Full wwPDB EM Validation Report

Mar 9, 2026 – 04:31 AM UTC

PDB ID	:	6M62 / pdb_00006m62
EMDB ID	:	EMD-30108
Title	:	Cryo-Em structure of eukaryotic pre-60S ribosome subunit from Saccharomyces cerevisiae rpf2 delta 255-344 strain, C4 state.
Authors	:	Li, Y.; Micic, J.
Deposited on	:	2020-03-12
Resolution	:	3.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

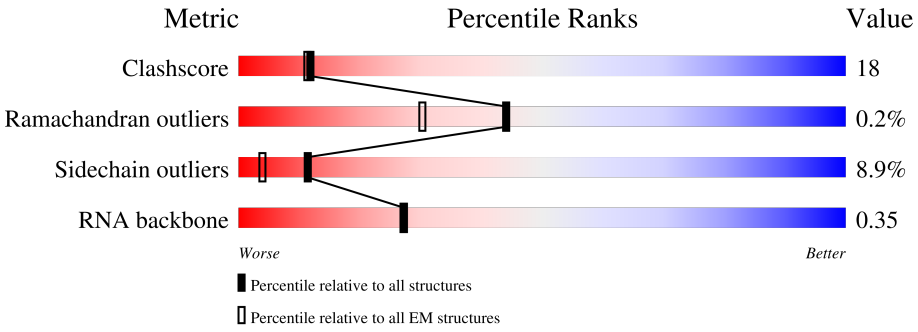
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

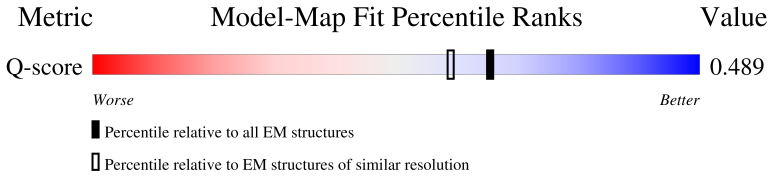
1 Overall quality at a glance

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

The reported resolution of this entry is 3.20 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15020 (2.70 - 3.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	3396	37% 34% 17% 12%
2	2	158	55% 37% 8%
3	3	121	25% 13% 48% 39%

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Mol	Chain	Length	Quality of chain
4	4	593	87% 46% 37% 13%
5	5	120	57% 33% 28% 39%
6	6	232	14% 10% 72%
7	A	254	8% 55% 26% 16%
8	B	387	5% 59% 36%
9	C	362	69% 28%
10	D	297	70% 40% 49% 7%
11	E	176	59% 27% 11%
12	F	244	65% 23% 9%
13	G	256	6% 57% 30% 9%
14	H	191	63% 30% 6%
15	I	166	22% 45% 33% 21%
16	J	174	71% 48% 43% 6%
17	K	376	23% 26% 39% 32%
18	L	199	11% 56% 33% 5% 6%
19	M	138	65% 29% 5%
20	N	204	11% 67% 31%
21	O	199	86% 13%
22	P	184	8% 68% 30%
23	Q	186	49% 20% 28%
24	R	189	5% 61% 20% 17%
25	S	172	5% 55% 41%
26	T	160	16% 38% 33% 26%
27	U	121	16% 55% 30% 12%
28	V	137	62% 34%

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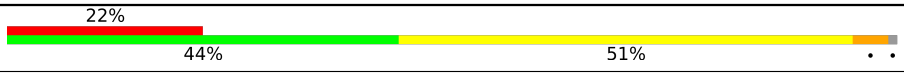
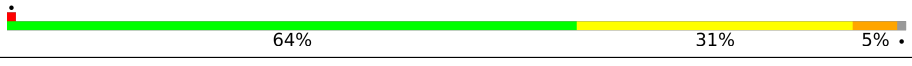
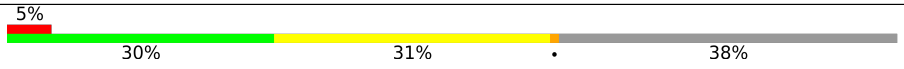
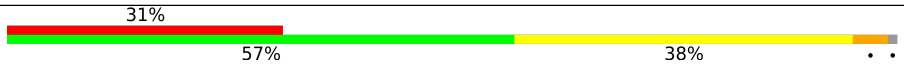
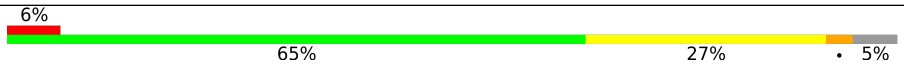
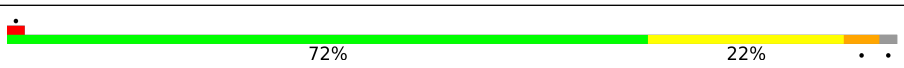
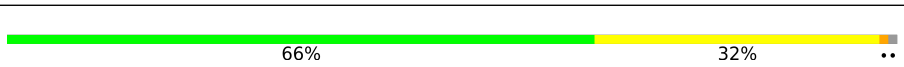
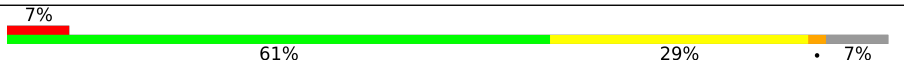
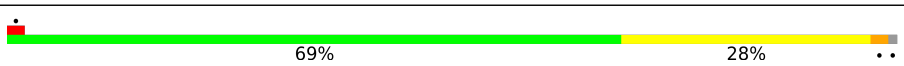
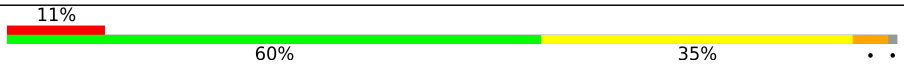
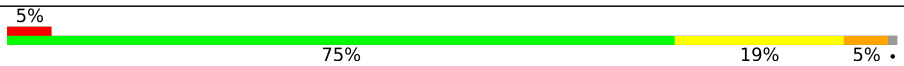
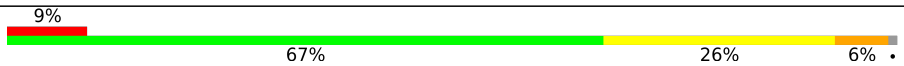
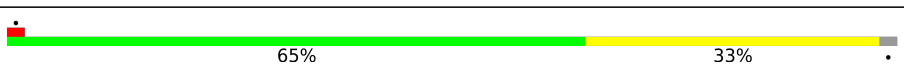
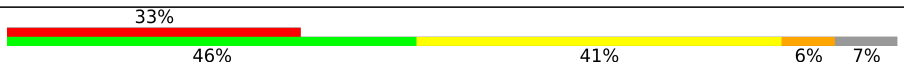
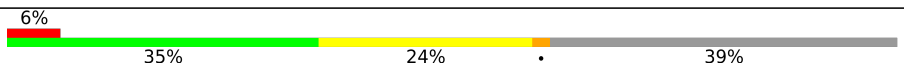
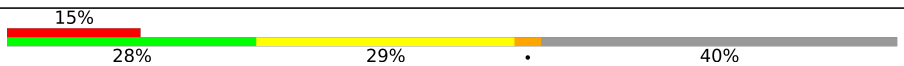
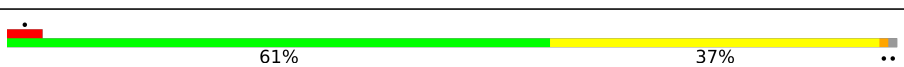
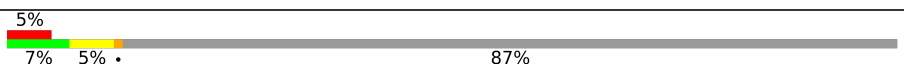
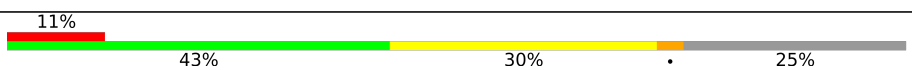
Mol	Chain	Length	Quality of chain
29	W	236	
30	X	142	
31	Y	127	
32	Z	136	
33	a	149	
34	b	647	
35	c	105	
36	d	113	
37	e	130	
38	f	107	
39	g	121	
40	h	120	
41	i	100	
42	j	88	
43	k	78	
44	l	51	
45	m	486	
46	n	605	
47	o	220	
48	p	92	
49	q	455	
50	r	261	
51	s	520	
52	t	322	
53	u	199	

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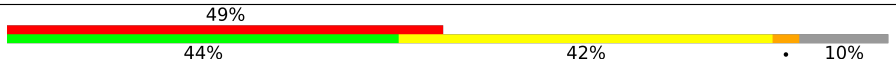
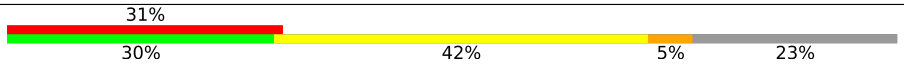
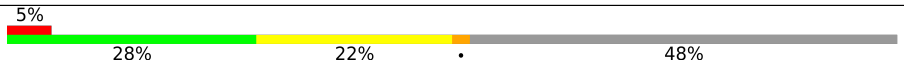
Mol	Chain	Length	Quality of chain
54	v	254	
55	w	203	
56	x	515	
57	y	245	
58	z	106	

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
60	GTP	b	701	-	-	X	-

2 Entry composition

There are 61 unique types of molecules in this entry. The entry contains 153289 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 RNA chain called RDN25-1 rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	2972	63583	28398	11464	20749	2972	0	0

- Molecule 2 is a RNA chain called RDN58-1 rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	2	158	3353	1500	586	1109	158	0	0

- Molecule 3 is a RNA chain called RDN5-2 rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	3	121	2579	1152	461	845	121	0	0

- Molecule 4 is a protein called Probable metalloprotease ARX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	4	516	3999	2530	688	766	15	0	0

- Molecule 5 is a protein called rRNA-processing protein CGR1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	5	73	645	395	133	114	3	0	0

- Molecule 6 is a RNA chain called ITS2-1 miscRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	6	65	1370	614	228	463	65	0	0

- Molecule 7 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A	213	Total	C	N	O	S	0	0
			1634	1023	326	284	1		

- Molecule 8 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	B	386	Total	C	N	O	S	0	0
			3081	1956	584	533	8		

- Molecule 9 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	C	361	Total	C	N	O	S	0	0
			2749	1730	522	494	3		

- Molecule 10 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	D	276	Total	C	N	O	S	0	0
			2211	1397	391	421	2		

- Molecule 11 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	E	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 12 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	F	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 13 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G	233	Total	C	N	O	S	0	0
			1817	1159	326	329	3		

- Molecule 14 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 15 is a protein called Bud site selection protein 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	I	131	Total	C	N	O	S	0	0
			1059	662	195	198	4		

- Molecule 16 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 17 is a protein called Proteasome-interacting protein CIC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	K	256	Total	C	N	O	S	0	0
			2064	1332	342	387	3		

- Molecule 18 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	L	187	Total	C	N	O	0	0
			1499	934	307	258		

- Molecule 19 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	M	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 20 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 21 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	O	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 22 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	P	183	Total	C	N	O	0	0
			1442	896	287	259		

- Molecule 23 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Q	134	Total	C	N	O	S	0	0
			1035	659	196	179	1		

- Molecule 24 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	R	156	Total	C	N	O	0	0
			1258	781	265	212		

- Molecule 25 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	S	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 26 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	T	119	Total	C	N	O	S	0	0
			943	595	180	165	3		

- Molecule 27 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	U	106	Total	C	N	O	0	0
			844	545	138	161		

- Molecule 28 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 29 is a protein called Ribosome assembly factor MRT4.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	W	234	Total	C	N	O	S	0	0
			1885	1194	323	362	6		

- Molecule 30 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	X	141	Total	C	N	O	S	0	0
			1100	705	196	197	2		

- Molecule 31 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	Y	126	Total	C	N	O	0	0
			993	625	192	176		

- Molecule 32 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	Z	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 33 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	a	93	Total	C	N	O	S	0	0
			735	479	130	125	1		

- Molecule 34 is a protein called Nucleolar GTP-binding protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	b	642	Total	C	N	O	S	0	0
			5185	3251	938	970	26		

- Molecule 35 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	c	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 36 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	d	107	Total	C	N	O	S	0	0
			873	553	165	154	1		

- Molecule 37 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	e	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 38 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 39 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	g	112	Total	C	N	O	S	0	0
			881	546	179	152	4		

- Molecule 40 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	h	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 41 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	i	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 42 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 43 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	k	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 44 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 45 is a protein called Nucleolar GTP-binding protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	m	453	Total	C	N	O	S	0	0
			3648	2308	657	674	9		

- Molecule 46 is a protein called Pescadillo homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	n	371	Total	C	N	O	S	0	0
			3030	1963	523	534	10		

- Molecule 47 is a protein called Ribosome biogenesis protein 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	o	133	Total	C	N	O	S	0	0
			1107	716	198	189	4		

- Molecule 48 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 49 is a protein called Ribosome biogenesis protein NOP53.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	q	151	Total	C	N	O	S	0	0
			1258	793	226	238	1		

- Molecule 50 is a protein called Ribosome biogenesis protein NSA2.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	r	230	Total	C	N	O	S	0	0
			1860	1177	352	324	7		

- Molecule 51 is a protein called Nuclear GTP-binding protein NUG1.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	s	69	Total	C	N	O	S	0	0
			573	359	113	98	3		

- Molecule 52 is a protein called Ribosome biogenesis protein RLP7.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	t	287	Total	C	N	O	S	0	0
			2306	1459	427	417	3		

- Molecule 53 is a protein called Ribosome biogenesis protein RLP24.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	u	150	Total	C	N	O	S	0	0
			1265	793	253	210	9		

- Molecule 54 is a protein called Ribosome biogenesis protein RPF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	v	245	Total	C	N	O	S	0	0
			1985	1275	344	353	13		

- Molecule 55 is a protein called Regulator of ribosome biosynthesis.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	w	182	Total	C	N	O	S	0	0
			1448	911	261	271	5		

- Molecule 56 is a protein called Ribosome assembly protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	x	395	Total	C	N	O	S	0	0
			3093	1941	559	573	20		

- Molecule 57 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	y	244	Total	C	N	O	S	0	0
			1849	1146	319	377	7		

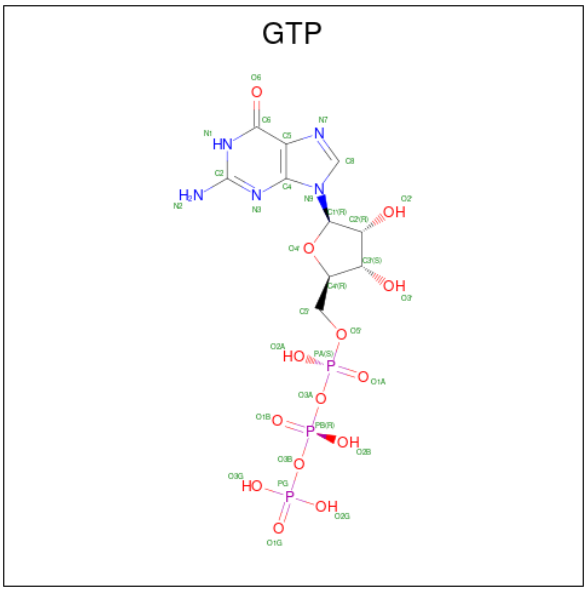
- Molecule 58 is a protein called UPF0642 protein YBL028C.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	z	55	Total	C	N	O	0	0
			444	273	88	83		

- Molecule 59 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
59	I	1	Total	Zn	0
			1	1	
59	j	1	Total	Zn	0
			1	1	
59	p	1	Total	Zn	0
			1	1	
59	u	1	Total	Zn	0
			1	1	

- Molecule 60 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
60	b	1	Total	C	N	O	P	0
			32	10	5	14	3	
60	m	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 61 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

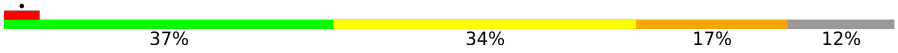
Mol	Chain	Residues	Atoms		AltConf
61	b	1	Total	Mg	0
			1	1	
61	m	1	Total	Mg	0
			1	1	

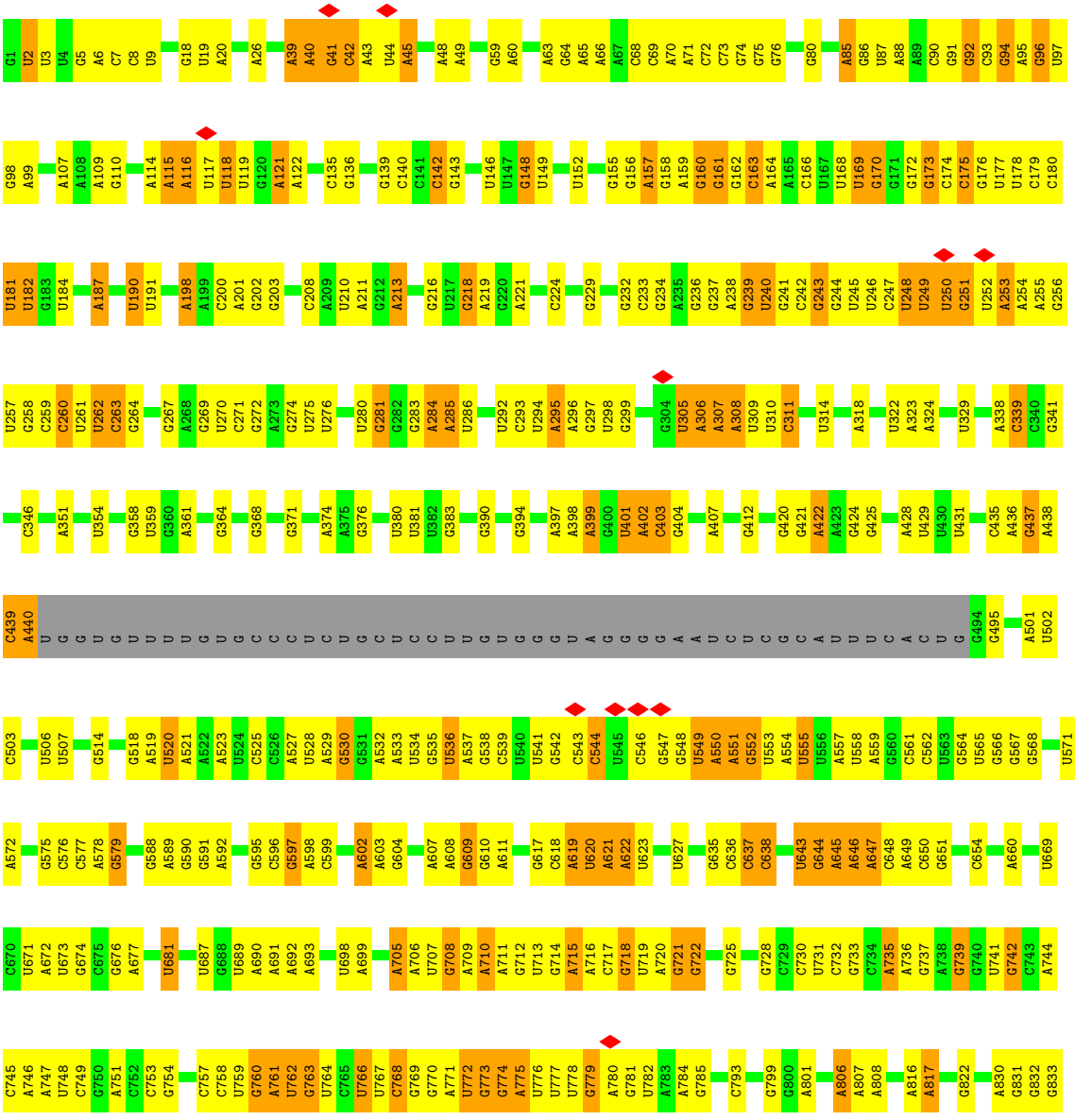
3 Residue-property plots (i)

