51:h:507:GLN:O	2.04	0.76
15:c:77:CYS:N	33:D:89:PHE:HZ	1.46	0.76
17:2:1743:G:C2	17:2:1781:G:C6	2.74	0.76
2:C:89:LYS:HZ2	23:T:83:ASN:HB3	1.47	0.76
2:C:210:ILE:CD1	23:T:81:ARG:CG	2.56	0.76
17:2:10:G:O6	17:2:1692:A:N1	2.19	0.76
17:2:710:C:H5	43:p:627:LEU:HG	1.34	0.76
17:2:948:G:C6	17:2:949:C:C4	2.74	0.76
17:2:229:A:N1	17:2:892:U:C4	2.53	0.76
34:y:201:LEU:HD21	34:y:255:ASP:CG	2.10	0.76
5:I:68:LEU:HD22	5:I:68:LEU:H	1.49	0.76
9:N:22:ARG:NH2	9:N:24:LEU:HB2	1.99	0.76
34:y:291:PHE:HE1	34:y:359:LEU:HB2	1.51	0.76
34:y:293:ALA:HB2	34:y:328:SER:O	1.86	0.76
34:y:293:ALA:HA	34:y:328:SER:CB	2.14	0.76
46:0:124:MET:O	49:b:56:VAL:CG1	2.34	0.76
2:C:43:SER:OG	23:T:120:THR:OG1	2.04	0.76
17:2:747:G:C2'	17:2:748:G:H5'	2.15	0.76
20:M:98:ARG:CD	48:j:292:ASP:CB	2.64	0.76
34:y:12:LEU:CD2	34:y:16:ASN:ND2	2.49	0.76
38:t:388:LEU:CB	47:Q:426:LYS:HD3	2.16	0.76
17:2:1102:C:H2'	17:2:1103:G:C5'	2.11	0.75
17:2:1195:A:C5	17:2:1196:A:C4	2.74	0.75
26:d:42:ILE:CG2	46:0:117:ARG:NH1	2.48	0.75
34:y:26:PRO:HB2	45:x:195:LYS:HG2	1.68	0.75
9:N:42:LEU:CA	17:2:282:G:C1'	2.56	0.75
17:2:800:U:C2	17:2:801:U:C6	2.75	0.75
38:t:342:TYR:OH	47:Q:437:MET:HE3	1.63	0.75
41:A:58:SER:CB	41:A:61:LYS:HD2	2.16	0.75
14:a:101:LYS:HZ3	14:a:107:ARG:CZ	1.99	0.75
15:c:36:LYS:H	15:c:78:SER:HB2	1.51	0.75
17:2:128:U:C6	17:2:212:G:N9	2.54	0.75
17:2:128:U:C5'	17:2:212:G:O4'	2.34	0.75
17:2:1709:U:O4	17:2:1813:A:N6	2.19	0.75
17:2:1739:G:C2	17:2:1784:A:C6	2.68	0.75
34:y:329:ILE:HB	34:y:330:PRO:CD	2.16	0.75
6:J:103:LYS:HG3	17:2:678:U:H1'	1.66	0.75
17:2:131:C:N3	17:2:178:C:C5'	2.49	0.75
33:D:25:TRP:CE2	47:Q:234:TRP:CE3	2.69	0.75
14:a:104:ARG:O	14:a:105:LYS:CB	2.34	0.75
17:2:229:A:C2	17:2:892:U:O4	2.37	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:958:A:C2	41:A:54:ARG:CB	2.70	0.75
17:2:761:G:O6	17:2:774:U:O2	2.04	0.75
33:D:16:PRO:HB3	47:Q:25:THR:O	1.87	0.75
34:y:293:ALA:HB2	34:y:328:SER:CA	2.16	0.75
35:q:347:GLN:HG2	50:k:842:LEU:CD2	2.11	0.75
17:2:1203:G:N7	17:2:1831:G:C2	2.51	0.75
33:D:80:TYR:CE1	50:k:542:ARG:CB	2.69	0.75
34:y:692:GLU:CG	43:p:589:PHE:CZ	2.70	0.75
34:y:714:TYR:OH	43:p:190:PHE:HD2	1.67	0.75
36:r:272:GLN:HB2	50:k:852:VAL:HG21	1.65	0.75
45:x:76:ASN:HA	45:x:77:ASP:CB	2.13	0.75
17:2:1812:A:C2	17:2:1813:A:N7	2.54	0.75
22:S:146:ARG:NE	40:1:33:C:C5	2.55	0.75
34:y:124:PRO:HG2	34:y:127:VAL:H	1.50	0.75
34:y:158:ARG:HA	34:y:162:ASP:OD2	1.87	0.75
38:t:388:LEU:CB	47:Q:426:LYS:CD	2.64	0.75
9:N:22:ARG:NH2	9:N:24:LEU:HD13	2.02	0.75
17:2:757:C:C5	17:2:780:G:C5	2.74	0.75
34:y:126:SER:HB2	50:k:452:LEU:HD23	1.68	0.75
35:q:347:GLN:HG2	50:k:842:LEU:CG	2.17	0.75
6:J:118:ARG:NH1	17:2:677:C:C2	2.53	0.74
15:c:39:GLY:HA2	50:k:429:ARG:NH1	2.02	0.74
15:c:53:VAL:HG21	50:k:320:GLY:CA	2.16	0.74
17:2:1202:G:O2'	17:2:1828:A:N3	2.18	0.74
33:D:50:LYS:NZ	50:k:578:GLN:NE2	2.35	0.74
33:D:79:ALA:HB1	50:k:576:ASN:HB3	1.67	0.74
34:y:710:ILE:CG1	43:p:613:THR:CG2	2.57	0.74
36:r:277:TYR:HA	50:k:855:HIS:CD2	2.22	0.74
2:C:89:LYS:HZ1	23:T:83:ASN:HB3	1.51	0.74
17:2:232:A:C4	17:2:890:G:N3	2.55	0.74
17:2:1116:U:C2'	17:2:1117:G:O5'	2.34	0.74
17:2:1195:A:N9	17:2:1196:A:C8	2.54	0.74
41:A:54:ARG:CB	41:A:54:ARG:HH21	1.99	0.74
41:A:157:VAL:HG11	41:A:180:ILE:CD1	2.16	0.74
41:A:202:TYR:HB2	42:B:355:LYS:HB3	1.69	0.74
43:p:675:LYS:NZ	44:z:166:LYS:CB	2.48	0.74
20:M:98:ARG:CB	48:j:264:SER:N	2.49	0.74
40:1:16:G:C5	40:1:17:C:C5	2.75	0.74
8:L:119:LEU:CD2	43:p:393:PRO:HB2	2.17	0.74
10:P:19:ARG:HH22	10:P:23:PRO:CB	2.00	0.74
34:y:42:THR:HA	34:y:77:ILE:HB	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:475:ALA:HB1	50:k:777:VAL:HG12	1.68	0.74
36:r:280:ARG:HH22	50:k:855:HIS:CE1	2.05	0.74
34:y:5:PHE:O	34:y:6:GLN:HG2	1.88	0.74
34:y:472:VAL:CG2	50:k:778:TYR:HE1	2.01	0.74
34:y:700:ARG:HH12	43:p:638:ASP:CG	1.96	0.74
38:t:463:PHE:CG	47:Q:393:ARG:NH2	2.54	0.74
41:A:202:TYR:HB2	42:B:355:LYS:CB	2.18	0.74
17:2:230:C:C2'	17:2:891:G:C2	2.56	0.74
34:y:158:ARG:O	34:y:162:ASP:CG	2.31	0.74
34:y:179:GLN:CA	34:y:179:GLN:HE21	2.00	0.74
34:y:238:ASP:O	34:y:242:SER:HB2	1.88	0.74
34:y:284:TRP:H	34:y:292:HIS:HD2	1.33	0.74
2:C:205:ARG:CG	2:C:210:ILE:HD11	2.17	0.74
17:2:1518:C:C5'	31:U:144:ARG:CA	2.64	0.74
34:y:283:PHE:CZ	34:y:287:GLY:HA3	2.21	0.74
36:r:277:TYR:HA	50:k:855:HIS:HD2	1.53	0.74
16:i:92:LYS:HE2	51:h:453:SER:N	2.02	0.74
34:y:240:ALA:HB1	34:y:245:LEU:O	1.88	0.74
34:y:268:LYS:HA	34:y:268:LYS:CE	2.17	0.74
45:x:190:PRO:C	45:x:191:ASP:CG	2.56	0.74
47:Q:431:ARG:CD	50:k:850:GLU:CD	2.46	0.74
10:P:20:ARG:HD2	10:P:65:PHE:CD1	2.21	0.74
26:d:42:ILE:CG2	46:0:117:ARG:HH12	2.00	0.74
34:y:94:LEU:HD22	34:y:157:TYR:CE1	2.23	0.74
34:y:368:ILE:CG2	34:y:371:ILE:HG21	2.18	0.74
36:r:276:GLN:CD	50:k:856:LYS:HD3	2.12	0.74
38:t:391:ARG:CZ	47:Q:426:LYS:HZ1	2.01	0.74
43:p:654:ARG:O	43:p:658:GLU:HG3	1.87	0.74
17:2:12:U:H1'	17:2:1353:A:N3	2.03	0.74
17:2:267:G:H2'	17:2:268:G:H8	1.52	0.74
33:D:12:LYS:C	47:Q:49:TYR:CD1	2.66	0.74
34:y:25:GLN:HG2	34:y:26:PRO:HD3	1.70	0.74
34:y:83:ILE:N	34:y:83:ILE:HD12	2.03	0.74
34:y:367:ARG:NH1	34:y:368:ILE:HD12	2.02	0.74
6:J:102:PRO:O	17:2:738:U:C2	2.35	0.73
15:c:33:MET:HE1	15:c:73:LEU:CD1	2.13	0.73
17:2:256:C:H2'	17:2:257:G:H8	1.52	0.73
17:2:958:A:N3	41:A:53:ARG:O	2.21	0.73
17:2:1195:A:C4	17:2:1196:A:C4	2.76	0.73
33:D:18:ILE:HD13	47:Q:36:VAL:HG23	1.68	0.73
17:2:757:C:H5	17:2:780:G:C6	1.95	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:293:ALA:CB	34:y:328:SER:C	2.61	0.73
38:t:357:TYR:HH	47:Q:437:MET:HE1	1.51	0.73
41:A:114:HIS:CE1	41:A:175:VAL:HG21	2.23	0.73
10:P:19:ARG:NH1	15:c:84:HIS:CE1	2.57	0.73
17:2:13:C:H1'	17:2:1352:G:H21	1.26	0.73
17:2:281:U:H2'	17:2:283:A:N7	2.04	0.73
17:2:539:C:H4'	43:p:439:GLY:HA2	1.70	0.73
34:y:11:ALA:HB2	34:y:34:VAL:HG21	1.71	0.73
34:y:17:GLU:C	45:x:190:PRO:CG	2.61	0.73
34:y:107:GLU:HG3	34:y:145:LEU:HD21	1.70	0.73
34:y:245:LEU:C	34:y:246:TRP:CE3	2.65	0.73
2:C:201:LEU:CB	23:T:84:TYR:N	2.45	0.73
10:P:27:LYS:C	10:P:28:LEU:HG	2.12	0.73
17:2:127:C:C3'	17:2:129:C:C6	2.67	0.73
17:2:129:C:C3'	17:2:184:G:N1	2.52	0.73
17:2:279:G:O6	17:2:286:C:C4	2.42	0.73
17:2:800:U:H2'	17:2:801:U:H5'	1.67	0.73
17:2:1855:G:C5	49:b:1:MET:HE2	2.23	0.73
34:y:353:ARG:HD3	34:y:353:ARG:C	2.13	0.73
34:y:710:ILE:CG1	43:p:196:LEU:CD1	2.57	0.73
51:h:908:SER:CB	51:h:1109:SER:O	2.36	0.73
15:c:53:VAL:CG2	50:k:320:GLY:C	2.40	0.73
17:2:241:A:N1	17:2:265:G:N2	2.31	0.73
33:D:93:ASP:C	33:D:95:ALA:N	2.46	0.73
34:y:259:LEU:O	34:y:263:SER:OG	2.05	0.73
47:Q:428:LEU:HD23	50:k:846:VAL:CG1	2.18	0.73
15:c:80:ARG:HH21	33:D:87:THR:N	1.86	0.73
17:2:1858:U:H3'	49:b:5:ARG:NH2	2.03	0.73
18:F:193:ASP:N	18:F:194:PRO:HD2	2.02	0.73
34:y:234:LEU:N	34:y:234:LEU:HD23	2.03	0.73
44:z:41:ASN:ND2	51:h:583:GLU:HA	2.03	0.73
2:C:89:LYS:HE3	23:T:83:ASN:CA	2.18	0.73
7:K:193:LYS:CE	9:N:32:LYS:HZ1	1.97	0.73
20:M:98:ARG:CB	48:j:264:SER:H	2.00	0.73
34:y:296:LEU:HD13	34:y:324:LEU:HB3	1.70	0.73
34:y:707:ILE:CD1	43:p:200:LEU:HB2	2.19	0.73
41:A:185:THR:CB	41:A:187:GLN:HB2	2.15	0.73
17:2:229:A:C2	17:2:892:U:N3	2.56	0.73
17:2:280:G:N1	17:2:284:C:H5	1.87	0.73
17:2:524:G:O6	17:2:540:C:N4	2.20	0.73
17:2:1202:G:C1'	17:2:1828:A:C4	2.72	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1695:C:C2	17:2:1697:G:N1	2.56	0.73
34:y:465:PHE:CE1	50:k:788:ASP:CB	2.71	0.73
41:A:54:ARG:HH21	41:A:54:ARG:HB2	1.53	0.73
10:P:26:LEU:C	10:P:26:LEU:HD13	2.14	0.73
34:y:71:LEU:HB3	34:y:164:LEU:CD2	2.18	0.73
34:y:475:ALA:CB	50:k:777:VAL:CG1	2.67	0.73
34:y:710:ILE:HG21	43:p:196:LEU:HD13	1.58	0.73
12:Y:82:GLN:CD	17:2:800:U:OP1	2.32	0.73
17:2:129:C:H3'	17:2:184:G:O6	1.89	0.73
26:d:63:ARG:NH1	46:0:71:PRO:HB2	2.01	0.73
34:y:17:GLU:HB3	45:x:190:PRO:CA	2.19	0.73
34:y:179:GLN:O	34:y:183:LYS:HD2	1.89	0.73
26:d:42:ILE:HG21	46:0:117:ARG:HH12	1.54	0.72
34:y:68:LYS:HG2	34:y:163:LEU:CD2	2.19	0.72
34:y:83:ILE:HD12	34:y:83:ILE:H	1.54	0.72
34:y:159:GLN:O	34:y:163:LEU:HB3	1.89	0.72
34:y:374:MET:O	34:y:379:VAL:HG21	1.89	0.72
36:r:277:TYR:HD1	50:k:855:HIS:CD2	2.07	0.72
5:I:68:LEU:HD22	5:I:68:LEU:N	2.05	0.72
17:2:1195:A:N7	17:2:1196:A:N7	2.36	0.72
32:R:130:ARG:HA	32:R:130:ARG:NH1	2.04	0.72
34:y:8:PRO:CG	34:y:39:LYS:CD	2.66	0.72
34:y:472:VAL:HG22	50:k:778:TYR:CE1	2.20	0.72
15:c:68:GLY:O	17:2:1101:G:C5'	2.37	0.72
16:i:82:ARG:HH12	51:h:457:LEU:CB	2.02	0.72
17:2:11:A:N1	17:2:1197:U:O2	2.23	0.72
17:2:1707:A:H2	17:2:1708:C:C2	2.01	0.72
34:y:300:TYR:C	34:y:321:ARG:NH1	2.46	0.72
41:A:205:ILE:HD13	42:B:288:LYS:HG3	1.71	0.72
45:x:190:PRO:O	45:x:191:ASP:CG	2.32	0.72
47:Q:121:MET:HE1	47:Q:170:PHE:HD1	1.52	0.72
47:Q:355:LEU:CD2	47:Q:391:LEU:HD12	2.19	0.72
47:Q:452:PRO:HB2	47:Q:454:TRP:CD1	2.25	0.72
17:2:128:U:H1'	17:2:212:G:N7	2.02	0.72
17:2:128:U:C6	17:2:212:G:H1'	2.24	0.72
17:2:960:A:P	41:A:53:ARG:HD2	2.29	0.72
17:2:1695:C:N1	17:2:1697:G:C4	2.58	0.72
20:M:98:ARG:CB	48:j:263:GLY:CA	2.66	0.72
33:D:79:ALA:HB2	50:k:576:ASN:CG	2.15	0.72
34:y:717:GLN:HG3	43:p:189:PRO:CG	2.19	0.72
38:t:403:LYS:CD	47:Q:396:ARG:NH2	2.51	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:231:C:C2	17:2:891:G:C5	2.77	0.72
17:2:1696:C:O3'	17:2:1697:G:C5'	2.23	0.72
18:F:59:LEU:HD21	48:j:290:ARG:H	1.54	0.72
34:y:323:LEU:HG	34:y:324:LEU:N	2.04	0.72
34:y:329:ILE:HD12	34:y:370:LEU:HB2	1.70	0.72
36:r:261:ASN:ND2	50:k:838:LEU:CD1	2.33	0.72
41:A:227:ILE:CD1	41:A:237:MET:CE	2.62	0.72
17:2:752:C:N4	17:2:753:C:H41	1.88	0.72
17:2:776:U:C2	17:2:777:C:H6	2.01	0.72
33:D:16:PRO:HB3	47:Q:25:THR:C	2.14	0.72
34:y:710:ILE:HG21	43:p:196:LEU:CG	2.18	0.72
41:A:55:ARG:C	41:A:56:ILE:HD12	2.14	0.72
41:A:58:SER:HB3	41:A:61:LYS:HD2	1.70	0.72
17:2:776:U:N3	17:2:777:C:H6	1.72	0.72
17:2:1518:C:C5'	31:U:143:GLY:O	2.38	0.72
34:y:17:GLU:HB3	45:x:190:PRO:CG	2.19	0.72
34:y:327:LEU:O	34:y:331:ILE:HG12	1.88	0.72
38:t:349:MET:HE3	47:Q:444:ASN:HD21	1.53	0.72
41:A:88:ARG:NE	46:0:64:ALA:C	2.47	0.72
47:Q:428:LEU:HD21	50:k:846:VAL:HB	1.70	0.72
2:C:201:LEU:HB3	23:T:83:ASN:O	1.88	0.72
6:J:118:ARG:CD	17:2:677:C:H1'	2.16	0.72
15:c:66:PRO:HD2	50:k:322:LYS:HB2	1.72	0.72
34:y:301:HIS:HE1	34:y:377:PHE:CZ	2.07	0.72
36:r:280:ARG:HH12	50:k:855:HIS:CA	1.81	0.72
14:a:12:PHE:CE1	17:2:836:C:C1'	2.65	0.72
17:2:10:G:C8	17:2:1692:A:C2	2.78	0.72
17:2:229:A:C2	17:2:893:U:C4	2.78	0.72
17:2:1244:I2T:C5	40:1:34:C:O4'	2.23	0.72
34:y:12:LEU:HD23	34:y:16:ASN:ND2	2.05	0.72
34:y:124:PRO:HG2	34:y:128:LEU:N	2.05	0.72
34:y:375:VAL:HG22	34:y:379:VAL:HG11	1.72	0.72
15:c:39:GLY:CA	50:k:429:ARG:NH1	2.53	0.71
15:c:73:LEU:HD22	15:c:73:LEU:N	2.05	0.71
17:2:229:A:C2	17:2:892:U:C4	2.78	0.71
17:2:232:A:N7	17:2:890:G:N1	2.38	0.71
17:2:1195:A:H5"	49:b:2:THR:HG22	1.72	0.71
34:y:259:LEU:C	34:y:263:SER:HG	1.98	0.71
34:y:330:PRO:CA	34:y:431:LEU:HD13	2.19	0.71
43:p:656:MET:CE	44:z:282:PHE:HA	2.19	0.71
47:Q:366:GLN:CD	50:k:813:SER:HB2	2.14	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:85:ARG:CD	23:T:82:ASP:HA	2.19	0.71
34:y:12:LEU:HD22	34:y:16:ASN:HD21	1.55	0.71
34:y:166:ASN:HB3	34:y:203:MET:CG	2.20	0.71
2:C:201:LEU:HD12	23:T:83:ASN:C	2.11	0.71
17:2:131:C:N4	17:2:178:C:H3'	2.02	0.71
17:2:800:U:C2'	17:2:801:U:C5'	2.67	0.71
17:2:1052:U:H5"	41:A:54:ARG:NH2	2.02	0.71
17:2:1105:C:N3	23:T:122:PRO:CB	2.20	0.71
33:D:13:PHE:CE1	47:Q:43:LEU:HD11	2.04	0.71
33:D:24:GLY:HA2	47:Q:184:SER:HB3	0.74	0.71
34:y:179:GLN:HE21	34:y:179:GLN:N	1.88	0.71
34:y:227:SER:CB	34:y:228:MET:HE2	2.20	0.71
34:y:475:ALA:CB	50:k:777:VAL:HG11	2.20	0.71
40:1:18:G:H4'	40:1:61:C:P	2.29	0.71
17:2:757:C:H2'	17:2:758:G:C8	2.24	0.71
17:2:1083:A:C6	49:b:1:MET:HG3	2.21	0.71
33:D:11:ALA:HB3	47:Q:48:ILE:O	1.91	0.71
34:y:157:TYR:O	34:y:162:ASP:OD2	2.07	0.71
34:y:299:LEU:O	34:y:321:ARG:NH1	2.23	0.71
34:y:469:ARG:HD2	50:k:789:MET:HE3	1.72	0.71
43:p:675:LYS:HZ3	44:z:166:LYS:HG3	0.57	0.71
47:Q:358:PHE:CE1	47:Q:373:LEU:CG	2.74	0.71
34:y:91:ARG:NH1	34:y:173:LEU:HD12	2.06	0.71
34:y:245:LEU:HB3	34:y:248:GLU:CG	2.19	0.71
2:C:206:ASP:HB3	2:C:209:GLU:HB2	1.73	0.71
2:C:206:ASP:CB	2:C:209:GLU:OE2	2.37	0.71
17:2:80:G:H2'	17:2:81:U:C6	2.26	0.71
17:2:1204:A:OP2	17:2:1829:A:O2'	2.07	0.71
17:2:1518:C:H5'	31:U:144:ARG:CG	2.18	0.71
17:2:1518:C:O3'	31:U:144:ARG:CA	2.38	0.71
20:M:98:ARG:HG3	48:j:263:GLY:HA2	0.72	0.71
33:D:25:TRP:N	47:Q:184:SER:CA	2.44	0.71
34:y:475:ALA:O	50:k:777:VAL:HG13	1.91	0.71
34:y:699:GLU:CG	43:p:565:THR:HB	2.20	0.71
16:i:82:ARG:HH22	16:i:84:GLY:CA	2.02	0.71
17:2:747:G:H2'	17:2:748:G:H5'	1.73	0.71
17:2:758:G:N7	17:2:779:C:N3	2.38	0.71
17:2:958:A:H2	41:A:54:ARG:CB	2.03	0.71
34:y:710:ILE:HD13	43:p:196:LEU:HD22	1.72	0.71
43:p:218:ARG:CG	44:z:2:LYS:NZ	2.54	0.71
47:Q:303:TYR:CE2	47:Q:304:THR:HG23	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:103:LYS:HG3	17:2:678:U:C1'	2.20	0.71
17:2:757:C:N4	17:2:780:G:O6	2.23	0.71
33:D:12:LYS:C	47:Q:49:TYR:HD1	1.98	0.71
33:D:14:LEU:O	47:Q:25:THR:CG2	2.39	0.71
12:Y:122:GLY:CA	17:2:800:U:H4'	2.19	0.71
15:c:79:PHE:H	33:D:89:PHE:CA	2.04	0.71
17:2:1108:U:O2'	17:2:1109:A:H5"	1.90	0.71
34:y:150:VAL:CG1	34:y:188:TYR:CE1	2.72	0.71
34:y:323:LEU:O	34:y:327:LEU:HD13	1.91	0.71
34:y:344:MET:HA	34:y:345:ASP:CB	2.06	0.71
34:y:385:PRO:HA	34:y:388:LYS:HG3	1.73	0.71
41:A:58:SER:HB2	41:A:61:LYS:HE3	1.71	0.71
47:Q:121:MET:HG2	47:Q:130:LEU:HD21	1.71	0.71
33:D:51:VAL:CG2	50:k:614:ASP:CB	2.68	0.71
34:y:75:LYS:O	34:y:79:GLN:HG2	1.90	0.71
34:y:108:SER:CB	34:y:145:LEU:HD22	2.20	0.71
34:y:692:GLU:HG3	43:p:589:PHE:CZ	2.22	0.71
10:P:19:ARG:NH1	15:c:84:HIS:NE2	2.39	0.70
14:a:104:ARG:NH2	14:a:108:LYS:HE3	2.00	0.70
15:c:33:MET:SD	15:c:79:PHE:CE1	2.84	0.70
17:2:225:C:H42	17:2:882:A:C2'	2.04	0.70
17:2:759:A:C6	17:2:777:C:N3	2.59	0.70
17:2:1203:G:C6	17:2:1831:G:C4	2.79	0.70
34:y:167:ASN:O	34:y:168:SER:HB3	1.90	0.70
34:y:709:LEU:CD1	43:p:614:LEU:HD23	2.21	0.70
36:r:280:ARG:NH2	50:k:855:HIS:NE2	2.39	0.70
43:p:584:TYR:OH	44:z:324:LYS:HE2	1.88	0.70
2:C:85:ARG:CG	23:T:82:ASP:OD1	2.39	0.70
17:2:229:A:H2	17:2:892:U:H3	1.38	0.70
17:2:702:G:O3'	34:y:687:ARG:NE	2.00	0.70
17:2:1687:U:H4'	49:b:92:ARG:HH22	1.55	0.70
34:y:280:SER:O	34:y:292:HIS:HD2	1.75	0.70
34:y:472:VAL:C	50:k:778:TYR:OH	2.33	0.70
34:y:697:TYR:CG	43:p:634:PHE:HB3	2.25	0.70
41:A:49:SER:O	46:0:66:ARG:NH2	2.24	0.70
16:i:82:ARG:HH21	16:i:85:LYS:CA	2.04	0.70
17:2:1195:A:H62	17:2:1196:A:N6	1.86	0.70
17:2:1707:A:C4	17:2:1708:C:C5	2.79	0.70
17:2:1855:G:O4'	49:b:1:MET:SD	2.49	0.70
33:D:25:TRP:O	47:Q:187:TRP:HD1	1.73	0.70
33:D:55:THR:HG21	50:k:620:ARG:HH12	0.55	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:42:THR:HB	34:y:77:ILE:O	1.92	0.70
34:y:363:ALA:HB1	34:y:364:PRO:HD3	1.71	0.70
34:y:381:GLN:HA	34:y:381:GLN:NE2	2.06	0.70
38:t:391:ARG:NH1	47:Q:426:LYS:HZ1	1.90	0.70
40:1:18:G:O4'	40:1:61:C:C5'	2.38	0.70
17:2:1106:G:H4'	23:T:121:GLN:OE1	1.91	0.70
17:2:1195:A:H5"	49:b:2:THR:HG23	1.71	0.70
17:2:1707:A:C4	17:2:1708:C:C6	2.80	0.70
26:d:33:GLU:HG2	33:D:426:LYS:HZ3	1.55	0.70
34:y:333:PRO:CG	34:y:437:LEU:CD2	2.68	0.70
34:y:476:ARG:HA	50:k:777:VAL:CB	2.21	0.70
17:2:752:C:H2'	17:2:753:C:C5'	2.20	0.70
17:2:1118:A:OP1	45:x:160:GLN:NE2	2.23	0.70
34:y:147:THR:O	34:y:150:VAL:HG23	1.90	0.70
43:p:218:ARG:HH12	44:z:2:LYS:HD2	0.88	0.70
17:2:1518:C:H5'	31:U:143:GLY:C	2.17	0.70
34:y:338:ILE:HG12	50:k:724:LYS:CD	2.22	0.70
34:y:721:ASP:OD2	43:p:189:PRO:CD	2.39	0.70
12:Y:122:GLY:HA3	17:2:800:U:C4'	2.18	0.70
15:c:36:LYS:N	15:c:78:SER:HB2	2.07	0.70
17:2:238:G:H22	17:2:268:G:H22	1.39	0.70
18:F:3:VAL:CG2	18:F:4:GLN:H	1.90	0.70
34:y:101:THR:HG22	34:y:149:TRP:HB3	0.76	0.70
34:y:166:ASN:HB3	34:y:203:MET:HG2	1.73	0.70
34:y:270:GLN:CG	34:y:271:LEU:H	2.05	0.70
26:d:51:ARG:CZ	33:D:415:SER:HB2	2.22	0.70
34:y:366:THR:O	34:y:370:LEU:HG	1.90	0.70
43:p:218:ARG:CD	44:z:2:LYS:HZ3	1.98	0.70
34:y:121:ILE:HD12	34:y:121:ILE:C	2.17	0.70
34:y:210:ARG:CG	34:y:212:HIS:CE1	2.73	0.70
34:y:300:TYR:O	34:y:321:ARG:NH1	2.25	0.70
38:t:391:ARG:CZ	47:Q:426:LYS:NZ	2.55	0.70
44:z:41:ASN:HD21	51:h:583:GLU:HA	1.54	0.70
17:2:710:C:N4	43:p:628:LYS:HE3	2.06	0.69
17:2:1743:G:C2	17:2:1781:G:C5	2.79	0.69
20:M:96:ARG:HH21	48:j:289:ARG:CB	2.05	0.69
33:D:36:ASP:O	50:k:535:TYR:CB	2.39	0.69
33:D:40:GLN:CG	50:k:572:HIS:CD2	2.69	0.69
34:y:276:TYR:HD2	34:y:302:LEU:HD22	1.57	0.69
34:y:331:ILE:CD1	34:y:427:TYR:O	2.40	0.69
17:2:134:C:O2'	17:2:136:C:N4	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:230:C:C2	17:2:892:U:N3	2.60	0.69
17:2:752:C:N4	17:2:753:C:N4	2.39	0.69
17:2:1195:A:H2'	17:2:1196:A:O4'	1.92	0.69
19:H:16:ASP:OD2	33:D:204:LYS:CD	2.41	0.69
34:y:326:THR:CG2	34:y:391:TYR:CE2	2.74	0.69
2:C:85:ARG:NH1	23:T:85:VAL:HG11	2.00	0.69
15:c:79:PHE:HB2	33:D:90:GLN:N	2.06	0.69
17:2:269:C:H2'	17:2:270:G:C8	2.28	0.69
17:2:755:C:N3	17:2:782:G:N7	2.38	0.69
17:2:1202:G:H1'	17:2:1828:A:C4	2.27	0.69
26:d:38:THR:O	33:D:296:ASN:OD1	2.09	0.69
34:y:375:VAL:HG13	34:y:379:VAL:HB	1.74	0.69
36:r:272:GLN:HB2	50:k:852:VAL:CG2	2.21	0.69
47:Q:320:PHE:CZ	50:k:806:ILE:HD13	2.27	0.69
2:C:85:ARG:CZ	23:T:85:VAL:HG13	2.21	0.69
2:C:89:LYS:HE3	23:T:82:ASP:O	1.86	0.69
17:2:80:G:H2'	17:2:81:U:H6	1.57	0.69
17:2:1203:G:N1	17:2:1831:G:C4	2.56	0.69
33:D:36:ASP:CG	50:k:536:ALA:HB2	2.17	0.69
34:y:249:ALA:O	34:y:253:VAL:HG13	1.92	0.69
15:c:73:LEU:O	15:c:74:THR:HG22	1.93	0.69
17:2:1112:C:O2'	17:2:1113:C:P	2.50	0.69
17:2:1739:G:N2	17:2:1784:A:N1	2.41	0.69
34:y:132:VAL:O	50:k:747:LEU:HB3	1.92	0.69
34:y:276:TYR:CZ	34:y:298:ARG:CB	2.76	0.69
38:t:357:TYR:OH	47:Q:437:MET:CE	2.35	0.69
41:A:185:THR:OG1	41:A:186:PRO:HA	1.92	0.69
17:2:128:U:C6	17:2:212:G:C1'	2.76	0.69
17:2:227:A:OP2	17:2:885:U:C4'	2.41	0.69
17:2:755:C:C6	17:2:782:G:C6	2.81	0.69
34:y:108:SER:HB2	34:y:145:LEU:HB3	1.73	0.69
34:y:384:VAL:O	34:y:387:VAL:HG12	1.93	0.69
41:A:58:SER:HB2	41:A:61:LYS:CD	2.23	0.69
41:A:157:VAL:HG21	41:A:180:ILE:HG21	1.64	0.69
5:I:233:ARG:HE	17:2:781:C:P	2.12	0.69
17:2:227:A:H3'	17:2:885:U:O2'	1.92	0.69
32:R:130:ARG:HH11	32:R:130:ARG:CB	2.05	0.69
34:y:276:TYR:CZ	34:y:298:ARG:HB3	2.28	0.69
44:z:307:SER:HB2	44:z:320:HIS:O	1.93	0.69
47:Q:33:ARG:NH1	47:Q:64:ASP:HB2	2.08	0.69
2:C:201:LEU:HB3	23:T:84:TYR:HA	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:205:ARG:HG3	2:C:210:ILE:HD11	1.68	0.69
6:J:103:LYS:NZ	17:2:679:U:C6	2.51	0.69
9:N:42:LEU:HD13	17:2:282:G:C8	2.28	0.69
9:N:42:LEU:H	17:2:282:G:C1'	2.06	0.69
17:2:760:U:C6	17:2:777:C:O2	2.23	0.69
17:2:1195:A:C5	17:2:1196:A:C8	2.74	0.69
17:2:1202:G:H4'	17:2:1828:A:C2	2.27	0.69
17:2:1744:G:C2	17:2:1780:U:C2	2.80	0.69
33:D:13:PHE:CA	47:Q:49:TYR:CD1	2.76	0.69
34:y:17:GLU:CA	45:x:190:PRO:HB3	2.19	0.69
34:y:323:LEU:HG	34:y:324:LEU:H	1.57	0.69
36:r:272:GLN:HE21	50:k:852:VAL:HG12	1.42	0.69
47:Q:276:THR:HG21	47:Q:342:LEU:HD22	1.73	0.69
17:2:752:C:C2'	17:2:753:C:O4'	2.41	0.69
17:2:776:U:C5	17:2:777:C:C5	2.77	0.69
17:2:1205:A:OP1	17:2:1829:A:N6	2.25	0.69
17:2:1739:G:C6	17:2:1783:G:C6	2.80	0.69
34:y:323:LEU:HD13	34:y:424:LEU:HB2	1.74	0.69
34:y:331:ILE:HG23	34:y:430:GLN:NE2	0.68	0.69
3:E:173:CYS:SG	17:2:1351:C:H4'	2.33	0.69
12:Y:122:GLY:CA	17:2:800:U:O2'	2.41	0.69
17:2:1140:A:O2'	17:2:1196:A:H4'	1.93	0.69
18:F:196:GLY:HA2	18:F:198:ILE:N	2.08	0.69
40:1:16:G:C6	40:1:17:C:C5	2.75	0.69
15:c:77:CYS:H	33:D:89:PHE:HZ	0.76	0.68
17:2:129:C:C2'	17:2:184:G:N1	2.56	0.68
34:y:237:LEU:O	34:y:241:ILE:HG12	1.93	0.68
34:y:326:THR:HB	34:y:391:TYR:OH	1.93	0.68
17:2:959:A:C3'	41:A:53:ARG:CD	2.55	0.68
17:2:1052:U:C5'	41:A:54:ARG:NH2	2.56	0.68
19:H:61:PHE:CE1	33:D:415:SER:HB2	2.28	0.68
34:y:48:GLU:HG3	34:y:74:TYR:OH	1.93	0.68
34:y:284:TRP:HB2	34:y:292:HIS:NE2	2.09	0.68
17:2:1105:C:H2'	23:T:121:GLN:OE1	1.93	0.68
34:y:693:LYS:CD	43:p:635:GLU:HG2	2.24	0.68
34:y:710:ILE:HG21	43:p:196:LEU:HB2	1.72	0.68
43:p:234:GLU:OE1	44:z:323:GLU:HB3	1.93	0.68
17:2:1202:G:H4'	17:2:1828:A:C5	2.28	0.68
17:2:1695:C:O4'	17:2:1697:G:C8	2.46	0.68
34:y:116:GLU:OE1	34:y:138:GLN:HA	1.93	0.68
34:y:124:PRO:HG2	34:y:128:LEU:H	1.56	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:386:GLU:OE2	34:y:414:VAL:HA	1.92	0.68
2:C:201:LEU:CG	23:T:83:ASN:O	2.40	0.68
20:M:98:ARG:CZ	48:j:292:ASP:CB	2.70	0.68
26:d:63:ARG:CZ	46:0:71:PRO:HB2	2.23	0.68
33:D:20:ASP:HB2	47:Q:33:ARG:HE	1.58	0.68
34:y:205:LEU:CD1	34:y:209:GLN:CG	2.66	0.68
34:y:246:TRP:CE3	34:y:246:TRP:HA	2.28	0.68
34:y:714:TYR:CE1	43:p:190:PHE:HA	2.28	0.68
34:y:17:GLU:CB	45:x:190:PRO:CB	2.30	0.68
34:y:331:ILE:HG21	34:y:430:GLN:NE2	1.01	0.68
34:y:380:LEU:H	34:y:380:LEU:CD2	2.06	0.68
36:r:254:SER:C	50:k:834:LEU:HD13	2.17	0.68
38:t:388:LEU:HA	47:Q:426:LYS:NZ	1.92	0.68
17:2:272:C:OP2	17:2:887:G:O4'	2.11	0.68
33:D:75:GLY:O	50:k:576:ASN:ND2	2.27	0.68
34:y:6:GLN:C	34:y:7:ARG:HG3	2.17	0.68
17:2:1518:C:C5'	31:U:143:GLY:C	2.67	0.68
33:D:30:VAL:HG11	47:Q:222:LEU:HD21	1.75	0.68
34:y:257:HIS:CD2	34:y:358:LEU:HD23	2.29	0.68
34:y:278:LYS:O	34:y:281:THR:OG1	2.12	0.68
47:Q:333:GLU:HG2	47:Q:350:ILE:HD11	1.76	0.68
2:C:213:GLU:OE2	23:T:86:PRO:HD2	1.92	0.68
14:a:123:ALA:O	14:a:127:ALA:CA	2.42	0.68
16:i:92:LYS:CE	51:h:453:SER:H	2.07	0.68
17:2:756:U:H2'	17:2:757:C:C6	2.29	0.68
17:2:759:A:C4	17:2:778:C:C1'	2.77	0.68
17:2:1195:A:C2	17:2:1196:A:N9	2.62	0.68
34:y:132:VAL:O	50:k:747:LEU:HD22	1.93	0.68
38:t:342:TYR:HD2	47:Q:433:GLN:HE21	1.40	0.68
6:J:103:LYS:CB	17:2:678:U:O2	2.31	0.68
34:y:399:ASN:CG	39:u:313:ILE:HG21	2.19	0.68
2:C:85:ARG:HH21	23:T:83:ASN:N	1.92	0.67
17:2:776:U:N3	17:2:777:C:C1'	2.56	0.67
17:2:1863:A:C2	49:b:39:PHE:CZ	2.82	0.67
18:F:2:ALA:HA	18:F:3:VAL:O	1.93	0.67
26:d:66:ARG:HE	26:d:66:ARG:C	2.02	0.67
34:y:21:VAL:HG13	45:x:187:LYS:CG	2.16	0.67
41:A:58:SER:OG	41:A:61:LYS:CG	2.30	0.67
47:Q:428:LEU:CD2	50:k:846:VAL:HB	2.23	0.67
17:2:280:G:N2	17:2:284:C:C5	2.63	0.67
34:y:166:ASN:CG	34:y:203:MET:SD	2.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:289:ALA:O	34:y:328:SER:O	2.12	0.67
43:p:656:MET:CE	44:z:281:ILE:O	2.42	0.67
3:E:223:LYS:HZ1	17:2:1352:G:P	2.17	0.67
17:2:232:A:C6	17:2:890:G:C5	2.82	0.67
17:2:1195:A:N3	17:2:1196:A:C4	2.63	0.67
22:S:145:TYR:C	22:S:146:ARG:CG	2.66	0.67
33:D:49:GLY:HA3	50:k:611:ALA:HA	1.75	0.67
34:y:246:TRP:HA	34:y:246:TRP:HE3	1.59	0.67
43:p:646:SER:CA	43:p:654:ARG:NH1	2.55	0.67
2:C:102:ARG:CZ	17:2:1373:U:O4	2.41	0.67
17:2:235:C:O2	17:2:273:G:N1	2.27	0.67
22:S:146:ARG:HH11	40:1:33:C:P	2.18	0.67
33:D:15:THR:CG2	47:Q:57:GLY:HA3	2.24	0.67
5:I:236:SER:OG	17:2:781:C:O3'	1.88	0.67
10:P:27:LYS:HG3	10:P:28:LEU:CD2	2.24	0.67
15:c:65:GLN:NE2	50:k:322:LYS:HG3	2.08	0.67
17:2:229:A:OP1	17:2:886:U:C1'	2.43	0.67
33:D:13:PHE:HE2	47:Q:40:LEU:HD22	1.49	0.67
34:y:710:ILE:HG21	43:p:196:LEU:HD12	1.30	0.67
7:K:157:LYS:HD3	9:N:23:VAL:HG11	1.77	0.67
7:K:193:LYS:HZ3	9:N:32:LYS:HZ1	0.72	0.67
14:a:9:THR:C	14:a:10:ARG:CG	2.68	0.67
17:2:224:U:N3	17:2:883:U:H4'	2.10	0.67
33:D:13:PHE:HD1	47:Q:49:TYR:CE2	2.12	0.67
34:y:250:PHE:CZ	50:k:704:PRO:HB2	2.29	0.67
36:r:272:GLN:CB	50:k:852:VAL:HG22	2.18	0.67
41:A:111:ILE:HD11	41:A:183:ARG:NH1	2.09	0.67
41:A:229:LEU:CB	42:B:284:VAL:CG2	2.68	0.67
17:2:1695:C:O4'	17:2:1697:G:N9	2.28	0.67
34:y:17:GLU:C	45:x:190:PRO:CB	2.67	0.67
34:y:338:ILE:HD11	50:k:724:LYS:NZ	1.99	0.67
34:y:398:PHE:HE2	34:y:512:GLN:OE1	1.70	0.67
34:y:476:ARG:C	50:k:774:TYR:HD1	1.93	0.67
2:C:210:ILE:HD13	23:T:81:ARG:HB3	1.76	0.67
17:2:1518:C:H5'	31:U:144:ARG:CA	2.25	0.67
17:2:1696:C:C4	40:1:34:C:N3	2.63	0.67
34:y:291:PHE:HE1	34:y:359:LEU:CB	2.08	0.67
34:y:398:PHE:CZ	34:y:512:GLN:OE1	2.48	0.67
34:y:695:ILE:HG23	43:p:522:GLN:HE22	1.60	0.67
35:q:354:LEU:CD2	50:k:849:ASN:HB3	2.24	0.67
2:C:102:ARG:CZ	17:2:1373:U:C5	2.78	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:233:ARG:NE	17:2:781:C:OP1	2.28	0.66
17:2:231:C:H6	17:2:891:G:N1	1.82	0.66
17:2:959:A:H5'	41:A:53:ARG:HD3	0.68	0.66
20:M:96:ARG:HH22	48:j:289:ARG:CB	2.08	0.66
33:D:80:TYR:CZ	50:k:542:ARG:NH1	2.62	0.66
41:A:58:SER:HB2	41:A:61:LYS:CE	2.26	0.66
17:2:232:A:C8	17:2:890:G:N1	2.63	0.66
17:2:758:G:N7	17:2:779:C:C6	2.55	0.66
17:2:1114:C:N1	33:D:94:THR:N	2.42	0.66
33:D:25:TRP:H	47:Q:184:SER:CB	2.08	0.66
34:y:231:GLU:O	34:y:235:VAL:HG23	1.96	0.66
34:y:338:ILE:CG1	50:k:724:LYS:NZ	2.49	0.66
34:y:394:LEU:CD2	34:y:435:THR:CG2	2.72	0.66
36:r:280:ARG:CZ	50:k:855:HIS:NE2	2.57	0.66
47:Q:287:ARG:HG2	47:Q:356:PHE:HZ	1.60	0.66
2:C:113:GLN:HE21	17:2:1376:C:H1'	1.58	0.66
17:2:231:C:C4	17:2:891:G:C6	2.82	0.66
17:2:1855:G:N9	49:b:1:MET:CE	2.45	0.66
17:2:1860:A:H62	49:b:84:VAL:CG1	2.06	0.66
20:M:96:ARG:HG3	48:j:291:GLU:CB	2.25	0.66
33:D:48:LEU:HA	50:k:574:GLN:HE22	1.60	0.66
34:y:709:LEU:CD1	43:p:614:LEU:CD2	2.70	0.66
34:y:710:ILE:HD13	43:p:196:LEU:CD2	2.25	0.66
2:C:20:ALA:CB	23:T:92:ASP:N	2.58	0.66
8:L:119:LEU:HD23	43:p:393:PRO:HB2	1.77	0.66
17:2:240:C:N4	17:2:266:G:O6	2.28	0.66
17:2:1202:G:C1'	17:2:1828:A:C8	2.77	0.66
26:d:40:ARG:HA	49:b:51:ARG:NH1	2.10	0.66
34:y:380:LEU:HD23	34:y:380:LEU:N	2.10	0.66
36:r:276:GLN:HE21	50:k:856:LYS:N	1.92	0.66
2:C:132:GLN:CD	17:2:1374:A:OP1	2.38	0.66
6:J:103:LYS:CE	17:2:679:U:H5	2.08	0.66
17:2:130:G:P	17:2:184:G:O6	2.53	0.66
17:2:948:G:C5	17:2:949:C:C5	2.83	0.66
34:y:113:LEU:CD1	34:y:138:GLN:CB	2.72	0.66
34:y:241:ILE:HG22	34:y:282:VAL:CG2	2.23	0.66
41:A:229:LEU:CB	42:B:284:VAL:HG11	2.23	0.66
17:2:1856:G:O6	49:b:34:LYS:NZ	2.24	0.66
34:y:150:VAL:HG13	34:y:188:TYR:CE1	2.30	0.66
34:y:232:THR:HB	34:y:233:ARG:NH2	2.10	0.66
34:y:283:PHE:HE1	34:y:287:GLY:N	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:z:221:PHE:CE1	44:z:233:LYS:HG3	2.31	0.66
14:a:100:LYS:HG2	14:a:101:LYS:O	1.95	0.66
16:i:92:LYS:HE3	51:h:453:SER:CB	2.25	0.66
17:2:710:C:H5	43:p:627:LEU:CA	2.08	0.66
17:2:1203:G:N2	17:2:1831:G:C8	2.64	0.66
33:D:39:TYR:CE2	47:Q:221:PRO:HB3	2.14	0.66
43:p:682:ARG:HD3	44:z:248:LEU:CB	2.25	0.66
34:y:276:TYR:OH	34:y:298:ARG:CB	2.43	0.66
15:c:75:GLU:HB3	50:k:369:ALA:HB3	1.44	0.66
17:2:80:G:C5	17:2:81:U:C4	2.84	0.66
17:2:229:A:H2	17:2:892:U:N3	1.93	0.66
17:2:1707:A:C5	17:2:1708:C:C5	2.84	0.66
33:D:36:ASP:O	50:k:535:TYR:HB2	1.94	0.66
34:y:21:VAL:HG21	45:x:187:LYS:HA	1.76	0.66
44:z:38:TYR:CZ	51:h:579:ASP:CB	2.50	0.66
15:c:67:THR:CB	50:k:322:LYS:HZ2	2.09	0.66
17:2:10:G:C6	17:2:1198:U:C2	2.83	0.66
17:2:224:U:H3	17:2:883:U:P	2.18	0.66
19:H:16:ASP:OD2	33:D:204:LYS:NZ	2.28	0.66
33:D:25:TRP:CH2	47:Q:209:LEU:CD2	2.73	0.66
34:y:338:ILE:HD12	50:k:724:LYS:NZ	2.10	0.66
45:x:81:PHE:O	45:x:82:ARG:C	2.39	0.66
46:0:124:MET:O	49:b:56:VAL:HG11	1.96	0.66
3:E:220:ASN:ND2	17:2:1351:C:H1'	2.11	0.65
5:I:70:HIS:HD2	5:I:98:ARG:NH2	1.94	0.65
17:2:238:G:H22	17:2:268:G:H1	1.44	0.65
17:2:776:U:O4	17:2:778:C:H5	1.78	0.65
20:M:98:ARG:NE	48:j:263:GLY:HA3	2.11	0.65
33:D:24:GLY:C	47:Q:184:SER:CB	2.69	0.65
33:D:38:PRO:HG2	50:k:544:ARG:HD3	1.78	0.65
34:y:212:HIS:O	34:y:213:ASN:HB2	1.97	0.65
34:y:240:ALA:CB	34:y:249:ALA:HB2	2.24	0.65
41:A:235:TYR:CD1	42:B:285:ASP:HB2	2.28	0.65
2:C:205:ARG:CD	2:C:207:PRO:CG	2.48	0.65
10:P:25:TRP:O	10:P:26:LEU:HB3	1.95	0.65
17:2:229:A:OP1	17:2:886:U:H1'	1.96	0.65
17:2:1518:C:O5'	31:U:143:GLY:C	2.39	0.65
34:y:205:LEU:CG	34:y:209:GLN:HE21	2.08	0.65
34:y:347:ILE:O	34:y:348:ILE:HG12	1.96	0.65
41:A:17:GLU:CG	46:0:63:LYS:HZ1	2.08	0.65
5:I:232:ARG:HD2	17:2:781:C:C4	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:703:C:OP1	34:y:687:ARG:NE	2.29	0.65
17:2:958:A:H5'	19:H:135:ARG:HH21	1.59	0.65
17:2:1739:G:N3	17:2:1783:G:N1	2.39	0.65
20:M:96:ARG:HH22	48:j:289:ARG:C	2.05	0.65
31:U:143:GLY:O	31:U:144:ARG:HD2	1.87	0.65
34:y:277:ASN:OD1	34:y:278:LYS:N	2.28	0.65
47:Q:58:LYS:HE2	47:Q:70:PHE:CZ	2.31	0.65
17:2:10:G:N7	17:2:1692:A:N3	2.44	0.65
17:2:231:C:C5	17:2:891:G:N1	2.53	0.65
17:2:1109:A:C5	17:2:1110:U:C4	2.84	0.65
19:H:204:ARG:NH2	46:0:72:TYR:HB2	2.11	0.65
26:d:38:THR:C	33:D:296:ASN:OD1	2.40	0.65
17:2:230:C:H1'	17:2:892:U:C2	2.30	0.65
17:2:540:C:H4'	17:2:540:C:OP1	1.97	0.65
17:2:958:A:C4	41:A:53:ARG:O	2.49	0.65
17:2:1114:C:C6	33:D:94:THR:CB	2.79	0.65
17:2:227:A:C2	17:2:895:U:O2	2.49	0.65
17:2:1518:C:P	31:U:143:GLY:C	2.80	0.65
34:y:147:THR:HA	34:y:150:VAL:CG2	2.27	0.65
43:p:592:ARG:NH1	44:z:342:HIS:HB3	2.11	0.65
17:2:758:G:C8	17:2:779:C:C1'	2.80	0.65
34:y:28:LEU:HD11	34:y:66:LEU:HD13	1.78	0.65
36:r:272:GLN:HB3	50:k:852:VAL:CG1	2.27	0.65
34:y:154:TRP:HH2	34:y:196:LYS:HB2	1.62	0.65
34:y:476:ARG:C	50:k:774:TYR:CD1	2.73	0.65
34:y:725:TRP:CZ2	43:p:184:ILE:HG22	2.16	0.65
6:J:103:LYS:CG	17:2:678:U:H1'	2.21	0.65
17:2:280:G:C2	17:2:284:C:H5	2.14	0.65
17:2:1743:G:O6	17:2:1780:U:C4	2.48	0.65
34:y:9:GLU:HB3	34:y:46:ILE:HG12	1.79	0.65
34:y:117:ASP:OD1	34:y:121:ILE:HG22	1.96	0.65
35:q:354:LEU:HD23	50:k:849:ASN:CG	2.22	0.65
38:t:342:TYR:CD2	47:Q:433:GLN:NE2	2.56	0.65
41:A:185:THR:OG1	41:A:186:PRO:N	2.30	0.65
14:a:10:ARG:HB2	14:a:24:VAL:HB	1.79	0.65
17:2:1114:C:C2	33:D:93:ASP:HA	2.32	0.65
34:y:320:THR:O	34:y:323:LEU:HG	1.96	0.65
35:q:340:LEU:HD21	50:k:835:ALA:HB1	1.79	0.65
15:c:60:SER:N	50:k:429:ARG:NE	2.44	0.64
17:2:256:C:H2'	17:2:257:G:C8	2.32	0.64
17:2:752:C:O2	17:2:753:C:C6	2.49	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:960:A:OP1	41:A:53:ARG:CZ	2.44	0.64
34:y:714:TYR:CB	43:p:193:LEU:CG	2.70	0.64
36:r:250:VAL:CB	50:k:831:GLN:CD	2.68	0.64
47:Q:302:SER:O	47:Q:306:LYS:HE3	1.97	0.64
22:S:146:ARG:NH2	40:1:33:C:H3'	2.08	0.64
34:y:205:LEU:CG	34:y:209:GLN:NE2	2.60	0.64
34:y:224:GLU:H	34:y:224:GLU:CD	2.05	0.64
34:y:246:TRP:HE1	50:k:707:GLY:HA2	1.38	0.64
17:2:1130:G:OP2	49:b:6:ARG:NH2	2.30	0.64
34:y:234:LEU:HD23	34:y:234:LEU:H	1.61	0.64
43:p:218:ARG:NH1	44:z:2:LYS:CG	2.58	0.64
43:p:646:SER:O	43:p:654:ARG:NH1	2.29	0.64
2:C:201:LEU:HB3	23:T:84:TYR:CA	2.28	0.64
17:2:228:A:N6	17:2:884:U:C4	2.65	0.64
17:2:281:U:O2'	17:2:283:A:N6	2.30	0.64
26:d:40:ARG:HH12	46:0:121:ARG:NE	1.94	0.64
34:y:10:ASN:OD1	45:x:78:GLU:HB2	1.98	0.64
34:y:10:ASN:OD1	45:x:78:GLU:CB	2.37	0.64
34:y:118:LEU:O	34:y:119:ASP:HB2	1.97	0.64
34:y:699:GLU:CD	43:p:565:THR:CB	2.71	0.64
46:0:124:MET:O	49:b:56:VAL:HG13	1.95	0.64
2:C:205:ARG:O	2:C:210:ILE:HG13	1.97	0.64
8:L:159:PHE:CE2	43:p:413:PHE:CE1	2.85	0.64
17:2:270:G:H2'	17:2:271:G:C8	2.33	0.64
17:2:1195:A:OP1	49:b:2:THR:HG23	1.97	0.64
19:H:198:ARG:HE	41:A:45:MET:HG3	1.58	0.64
34:y:338:ILE:HG23	34:y:339:ALA:N	2.12	0.64
34:y:695:ILE:HG23	43:p:522:GLN:NE2	2.11	0.64
2:C:102:ARG:NH2	17:2:1373:U:C2	2.65	0.64
2:C:113:GLN:CG	17:2:1376:C:O2'	2.41	0.64
17:2:228:A:OP2	17:2:885:U:O2'	2.16	0.64
17:2:1744:G:N1	17:2:1780:U:O2	2.28	0.64
33:D:25:TRP:N	47:Q:184:SER:CB	2.61	0.64
34:y:68:LYS:NZ	34:y:72:TYR:HB2	2.12	0.64
6:J:116:ARG:NH2	17:2:678:U:O5'	2.31	0.64
17:2:275:C:O2'	17:2:276:U:OP1	2.15	0.64
17:2:1114:C:H6	33:D:94:THR:CB	2.03	0.64
17:2:1121:C:H5"	23:T:124:VAL:HB	1.79	0.64
26:d:40:ARG:NH1	46:0:121:ARG:NE	2.46	0.64
34:y:710:ILE:HG12	43:p:196:LEU:CD1	2.22	0.64
36:r:272:GLN:HB3	50:k:852:VAL:HG13	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:20:ALA:HB3	23:T:92:ASP:CG	2.21	0.64
17:2:755:C:C6	17:2:782:G:O6	2.51	0.64
17:2:1102:C:O2'	17:2:1103:G:C5'	2.43	0.64
33:D:12:LYS:CB	47:Q:53:GLU:OE2	2.45	0.64
33:D:51:VAL:HG21	50:k:615:ILE:N	2.12	0.64
34:y:175:HIS:NE2	34:y:227:SER:HB3	2.13	0.64
34:y:193:GLU:O	34:y:197:LEU:HG	1.98	0.64
34:y:703:ARG:CD	43:p:199:TRP:HZ2	2.08	0.64
5:I:69:THR:HA	5:I:101:ILE:HD12	1.78	0.64
17:2:12:U:C4'	17:2:1353:A:O4'	2.45	0.64
17:2:752:C:C4	17:2:753:C:C4	2.86	0.64
34:y:280:SER:O	34:y:292:HIS:CD2	2.50	0.64
34:y:340:ARG:N	34:y:340:ARG:CD	2.48	0.64
41:A:55:ARG:CG	41:A:55:ARG:NH1	2.57	0.64
17:2:925:G:C5'	50:k:322:LYS:HD3	2.27	0.64
33:D:27:PRO:CG	47:Q:226:GLN:HG2	2.25	0.64
45:x:76:ASN:CG	45:x:77:ASP:HB3	2.23	0.64
6:J:116:ARG:HH12	17:2:678:U:H2'	1.64	0.63
10:P:19:ARG:O	10:P:20:ARG:HB2	1.96	0.63
17:2:129:C:H3'	17:2:184:G:H1	1.61	0.63
17:2:131:C:H42	17:2:178:C:H5"	1.63	0.63
17:2:759:A:N7	17:2:778:C:O2	2.31	0.63
17:2:925:G:H4'	50:k:322:LYS:HD3	1.78	0.63
17:2:1202:G:H5'	17:2:1828:A:N6	2.12	0.63
17:2:1636:A:HO2'	40:1:31:G:HO2'	1.41	0.63
17:2:1859:C:H5'	49:b:87:ARG:HH21	1.61	0.63
19:H:130:ARG:NH2	26:d:68:LEU:HG	2.09	0.63
34:y:246:TRP:HD1	50:k:707:GLY:H	1.41	0.63
34:y:291:PHE:CE1	34:y:359:LEU:HB2	2.32	0.63
34:y:327:LEU:CD1	34:y:327:LEU:H	2.11	0.63
47:Q:366:GLN:HE22	50:k:813:SER:CB	2.07	0.63
14:a:9:THR:C	14:a:10:ARG:HG2	2.24	0.63
16:i:82:ARG:HH21	16:i:85:LYS:HA	1.63	0.63
17:2:1695:C:N4	17:2:1697:G:N2	2.46	0.63
17:2:1707:A:H2'	17:2:1708:C:H5'	1.77	0.63
34:y:291:PHE:CE2	34:y:355:LEU:HB3	2.34	0.63
41:A:54:ARG:HB2	41:A:54:ARG:NH2	2.13	0.63
17:2:128:U:O2	17:2:212:G:C6	2.51	0.63
17:2:232:A:C4	17:2:890:G:C2	2.86	0.63
17:2:238:G:N2	17:2:268:G:H22	1.97	0.63
19:H:194:ASP:HB3	41:A:82:TYR:CE2	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:26:PRO:HB3	45:x:195:LYS:CG	2.28	0.63
34:y:285:LYS:O	34:y:286:SER:C	2.41	0.63
34:y:707:ILE:HD13	43:p:200:LEU:HB2	1.79	0.63
41:A:185:THR:OG1	41:A:186:PRO:CA	2.46	0.63
15:c:39:GLY:HA3	50:k:429:ARG:HH12	1.61	0.63
15:c:73:LEU:HD22	15:c:73:LEU:H	1.61	0.63
17:2:10:G:N7	17:2:1692:A:N1	2.47	0.63
17:2:232:A:C4	17:2:890:G:C4	2.86	0.63
17:2:1119:C:O2	23:T:126:MET:CE	2.47	0.63
33:D:42:PHE:CD1	50:k:570:MET:HA	2.34	0.63
5:I:81:HIS:CE1	17:2:1784:A:C4'	2.64	0.63
15:c:60:SER:N	50:k:429:ARG:CZ	2.62	0.63
33:D:51:VAL:HG22	50:k:615:ILE:HG12	1.81	0.63
34:y:108:SER:CA	34:y:145:LEU:HD22	2.29	0.63
34:y:710:ILE:HD13	43:p:196:LEU:HB3	1.80	0.63
2:C:210:ILE:CD1	23:T:81:ARG:HB3	2.27	0.63
10:P:29:THR:N	10:P:32:ASP:OD2	2.32	0.63
33:D:25:TRP:CE2	47:Q:234:TRP:CH2	2.78	0.63
34:y:175:HIS:CE1	34:y:228:MET:CA	2.72	0.63
34:y:367:ARG:HG2	34:y:368:ILE:N	2.04	0.63
34:y:707:ILE:HD13	43:p:200:LEU:CB	2.28	0.63
9:N:42:LEU:N	17:2:282:G:C2'	2.50	0.63
26:d:53:GLY:C	33:D:419:ALA:HB2	2.16	0.63
34:y:181:ALA:CB	34:y:196:LYS:HZ3	2.00	0.63
34:y:300:TYR:HA	34:y:321:ARG:CZ	2.28	0.63
17:2:710:C:O5'	43:p:627:LEU:CD2	2.44	0.63
34:y:18:PHE:HB2	34:y:27:ALA:HB2	1.81	0.63
2:C:206:ASP:O	2:C:207:PRO:N	2.32	0.63
17:2:128:U:N3	17:2:212:G:C4	2.66	0.63
17:2:948:G:O2'	17:2:949:C:H5'	1.98	0.63
34:y:331:ILE:HD12	34:y:430:GLN:HG3	1.80	0.63
34:y:366:THR:O	34:y:370:LEU:CD1	2.47	0.63
34:y:717:GLN:CG	43:p:189:PRO:CG	2.76	0.63
47:Q:121:MET:HE1	47:Q:170:PHE:CD1	2.32	0.63
2:C:43:SER:CB	23:T:120:THR:O	2.46	0.62
8:L:159:PHE:CE2	43:p:413:PHE:HE1	2.16	0.62
15:c:67:THR:CG2	50:k:322:LYS:NZ	2.56	0.62
17:2:1106:G:C4'	23:T:121:GLN:OE1	2.47	0.62
34:y:307:ARG:HH21	34:y:321:ARG:HH21	1.47	0.62
34:y:385:PRO:HB3	34:y:388:LYS:CD	2.18	0.62
33:D:55:THR:CG2	50:k:620:ARG:NH1	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:149:TRP:HA	34:y:149:TRP:CE3	2.34	0.62
41:A:157:VAL:HG11	41:A:180:ILE:HB	1.80	0.62
41:A:157:VAL:CB	41:A:180:ILE:HG21	2.28	0.62
47:Q:78:LEU:HD23	47:Q:79:TYR:CZ	2.34	0.62
34:y:133:SER:N	50:k:747:LEU:HD22	2.14	0.62
10:P:27:LYS:HB2	10:P:27:LYS:HZ3	1.64	0.62
34:y:330:PRO:O	34:y:331:ILE:CG1	2.47	0.62
41:A:205:ILE:CD1	42:B:288:LYS:HG3	2.28	0.62
41:A:235:TYR:CE1	42:B:285:ASP:HB2	2.34	0.62
45:x:190:PRO:O	45:x:191:ASP:OD2	2.17	0.62
14:a:103:SER:OG	14:a:104:ARG:N	2.21	0.62
17:2:1107:U:C4	17:2:1108:U:C5	2.87	0.62
33:D:24:GLY:C	47:Q:184:SER:HB3	2.21	0.62
34:y:175:HIS:CB	34:y:231:GLU:OE2	2.47	0.62
41:A:181:ASN:O	41:A:185:THR:HG23	2.00	0.62
43:p:579:LYS:O	51:h:748:HIS:CB	2.46	0.62
47:Q:438:ASN:HB3	50:k:853:PHE:CZ	2.34	0.62
17:2:736:C:OP2	17:2:739:U:O2'	2.17	0.62
34:y:291:PHE:HZ	34:y:356:ALA:N	1.98	0.62
34:y:291:PHE:CD1	34:y:359:LEU:CD1	2.83	0.62
34:y:298:ARG:NH2	34:y:361:LEU:CD1	2.62	0.62
6:J:103:LYS:NZ	17:2:679:U:C4	2.55	0.62
15:c:79:PHE:HE2	33:D:92:VAL:HG22	1.64	0.62
17:2:12:U:O4'	17:2:1353:A:C1'	2.44	0.62
17:2:262:G:H2'	17:2:263:G:C8	2.34	0.62
17:2:800:U:O4	17:2:801:U:C4	2.53	0.62
17:2:1520:C:OP1	40:1:30:G:H4'	2.00	0.62
17:2:1707:A:C2	17:2:1708:C:C5	2.88	0.62
34:y:8:PRO:CB	34:y:39:LYS:HD3	2.25	0.62
34:y:161:LEU:O	34:y:165:ARG:N	2.33	0.62
34:y:330:PRO:O	34:y:431:LEU:HD13	2.00	0.62
34:y:472:VAL:CG2	50:k:778:TYR:CE1	2.78	0.62
41:A:229:LEU:CD1	42:B:284:VAL:HG21	2.29	0.62
43:p:218:ARG:HH12	44:z:2:LYS:CD	1.77	0.62
2:C:89:LYS:HE2	23:T:82:ASP:C	2.16	0.62
17:2:752:C:H2'	17:2:753:C:H6	1.64	0.62
17:2:1111:U:H6	17:2:1113:C:N4	1.97	0.62
17:2:1195:A:C2'	17:2:1196:A:O4'	2.48	0.62
34:y:208:ILE:CD1	34:y:262:LEU:HD22	1.89	0.62
34:y:707:ILE:HD13	43:p:200:LEU:HD12	0.63	0.62
2:C:201:LEU:CD1	23:T:83:ASN:CA	2.67	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:128:U:C4’	17:2:212:G:O4’	2.48	0.62
17:2:760:U:H1’	17:2:777:C:N1	2.08	0.62
17:2:1739:G:C6	17:2:1783:G:N1	2.66	0.62
34:y:17:GLU:C	45:x:190:PRO:HB3	2.25	0.62
34:y:233:ARG:CD	34:y:256:ILE:CD1	2.38	0.62
34:y:366:THR:O	34:y:370:LEU:CG	2.47	0.62
43:p:218:ARG:HH11	44:z:2:LYS:NZ	1.98	0.62
47:Q:49:TYR:HB2	47:Q:54:LEU:HD12	1.82	0.62
47:Q:366:GLN:HE21	50:k:813:SER:HB3	1.63	0.62
17:2:10:G:C6	17:2:1692:A:C2	2.85	0.62
17:2:753:C:N3	17:2:784:G:O6	2.28	0.62
17:2:1121:C:H5’	23:T:124:VAL:O	1.99	0.62
19:H:198:ARG:CG	41:A:84:ASP:OD1	2.48	0.62
34:y:7:ARG:CB	34:y:9:GLU:OE2	2.47	0.62
34:y:121:ILE:HD12	34:y:121:ILE:O	1.99	0.62
41:A:235:TYR:CE1	42:B:285:ASP:CB	2.78	0.62
17:2:255:C:H2’	17:2:256:C:C6	2.35	0.61
17:2:760:U:C1’	17:2:777:C:H1’	2.18	0.61
17:2:1696:C:N4	40:1:34:C:C5	2.68	0.61
19:H:198:ARG:NH2	41:A:45:MET:HG3	2.13	0.61
33:D:13:PHE:CB	47:Q:49:TYR:CG	2.81	0.61
34:y:213:ASN:C	34:y:215:SER:H	2.08	0.61
34:y:339:ALA:HB1	34:y:340:ARG:NH1	2.14	0.61
34:y:344:MET:O	34:y:344:MET:HE3	2.00	0.61
34:y:366:THR:O	34:y:370:LEU:HD11	2.00	0.61
41:A:235:TYR:CZ	42:B:285:ASP:OD1	2.52	0.61
46:0:126:ILE:HG12	49:b:56:VAL:CB	2.29	0.61
17:2:128:U:N1	17:2:212:G:C4	2.66	0.61
17:2:1816:A:C2	17:2:1817:A:N6	2.68	0.61
34:y:163:LEU:HD23	34:y:163:LEU:O	2.00	0.61
34:y:276:TYR:HE1	34:y:295:THR:HG23	1.65	0.61
38:t:403:LYS:HZ3	47:Q:396:ARG:HE	1.45	0.61
40:1:16:G:C4	40:1:17:C:C5	2.89	0.61
44:z:41:ASN:HD22	51:h:586:LYS:CB	2.12	0.61
46:0:126:ILE:HG12	49:b:56:VAL:HB	1.82	0.61
47:Q:358:PHE:CZ	47:Q:373:LEU:CD1	2.78	0.61
47:Q:452:PRO:HB2	47:Q:454:TRP:HD1	1.65	0.61
5:I:68:LEU:H	5:I:68:LEU:CD2	2.11	0.61
17:2:264:U:H3’	17:2:265:G:H8	1.66	0.61
17:2:785:G:H2’	17:2:786:C:C6	2.35	0.61
17:2:1203:G:N7	17:2:1831:G:C6	2.63	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:208:ILE:HD12	34:y:208:ILE:O	2.00	0.61
34:y:258:GLY:O	34:y:261:SER:OG	2.18	0.61
36:r:280:ARG:NH1	50:k:855:HIS:ND1	2.44	0.61
47:Q:210:LYS:NZ	47:Q:256:GLN:HE22	1.98	0.61
2:C:20:ALA:HB3	23:T:92:ASP:H	1.63	0.61
17:2:736:C:H2'	17:2:737:C:O4'	1.99	0.61
17:2:958:A:C1'	41:A:53:ARG:O	2.46	0.61
17:2:1203:G:C2'	17:2:1831:G:N2	2.60	0.61
34:y:19:LEU:HD21	34:y:57:LEU:HD21	1.81	0.61
34:y:250:PHE:HE2	50:k:704:PRO:HG2	1.65	0.61
34:y:725:TRP:CZ3	43:p:184:ILE:HG22	2.18	0.61
17:2:710:C:H42	43:p:628:LYS:HE3	1.63	0.61
34:y:326:THR:O	34:y:330:PRO:HD2	2.00	0.61
17:2:228:A:P	17:2:885:U:HO2'	2.22	0.61
17:2:757:C:N4	17:2:779:C:C4	2.29	0.61
34:y:368:ILE:CG2	34:y:371:ILE:CG2	2.78	0.61
47:Q:210:LYS:HZ1	47:Q:256:GLN:HE22	1.48	0.61
17:2:224:U:O4	17:2:883:U:C5'	2.48	0.61
34:y:222:ASN:HB3	34:y:226:GLN:CD	2.26	0.61
34:y:248:GLU:CD	34:y:248:GLU:H	2.08	0.61
34:y:485:ASP:CB	50:k:781:ILE:HA	2.29	0.61
46:0:126:ILE:H	49:b:56:VAL:C	2.08	0.61
16:i:92:LYS:CE	51:h:453:SER:N	2.64	0.61
34:y:14:ARG:HG2	34:y:14:ARG:NH1	2.08	0.61
35:q:347:GLN:HG3	50:k:842:LEU:HD21	1.77	0.61
15:c:33:MET:SD	15:c:79:PHE:HE1	2.22	0.61
17:2:756:U:H2'	17:2:757:C:H6	1.66	0.61
17:2:958:A:H5"	19:H:135:ARG:HH22	1.64	0.61
33:D:54:TRP:CH2	50:k:586:ILE:HG13	2.35	0.61
34:y:338:ILE:HD12	50:k:724:LYS:HZ3	1.63	0.61
50:k:829:THR:HG23	50:k:832:GLN:OE1	2.00	0.61
17:2:710:C:P	43:p:627:LEU:CD2	2.80	0.61
17:2:230:C:C1'	17:2:891:G:N1	2.50	0.60
17:2:231:C:C5	17:2:891:G:O6	2.54	0.60
17:2:1195:A:N3	17:2:1196:A:C1'	2.64	0.60
26:d:13:ARG:HD3	33:D:426:LYS:NZ	2.14	0.60
33:D:27:PRO:CB	47:Q:226:GLN:HE21	2.14	0.60
43:p:668:GLN:HA	43:p:679:LEU:HD12	1.81	0.60
10:P:20:ARG:HG3	10:P:65:PHE:CE1	2.36	0.60
17:2:229:A:C8	17:2:886:U:C2	2.89	0.60
17:2:1695:C:O4'	17:2:1697:G:C1'	2.48	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:128:LEU:HD21	50:k:495:TYR:CE2	2.36	0.60
34:y:329:ILE:HD11	34:y:374:MET:HE1	1.83	0.60
17:2:271:G:OP2	17:2:887:G:OP2	2.19	0.60
17:2:752:C:H42	17:2:753:C:N4	2.00	0.60
17:2:1859:C:P	49:b:5:ARG:NH2	2.66	0.60
34:y:717:GLN:HG2	43:p:189:PRO:HB3	1.82	0.60
47:Q:326:GLN:HE22	47:Q:376:LYS:HA	1.67	0.60
47:Q:438:ASN:HB3	50:k:853:PHE:HZ	1.66	0.60
17:2:10:G:O6	17:2:1198:U:N3	2.35	0.60
17:2:228:A:H5"	17:2:886:U:C1'	2.31	0.60
17:2:758:G:O6	17:2:778:C:C5	2.54	0.60
17:2:1520:C:OP1	40:1:30:G:H5'	2.01	0.60
33:D:30:VAL:CG1	47:Q:222:LEU:HD21	2.30	0.60
34:y:201:LEU:CD2	34:y:255:ASP:CG	2.74	0.60
34:y:333:PRO:HG2	34:y:437:LEU:CD2	2.31	0.60
34:y:476:ARG:CZ	50:k:774:TYR:CE2	2.84	0.60
34:y:710:ILE:CD1	43:p:196:LEU:HD22	2.32	0.60
5:I:235:SER:O	5:I:236:SER:C	2.43	0.60
17:2:709:G:O3'	43:p:627:LEU:CD2	2.49	0.60
17:2:1121:C:H4'	23:T:124:VAL:H	1.66	0.60
17:2:1812:A:C2	17:2:1813:A:N9	2.69	0.60
33:D:15:THR:HG21	47:Q:57:GLY:CA	2.31	0.60
33:D:52:ALA:CB	50:k:589:ASN:OD1	2.48	0.60
2:C:113:GLN:NE2	17:2:1376:C:O4'	2.35	0.60
15:c:37:CYS:HB2	15:c:38:PRO:HD3	1.80	0.60
17:2:754:C:C1'	17:2:783:G:C5	2.84	0.60
34:y:346:GLY:HA2	34:y:347:ILE:C	2.25	0.60
41:A:88:ARG:HD3	46:0:64:ALA:HA	1.83	0.60
17:2:793:C:N4	17:2:794:G:O6	2.34	0.60
33:D:48:LEU:HD21	50:k:569:LEU:CD2	2.32	0.60
34:y:61:LEU:O	34:y:62:ARG:HG3	2.02	0.60
34:y:91:ARG:O	34:y:95:LYS:HG3	2.01	0.60
5:I:233:ARG:NH2	17:2:781:C:OP1	2.35	0.60
14:a:101:LYS:C	14:a:102:THR:HG1	2.03	0.60