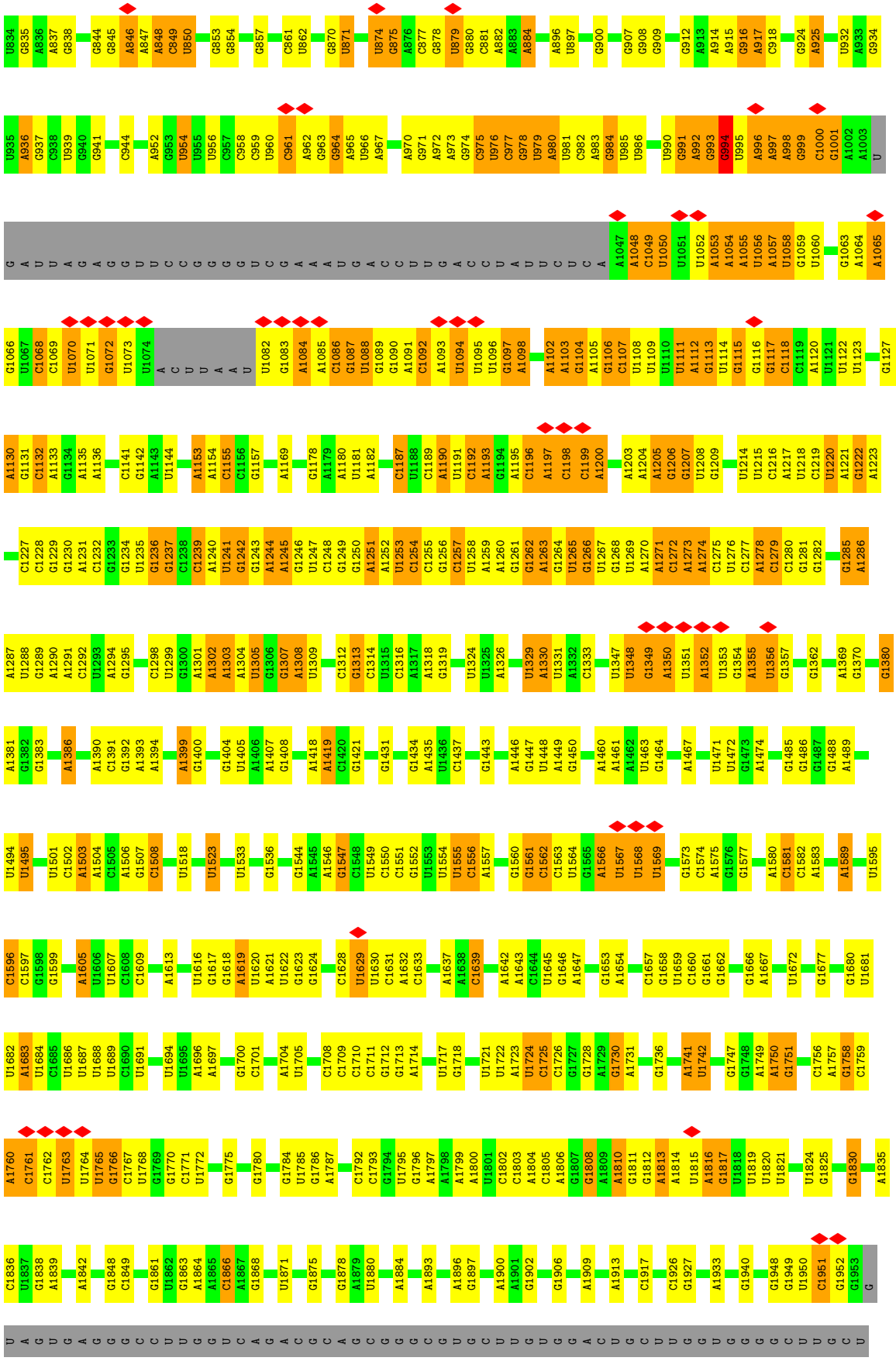
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

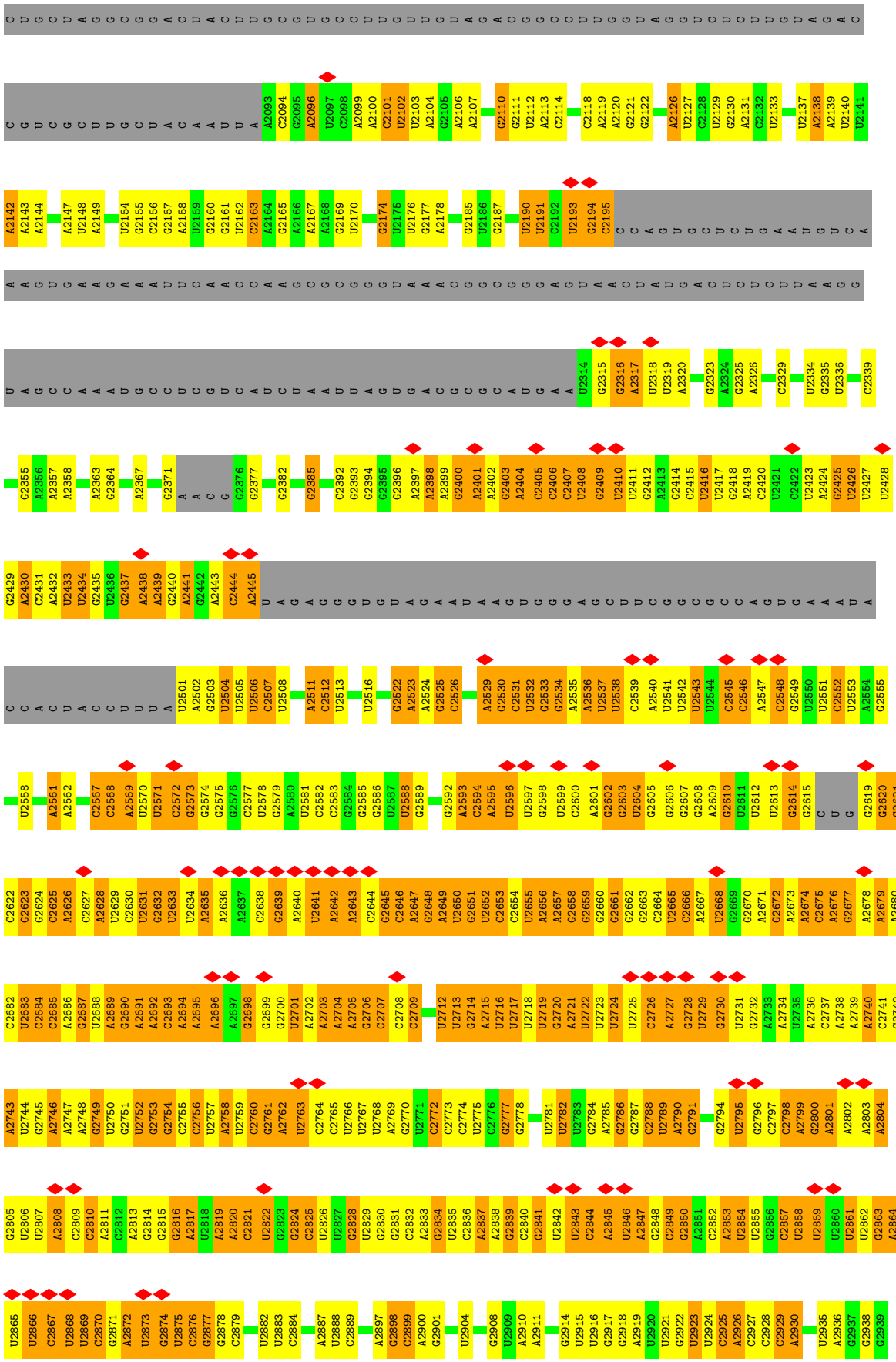
- Molecule 1: RDN25-1 rRNA

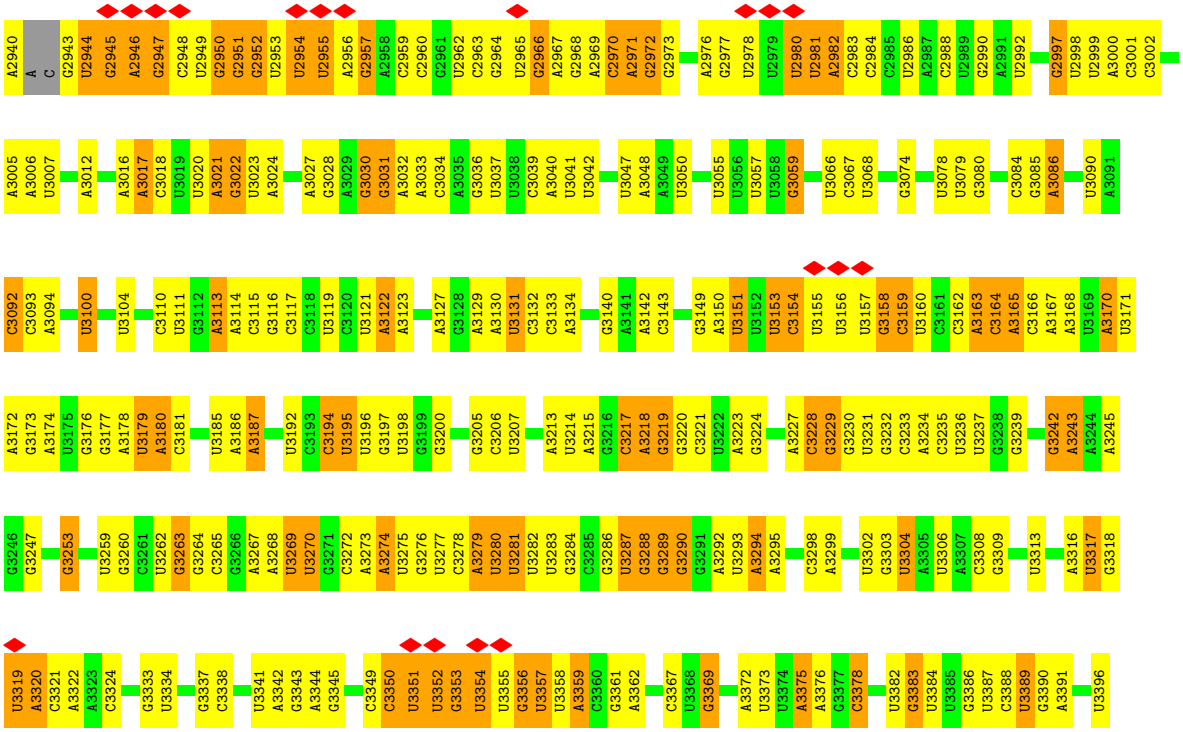
Chain 1:







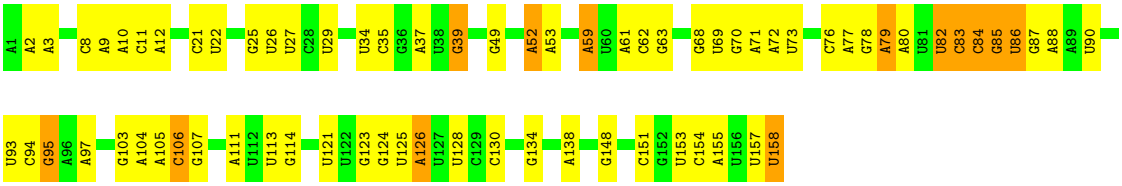




• Molecule 2: RDN58-1 rRNA

Chain 2:

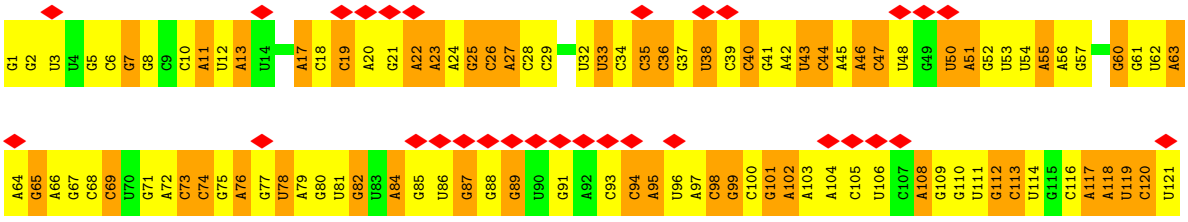




• Molecule 3: RDN5-2 rRNA

Chain 3:

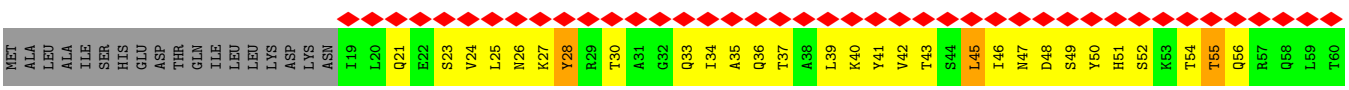


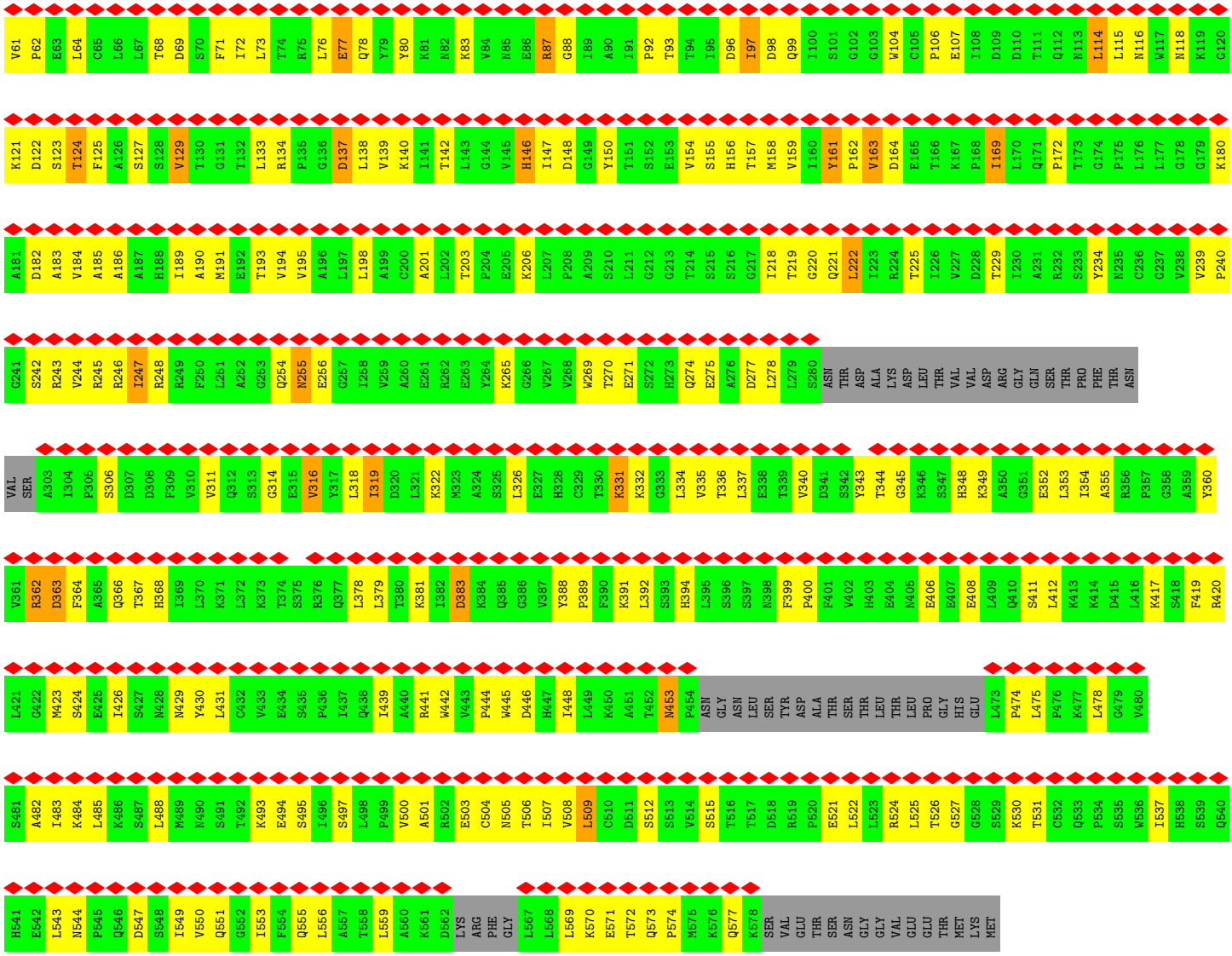


• Molecule 4: Probable metalloprotease ARX1

Chain 4:

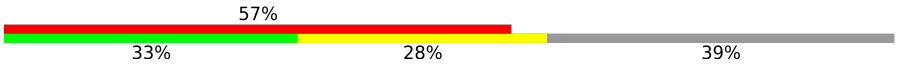


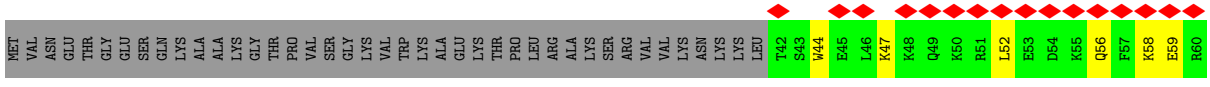


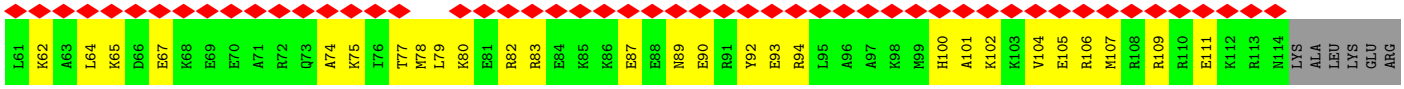


• Molecule 5: rRNA-processing protein CGR1

Chain 5:





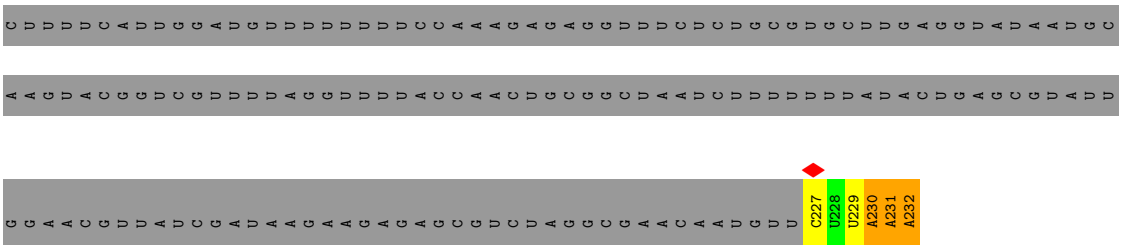


• Molecule 6: ITS2-1 miscRNA

Chain 6:



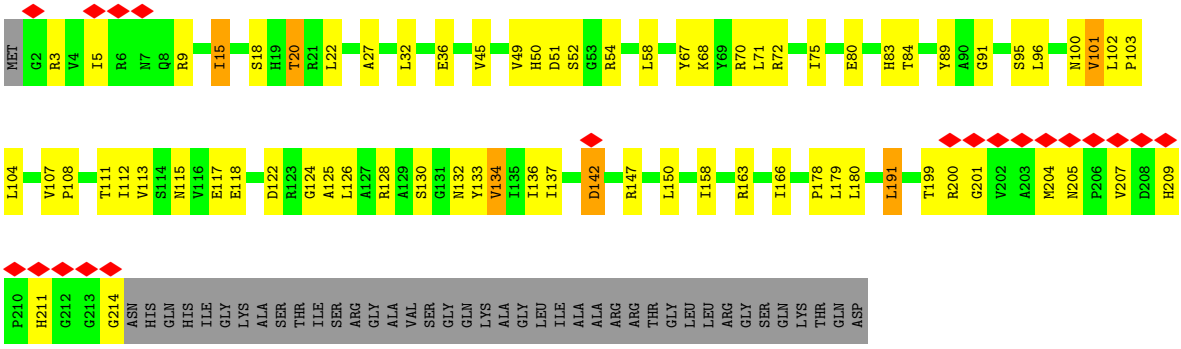




• Molecule 7: 60S ribosomal protein L2-A

Chain A:

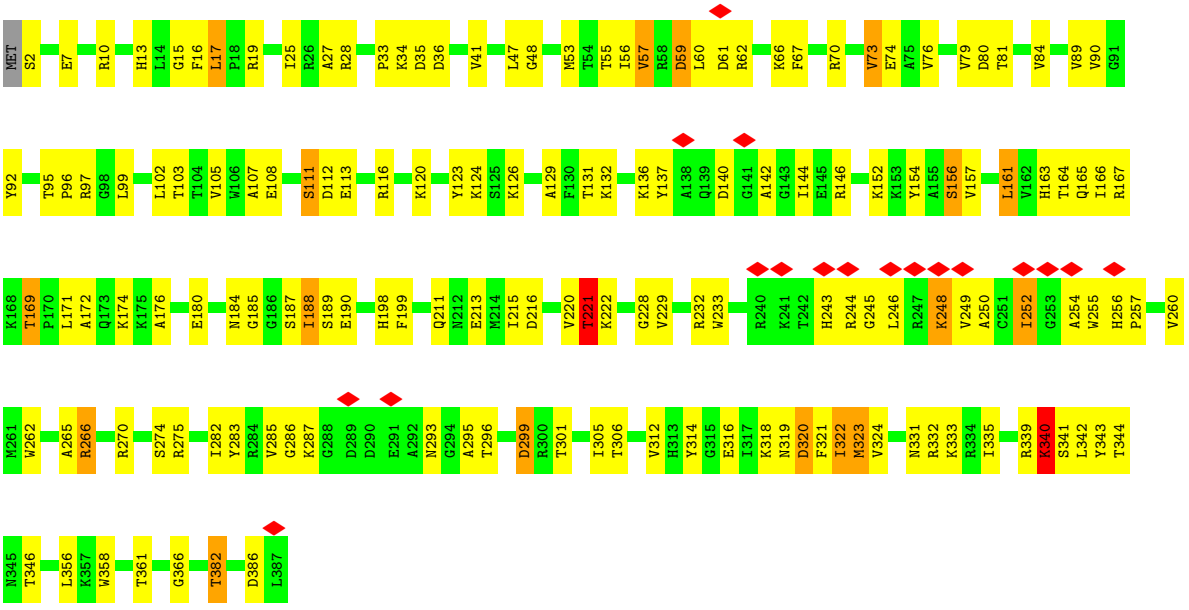




• Molecule 8: 60S ribosomal protein L3

Chain B:

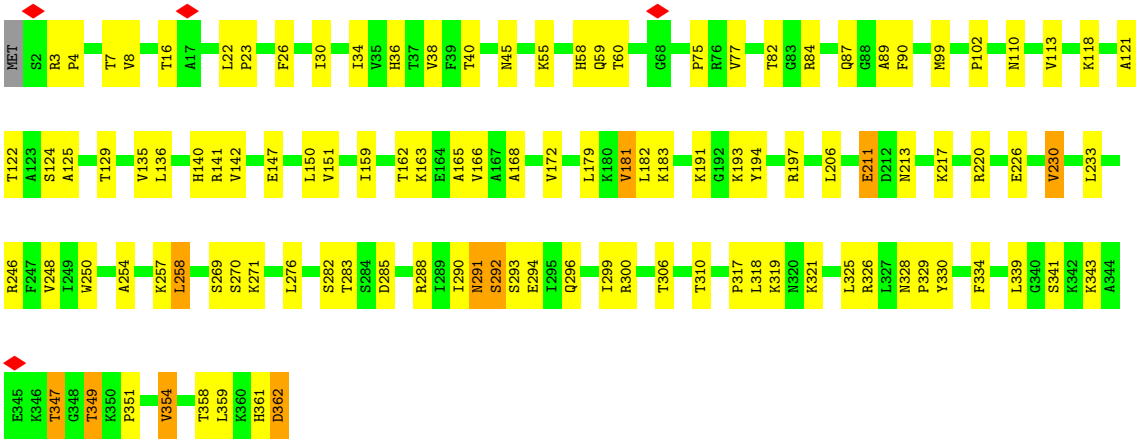




• Molecule 9: 60S ribosomal protein L4-A

Chain C:

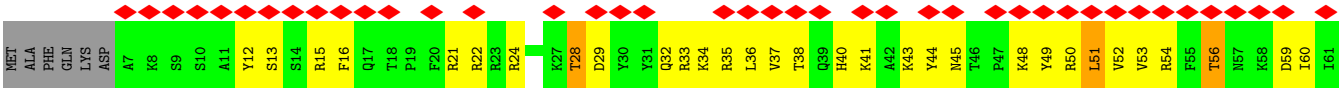


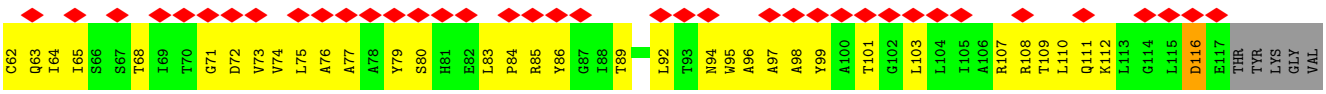


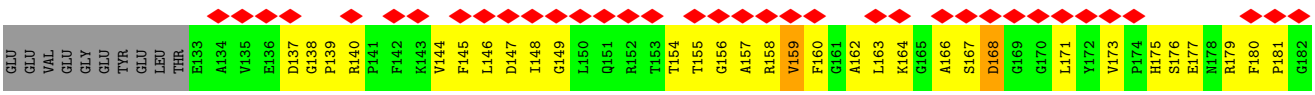
• Molecule 10: 60S ribosomal protein L5

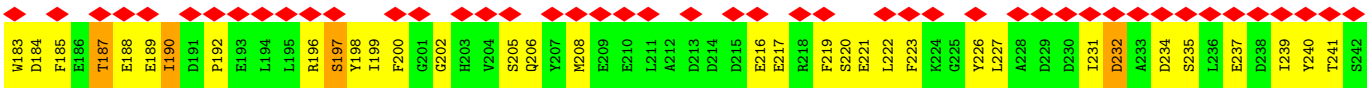
Chain D:

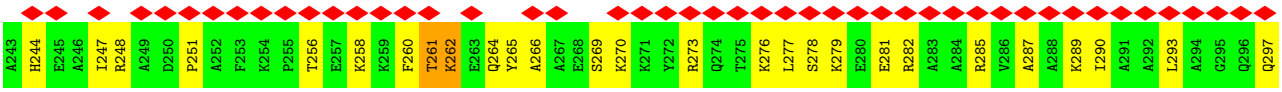








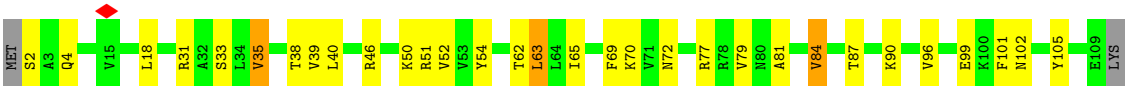




• Molecule 11: 60S ribosomal protein L6-A

Chain E:



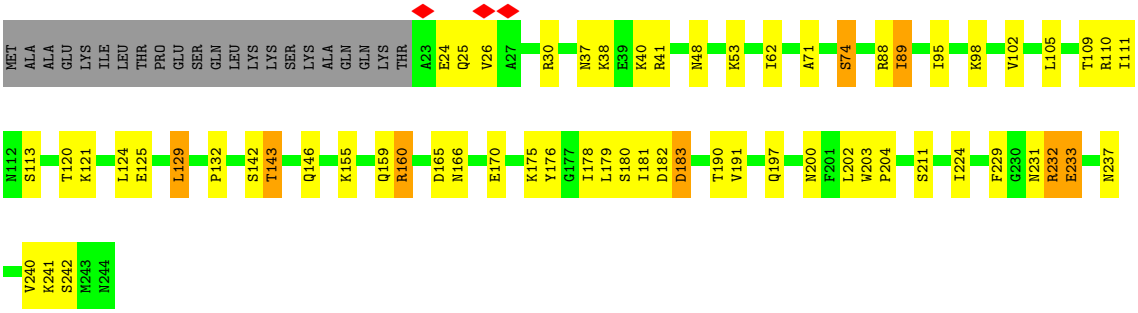




• Molecule 12: 60S ribosomal protein L7-A

Chain F:

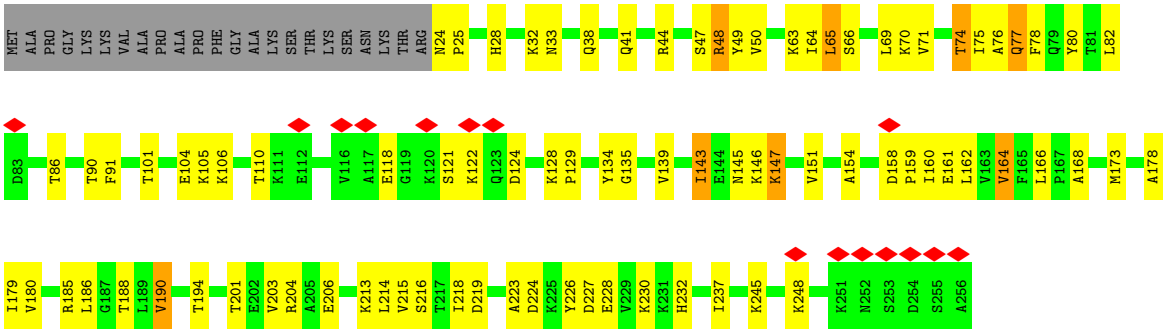




• Molecule 13: 60S ribosomal protein L8-A

Chain G:

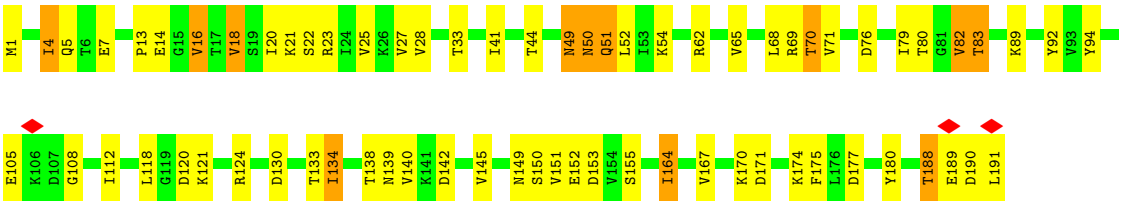




• Molecule 14: 60S ribosomal protein L9-A

Chain H:

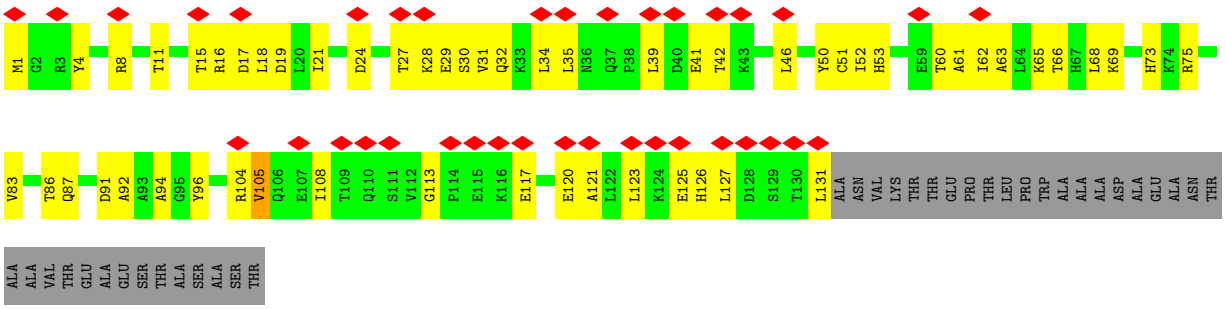




• Molecule 15: Bud site selection protein 20

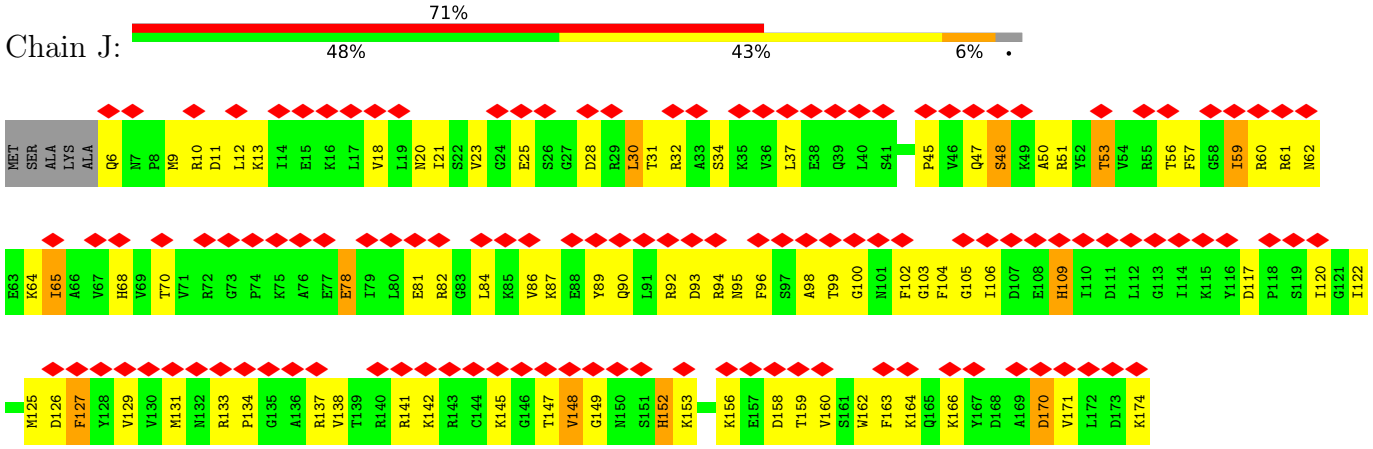
Chain I:





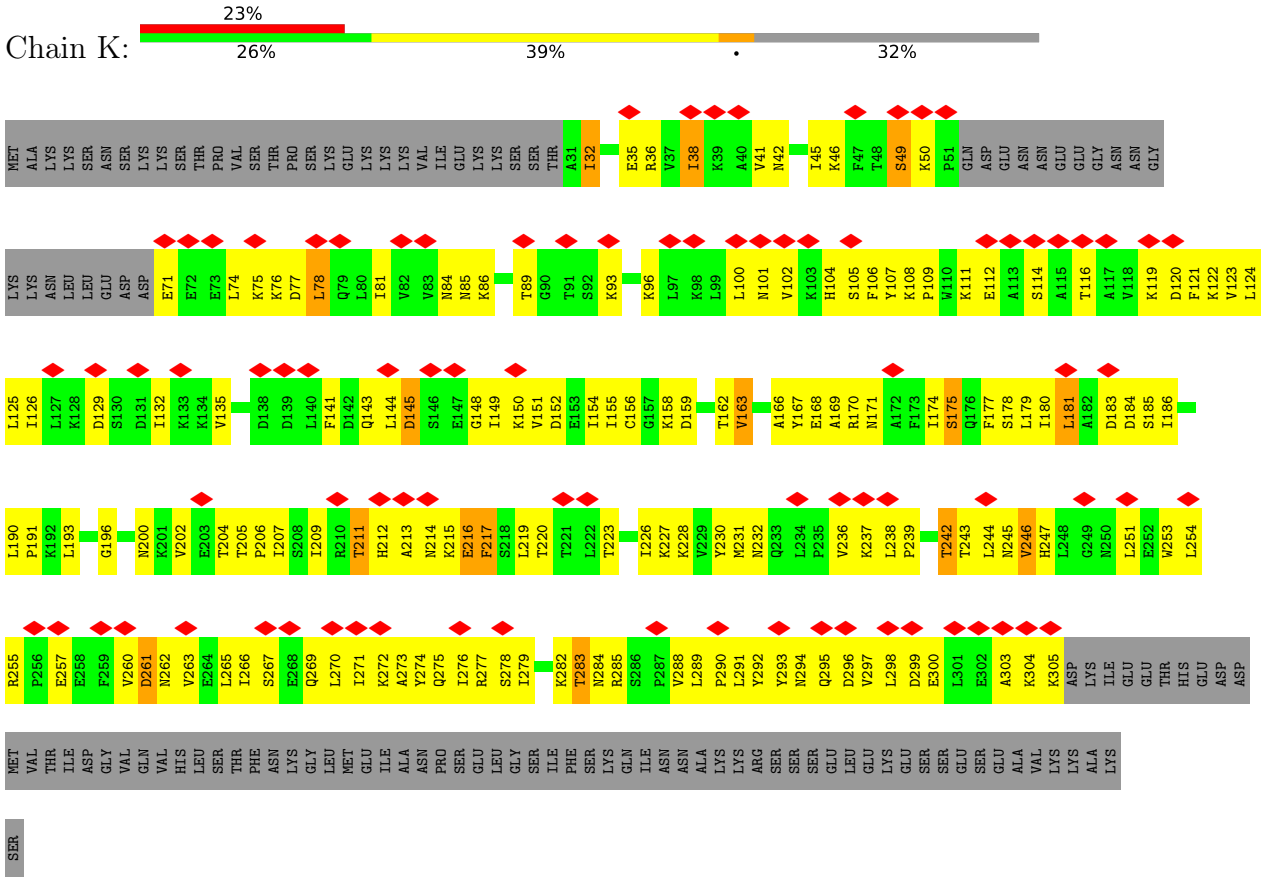
• Molecule 16: 60S ribosomal protein L11-A

Chain J:



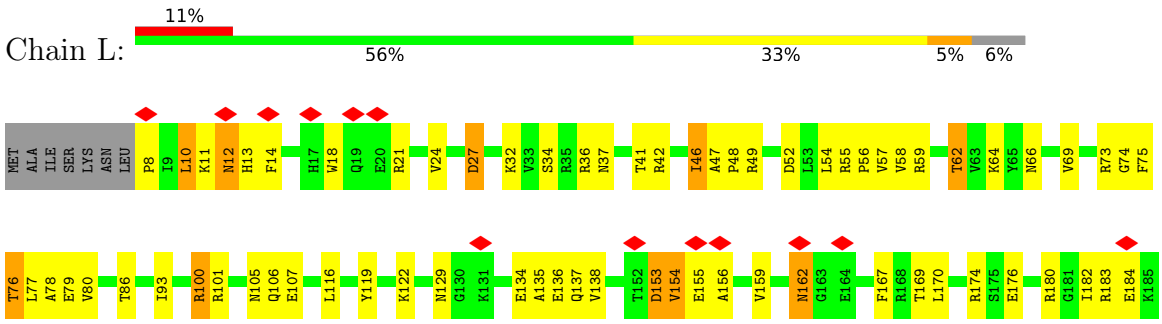
• Molecule 17: Proteasome-interacting protein CIC1

Chain K:



• Molecule 18: 60S ribosomal protein L13-A

Chain L:



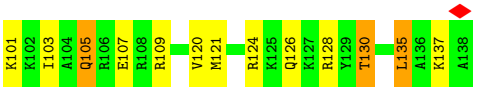


• Molecule 19: 60S ribosomal protein L14-A

Chain M:



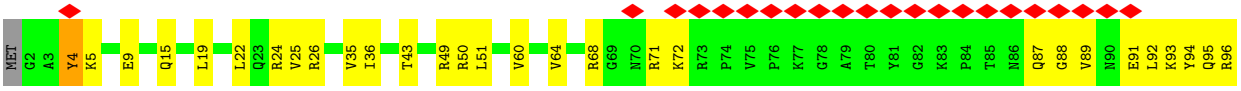




• Molecule 20: 60S ribosomal protein L15-A

Chain N:





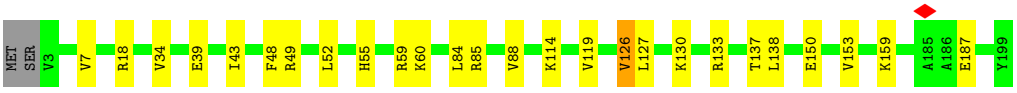




• Molecule 21: 60S ribosomal protein L16-A

Chain O:

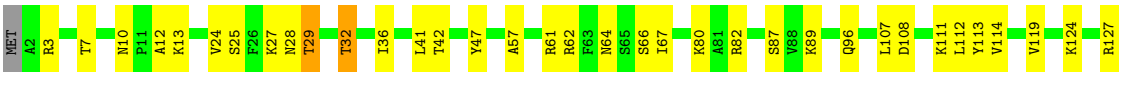


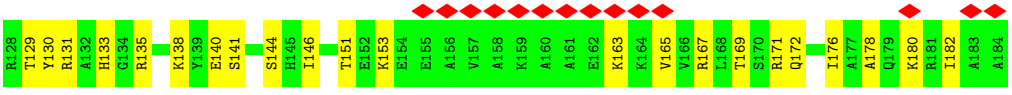


• Molecule 22: 60S ribosomal protein L17-A

Chain P:



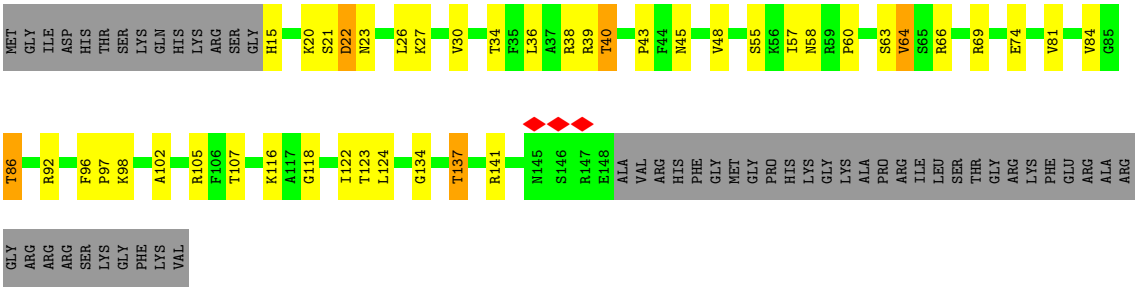




• Molecule 23: 60S ribosomal protein L18-A

Chain Q:

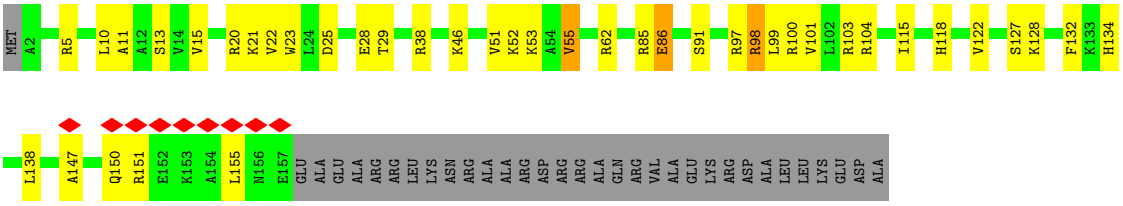




• Molecule 24: 60S ribosomal protein L19-A

Chain R:

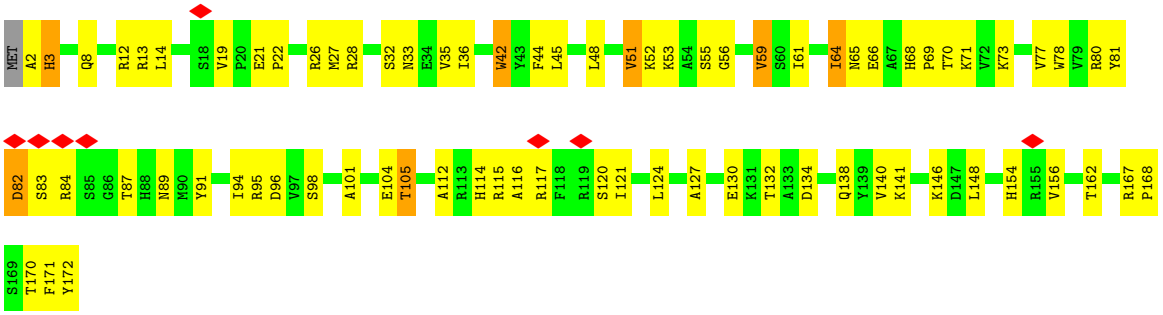




• Molecule 25: 60S ribosomal protein L20-A

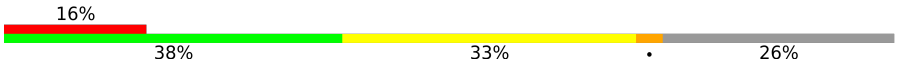
Chain S:

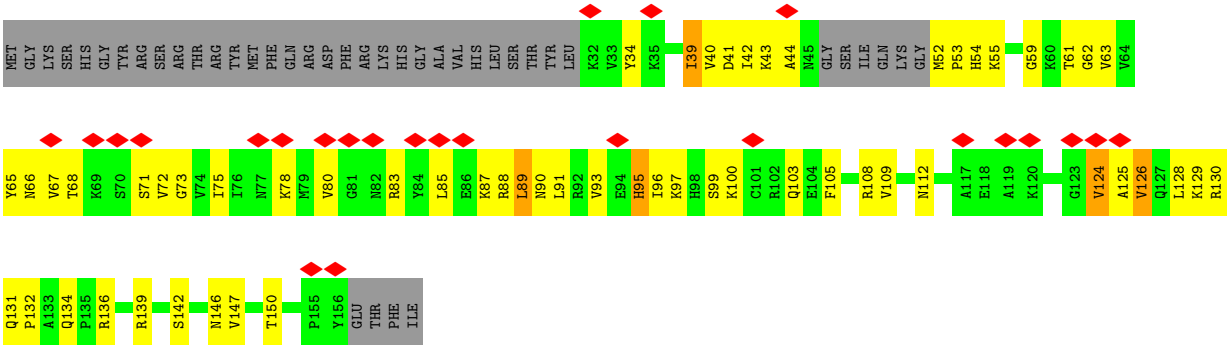




• Molecule 26: 60S ribosomal protein L21-A

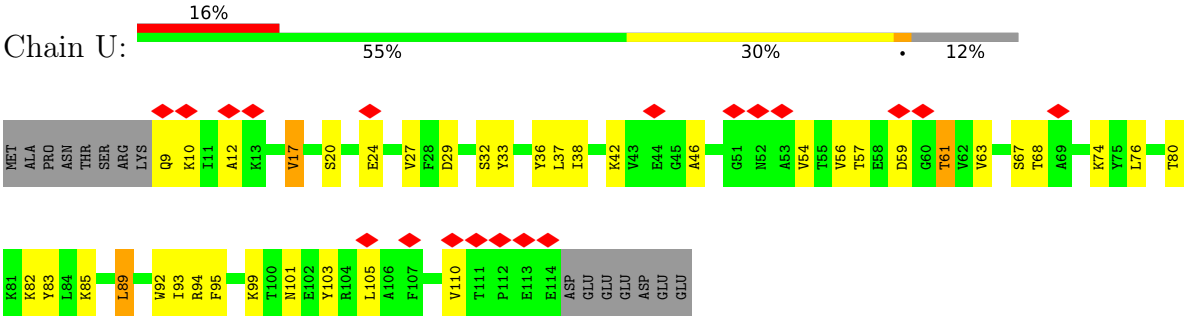
Chain T:





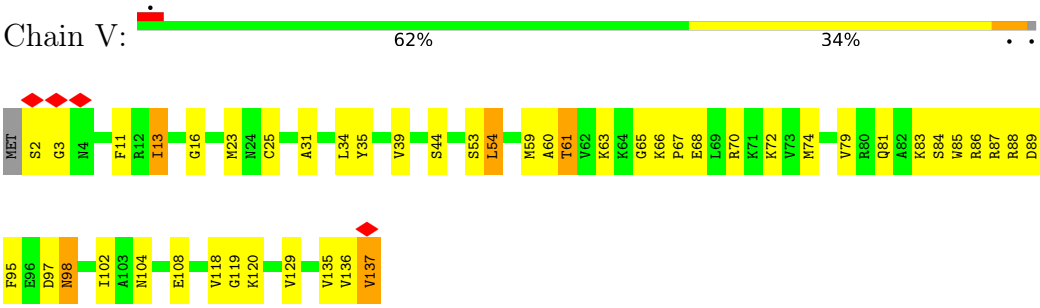
• Molecule 27: 60S ribosomal protein L22-A

Chain U:



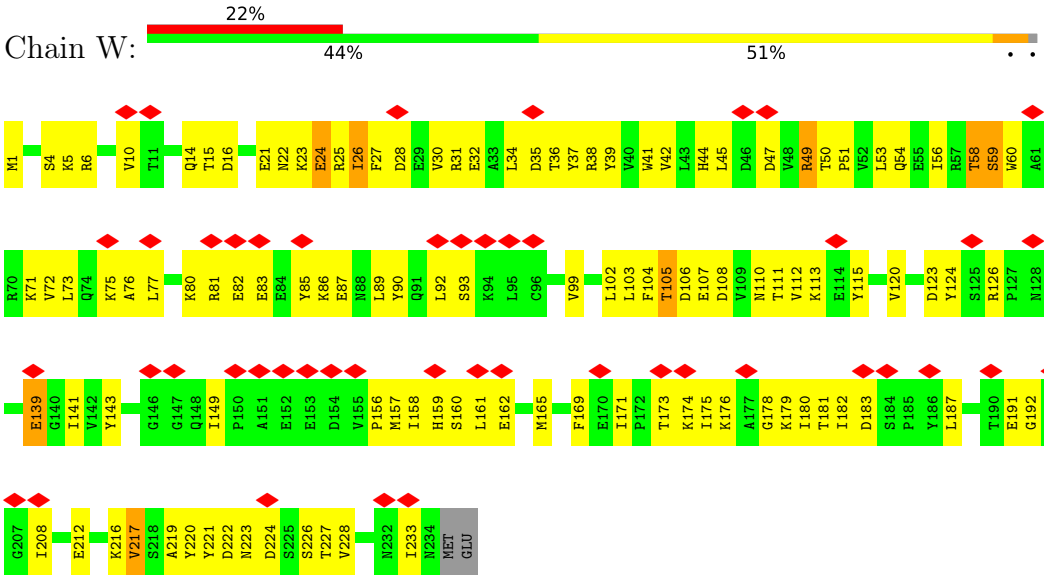
• Molecule 28: 60S ribosomal protein L23-A

Chain V:



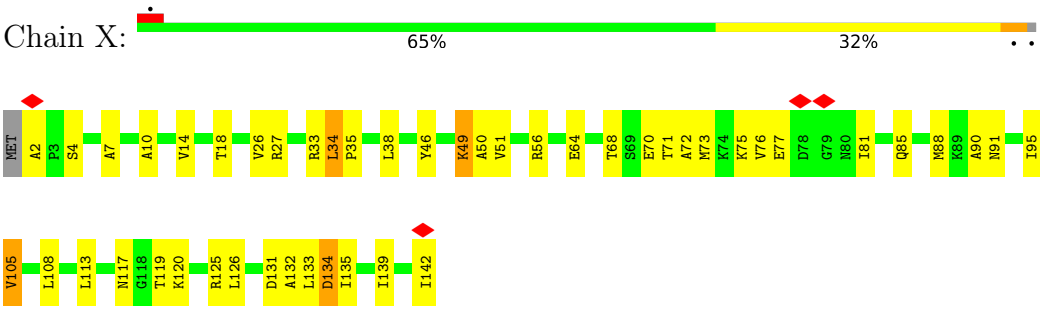
• Molecule 29: Ribosome assembly factor MRT4

Chain W:



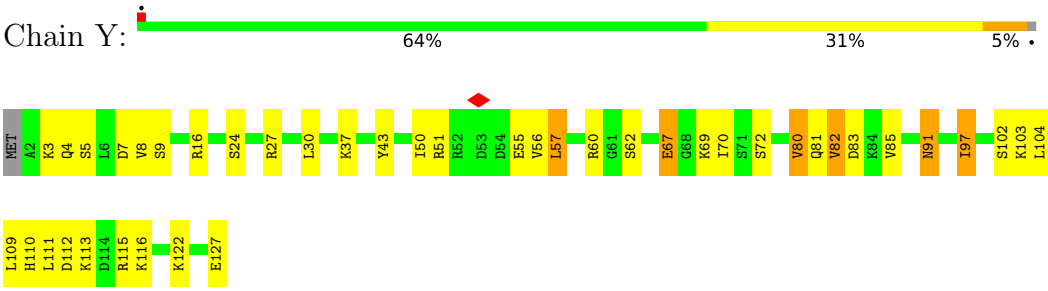
• Molecule 30: 60S ribosomal protein L25

Chain X:



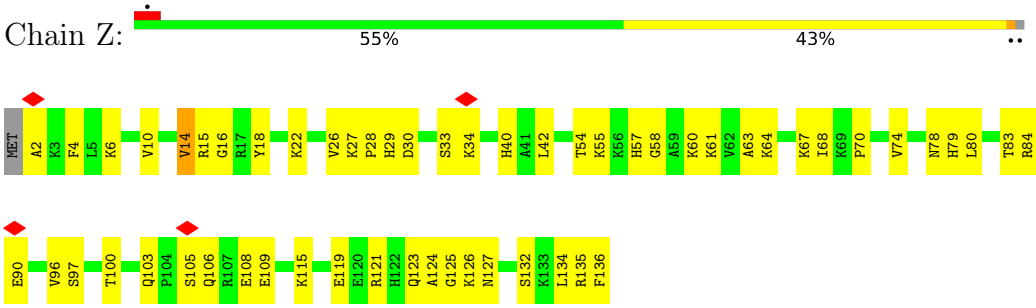
• Molecule 31: 60S ribosomal protein L26-A

Chain Y:



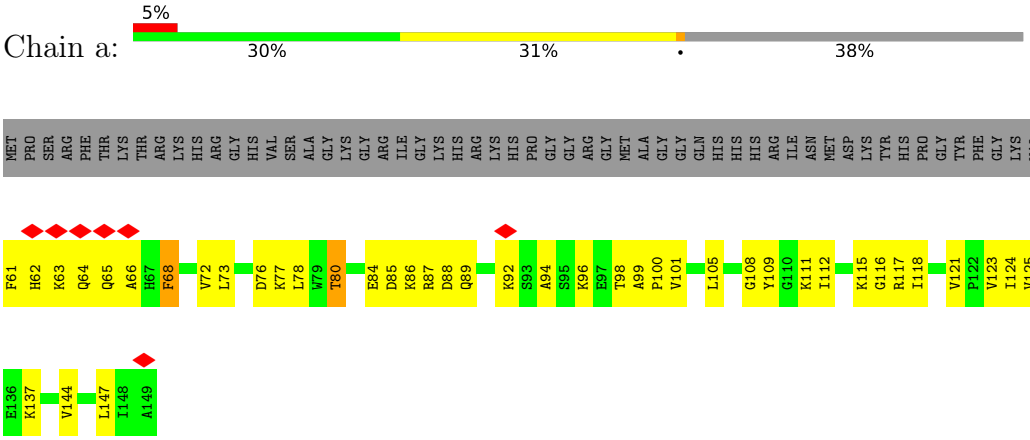
• Molecule 32: 60S ribosomal protein L27-A

Chain Z:



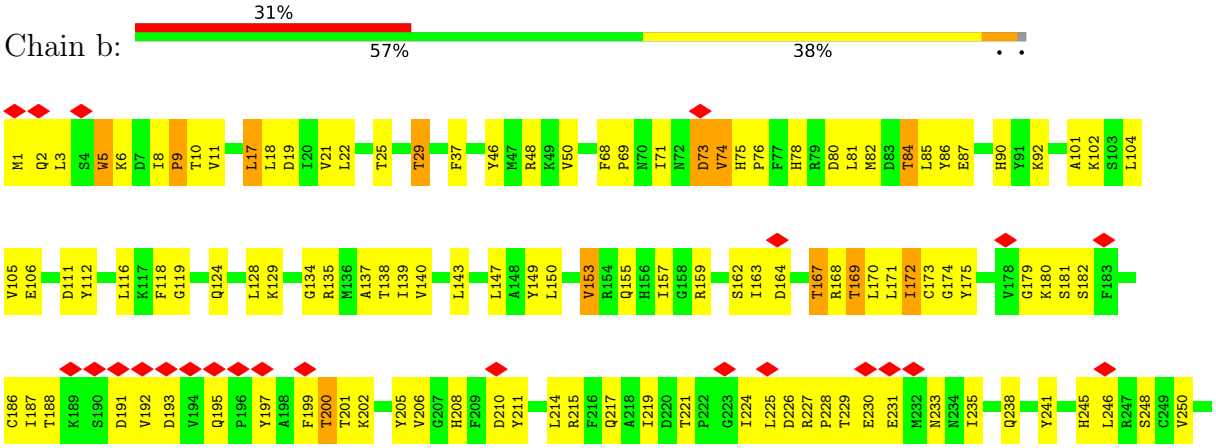
• Molecule 33: 60S ribosomal protein L28

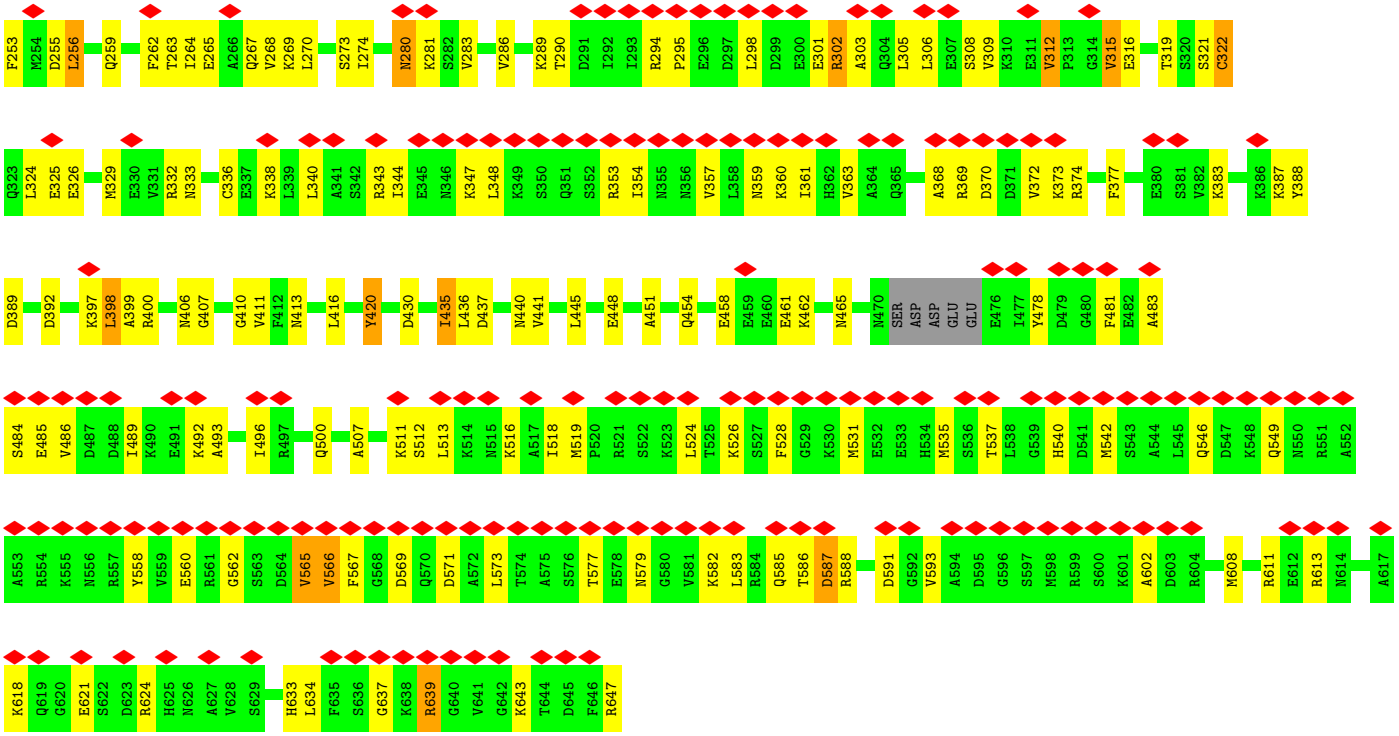
Chain a:



• Molecule 34: Nucleolar GTP-binding protein 1

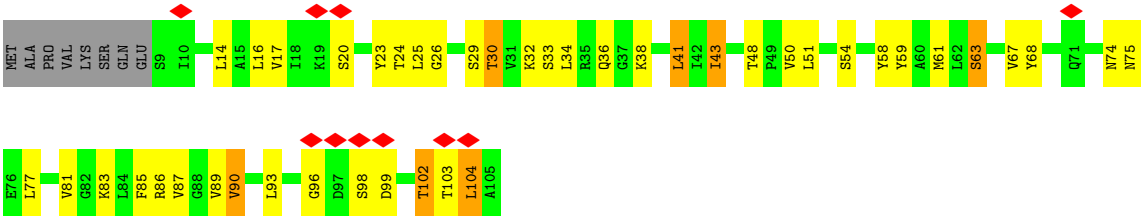
Chain b:





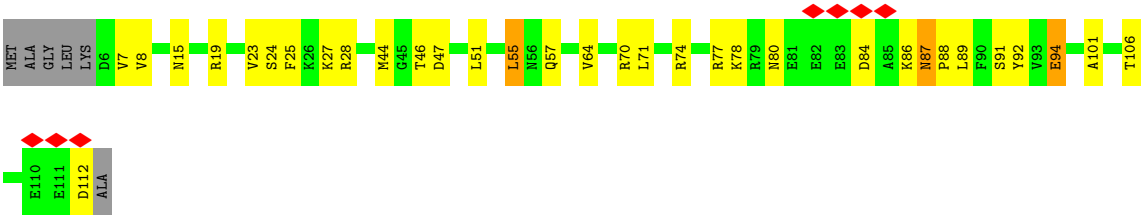
• Molecule 35: 60S ribosomal protein L30





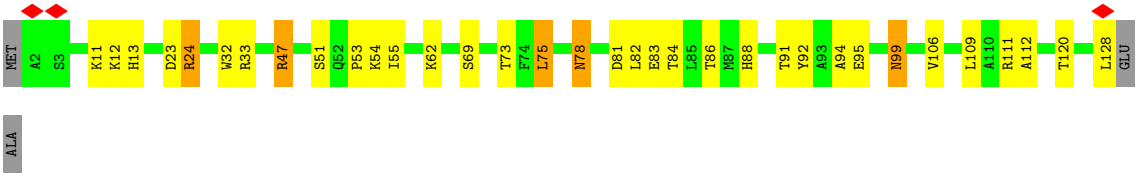
• Molecule 36: 60S ribosomal protein L31-A



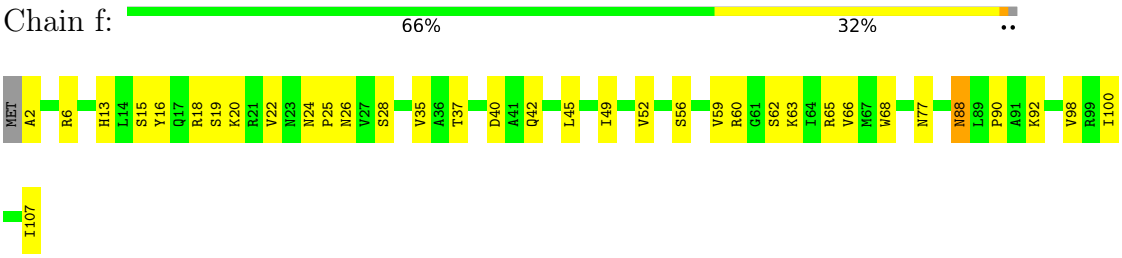


• Molecule 37: 60S ribosomal protein L32

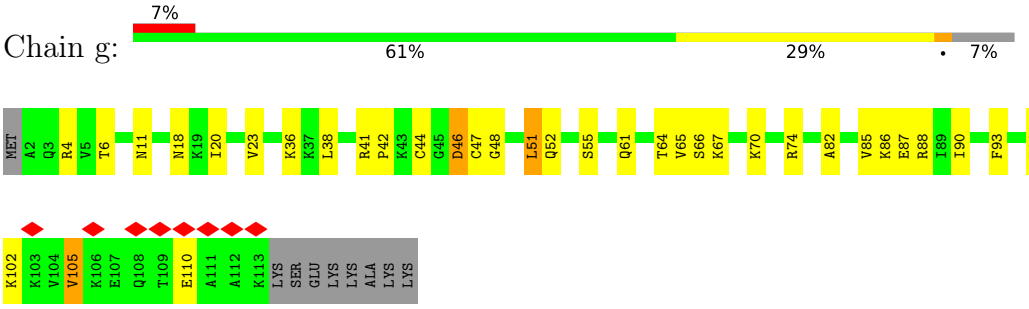




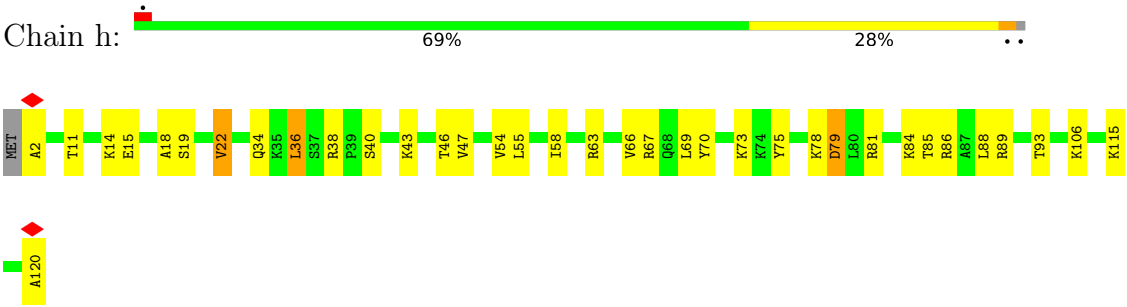
• Molecule 38: 60S ribosomal protein L33-A



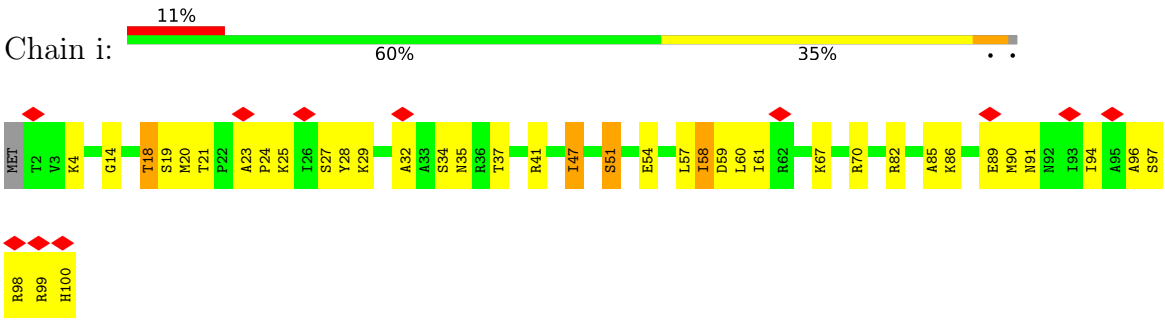
• Molecule 39: 60S ribosomal protein L34-A



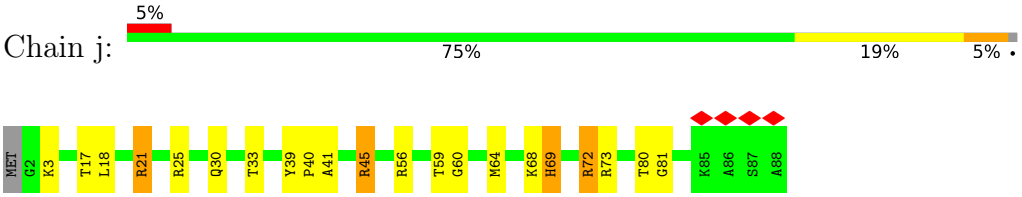
• Molecule 40: 60S ribosomal protein L35-A



• Molecule 41: 60S ribosomal protein L36-A

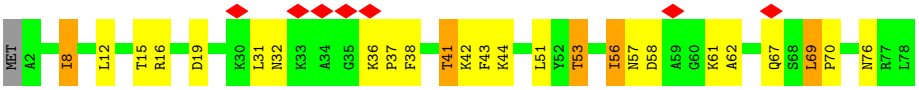


• Molecule 42: 60S ribosomal protein L37-A



• Molecule 43: 60S ribosomal protein L38





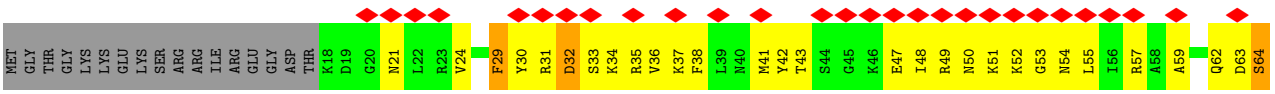
• Molecule 44: 60S ribosomal protein L39

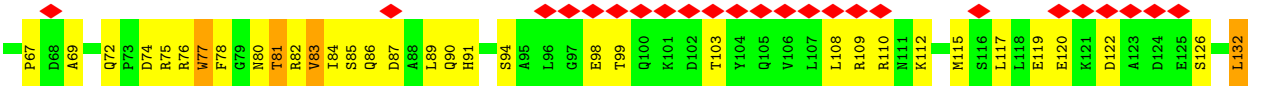


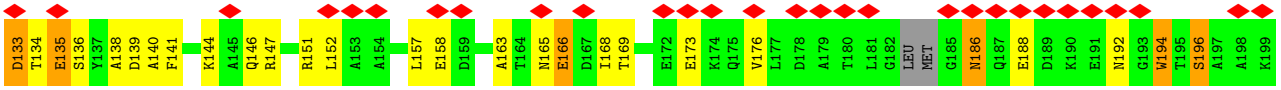


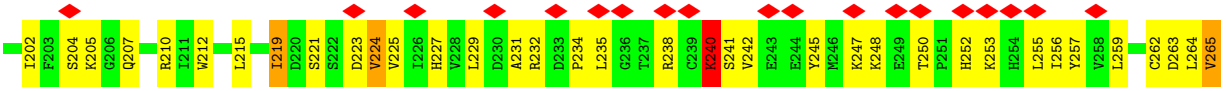
• Molecule 45: Nucleolar GTP-binding protein 2

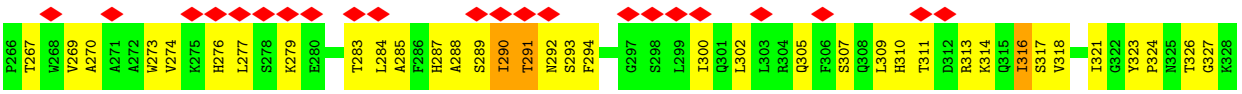


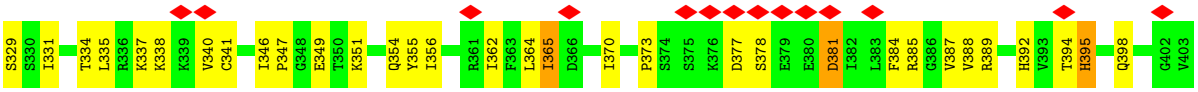




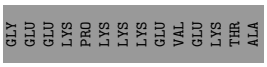






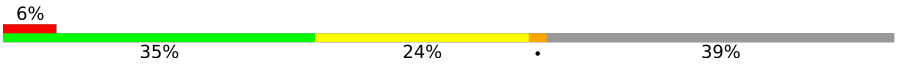


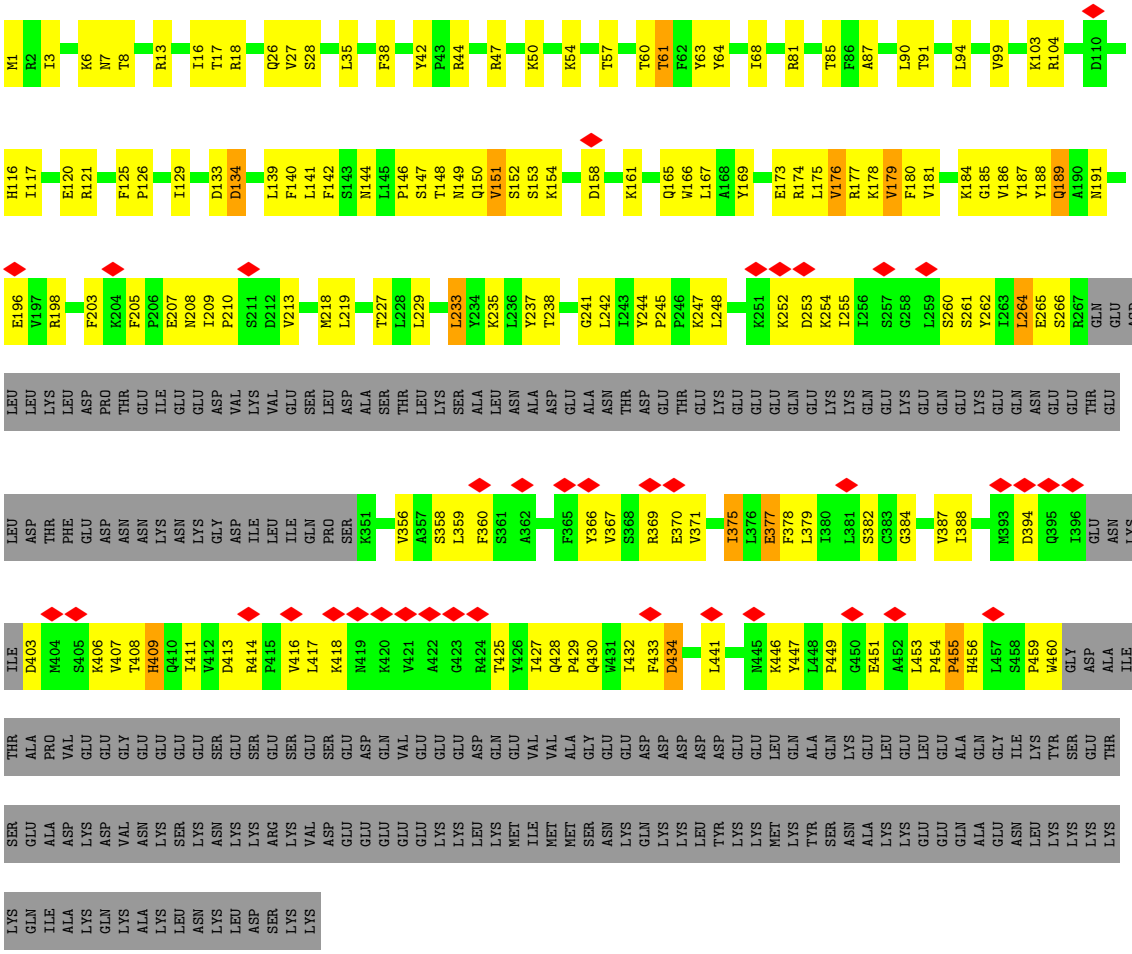




• Molecule 46: Pescadillo homolog

Chain n:

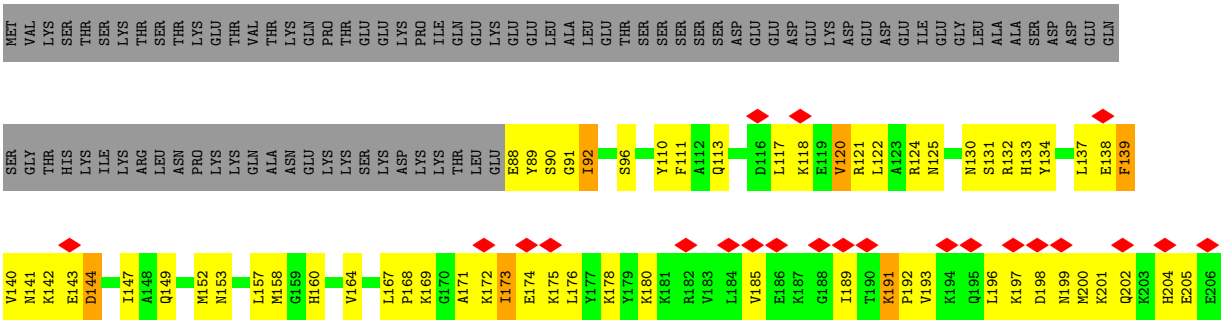




• Molecule 47: Ribosome biogenesis protein 15

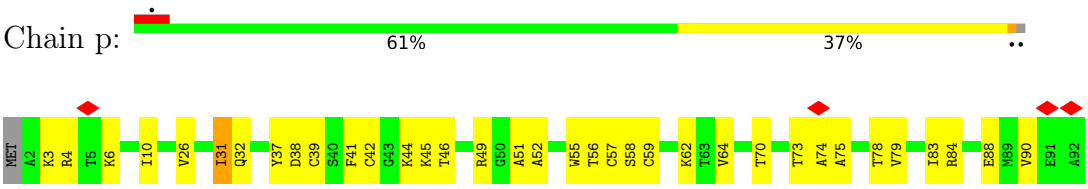
Chain o:



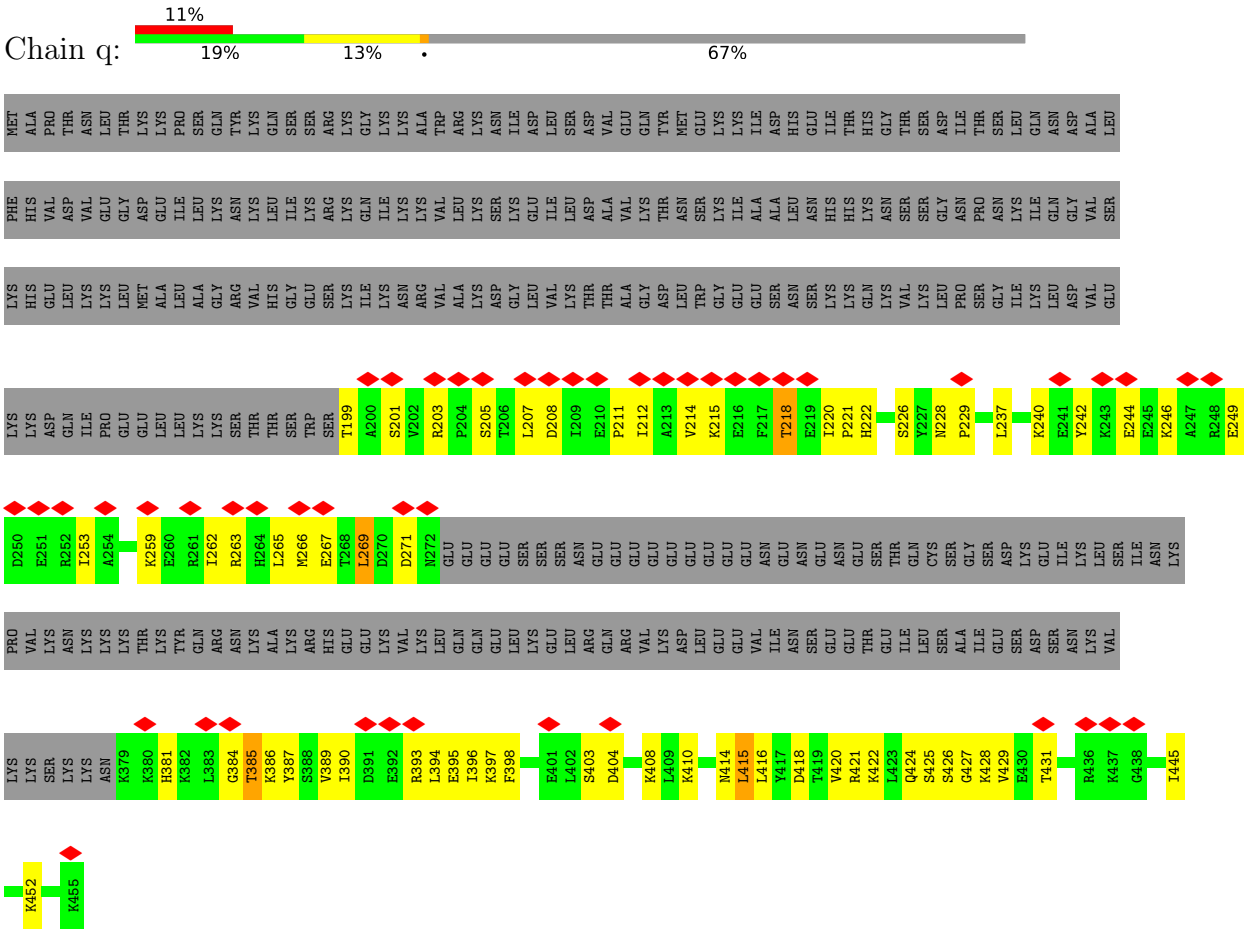




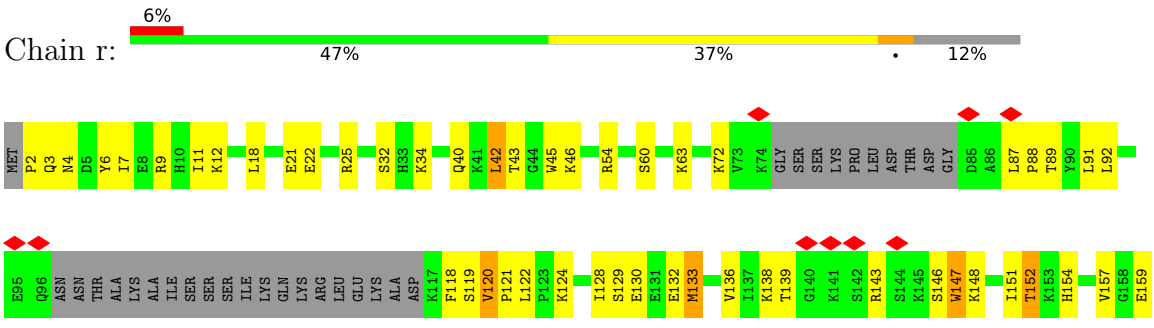
• Molecule 48: 60S ribosomal protein L43-A