17:2:241:A:H3'	17:2:242:G:H8	1.66	0.60
17:2:758:G:H2'	17:2:759:A:C8	2.36	0.60
17:2:1204:A:H4'	17:2:1829:A:C8	2.36	0.60
34:y:26:PRO:CB	45:x:195:LYS:CG	2.77	0.60
36:r:258:VAL:HG22	50:k:841:LYS:CD	2.32	0.60
43:p:216:GLY:CA	44:z:323:GLU:OE1	2.50	0.60
45:x:73:ASP:HB2	46:0:128:ARG:HH22	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:0:126:ILE:HG12	49:b:56:VAL:HG11	1.81	0.60
2:C:89:LYS:HE3	23:T:82:ASP:C	2.26	0.60
17:2:734:C:H2'	17:2:735:C:C6	2.37	0.60
17:2:1105:C:O2'	23:T:121:GLN:CD	2.44	0.60
34:y:108:SER:CB	34:y:145:LEU:HB3	2.31	0.60
34:y:250:PHE:CE2	50:k:704:PRO:HB2	2.36	0.60
44:z:30:LYS:HA	44:z:54:THR:HG23	1.82	0.60
5:I:228:ILE:HG22	17:2:781:C:N4	2.16	0.60
12:Y:81:VAL:O	17:2:800:U:C4'	2.50	0.60
17:2:10:G:OP1	17:2:1692:A:O2'	2.19	0.60
34:y:226:GLN:O	34:y:230:LEU:HD23	2.01	0.60
5:I:70:HIS:HD2	5:I:98:ARG:HH22	1.49	0.59
9:N:42:LEU:HB2	17:2:282:G:C1'	2.32	0.59
17:2:226:A:C2	17:2:896:C:H1'	2.37	0.59
17:2:676:U:O2	17:2:677:C:N4	2.35	0.59
17:2:958:A:C5'	19:H:135:ARG:HH22	2.15	0.59
17:2:1195:A:C8	17:2:1196:A:N7	2.68	0.59
17:2:1244:I2T:CN1	40:1:34:C:H1'	2.32	0.59
33:D:12:LYS:HE2	47:Q:53:GLU:OE1	2.02	0.59
34:y:39:LYS:HG3	34:y:41:ARG:HH21	1.67	0.59
34:y:124:PRO:CG	34:y:128:LEU:N	2.65	0.59
34:y:371:ILE:HG23	34:y:372:ASN:H	1.66	0.59
34:y:397:GLU:HG3	34:y:406:ARG:NH1	2.16	0.59
34:y:475:ALA:C	50:k:777:VAL:HG21	2.26	0.59
14:a:98:GLU:N	14:a:98:GLU:OE2	2.31	0.59
17:2:11:A:C2	17:2:1197:U:C2	2.85	0.59
17:2:226:A:C8	17:2:884:U:H1'	2.37	0.59
17:2:1117:G:H8	17:2:1117:G:H5'	1.67	0.59
34:y:3:ALA:O	34:y:4:TYR:HB2	2.00	0.59
34:y:181:ALA:HB1	34:y:196:LYS:CE	2.24	0.59
34:y:237:LEU:CD1	34:y:278:LYS:NZ	2.54	0.59
34:y:18:PHE:CZ	45:x:190:PRO:O	2.55	0.59
34:y:714:TYR:OH	43:p:190:PHE:CE2	2.42	0.59
36:r:254:SER:C	50:k:834:LEU:HD22	2.26	0.59
43:p:579:LYS:CG	51:h:747:THR:O	2.50	0.59
46:0:126:ILE:N	49:b:56:VAL:O	2.31	0.59
14:a:123:ALA:C	14:a:127:ALA:HB3	2.27	0.59
17:2:1114:C:H42	50:k:643:LYS:NZ	1.97	0.59
17:2:1142:C:P	49:b:89:ARG:HH22	2.18	0.59
34:y:383:VAL:O	34:y:388:LYS:HD2	2.03	0.59
40:1:17:C:N4	40:1:60:A:C2	2.65	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:675:LYS:HD3	44:z:166:LYS:HZ2	1.67	0.59
45:x:77:ASP:O	45:x:78:GLU:HB2	2.01	0.59
9:N:22:ARG:HH21	9:N:24:LEU:CB	2.10	0.59
14:a:101:LYS:HZ3	14:a:107:ARG:NE	1.99	0.59
15:c:73:LEU:C	15:c:74:THR:CG2	2.75	0.59
17:2:10:G:C6	17:2:1198:U:O2	2.55	0.59
17:2:232:A:C5	17:2:890:G:C5	2.90	0.59
26:d:7:GLN:OE1	26:d:7:GLN:HA	2.00	0.59
34:y:703:ARG:HE	43:p:610:ARG:NH2	2.00	0.59
41:A:157:VAL:CG1	41:A:180:ILE:HD12	2.33	0.59
2:C:201:LEU:HD12	23:T:83:ASN:CB	2.33	0.59
15:c:77:CYS:HG	33:D:91:LEU:HG	1.59	0.59
17:2:279:G:N1	17:2:286:C:C2	2.55	0.59
17:2:757:C:C4	17:2:780:G:C5	2.90	0.59
17:2:1117:G:C5’	17:2:1117:G:H8	2.15	0.59
17:2:1131:C:OP2	49:b:6:ARG:NH1	2.35	0.59
34:y:279:VAL:HG13	34:y:280:SER:N	2.18	0.59
34:y:323:LEU:HD13	34:y:424:LEU:HD22	1.84	0.59
34:y:368:ILE:HG23	34:y:371:ILE:CG2	2.30	0.59
35:q:336:MET:CE	47:Q:418:TYR:CD1	2.73	0.59
17:2:271:G:H21	17:2:272:C:H41	1.48	0.59
17:2:710:C:N4	43:p:628:LYS:NZ	2.51	0.59
34:y:68:LYS:HZ3	34:y:72:TYR:HB2	1.65	0.59
34:y:91:ARG:NH1	34:y:173:LEU:CD1	2.65	0.59
34:y:169:ARG:HG2	34:y:170:VAL:HG13	1.83	0.59
34:y:340:ARG:HD3	34:y:340:ARG:H	1.63	0.59
2:C:41:ARG:CZ	23:T:124:VAL:CG2	2.80	0.59
12:Y:82:GLN:HG2	17:2:800:U:H5”	1.84	0.59
17:2:113:G:N2	17:2:283:A:C2’	2.62	0.59
17:2:128:U:O4’	17:2:212:G:C1’	2.51	0.59
17:2:232:A:C5	17:2:890:G:C4	2.91	0.59
17:2:539:C:H5”	43:p:439:GLY:HA2	1.83	0.59
17:2:757:C:C5	17:2:779:C:H2’	2.30	0.59
33:D:13:PHE:HA	47:Q:49:TYR:CD1	2.38	0.59
34:y:75:LYS:HA	34:y:86:LEU:HD11	1.84	0.59
15:c:35:VAL:HG12	15:c:36:LYS:N	2.17	0.59
17:2:127:C:C6	17:2:129:C:C4	2.90	0.59
17:2:758:G:C8	17:2:779:C:H1’	2.38	0.59
17:2:758:G:C8	17:2:779:C:N1	2.68	0.59
17:2:788:C:C2	17:2:789:G:C8	2.90	0.59
17:2:1112:C:C2’	17:2:1113:C:O5’	2.51	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:d:67:ARG:HH11	26:d:67:ARG:CG	2.14	0.59
43:p:679:LEU:HD21	44:z:209:THR:CG2	2.28	0.59
47:Q:428:LEU:CD2	50:k:846:VAL:CB	2.81	0.59
3:E:106:ARG:HH12	17:2:1343:U:H5"	1.68	0.59
6:J:110:THR:HG21	17:2:795:U:OP2	2.03	0.59
10:P:27:LYS:HG3	10:P:28:LEU:HD21	1.84	0.59
17:2:697:U:C4	17:2:720:C:N4	2.50	0.59
17:2:710:C:N4	43:p:628:LYS:CE	2.66	0.59
17:2:741:C:H2'	17:2:742:C:C2	2.38	0.59
17:2:1518:C:O3'	31:U:144:ARG:HA	2.01	0.59
33:D:13:PHE:CE2	47:Q:40:LEU:HD21	2.33	0.59
34:y:267:PRO:O	34:y:268:LYS:HB2	2.03	0.59
34:y:316:GLN:O	34:y:319:SER:OG	2.17	0.59
34:y:325:ALA:O	34:y:329:ILE:HG12	2.02	0.59
50:k:828:PRO:HG2	50:k:833:ASN:OD1	2.03	0.59
19:H:16:ASP:CG	33:D:204:LYS:HE3	2.28	0.58
33:D:50:LYS:HZ3	50:k:578:GLN:NE2	1.93	0.58
34:y:26:PRO:HB3	45:x:195:LYS:HG2	1.81	0.58
34:y:346:GLY:HA3	34:y:348:ILE:HG13	1.81	0.58
15:c:79:PHE:H	33:D:88:SER:C	2.00	0.58
17:2:785:G:H2'	17:2:786:C:H6	1.68	0.58
17:2:958:A:H5"	19:H:135:ARG:NH2	2.17	0.58
17:2:1105:C:C5	23:T:122:PRO:CB	1.81	0.58
17:2:1202:G:N3	17:2:1828:A:H1'	2.18	0.58
33:D:91:LEU:HB3	50:k:640:GLU:CB	2.31	0.58
34:y:165:ARG:HH11	34:y:165:ARG:CG	2.15	0.58
34:y:245:LEU:CB	34:y:248:GLU:CG	2.80	0.58
38:t:388:LEU:N	47:Q:426:LYS:HZ1	1.96	0.58
38:t:403:LYS:HZ2	47:Q:396:ARG:HE	1.50	0.58
41:A:108:VAL:HG23	41:A:150:TYR:CD1	2.32	0.58
43:p:227:LYS:CE	44:z:335:LYS:CD	2.67	0.58
15:c:35:VAL:O	15:c:36:LYS:HB2	2.02	0.58
34:y:181:ALA:HB3	34:y:196:LYS:CE	2.20	0.58
34:y:710:ILE:HD13	43:p:196:LEU:CB	2.33	0.58
41:A:49:SER:CB	46:0:66:ARG:HH21	1.97	0.58
41:A:197:VAL:HG21	41:A:235:TYR:HE2	1.68	0.58
6:J:106:ARG:HH21	17:2:794:G:HO2'	1.50	0.58
17:2:113:G:O6	17:2:281:U:H1'	2.03	0.58
17:2:1738:G:H22	17:2:1784:A:N6	1.83	0.58
34:y:124:PRO:O	34:y:125:GLU:HB3	2.03	0.58
34:y:313:ASP:O	34:y:314:GLU:HG2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:367:ARG:CG	34:y:368:ILE:H	2.04	0.58
41:A:17:GLU:CG	46:0:63:LYS:NZ	2.65	0.58
41:A:178:ASN:O	41:A:182:ARG:CG	2.50	0.58
2:C:213:GLU:HB3	23:T:86:PRO:HG3	1.85	0.58
6:J:116:ARG:HH12	17:2:678:U:P	2.25	0.58
9:N:23:VAL:O	9:N:23:VAL:HG13	2.02	0.58
10:P:23:PRO:O	10:P:25:TRP:N	2.37	0.58
12:Y:82:GLN:HG2	17:2:800:U:P	2.43	0.58
17:2:128:U:C6	17:2:212:G:C4	2.91	0.58
17:2:232:A:N7	17:2:890:G:C2	2.72	0.58
17:2:1114:C:N3	33:D:93:ASP:HA	2.19	0.58
33:D:78:TYR:CD2	50:k:571:SER:HA	2.38	0.58
33:D:92:VAL:CA	50:k:640:GLU:OE1	2.49	0.58
33:D:92:VAL:HA	50:k:640:GLU:OE1	2.03	0.58
34:y:86:LEU:HD22	34:y:165:ARG:NH2	2.18	0.58
34:y:149:TRP:HA	34:y:149:TRP:HE3	1.67	0.58
34:y:714:TYR:HB2	43:p:193:LEU:CG	2.33	0.58
45:x:71:LEU:O	45:x:75:GLN:HB3	2.03	0.58
14:a:101:LYS:HG2	14:a:107:ARG:NH2	2.17	0.58
15:c:67:THR:HA	50:k:322:LYS:HZ2	1.69	0.58
18:F:196:GLY:CA	18:F:197:LYS:C	2.66	0.58
26:d:53:GLY:C	33:D:416:GLN:OE1	2.46	0.58
34:y:128:LEU:CD2	50:k:495:TYR:CE2	2.87	0.58
34:y:318:MET:O	34:y:322:VAL:HG13	2.03	0.58
34:y:338:ILE:HG12	50:k:724:LYS:HD3	1.77	0.58
34:y:390:LEU:HD11	34:y:410:VAL:O	2.03	0.58
34:y:394:LEU:HD21	34:y:435:THR:HG21	1.85	0.58
34:y:700:ARG:NH2	43:p:206:ARG:HE	1.82	0.58
2:C:17:LYS:HA	23:T:91:LEU:HG	1.86	0.58
3:E:110:LYS:HZ2	17:2:1353:A:P	2.26	0.58
12:Y:32:LYS:HD2	17:2:676:U:C5'	2.33	0.58
15:c:66:PRO:O	50:k:322:LYS:HD3	2.02	0.58
17:2:236:C:H2'	17:2:237:G:C8	2.37	0.58
17:2:776:U:O4	17:2:778:C:C5	2.57	0.58
34:y:199:ASP:OD1	34:y:202:ARG:NH2	2.37	0.58
34:y:274:ASN:HA	34:y:277:ASN:ND2	2.18	0.58
34:y:293:ALA:CB	34:y:328:SER:O	2.51	0.58
33:D:25:TRP:C	47:Q:187:TRP:CG	2.81	0.58
33:D:48:LEU:HA	50:k:574:GLN:NE2	2.19	0.58
34:y:307:ARG:O	34:y:311:THR:N	2.36	0.58
15:c:79:PHE:CE2	33:D:92:VAL:CG2	2.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:262:G:H2'	17:2:263:G:H8	1.69	0.58
17:2:1407:G:H3'	17:2:1408:C:H5"	1.85	0.58
33:D:52:ALA:HB3	50:k:589:ASN:CG	2.29	0.58
34:y:23:LYS:HG3	45:x:192:SER:HB3	1.85	0.58
47:Q:428:LEU:HD11	50:k:843:GLY:CA	2.33	0.58
17:2:225:C:N4	17:2:882:A:H2'	2.19	0.58
17:2:231:C:C2'	17:2:890:G:N2	2.66	0.58
17:2:784:G:H2'	17:2:785:G:H8	1.68	0.58
17:2:1203:G:N2	17:2:1831:G:N9	2.51	0.58
36:r:265:ARG:CZ	50:k:841:LYS:C	2.77	0.58
2:C:210:ILE:CA	23:T:81:ARG:NH1	2.66	0.57
15:c:60:SER:HB3	50:k:368:LEU:HG	1.84	0.57
17:2:758:G:O6	17:2:778:C:C6	2.46	0.57
17:2:1112:C:H2'	17:2:1113:C:O5'	2.04	0.57
17:2:1739:G:N2	17:2:1783:G:C5	2.69	0.57
33:D:13:PHE:HD1	47:Q:49:TYR:CD2	2.22	0.57
33:D:27:PRO:CB	47:Q:226:GLN:CG	2.82	0.57
34:y:48:GLU:OE2	34:y:85:SER:HA	2.03	0.57
34:y:154:TRP:CH2	34:y:196:LYS:HB2	2.38	0.57
36:r:258:VAL:CG2	50:k:841:LYS:CD	2.79	0.57
47:Q:72:MET:HE1	47:Q:91:ARG:HH11	1.68	0.57
2:C:203:PHE:HE2	23:T:88:VAL:CG2	2.10	0.57
15:c:60:SER:HB2	50:k:368:LEU:HD11	1.85	0.57
17:2:234:C:H2'	17:2:235:C:H6	1.68	0.57
17:2:776:U:C5	17:2:777:C:C6	2.85	0.57
17:2:958:A:OP1	19:H:135:ARG:NH2	2.37	0.57
17:2:1170:U:H2'	17:2:1171:G:C8	2.39	0.57
17:2:1202:G:H21	17:2:1829:A:P	2.27	0.57
17:2:1202:G:N2	17:2:1829:A:OP1	2.38	0.57
34:y:284:TRP:CG	34:y:427:TYR:OH	2.55	0.57
41:A:205:ILE:CD1	42:B:288:LYS:CG	2.81	0.57
50:k:858:GLY:C	50:k:861:GLY:CA	2.66	0.57
6:J:108:SER:OG	17:2:739:U:O5'	2.22	0.57
6:J:108:SER:OG	17:2:739:U:OP1	2.19	0.57
12:Y:122:GLY:N	17:2:800:U:HO2'	1.99	0.57
17:2:1707:A:C6	17:2:1708:C:C5	2.92	0.57
34:y:21:VAL:HG11	45:x:192:SER:HB2	1.86	0.57
34:y:277:ASN:N	34:y:299:LEU:CD1	2.39	0.57
34:y:343:ASP:HA	50:k:686:ARG:HH12	1.70	0.57
17:2:266:G:H2'	17:2:267:G:C8	2.39	0.57
17:2:757:C:N4	17:2:780:G:C6	2.72	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:D:25:TRP:HB2	47:Q:184:SER:O	2.05	0.57
34:y:186:LEU:HA	34:y:243:MET:HE2	1.86	0.57
44:z:274:GLU:OE2	44:z:288:ARG:HD3	2.04	0.57
47:Q:326:GLN:NE2	47:Q:376:LYS:HA	2.19	0.57
6:J:108:SER:OG	17:2:739:U:P	2.62	0.57
10:P:19:ARG:NH2	10:P:21:SER:OG	2.37	0.57
17:2:1707:A:C2	17:2:1708:C:C4	2.92	0.57
19:H:130:ARG:HH21	26:d:68:LEU:CG	2.12	0.57
47:Q:84:PRO:HD2	47:Q:87:LEU:HD12	1.86	0.57
2:C:89:LYS:CE	23:T:83:ASN:HA	2.26	0.57
2:C:113:GLN:NE2	17:2:1376:C:C4'	2.67	0.57
34:y:114:ASP:O	34:y:118:LEU:CB	2.47	0.57
34:y:399:ASN:ND2	39:u:313:ILE:HG21	2.19	0.57
43:p:231:SER:OG	44:z:325:SER:HA	2.05	0.57
47:Q:69:ASP:OD1	47:Q:91:ARG:NH1	2.37	0.57
2:C:85:ARG:NH2	23:T:84:TYR:N	2.48	0.57
10:P:29:THR:O	10:P:30:SER:C	2.48	0.57
17:2:1110:U:O2'	17:2:1111:U:O2	2.18	0.57
17:2:1695:C:C1'	17:2:1697:G:C8	2.87	0.57
34:y:24:LYS:HD3	34:y:61:LEU:HG	1.86	0.57
34:y:331:ILE:HD12	34:y:430:GLN:CG	2.35	0.57
34:y:483:ARG:HG3	50:k:779:ASP:HB3	1.83	0.57
35:q:340:LEU:HD21	50:k:835:ALA:HB2	1.85	0.57
43:p:682:ARG:HD3	44:z:248:LEU:CA	2.34	0.57
17:2:731:A:C2'	17:2:732:C:H5	2.10	0.57
17:2:757:C:C5	17:2:780:G:C2	2.93	0.57
17:2:1518:C:OP1	31:U:143:GLY:N	2.37	0.57
17:2:1520:C:OP1	40:1:30:G:C5'	2.53	0.57
34:y:59:VAL:CG2	34:y:93:TYR:CE1	2.85	0.57
34:y:338:ILE:CG1	50:k:724:LYS:HE2	2.26	0.57
34:y:394:LEU:O	34:y:438:ARG:NH1	2.37	0.57
34:y:692:GLU:HB2	43:p:590:GLN:HG2	1.87	0.57
40:1:18:G:O6	41:A:107:THR:HG21	2.04	0.57
40:1:27:C:C4	40:1:28:U:C5	2.92	0.57
2:C:203:PHE:CE2	23:T:88:VAL:CG2	2.85	0.57
10:P:27:LYS:HE3	10:P:28:LEU:CD2	2.34	0.57
17:2:113:G:H21	17:2:283:A:H2'	1.64	0.57
17:2:229:A:C8	17:2:886:U:N3	2.73	0.57
17:2:752:C:H2'	17:2:753:C:C4'	2.34	0.57
17:2:948:G:C6	17:2:949:C:N4	2.73	0.57
17:2:1203:G:C8	17:2:1831:G:N1	2.60	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1519:G:P	31:U:144:ARG:CB	2.75	0.57
17:2:1707:A:C2	17:2:1708:C:N3	2.68	0.57
34:y:297:HIS:NE2	34:y:329:ILE:HD11	2.19	0.57
6:J:104:PRO:HD3	17:2:678:U:O4	2.05	0.57
17:2:848:G:H3'	17:2:849:C:H5"	1.87	0.57
17:2:1115:A:H5'	17:2:1116:U:O4	2.02	0.57
34:y:357:THR:HA	34:y:361:LEU:O	2.04	0.57
17:2:80:G:C4	17:2:81:U:C5	2.93	0.56
17:2:223:A:H2'	17:2:224:U:H3'	1.87	0.56
34:y:21:VAL:HG22	45:x:187:LYS:CA	2.22	0.56
34:y:380:LEU:O	34:y:388:LYS:NZ	2.38	0.56
2:C:20:ALA:HB1	23:T:92:ASP:CA	2.35	0.56
6:J:101:LEU:CB	17:2:738:U:C2	2.58	0.56
17:2:758:G:O6	17:2:778:C:C4	2.58	0.56
17:2:1117:G:H5'	17:2:1117:G:C8	2.40	0.56
17:2:1518:C:H5'	31:U:144:ARG:HA	1.78	0.56
19:H:29:GLN:NE2	33:D:472:LYS:HZ2	2.02	0.56
26:d:13:ARG:HG2	33:D:426:LYS:HZ1	1.70	0.56
34:y:63:LYS:HD2	34:y:66:LEU:HD12	1.87	0.56
34:y:79:GLN:C	34:y:81:VAL:N	2.61	0.56
34:y:257:HIS:CD2	34:y:358:LEU:CD2	2.88	0.56
34:y:393:TRP:HA	34:y:397:GLU:HB3	1.86	0.56
45:x:71:LEU:CD1	45:x:84:PHE:CZ	2.88	0.56
9:N:30:LYS:HE2	9:N:30:LYS:H	1.66	0.56
15:c:38:PRO:HD2	15:c:39:GLY:H	1.68	0.56
15:c:75:GLU:OE2	50:k:369:ALA:HB1	2.01	0.56
17:2:129:C:OP2	17:2:212:G:OP2	2.24	0.56
17:2:249:C:N4	17:2:258:G:O6	2.39	0.56
17:2:535:A:H1'	51:h:959:SER:O	2.05	0.56
17:2:1202:G:O4'	17:2:1828:A:C4	2.58	0.56
19:H:16:ASP:OD2	33:D:204:LYS:HD2	2.04	0.56
22:S:145:TYR:C	22:S:146:ARG:HG2	2.27	0.56
34:y:181:ALA:HB2	34:y:196:LYS:HZ1	1.66	0.56
34:y:245:LEU:O	34:y:246:TRP:HE3	1.88	0.56
34:y:259:LEU:O	34:y:263:SER:N	2.38	0.56
34:y:273:ALA:HA	34:y:302:LEU:HD23	1.87	0.56
34:y:275:TYR:CD1	34:y:278:LYS:NZ	2.73	0.56
34:y:278:LYS:HD2	34:y:278:LYS:C	2.30	0.56
44:z:38:TYR:CG	51:h:583:GLU:CB	2.88	0.56
47:Q:358:PHE:HD2	47:Q:391:LEU:HD22	1.70	0.56
10:P:27:LYS:CE	10:P:28:LEU:HD23	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:129:C:C3'	17:2:184:G:O6	2.52	0.56
17:2:269:C:H2'	17:2:270:G:H8	1.70	0.56
17:2:799:C:H2'	17:2:800:U:C6	2.41	0.56
33:D:42:PHE:CD2	50:k:569:LEU:HB3	2.41	0.56
34:y:291:PHE:CZ	34:y:356:ALA:CA	2.68	0.56
34:y:709:LEU:HD11	43:p:614:LEU:HD23	1.86	0.56
42:B:284:VAL:CG1	42:B:285:ASP:HB3	2.31	0.56
17:2:128:U:O4'	17:2:212:G:N9	2.35	0.56
17:2:278:U:C2	17:2:287:U:O2	2.52	0.56
17:2:1106:G:N2	23:T:126:MET:CE	2.50	0.56
17:2:1114:C:C2'	33:D:94:THR:OG1	2.43	0.56
17:2:1139:A:O2'	17:2:1351:C:N4	2.39	0.56
34:y:288:ASN:C	34:y:290:LEU:H	2.13	0.56
34:y:342:LEU:CD2	50:k:724:LYS:CE	2.82	0.56
34:y:353:ARG:HD3	34:y:353:ARG:O	2.05	0.56
34:y:371:ILE:HG23	34:y:372:ASN:N	2.20	0.56
45:x:39:PHE:HB3	45:x:74:LEU:CD2	2.35	0.56
6:J:75:ILE:HG23	6:J:76:GLN:H	1.70	0.56
15:c:77:CYS:SG	33:D:90:GLN:C	2.85	0.56
17:2:523:A:H2	17:2:540:C:N4	1.97	0.56
17:2:1195:A:C8	17:2:1196:A:C8	2.94	0.56
17:2:1707:A:C6	17:2:1708:C:N4	2.73	0.56
33:D:36:ASP:OD1	50:k:536:ALA:CB	2.53	0.56
34:y:150:VAL:HG12	34:y:188:TYR:CD2	2.40	0.56
34:y:259:LEU:O	34:y:263:SER:CB	2.53	0.56
34:y:291:PHE:CZ	34:y:355:LEU:C	2.84	0.56
34:y:326:THR:O	34:y:329:ILE:HB	2.06	0.56
34:y:329:ILE:HD12	34:y:370:LEU:CB	2.34	0.56
34:y:378:ASN:O	34:y:382:TYR:HD2	1.89	0.56
17:2:1739:G:C4	17:2:1783:G:N1	2.73	0.56
17:2:1859:C:O4'	49:b:5:ARG:HD3	2.06	0.56
18:F:1:MET:O	18:F:2:ALA:HB2	2.06	0.56
34:y:291:PHE:CE1	34:y:359:LEU:CG	2.89	0.56
34:y:366:THR:C	34:y:370:LEU:HG	2.31	0.56
34:y:699:GLU:CD	43:p:565:THR:HB	2.31	0.56
41:A:17:GLU:HG2	46:0:63:LYS:NZ	2.20	0.56
47:Q:172:ARG:NH2	47:Q:208:ARG:NH1	2.53	0.56
15:c:73:LEU:H	15:c:73:LEU:CD2	2.19	0.56
17:2:1202:G:O4'	17:2:1828:A:N7	2.38	0.56
17:2:1520:C:P	40:1:30:G:H5'	2.46	0.56
34:y:26:PRO:HD2	34:y:27:ALA:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:74:TYR:O	34:y:78:CYS:SG	2.64	0.56
34:y:159:GLN:O	34:y:159:GLN:HG2	2.05	0.56
36:r:276:GLN:CG	50:k:856:LYS:HD3	2.36	0.56
38:t:349:MET:HE2	47:Q:444:ASN:OD1	2.06	0.56
14:a:104:ARG:HD2	17:2:482:C:OP2	2.05	0.56
17:2:1109:A:C5	17:2:1110:U:N3	2.73	0.56
17:2:1739:G:C6	17:2:1783:G:O6	2.59	0.56
17:2:1784:A:O5'	17:2:1784:A:H8	1.88	0.56
26:d:40:ARG:CA	49:b:51:ARG:NH1	2.68	0.56
32:R:129:GLY:O	32:R:130:ARG:HB3	2.06	0.56
34:y:246:TRP:CE2	50:k:708:PRO:HD2	2.40	0.56
46:0:128:ARG:CZ	49:b:59:PHE:CZ	2.89	0.56
17:2:1112:C:O2	17:2:1113:C:C2	2.59	0.56
26:d:68:LEU:O	26:d:68:LEU:HD12	2.06	0.56
34:y:48:GLU:OE2	34:y:85:SER:CA	2.53	0.56
34:y:153:LEU:HD22	34:y:157:TYR:CE2	2.40	0.56
34:y:175:HIS:ND1	34:y:231:GLU:OE2	2.35	0.56
34:y:283:PHE:O	34:y:285:LYS:N	2.38	0.56
34:y:725:TRP:NE1	43:p:182:TRP:O	2.36	0.56
36:r:250:VAL:HB	50:k:831:GLN:OE1	2.04	0.56
41:A:53:ARG:NH1	46:0:65:ASP:OD2	2.39	0.56
14:a:104:ARG:HB2	17:2:481:C:P	2.46	0.55
17:2:128:U:C4	17:2:212:G:C2	2.94	0.55
17:2:236:C:H2'	17:2:237:G:H8	1.71	0.55
17:2:1108:U:C2'	17:2:1109:A:C5'	2.78	0.55
34:y:270:GLN:C	34:y:272:MET:H	2.13	0.55
34:y:330:PRO:HB3	34:y:431:LEU:HD11	1.80	0.55
34:y:487:THR:HG22	50:k:820:THR:HG21	1.88	0.55
41:A:263:GLU:HG2	41:A:269:PHE:CD1	2.41	0.55
15:c:67:THR:CB	50:k:322:LYS:NZ	2.69	0.55
15:c:67:THR:CA	50:k:322:LYS:HZ2	2.19	0.55
17:2:1114:C:N4	50:k:643:LYS:HZ2	1.80	0.55
17:2:1203:G:N2	17:2:1831:G:C1'	2.69	0.55
34:y:374:MET:O	34:y:374:MET:HG2	2.05	0.55
45:x:23:ASP:C	45:x:25:PHE:H	2.13	0.55
3:E:108:ARG:NH1	17:2:1344:G:OP1	2.39	0.55
14:a:12:PHE:HZ	17:2:836:C:O2'	1.84	0.55
17:2:12:U:H4'	17:2:1353:A:C4'	2.37	0.55
17:2:129:C:O2'	17:2:184:G:C6	2.59	0.55
17:2:755:C:C6	17:2:782:G:C5	2.94	0.55
34:y:246:TRP:N	34:y:248:GLU:OE1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:39:PHE:CG	45:x:74:LEU:CD2	2.89	0.55
10:P:26:LEU:HD13	10:P:26:LEU:O	2.06	0.55
17:2:244:C:H2'	17:2:245:U:H6	1.69	0.55
17:2:280:G:H1	17:2:284:C:H5	1.54	0.55
33:D:16:PRO:CB	47:Q:25:THR:O	2.54	0.55
36:r:277:TYR:CD1	50:k:855:HIS:CD2	2.88	0.55
38:t:349:MET:CE	47:Q:444:ASN:ND2	2.27	0.55
46:0:128:ARG:NH2	49:b:59:PHE:CZ	2.75	0.55
2:C:43:SER:OG	23:T:120:THR:O	2.25	0.55
10:P:43:LYS:NZ	50:k:405:GLU:OE2	2.29	0.55
17:2:1202:G:O4'	17:2:1828:A:C8	2.60	0.55
19:H:198:ARG:NH2	41:A:45:MET:HB2	2.21	0.55
5:I:228:ILE:C	17:2:781:C:N4	2.48	0.55
10:P:22:VAL:CG2	10:P:24:THR:H	2.20	0.55
34:y:82:ASN:ND2	34:y:85:SER:OG	2.40	0.55
34:y:329:ILE:CB	34:y:330:PRO:CD	2.85	0.55
34:y:697:TYR:CD2	43:p:634:PHE:HB3	2.42	0.55
36:r:254:SER:CA	50:k:834:LEU:HB3	2.33	0.55
9:N:25:LEU:CD2	9:N:29:GLY:HA3	2.35	0.55
17:2:232:A:C5	17:2:890:G:C2	2.95	0.55
34:y:107:GLU:CG	34:y:145:LEU:HD21	2.35	0.55
34:y:224:GLU:O	34:y:228:MET:CE	2.52	0.55
34:y:385:PRO:CB	34:y:388:LYS:HD3	2.19	0.55
38:t:522:TYR:HH	47:Q:416:SER:CB	2.17	0.55
9:N:22:ARG:NH2	9:N:23:VAL:O	2.38	0.55
10:P:22:VAL:HG11	10:P:26:LEU:CD1	2.37	0.55
15:c:35:VAL:HG12	15:c:78:SER:HB3	1.69	0.55
17:2:710:C:C5	43:p:627:LEU:HD12	2.42	0.55
17:2:1121:C:C5'	23:T:124:VAL:O	2.54	0.55
34:y:703:ARG:NE	43:p:610:ARG:HE	1.94	0.55
38:t:342:TYR:HH	47:Q:437:MET:HE2	1.48	0.55
41:A:88:ARG:CD	46:0:64:ALA:HA	2.37	0.55
41:A:197:VAL:CG2	41:A:235:TYR:HE2	2.20	0.55
47:Q:291:LEU:HD21	47:Q:317:TYR:CE2	2.42	0.55
10:P:27:LYS:HZ2	10:P:27:LYS:HB2	1.71	0.55
17:2:10:G:OP1	17:2:1692:A:C2'	2.54	0.55
17:2:245:U:H2'	17:2:246:C:C6	2.41	0.55
34:y:68:LYS:HG3	34:y:163:LEU:CD2	2.35	0.55
34:y:91:ARG:CZ	34:y:173:LEU:CD1	2.85	0.55
34:y:477:HIS:HD2	50:k:774:TYR:CE1	2.09	0.55
45:x:75:GLN:HG3	45:x:75:GLN:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:102:PRO:HB3	17:2:738:U:C4'	2.35	0.55
17:2:128:U:C5'	17:2:212:G:H5'	2.37	0.55
17:2:273:G:H4'	17:2:274:G:C8	2.42	0.55
17:2:754:C:N3	17:2:782:G:N7	2.46	0.55
17:2:1083:A:C6	49:b:1:MET:CE	2.80	0.55
33:D:74:GLY:HA3	50:k:575:ASP:OD2	2.07	0.55
34:y:250:PHE:CE2	50:k:704:PRO:HG2	2.40	0.55
34:y:335:ARG:HH12	34:y:352:GLN:HE21	1.55	0.55
36:r:272:GLN:CB	50:k:852:VAL:CG1	2.84	0.55
41:A:53:ARG:CZ	46:0:65:ASP:OD2	2.54	0.55
47:Q:428:LEU:HD11	50:k:843:GLY:HA2	1.88	0.55
17:2:225:C:O2'	17:2:226:A:O4'	2.22	0.54
17:2:230:C:N1	17:2:892:U:C2	2.75	0.54
17:2:754:C:H1'	17:2:783:G:C4	2.42	0.54
33:D:36:ASP:CA	50:k:536:ALA:HB2	2.36	0.54
34:y:154:TRP:CE3	34:y:154:TRP:HA	2.42	0.54
34:y:223:PRO:HB2	34:y:224:GLU:OE1	2.06	0.54
34:y:329:ILE:HD11	34:y:374:MET:CE	2.37	0.54
47:Q:191:ALA:HB2	47:Q:234:TRP:CZ3	2.42	0.54
5:I:228:ILE:O	17:2:781:C:C4	2.59	0.54
5:I:237:LEU:HD12	17:2:782:G:O3'	2.07	0.54
10:P:20:ARG:CD	10:P:65:PHE:CZ	2.85	0.54
10:P:22:VAL:HB	10:P:23:PRO:C	2.31	0.54
10:P:27:LYS:O	10:P:28:LEU:HG	2.06	0.54
17:2:238:G:H22	17:2:268:G:N2	2.04	0.54
17:2:710:C:H5	43:p:627:LEU:CB	2.20	0.54
17:2:747:G:C2	17:2:789:G:N3	2.75	0.54
17:2:986:A:OP2	49:b:37:LYS:NZ	2.36	0.54
34:y:154:TRP:HA	34:y:154:TRP:HE3	1.71	0.54
34:y:699:GLU:CD	43:p:565:THR:HG22	2.29	0.54
41:A:58:SER:CB	41:A:61:LYS:HE3	2.37	0.54
2:C:206:ASP:HB3	2:C:209:GLU:CB	2.37	0.54
3:E:223:LYS:NZ	17:2:1352:G:P	2.80	0.54
8:L:119:LEU:HD23	43:p:393:PRO:CB	2.36	0.54
17:2:1863:A:C2	49:b:39:PHE:HZ	2.25	0.54
33:D:93:ASP:O	33:D:95:ALA:HB2	2.08	0.54
34:y:300:TYR:HE1	34:y:318:MET:HE3	1.72	0.54
34:y:302:LEU:CG	34:y:306:MET:SD	2.95	0.54
34:y:320:THR:HG23	34:y:323:LEU:HD21	1.90	0.54
38:t:391:ARG:NH2	47:Q:426:LYS:HZ2	2.05	0.54
47:Q:78:LEU:CD2	47:Q:79:TYR:CE2	2.85	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:731:A:O2'	17:2:732:C:H6	1.90	0.54
33:D:91:LEU:HD11	50:k:644:VAL:CB	2.34	0.54
34:y:703:ARG:HD2	43:p:199:TRP:CZ2	2.41	0.54
36:r:276:GLN:HE21	50:k:856:LYS:CA	2.16	0.54
7:K:5:ARG:HH22	17:2:372:C:H41	1.55	0.54
17:2:539:C:H2'	17:2:540:C:H4'	1.89	0.54
2:C:210:ILE:HA	23:T:81:ARG:NH1	2.23	0.54
6:J:102:PRO:CB	17:2:738:U:O3'	2.50	0.54
17:2:1119:C:C2	23:T:126:MET:HE1	2.42	0.54
17:2:1518:C:P	31:U:143:GLY:CA	2.87	0.54
33:D:80:TYR:OH	50:k:542:ARG:NH1	2.40	0.54
33:D:91:LEU:HD22	50:k:643:LYS:HB3	1.89	0.54
34:y:23:LYS:HE3	45:x:196:ASP:HB2	1.90	0.54
34:y:469:ARG:CD	50:k:789:MET:CE	2.73	0.54
34:y:692:GLU:HB2	43:p:589:PHE:CZ	2.39	0.54
38:t:399:LEU:HD22	47:Q:396:ARG:NH2	2.23	0.54
41:A:58:SER:HB2	41:A:61:LYS:HD2	1.85	0.54
43:p:218:ARG:NH1	44:z:2:LYS:CE	2.47	0.54
12:Y:81:VAL:O	17:2:800:U:H4'	2.07	0.54
14:a:10:ARG:C	14:a:11:LYS:HG3	2.33	0.54
17:2:128:U:C4	17:2:212:G:C4	2.96	0.54
17:2:1744:G:N2	17:2:1780:U:O2	2.40	0.54
34:y:174:TYR:OH	34:y:203:MET:HE1	2.08	0.54
40:1:18:G:C1'	40:1:61:C:H5"	2.29	0.54
2:C:201:LEU:CG	23:T:83:ASN:C	2.78	0.54
2:C:213:GLU:OE1	23:T:87:GLU:HG2	2.08	0.54
6:J:116:ARG:NE	17:2:738:U:C4	2.76	0.54
17:2:763:U:H2'	17:2:764:C:C6	2.43	0.54
33:D:80:TYR:CD1	50:k:542:ARG:HA	2.42	0.54
34:y:183:LYS:O	34:y:187:GLN:HG3	2.08	0.54
34:y:291:PHE:CZ	34:y:356:ALA:N	2.75	0.54
38:t:342:TYR:HH	47:Q:437:MET:HE3	1.53	0.54
45:x:22:VAL:HG12	45:x:24:PRO:HD3	1.90	0.54
15:c:39:GLY:HA2	50:k:429:ARG:HH12	1.62	0.54
17:2:226:A:P	17:2:884:U:O2'	2.66	0.54
17:2:1109:A:C6	17:2:1110:U:N3	2.74	0.54
34:y:291:PHE:CE1	34:y:359:LEU:CD2	2.87	0.54
34:y:318:MET:HG2	34:y:382:TYR:CB	2.33	0.54
47:Q:366:GLN:CD	50:k:813:SER:CB	2.75	0.54
3:E:110:LYS:NZ	17:2:1352:G:O3'	2.41	0.54
6:J:101:LEU:N	17:2:738:U:C4	2.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:P:27:LYS:CE	10:P:28:LEU:CD2	2.86	0.54
17:2:578:G:O2'	51:h:120:THR:CB	2.55	0.54
17:2:1112:C:HO2'	17:2:1113:C:P	2.31	0.54
17:2:1115:A:C5'	17:2:1116:U:C5	2.85	0.54
19:H:29:GLN:HE21	33:D:472:LYS:NZ	2.06	0.54
19:H:37:ASP:OD2	33:D:418:GLY:CA	2.56	0.54
26:d:35:MET:HE3	33:D:422:ALA:CB	2.38	0.54
33:D:11:ALA:O	47:Q:49:TYR:CA	2.52	0.54
34:y:283:PHE:CD1	34:y:283:PHE:C	2.86	0.54
34:y:340:ARG:O	34:y:343:ASP:O	2.25	0.54
2:C:89:LYS:NZ	23:T:83:ASN:CB	2.64	0.53
5:I:70:HIS:CG	5:I:103:ASP:OD2	2.61	0.53
10:P:22:VAL:HB	10:P:24:THR:H	1.68	0.53
17:2:129:C:H2'	17:2:184:G:C6	2.36	0.53
19:H:201:LYS:HB3	41:A:75:ARG:HH12	1.73	0.53
33:D:36:ASP:O	50:k:535:TYR:HB3	2.07	0.53
34:y:105:LYS:CG	34:y:146:LEU:HD22	2.22	0.53
34:y:378:ASN:OD1	34:y:381:GLN:HB3	2.08	0.53
14:a:101:LYS:HZ2	14:a:107:ARG:NH2	2.05	0.53
17:2:80:G:C5	17:2:81:U:C5	2.95	0.53
17:2:271:G:N2	17:2:272:C:H41	2.07	0.53
17:2:784:G:H2'	17:2:785:G:C8	2.43	0.53
17:2:1204:A:P	17:2:1829:A:O2'	2.65	0.53
17:2:1519:G:H4'	40:1:29:G:O3'	2.08	0.53
33:D:12:LYS:HG2	47:Q:53:GLU:OE1	2.08	0.53
34:y:78:CYS:SG	34:y:86:LEU:CG	2.96	0.53
40:1:16:G:C2'	40:1:17:C:H5"	2.37	0.53
41:A:108:VAL:CG2	41:A:150:TYR:CD1	2.82	0.53
3:E:106:ARG:NH1	17:2:1343:U:H5"	2.24	0.53
17:2:232:A:C5	17:2:890:G:C6	2.97	0.53
17:2:1114:C:C6	33:D:94:THR:OG1	1.83	0.53
18:F:59:LEU:CD2	48:j:290:ARG:H	2.21	0.53
43:p:661:ARG:O	43:p:665:LYS:HG3	2.09	0.53
6:J:116:ARG:CZ	17:2:738:U:C4	2.91	0.53
15:c:60:SER:HB3	50:k:429:ARG:NH2	2.23	0.53
34:y:184:PHE:CD1	34:y:188:TYR:CE2	2.92	0.53
34:y:340:ARG:HD2	34:y:348:ILE:HD12	1.89	0.53
45:x:82:ARG:NH2	45:x:82:ARG:HG3	2.23	0.53
2:C:206:ASP:CB	2:C:209:GLU:HB2	2.38	0.53
5:I:223:LYS:HE2	5:I:227:GLN:NE2	2.24	0.53
9:N:26:GLY:O	9:N:27:GLU:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:N:30:LYS:HE2	9:N:30:LYS:CA	2.38	0.53
12:Y:82:GLN:HG3	17:2:800:U:OP1	2.00	0.53
14:a:101:LYS:NZ	14:a:107:ARG:NH2	2.56	0.53
17:2:279:G:C2	17:2:286:C:O2	2.60	0.53
17:2:1120:C:C6	23:T:126:MET:HE2	2.41	0.53
17:2:1203:G:N9	17:2:1831:G:N2	2.55	0.53
34:y:132:VAL:O	34:y:132:VAL:HG12	2.07	0.53
34:y:230:LEU:O	34:y:234:LEU:HG	2.08	0.53
34:y:371:ILE:O	34:y:375:VAL:HG23	2.07	0.53
34:y:395:GLU:HA	34:y:438:ARG:HH12	1.73	0.53
2:C:102:ARG:NH1	17:2:1373:U:O4	2.41	0.53
17:2:263:G:H2'	17:2:264:U:C6	2.43	0.53
17:2:755:C:H1'	17:2:782:G:C8	2.44	0.53
17:2:1114:C:C5	33:D:92:VAL:O	2.62	0.53
17:2:1815:U:H2'	17:2:1816:A:C5'	2.31	0.53
17:2:1860:A:N6	49:b:84:VAL:CG1	2.66	0.53
26:d:33:GLU:CG	33:D:426:LYS:NZ	2.64	0.53
33:D:27:PRO:HB3	47:Q:226:GLN:HE21	1.74	0.53
33:D:91:LEU:CB	50:k:640:GLU:CA	2.85	0.53
34:y:35:MET:HE1	34:y:47:HIS:ND1	2.23	0.53
34:y:116:GLU:C	34:y:118:LEU:H	2.17	0.53
34:y:327:LEU:HB3	34:y:427:TYR:CB	2.39	0.53
34:y:483:ARG:HG2	50:k:779:ASP:OD2	2.08	0.53
36:r:277:TYR:CD1	50:k:855:HIS:CE1	2.89	0.53
36:r:280:ARG:NE	50:k:855:HIS:CD2	2.73	0.53
15:c:67:THR:HA	50:k:322:LYS:NZ	2.24	0.53
17:2:758:G:H2'	17:2:759:A:H8	1.72	0.53
17:2:1519:G:O3'	40:1:30:G:H5'	2.08	0.53
22:S:146:ARG:HH22	40:1:33:C:C3'	2.13	0.53
26:d:67:ARG:HH21	26:d:68:LEU:HD23	1.74	0.53
34:y:108:SER:HB2	34:y:145:LEU:HD23	1.87	0.53
34:y:330:PRO:C	34:y:331:ILE:HG12	2.33	0.53
34:y:375:VAL:O	34:y:375:VAL:HG12	2.08	0.53
36:r:277:TYR:CA	50:k:855:HIS:CD2	2.90	0.53
2:C:85:ARG:HG3	23:T:82:ASP:CB	2.39	0.53
5:I:233:ARG:CZ	17:2:781:C:OP1	2.56	0.53
6:J:116:ARG:NH2	17:2:738:U:O4	2.38	0.53
12:Y:32:LYS:HD2	17:2:676:U:H5"	1.91	0.53
34:y:61:LEU:C	34:y:62:ARG:HG3	2.34	0.53
34:y:227:SER:HB2	34:y:228:MET:CE	2.30	0.53
34:y:347:ILE:HG13	34:y:348:ILE:HG13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:A:157:VAL:HG11	41:A:180:ILE:HD13	1.81	0.53
5:I:232:ARG:HB3	17:2:781:C:C6	2.31	0.53
17:2:710:C:H6	43:p:627:LEU:CG	1.97	0.53
17:2:1739:G:C4	17:2:1783:G:N2	2.74	0.53
20:M:98:ARG:HD3	48:j:292:ASP:CB	2.38	0.53
26:d:13:ARG:CD	33:D:426:LYS:HZ2	2.17	0.53
26:d:67:ARG:HG3	26:d:67:ARG:NH1	2.23	0.53
34:y:475:ALA:O	50:k:777:VAL:CB	2.57	0.53
2:C:200:ASP:OD1	23:T:88:VAL:HG23	2.09	0.53
6:J:102:PRO:CB	17:2:738:U:O2'	2.47	0.53
6:J:107:LYS:O	17:2:739:U:O5'	2.27	0.53
17:2:282:G:H3'	17:2:283:A:C8	2.44	0.53
17:2:524:G:H1	17:2:539:C:H42	1.56	0.53
17:2:790:A:N3	17:2:790:A:H2'	2.24	0.53
17:2:1518:C:H4'	31:U:144:ARG:C	2.31	0.53
34:y:68:LYS:HG2	34:y:163:LEU:HD23	1.89	0.53
34:y:230:LEU:HD12	34:y:271:LEU:HD23	1.91	0.53
34:y:298:ARG:NH2	34:y:361:LEU:HD11	2.24	0.53
34:y:331:ILE:HD13	34:y:431:LEU:HB2	1.91	0.53
45:x:71:LEU:HD12	45:x:84:PHE:CZ	2.44	0.53
17:2:10:G:N7	17:2:1692:A:C4	2.77	0.52
17:2:271:G:C6	17:2:887:G:C5	2.97	0.52
17:2:752:C:C5	17:2:753:C:H5	2.26	0.52
17:2:948:G:C4	17:2:949:C:C5	2.97	0.52
17:2:1115:A:H3'	17:2:1116:U:C6	2.44	0.52
17:2:1195:A:O2'	17:2:1196:A:C4'	2.57	0.52
26:d:33:GLU:HG2	33:D:426:LYS:NZ	2.22	0.52
26:d:35:MET:CA	33:D:426:LYS:CE	2.70	0.52
33:D:15:THR:HG23	47:Q:57:GLY:HA3	1.89	0.52
34:y:257:HIS:CE1	34:y:358:LEU:HD23	2.44	0.52
34:y:375:VAL:HA	34:y:379:VAL:CG2	2.39	0.52
2:C:205:ARG:NE	2:C:207:PRO:HG3	2.21	0.52
17:2:228:A:N6	17:2:885:U:O4	2.43	0.52
17:2:754:C:H1'	17:2:783:G:C5	2.45	0.52
17:2:754:C:H2'	17:2:755:C:O4'	2.10	0.52
34:y:59:VAL:O	34:y:59:VAL:HG12	2.08	0.52
38:t:350:PHE:HD1	47:Q:448:ARG:NH2	2.07	0.52
41:A:154:LYS:HD2	41:A:184:LEU:CD2	2.39	0.52
43:p:580:VAL:HG23	51:h:748:HIS:CB	2.39	0.52
45:x:70:SER:OG	45:x:71:LEU:N	2.42	0.52
3:E:223:LYS:HZ1	17:2:1352:G:H5'	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:N:22:ARG:HH21	9:N:24:LEU:HD13	1.73	0.52
14:a:10:ARG:HH21	14:a:11:LYS:CE	2.22	0.52
17:2:1859:C:C5'	49:b:87:ARG:NH2	2.72	0.52
34:y:12:LEU:HD22	34:y:16:ASN:ND2	2.19	0.52
34:y:28:LEU:HD23	34:y:28:LEU:C	2.33	0.52
34:y:205:LEU:CD1	34:y:209:GLN:CD	2.83	0.52
34:y:313:ASP:C	34:y:314:GLU:HG2	2.35	0.52
38:t:391:ARG:NH1	47:Q:426:LYS:NZ	2.57	0.52
47:Q:361:PHE:HZ	50:k:816:GLN:NE2	1.90	0.52
17:2:127:C:O2'	17:2:129:C:C5'	2.56	0.52
17:2:256:C:N4	17:2:257:G:O6	2.43	0.52
17:2:786:C:H2'	17:2:787:C:O4'	2.10	0.52
17:2:959:A:OP1	41:A:53:ARG:HG2	2.09	0.52
31:U:143:GLY:CA	31:U:144:ARG:HD2	2.38	0.52
34:y:165:ARG:HH11	34:y:165:ARG:HG2	1.74	0.52
34:y:297:HIS:HE1	34:y:325:ALA:CA	2.22	0.52
34:y:703:ARG:HE	43:p:610:ARG:HH21	1.56	0.52
40:1:16:G:C2	40:1:17:C:C5	2.97	0.52
44:z:57:SER:CB	44:z:98:ARG:HA	2.40	0.52
44:z:57:SER:HB2	44:z:98:ARG:HA	1.91	0.52
17:2:1109:A:C2'	17:2:1110:U:H5'	2.39	0.52
17:2:1203:G:N2	17:2:1831:G:H1'	2.24	0.52
17:2:1635:A:H1'	40:1:41:C:H1'	1.91	0.52
5:I:221:LYS:HE2	5:I:225:GLN:NE2	2.24	0.52
15:c:73:LEU:O	15:c:74:THR:CG2	2.57	0.52
17:2:1112:C:H2'	17:2:1112:C:O2	2.09	0.52
31:U:143:GLY:N	31:U:144:ARG:HD2	2.25	0.52
33:D:13:PHE:CD2	47:Q:54:LEU:HG	2.45	0.52
34:y:78:CYS:SG	34:y:86:LEU:HG	2.49	0.52
34:y:227:SER:CB	34:y:228:MET:CE	2.86	0.52
17:2:271:G:O5'	17:2:887:G:OP2	2.27	0.52
17:2:710:C:H5	43:p:627:LEU:O	1.74	0.52
17:2:749:C:C6	17:2:749:C:OP1	2.63	0.52
17:2:779:C:H2'	17:2:780:G:C5	2.44	0.52
17:2:1859:C:OP1	49:b:87:ARG:NE	2.41	0.52
26:d:40:ARG:HH11	46:0:117:ARG:NH1	2.07	0.52
34:y:222:ASN:N	34:y:223:PRO:CD	2.73	0.52
34:y:330:PRO:O	34:y:331:ILE:CD1	2.58	0.52
38:t:486:PHE:H	38:t:487:ARG:HB3	1.75	0.52
2:C:205:ARG:O	2:C:206:ASP:HB2	2.09	0.52
5:I:235:SER:O	5:I:237:LEU:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:278:U:H2'	17:2:279:G:O4'	2.09	0.52
17:2:1859:C:C5'	49:b:87:ARG:HH21	2.22	0.52
33:D:15:THR:HG21	47:Q:57:GLY:HA3	1.91	0.52
34:y:7:ARG:N	34:y:8:PRO:CD	2.68	0.52
34:y:245:LEU:O	34:y:246:TRP:CE3	2.62	0.52
34:y:335:ARG:NH1	34:y:352:GLN:HE21	2.07	0.52
40:1:16:G:N1	40:1:17:C:C5	2.78	0.52
43:p:677:GLU:OE1	44:z:163:THR:HG21	2.10	0.52
15:c:38:PRO:CD	15:c:39:GLY:H	2.23	0.52
17:2:273:G:H5'	17:2:274:G:O5'	2.10	0.52
17:2:1812:A:H2	17:2:1813:A:C8	2.16	0.52
22:S:146:ARG:HH21	40:1:35:A:P	2.30	0.52
34:y:265:LYS:N	34:y:266:PRO:CD	2.73	0.52
34:y:342:LEU:C	50:k:686:ARG:HH22	2.08	0.52
34:y:346:GLY:CA	34:y:348:ILE:N	2.73	0.52
36:r:251:ASP:O	50:k:834:LEU:CD1	2.57	0.52
43:p:679:LEU:CD2	44:z:209:THR:CG2	2.82	0.52
6:J:107:LYS:CB	17:2:738:U:O2'	2.55	0.52
15:c:36:LYS:H	15:c:78:SER:CB	2.20	0.52
15:c:78:SER:CA	33:D:89:PHE:HA	2.39	0.52
33:D:13:PHE:HE2	47:Q:40:LEU:HD21	1.67	0.52
34:y:170:VAL:O	34:y:171:GLU:HB2	2.09	0.52
34:y:175:HIS:HE1	34:y:228:MET:SD	1.97	0.52
34:y:276:TYR:CD2	34:y:302:LEU:HD22	2.41	0.52
34:y:502:ARG:NH1	50:k:776:SER:O	2.43	0.52
34:y:695:ILE:CG2	43:p:522:GLN:OE1	2.58	0.52
43:p:650:VAL:HG13	44:z:333:VAL:HG11	1.87	0.52
43:p:677:GLU:OE1	44:z:163:THR:CG2	2.58	0.52
17:2:1815:U:C2'	17:2:1816:A:H5"	2.35	0.51
18:F:3:VAL:CG2	18:F:4:GLN:N	2.49	0.51
34:y:167:ASN:O	34:y:168:SER:CB	2.58	0.51
34:y:725:TRP:CG	43:p:184:ILE:CG1	2.90	0.51
47:Q:428:LEU:HD21	50:k:843:GLY:HA2	1.92	0.51
3:E:100:GLN:CG	17:2:1694:A:N1	2.73	0.51
15:c:75:GLU:HG3	50:k:369:ALA:H	1.75	0.51
17:2:676:U:H2'	17:2:677:C:C5	2.45	0.51
17:2:699:G:H2'	17:2:700:A:C8	2.45	0.51
33:D:16:PRO:HG3	47:Q:28:ALA:CB	1.91	0.51
34:y:13:LYS:CB	34:y:13:LYS:NZ	2.73	0.51
41:A:170:GLU:C	41:A:172:GLU:H	2.01	0.51
2:C:41:ARG:CZ	23:T:124:VAL:HG21	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:N:22:ARG:HG3	9:N:23:VAL:N	2.23	0.51
18:F:62:LYS:HA	48:j:291:GLU:CB	2.40	0.51
19:H:37:ASP:OD2	33:D:417:ARG:C	2.51	0.51
34:y:7:ARG:C	34:y:9:GLU:HG3	2.24	0.51
34:y:68:LYS:HE3	34:y:163:LEU:O	2.11	0.51
34:y:68:LYS:HD3	34:y:68:LYS:O	2.10	0.51
35:q:347:GLN:CD	50:k:842:LEU:HD22	2.31	0.51
43:p:218:ARG:CD	44:z:2:LYS:HZ1	2.14	0.51
43:p:650:VAL:HG13	44:z:333:VAL:HG12	1.92	0.51
2:C:89:LYS:HZ2	23:T:83:ASN:CB	2.20	0.51
16:i:82:ARG:NH2	16:i:83:VAL:O	2.43	0.51
17:2:80:G:C4	17:2:81:U:C6	2.99	0.51
17:2:240:C:H2'	17:2:241:A:C8	2.44	0.51
17:2:1112:C:N3	17:2:1113:C:N3	2.58	0.51
34:y:283:PHE:CE1	34:y:287:GLY:N	2.77	0.51
34:y:327:LEU:CD1	34:y:327:LEU:N	2.73	0.51
34:y:367:ARG:NH1	34:y:368:ILE:CD1	2.73	0.51
36:r:254:SER:CB	50:k:834:LEU:HD12	1.90	0.51
47:Q:21:TYR:CE1	47:Q:308:PRO:HD3	2.46	0.51
6:J:107:LYS:HE3	17:2:679:U:C4	2.46	0.51
15:c:53:VAL:HG11	50:k:320:GLY:HA3	1.91	0.51
17:2:757:C:C6	17:2:780:G:C2	2.99	0.51
17:2:1114:C:C6	33:D:94:THR:CA	2.92	0.51
18:F:195:SER:HA	18:F:202:LYS:HD2	1.92	0.51
26:d:38:THR:HG23	33:D:296:ASN:OD1	2.10	0.51
26:d:67:ARG:CG	26:d:67:ARG:NH1	2.73	0.51
34:y:128:LEU:HD21	50:k:495:TYR:CZ	2.45	0.51
34:y:164:LEU:O	34:y:165:ARG:CG	2.48	0.51
34:y:255:ASP:O	34:y:259:LEU:HD12	2.11	0.51
34:y:279:VAL:CG1	34:y:280:SER:N	2.73	0.51
34:y:707:ILE:CD1	43:p:200:LEU:CD1	2.20	0.51
44:z:246:THR:HG22	44:z:301:ILE:HD13	1.91	0.51
17:2:797:U:H2'	17:2:798:A:O4'	2.10	0.51
32:R:130:ARG:NH1	32:R:130:ARG:CB	2.73	0.51
33:D:50:LYS:CE	50:k:578:GLN:HE21	2.22	0.51
36:r:272:GLN:HG3	50:k:852:VAL:CG1	2.25	0.51
47:Q:452:PRO:HG2	47:Q:454:TRP:NE1	2.26	0.51
17:2:230:C:C1'	17:2:892:U:C2	2.91	0.51
17:2:230:C:N3	17:2:892:U:C4	2.79	0.51
17:2:1115:A:H2'	17:2:1116:U:OP1	2.11	0.51
17:2:1706:U:O2'	17:2:1707:A:O5'	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:146:ARG:HH11	40:1:32:C:H3'	1.76	0.51
34:y:240:ALA:HB3	34:y:249:ALA:HB2	1.91	0.51
17:2:537:G:H2'	17:2:538:C:C2	2.46	0.51
17:2:740:G:C6	17:2:741:C:C4	2.99	0.51
17:2:753:C:H1'	17:2:784:G:C6	2.46	0.51
26:d:38:THR:CG2	33:D:296:ASN:CG	2.83	0.51
34:y:75:LYS:CA	34:y:78:CYS:SG	2.95	0.51
34:y:230:LEU:HG	34:y:271:LEU:CG	2.33	0.51
34:y:283:PHE:C	34:y:283:PHE:HD1	2.19	0.51
44:z:40:LEU:HD23	51:h:583:GLU:O	2.10	0.51
14:a:101:LYS:CG	14:a:107:ARG:HH21	2.12	0.51
17:2:234:C:H2'	17:2:235:C:C6	2.46	0.51
17:2:1709:U:C2	17:2:1814:G:C2	2.99	0.51
19:H:61:PHE:HE1	33:D:415:SER:CB	2.18	0.51
34:y:7:ARG:HB2	34:y:9:GLU:OE2	2.09	0.51
34:y:237:LEU:HD11	34:y:278:LYS:HZ3	1.76	0.51
34:y:342:LEU:HD23	50:k:724:LYS:HZ2	0.68	0.51
9:N:42:LEU:HA	17:2:282:G:C1'	2.35	0.51
15:c:62:VAL:O	50:k:368:LEU:HD11	2.10	0.51
17:2:259:G:H2'	17:2:260:G:C8	2.46	0.51
17:2:267:G:H2'	17:2:268:G:C8	2.40	0.51
17:2:958:A:O2'	41:A:53:ARG:HA	2.11	0.51
17:2:1202:G:C4'	17:2:1828:A:C4	2.94	0.51
34:y:204:HIS:HE1	34:y:259:LEU:HG	1.76	0.51
34:y:338:ILE:CG2	34:y:339:ALA:N	2.73	0.51
34:y:368:ILE:CD1	34:y:438:ARG:NH2	2.74	0.51
3:E:223:LYS:NZ	17:2:1352:G:H5'	2.26	0.50
17:2:753:C:H1'	17:2:784:G:N1	2.26	0.50
17:2:1244:I2T:C6	40:1:34:C:C1'	2.87	0.50
17:2:1739:G:C2	17:2:1784:A:N1	2.78	0.50
19:H:29:GLN:NE2	33:D:472:LYS:HG3	2.26	0.50
34:y:59:VAL:HG22	34:y:152:PHE:CZ	2.46	0.50
34:y:94:LEU:HD22	34:y:157:TYR:HE1	1.73	0.50
3:E:99:LYS:HA	17:2:10:G:H21	1.77	0.50
14:a:105:LYS:C	14:a:107:ARG:N	2.67	0.50
15:c:73:LEU:N	15:c:73:LEU:CD2	2.73	0.50
15:c:79:PHE:O	15:c:80:ARG:HG2	2.10	0.50
17:2:10:G:C2	17:2:1198:U:O2	2.63	0.50
17:2:948:G:C2	17:2:949:C:C2	2.99	0.50
17:2:951:A:C2	17:2:968:A:C4	2.99	0.50
17:2:951:A:C4	17:2:968:A:C6	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1195:A:C2'	17:2:1196:A:C8	2.90	0.50
19:H:33:ILE:HB	33:D:479:GLN:HG2	1.93	0.50
22:S:146:ARG:NH1	40:1:33:C:OP2	2.42	0.50
34:y:101:THR:HA	34:y:149:TRP:CB	2.38	0.50
34:y:238:ASP:HA	34:y:241:ILE:CG1	2.41	0.50
34:y:331:ILE:CD1	34:y:430:GLN:HG3	2.41	0.50
34:y:375:VAL:HA	34:y:379:VAL:HG21	1.92	0.50
43:p:682:ARG:HH11	44:z:248:LEU:CD1	1.97	0.50
6:J:122:LEU:HB3	17:2:678:U:H4'	1.93	0.50
12:Y:82:GLN:HE21	17:2:800:U:P	2.33	0.50
17:2:226:A:H2	17:2:896:C:H1'	1.77	0.50
17:2:758:G:C4	17:2:779:C:O4'	2.64	0.50
8:L:179:LYS:C	51:h:507:GLN:O	2.54	0.50
17:2:128:U:C4	17:2:212:G:N3	2.80	0.50
17:2:273:G:C5	17:2:887:G:N3	2.77	0.50
17:2:752:C:O2'	17:2:753:C:C5'	2.49	0.50
19:H:194:ASP:CB	41:A:82:TYR:OH	2.60	0.50
20:M:98:ARG:HB3	48:j:263:GLY:CA	2.39	0.50
33:D:44:LYS:HA	50:k:569:LEU:HD13	1.93	0.50
34:y:8:PRO:HG3	34:y:39:LYS:CD	2.42	0.50
34:y:232:THR:CB	34:y:233:ARG:NH2	2.74	0.50
34:y:274:ASN:O	34:y:277:ASN:ND2	2.44	0.50
34:y:707:ILE:CD1	43:p:200:LEU:CB	2.87	0.50
47:Q:55:LEU:HB2	47:Q:78:LEU:CD1	2.42	0.50
2:C:200:ASP:CG	23:T:89:SER:HA	2.36	0.50
7:K:193:LYS:HZ1	9:N:32:LYS:NZ	2.03	0.50
9:N:30:LYS:C	9:N:32:LYS:H	2.18	0.50
14:a:12:PHE:CD1	17:2:836:C:H1'	2.46	0.50
17:2:226:A:OP2	17:2:884:U:O2'	2.29	0.50
17:2:1114:C:C4	33:D:92:VAL:O	2.65	0.50
17:2:1743:G:N3	17:2:1781:G:C2	2.77	0.50
34:y:105:LYS:HB2	34:y:146:LEU:HD13	1.94	0.50
34:y:717:GLN:HG2	43:p:189:PRO:CB	2.42	0.50
2:C:109:THR:HG22	17:2:1347:G:H4'	1.92	0.50
6:J:103:LYS:HG3	17:2:679:U:C5	2.46	0.50
17:2:231:C:H6	17:2:891:G:C2	2.17	0.50
17:2:257:G:C2	17:2:258:G:C8	3.00	0.50
17:2:731:A:H1'	17:2:732:C:C6	2.45	0.50
17:2:742:C:H2'	17:2:743:U:C6	2.47	0.50
33:D:48:LEU:HD21	50:k:569:LEU:HD21	1.92	0.50
34:y:237:LEU:HD13	34:y:278:LYS:NZ	2.18	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:728:GLN:HE22	43:p:314:THR:CG2	2.15	0.50
40:1:16:G:N1	40:1:17:C:H5	2.08	0.50
44:z:227:THR:OG1	44:z:229:GLN:HB2	2.11	0.50
45:x:73:ASP:HB2	46:0:128:ARG:NH2	2.26	0.50
2:C:205:ARG:O	2:C:210:ILE:CG1	2.58	0.50
13:Z:52:LEU:O	13:Z:53:GLU:HB3	2.12	0.50
14:a:105:LYS:O	14:a:107:ARG:N	2.44	0.50
17:2:127:C:C3'	17:2:128:U:O5'	2.59	0.50
17:2:265:G:H2'	17:2:266:G:H8	1.77	0.50
17:2:759:A:N6	17:2:777:C:N3	2.59	0.50
21:O:85:LEU:HD23	21:O:85:LEU:H	1.77	0.50
34:y:121:ILE:HG13	34:y:122:GLN:HE21	1.76	0.50
34:y:161:LEU:CD2	34:y:174:TYR:HA	2.42	0.50
34:y:205:LEU:HA	34:y:208:ILE:CG2	2.41	0.50
34:y:329:ILE:CD1	34:y:374:MET:HE1	2.41	0.50
34:y:399:ASN:O	34:y:400:PRO:C	2.54	0.50
34:y:483:ARG:CG	50:k:779:ASP:CB	2.82	0.50
47:Q:55:LEU:HB2	47:Q:78:LEU:HD12	1.94	0.50
18:F:3:VAL:HG13	18:F:4:GLN:N	2.27	0.50
34:y:7:ARG:HB3	34:y:9:GLU:OE2	2.10	0.50
34:y:26:PRO:HB3	45:x:195:LYS:CE	2.42	0.50
34:y:156:SER:O	34:y:160:CYS:N	2.39	0.50
34:y:224:GLU:OE1	34:y:224:GLU:N	2.32	0.50
34:y:346:GLY:CA	34:y:347:ILE:C	2.85	0.50
34:y:699:GLU:HG3	43:p:565:THR:CB	2.35	0.50
2:C:201:LEU:HB3	23:T:84:TYR:N	2.21	0.50
17:2:228:A:C5'	17:2:886:U:C1'	2.90	0.50
17:2:800:U:HO2'	17:2:801:U:H5'	1.76	0.50
19:H:27:ASP:HA	33:D:472:LYS:CE	2.41	0.50
33:D:54:TRP:NE1	50:k:582:PRO:HA	2.27	0.50
34:y:21:VAL:HG11	45:x:192:SER:CB	2.41	0.50
34:y:166:ASN:HD22	34:y:203:MET:HG3	1.77	0.50
34:y:221:ASN:C	34:y:223:PRO:HD2	2.37	0.50
34:y:323:LEU:CG	34:y:324:LEU:N	2.73	0.50
17:2:134:C:HO2'	17:2:136:C:N4	2.09	0.49
17:2:231:C:H1'	17:2:891:G:C4	2.35	0.49
17:2:232:A:N9	17:2:890:G:N2	2.56	0.49
17:2:280:G:N1	17:2:284:C:C5	2.75	0.49
17:2:674:G:H2'	17:2:675:A:C8	2.47	0.49
17:2:1142:C:OP1	49:b:89:ARG:CZ	2.53	0.49
34:y:240:ALA:C	34:y:242:SER:H	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:t:463:PHE:CE2	47:Q:393:ARG:NH2	2.80	0.49
43:p:646:SER:C	43:p:650:VAL:HG11	2.36	0.49
2:C:206:ASP:CG	2:C:209:GLU:OE2	2.54	0.49
16:i:82:ARG:NH2	16:i:85:LYS:HA	2.27	0.49
17:2:1195:A:O2'	17:2:1196:A:O4'	2.31	0.49
17:2:1202:G:C5'	17:2:1828:A:C6	2.96	0.49
34:y:68:LYS:CG	34:y:163:LEU:HD21	2.40	0.49
34:y:333:PRO:HG3	34:y:434:ASN:ND2	2.27	0.49
41:A:216:LEU:HD13	41:A:250:VAL:HG22	1.94	0.49
6:J:116:ARG:CZ	17:2:678:U:O5'	2.60	0.49
17:2:230:C:H2'	17:2:231:C:C6	2.48	0.49
17:2:778:C:H2'	17:2:779:C:C6	2.41	0.49
17:2:1117:G:C5'	17:2:1117:G:C8	2.94	0.49
33:D:50:LYS:HD3	50:k:574:GLN:O	2.12	0.49
46:0:28:PHE:CZ	49:b:58:VAL:HG21	2.47	0.49
10:P:22:VAL:CG1	10:P:26:LEU:CG	2.86	0.49
17:2:16:G:H21	17:2:1191:A:H62	1.60	0.49
17:2:127:C:O2'	17:2:129:C:H5'	2.13	0.49
17:2:263:G:H2'	17:2:264:U:H6	1.78	0.49
17:2:742:C:N3	17:2:792:G:N2	2.60	0.49
17:2:1140:A:O2'	17:2:1196:A:C4'	2.60	0.49
26:d:38:THR:CG2	33:D:296:ASN:HA	2.42	0.49
34:y:39:LYS:HB2	34:y:39:LYS:HZ3	1.78	0.49
34:y:327:LEU:HD13	34:y:327:LEU:H	1.78	0.49
34:y:335:ARG:NH1	34:y:352:GLN:NE2	2.60	0.49
47:Q:254:LEU:HD23	47:Q:290:VAL:HG13	1.93	0.49
8:L:159:PHE:CZ	43:p:413:PHE:CZ	3.01	0.49
10:P:22:VAL:H	10:P:23:PRO:CA	2.11	0.49
17:2:13:C:O4'	17:2:1352:G:N2	2.41	0.49
17:2:698:C:N4	17:2:719:C:H42	2.10	0.49
17:2:1121:C:C4'	23:T:123:THR:HG23	2.42	0.49
33:D:42:PHE:HA	50:k:572:HIS:CE1	2.48	0.49
34:y:17:GLU:HB3	45:x:190:PRO:CD	2.41	0.49
34:y:176:ASP:O	34:y:180:GLN:HG2	2.12	0.49
34:y:228:MET:SD	34:y:228:MET:N	2.85	0.49
2:C:85:ARG:HH21	23:T:84:TYR:N	2.02	0.49
5:I:229:ALA:CB	17:2:781:C:C2	2.58	0.49
6:J:107:LYS:CE	17:2:679:U:C4	2.94	0.49
15:c:66:PRO:O	50:k:322:LYS:CD	2.59	0.49
15:c:75:GLU:HB2	50:k:369:ALA:N	2.28	0.49
17:2:760:U:C1'	17:2:777:C:N1	2.68	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:958:A:O2'	41:A:53:ARG:CA	2.60	0.49
33:D:91:LEU:HB2	50:k:640:GLU:CA	2.40	0.49
34:y:165:ARG:CG	34:y:165:ARG:NH1	2.73	0.49
34:y:298:ARG:NH2	34:y:361:LEU:HD12	2.28	0.49
41:A:227:ILE:HD11	41:A:237:MET:CE	2.17	0.49
41:A:244:ARG:HH22	41:A:251:LEU:HD22	1.78	0.49
5:I:233:ARG:CD	17:2:781:C:P	2.86	0.49
17:2:245:U:C2	17:2:246:C:C5	3.01	0.49
17:2:281:U:N3	17:2:283:A:O5'	2.46	0.49
17:2:1783:G:H2'	17:2:1784:A:C4	2.47	0.49
33:D:42:PHE:CD2	50:k:569:LEU:CB	2.96	0.49
34:y:700:ARG:NH1	43:p:638:ASP:CG	2.63	0.49
34:y:725:TRP:NE1	43:p:182:TRP:HD1	2.01	0.49
41:A:229:LEU:HD13	42:B:285:ASP:CB	2.42	0.49
45:x:74:LEU:HD23	45:x:74:LEU:O	2.13	0.49
6:J:121:THR:HA	17:2:738:U:O4	2.12	0.49
14:a:105:LYS:C	14:a:107:ARG:H	2.18	0.49
17:2:224:U:C4	17:2:883:U:C5'	2.96	0.49
17:2:754:C:C1'	17:2:783:G:C6	2.96	0.49
26:d:51:ARG:NH2	33:D:415:SER:C	2.70	0.49
33:D:49:GLY:HA2	50:k:592:MET:SD	2.52	0.49
34:y:25:GLN:OE1	34:y:25:GLN:N	2.45	0.49
34:y:35:MET:SD	34:y:50:ILE:HG21	2.53	0.49
34:y:71:LEU:CB	34:y:164:LEU:CD2	2.89	0.49
34:y:163:LEU:O	34:y:164:LEU:HB2	2.12	0.49
34:y:270:GLN:O	34:y:272:MET:N	2.40	0.49
34:y:276:TYR:CE1	34:y:295:THR:HG23	2.45	0.49
34:y:277:ASN:N	34:y:299:LEU:CG	2.75	0.49
17:2:12:U:C4'	17:2:1353:A:C1'	2.91	0.49
17:2:127:C:N1	17:2:129:C:C6	2.81	0.49