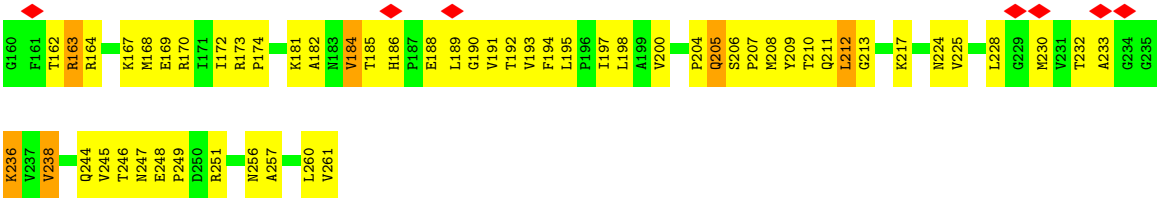


• Molecule 49: Ribosome biogenesis protein NOP53



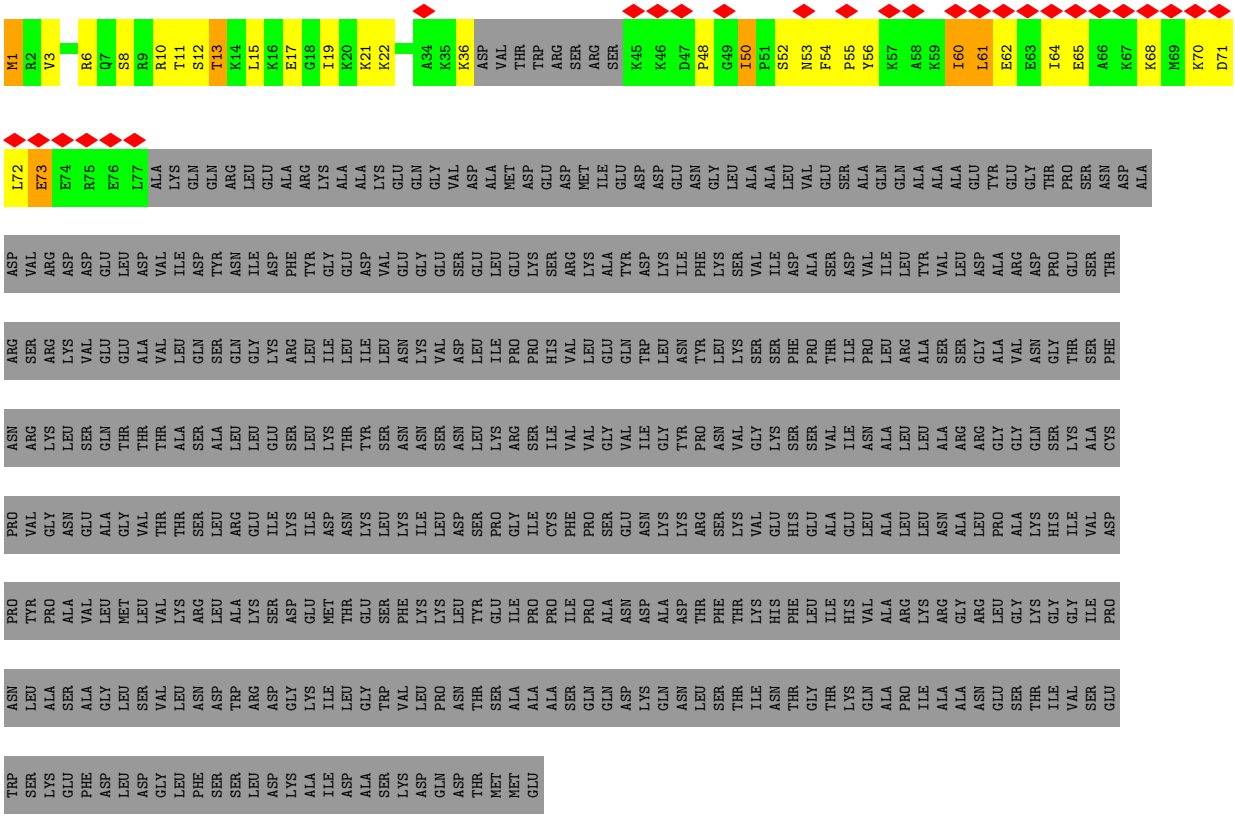
• Molecule 50: Ribosome biogenesis protein NSA2





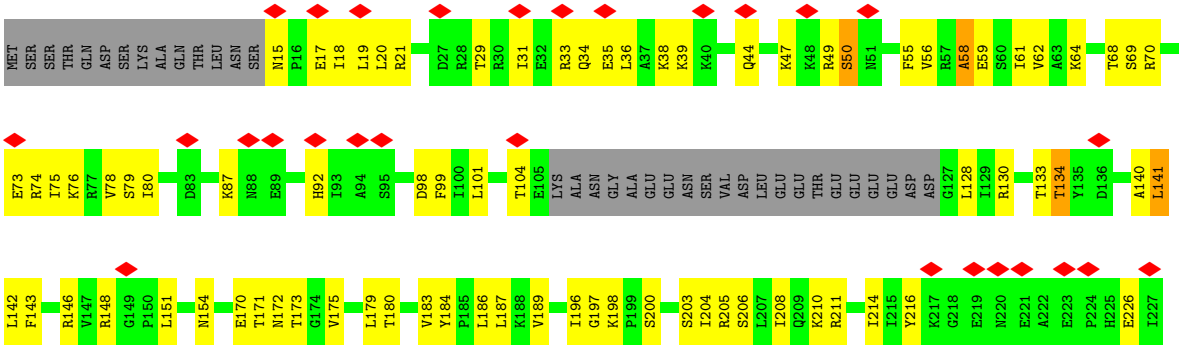
• Molecule 51: Nuclear GTP-binding protein NUG1

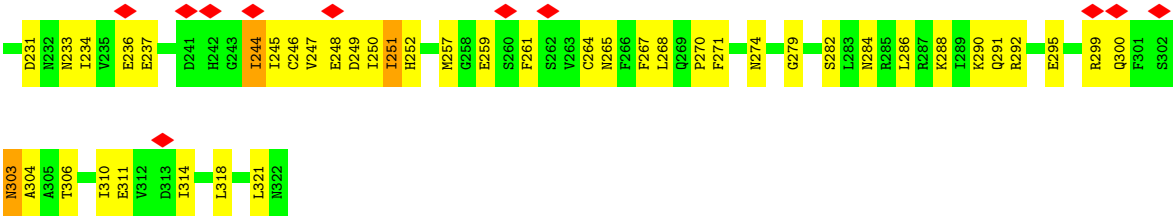




• Molecule 52: Ribosome biogenesis protein RLP7



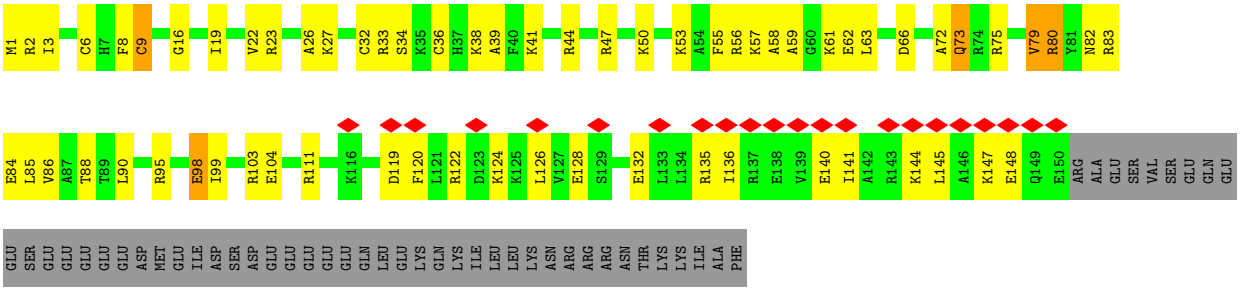




• Molecule 53: Ribosome biogenesis protein RLP24

Chain u:

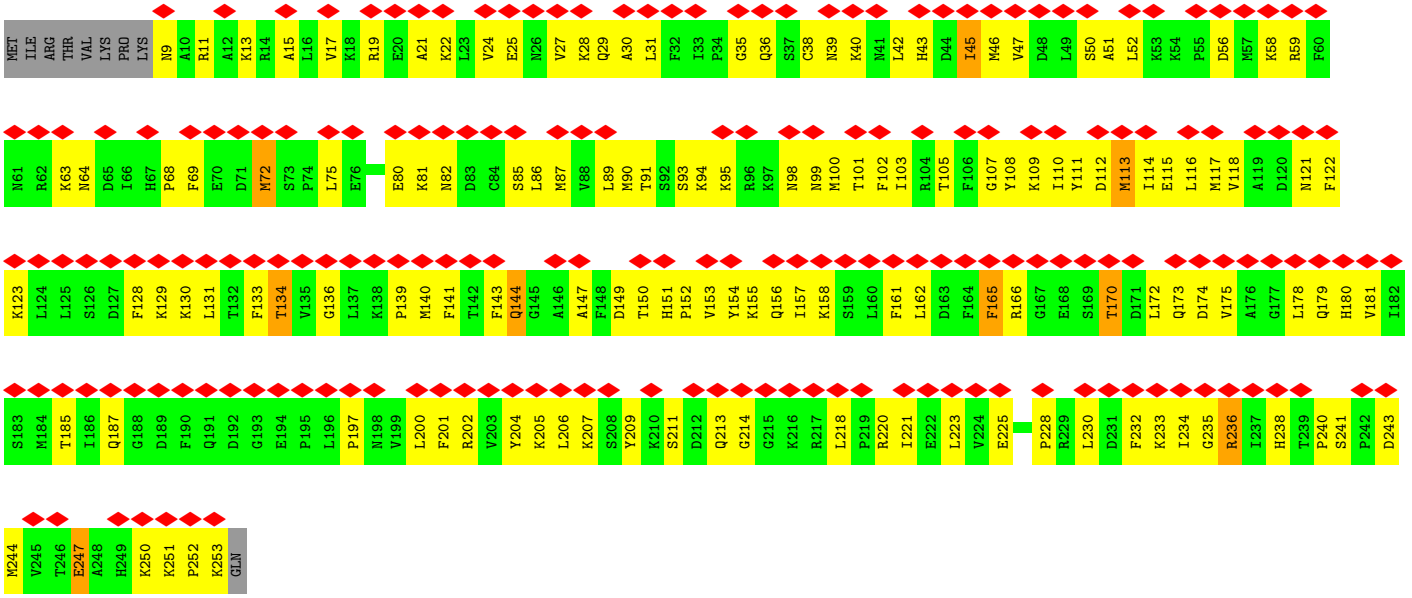




• Molecule 54: Ribosome biogenesis protein RPF2

Chain v:

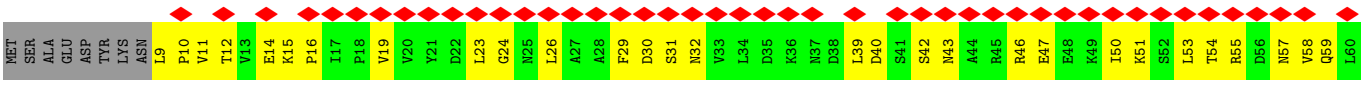


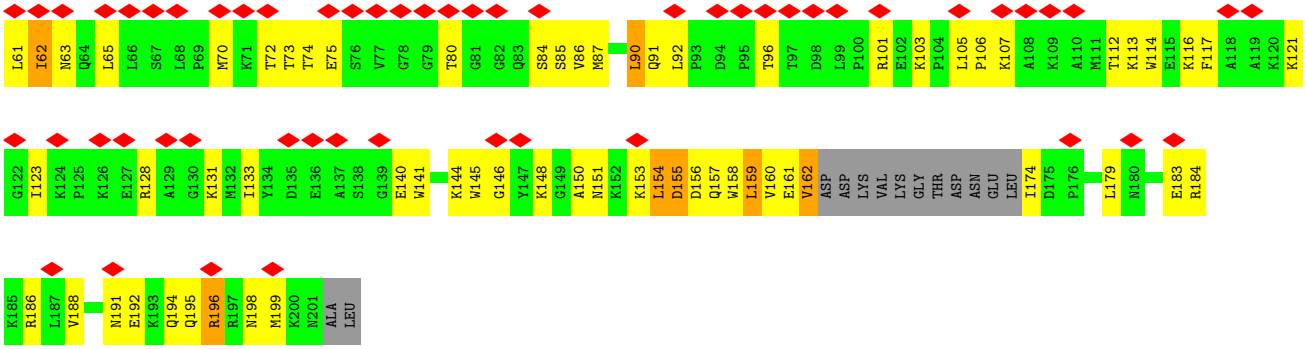


• Molecule 55: Regulator of ribosome biosynthesis

Chain w:

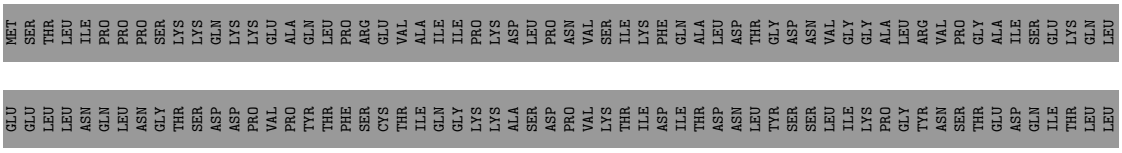






• Molecule 56: Ribosome assembly protein 4

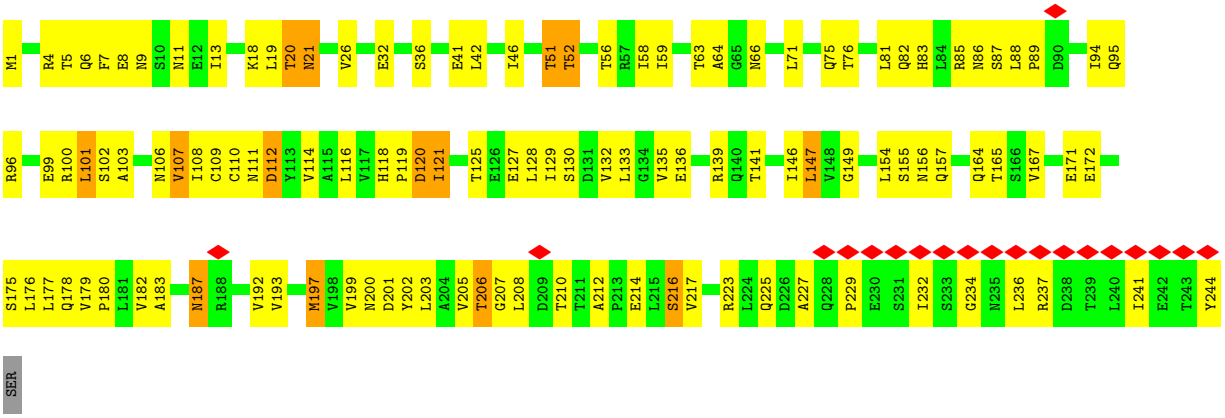




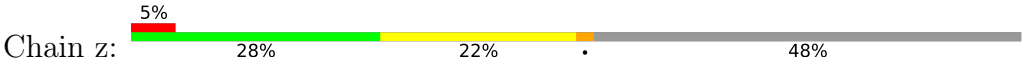


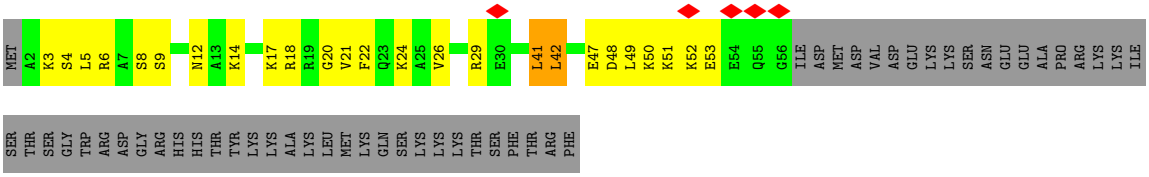
• Molecule 57: Eukaryotic translation initiation factor 6





• Molecule 58: UPF0642 protein YBL028C





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	53177	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.9	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.164	Depositor
Minimum map value	-0.090	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	422.80002, 422.80002, 422.80002	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.057, 1.057, 1.057	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	1	0.69	0/71167	0.52	1/110944 (0.0%)
2	2	0.88	0/3746	0.52	0/5832
3	3	0.25	0/2883	0.45	0/4491
4	4	0.26	0/4069	0.54	0/5520
5	5	0.26	0/649	0.53	0/848
6	6	0.36	0/1527	0.62	0/2371
7	A	0.59	0/1666	0.59	0/2241
8	B	0.68	0/3152	0.61	0/4239
9	C	0.70	0/2801	0.59	0/3792
10	D	0.25	0/2257	0.50	0/3043
11	E	0.52	0/1260	0.54	0/1694
12	F	0.67	0/1821	0.55	0/2451
13	G	0.63	0/1849	0.63	0/2495
14	H	0.60	0/1539	0.60	0/2073
15	I	0.35	0/1075	0.53	0/1443
16	J	0.24	0/1374	0.51	0/1842
17	K	0.30	0/2098	0.52	0/2830
18	L	0.58	0/1524	0.61	0/2046
19	M	0.61	1/1074 (0.1%)	0.57	0/1446
20	N	0.82	0/1757	0.67	0/2354
21	O	0.85	0/1585	0.60	0/2128
22	P	0.69	0/1465	0.59	0/1968
23	Q	0.58	0/1050	0.55	0/1419
24	R	0.55	0/1275	0.58	0/1702
25	S	0.58	0/1473	0.59	0/1980
26	T	0.36	0/957	0.51	0/1285
27	U	0.39	0/861	0.55	0/1167
28	V	0.61	0/1018	0.61	1/1369 (0.1%)
29	W	0.32	0/1918	0.52	0/2586
30	X	0.67	0/1116	0.59	0/1503
31	Y	0.59	0/1004	0.54	0/1341
32	Z	0.49	0/1118	0.53	0/1497

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	a	0.51	0/751	0.58	0/1013
34	b	0.41	0/5270	0.54	0/7080
35	c	0.44	0/751	0.47	0/1008
36	d	0.62	0/887	0.56	0/1191
37	e	0.80	0/1041	0.57	0/1394
38	f	0.83	0/868	0.60	0/1168
39	g	0.68	0/891	0.64	0/1191
40	h	0.63	0/978	0.62	0/1301
41	i	0.39	0/778	0.56	0/1034
42	j	0.89	0/696	0.63	0/923
43	k	0.45	0/618	0.52	0/826
44	l	0.63	0/443	0.54	0/588
45	m	0.34	0/3722	0.55	0/5017
46	n	0.49	0/3101	0.58	0/4187
47	o	0.38	0/1129	0.58	0/1502
48	p	0.54	0/701	0.56	0/934
49	q	0.36	0/1279	0.52	0/1710
50	r	0.52	0/1892	0.61	0/2528
51	s	0.43	0/577	0.52	0/752
52	t	0.39	0/2333	0.58	0/3128
53	u	0.51	0/1287	0.61	1/1711 (0.1%)
54	v	0.26	0/2027	0.49	0/2718
55	w	0.29	0/1471	0.51	0/1980
56	x	0.29	0/3174	0.54	0/4305
57	y	0.48	0/1872	0.54	0/2548
58	z	0.51	0/445	0.60	0/585
All	All	0.61	1/163110 (0.0%)	0.54	3/236262 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	4	0	3
8	B	0	2
9	C	0	1
12	F	0	1
16	J	0	1
18	L	0	1
28	V	0	1
36	d	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
45	m	0	6
46	n	0	1
47	o	0	1
50	r	0	1
53	u	0	1
56	x	0	1
All	All	0	22

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	M	60	LEU	CA-C	-5.08	1.46	1.52

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	u	80	ARG	N-CA-C	7.05	124.34	113.28
28	V	129	VAL	N-CA-C	-6.55	106.18	111.81
1	1	994	G	O4'-C1'-N9	-5.34	100.19	108.20

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	4	26	ASN	Peptide
4	4	362	ARG	Peptide
4	4	97	ILE	Peptide
8	B	221	THR	Peptide
8	B	340	LYS	Peptide
9	C	318	LEU	Peptide
12	F	232	ARG	Peptide
16	J	170	ASP	Peptide
18	L	46	ILE	Peptide
28	V	89	ASP	Peptide
36	d	87	ASN	Peptide
45	m	378	SER	Peptide
45	m	417	GLU	Peptide
45	m	422	LYS	Peptide
45	m	77	TRP	Peptide
45	m	98	GLU	Peptide
45	m	99	THR	Peptide

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Mol	Chain	Res	Type	Group
46	n	375	ILE	Peptide
47	o	171	ALA	Peptide
50	r	236	LYS	Peptide
53	u	79	VAL	Peptide
56	x	125	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	1	63583	0	31950	1616	0
2	2	3353	0	1695	48	0
3	3	2579	0	1304	170	0
4	4	3999	0	4088	196	0
5	5	645	0	688	33	0
6	6	1370	0	692	71	0
7	A	1634	0	1685	53	0
8	B	3081	0	3165	116	0
9	C	2749	0	2863	76	0
10	D	2211	0	2175	148	0
11	E	1239	0	1326	42	0
12	F	1784	0	1862	43	0
13	G	1817	0	1908	58	0
14	H	1518	0	1587	45	0
15	I	1059	0	1089	38	0
16	J	1353	0	1383	77	0
17	K	2064	0	2156	134	0
18	L	1499	0	1558	63	0
19	M	1059	0	1154	32	0
20	N	1720	0	1779	46	0
21	O	1555	0	1659	20	0
22	P	1442	0	1485	45	0
23	Q	1035	0	1115	26	0
24	R	1258	0	1342	32	0
25	S	1437	0	1475	64	0
26	T	943	0	994	41	0
27	U	844	0	855	32	0
28	V	1003	0	1048	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	W	1885	0	1921	103	0
30	X	1100	0	1187	35	0
31	Y	993	0	1081	30	0
32	Z	1092	0	1155	50	0
33	a	735	0	776	41	0
34	b	5185	0	5251	239	0
35	c	743	0	797	32	0
36	d	873	0	914	22	0
37	e	1020	0	1090	21	0
38	f	850	0	880	25	0
39	g	881	0	945	26	0
40	h	969	0	1078	28	0
41	i	771	0	849	30	0
42	j	681	0	683	17	0
43	k	612	0	682	18	0
44	l	436	0	475	13	0
45	m	3648	0	3701	197	0
46	n	3030	0	3107	111	0
47	o	1107	0	1159	76	0
48	p	694	0	735	31	0
49	q	1258	0	1292	62	0
50	r	1860	0	1965	87	0
51	s	573	0	644	30	0
52	t	2306	0	2454	101	0
53	u	1265	0	1315	52	0
54	v	1985	0	2037	137	0
55	w	1448	0	1510	90	0
56	x	3093	0	3041	213	0
57	y	1849	0	1836	93	0
58	z	444	0	478	20	0
59	I	1	0	0	0	0
59	j	1	0	0	0	0
59	p	1	0	0	0	0
59	u	1	0	0	0	0
60	b	32	0	12	9	0
60	m	32	0	12	3	0
61	b	1	0	0	0	0
61	m	1	0	0	0	0
All	All	153289	0	121142	4722	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 18.