17:2:228:A:C6	17:2:885:U:C4	3.00	0.49
17:2:230:C:H2'	17:2:231:C:H6	1.78	0.49
34:y:26:PRO:CB	45:x:195:LYS:HE3	2.42	0.49
34:y:59:VAL:HG11	34:y:97:ALA:HA	1.95	0.49
34:y:107:GLU:HG3	34:y:145:LEU:CD2	2.40	0.49
34:y:236:GLN:CD	34:y:252:ALA:CB	2.75	0.49
34:y:278:LYS:C	34:y:278:LYS:CD	2.85	0.49
12:Y:82:GLN:CA	17:2:800:U:O3'	2.51	0.49
17:2:131:C:N1	17:2:179:C:OP1	2.34	0.49
17:2:230:C:O2	17:2:892:U:C2	2.66	0.49
17:2:958:A:N3	41:A:54:ARG:CB	2.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1114:C:H5'	17:2:1115:A:OP2	2.13	0.49
17:2:1687:U:C4'	49:b:92:ARG:HH22	2.23	0.49
33:D:36:ASP:CG	50:k:536:ALA:CB	2.86	0.49
33:D:55:THR:CB	50:k:620:ARG:HH12	2.14	0.49
34:y:245:LEU:CB	34:y:248:GLU:CD	2.63	0.49
34:y:273:ALA:O	34:y:299:LEU:HD21	2.13	0.49
34:y:327:LEU:N	34:y:327:LEU:HD12	2.28	0.49
41:A:263:GLU:HG2	41:A:269:PHE:HD1	1.78	0.49
47:Q:358:PHE:CD2	47:Q:391:LEU:HD22	2.48	0.49
49:b:3:LYS:HE3	49:b:8:ASN:OD1	2.13	0.49
2:C:113:GLN:NE2	17:2:1376:C:H4'	2.28	0.48
17:2:228:A:C5'	17:2:886:U:H1'	2.43	0.48
17:2:228:A:C5'	17:2:886:U:O4'	2.49	0.48
17:2:747:G:N2	17:2:789:G:H1'	2.28	0.48
33:D:91:LEU:HD11	50:k:644:VAL:N	2.27	0.48
34:y:86:LEU:HD22	34:y:165:ARG:HH21	1.78	0.48
34:y:399:ASN:O	34:y:401:LEU:N	2.46	0.48
34:y:476:ARG:HA	50:k:777:VAL:HB	1.93	0.48
34:y:700:ARG:NH2	43:p:206:ARG:NH2	2.59	0.48
51:h:458:LEU:C	51:h:460:PRO:CA	2.83	0.48
8:L:159:PHE:CE1	43:p:413:PHE:CZ	3.01	0.48
17:2:280:G:H2'	17:2:281:U:C6	2.48	0.48
17:2:675:A:H3'	17:2:676:U:C6	2.47	0.48
17:2:740:G:C6	17:2:794:G:N1	2.81	0.48
17:2:1195:A:HO2'	17:2:1196:A:C5'	2.20	0.48
26:d:13:ARG:CG	33:D:426:LYS:NZ	2.77	0.48
34:y:54:TYR:OH	34:y:66:LEU:HD22	2.13	0.48
34:y:219:ASN:O	34:y:220:LEU:HD22	2.13	0.48
34:y:221:ASN:C	34:y:223:PRO:CD	2.86	0.48
34:y:232:THR:HB	34:y:233:ARG:CZ	2.43	0.48
34:y:465:PHE:HE1	50:k:788:ASP:CB	2.26	0.48
44:z:217:ASP:C	44:z:217:ASP:OD1	2.56	0.48
17:2:127:C:N3	17:2:130:G:N2	2.57	0.48
17:2:224:U:O2'	17:2:225:C:H6	1.96	0.48
17:2:231:C:H2'	17:2:232:A:H8	1.78	0.48
17:2:753:C:O2	17:2:784:G:C5	2.66	0.48
17:2:1707:A:N6	17:2:1708:C:N4	2.61	0.48
17:2:1785:A:H2'	17:2:1786:G:C8	2.48	0.48
26:d:38:THR:HG21	33:D:296:ASN:N	2.27	0.48
34:y:241:ILE:HA	34:y:246:TRP:CZ3	2.48	0.48
34:y:476:ARG:N	50:k:777:VAL:HG21	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:r:258:VAL:HG21	50:k:841:LYS:HD2	1.92	0.48
45:x:23:ASP:C	45:x:25:PHE:N	2.71	0.48
15:c:36:LYS:N	15:c:78:SER:CB	2.77	0.48
17:2:759:A:C8	17:2:778:C:C1'	2.72	0.48
33:D:12:LYS:HA	47:Q:53:GLU:OE2	2.13	0.48
34:y:262:LEU:O	34:y:265:LYS:HE3	2.13	0.48
34:y:284:TRP:CE3	34:y:285:LYS:HD2	2.48	0.48
34:y:296:LEU:HD11	34:y:324:LEU:CD2	2.43	0.48
34:y:385:PRO:HA	34:y:388:LYS:CG	2.42	0.48
34:y:469:ARG:HD3	50:k:789:MET:HE3	1.87	0.48
41:A:55:ARG:O	41:A:56:ILE:HG13	2.13	0.48
41:A:111:ILE:CD1	41:A:183:ARG:HH12	2.24	0.48
17:2:282:G:H3'	17:2:283:A:H8	1.79	0.48
17:2:762:C:H2'	17:2:763:U:C6	2.49	0.48
17:2:800:U:C4	17:2:801:U:C4	2.99	0.48
33:D:54:TRP:HZ2	50:k:585:GLN:CA	2.24	0.48
34:y:143:ARG:HA	34:y:147:THR:HG23	1.96	0.48
34:y:298:ARG:HH21	34:y:361:LEU:HD11	1.77	0.48
34:y:363:ALA:CB	34:y:364:PRO:CD	2.87	0.48
36:r:262:THR:HG1	50:k:841:LYS:HD3	1.78	0.48
45:x:82:ARG:HG3	45:x:82:ARG:HH21	1.78	0.48
17:2:226:A:N7	17:2:884:U:O2	2.47	0.48
17:2:228:A:OP1	17:2:885:U:O2'	2.24	0.48
32:R:130:ARG:NH1	32:R:130:ARG:CA	2.75	0.48
34:y:368:ILE:HG22	34:y:371:ILE:CG2	2.44	0.48
34:y:699:GLU:OE1	43:p:565:THR:HG22	2.14	0.48
36:r:265:ARG:HH22	50:k:841:LYS:HB2	1.70	0.48
45:x:80:ALA:C	45:x:81:PHE:CD2	2.92	0.48
2:C:201:LEU:CB	23:T:84:TYR:CA	2.92	0.48
17:2:768:G:H2'	17:2:769:C:C2	2.49	0.48
17:2:1407:G:H3'	17:2:1408:C:C5'	2.43	0.48
17:2:1695:C:C2	17:2:1697:G:N3	2.81	0.48
17:2:1863:A:C4	49:b:39:PHE:CZ	3.01	0.48
19:H:29:GLN:HG3	33:D:475:GLU:CD	2.39	0.48
34:y:277:ASN:HB2	34:y:299:LEU:CD1	2.30	0.48
34:y:323:LEU:O	34:y:326:THR:OG1	2.28	0.48
34:y:347:ILE:C	34:y:348:ILE:CG1	2.86	0.48
34:y:714:TYR:HB2	43:p:193:LEU:HG	1.96	0.48
35:q:336:MET:HG2	47:Q:418:TYR:CZ	2.35	0.48
2:C:85:ARG:NH2	23:T:84:TYR:C	2.68	0.48
2:C:205:ARG:CA	2:C:210:ILE:HD11	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:159:ARG:HH11	5:I:173:ALA:HB2	1.79	0.48
10:P:26:LEU:HD22	10:P:27:LYS:CA	2.44	0.48
17:2:80:G:C6	17:2:81:U:C4	3.02	0.48
17:2:238:G:N2	17:2:268:G:H1	2.09	0.48
17:2:778:C:O2'	17:2:779:C:H5'	2.13	0.48
17:2:1812:A:C2	17:2:1813:A:C5	3.01	0.48
34:y:14:ARG:NH1	34:y:14:ARG:CG	2.73	0.48
34:y:101:THR:HG22	34:y:149:TRP:C	2.38	0.48
34:y:159:GLN:HG3	34:y:163:LEU:CD2	2.26	0.48
34:y:297:HIS:CE1	34:y:374:MET:HG3	2.49	0.48
41:A:189:VAL:HG21	41:A:241:THR:HA	1.96	0.48
43:p:234:GLU:OE1	44:z:323:GLU:CB	2.60	0.48
6:J:101:LEU:HB2	17:2:738:U:C4	2.17	0.48
15:c:36:LYS:HG2	15:c:36:LYS:O	2.14	0.48
17:2:13:C:H5'	17:2:1352:G:H1'	1.95	0.48
17:2:266:G:C2	17:2:267:G:C4	3.02	0.48
17:2:1855:G:C8	49:b:1:MET:CE	2.96	0.48
36:r:280:ARG:HH12	50:k:855:HIS:N	2.11	0.48
43:p:682:ARG:HD3	44:z:248:LEU:HA	1.96	0.48
47:Q:117:THR:HG23	47:Q:134:LEU:HD21	1.96	0.48
5:I:229:ALA:HB1	17:2:781:C:C2	2.47	0.48
17:2:127:C:C6	17:2:129:C:C6	3.02	0.48
17:2:1105:C:O2	17:2:1105:C:H3'	2.14	0.48
17:2:1695:C:H5'	17:2:1697:G:O4'	2.13	0.48
34:y:68:LYS:HG3	34:y:163:LEU:HD21	1.95	0.48
34:y:166:ASN:HD22	34:y:203:MET:CG	2.27	0.48
34:y:336:THR:HG23	34:y:336:THR:O	2.14	0.48
34:y:695:ILE:HG23	43:p:522:GLN:CD	2.39	0.48
47:Q:397:LEU:HB3	47:Q:410:MET:HE1	1.95	0.48
2:C:17:LYS:CA	23:T:91:LEU:HG	2.43	0.47
6:J:107:LYS:CD	17:2:679:U:N3	2.72	0.47
9:N:25:LEU:CD1	9:N:29:GLY:HA3	2.44	0.47
10:P:20:ARG:HD3	10:P:65:PHE:CZ	2.46	0.47
15:c:73:LEU:C	15:c:74:THR:HG23	2.39	0.47
17:2:948:G:C4	17:2:949:C:C6	3.01	0.47
17:2:959:A:O5'	41:A:53:ARG:HG2	2.13	0.47
17:2:960:A:P	41:A:53:ARG:CD	3.00	0.47
17:2:1706:U:C2'	17:2:1707:A:H8	1.97	0.47
22:S:146:ARG:NH2	40:1:33:C:C5	2.77	0.47
33:D:13:PHE:HZ	47:Q:40:LEU:HD23	1.74	0.47
34:y:237:LEU:CD1	34:y:278:LYS:HZ3	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:301:HIS:CE1	34:y:377:PHE:CE1	3.02	0.47
34:y:710:ILE:CD1	43:p:196:LEU:CD1	2.64	0.47
41:A:17:GLU:HG2	46:0:63:LYS:HZ2	1.79	0.47
6:J:101:LEU:HB3	17:2:738:U:C2	2.44	0.47
14:a:100:LYS:HA	14:a:101:LYS:O	2.14	0.47
17:2:231:C:C6	17:2:891:G:C5	3.02	0.47
17:2:282:G:C2	17:2:283:A:C4	3.02	0.47
17:2:758:G:N7	17:2:779:C:C4	2.82	0.47
17:2:959:A:O3'	41:A:53:ARG:CD	2.30	0.47
26:d:33:GLU:CD	33:D:426:LYS:NZ	2.64	0.47
38:t:399:LEU:CB	47:Q:396:ARG:NH2	2.36	0.47
43:p:584:TYR:HH	44:z:324:LYS:CE	1.93	0.47
50:k:728:TRP:CZ2	50:k:729:LYS:HE2	2.49	0.47
5:I:216:ARG:C	5:I:218:LYS:H	2.22	0.47
15:c:69:GLY:C	15:c:70:LYS:O	2.55	0.47
17:2:742:C:H2'	17:2:743:U:C2	2.50	0.47
17:2:776:U:O5'	17:2:777:C:P	2.68	0.47
17:2:952:G:H2'	17:2:953:A:O4'	2.14	0.47
17:2:1140:A:O2'	17:2:1196:A:H5'	2.14	0.47
33:D:13:PHE:CD1	47:Q:49:TYR:CD2	3.02	0.47
34:y:48:GLU:HG3	34:y:74:TYR:HH	1.79	0.47
40:1:69:U:H2'	40:1:69:U:O2	2.12	0.47
43:p:675:LYS:CE	44:z:166:LYS:HD2	2.43	0.47
47:Q:302:SER:O	47:Q:306:LYS:CE	2.61	0.47
17:2:757:C:H2'	17:2:758:G:H8	1.74	0.47
17:2:987:G:O2'	49:b:13:LYS:HG3	2.14	0.47
19:H:198:ARG:NH2	41:A:45:MET:CB	2.77	0.47
34:y:502:ARG:CZ	50:k:776:SER:O	2.62	0.47
17:2:231:C:C1'	17:2:891:G:C4	2.83	0.47
17:2:244:C:H2'	17:2:245:U:C6	2.49	0.47
34:y:61:LEU:C	34:y:62:ARG:CG	2.86	0.47
34:y:128:LEU:O	34:y:131:ALA:HB3	2.14	0.47
34:y:245:LEU:HD13	34:y:248:GLU:OE2	2.15	0.47
34:y:353:ARG:NH2	34:y:357:THR:OG1	2.47	0.47
34:y:361:LEU:HD22	34:y:365:PRO:HG3	1.95	0.47
34:y:475:ALA:O	50:k:777:VAL:HG22	2.11	0.47
38:t:342:TYR:CZ	47:Q:437:MET:HE1	2.42	0.47
41:A:235:TYR:CD1	42:B:285:ASP:OD1	2.33	0.47
43:p:668:GLN:CA	43:p:679:LEU:HD12	2.44	0.47
47:Q:161:TYR:CE1	47:Q:195:LEU:HD13	2.50	0.47
50:k:828:PRO:CG	50:k:833:ASN:OD1	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:759:A:C6	17:2:778:C:O4'	2.62	0.47
17:2:787:C:HO3'	17:2:788:C:P	2.36	0.47
17:2:886:U:H5'	17:2:887:G:H5"	1.96	0.47
34:y:327:LEU:HB3	34:y:427:TYR:HB2	1.96	0.47
41:A:205:ILE:CD1	42:B:288:LYS:CB	2.91	0.47
44:z:98:ARG:HB3	44:z:111:ILE:HD12	1.97	0.47
8:L:179:LYS:CA	51:h:511:GLU:CA	2.85	0.47
8:L:179:LYS:C	51:h:511:GLU:CA	2.87	0.47
10:P:22:VAL:CB	10:P:24:THR:H	2.27	0.47
12:Y:2:VAL:HG23	12:Y:3:ARG:H	1.79	0.47
14:a:10:ARG:HH21	14:a:11:LYS:HE3	1.78	0.47
15:c:53:VAL:HG21	50:k:320:GLY:HA3	1.95	0.47
17:2:223:A:H2'	17:2:224:U:H5"	1.96	0.47
17:2:226:A:H2'	17:2:227:A:O4'	2.14	0.47
17:2:228:A:OP2	17:2:885:U:O2	2.32	0.47
17:2:243:C:H2'	17:2:244:C:C6	2.49	0.47
17:2:773:G:H2'	17:2:774:U:O4'	2.15	0.47
26:d:67:ARG:NE	26:d:68:LEU:HB3	2.30	0.47
33:D:18:ILE:HD11	47:Q:36:VAL:HG21	0.49	0.47
33:D:42:PHE:HD2	50:k:569:LEU:HB3	1.78	0.47
34:y:25:GLN:H	34:y:25:GLN:CD	2.21	0.47
34:y:76:ASN:HA	34:y:79:GLN:HG3	1.96	0.47
34:y:83:ILE:N	34:y:83:ILE:CD1	2.74	0.47
34:y:165:ARG:C	34:y:167:ASN:H	2.21	0.47
34:y:230:LEU:HD21	34:y:271:LEU:HD13	1.97	0.47
34:y:270:GLN:CG	34:y:271:LEU:N	2.74	0.47
34:y:277:ASN:CG	34:y:278:LYS:N	2.73	0.47
34:y:288:ASN:C	34:y:290:LEU:N	2.73	0.47
34:y:298:ARG:HD3	34:y:298:ARG:HA	1.68	0.47
34:y:692:GLU:CA	43:p:589:PHE:CE2	2.76	0.47
34:y:692:GLU:N	43:p:589:PHE:CZ	2.72	0.47
36:r:280:ARG:CZ	50:k:855:HIS:CE1	2.91	0.47
3:E:173:CYS:SG	17:2:1351:C:C4'	3.03	0.47
17:2:765:U:H2'	17:2:766:U:C6	2.49	0.47
17:2:1276:G:H1	17:2:1313:U:H3	1.62	0.47
20:M:88:GLU:OE2	51:h:1239:VAL:CB	2.63	0.47
33:D:27:PRO:HB2	47:Q:226:GLN:HE21	1.80	0.47
46:0:141:ARG:NH1	49:b:22:ARG:HH22	2.13	0.47
3:E:220:ASN:HD22	17:2:1351:C:H1'	1.79	0.47
17:2:128:U:H5'	17:2:212:G:C5'	2.45	0.47
17:2:228:A:C3'	17:2:886:U:H1'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:270:G:C2	17:2:271:G:C5	3.03	0.47
17:2:743:U:H3'	17:2:744:C:H4'	1.95	0.47
17:2:1195:A:HO2'	17:2:1196:A:C4'	2.28	0.47
17:2:1739:G:C2	17:2:1783:G:C4	2.93	0.47
34:y:276:TYR:HE2	34:y:298:ARG:HG3	1.69	0.47
34:y:342:LEU:CG	50:k:724:LYS:HZ2	2.22	0.47
43:p:668:GLN:O	43:p:672:VAL:HG23	2.14	0.47
43:p:682:ARG:HD3	44:z:248:LEU:HB2	1.96	0.47
47:Q:361:PHE:HE1	50:k:816:GLN:NE2	1.91	0.47
47:Q:366:GLN:HE22	50:k:813:SER:HB3	1.71	0.47
13:Z:125:VAL:HG11	13:Z:140:ARG:HH12	1.80	0.47
17:2:539:C:C5'	43:p:439:GLY:HA2	2.45	0.47
17:2:958:A:H2'	41:A:53:ARG:CA	2.42	0.47
32:R:133:ILE:CG2	32:R:134:GLY:N	2.52	0.47
34:y:59:VAL:HG23	34:y:93:TYR:HE1	1.75	0.47
34:y:91:ARG:CZ	34:y:173:LEU:HD12	2.45	0.47
34:y:138:GLN:O	34:y:142:ASP:HB2	2.15	0.47
34:y:276:TYR:HB3	34:y:299:LEU:HG	1.95	0.47
34:y:333:PRO:HG2	34:y:437:LEU:HD21	1.97	0.47
34:y:472:VAL:HG12	50:k:770:TYR:OH	2.15	0.47
47:Q:55:LEU:CB	47:Q:78:LEU:CD1	2.93	0.47
47:Q:172:ARG:HD2	47:Q:186:LEU:HD21	1.98	0.47
17:2:227:A:OP2	17:2:885:U:C5'	2.63	0.46
17:2:747:G:C2	17:2:789:G:C4	3.03	0.46
33:D:13:PHE:HA	47:Q:49:TYR:CE1	2.50	0.46
34:y:240:ALA:HA	34:y:245:LEU:HB2	1.96	0.46
34:y:277:ASN:HB2	34:y:299:LEU:HD13	1.91	0.46
34:y:291:PHE:HZ	34:y:355:LEU:C	2.23	0.46
34:y:353:ARG:C	34:y:353:ARG:CD	2.86	0.46
15:c:50:ALA:H	15:c:71:ALA:HB2	1.81	0.46
17:2:280:G:C2	17:2:284:C:C5	2.99	0.46
17:2:1244:I2T:C2	40:1:34:C:O4'	2.63	0.46
19:H:194:ASP:CG	41:A:82:TYR:OH	2.59	0.46
34:y:230:LEU:CD2	34:y:271:LEU:HD13	2.45	0.46
34:y:301:HIS:HE1	34:y:377:PHE:CE1	2.33	0.46
34:y:301:HIS:CE1	34:y:377:PHE:CZ	2.97	0.46
34:y:355:LEU:HA	34:y:355:LEU:HD13	1.76	0.46
34:y:394:LEU:HD21	34:y:435:THR:OG1	2.14	0.46
35:q:117:ILE:HB	35:q:139:HIS:CG	2.51	0.46
47:Q:428:LEU:HD11	50:k:843:GLY:HA3	1.96	0.46
17:2:231:C:C4	17:2:891:G:C5	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:243:C:H2'	17:2:244:C:H6	1.80	0.46
17:2:283:A:O2'	17:2:284:C:H5'	2.15	0.46
17:2:709:G:O3'	43:p:627:LEU:HD22	2.15	0.46
17:2:1203:G:C2	17:2:1831:G:C1'	2.97	0.46
17:2:1518:C:C5'	31:U:144:ARG:N	2.79	0.46
17:2:1859:C:H5'	49:b:87:ARG:NH2	2.26	0.46
44:z:53:GLY:O	44:z:54:THR:C	2.57	0.46
51:h:909:THR:N	51:h:1108:LYS:CB	2.77	0.46
15:c:80:ARG:NH2	33:D:86:GLU:O	2.36	0.46
17:2:237:G:C6	17:2:270:G:N1	2.84	0.46
17:2:245:U:H2'	17:2:246:C:H6	1.81	0.46
17:2:742:C:H2'	17:2:743:U:N1	2.30	0.46
17:2:779:C:H2'	17:2:780:G:C4	2.51	0.46
34:y:149:TRP:CA	34:y:149:TRP:CE3	2.97	0.46
34:y:330:PRO:O	34:y:331:ILE:HD13	2.16	0.46
34:y:386:GLU:O	34:y:410:VAL:HG13	2.16	0.46
35:q:336:MET:SD	47:Q:418:TYR:CE1	3.02	0.46
17:2:129:C:O2'	17:2:184:G:C5	2.61	0.46
17:2:227:A:H2'	17:2:228:A:C8	2.51	0.46
17:2:526:A:H62	17:2:537:G:H21	1.63	0.46
17:2:755:C:H2'	17:2:756:U:C6	2.51	0.46
17:2:1052:U:OP2	41:A:54:ARG:NH1	2.37	0.46
17:2:1115:A:H3'	17:2:1116:U:C5	2.51	0.46
27:e:23:VAL:HG22	27:e:39:CYS:SG	2.56	0.46
34:y:230:LEU:HG	34:y:271:LEU:CD1	2.45	0.46
34:y:296:LEU:CD1	34:y:324:LEU:HB3	2.44	0.46
34:y:312:GLN:OE1	34:y:317:ARG:HD2	2.16	0.46
34:y:390:LEU:HB2	34:y:410:VAL:HG11	1.90	0.46
45:x:24:PRO:O	45:x:28:LYS:HG2	2.16	0.46
2:C:20:ALA:HB3	23:T:92:ASP:N	2.29	0.46
8:L:159:PHE:CZ	43:p:413:PHE:HE1	2.20	0.46
17:2:127:C:C1'	17:2:129:C:C6	2.92	0.46
17:2:226:A:C5	17:2:884:U:O2	2.69	0.46
17:2:788:C:H2'	17:2:789:G:O4'	2.16	0.46
17:2:925:G:OP1	50:k:322:LYS:O	2.34	0.46
17:2:1519:G:OP1	31:U:144:ARG:CB	2.51	0.46
19:H:61:PHE:CZ	33:D:415:SER:CA	2.99	0.46
22:S:146:ARG:HD3	40:1:35:A:OP1	2.16	0.46
34:y:154:TRP:CE2	34:y:192:ALA:HB1	2.51	0.46
34:y:166:ASN:ND2	34:y:203:MET:SD	2.88	0.46
34:y:181:ALA:CB	34:y:196:LYS:HZ1	2.26	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:303:SER:H	34:y:321:ARG:NH1	2.12	0.46
34:y:327:LEU:C	34:y:329:ILE:N	2.73	0.46
44:z:233:LYS:HE2	44:z:235:GLU:HG3	1.98	0.46
47:Q:452:PRO:CG	47:Q:454:TRP:HE1	2.28	0.46
15:c:71:ALA:O	15:c:73:LEU:HD22	2.16	0.46
17:2:232:A:N7	17:2:890:G:C6	2.84	0.46
17:2:792:G:H2'	17:2:793:C:H6	1.80	0.46
17:2:921:G:H1	17:2:1013:U:H3	1.62	0.46
17:2:959:A:O5'	41:A:53:ARG:CG	2.23	0.46
34:y:714:TYR:CD1	43:p:193:LEU:CG	2.81	0.46
44:z:136:LEU:C	44:z:136:LEU:HD12	2.41	0.46
45:x:39:PHE:CB	45:x:74:LEU:CD2	2.94	0.46
47:Q:366:GLN:NE2	50:k:813:SER:OG	2.49	0.46
17:2:237:G:C6	17:2:238:G:C6	3.04	0.46
17:2:238:G:H1	17:2:268:G:H1	1.62	0.46
17:2:271:G:H21	17:2:272:C:N4	2.14	0.46
17:2:755:C:C5	17:2:782:G:O6	2.68	0.46
17:2:1110:U:O2'	17:2:1111:U:H3'	2.15	0.46
22:S:100:VAL:HG12	22:S:101:ASP:H	1.80	0.46
34:y:714:TYR:HE1	43:p:190:PHE:HA	1.76	0.46
2:C:201:LEU:CD1	23:T:83:ASN:HA	2.30	0.46
7:K:157:LYS:HE2	9:N:23:VAL:HB	1.97	0.46
17:2:227:A:C8	17:2:885:U:H1'	2.51	0.46
17:2:527:C:H2'	17:2:528:U:C6	2.51	0.46
17:2:755:C:C6	17:2:782:G:N7	2.83	0.46
17:2:792:G:H2'	17:2:793:C:C6	2.51	0.46
17:2:1859:C:H5"	49:b:87:ARG:NH2	2.31	0.46
33:D:36:ASP:OD1	50:k:536:ALA:HB2	2.15	0.46
34:y:7:ARG:HD3	34:y:9:GLU:OE2	2.16	0.46
34:y:68:LYS:CB	34:y:159:GLN:OE1	2.60	0.46
34:y:150:VAL:HA	34:y:184:PHE:HZ	1.81	0.46
34:y:700:ARG:NH2	43:p:206:ARG:CB	2.79	0.46
41:A:17:GLU:OE2	46:0:63:LYS:CE	2.63	0.46
43:p:227:LYS:HE2	44:z:335:LYS:HD3	1.93	0.46
10:P:27:LYS:C	10:P:28:LEU:CG	2.86	0.46
17:2:250:G:O2'	17:2:251:C:H5'	2.15	0.46
17:2:674:G:O3'	17:2:675:A:P	2.74	0.46
17:2:752:C:H2'	17:2:753:C:C6	2.48	0.46
34:y:51:MET:HE3	34:y:70:GLY:O	2.16	0.46
34:y:230:LEU:H	34:y:230:LEU:HD22	1.81	0.46
34:y:247:GLN:O	34:y:251:LYS:HD2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:276:TYR:CE1	34:y:298:ARG:HB3	2.51	0.46
47:Q:312:PHE:HE1	47:Q:357:ILE:HD11	1.81	0.46
47:Q:366:GLN:HE21	50:k:813:SER:CB	2.15	0.46
17:2:127:C:C5	17:2:129:C:C4	3.04	0.45
17:2:800:U:O4	17:2:801:U:C5	2.68	0.45
17:2:1140:A:O2'	17:2:1196:A:C5'	2.64	0.45
17:2:1518:C:P	31:U:143:GLY:O	2.73	0.45
17:2:1695:C:H1'	17:2:1697:G:C8	2.51	0.45
38:t:478:PHE:HD1	47:Q:393:ARG:NH2	2.13	0.45
43:p:671:TYR:CE1	44:z:163:THR:HG21	2.50	0.45
46:0:28:PHE:CE2	49:b:58:VAL:HG21	2.51	0.45
4:G:131:VAL:HG21	17:2:278:U:O2	2.16	0.45
17:2:258:G:H2'	17:2:259:G:H8	1.81	0.45
17:2:677:C:H5'	17:2:679:U:OP1	2.16	0.45
17:2:794:G:O2'	17:2:795:U:OP1	2.32	0.45
17:2:1195:A:C2'	17:2:1196:A:H8	2.19	0.45
17:2:1813:A:C6	17:2:1814:G:C5	3.05	0.45
18:F:2:ALA:CB	18:F:3:VAL:HA	2.22	0.45
19:H:29:GLN:NE2	33:D:472:LYS:NZ	2.63	0.45
34:y:167:ASN:CG	34:y:207:GLN:NE2	2.73	0.45
34:y:338:ILE:CD1	50:k:724:LYS:HZ1	2.24	0.45
46:0:147:ARG:O	49:b:28:CYS:SG	2.71	0.45
47:Q:326:GLN:OE1	47:Q:376:LYS:HG2	2.16	0.45
47:Q:362:CYS:HA	47:Q:368:ILE:HD11	1.99	0.45
10:P:22:VAL:HG11	10:P:26:LEU:HD11	1.98	0.45
17:2:190:A:H3'	17:2:191:C:H5"	1.98	0.45
17:2:1547:G:C8	17:2:1547:G:OP2	2.69	0.45
26:d:64:GLU:OE2	49:b:48:ALA:CB	2.65	0.45
34:y:472:VAL:CA	50:k:778:TYR:OH	2.25	0.45
6:J:103:LYS:HG2	17:2:678:U:C6	2.40	0.45
14:a:99:LYS:O	14:a:100:LYS:HB2	2.16	0.45
17:2:539:C:C4'	43:p:439:GLY:HA2	2.43	0.45
17:2:733:G:O2'	17:2:734:C:H5'	2.16	0.45
17:2:740:G:H2'	17:2:741:C:O4'	2.16	0.45
17:2:1203:G:N3	17:2:1831:G:N3	2.57	0.45
17:2:1812:A:H2	17:2:1813:A:N9	2.10	0.45
32:R:84:ILE:H	32:R:84:ILE:HD12	1.81	0.45
34:y:160:CYS:HB3	34:y:161:LEU:H	1.59	0.45
34:y:161:LEU:HD23	34:y:174:TYR:HD1	1.81	0.45
34:y:169:ARG:HG2	34:y:170:VAL:N	2.30	0.45
41:A:185:THR:CB	41:A:186:PRO:HA	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:104:PRO:HD3	17:2:678:U:C4	2.51	0.45
17:2:237:G:H2'	17:2:238:G:O4'	2.17	0.45
17:2:265:G:H2'	17:2:266:G:C8	2.51	0.45
17:2:524:G:N1	17:2:540:C:C2	2.78	0.45
17:2:1116:U:O2'	17:2:1117:G:C5'	2.62	0.45
17:2:1195:A:C2	17:2:1196:A:H1'	2.52	0.45
33:D:93:ASP:O	33:D:95:ALA:CA	2.65	0.45
34:y:150:VAL:CA	34:y:184:PHE:HZ	2.29	0.45
34:y:230:LEU:HG	34:y:271:LEU:HD21	1.78	0.45
34:y:340:ARG:CD	34:y:340:ARG:H	2.23	0.45
34:y:703:ARG:NH1	43:p:610:ARG:HD2	2.31	0.45
41:A:205:ILE:HD12	42:B:288:LYS:CG	2.44	0.45
17:2:138:C:H4'	17:2:139:C:O5'	2.16	0.45
17:2:748:G:O2'	17:2:750:G:OP2	2.26	0.45
17:2:774:U:H2'	17:2:775:G:C8	2.51	0.45
34:y:75:LYS:HD3	34:y:79:GLN:OE1	2.17	0.45
34:y:692:GLU:OE1	43:p:588:THR:HG21	2.17	0.45
41:A:195:ILE:HG21	41:A:235:TYR:HD2	1.81	0.45
3:E:220:ASN:ND2	17:2:1351:C:O2'	2.49	0.45
17:2:223:A:H3'	17:2:223:A:N3	2.31	0.45
17:2:770:U:H2'	17:2:771:G:C8	2.52	0.45
17:2:925:G:C4'	50:k:322:LYS:HD3	2.44	0.45
28:f:118:ARG:H	28:f:118:ARG:HD3	1.81	0.45
34:y:191:LYS:HD3	34:y:194:PHE:CE2	2.51	0.45
34:y:224:GLU:CD	34:y:224:GLU:N	2.73	0.45
40:1:62:C:O2'	41:A:186:PRO:HD3	2.16	0.45
47:Q:33:ARG:NH1	47:Q:64:ASP:OD2	2.49	0.45
15:c:60:SER:OG	50:k:368:LEU:HD21	2.17	0.45
19:H:130:ARG:HE	26:d:68:LEU:HD11	1.81	0.45
34:y:26:PRO:CD	34:y:27:ALA:H	2.27	0.45
34:y:297:HIS:CE1	34:y:325:ALA:CA	2.99	0.45
38:t:478:PHE:CD1	47:Q:393:ARG:NH2	2.85	0.45
51:h:759:TYR:CB	51:h:983:GLY:O	2.64	0.45
3:E:110:LYS:NZ	17:2:1353:A:OP1	2.47	0.45
10:P:27:LYS:HE3	10:P:28:LEU:HD21	1.99	0.45
17:2:227:A:OP2	17:2:885:U:H5'	2.17	0.45
17:2:539:C:H2'	17:2:540:C:C4'	2.47	0.45
17:2:789:G:C4	17:2:790:A:C8	3.04	0.45
17:2:1204:A:P	17:2:1829:A:HO2'	2.31	0.45
34:y:236:GLN:OE1	34:y:252:ALA:HB2	2.16	0.45
34:y:303:SER:O	34:y:307:ARG:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:381:GLN:HE21	34:y:381:GLN:CA	2.06	0.45
8:L:178:ALA:O	51:h:510:SER:O	2.35	0.45
15:c:79:PHE:O	15:c:80:ARG:CG	2.65	0.45
17:2:228:A:H3'	17:2:886:U:H1'	1.98	0.45
17:2:271:G:O6	17:2:887:G:O6	2.34	0.45
17:2:272:C:O2'	17:2:274:G:H8	1.99	0.45
17:2:1109:A:C5	17:2:1110:U:O4	2.70	0.45
26:d:35:MET:N	33:D:426:LYS:HE2	2.32	0.45
33:D:42:PHE:CD1	50:k:570:MET:CA	2.98	0.45
41:A:88:ARG:CZ	46:0:65:ASP:N	2.79	0.45
41:A:121:TYR:HA	41:A:126:GLN:HG3	1.98	0.45
47:Q:272:ARG:HG3	47:Q:309:ILE:HD12	1.99	0.45
14:a:98:GLU:C	14:a:98:GLU:CD	2.86	0.44
17:2:260:G:H2'	17:2:261:G:C8	2.52	0.44
17:2:1244:I2T:N1	40:1:34:C:C1'	2.80	0.44
17:2:1815:U:O2'	17:2:1816:A:O5'	2.25	0.44
33:D:25:TRP:CD1	47:Q:187:TRP:CA	2.63	0.44
33:D:49:GLY:CA	50:k:611:ALA:HA	2.44	0.44
36:r:280:ARG:HH12	50:k:855:HIS:CB	1.99	0.44
41:A:229:LEU:HD13	42:B:285:ASP:HB3	2.00	0.44
46:0:35:ALA:HB1	46:0:109:GLY:H	1.83	0.44
5:I:70:HIS:CD2	5:I:98:ARG:NH2	2.80	0.44
10:P:23:PRO:O	10:P:25:TRP:CD1	2.71	0.44
17:2:228:A:C6	17:2:885:U:N3	2.67	0.44
17:2:275:C:H3'	17:2:276:U:H5	1.81	0.44
17:2:703:C:O2'	34:y:683:GLU:CD	2.61	0.44
17:2:743:U:C5'	17:2:744:C:O4'	2.66	0.44
17:2:775:G:H2'	17:2:775:G:N3	2.32	0.44
17:2:948:G:H2'	17:2:949:C:H6	1.82	0.44
26:d:38:THR:HG23	33:D:296:ASN:HA	2.00	0.44
34:y:26:PRO:HB3	45:x:195:LYS:HE3	1.98	0.44
46:0:113:GLN:CD	49:b:46:GLU:CB	2.86	0.44
6:J:116:ARG:HH22	17:2:678:U:C4'	2.21	0.44
9:N:22:ARG:HH22	9:N:24:LEU:HD13	1.79	0.44
17:2:11:A:H2	17:2:1197:U:O2	1.84	0.44
17:2:230:C:C4	17:2:892:U:C4	3.05	0.44
17:2:271:G:C6	17:2:887:G:C6	3.05	0.44
17:2:282:G:C6	17:2:283:A:C6	3.05	0.44
17:2:1114:C:H42	50:k:643:LYS:HD3	1.82	0.44
33:D:40:GLN:HB3	50:k:570:MET:O	2.17	0.44
33:D:78:TYR:HB2	50:k:571:SER:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:260:PHE:O	34:y:264:LYS:HB2	2.18	0.44
34:y:368:ILE:CD1	34:y:510:HIS:CE1	3.00	0.44
34:y:717:GLN:HG2	43:p:189:PRO:CG	2.47	0.44
41:A:55:ARG:HG2	41:A:55:ARG:NH1	2.12	0.44
17:2:275:C:HO2'	17:2:276:U:P	2.40	0.44
17:2:281:U:H3	17:2:283:A:H3'	1.82	0.44
18:F:196:GLY:C	18:F:198:ILE:HA	2.42	0.44
33:D:44:LYS:NZ	47:Q:303:TYR:CZ	2.83	0.44
34:y:143:ARG:HG3	34:y:147:THR:HG21	1.99	0.44
34:y:168:SER:OG	34:y:169:ARG:N	2.42	0.44
34:y:271:LEU:O	34:y:274:ASN:HB3	2.17	0.44
34:y:276:TYR:HD2	34:y:302:LEU:CD2	2.27	0.44
34:y:695:ILE:HG23	43:p:522:GLN:OE1	2.17	0.44
41:A:58:SER:CB	41:A:61:LYS:CE	2.88	0.44
44:z:302:SER:HA	44:z:303:PRO:HD3	1.78	0.44
51:h:951:THR:C	51:h:967:GLU:CB	2.91	0.44
2:C:205:ARG:HA	2:C:210:ILE:HD11	2.00	0.44
17:2:10:G:H22	17:2:1198:U:H1'	1.82	0.44
17:2:249:C:N4	17:2:250:G:O6	2.50	0.44
17:2:255:C:O2'	17:2:256:C:O4'	2.28	0.44
17:2:528:U:H3'	17:2:528:U:OP2	2.17	0.44
17:2:697:U:H3	17:2:720:C:H42	1.61	0.44
17:2:1083:A:C5	49:b:1:MET:CE	3.01	0.44
33:D:27:PRO:HB3	47:Q:226:GLN:NE2	2.33	0.44
33:D:36:ASP:OD1	50:k:536:ALA:HB1	2.16	0.44
34:y:271:LEU:O	34:y:272:MET:C	2.61	0.44
34:y:378:ASN:HB3	34:y:382:TYR:HE2	1.83	0.44
34:y:710:ILE:HD11	43:p:613:THR:HG23	1.67	0.44
38:t:388:LEU:CA	47:Q:426:LYS:CE	2.68	0.44
44:z:313:GLU:O	44:z:313:GLU:HG3	2.16	0.44
45:x:39:PHE:HB3	45:x:74:LEU:HD22	1.99	0.44
45:x:39:PHE:CB	45:x:74:LEU:HD22	2.47	0.44
49:b:4:LYS:HE3	49:b:92:ARG:NH1	2.33	0.44
6:J:116:ARG:NH1	17:2:678:U:O5'	2.50	0.44
17:2:703:C:C5'	34:y:687:ARG:HD2	2.47	0.44
17:2:758:G:C8	17:2:779:C:O2	2.70	0.44
17:2:1744:G:O6	17:2:1779:C:N3	2.50	0.44
17:2:1815:U:C2'	17:2:1816:A:C5'	2.94	0.44
34:y:6:GLN:O	34:y:7:ARG:HG3	2.18	0.44
34:y:212:HIS:O	34:y:212:HIS:CG	2.71	0.44
34:y:340:ARG:C	34:y:342:LEU:N	2.74	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:218:ARG:HG3	44:z:2:LYS:HE2	1.99	0.44
45:x:76:ASN:ND2	45:x:77:ASP:CB	2.76	0.44
14:a:11:LYS:N	17:2:837:G:O6	2.42	0.44
17:2:128:U:C5	17:2:212:G:C4	3.06	0.44
17:2:232:A:C1'	17:2:890:G:N2	2.81	0.44
17:2:675:A:C6	17:2:676:U:C2	3.06	0.44
17:2:1707:A:C8	17:2:1707:A:OP2	2.70	0.44
17:2:1709:U:C2	17:2:1814:G:N2	2.86	0.44
34:y:707:ILE:HD11	43:p:200:LEU:HB2	1.99	0.44
40:1:17:C:H2'	40:1:18:G:C5'	2.41	0.44
45:x:80:ALA:O	45:x:81:PHE:CD2	2.70	0.44
10:P:18:TYR:O	10:P:19:ARG:O	2.36	0.44
10:P:29:THR:O	10:P:32:ASP:N	2.45	0.44
17:2:241:A:H3'	17:2:242:G:C8	2.48	0.44
17:2:1115:A:OP1	17:2:1116:U:C5	2.70	0.44
17:2:1202:G:H5'	17:2:1828:A:C6	2.52	0.44
17:2:1859:C:C6	49:b:92:ARG:HB3	2.52	0.44
26:d:13:ARG:HH11	33:D:419:ALA:HB1	1.83	0.44
26:d:40:ARG:NH1	46:0:121:ARG:CZ	2.74	0.44
34:y:112:VAL:HG21	34:y:145:LEU:HD13	1.98	0.44
34:y:122:GLN:O	34:y:123:THR:O	2.35	0.44
34:y:213:ASN:O	34:y:215:SER:N	2.48	0.44
34:y:295:THR:HG1	34:y:359:LEU:HD21	1.80	0.44
34:y:327:LEU:HB3	34:y:427:TYR:CD2	2.53	0.44
34:y:331:ILE:HD11	34:y:427:TYR:HB3	2.00	0.44
34:y:469:ARG:HD3	50:k:789:MET:CG	2.40	0.44
36:r:250:VAL:HG12	50:k:831:GLN:HB3	1.99	0.44
41:A:120:GLU:O	41:A:126:GLN:HG3	2.18	0.44
43:p:218:ARG:HH11	44:z:2:LYS:HZ3	1.66	0.44
43:p:646:SER:C	43:p:654:ARG:NH1	2.75	0.44
47:Q:452:PRO:HG2	47:Q:454:TRP:HE1	1.83	0.44
15:c:49:HIS:ND1	15:c:70:LYS:HA	2.32	0.44
17:2:743:U:H5'	17:2:744:C:H5"	1.99	0.44
17:2:1520:C:OP1	40:1:30:G:C4'	2.65	0.44
34:y:76:ASN:HA	34:y:79:GLN:CG	2.48	0.44
34:y:229:HIS:C	34:y:233:ARG:HG2	2.42	0.44
34:y:356:ALA:HB1	34:y:363:ALA:O	2.18	0.44
38:t:388:LEU:CB	47:Q:426:LYS:HZ2	1.80	0.44
45:x:80:ALA:O	45:x:81:PHE:HD2	2.01	0.44
47:Q:428:LEU:CD2	50:k:846:VAL:CG1	2.94	0.44
10:P:25:TRP:O	10:P:25:TRP:CD2	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:948:G:H2'	17:2:949:C:C6	2.53	0.43
33:D:54:TRP:CZ2	50:k:585:GLN:C	2.96	0.43
34:y:289:ALA:O	34:y:293:ALA:HB2	2.18	0.43
34:y:366:THR:H	34:y:370:LEU:HD21	1.82	0.43
40:1:17:C:H2'	40:1:18:G:P	2.58	0.43
41:A:170:GLU:C	41:A:172:GLU:N	2.66	0.43
10:P:25:TRP:O	10:P:25:TRP:CG	2.70	0.43
15:c:69:GLY:HA2	17:2:1010:G:O2'	2.18	0.43
15:c:74:THR:OG1	15:c:75:GLU:N	2.50	0.43
17:2:264:U:H3'	17:2:265:G:C8	2.49	0.43
17:2:764:C:N4	17:2:772:A:H61	2.16	0.43
17:2:1812:A:H2	17:2:1813:A:C4	2.36	0.43
19:H:194:ASP:HB2	41:A:82:TYR:OH	2.18	0.43
26:d:67:ARG:CZ	26:d:68:LEU:HB3	2.48	0.43
34:y:37:SER:C	34:y:39:LYS:N	2.76	0.43
34:y:205:LEU:HG	34:y:209:GLN:NE2	2.32	0.43
34:y:487:THR:HG22	50:k:820:THR:CG2	2.48	0.43
43:p:234:GLU:OE2	44:z:324:LYS:HB3	2.18	0.43
51:h:951:THR:O	51:h:967:GLU:C	2.61	0.43
2:C:201:LEU:CB	23:T:84:TYR:HA	2.47	0.43
17:2:241:A:C6	17:2:242:G:C5	3.06	0.43
17:2:795:U:H2'	17:2:796:U:C6	2.53	0.43
33:D:91:LEU:HB3	50:k:640:GLU:CA	2.48	0.43
34:y:13:LYS:NZ	34:y:13:LYS:HB3	2.33	0.43
34:y:124:PRO:CG	34:y:128:LEU:H	2.24	0.43
46:0:120:ALA:HB1	49:b:56:VAL:HG21	2.00	0.43
15:c:65:GLN:OE1	15:c:72:ARG:NH2	2.51	0.43
17:2:698:C:O2	17:2:720:C:C2	2.71	0.43
17:2:1738:G:N2	17:2:1784:A:C5	2.64	0.43
17:2:1739:G:N3	17:2:1784:A:N1	2.66	0.43
17:2:1816:A:C2	17:2:1817:A:C6	3.06	0.43
34:y:125:GLU:OE1	34:y:125:GLU:HA	2.18	0.43
34:y:700:ARG:NH2	43:p:206:ARG:HB3	2.33	0.43
35:q:187:HIS:CG	35:q:228:MET:HG2	2.54	0.43
36:r:272:GLN:HE22	50:k:856:LYS:CE	2.32	0.43
46:0:131:ASP:OD1	49:b:67:LEU:HD21	2.19	0.43
49:b:12:LYS:HE2	49:b:15:ARG:O	2.18	0.43
51:h:951:THR:O	51:h:967:GLU:CB	2.67	0.43
5:I:70:HIS:HD2	5:I:98:ARG:CZ	2.31	0.43
16:i:82:ARG:HH11	51:h:457:LEU:CB	2.30	0.43
17:2:231:C:N1	17:2:891:G:C5	2.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:242:G:C6	17:2:243:C:N4	2.86	0.43
17:2:525:G:OP2	17:2:525:G:H8	2.01	0.43
17:2:755:C:H1'	17:2:782:G:N9	2.31	0.43
34:y:17:GLU:OE2	45:x:189:ILE:HG22	2.17	0.43
34:y:327:LEU:O	34:y:329:ILE:N	2.51	0.43
36:r:272:GLN:CG	50:k:852:VAL:HG21	2.48	0.43
41:A:20:VAL:CG2	41:A:71:VAL:HG23	2.49	0.43
43:p:657:MET:SD	44:z:333:VAL:HG23	2.58	0.43
44:z:148:ILE:O	44:z:149:THR:C	2.60	0.43
47:Q:239:PHE:O	47:Q:245:GLY:HA3	2.19	0.43
17:2:232:A:H2'	17:2:233:A:C8	2.53	0.43
17:2:260:G:H2'	17:2:261:G:H8	1.84	0.43
17:2:1130:G:P	49:b:6:ARG:NH2	2.92	0.43
17:2:1815:U:HO2'	17:2:1816:A:P	2.40	0.43
33:D:80:TYR:HE2	33:D:82:HIS:CD2	2.37	0.43
34:y:100:LYS:C	34:y:149:TRP:CD1	2.97	0.43
34:y:175:HIS:CE1	34:y:228:MET:N	2.87	0.43
34:y:399:ASN:HD21	39:u:313:ILE:HG21	1.84	0.43
41:A:229:LEU:HD11	41:A:231:ALA:O	2.18	0.43
44:z:307:SER:CB	44:z:320:HIS:O	2.65	0.43
46:0:124:MET:C	49:b:56:VAL:HG13	2.43	0.43
6:J:103:LYS:N	17:2:738:U:O2'	2.52	0.43
13:Z:52:LEU:O	13:Z:53:GLU:CB	2.66	0.43
17:2:1707:A:N3	17:2:1708:C:N1	2.54	0.43
17:2:1708:C:H2'	17:2:1709:U:C6	2.53	0.43
17:2:1765:G:H2'	17:2:1766:C:OP2	2.18	0.43
33:D:27:PRO:HB3	47:Q:230:TRP:NE1	2.34	0.43
34:y:28:LEU:HD23	34:y:29:ASP:CA	2.49	0.43
34:y:146:LEU:C	34:y:148:PRO:HD2	2.44	0.43
34:y:289:ALA:HA	34:y:292:HIS:HB3	2.01	0.43
38:t:463:PHE:HD1	47:Q:393:ARG:HG2	1.23	0.43
41:A:154:LYS:HD2	41:A:184:LEU:HD23	1.99	0.43
50:k:659:GLU:OE2	50:k:743:LYS:HE3	2.19	0.43
10:P:22:VAL:N	10:P:23:PRO:CA	2.73	0.43
17:2:128:U:H4'	17:2:212:G:C5'	2.48	0.43
17:2:1103:G:N2	17:2:1104:G:H1'	2.33	0.43
33:D:31:PRO:HG2	47:Q:266:MET:HE1	2.00	0.43
34:y:257:HIS:CD2	34:y:358:LEU:HG	2.53	0.43
43:p:679:LEU:HD22	44:z:207:ASP:OD2	2.18	0.43
14:a:97:TYR:CE2	14:a:98:GLU:O	2.71	0.43
17:2:752:C:C2'	17:2:753:C:C4'	2.96	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1105:C:C2'	23:T:121:GLN:OE1	2.65	0.43
20:M:98:ARG:HB2	48:j:264:SER:H	1.78	0.43
33:D:54:TRP:HE1	50:k:582:PRO:HA	1.83	0.43
34:y:116:GLU:C	34:y:118:LEU:N	2.76	0.43
34:y:124:PRO:CG	34:y:127:VAL:H	2.25	0.43
34:y:175:HIS:NE2	34:y:228:MET:CE	2.81	0.43
34:y:487:THR:HA	50:k:820:THR:HG21	2.01	0.43
43:p:218:ARG:NH1	44:z:323:GLU:OE2	2.39	0.43
17:2:10:G:C8	17:2:1692:A:C4	3.07	0.43
17:2:129:C:P	17:2:211:U:H3'	2.59	0.43
17:2:275:C:H3'	17:2:276:U:C5	2.54	0.43
17:2:732:C:H2'	17:2:733:G:C8	2.53	0.43
26:d:13:ARG:CG	33:D:426:LYS:HZ1	2.32	0.43
33:D:51:VAL:CG2	50:k:614:ASP:HB3	2.49	0.43
34:y:124:PRO:CG	34:y:127:VAL:N	2.74	0.43
34:y:146:LEU:C	34:y:148:PRO:CD	2.91	0.43
36:r:250:VAL:CG1	50:k:831:GLN:CD	2.92	0.43
38:t:403:LYS:HD2	47:Q:396:ARG:NH2	2.29	0.43
47:Q:358:PHE:CD1	47:Q:373:LEU:HD21	2.50	0.43
47:Q:431:ARG:NH1	50:k:850:GLU:OE2	2.52	0.43
17:2:224:U:N3	17:2:883:U:P	2.88	0.42
17:2:731:A:N7	17:2:732:C:N4	2.52	0.42
33:D:13:PHE:HB2	47:Q:49:TYR:HB3	1.96	0.42
34:y:296:LEU:HD11	34:y:324:LEU:HD22	2.00	0.42
34:y:476:ARG:NH1	50:k:774:TYR:CZ	2.87	0.42
35:q:354:LEU:HD23	50:k:849:ASN:CB	2.49	0.42
47:Q:428:LEU:CD1	50:k:843:GLY:HA2	2.48	0.42
16:i:82:ARG:NH2	16:i:85:LYS:CA	2.73	0.42
17:2:271:G:N3	17:2:272:C:N4	2.65	0.42
17:2:959:A:P	41:A:53:ARG:HG2	2.59	0.42
34:y:303:SER:O	34:y:307:ARG:HG3	2.19	0.42
34:y:338:ILE:HG12	50:k:724:LYS:CG	2.48	0.42
34:y:399:ASN:HD21	39:u:313:ILE:CG2	2.32	0.42
34:y:477:HIS:CG	50:k:774:TYR:HE1	2.16	0.42
43:p:664:GLY:O	43:p:668:GLN:CG	2.53	0.42
43:p:675:LYS:HD3	44:z:166:LYS:NZ	2.34	0.42
45:x:82:ARG:HH21	45:x:82:ARG:CG	2.33	0.42
2:C:41:ARG:HH21	23:T:124:VAL:HG22	1.76	0.42
5:I:232:ARG:HD2	17:2:781:C:N4	2.34	0.42
17:2:260:G:C2	17:2:261:G:C5	3.07	0.42
17:2:793:C:H2'	17:2:794:G:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:951:A:C2	17:2:968:A:C5	3.07	0.42
17:2:1195:A:H2'	17:2:1196:A:C5'	2.36	0.42
17:2:1517:A:H5"	31:U:142:ARG:HH21	1.81	0.42
33:D:55:THR:HG21	50:k:620:ARG:NH2	2.35	0.42
34:y:15:ALA:HA	34:y:27:ALA:HB1	2.02	0.42
34:y:194:PHE:HE1	34:y:248:GLU:OE2	2.02	0.42
34:y:436:ILE:HG21	34:y:467:LEU:HD11	2.01	0.42
34:y:728:GLN:HE22	43:p:314:THR:HA	1.84	0.42
38:t:539:TYR:OH	47:Q:440:GLU:OE1	2.26	0.42
15:c:59:CYS:HB3	50:k:429:ARG:HA	1.19	0.42
17:2:10:G:OP1	17:2:1692:A:H2'	2.17	0.42
17:2:128:U:C5'	17:2:212:G:C5'	2.97	0.42
17:2:1114:C:N3	50:k:643:LYS:NZ	2.48	0.42
20:M:1:MET:HA	20:M:3:MET:H	1.85	0.42
33:D:91:LEU:HD12	50:k:644:VAL:CG2	2.43	0.42
34:y:59:VAL:HG13	34:y:152:PHE:CE2	2.54	0.42
34:y:71:LEU:CB	34:y:164:LEU:HD21	2.36	0.42
34:y:302:LEU:CD1	34:y:306:MET:CE	2.89	0.42
34:y:465:PHE:HE1	50:k:788:ASP:HB2	1.85	0.42
35:q:117:ILE:HB	35:q:139:HIS:CD2	2.55	0.42
36:r:258:VAL:HA	50:k:838:LEU:HD13	2.01	0.42
37:s:77:LEU:HA	37:s:79:HIS:H	1.84	0.42
47:Q:206:LEU:HD12	47:Q:231:LEU:HD11	2.02	0.42
47:Q:287:ARG:HG2	47:Q:356:PHE:CZ	2.48	0.42
17:2:710:C:OP1	43:p:627:LEU:HD23	2.17	0.42
17:2:765:U:H2'	17:2:766:U:H6	1.84	0.42
17:2:1111:U:O2	17:2:1111:U:H3'	2.19	0.42
19:H:201:LYS:CB	41:A:75:ARG:HH12	2.30	0.42
33:D:52:ALA:HB3	50:k:589:ASN:ND2	2.33	0.42
33:D:91:LEU:HB3	50:k:640:GLU:HA	2.00	0.42
34:y:108:SER:OG	34:y:145:LEU:HB3	2.19	0.42
34:y:194:PHE:CD1	34:y:194:PHE:N	2.86	0.42
34:y:268:LYS:HE3	34:y:269:PRO:CD	2.50	0.42
34:y:302:LEU:HD12	34:y:306:MET:HE1	1.98	0.42
34:y:346:GLY:CA	34:y:347:ILE:CG1	2.85	0.42
34:y:367:ARG:C	34:y:369:GLY:N	2.73	0.42
6:J:103:LYS:CD	17:2:679:U:H5	2.33	0.42
15:c:37:CYS:HB2	15:c:38:PRO:HD2	1.99	0.42
17:2:250:G:H2'	17:2:251:C:H6	1.85	0.42
17:2:731:A:N6	17:2:732:C:H42	2.15	0.42
34:y:68:LYS:HG2	34:y:163:LEU:HD22	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:79:GLN:HB3	34:y:80:GLN:H	1.67	0.42
34:y:175:HIS:CG	34:y:231:GLU:OE2	2.73	0.42
41:A:229:LEU:HD13	42:B:284:VAL:CG2	2.50	0.42
43:p:127:GLU:CD	43:p:133:LYS:HZ1	2.27	0.42
45:x:22:VAL:HG12	45:x:24:PRO:CD	2.50	0.42
5:I:70:HIS:CD2	5:I:98:ARG:NH1	2.88	0.42
14:a:99:LYS:O	14:a:100:LYS:CB	2.68	0.42
17:2:1112:C:N3	17:2:1113:C:C2	2.88	0.42
33:D:51:VAL:CG2	50:k:615:ILE:N	2.81	0.42
34:y:8:PRO:HG3	34:y:39:LYS:HD3	1.96	0.42
34:y:106:GLU:O	34:y:110:GLN:CG	2.53	0.42
34:y:233:ARG:HD2	34:y:256:ILE:HD13	0.57	0.42
34:y:274:ASN:HA	34:y:277:ASN:HD21	1.83	0.42
5:I:68:LEU:HD13	5:I:68:LEU:HA	1.83	0.42
15:c:77:CYS:HG	33:D:91:LEU:CG	2.25	0.42
15:c:79:PHE:CD2	33:D:90:GLN:HB2	2.55	0.42
17:2:231:C:N3	17:2:891:G:C5	2.88	0.42
17:2:258:G:C2	17:2:259:G:C8	3.07	0.42
17:2:958:A:C2'	41:A:53:ARG:CA	2.95	0.42
17:2:1195:A:H2'	17:2:1196:A:C4'	2.49	0.42
20:M:98:ARG:NH1	48:j:293:ALA:N	2.68	0.42
33:D:22:PRO:HA	47:Q:153:LYS:HE2	2.01	0.42
34:y:368:ILE:HD12	34:y:510:HIS:CE1	2.55	0.42
34:y:695:ILE:HG21	43:p:522:GLN:OE1	2.19	0.42
38:t:478:PHE:HD1	47:Q:393:ARG:HH22	1.68	0.42
40:1:27:C:N3	40:1:28:U:C5	2.87	0.42
41:A:193:ALA:HB3	41:A:237:MET:H	1.83	0.42
45:x:70:SER:HB3	45:x:73:ASP:HB3	2.01	0.42
46:0:128:ARG:HG3	49:b:59:PHE:HE2	1.84	0.42
47:Q:172:ARG:HD2	47:Q:186:LEU:CD2	2.49	0.42
3:E:103:ALA:O	17:2:1483:A:H4'	2.20	0.42
17:2:258:G:N3	17:2:259:G:C8	2.88	0.42
17:2:266:G:C6	17:2:267:G:C6	3.08	0.42
17:2:752:C:C5	17:2:753:C:C5	2.99	0.42
17:2:791:A:H2'	17:2:792:G:O4'	2.19	0.42
17:2:1204:A:H4'	17:2:1829:A:N7	2.35	0.42
26:d:66:ARG:C	26:d:66:ARG:NE	2.73	0.42
34:y:24:LYS:HG3	34:y:61:LEU:HD11	2.02	0.42
34:y:322:VAL:HG23	34:y:323:LEU:N	2.34	0.42
34:y:331:ILE:HD11	34:y:427:TYR:O	2.18	0.42
34:y:378:ASN:O	34:y:382:TYR:CD2	2.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:397:GLU:OE1	34:y:397:GLU:HA	2.19	0.42
34:y:698:PHE:CZ	34:y:702:LYS:HD2	2.55	0.42
34:y:728:GLN:HE21	43:p:314:THR:HG22	1.69	0.42
40:1:37:T6A:N1	40:1:37:T6A:N11	2.51	0.42
17:2:618:A:N6	17:2:1328:A:H1'	2.34	0.42
17:2:761:G:O6	17:2:775:G:C8	2.73	0.42
17:2:948:G:O6	17:2:949:C:N4	2.53	0.42
18:F:59:LEU:HD22	48:j:289:ARG:HA	2.01	0.42
41:A:54:ARG:CB	41:A:54:ARG:NH2	2.73	0.42
43:p:231:SER:HG	44:z:325:SER:CB	2.31	0.42
47:Q:162:SER:HA	47:Q:196:MET:SD	2.59	0.42
17:2:1202:G:H4'	17:2:1828:A:C4	2.55	0.41
17:2:1457:G:H3'	17:2:1459:U:H3	1.84	0.41
17:2:1707:A:C2	17:2:1708:C:C1'	3.00	0.41
22:S:146:ARG:HH12	40:1:33:C:H6	1.54	0.41
34:y:21:VAL:HG21	45:x:192:SER:OG	2.20	0.41
34:y:39:LYS:HB2	34:y:39:LYS:NZ	2.33	0.41
34:y:105:LYS:O	34:y:106:GLU:C	2.63	0.41
34:y:371:ILE:CG2	34:y:372:ASN:H	2.31	0.41
36:r:276:GLN:HG3	50:k:856:LYS:HG2	2.02	0.41
10:P:23:PRO:HG2	10:P:25:TRP:NE1	2.35	0.41
15:c:38:PRO:C	15:c:40:CYS:N	2.76	0.41
15:c:79:PHE:O	15:c:80:ARG:HD3	2.13	0.41
17:2:233:A:H2'	17:2:234:C:C6	2.55	0.41
17:2:241:A:N6	17:2:265:G:N1	2.16	0.41
17:2:697:U:H3	17:2:720:C:N4	2.19	0.41
17:2:1520:C:H5"	40:1:30:G:H5"	1.98	0.41
17:2:1744:G:N2	17:2:1780:U:C1'	2.56	0.41
17:2:1758:G:H2'	17:2:1761:C:H41	1.84	0.41
34:y:86:LEU:O	34:y:90:VAL:HG12	2.21	0.41
34:y:717:GLN:CG	43:p:189:PRO:CB	2.98	0.41
40:1:26:G:H1	40:1:44:A:H61	1.68	0.41
41:A:88:ARG:NH1	46:0:64:ALA:C	2.76	0.41
47:Q:365:HIS:ND1	50:k:816:GLN:CB	2.71	0.41
5:I:81:HIS:HE1	17:2:1784:A:C5'	2.32	0.41
9:N:30:LYS:CA	9:N:30:LYS:CE	2.97	0.41
33:D:51:VAL:HG21	50:k:614:ASP:CB	2.49	0.41
34:y:17:GLU:CD	45:x:189:ILE:HG22	2.45	0.41
34:y:124:PRO:C	34:y:126:SER:H	2.29	0.41
47:Q:287:ARG:NH1	47:Q:352:ASN:OD1	2.51	0.41
47:Q:320:PHE:CZ	50:k:806:ILE:CD1	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:h:963:SER:O	51:h:1278:ARG:CB	2.69	0.41
17:2:68:A:C6	17:2:69:C:C4	3.09	0.41
17:2:747:G:O2'	17:2:748:G:H5'	2.20	0.41
17:2:948:G:C5	17:2:949:C:C4	3.06	0.41
17:2:1707:A:H2'	17:2:1708:C:H6	1.86	0.41
17:2:1859:C:H2'	49:b:92:ARG:O	2.20	0.41
33:D:68:TYR:OH	50:k:614:ASP:OD2	2.36	0.41
34:y:21:VAL:HG21	45:x:192:SER:HB2	2.01	0.41
34:y:63:LYS:CD	34:y:66:LEU:HD12	2.49	0.41
34:y:175:HIS:CE1	34:y:231:GLU:OE1	2.73	0.41
34:y:210:ARG:HD3	34:y:210:ARG:HA	1.86	0.41
47:Q:72:MET:HE1	47:Q:91:ARG:NH1	2.33	0.41
15:c:36:LYS:HZ3	33:D:84:GLU:CD	2.28	0.41
15:c:78:SER:C	33:D:89:PHE:HA	2.43	0.41
17:2:578:G:H3'	51:h:122:LYS:CB	2.49	0.41
17:2:698:C:N3	17:2:720:C:N3	2.68	0.41
17:2:753:C:C2'	17:2:754:C:H5'	2.50	0.41
34:y:119:ASP:HB3	34:y:120:ASN:H	1.71	0.41
34:y:231:GLU:HG2	34:y:232:THR:N	2.36	0.41
34:y:250:PHE:CE2	50:k:704:PRO:CB	3.02	0.41
34:y:262:LEU:O	34:y:265:LYS:CE	2.69	0.41
34:y:323:LEU:CD1	34:y:424:LEU:HD22	2.50	0.41
34:y:327:LEU:O	34:y:331:ILE:CG1	2.65	0.41
34:y:333:PRO:HB3	34:y:434:ASN:HD21	1.86	0.41
41:A:49:SER:O	46:0:66:ARG:CZ	2.68	0.41
44:z:217:ASP:O	44:z:218:THR:OG1	2.33	0.41
2:C:200:ASP:O	23:T:84:TYR:HA	2.20	0.41
2:C:214:GLU:CD	23:T:81:ARG:NH2	2.69	0.41
17:2:242:G:H2'	17:2:243:C:C6	2.56	0.41
17:2:743:U:H5'	17:2:744:C:O4'	2.20	0.41
17:2:798:A:OP2	17:2:798:A:C8	2.74	0.41
17:2:1695:C:C1'	17:2:1697:G:N9	2.83	0.41
19:H:27:ASP:CA	33:D:472:LYS:HZ3	2.23	0.41
33:D:13:PHE:HB2	47:Q:49:TYR:CD2	2.49	0.41
33:D:80:TYR:CD1	50:k:542:ARG:CA	3.03	0.41
34:y:18:PHE:N	45:x:190:PRO:CB	2.83	0.41
34:y:485:ASP:HB3	50:k:780:SER:O	2.09	0.41
41:A:20:VAL:HG23	41:A:71:VAL:HG23	2.02	0.41
12:Y:122:GLY:HA3	17:2:800:U:O2'	2.17	0.41
17:2:1114:C:C1'	33:D:94:THR:N	2.83	0.41
34:y:51:MET:CE	34:y:70:GLY:O	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:327:LEU:CB	34:y:427:TYR:HD2	2.33	0.41
34:y:331:ILE:CG1	34:y:430:GLN:NE2	2.81	0.41
34:y:348:ILE:O	34:y:348:ILE:HG22	2.20	0.41
34:y:385:PRO:CA	34:y:388:LYS:HG3	2.47	0.41
43:p:679:LEU:HD22	44:z:209:THR:HG21	1.96	0.41
8:L:178:ALA:O	51:h:514:ARG:CB	2.68	0.41
14:a:8:ARG:CZ	17:2:831:C:H5	2.33	0.41
15:c:61:THR:OG1	50:k:319:ARG:CZ	2.57	0.41
17:2:710:C:H6	43:p:627:LEU:CD2	2.34	0.41
17:2:800:U:O2	17:2:801:U:O4'	2.39	0.41
26:d:63:ARG:NH2	46:0:71:PRO:HB2	2.35	0.41
33:D:80:TYR:CE1	50:k:542:ARG:CG	3.03	0.41
34:y:179:GLN:HE21	34:y:179:GLN:HA	1.80	0.41
34:y:241:ILE:HA	34:y:246:TRP:HZ3	1.86	0.41
34:y:284:TRP:CD1	34:y:284:TRP:C	2.96	0.41
34:y:337:ASP:O	34:y:341:LEU:HB2	2.21	0.41
45:x:24:PRO:HG2	45:x:25:PHE:CE2	2.56	0.41
50:k:423:ILE:HD12	50:k:423:ILE:H	1.86	0.41
2:C:201:LEU:HD12	23:T:83:ASN:HB2	2.01	0.41
16:i:92:LYS:HD2	51:h:451:GLY:O	2.20	0.41
17:2:127:C:H1'	17:2:130:G:C5	2.40	0.41
17:2:233:A:H2'	17:2:234:C:O4'	2.20	0.41
17:2:752:C:C2	17:2:785:G:O6	2.74	0.41
17:2:1105:C:H1'	23:T:121:GLN:HA	2.03	0.41
33:D:27:PRO:CB	47:Q:226:GLN:NE2	2.84	0.41
33:D:31:PRO:HG2	47:Q:266:MET:CE	2.51	0.41
33:D:89:PHE:HE2	50:k:644:VAL:CG2	2.34	0.41
34:y:316:GLN:HG3	34:y:317:ARG:N	2.36	0.41
34:y:320:THR:HG22	34:y:421:GLU:HG3	1.96	0.41
34:y:344:MET:O	34:y:344:MET:SD	2.79	0.41
34:y:370:LEU:O	34:y:374:MET:SD	2.79	0.41
34:y:375:VAL:HG22	34:y:379:VAL:CG1	2.46	0.41
34:y:710:ILE:HG12	43:p:613:THR:CG2	2.47	0.41
41:A:144:ARG:HB2	41:A:145:PRO:HD3	2.01	0.41
46:0:113:GLN:HE21	49:b:46:GLU:HB3	1.56	0.41
47:Q:117:THR:CG2	47:Q:134:LEU:HD21	2.50	0.41
2:C:213:GLU:CD	23:T:86:PRO:CG	2.60	0.41
6:J:101:LEU:HB3	17:2:738:U:O2	2.21	0.41
8:L:179:LYS:CB	51:h:511:GLU:CB	2.99	0.41
17:2:230:C:N1	17:2:892:U:N3	2.69	0.41
17:2:248:C:N3	17:2:249:C:C5	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:2:1687:U:C5'	49:b:92:ARG:NH2	2.84	0.41
34:y:165:ARG:C	34:y:167:ASN:N	2.79	0.41
34:y:193:GLU:OE1	34:y:245:LEU:HD12	2.21	0.41
36:r:275:HIS:CE1	36:r:312:ALA:HA	2.56	0.41
41:A:52:SER:OG	41:A:54:ARG:HG2	2.21	0.41
43:p:657:MET:HE3	44:z:334:GLU:HG2	2.02	0.41
44:z:329:PHE:CD1	44:z:329:PHE:C	2.98	0.41
17:2:128:U:C4'	17:2:212:G:C5'	2.99	0.40
17:2:232:A:H2'	17:2:233:A:H8	1.86	0.40
17:2:762:C:H2'	17:2:763:U:H6	1.87	0.40
17:2:1103:G:H2'	17:2:1104:G:O5'	2.22	0.40
19:H:204:ARG:HE	46:0:72:TYR:CB	2.34	0.40
33:D:24:GLY:CA	47:Q:184:SER:HG	1.98	0.40
34:y:28:LEU:O	34:y:31:LEU:N	2.54	0.40
34:y:277:ASN:O	34:y:281:THR:HG23	2.21	0.40
34:y:299:LEU:C	34:y:321:ARG:HH11	2.28	0.40
40:1:18:G:O6	41:A:107:THR:CG2	2.68	0.40
2:C:89:LYS:CE	23:T:83:ASN:CA	2.93	0.40
6:J:107:LYS:HE3	17:2:679:U:N3	2.36	0.40
6:J:118:ARG:HD3	17:2:677:C:C1'	2.30	0.40
6:J:118:ARG:CD	17:2:677:C:C1'	2.94	0.40
10:P:26:LEU:CD2	10:P:27:LYS:N	2.73	0.40
14:a:9:THR:OG1	17:2:831:C:N4	2.54	0.40
14:a:101:LYS:HG2	14:a:107:ARG:HH22	1.85	0.40
17:2:1105:C:C4	23:T:122:PRO:HB3	2.33	0.40
18:F:3:VAL:HG13	18:F:4:GLN:H	1.86	0.40
34:y:21:VAL:HG21	45:x:192:SER:CB	2.51	0.40
34:y:150:VAL:HA	34:y:184:PHE:CZ	2.56	0.40
34:y:154:TRP:CE3	34:y:154:TRP:CA	3.04	0.40
34:y:291:PHE:O	34:y:359:LEU:HD21	2.21	0.40
35:q:200:LEU:HD13	35:q:213:ILE:HD11	2.02	0.40
38:t:391:ARG:CZ	47:Q:426:LYS:HZ2	2.32	0.40
46:0:131:ASP:OD1	49:b:67:LEU:CD2	2.70	0.40
47:Q:359:GLU:OE1	47:Q:363:ARG:NH2	2.54	0.40
48:j:244:THR:HA	48:j:281:GLY:O	2.21	0.40
2:C:42:LYS:HG2	2:C:43:SER:H	1.87	0.40
15:c:80:ARG:HH21	33:D:86:GLU:C	2.09	0.40
17:2:238:G:C6	17:2:239:U:C4	3.09	0.40
17:2:279:G:C2	17:2:286:C:C2	3.09	0.40
17:2:757:C:H2'	17:2:758:G:O4'	2.21	0.40
17:2:952:G:C4	17:2:953:A:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:y:522:GLN:HE21	34:y:526:MET:HE3	1.85	0.40
46:0:113:GLN:CD	49:b:46:GLU:HB2	2.46	0.40
51:h:458:LEU:C	51:h:459:PRO:O	2.64	0.40
2:C:113:GLN:HG2	17:2:1376:C:HO2'	1.77	0.40
5:I:232:ARG:HB3	17:2:781:C:H6	1.80	0.40
15:c:69:GLY:O	15:c:70:LYS:O	2.39	0.40
17:2:232:A:N9	17:2:890:G:N3	2.64	0.40
17:2:278:U:H3'	17:2:278:U:P	2.61	0.40
33:D:80:TYR:HE2	50:k:581:ASP:CG	2.30	0.40
34:y:300:TYR:HE1	34:y:318:MET:CE	2.34	0.40
36:r:276:GLN:CG	50:k:856:LYS:CD	2.99	0.40
44:z:107:TYR:HA	44:z:125:TYR:O	2.21	0.40
46:0:141:ARG:HH11	49:b:22:ARG:HH22	1.69	0.40
15:c:75:GLU:CG	50:k:369:ALA:CB	2.66	0.40
17:2:131:C:N4	17:2:178:C:C3'	2.78	0.40
17:2:233:A:C6	17:2:889:U:N3	2.89	0.40
17:2:241:A:C6	17:2:266:G:C2	3.09	0.40
34:y:18:PHE:CE1	45:x:192:SER:HA	2.57	0.40
38:t:350:PHE:HD1	47:Q:448:ARG:HH22	1.68	0.40
47:Q:55:LEU:CB	47:Q:78:LEU:HD12	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	l	23/25 (92%)	23 (100%)	0	0	100 100
2	C	221/295 (75%)	193 (87%)	21 (10%)	7 (3%)	3 21
3	E	224/226 (99%)	208 (93%)	14 (6%)	2 (1%)	14 50
4	G	261/263 (99%)	233 (89%)	24 (9%)	4 (2%)	8 39

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
5	I	235/249 (94%)	209 (89%)	23 (10%)	3 (1%)	9 42
6	J	188/194 (97%)	161 (86%)	18 (10%)	9 (5%)	2 16
7	K	204/208 (98%)	178 (87%)	20 (10%)	6 (3%)	3 23
8	L	171/194 (88%)	160 (94%)	9 (5%)	2 (1%)	10 44
9	N	156/158 (99%)	130 (83%)	22 (14%)	4 (3%)	4 25
10	P	148/151 (98%)	130 (88%)	11 (7%)	7 (5%)	2 16
11	X	80/83 (96%)	71 (89%)	7 (9%)	2 (2%)	4 26
12	Y	127/130 (98%)	117 (92%)	6 (5%)	4 (3%)	3 22
13	Z	140/143 (98%)	129 (92%)	7 (5%)	4 (3%)	3 23
14	a	124/133 (93%)	104 (84%)	10 (8%)	10 (8%)	1 9
15	c	82/84 (98%)	56 (68%)	16 (20%)	10 (12%)	0 4
16	i	52/133 (39%)	46 (88%)	6 (12%)	0	100 100
18	F	225/243 (93%)	202 (90%)	14 (6%)	9 (4%)	2 18
19	H	189/219 (86%)	169 (89%)	17 (9%)	3 (2%)	7 37
20	M	96/165 (58%)	74 (77%)	16 (17%)	6 (6%)	1 12
21	O	122/132 (92%)	105 (86%)	13 (11%)	4 (3%)	3 21
22	S	139/146 (95%)	126 (91%)	11 (8%)	2 (1%)	9 40
23	T	124/135 (92%)	112 (90%)	8 (6%)	4 (3%)	3 21
24	V	139/145 (96%)	128 (92%)	8 (6%)	3 (2%)	5 29
25	W	102/119 (86%)	93 (91%)	9 (9%)	0	100 100
26	d	66/69 (96%)	59 (89%)	6 (9%)	1 (2%)	8 39
27	e	51/56 (91%)	40 (78%)	7 (14%)	4 (8%)	1 9
28	f	69/156 (44%)	51 (74%)	12 (17%)	6 (9%)	0 8
29	g	311/317 (98%)	273 (88%)	33 (11%)	5 (2%)	7 37
30	n	73/124 (59%)	69 (94%)	3 (4%)	1 (1%)	9 40
31	U	135/152 (89%)	119 (88%)	12 (9%)	4 (3%)	3 22
32	R	129/145 (89%)	107 (83%)	13 (10%)	9 (7%)	1 11
33	D	452/557 (81%)	422 (93%)	26 (6%)	4 (1%)	14 50
34	y	652/1350 (48%)	508 (78%)	85 (13%)	59 (9%)	0 8
35	q	270/364 (74%)	226 (84%)	32 (12%)	12 (4%)	2 17
36	r	322/366 (88%)	267 (83%)	42 (13%)	13 (4%)	2 18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
37	s	213/218 (98%)	201 (94%)	10 (5%)	2 (1%)	14 50
38	t	370/564 (66%)	329 (89%)	37 (10%)	4 (1%)	11 46
39	u	363/374 (97%)	308 (85%)	47 (13%)	8 (2%)	5 29
41	A	264/284 (93%)	233 (88%)	25 (10%)	6 (2%)	5 28
42	B	420/422 (100%)	352 (84%)	48 (11%)	20 (5%)	2 16
43	p	611/814 (75%)	534 (87%)	56 (9%)	21 (3%)	3 21
44	z	340/342 (99%)	323 (95%)	16 (5%)	1 (0%)	36 72
45	x	218/264 (83%)	186 (85%)	24 (11%)	8 (4%)	2 19
46	0	134/151 (89%)	119 (89%)	12 (9%)	3 (2%)	5 29
47	Q	445/462 (96%)	440 (99%)	5 (1%)	0	100 100
48	j	75/320 (23%)	68 (91%)	7 (9%)	0	100 100
49	b	106/115 (92%)	99 (93%)	5 (5%)	2 (2%)	6 32
50	k	580/913 (64%)	560 (97%)	17 (3%)	3 (0%)	24 63
51	h	1014/1369 (74%)	982 (97%)	26 (3%)	6 (1%)	21 59
All	All	11255/14241 (79%)	10032 (89%)	916 (8%)	307 (3%)	6 25

All (307) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	191	ARG
6	J	106	ARG
7	K	158	ILE
8	L	148	ILE
9	N	66	VAL
9	N	157	LYS
10	P	19	ARG
10	P	20	ARG
12	Y	30	CYS
14	a	10	ARG
14	a	100	LYS
14	a	102	THR
14	a	105	LYS
15	c	36	LYS
15	c	37	CYS
15	c	73	LEU
15	c	77	CYS
18	F	3	VAL

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Mol	Chain	Res	Type
18	F	193	ASP
18	F	219	PRO
19	H	41	VAL
20	M	35	LEU
21	O	95	ASP
24	V	34	VAL
27	e	25	SER
28	f	102	VAL
31	U	90	VAL
32	R	126	VAL
33	D	95	ALA
34	y	4	TYR
34	y	7	ARG
34	y	8	PRO
34	y	79	GLN
34	y	80	GLN
34	y	123	THR
34	y	160	CYS
34	y	164	LEU
34	y	173	LEU
34	y	219	ASN
34	y	284	TRP
34	y	329	ILE
34	y	345	ASP
35	q	224	PRO
35	q	299	SER
35	q	318	ILE
36	r	305	PHE
37	s	204	LYS
39	u	334	VAL
39	u	335	SER
39	u	336	HIS
41	A	171	ASP
41	A	185	THR
41	A	266	ARG
42	B	194	LYS
42	B	279	LYS
42	B	280	PRO
42	B	283	GLU
42	B	289	GLY
42	B	402	ASP
42	B	405	ALA

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Mol	Chain	Res	Type
43	p	208	GLN
43	p	211	VAL
43	p	214	GLU
43	p	215	SER
43	p	323	CYS
45	x	78	GLU
45	x	209	ASP
49	b	102	ARG
49	b	103	PRO
50	k	511	SER
50	k	869	ASP
51	h	118	ARG
51	h	1008	PRO
2	C	46	ILE
3	E	159	ILE
6	J	17	ASP
6	J	67	PRO
6	J	139	ILE
9	N	24	LEU
10	P	24	THR
11	X	10	ASP
12	Y	58	ALA
13	Z	87	ASN
14	a	86	GLU
15	c	70	LYS
18	F	131	ALA
20	M	34	GLU
20	M	36	ALA
21	O	118	SER
22	S	44	PRO
24	V	143	LYS
28	f	98	VAL
32	R	12	PHE
32	R	133	ILE
34	y	62	ARG
34	y	116	GLU
34	y	120	ASN
34	y	167	ASN
34	y	168	SER
34	y	188	TYR
34	y	241	ILE
34	y	270	GLN

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Mol	Chain	Res	Type
34	y	286	SER
34	y	331	ILE
35	q	179	ILE
35	q	240	ALA
36	r	159	GLN
36	r	205	ILE
38	t	378	TYR
39	u	57	ASP
42	B	63	VAL
42	B	224	VAL
42	B	229	ALA
42	B	398	ARG
42	B	403	LYS
42	B	452	GLU
43	p	178	ILE
43	p	217	ASP
43	p	282	ILE
43	p	467	THR
43	p	546	CYS
43	p	628	LYS
43	p	629	LYS
43	p	630	TYR
45	x	81	PHE
46	0	66	ARG
46	0	138	ASP
5	I	69	THR
5	I	236	SER
6	J	13	GLY
8	L	21	GLU
10	P	30	SER
12	Y	71	LYS
13	Z	86	PRO
13	Z	109	GLY
14	a	30	PRO
14	a	52	PRO
14	a	106	GLN
15	c	38	PRO
15	c	78	SER
15	c	83	GLN
18	F	205	PRO
19	H	22	LYS
21	O	75	ASN

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Mol	Chain	Res	Type
22	S	118	THR
23	T	83	ASN
23	T	94	GLU
26	d	52	GLU
27	e	24	CYS
29	g	13	GLY
29	g	161	SER
30	n	112	ASN
32	R	10	ARG
32	R	83	MET
34	y	42	THR
34	y	187	GLN
34	y	211	HIS
34	y	212	HIS
34	y	214	GLN
34	y	215	SER
34	y	223	PRO
34	y	267	PRO
34	y	328	SER
34	y	348	ILE
34	y	373	ASP
34	y	399	ASN
34	y	540	ALA
35	q	228	MET
36	r	35	ALA
36	r	167	TYR
36	r	312	ALA
38	t	273	SER
38	t	500	LEU
39	u	108	ASN
41	A	55	ARG
42	B	89	ASN
42	B	135	GLY
42	B	179	PRO
42	B	378	PRO
43	p	390	LYS
45	x	207	LEU
51	h	111	ASP
51	h	1197	THR
2	C	71	PRO
2	C	155	ARG
3	E	161	LYS

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Mol	Chain	Res	Type
4	G	30	ARG
4	G	153	LEU
6	J	6	ALA
6	J	37	LYS
6	J	116	ARG
7	K	22	HIS
7	K	31	ARG
7	K	144	LYS
10	P	22	VAL
10	P	26	LEU
10	P	138	ASN
11	X	28	ASP
13	Z	53	GLU
14	a	9	THR
20	M	94	LEU
21	O	120	ALA
23	T	84	TYR
27	e	8	TRP
28	f	91	ASN
28	f	122	PRO
29	g	127	LYS
31	U	89	ASP
31	U	95	TYR
33	D	244	ASN
33	D	295	ALA
34	y	41	ARG
34	y	119	ASP
34	y	162	ASP
34	y	165	ARG
34	y	231	GLU
34	y	363	ALA
34	y	486	HIS
34	y	497	LEU
34	y	505	ALA
35	q	109	ARG
35	q	114	ALA
35	q	178	ASP
36	r	54	GLN
36	r	90	ASP
39	u	192	TYR
41	A	40	ASN
44	z	8	GLY

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Mol	Chain	Res	Type
45	x	17	ALA
45	x	56	LYS
46	0	64	ALA
50	k	686	ARG
2	C	199	PRO
4	G	83	PRO
7	K	53	LYS
7	K	133	GLU
14	a	96	LEU
15	c	4	ALA
15	c	41	TYR
18	F	142	LEU
18	F	216	GLU
19	H	184	SER
23	T	120	THR
24	V	39	LEU
28	f	136	PHE
28	f	146	LEU
31	U	141	ARG
32	R	38	SER
32	R	74	GLU
32	R	130	ARG
34	y	81	VAL
34	y	225	SER
34	y	227	SER
34	y	229	HIS
34	y	233	ARG
34	y	237	LEU
34	y	268	LYS
34	y	421	GLU
35	q	94	LEU
36	r	125	TYR
36	r	154	PRO
36	r	183	SER
38	t	294	LEU
39	u	118	PRO
41	A	59	ILE
42	B	196	LYS
42	B	461	GLU
43	p	101	ASP
43	p	268	PHE
43	p	413	PHE

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Mol	Chain	Res	Type
45	x	179	ASN
2	C	126	ASP
5	I	154	ARG
18	F	191	PRO
20	M	2	LEU
27	e	36	LEU
29	g	191	HIS
33	D	73	GLY
34	y	26	PRO
34	y	327	LEU
36	r	178	LYS
39	u	193	THR
42	B	105	ASP
43	p	478	SER
51	h	1286	GLU
2	C	3	GLY
4	G	152	PRO
9	N	26	GLY
20	M	3	MET
34	y	347	ILE
36	r	112	ILE
43	p	355	PRO
12	Y	29	PRO
35	q	138	PRO
43	p	96	PRO
43	p	487	ALA
51	h	936	GLY
6	J	45	ILE
18	F	196	GLY
29	g	275	ILE
34	y	121	ILE
34	y	170	VAL
34	y	269	PRO
35	q	87	PRO
32	R	129	GLY
45	x	24	PRO
37	s	78	PRO

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	
1	l	24/24 (100%)	24 (100%)	0	100	100
2	C	187/244 (77%)	185 (99%)	2 (1%)	65	76
3	E	187/187 (100%)	187 (100%)	0	100	100
4	G	225/225 (100%)	225 (100%)	0	100	100
5	I	207/218 (95%)	207 (100%)	0	100	100
6	J	170/174 (98%)	169 (99%)	1 (1%)	78	82
7	K	177/179 (99%)	175 (99%)	2 (1%)	65	76
8	L	155/168 (92%)	154 (99%)	1 (1%)	78	82
9	N	142/142 (100%)	138 (97%)	4 (3%)	38	60
10	P	130/131 (99%)	125 (96%)	5 (4%)	29	50
11	X	67/68 (98%)	67 (100%)	0	100	100
12	Y	112/113 (99%)	112 (100%)	0	100	100
13	Z	114/115 (99%)	114 (100%)	0	100	100
14	a	108/115 (94%)	102 (94%)	6 (6%)	19	40
15	c	76/76 (100%)	72 (95%)	4 (5%)	20	41
16	i	45/106 (42%)	43 (96%)	2 (4%)	25	47
18	F	190/202 (94%)	189 (100%)	1 (0%)	81	83
19	H	161/181 (89%)	160 (99%)	1 (1%)	78	82
20	M	89/136 (65%)	89 (100%)	0	100	100
21	O	104/108 (96%)	101 (97%)	3 (3%)	37	58
22	S	117/121 (97%)	116 (99%)	1 (1%)	70	78
23	T	114/121 (94%)	114 (100%)	0	100	100
24	V	113/116 (97%)	113 (100%)	0	100	100
25	W	94/107 (88%)	94 (100%)	0	100	100
26	d	56/62 (90%)	54 (96%)	2 (4%)	31	52
27	e	47/49 (96%)	44 (94%)	3 (6%)	16	37
28	f	64/140 (46%)	64 (100%)	0	100	100
29	g	272/275 (99%)	272 (100%)	0	100	100
30	n	66/102 (65%)	66 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
31	U	120/132 (91%)	120 (100%)	0	100 100
32	R	118/130 (91%)	116 (98%)	2 (2%)	53 69
33	D	400/501 (80%)	397 (99%)	3 (1%)	73 80
34	y	605/1233 (49%)	518 (86%)	87 (14%)	3 13
35	q	239/282 (85%)	237 (99%)	2 (1%)	73 80
36	r	293/329 (89%)	293 (100%)	0	100 100
37	s	190/193 (98%)	190 (100%)	0	100 100
38	t	342/515 (66%)	341 (100%)	1 (0%)	86 85
39	u	327/335 (98%)	323 (99%)	4 (1%)	63 75
41	A	238/255 (93%)	232 (98%)	6 (2%)	42 62
42	B	354/354 (100%)	337 (95%)	17 (5%)	23 44
43	p	547/698 (78%)	528 (96%)	19 (4%)	32 53
44	z	297/297 (100%)	284 (96%)	13 (4%)	25 47
45	x	194/231 (84%)	188 (97%)	6 (3%)	35 56
46	0	106/119 (89%)	106 (100%)	0	100 100
47	Q	408/423 (96%)	401 (98%)	7 (2%)	53 69
49	b	86/99 (87%)	85 (99%)	1 (1%)	63 75
50	k	511/812 (63%)	506 (99%)	5 (1%)	68 78
All	All	8988/10943 (82%)	8777 (98%)	211 (2%)	44 64

All (211) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	C	110	ASN
2	C	194	PRO
6	J	66	VAL
7	K	84	ASN
7	K	145	ILE
8	L	123	ILE
9	N	24	LEU
9	N	25	LEU
9	N	28	THR
9	N	30	LYS
10	P	21	SER
10	P	22	VAL
10	P	26	LEU

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Mol	Chain	Res	Type
10	P	27	LYS
10	P	28	LEU
14	a	10	ARG
14	a	11	LYS
14	a	98	GLU
14	a	99	LYS
14	a	100	LYS
14	a	101	LYS
15	c	64	CYS
15	c	70	LYS
15	c	73	LEU
15	c	79	PHE
16	i	80	LEU
16	i	82	ARG
18	F	195	SER
19	H	141	VAL
21	O	52	LEU
21	O	99	LYS
21	O	103	VAL
22	S	146	ARG
26	d	66	ARG
26	d	67	ARG
27	e	23	VAL
27	e	31	ILE
27	e	39	CYS
32	R	84	ILE
32	R	130	ARG
33	D	82	HIS
33	D	339	ASN
33	D	413	LEU
34	y	4	TYR
34	y	6	GLN
34	y	9	GLU
34	y	12	LEU
34	y	13	LYS
34	y	14	ARG
34	y	25	GLN
34	y	28	LEU
34	y	29	ASP
34	y	39	LYS
34	y	60	ASP
34	y	68	LYS

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Mol	Chain	Res	Type
34	y	79	GLN
34	y	83	ILE
34	y	113	LEU
34	y	120	ASN
34	y	123	THR
34	y	126	SER
34	y	133	SER
34	y	145	LEU
34	y	149	TRP
34	y	150	VAL
34	y	151	LYS
34	y	153	LEU
34	y	154	TRP
34	y	160	CYS
34	y	162	ASP
34	y	165	ARG
34	y	173	LEU
34	y	176	ASP
34	y	179	GLN
34	y	183	LYS
34	y	186	LEU
34	y	193	GLU
34	y	195	ARG
34	y	198	CYS
34	y	200	ASN
34	y	206	SER
34	y	207	GLN
34	y	208	ILE
34	y	209	GLN
34	y	210	ARG
34	y	212	HIS
34	y	215	SER
34	y	220	LEU
34	y	225	SER
34	y	226	GLN
34	y	228	MET
34	y	232	THR
34	y	234	LEU
34	y	236	GLN
34	y	237	LEU
34	y	242	SER
34	y	246	TRP

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Mol	Chain	Res	Type
34	y	248	GLU
34	y	254	GLU
34	y	257	HIS
34	y	259	LEU
34	y	265	LYS
34	y	268	LYS
34	y	278	LYS
34	y	285	LYS
34	y	290	LEU
34	y	299	LEU
34	y	303	SER
34	y	304	ARG
34	y	305	GLU
34	y	306	MET
34	y	323	LEU
34	y	324	LEU
34	y	327	LEU
34	y	340	ARG
34	y	341	LEU
34	y	342	LEU
34	y	343	ASP
34	y	347	ILE
34	y	350	GLU
34	y	351	LYS
34	y	354	ARG
34	y	355	LEU
34	y	358	LEU
34	y	359	LEU
34	y	380	LEU
34	y	381	GLN
34	y	420	LYS
34	y	530	LEU
34	y	724	LEU
35	q	187	HIS
35	q	249	VAL
38	t	544	ILE
39	u	9	ILE
39	u	99	PRO
39	u	117	THR
39	u	237	ILE
41	A	38	GLU
41	A	54	ARG

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Mol	Chain	Res	Type
41	A	55	ARG
41	A	157	VAL
41	A	185	THR
41	A	205	ILE
42	B	81	ARG
42	B	83	LYS
42	B	88	ARG
42	B	102	TYR
42	B	116	ARG
42	B	274	SER
42	B	276	ASP
42	B	279	LYS
42	B	283	GLU
42	B	284	VAL
42	B	378	PRO
42	B	402	ASP
42	B	404	LYS
42	B	407	LYS
42	B	430	VAL
42	B	453	LYS
42	B	466	LEU
43	p	94	ASN
43	p	127	GLU
43	p	151	LYS
43	p	167	ASN
43	p	170	THR
43	p	173	ASP
43	p	174	LYS
43	p	201	GLU
43	p	207	ASP
43	p	228	ASP
43	p	244	ARG
43	p	295	SER
43	p	332	PHE
43	p	361	ASP
43	p	465	LYS
43	p	476	ASN
43	p	500	ASN
43	p	550	ASN
43	p	639	ARG
44	z	5	LYS
44	z	65	LYS

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Mol	Chain	Res	Type
44	z	97	LYS
44	z	136	LEU
44	z	199	ILE
44	z	230	VAL
44	z	233	LYS
44	z	252	ILE
44	z	259	GLU
44	z	284	GLU
44	z	301	ILE
44	z	302	SER
44	z	338	GLU
45	x	21	VAL
45	x	23	ASP
45	x	71	LEU
45	x	76	ASN
45	x	82	ARG
45	x	191	ASP
47	Q	17	LEU
47	Q	54	LEU
47	Q	78	LEU
47	Q	120	GLN
47	Q	148	LEU
47	Q	373	LEU
47	Q	435	LEU
49	b	1	MET
50	k	349	VAL
50	k	370	THR
50	k	498	HIS
50	k	710	GLU
50	k	866	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (183) such sidechains are listed below:

Mol	Chain	Res	Type
2	C	24	HIS
2	C	70	ASN
2	C	110	ASN
2	C	113	GLN
3	E	100	GLN
3	E	121	HIS
3	E	220	ASN
3	E	262	HIS

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Mol	Chain	Res	Type
4	G	67	GLN
4	G	98	ASN
4	G	112	HIS
4	G	142	HIS
4	G	188	ASN
4	G	260	GLN
5	I	4	ASN
5	I	59	GLN
5	I	65	GLN
5	I	81	HIS
5	I	105	ASN
5	I	177	GLN
6	J	44	ASN
6	J	68	GLN
6	J	73	GLN
6	J	164	ASN
6	J	165	ASN
7	K	35	ASN
7	K	44	HIS
7	K	84	ASN
7	K	181	GLN
8	L	75	ASN
9	N	108	ASN
9	N	112	HIS
10	P	69	ASN
10	P	90	HIS
12	Y	56	HIS
12	Y	92	ASN
13	Z	16	HIS
15	c	51	GLN
16	i	113	ASN
18	F	101	GLN
18	F	159	HIS
18	F	207	HIS
19	H	29	GLN
19	H	31	ASN
19	H	51	HIS
19	H	74	ASN
19	H	95	HIS
19	H	114	ASN
19	H	118	ASN
19	H	149	GLN

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Mol	Chain	Res	Type
21	O	55	ASN
21	O	75	ASN
22	S	11	GLN
22	S	24	HIS
22	S	29	ASN
22	S	48	GLN
22	S	97	GLN
24	V	42	HIS
24	V	85	ASN
25	W	85	HIS
25	W	92	HIS
27	e	5	GLN
28	f	111	ASN
28	f	135	HIS
28	f	139	HIS
29	g	14	HIS
29	g	76	GLN
29	g	117	ASN
29	g	133	ASN
29	g	162	ASN
29	g	187	ASN
29	g	188	HIS
29	g	191	HIS
29	g	305	ASN
32	R	79	HIS
32	R	114	HIS
33	D	225	HIS
33	D	244	ASN
33	D	283	ASN
33	D	296	ASN
33	D	307	ASN
33	D	325	GLN
33	D	336	ASN
33	D	377	HIS
33	D	456	HIS
33	D	474	ASN
33	D	479	GLN
34	y	73	GLN
34	y	80	GLN
34	y	82	ASN
34	y	120	ASN
34	y	122	GLN

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Mol	Chain	Res	Type
34	y	179	GLN
34	y	180	GLN
34	y	204	HIS
34	y	207	GLN
34	y	209	GLN
34	y	229	HIS
34	y	236	GLN
34	y	274	ASN
34	y	292	HIS
34	y	301	HIS
34	y	309	ASN
34	y	352	GLN
34	y	381	GLN
34	y	434	ASN
34	y	565	HIS
34	y	728	GLN
35	q	139	HIS
35	q	187	HIS
35	q	199	HIS
36	r	54	GLN
36	r	109	HIS
36	r	116	HIS
36	r	141	GLN
36	r	212	ASN
36	r	261	ASN
36	r	272	GLN
36	r	276	GLN
36	r	279	GLN
36	r	324	ASN
36	r	329	ASN
36	r	348	GLN
37	s	22	ASN
37	s	93	HIS
37	s	113	HIS
37	s	144	HIS
37	s	169	GLN
37	s	200	ASN
38	t	281	HIS
38	t	366	GLN
38	t	427	ASN
38	t	443	GLN
38	t	495	HIS

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Mol	Chain	Res	Type
38	t	546	GLN
39	u	39	HIS
39	u	108	ASN
39	u	146	GLN
39	u	196	ASN
39	u	327	GLN
39	u	339	HIS
39	u	355	ASN
41	A	60	ASN
41	A	114	HIS
43	p	316	HIS
43	p	322	HIS
43	p	421	HIS
43	p	441	GLN
43	p	512	GLN
43	p	590	GLN
43	p	597	ASN
43	p	619	GLN
43	p	636	GLN
44	z	41	ASN
44	z	85	GLN
44	z	150	HIS
44	z	219	ASN
44	z	269	ASN
44	z	321	HIS
45	x	40	ASN
45	x	76	ASN
45	x	95	ASN
47	Q	181	ASN
47	Q	226	GLN
47	Q	256	GLN
47	Q	366	GLN
47	Q	433	GLN
47	Q	444	ASN
50	k	305	HIS
50	k	344	ASN
50	k	409	ASN
50	k	412	ASN
50	k	440	ASN
50	k	574	GLN
50	k	578	GLN
50	k	585	GLN

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Mol	Chain	Res	Type
50	k	627	GLN
50	k	639	GLN
50	k	649	GLN
50	k	807	ASN
50	k	816	GLN
50	k	824	HIS
50	k	857	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
17	2	1857/1863 (99%)	294 (15%)	20 (1%)
40	1	74/75 (98%)	13 (17%)	3 (4%)
All	All	1931/1938 (99%)	307 (15%)	23 (1%)

All (307) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
17	2	4	C
17	2	33	G
17	2	41	G
17	2	42	A
17	2	44	U
17	2	46	A
17	2	56	G
17	2	67	C
17	2	68	A
17	2	72	C
17	2	73	C
17	2	74	G
17	2	76	U
17	2	77	A
17	2	79	A
17	2	80	G
17	2	113	G
17	2	132	U
17	2	135	U
17	2	136	C
17	2	137	U
17	2	139	C
17	2	143	U

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Mol	Chain	Res	Type
17	2	147	A
17	2	148	U
17	2	181	A
17	2	182	C
17	2	191	C
17	2	197	U
17	2	202	U
17	2	224	U
17	2	226	A
17	2	228	A
17	2	229	A
17	2	230	C
17	2	233	A
17	2	238	G
17	2	242	G
17	2	265	G
17	2	267	G
17	2	271	G
17	2	272	C
17	2	274	G
17	2	275	C
17	2	276	U
17	2	278	U
17	2	279	G
17	2	283	A
17	2	284	C
17	2	296	U
17	2	297	C
17	2	299	G
17	2	300	G
17	2	309	A
17	2	310	G
17	2	311	C
17	2	315	C
17	2	316	C
17	2	317	G
17	2	322	G
17	2	337	G
17	2	347	C
17	2	352	C
17	2	354	A
17	2	358	U

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Mol	Chain	Res	Type
17	2	373	G
17	2	375	G
17	2	376	C
17	2	399	C
17	2	418	U
17	2	438	A
17	2	439	A
17	2	440	C
17	2	457	G
17	2	462	C
17	2	463	A
17	2	464	G
17	2	472	G
17	2	477	U
17	2	483	A
17	2	492	C
17	2	515	A
17	2	522	C
17	2	525	G
17	2	528	U
17	2	529	C
17	2	538	C
17	2	539	C
17	2	540	C
17	2	542	G
17	2	543	U
17	2	546	U
17	2	547	U
17	2	554	A
17	2	558	C
17	2	577	A
17	2	579	G
17	2	580	A
17	2	583	C
17	2	584	A
17	2	596	G
17	2	597	U
17	2	598	C
17	2	618	A
17	2	633	A
17	2	658	A
17	2	659	A

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Mol	Chain	Res	Type
17	2	661	A
17	2	662	A
17	2	677	C
17	2	678	U
17	2	679	U
17	2	680	G
17	2	690	C
17	2	691	G
17	2	698	C
17	2	700	A
17	2	710	C
17	2	732	C
17	2	734	C
17	2	735	C
17	2	737	C
17	2	738	U
17	2	739	U
17	2	740	G
17	2	742	C
17	2	743	U
17	2	744	C
17	2	748	G
17	2	749	C
17	2	753	C
17	2	754	C
17	2	756	U
17	2	757	C
17	2	761	G
17	2	767	A
17	2	768	G
17	2	769	C
17	2	773	G
17	2	775	G
17	2	779	C
17	2	780	G
17	2	781	C
17	2	791	A
17	2	794	G
17	2	795	U
17	2	798	A
17	2	800	U
17	2	801	U

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Mol	Chain	Res	Type
17	2	807	A
17	2	818	U
17	2	819	U
17	2	835	C
17	2	843	A
17	2	849	C
17	2	864	G
17	2	865	A
17	2	868	A
17	2	869	G
17	2	870	G
17	2	874	G
17	2	883	U
17	2	884	U
17	2	906	G
17	2	907	C
17	2	909	A
17	2	913	U
17	2	916	A
17	2	929	G
17	2	951	A
17	2	967	G
17	2	986	A
17	2	987	G
17	2	988	A
17	2	1004	A
17	2	1013	U
17	2	1019	A
17	2	1045	A
17	2	1057	U
17	2	1058	A
17	2	1081	C
17	2	1082	G
17	2	1103	G
17	2	1107	U
17	2	1109	A
17	2	1111	U
17	2	1112	C
17	2	1113	C
17	2	1115	A
17	2	1116	U
17	2	1117	G

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Mol	Chain	Res	Type
17	2	1144	A
17	2	1145	A
17	2	1150	U
17	2	1196	A
17	2	1211	C
17	2	1217	G
17	2	1219	A
17	2	1238	U
17	2	1247	A
17	2	1252	G
17	2	1253	G
17	2	1255	A
17	2	1260	C
17	2	1270	G
17	2	1271	G
17	2	1280	A
17	2	1281	G
17	2	1296	U
17	2	1297	A
17	2	1298	G
17	2	1299	C
17	2	1311	U
17	2	1367	U
17	2	1374	A
17	2	1391	C
17	2	1399	C
17	2	1406	C
17	2	1408	C
17	2	1413	C
17	2	1414	C
17	2	1415	C
17	2	1420	G
17	2	1427	G
17	2	1431	C
17	2	1433	C
17	2	1450	A
17	2	1471	G
17	2	1472	A
17	2	1473	U
17	2	1485	A
17	2	1486	G
17	2	1503	G

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Mol	Chain	Res	Type
17	2	1506	G
17	2	1507	U
17	2	1516	C
17	2	1517	A
17	2	1539	C
17	2	1547	G
17	2	1548	C
17	2	1549	C
17	2	1551	A
17	2	1575	A
17	2	1580	U
17	2	1583	A
17	2	1596	A
17	2	1616	U
17	2	1618	A
17	2	1632	A
17	2	1643	G
17	2	1659	A
17	2	1660	G
17	2	1666	G
17	2	1675	G
17	2	1678	C
17	2	1683	C
17	2	1697	G
17	2	1706	U
17	2	1707	A
17	2	1708	C
17	2	1716	U
17	2	1717	G
17	2	1743	G
17	2	1744	G
17	2	1747	C
17	2	1748	G
17	2	1755	U
17	2	1757	G
17	2	1759	C
17	2	1761	C
17	2	1762	A
17	2	1763	C
17	2	1765	G
17	2	1766	C
17	2	1767	C

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Mol	Chain	Res	Type
17	2	1768	C
17	2	1769	U
17	2	1777	C
17	2	1778	G
17	2	1784	A
17	2	1785	A
17	2	1816	A
17	2	1818	A
17	2	1819	A
17	2	1820	G
17	2	1823	G
17	2	1825	A
17	2	1829	A
17	2	1846	C
17	2	1855	G
17	2	1856	G
17	2	1858	U
17	2	1859	C
17	2	1863	A
40	1	9	U
40	1	11	G
40	1	15	A
40	1	16	G
40	1	17	C
40	1	18	G
40	1	19	G
40	1	21	A
40	1	43	G
40	1	45	G
40	1	47	U
40	1	61	C
40	1	75	C

All (23) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
17	2	74	G
17	2	271	G
17	2	275	C
17	2	528	U
17	2	529	C
17	2	697	U

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Mol	Chain	Res	Type
17	2	699	G
17	2	731	A
17	2	738	U
17	2	912	A
17	2	948	G
17	2	1012	U
17	2	1112	C
17	2	1270	G
17	2	1696	C
17	2	1716	U
17	2	1765	G
17	2	1767	C
17	2	1784	A
17	2	1857	A
40	1	8	G
40	1	17	C
40	1	18	G

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

2 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	$\#\|Z\| > 2$
40	T6A	1	37	40	31,34,35	1.42	4 (12%)	43,49,52	2.52	18 (41%)
17	I2T	2	1244	17	25,29,30	1.06	2 (8%)	28,42,45	2.92	2 (7%)

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
40	T6A	1	37	40	-	6/23/41/42	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
17	I2T	2	1244	17	-	9/16/34/35	0/2/2/2

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	1	37	T6A	C5-C4	4.75	1.47	1.39
17	2	1244	I2T	C4-C5	-3.55	1.39	1.47
40	1	37	T6A	C5-C6	2.82	1.48	1.41
40	1	37	T6A	C5-N7	-2.32	1.34	1.39
40	1	37	T6A	C8-N7	2.23	1.36	1.31
17	2	1244	I2T	C1'-C5	-2.13	1.45	1.50

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	2	1244	I2T	C1'-C5-C4	14.48	139.59	117.61
40	1	37	T6A	C12-N11-C10	8.53	136.19	121.99
40	1	37	T6A	C5-C4-N3	-5.54	119.09	126.72
40	1	37	T6A	N3-C4-N9	4.47	134.76	127.17
40	1	37	T6A	C14-C12-C13	3.74	116.55	110.03
40	1	37	T6A	C2-N3-C4	3.71	120.88	111.83
40	1	37	T6A	N3-C2-N1	-3.68	123.00	128.58
17	2	1244	I2T	C4-N3-C2	-3.67	121.10	125.62
40	1	37	T6A	C2'-C1'-N9	-3.58	104.41	113.30
40	1	37	T6A	C4-C5-N7	-3.57	106.50	110.58
40	1	37	T6A	C6-C5-N7	3.49	136.23	132.43
40	1	37	T6A	C4-N9-C8	2.86	108.74	105.74
40	1	37	T6A	O10-C10-N6	-2.85	118.57	123.64
40	1	37	T6A	C5-N7-C8	2.74	107.75	103.45
40	1	37	T6A	C14-C12-N11	2.61	118.62	111.70
40	1	37	T6A	C2-N1-C6	2.25	122.70	115.24
40	1	37	T6A	N9-C8-N7	-2.17	110.86	113.94
40	1	37	T6A	N6-C10-N11	2.16	116.74	113.77
40	1	37	T6A	O4'-C1'-N9	2.12	112.16	108.09
40	1	37	T6A	N6-C6-N1	2.06	122.87	117.54

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
17	2	1244	I2T	C32-C31-N3-C2

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Mol	Chain	Res	Type	Atoms
17	2	1244	I2T	C32-C31-N3-C4
17	2	1244	I2T	C31-C32-C33-C34
17	2	1244	I2T	C31-C32-C33-N34
40	1	37	T6A	C14-C12-N11-C10
40	1	37	T6A	N11-C12-C13-ODB
17	2	1244	I2T	C32-C33-C34-O36
17	2	1244	I2T	C32-C33-C34-O35
40	1	37	T6A	N11-C12-C13-ODA
17	2	1244	I2T	N3-C31-C32-C33
17	2	1244	I2T	N34-C33-C34-O36
40	1	37	T6A	O4'-C4'-C5'-O5'
40	1	37	T6A	C13-C12-N11-C10
40	1	37	T6A	C13-C12-C14-C15
17	2	1244	I2T	N34-C33-C34-O35

There are no ring outliers.

2 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	1	37	T6A	1	0
17	2	1244	I2T	22	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
17	2	19
51	h	2
40	1	2
48	j	2
50	k	1
2	C	1
31	U	1
14	a	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	2	716:G	O3'	717:U	P	4.79
1	2	776:U	O3'	777:C	P	4.39
1	h	458:LEU	C	459:PRO	N	4.33
1	2	698:C	O3'	699:G	P	4.26
1	k	859:THR	C	860:TYR	N	4.22
1	2	139:C	O3'	140:U	P	4.17
1	2	222:G	O3'	223:A	P	4.10
1	2	781:C	O3'	782:G	P	3.81
1	2	680:G	O3'	681:G	P	3.12
1	2	127:C	O3'	128:U	P	3.11
1	C	206:ASP	C	207:PRO	N	2.95
1	U	142:ARG	C	143:GLY	N	2.92
1	2	674:G	O3'	675:A	P	2.74
1	2	787:C	O3'	788:C	P	2.21
1	1	17:C	O3'	18:G	P	1.99
1	2	800:U	O3'	801:U	P	1.91
1	1	18:G	O3'	19:G	P	1.87
1	2	350:A	O3'	351:U	P	1.84
1	2	731:A	O3'	732:C	P	1.80
1	2	283:A	O3'	284:C	P	1.78
1	a	9:THR	C	10:ARG	N	1.60
1	2	80:G	O3'	81:U	P	1.34
1	2	743:U	O3'	744:C	P	1.28
1	j	278:GLN	C	279:SER	N	1.19
1	2	948:G	O3'	949:C	P	0.98
1	j	271:ALA	C	272:LYS	N	0.98
1	2	1696:C	O3'	1697:G	P	0.92
1	h	951:THR	C	952:LYS	N	0.78
1	2	1195:A	O3'	1196:A	P	0.28

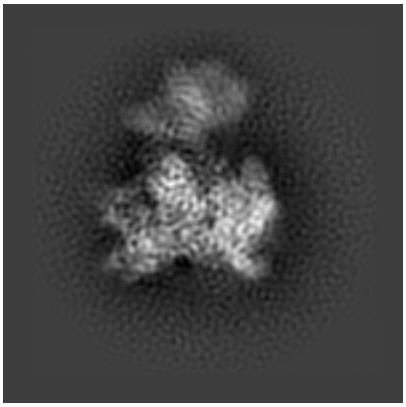
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-3057. These allow visual inspection of the internal detail of the map and identification of artifacts.

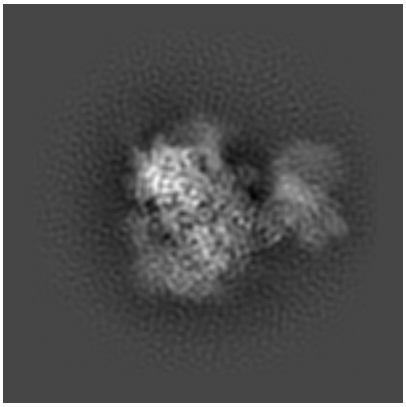
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

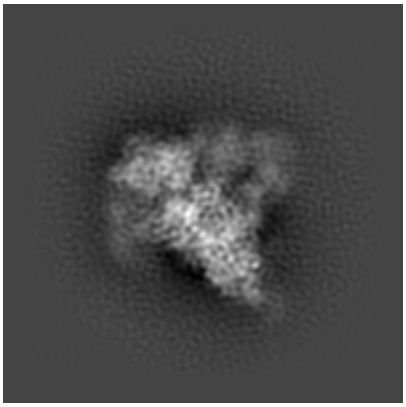
6.1.1 Primary map



X



Y

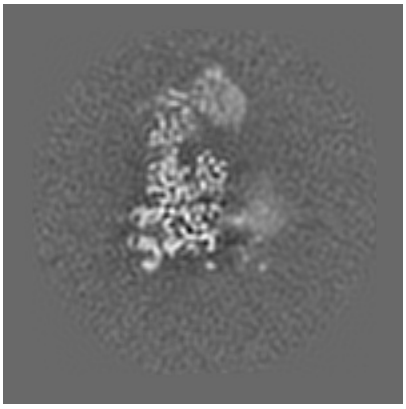


Z

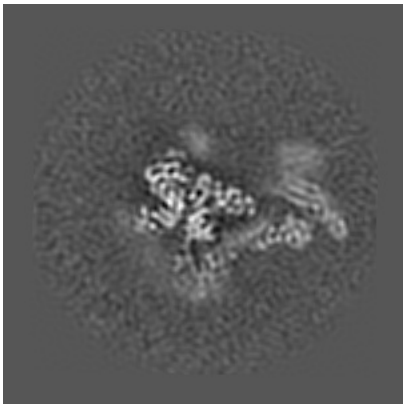
The images above show the map projected in three orthogonal directions.

6.2 Central slices

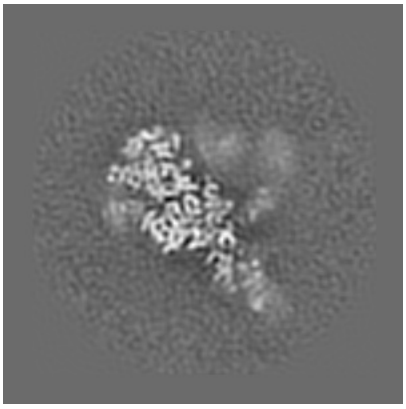
6.2.1 Primary map



X Index: 150



Y Index: 150

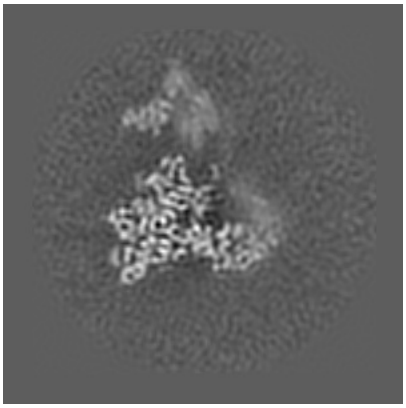


Z Index: 150

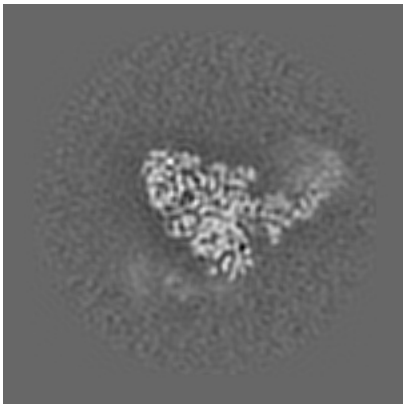
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

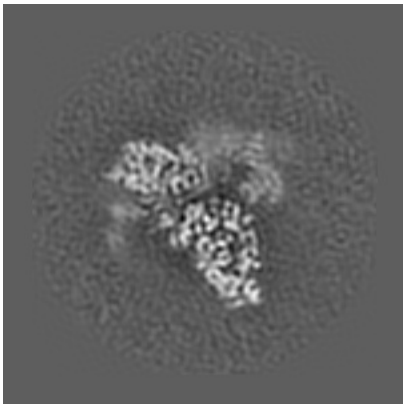
6.3.1 Primary map



X Index: 164



Y Index: 127

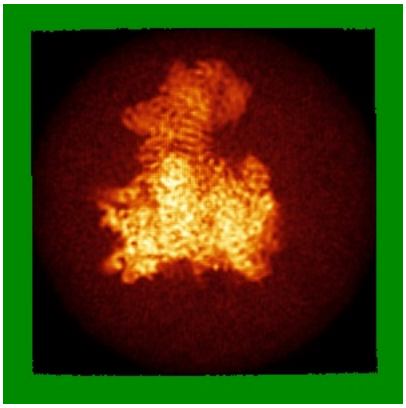


Z Index: 136

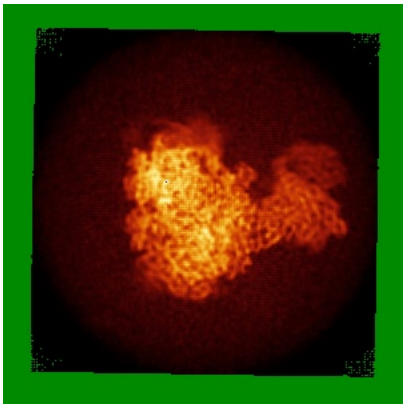
The images above show the largest variance slices of the map in three orthogonal directions.

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

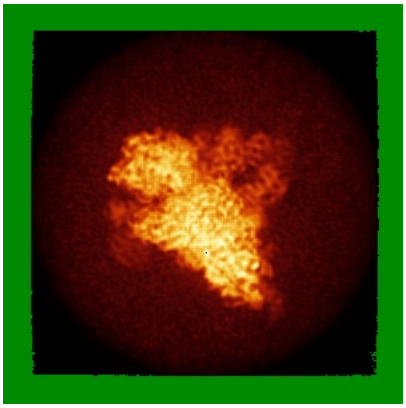
6.4.1 Primary map



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 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

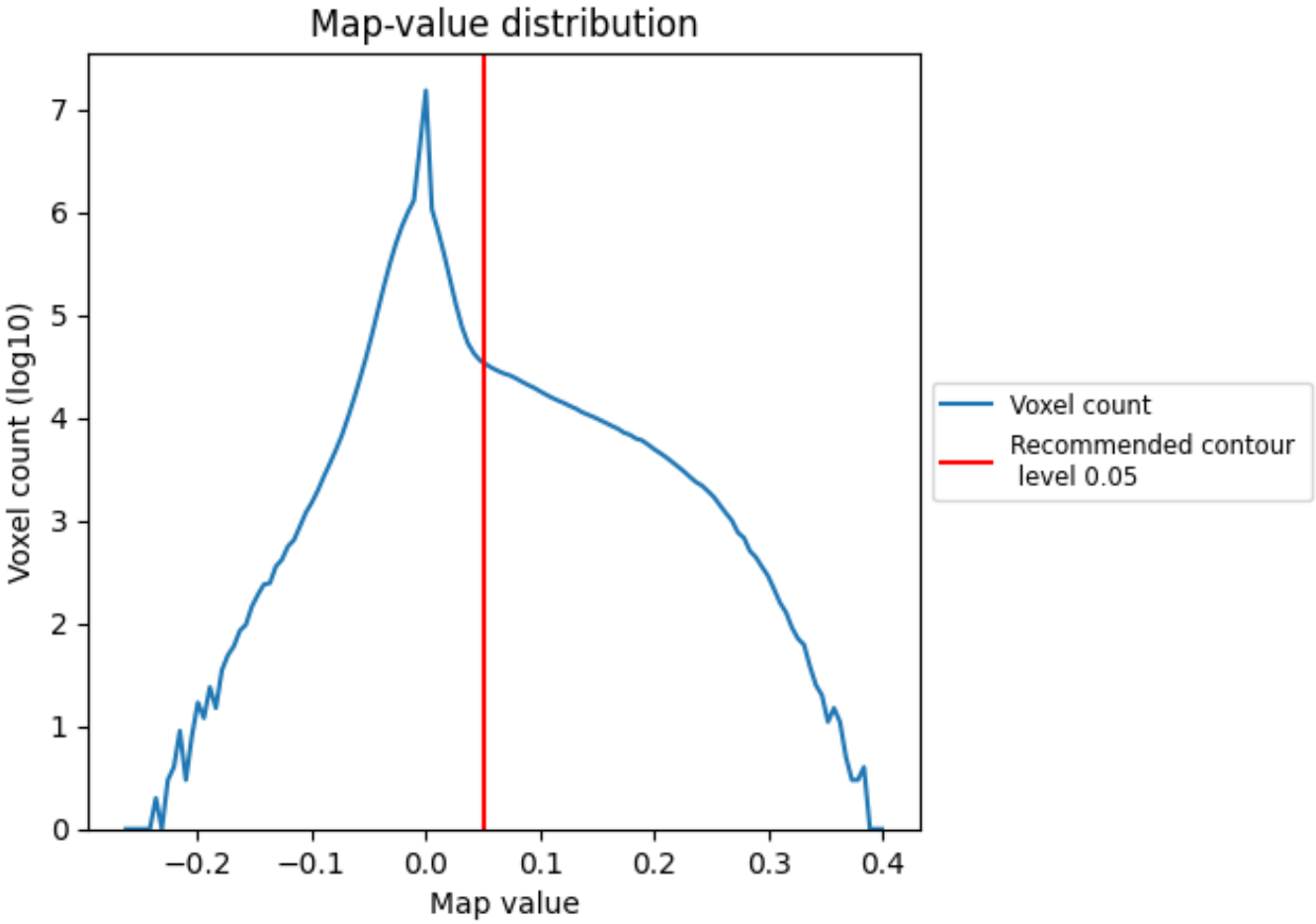
6.6 Mask visualisation (i)

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

7 Map analysis

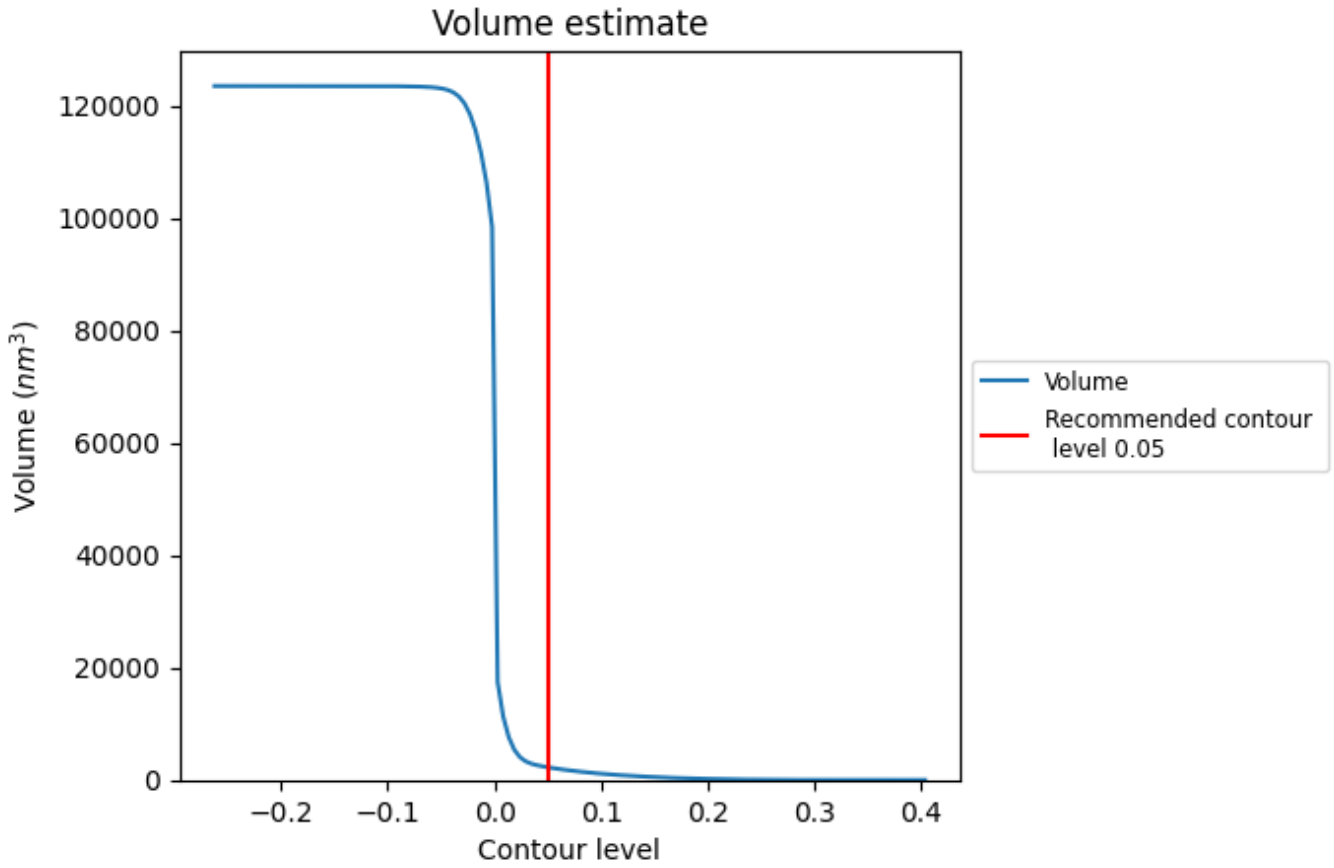
This section contains the results of statistical analysis of the map.

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.

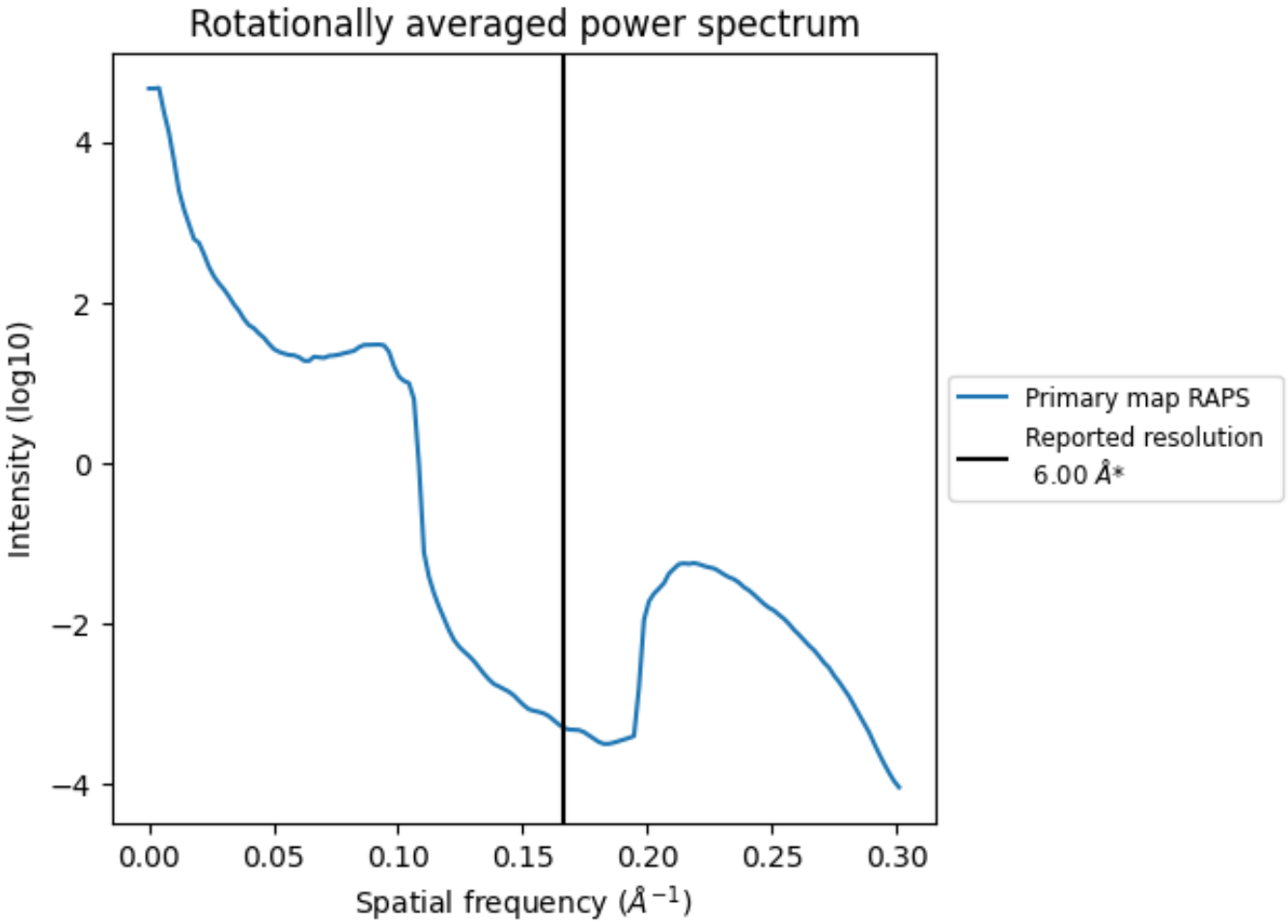
7.2 Volume estimate



The volume at the recommended contour level is 2255 nm^3; this corresponds to an approximate mass of 2037 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 0.167 Å^{-1}

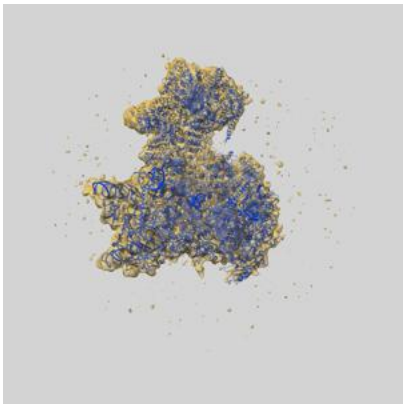
8 Fourier-Shell correlation

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

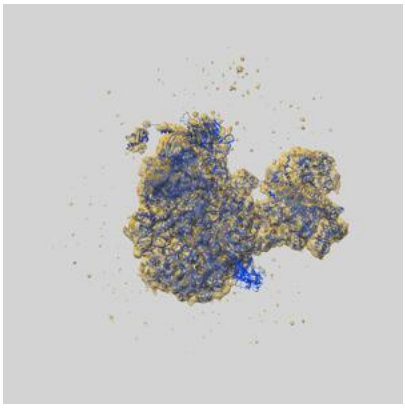
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-3057 and PDB model 9CPA. Per-residue inclusion information can be found in section 3 on page 14.

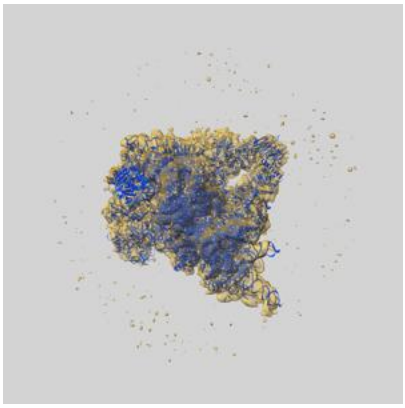
9.1 Map-model overlay



X



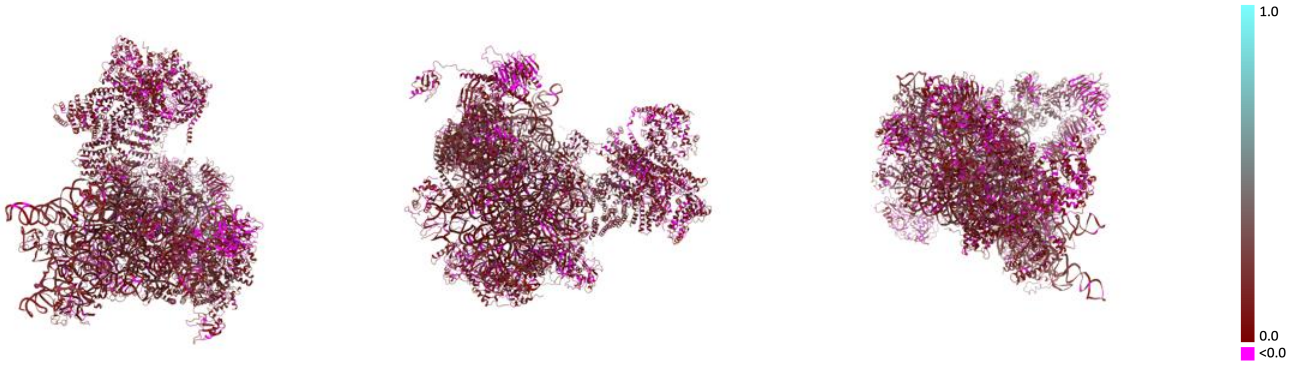
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 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.

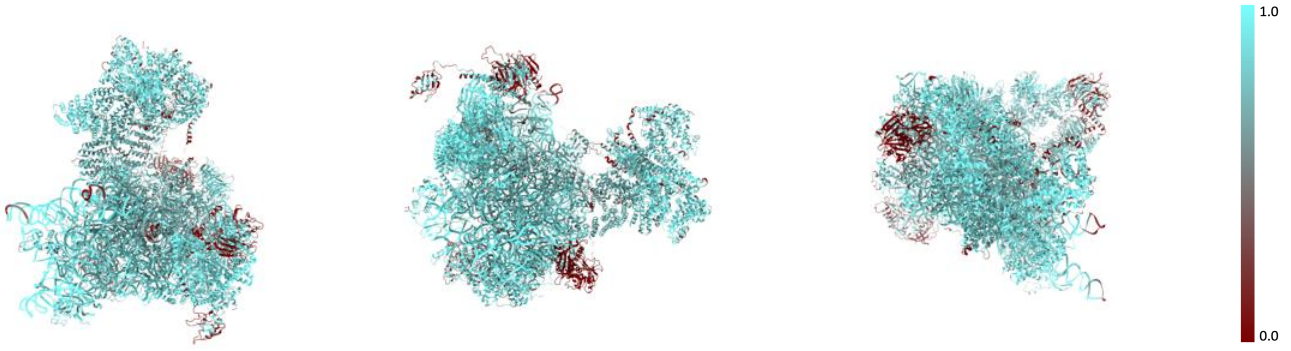
9.2 Q-score mapped to coordinate model (i)



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.

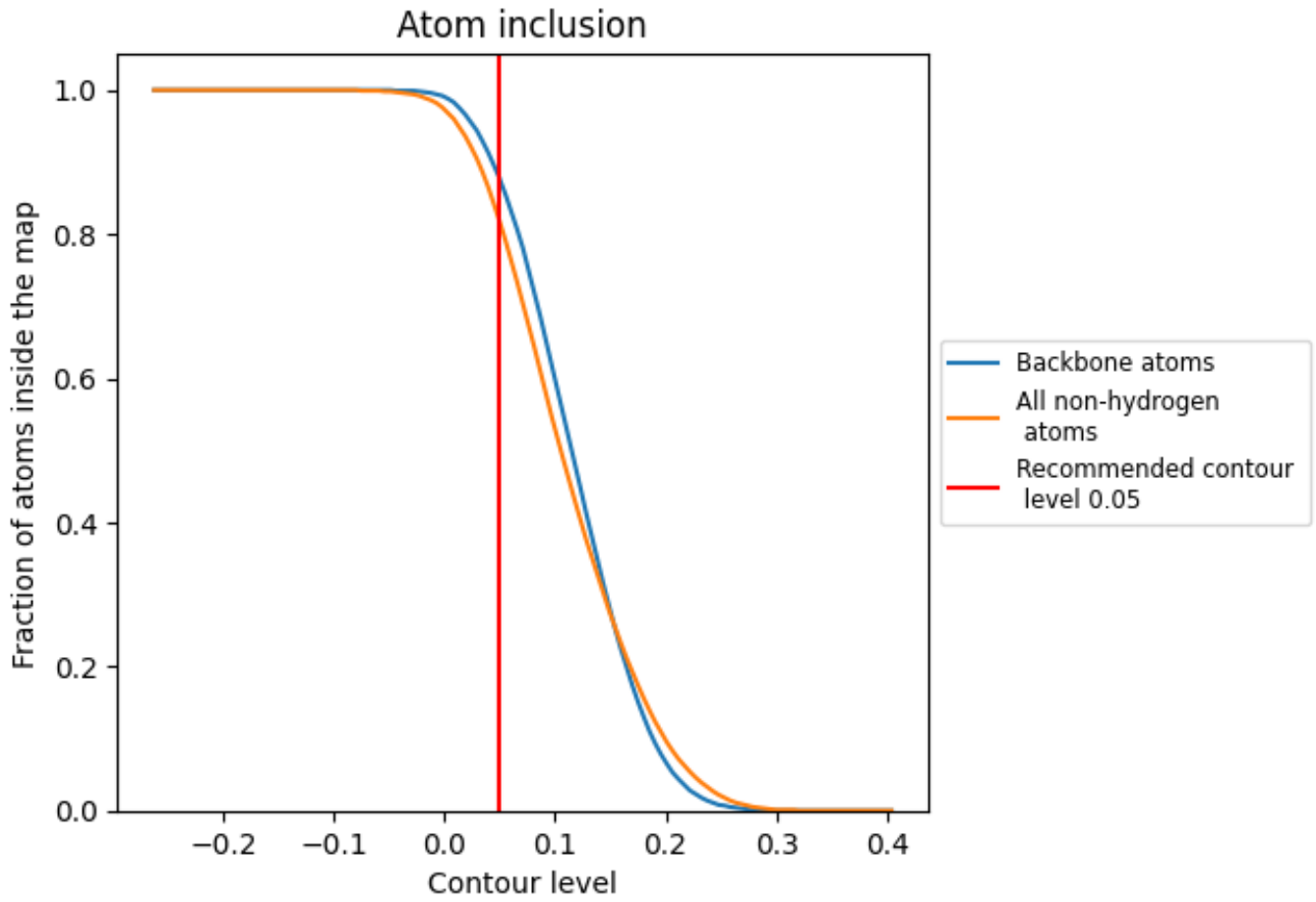
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 88% of all backbone atoms, 82% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8170	0.1180
0	0.7620	0.0720
1	0.7230	0.1380
2	0.9560	0.1590
A	0.5760	0.0830
B	0.3710	0.0370
C	0.7730	0.1130
D	0.1740	0.0740
E	0.7290	0.0960
F	0.7660	0.0960
G	0.8260	0.0970
H	0.7940	0.0940
I	0.8920	0.1120
J	0.7920	0.1100
K	0.8660	0.1010
L	0.7700	0.1100
M	0.8400	0.1190
N	0.7990	0.0980
O	0.8150	0.0960
P	0.7990	0.1250
Q	0.8550	0.1150
R	0.8710	0.0970
S	0.8610	0.0870
T	0.7850	0.1230
U	0.8960	0.1120
V	0.8780	0.1050
W	0.8060	0.1040
X	0.7880	0.1120
Y	0.7630	0.0930
Z	0.7780	0.0890
a	0.8690	0.1100
b	0.7420	0.1040
c	0.7700	0.0880
d	0.7610	0.1340
e	0.7540	0.0420

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Chain	Atom inclusion	Q-score
f	0.8600	0.0820
g	0.8730	0.1130
h	0.9430	0.1700
i	0.6790	0.0780
j	0.9080	0.1040
k	0.7850	0.1140
l	0.6210	0.0730
n	0.8800	0.1350
p	0.6920	0.0970
q	0.8710	0.0850
r	0.7740	0.0740
s	0.8300	0.0670
t	0.8360	0.0720
u	0.8960	0.1030
x	0.8330	0.1240
y	0.8220	0.1310
z	0.3160	0.0080