All (4722) 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)
1:1:2623:G:N2	1:1:2756:C:C2	1.89	1.35
1:1:1200:A:C2	1:1:2824:G:N1	2.09	1.20
1:1:1200:A:H2	1:1:2824:G:N1	1.41	1.19
1:1:3158:G:N1	1:1:3292:A:C2	2.21	1.08
1:1:91:G:N2	1:1:95:A:N7	2.06	1.02
1:1:3158:G:O6	1:1:3292:A:N1	1.95	0.99
1:1:2406:C:H42	1:1:2816:G:H1	1.07	0.99
34:b:312:VAL:HG22	34:b:315:VAL:HG22	1.44	0.98
1:1:3158:G:C6	1:1:3292:A:N1	2.31	0.98
3:3:7:G:H1	3:3:114:U:H3	0.98	0.97
1:1:1896:A:H61	1:1:2339:C:H42	1.01	0.97
10:D:266:ALA:O	10:D:270:LYS:HB2	1.65	0.96
1:1:91:G:H21	1:1:95:A:H62	0.97	0.95
1:1:3160:U:O2	1:1:3290:G:N2	1.98	0.95
1:1:2364:G:H22	1:1:2396:G:H1’	1.28	0.95
1:1:2646:C:C4	1:1:2647:A:N6	2.34	0.95
1:1:91:G:H21	1:1:95:A:N6	1.64	0.95
1:1:2646:C:N4	1:1:2647:A:N6	2.14	0.94
2:2:95:G:OP2	42:j:72:ARG:NH1	2.01	0.93
16:J:84:LEU:HG	16:J:89:TYR:HA	1.51	0.93
3:3:85:G:N1	3:3:95:A:N6	2.17	0.93
1:1:2646:C:N4	1:1:2647:A:H62	1.67	0.92
3:3:85:G:H1	3:3:95:A:N6	1.66	0.92
1:1:172:G:H1	1:1:246:U:H3	0.94	0.92
1:1:997:A:N6	1:1:1053:A:N3	2.18	0.92
1:1:994:G:H1	1:1:1056:U:H3	1.02	0.91
1:1:182:U:H3	1:1:234:G:H1	1.19	0.91
1:1:2623:G:N2	1:1:2756:C:O2	2.02	0.91
10:D:51:LEU:HB2	10:D:145:PHE:O	1.71	0.91
4:4:379:LEU:HD21	4:4:426:ILE:HD13	1.50	0.90
1:1:2417:U:O2’	1:1:2966:G:N2	2.05	0.90
10:D:223:PHE:HB3	10:D:226:TYR:HB2	1.52	0.90
1:1:160:G:N2	1:1:261:U:O2	2.04	0.89
1:1:991:G:H1	1:1:1058:U:H3	1.13	0.89
3:3:84:A:N6	3:3:96:U:O4	2.05	0.89
56:x:256:LYS:HD2	56:x:280:SER:HB3	1.55	0.88
1:1:998:A:N6	1:1:1052:U:O2’	2.07	0.88
29:W:64:LYS:HB3	29:W:104:PHE:HB2	1.55	0.88
1:1:2720:G:O6	1:1:2736:A:N6	2.05	0.87
56:x:501:VAL:HB	56:x:513:TRP:HD1	1.36	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2178:A:H3'	7:A:132:ASN:HD21	1.39	0.87
1:1:1639:C:OP2	39:g:74:ARG:NH2	2.07	0.87
1:1:1187:C:H5	1:1:1319:G:H1	1.23	0.87
1:1:2137:U:OP2	1:1:2142:A:N6	2.07	0.87
1:1:172:G:N2	1:1:246:U:O2	2.07	0.86
45:m:69:ALA:HB1	50:r:204:PRO:HB2	1.57	0.86
10:D:77:ALA:H	10:D:108:ARG:HH22	1.20	0.86
1:1:1628:C:O2'	1:1:1813:A:N6	2.10	0.85
1:1:2768:U:H3	1:1:2790:A:H61	1.25	0.85
3:3:2:G:N1	3:3:119:U:N3	2.25	0.85
56:x:194:TRP:HE1	56:x:198:GLY:HA2	1.42	0.84
50:r:4:ASN:O	50:r:9:ARG:NH2	2.10	0.84
10:D:240:TYR:O	10:D:244:HIS:ND1	2.11	0.84
17:K:213:ALA:H	17:K:217:PHE:HA	1.39	0.84
29:W:86:LYS:NZ	29:W:223:ASN:OD1	2.11	0.84
45:m:346:ILE:HG23	45:m:389:ARG:HE	1.41	0.84
1:1:1896:A:H61	1:1:2339:C:N4	1.75	0.84
38:f:52:VAL:HG22	38:f:66:VAL:HG22	1.60	0.84
1:1:1200:A:N1	1:1:2824:G:O6	2.11	0.84
52:t:35:GLU:HA	52:t:38:LYS:HE2	1.60	0.84
10:D:83:LEU:HB3	10:D:89:THR:HA	1.61	0.83
4:4:54:THR:HG22	4:4:56:GLN:H	1.43	0.82
1:1:436:A:N6	1:1:623:U:O4	2.12	0.82
1:1:759:U:O2	1:1:772:U:N3	2.12	0.82
50:r:173:ARG:NH1	50:r:212:LEU:O	2.13	0.82
1:1:993:G:O6	1:1:994:G:C6	2.32	0.82
56:x:494:TRP:HE1	56:x:498:GLY:HA2	1.44	0.82
1:1:2672:G:N2	1:1:2682:C:O2	2.12	0.82
1:1:2588:U:OP1	13:G:48:ARG:NH2	2.13	0.82
1:1:2727:A:H1'	50:r:164:ARG:HD3	1.61	0.82
25:S:81:TYR:OH	25:S:114:HIS:ND1	2.13	0.82
1:1:3166:C:O2	1:1:3284:G:N2	2.13	0.81
54:v:115:GLU:O	54:v:235:GLY:HA3	1.80	0.81
1:1:991:G:O6	1:1:1058:U:O4	1.98	0.81
1:1:2944:U:O2'	1:1:2947:G:N7	2.12	0.81
3:3:35:C:H3'	5:5:106:ARG:HH21	1.45	0.81
18:L:106:GLN:HG2	41:i:20:MET:HG2	1.61	0.81
5:5:106:ARG:HH11	5:5:109:ARG:HD3	1.46	0.81
1:1:2392:C:O2'	8:B:266:ARG:NH2	2.13	0.81
1:1:2534:G:H2'	1:1:2535:A:H8	1.45	0.81
1:1:173:G:O6	1:1:245:U:O4	1.99	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2981:U:OP2	8:B:244:ARG:NH1	2.13	0.81
1:1:3350:C:O2	1:1:3356:G:N2	2.14	0.81
29:W:169:PHE:O	29:W:198:ARG:NH1	2.13	0.81
33:a:116:GLY:O	33:a:137:LYS:NZ	2.13	0.81
34:b:507:ALA:HB1	34:b:511:LYS:HE2	1.60	0.81
1:1:1896:A:N6	1:1:2339:C:H42	1.79	0.81
1:1:1381:A:OP1	9:C:197:ARG:NH1	2.13	0.81
1:1:424:G:O6	1:1:635:G:N2	2.14	0.80
1:1:1288:U:H2'	1:1:1289:G:H8	1.45	0.80
1:1:784:A:O2'	23:Q:92:ARG:NH1	2.12	0.80
16:J:87:LYS:NZ	16:J:105:GLY:O	2.11	0.80
17:K:293:TYR:OH	17:K:295:GLN:NE2	2.15	0.80
1:1:3166:C:N3	1:1:3284:G:N1	2.29	0.80
13:G:121:SER:HB3	13:G:124:ASP:H	1.47	0.80
1:1:437:G:H1	1:1:622:A:H61	1.24	0.80
1:1:1268:G:H21	1:1:1273:A:H62	1.27	0.80
1:1:2623:G:C2	1:1:2756:C:C2	2.69	0.80
48:p:44:LYS:NZ	48:p:59:CYS:SG	2.55	0.80
1:1:2730:G:H21	45:m:112:LYS:HD2	1.47	0.79
1:1:877:C:O2	1:1:882:A:N6	2.15	0.79
57:y:5:THR:HG22	57:y:6:GLN:H	1.46	0.79
1:1:3367:C:OP1	53:u:111:ARG:NH2	2.15	0.79
3:3:38:U:O2	3:3:42:A:N6	2.15	0.79
1:1:2516:U:O4	1:1:2592:G:N2	2.15	0.79
1:1:3153:U:H3	1:1:3293:U:H3	1.30	0.79
1:1:1197:A:H5'	1:1:1198:C:H2'	1.63	0.79
1:1:3068:U:OP2	24:R:62:ARG:NH1	2.14	0.79
1:1:3343:G:H21	1:1:3362:A:H2	1.31	0.79
1:1:2533:G:N2	1:1:2548:C:O2	2.16	0.79
46:n:210:PRO:O	52:t:34:GLN:NE2	2.15	0.79
14:H:4:ILE:HG13	19:M:41:GLN:HE22	1.47	0.78
56:x:169:ARG:HB3	56:x:171:TRP:HE1	1.48	0.78
1:1:2623:G:N2	1:1:2756:C:N1	2.31	0.78
1:1:2672:G:N1	1:1:2682:C:N3	2.28	0.78
1:1:2393:G:O2'	1:1:2982:A:N6	2.17	0.78
1:1:3050:U:O2'	53:u:16:GLY:O	2.01	0.78
53:u:6:CYS:SG	53:u:9:CYS:N	2.56	0.78
1:1:576:C:OP1	12:F:241:LYS:NZ	2.17	0.78
1:1:2657:A:H2'	1:1:2658:G:C8	2.19	0.78
1:1:1672:U:H3	1:1:1775:G:H1	1.31	0.78
1:1:2628:A:N6	1:1:2650:U:O2'	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:149:U:OP2	20:N:49:ARG:NH2	2.16	0.78
3:3:13:A:H1'	10:D:24:ARG:HH22	1.49	0.78
34:b:175:TYR:HE2	34:b:267:GLN:HA	1.46	0.78
58:z:8:SER:O	58:z:12:ASN:ND2	2.16	0.78
18:L:62:THR:O	18:L:66:ASN:ND2	2.14	0.78
45:m:91:HIS:O	45:m:94:SER:OG	2.01	0.78
1:1:991:G:N1	1:1:1058:U:N3	2.28	0.77
3:3:7:G:O6	3:3:114:U:O4	2.02	0.77
1:1:1307:G:OP2	21:O:59:ARG:NH2	2.15	0.77
8:B:13:HIS:CD2	8:B:15:GLY:H	2.01	0.77
1:1:91:G:N2	1:1:95:A:H62	1.79	0.77
10:D:202:GLY:O	10:D:206:GLN:HB3	1.83	0.77
34:b:478:TYR:HB3	34:b:481:PHE:HD1	1.49	0.77
1:1:2619:G:OP2	1:1:2801:A:N6	2.18	0.77
1:1:3171:U:O4	1:1:3279:A:N6	2.17	0.77
10:D:44:TYR:HE2	54:v:174:ASP:HB2	1.49	0.77
1:1:991:G:O2'	26:T:41:ASP:OD2	2.01	0.77
1:1:3022:G:O2'	1:1:3031:G:O6	2.01	0.77
34:b:265:GLU:OE2	34:b:302:ARG:NH1	2.17	0.77
1:1:744:A:OP1	23:Q:66:ARG:NH2	2.18	0.77
8:B:66:LYS:O	8:B:70:ARG:NH1	2.18	0.77
3:3:89:G:O2'	3:3:91:G:OP2	2.03	0.77
1:1:173:G:N2	1:1:245:U:O2	2.17	0.77
4:4:157:THR:HG21	4:4:501:ALA:HB1	1.67	0.77
28:V:79:VAL:HB	28:V:118:VAL:HG23	1.67	0.77
31:Y:50:ILE:HD11	31:Y:80:VAL:HG11	1.67	0.77
45:m:59:ALA:HB3	45:m:62:GLN:HB2	1.66	0.77
49:q:214:VAL:HG22	49:q:215:LYS:H	1.50	0.77
1:1:3243:A:OP1	21:O:159:LYS:NZ	2.18	0.77
49:q:393:ARG:HH22	52:t:31:ILE:HD11	1.50	0.77
16:J:100:GLY:HA2	16:J:159:THR:HB	1.67	0.77
1:1:1200:A:N1	1:1:2824:G:C6	2.53	0.76
1:1:1812:G:HO2'	1:1:1817:G:HO2'	1.32	0.76
1:1:3158:G:H1	1:1:3292:A:H2	1.27	0.76
6:6:22:G:N7	17:K:96:LYS:NZ	2.33	0.76
32:Z:88:ASP:HB3	32:Z:121:ARG:HH12	1.50	0.76
34:b:179:GLY:HA2	60:b:701:GTP:H5"	1.66	0.76
34:b:369:ARG:HE	57:y:178:GLN:HE22	1.30	0.76
4:4:69:ASP:HA	4:4:72:ILE:HD12	1.66	0.76
25:S:115:ARG:O	25:S:117:ARG:NH2	2.18	0.76
26:T:132:PRO:O	26:T:134:GLN:NE2	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1142:G:OP1	1:1:1144:U:O2'	2.03	0.76
1:1:1518:U:H4'	34:b:587:ASP:HB2	1.67	0.76
1:1:2841:G:H21	1:1:2847:A:H62	1.34	0.76
4:4:182:ASP:HB2	4:4:234:TYR:HB3	1.68	0.76
54:v:221:ILE:HG12	55:w:62:ILE:HG21	1.67	0.76
56:x:190:LEU:N	56:x:204:GLY:O	2.18	0.76
1:1:98:G:N7	18:L:13:HIS:NE2	2.34	0.76
1:1:1245:A:N7	1:1:1271:A:O2'	2.19	0.76
10:D:184:ASP:HB3	10:D:189:GLU:H	1.48	0.76
1:1:3092:C:O2'	1:1:3094:A:OP2	2.04	0.76
7:A:117:GLU:HG2	7:A:124:GLY:H	1.50	0.76
13:G:74:THR:O	13:G:77:GLN:NE2	2.17	0.76
45:m:262:CYS:H	45:m:287:HIS:HB2	1.49	0.76
1:1:956:U:H3	1:1:965:A:H2	1.31	0.76
1:1:1198:C:O2	1:1:1199:C:O2'	2.03	0.76
1:1:3158:G:N1	1:1:3292:A:H2	1.76	0.76
34:b:290:THR:O	34:b:294:ARG:NH2	2.18	0.76
12:F:48:ASN:ND2	12:F:182:ASP:OD2	2.19	0.76
56:x:169:ARG:HA	56:x:181:THR:HG23	1.68	0.76
1:1:1070:U:N3	1:1:1088:U:O4	2.17	0.75
1:1:1111:U:O2'	1:1:1112:A:OP2	2.04	0.75
33:a:100:PRO:HG2	33:a:123:VAL:HG23	1.66	0.75
45:m:462:ILE:HD12	45:m:463:PRO:HD2	1.68	0.75
56:x:308:SER:HB2	56:x:311:ARG:HB3	1.66	0.75
1:1:958:C:N4	1:1:961:C:OP2	2.18	0.75
25:S:82:ASP:HA	25:S:87:THR:HG22	1.68	0.75
35:c:99:ASP:HB2	35:c:102:THR:HG23	1.68	0.75
1:1:2922:G:N7	45:m:389:ARG:NH1	2.35	0.75
54:v:113:MET:HG2	54:v:238:HIS:HB2	1.66	0.75
1:1:669:U:O4	1:1:793:C:N4	2.15	0.75
1:1:3375:A:O2'	1:1:3378:C:OP2	2.05	0.75
10:D:107:ARG:HH21	10:D:110:LEU:HD13	1.52	0.75
34:b:637:GLY:O	34:b:639:ARG:NH1	2.19	0.75
4:4:88:GLY:H	4:4:146:HIS:CD2	2.04	0.75
8:B:48:GLY:HA3	8:B:81:THR:HG22	1.66	0.75
10:D:65:ILE:HA	10:D:74:VAL:HA	1.69	0.75
57:y:8:GLU:HG3	57:y:9:ASN:H	1.50	0.75
1:1:2406:C:N3	1:1:2816:G:N2	2.34	0.74
31:Y:50:ILE:HG22	31:Y:106:ILE:HD11	1.69	0.74
1:1:85:A:OP1	33:a:65:GLN:NE2	2.18	0.74
1:1:182:U:O4	1:1:234:G:O6	2.06	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2177:G:N1	7:A:118:GLU:OE1	2.20	0.74
4:4:194:VAL:HG11	4:4:319:ILE:HD13	1.67	0.74
4:4:366:GLN:NE2	4:4:430:TYR:O	2.20	0.74
1:1:1766:G:N7	24:R:46:LYS:NZ	2.36	0.74
14:H:120:ASP:OD2	14:H:124:ARG:NH2	2.20	0.74
34:b:210:ASP:O	34:b:332:ARG:NH1	2.20	0.74
46:n:428:GLN:HG2	46:n:449:PRO:HD3	1.68	0.74
47:o:141:ASN:HD21	47:o:143:GLU:HB3	1.52	0.74
1:1:1259:A:O3'	29:W:22:ASN:ND2	2.20	0.74
9:C:226:GLU:OE1	9:C:246:ARG:NH2	2.20	0.74
23:Q:134:GLY:O	23:Q:137:THR:OG1	2.06	0.74
57:y:223:ARG:HG2	57:y:229:PRO:HA	1.70	0.74
1:1:87:U:O2	1:1:99:A:N7	2.20	0.74
1:1:152:U:OP1	40:h:106:LYS:NZ	2.18	0.74
1:1:1722:U:OP1	24:R:100:ARG:NH1	2.21	0.74
3:3:37:G:N2	3:3:43:U:O4	2.19	0.74
34:b:181:SER:OG	60:b:701:GTP:O2G	2.04	0.74
34:b:577:THR:HG22	34:b:579:ASN:H	1.52	0.74
9:C:7:THR:OG1	9:C:147:GLU:OE1	2.05	0.74
29:W:44:HIS:HB2	29:W:216:LYS:HD3	1.69	0.74
55:w:151:ASN:O	55:w:184:ARG:NH2	2.21	0.74
56:x:460:VAL:HG12	56:x:470:VAL:HG12	1.70	0.74
1:1:799:G:O2'	18:L:18:TRP:NE1	2.19	0.74
1:1:173:G:N1	1:1:245:U:N3	2.18	0.73
1:1:2526:C:O2'	1:1:2589:G:OP1	2.06	0.73
1:1:2726:C:N3	45:m:314:LYS:NZ	2.35	0.73
6:6:2:C:O2	52:t:70:ARG:NH1	2.21	0.73
1:1:3042:U:OP2	1:1:3092:C:N4	2.19	0.73
1:1:538:G:H1	1:1:553:U:H3	0.76	0.73
1:1:954:U:C5	1:1:1115:G:H8	2.06	0.73
1:1:3160:U:H3	1:1:3290:G:H1	1.36	0.73
34:b:462:LYS:HD3	34:b:465:ASN:HD21	1.51	0.73
45:m:238:ARG:HH11	45:m:240:LYS:HD3	1.52	0.73
1:1:2655:U:H2'	1:1:2657:A:C6	2.23	0.73
6:6:51:U:O2'	6:6:54:A:N7	2.21	0.73
10:D:64:ILE:HB	10:D:76:ALA:HB3	1.70	0.73
56:x:146:ILE:HA	56:x:163:ALA:HA	1.67	0.73
1:1:142:C:OP1	46:n:104:ARG:NH1	2.22	0.73
1:1:1348:U:OP2	23:Q:38:ARG:NH2	2.21	0.73
1:1:2901:G:O6	34:b:6:LYS:NZ	2.22	0.73
4:4:194:VAL:HG21	4:4:319:ILE:HG21	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:d:44:MET:HB2	36:d:46:THR:HG22	1.71	0.73
46:n:189:GLN:OE1	46:n:198:ARG:NE	2.22	0.73
1:1:3294:A:OP2	8:B:126:LYS:NZ	2.19	0.73
17:K:123:VAL:HG13	17:K:179:LEU:HB3	1.70	0.73
1:1:2537:U:N3	1:1:2543:U:O4	2.14	0.73
8:B:61:ASP:HB3	34:b:413:ASN:HD21	1.53	0.73
40:h:79:ASP:OD1	40:h:79:ASP:N	2.20	0.73
2:2:8:C:H2'	2:2:9:A:H8	1.53	0.72
55:w:194:GLN:O	55:w:198:ASN:ND2	2.21	0.72
1:1:978:G:H4'	1:1:979:U:H5'	1.69	0.72
34:b:389:ASP:OD1	34:b:392:ASP:N	2.19	0.72
1:1:978:G:H1'	1:1:1103:A:H2	1.53	0.72
2:2:8:C:H2'	2:2:9:A:C8	2.25	0.72
29:W:14:GLN:O	50:r:72:LYS:NZ	2.18	0.72
29:W:123:ASP:OD1	29:W:124:TYR:N	2.23	0.72
1:1:1757:A:H5"	27:U:94:ARG:HH22	1.53	0.72
1:1:2738:A:H2'	1:1:2739:A:C8	2.24	0.72
1:1:2954:U:O2'	1:1:2977:G:N1	2.20	0.72
43:k:41:THR:HG21	43:k:62:ALA:HB2	1.70	0.72
53:u:53:LYS:NZ	53:u:62:GLU:OE2	2.23	0.72
1:1:2530:G:H1	1:1:2581:U:H3	1.36	0.72
25:S:22:PRO:O	26:T:146:ASN:ND2	2.20	0.72
1:1:1348:U:H5"	1:1:1355:A:H61	1.54	0.72
3:3:5:G:H4'	10:D:54:ARG:HG3	1.71	0.72
15:I:15:THR:HG22	15:I:16:ARG:H	1.53	0.72
18:L:27:ASP:OD2	18:L:27:ASP:N	2.21	0.72
34:b:301:GLU:O	34:b:305:LEU:HG	1.90	0.72
46:n:430:GLN:HE22	46:n:456:HIS:HD2	1.36	0.72
1:1:1200:A:H2	1:1:2824:G:C2	2.05	0.72
1:1:2839:G:O6	1:1:2850:G:N2	2.23	0.72
16:J:96:PHE:O	16:J:156:LYS:NZ	2.15	0.72
3:3:2:G:N2	3:3:119:U:O2	2.22	0.72
25:S:81:TYR:HH	25:S:114:HIS:HD1	1.37	0.72
45:m:347:PRO:HD2	45:m:389:ARG:HG2	1.69	0.72
54:v:221:ILE:O	55:w:59:GLN:NE2	2.22	0.72
56:x:124:ARG:HD2	56:x:126:VAL:HG13	1.72	0.72
1:1:879:U:O4'	22:P:135:ARG:NH1	2.23	0.72
1:1:2863:G:H1	34:b:92:LYS:HG2	1.55	0.72
3:3:35:C:O5'	5:5:106:ARG:NH2	2.23	0.72
45:m:87:ASP:OD1	55:w:74:THR:OG1	2.07	0.72
54:v:144:GLN:HA	55:w:30:ASP:HB3	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2623:G:C2	1:1:2756:C:O2	2.42	0.71
3:3:114:U:O2'	54:v:130:LYS:NZ	2.23	0.71
24:R:21:LYS:HE3	24:R:55:VAL:HA	1.72	0.71
55:w:87:MET:N	55:w:87:MET:SD	2.62	0.71
1:1:3100:U:OP1	58:z:18:ARG:NH2	2.23	0.71
25:S:68:HIS:O	25:S:73:LYS:NZ	2.22	0.71
1:1:172:G:O6	1:1:246:U:O4	2.07	0.71
1:1:339:C:OP1	1:1:1380:G:O2'	2.08	0.71
1:1:2329:C:O2'	45:m:451:LYS:NZ	2.23	0.71
34:b:368:ALA:HA	57:y:178:GLN:HB3	1.71	0.71
45:m:324:PRO:HD2	45:m:387:VAL:HG12	1.72	0.71
46:n:252:LYS:HD3	46:n:260:SER:HB3	1.73	0.71
1:1:2194:G:H21	1:1:2195:C:H2'	1.56	0.71
3:3:102:A:OP1	54:v:93:SER:OG	2.06	0.71
42:j:60:GLY:HA2	42:j:64:MET:HE3	1.70	0.71
50:r:87:LEU:HG	50:r:91:LEU:HD23	1.72	0.71
1:1:637:C:H5"	1:1:2377:G:N2	2.06	0.71
34:b:172:ILE:HG22	34:b:180:LYS:HG3	1.71	0.71
45:m:126:SER:HB2	56:x:399:THR:HG21	1.71	0.71
1:1:3177:G:O2'	1:1:3179:U:OP1	2.08	0.71
26:T:41:ASP:OD2	26:T:97:LYS:NZ	2.23	0.71
45:m:144:LYS:O	45:m:146:GLN:NE2	2.24	0.71
45:m:422:LYS:HD3	45:m:423:ASP:HB2	1.72	0.71
52:t:74:ARG:NH1	52:t:189:VAL:O	2.24	0.71
1:1:692:A:OP1	20:N:201:ARG:NH2	2.24	0.71
18:L:79:GLU:OE2	18:L:101:ARG:NH2	2.24	0.71
48:p:57:CYS:SG	48:p:58:SER:N	2.64	0.71
1:1:158:G:H2'	1:1:159:A:H8	1.56	0.71
1:1:561:C:OP1	19:M:77:ARG:N	2.23	0.71
1:1:2187:G:O6	7:A:200:ARG:NH2	2.22	0.71
1:1:1747:G:OP1	43:k:42:LYS:NZ	2.21	0.71
1:1:2547:A:H4'	1:1:2548:C:H5'	1.73	0.71
8:B:47:LEU:HD12	8:B:335:ILE:HD11	1.73	0.71
13:G:146:LYS:HD3	13:G:173:MET:HE2	1.73	0.70
38:f:19:SER:OG	38:f:20:LYS:N	2.23	0.70
56:x:260:ILE:HD13	56:x:304:TRP:HH2	1.56	0.70
6:6:14:U:N3	6:6:16:U:O2	2.23	0.70
1:1:2971:A:OP1	50:r:167:LYS:NZ	2.24	0.70
6:6:46:U:OP1	17:K:237:LYS:NZ	2.23	0.70
26:T:39:ILE:O	26:T:99:SER:OG	2.09	0.70
39:g:66:SER:OG	39:g:67:LYS:N	2.20	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:w:174:ILE:HD11	55:w:179:LEU:HD21	1.73	0.70
56:x:501:VAL:HB	56:x:513:TRP:CD1	2.23	0.70
1:1:1222:G:OP1	29:W:23:LYS:NZ	2.18	0.70
1:1:2174:G:OP2	7:A:18:SER:OG	2.09	0.70
1:1:2177:G:OP2	7:A:128:ARG:NH1	2.24	0.70
12:F:143:THR:HG22	12:F:241:LYS:HE3	1.74	0.70
51:s:61:LEU:HA	51:s:64:ILE:HD12	1.73	0.70
53:u:119:ASP:OD1	53:u:122:ARG:NH1	2.23	0.70
1:1:86:G:O2'	1:1:87:U:OP2	2.10	0.70
1:1:2672:G:O6	1:1:2682:C:N4	2.24	0.70
4:4:137:ASP:OD1	4:4:137:ASP:N	2.24	0.70
1:1:248:U:H2'	1:1:249:U:H4'	1.72	0.70
1:1:681:U:O4	9:C:118:LYS:NZ	2.22	0.70
17:K:85:ASN:ND2	17:K:274:TYR:O	2.25	0.70
55:w:113:LYS:HA	55:w:116:LYS:HE2	1.73	0.70
56:x:354:LYS:NZ	56:x:358:GLU:OE1	2.22	0.70
1:1:2674:A:N6	16:J:125:MET:O	2.25	0.70
3:3:73:C:O2'	3:3:76:A:O2'	2.09	0.70
41:i:51:SER:N	41:i:54:GLU:OE2	2.25	0.70
49:q:242:TYR:OH	49:q:246:LYS:NZ	2.22	0.70
54:v:209:TYR:O	54:v:220:ARG:N	2.23	0.70
1:1:577:C:O2'	1:1:579:G:OP1	2.10	0.70
3:3:12:U:OP2	3:3:68:C:O2'	2.09	0.70
34:b:430:ASP:OD2	53:u:83:ARG:NH1	2.25	0.70
34:b:608:MET:SD	34:b:611:ARG:NH1	2.65	0.70
43:k:67:GLN:O	43:k:67:GLN:NE2	2.25	0.70
49:q:226:SER:HB2	49:q:229:PRO:HB3	1.73	0.70
54:v:251:LYS:HD2	54:v:252:PRO:HD2	1.73	0.70
1:1:1620:U:H5'	46:n:47:ARG:HD2	1.73	0.70
1:1:2585:G:OP1	49:q:452:LYS:NZ	2.20	0.70
3:3:119:U:OP2	10:D:258:LYS:NZ	2.23	0.70
6:6:8:A:H2'	6:6:9:A:H8	1.56	0.70
10:D:49:TYR:HB3	10:D:144:VAL:HG22	1.73	0.70
16:J:95:ASN:ND2	16:J:103:GLY:O	2.25	0.70
1:1:538:G:O6	1:1:553:U:O4	2.09	0.69
4:4:114:LEU:HD11	4:4:355:ALA:HA	1.74	0.69
18:L:46:ILE:HG22	18:L:49:ARG:HB2	1.73	0.69
39:g:11:ASN:O	39:g:18:ASN:ND2	2.25	0.69
54:v:103:ILE:HG12	54:v:114:ILE:H	1.57	0.69
11:E:133:GLU:OE1	11:E:133:GLU:N	2.21	0.69
16:J:138:VAL:HA	16:J:141:ARG:HE	1.55	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:486:VAL:HA	34:b:489:ILE:HD12	1.74	0.69
1:1:2746:A:H61	10:D:148:ILE:HG21	1.56	0.69
3:3:23:A:N1	10:D:269:SER:OG	2.24	0.69
6:6:227:C:O2	52:t:146:ARG:NH2	2.25	0.69
13:G:158:ASP:HB3	13:G:159:PRO:HD3	1.74	0.69
29:W:38:ARG:N	29:W:106:ASP:OD1	2.18	0.69
1:1:239:G:O2'	1:1:240:U:OP1	2.10	0.69
2:2:9:A:H2'	2:2:10:A:H8	1.57	0.69
8:B:13:HIS:HD2	8:B:15:GLY:H	1.39	0.69
49:q:222:HIS:ND1	49:q:222:HIS:O	2.24	0.69
53:u:79:VAL:HG22	53:u:80:ARG:HB2	1.73	0.69
1:1:1301:A:C8	50:r:45:TRP:HB2	2.27	0.69
1:1:2667:A:C5	1:1:2690:G:N1	2.60	0.69
1:1:3214:U:O4	19:M:124:ARG:NH1	2.26	0.69
7:A:36:GLU:OE1	7:A:163:ARG:NH1	2.25	0.69
47:o:121:ARG:NH1	47:o:176:LEU:O	2.26	0.69
1:1:1242:G:H2'	1:1:1243:G:H8	1.57	0.69
1:1:2898:G:N2	50:r:7:ILE:H	1.90	0.69
47:o:214:SER:N	47:o:215:GLY:HA2	2.07	0.69
52:t:205:ARG:NH2	52:t:248:GLU:OE2	2.25	0.69
52:t:265:ASN:HA	52:t:268:LEU:HD12	1.72	0.69
1:1:645:A:OP1	1:1:1153:A:N6	2.26	0.69
1:1:2680:A:C6	16:J:57:PHE:HB3	2.27	0.69
1:1:2674:A:H62	16:J:105:GLY:HA3	1.58	0.69
1:1:2727:A:H3'	1:1:2729:U:C4	2.27	0.69
1:1:2873:U:OP1	1:1:2874:G:N2	2.24	0.69
8:B:34:LYS:HG3	8:B:35:ASP:H	1.58	0.69
34:b:582:LYS:HB2	34:b:585:GLN:HG3	1.75	0.69
57:y:82:GLN:NE2	57:y:86:ASN:OD1	2.25	0.69
1:1:620:U:O2	38:f:60:ARG:NH1	2.21	0.69
1:1:1556:C:H2'	1:1:2169:G:H22	1.57	0.69
15:I:83:VAL:O	53:u:47:ARG:NH2	2.26	0.69
56:x:205:SER:OG	56:x:207:ASP:OD1	2.09	0.69
1:1:538:G:N2	1:1:553:U:O2	2.20	0.69
1:1:3283:U:H2'	1:1:3284:G:C8	2.28	0.69
3:3:60:G:H2'	3:3:61:G:C8	2.27	0.69
3:3:81:U:N3	3:3:99:G:O6	2.26	0.69
6:6:20:U:H2'	6:6:21:G:C8	2.28	0.69
24:R:23:TRP:CH2	24:R:25:ASP:HB3	2.28	0.69
1:1:2659:G:H4'	1:1:2751:G:H4'	1.74	0.68
1:1:2716:U:OP2	1:1:2753:G:O2'	2.10	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:99:PHE:O	52:t:184:TYR:OH	2.12	0.68
1:1:687:U:OP2	18:L:36:ARG:NH2	2.26	0.68
1:1:2555:G:N2	39:g:96:GLU:OE1	2.26	0.68
1:1:3192:U:H3	1:1:3200:G:H1	1.41	0.68
11:E:31:ARG:NH1	38:f:107:ILE:O	2.26	0.68
20:N:4:TYR:CZ	20:N:5:LYS:HG2	2.28	0.68
1:1:1243:G:O6	1:1:1244:A:N6	2.26	0.68
1:1:2126:A:O3'	45:m:459:ARG:NH1	2.23	0.68
1:1:2316:G:H1'	1:1:2317:A:C6	2.28	0.68
1:1:3234:A:H61	1:1:3253:G:H1	1.40	0.68
2:2:79:A:H5"	4:4:349:LYS:NZ	2.09	0.68
2:2:126:A:O2'	2:2:128:U:OP2	2.11	0.68
27:U:80:THR:HG21	27:U:95:PHE:HD2	1.59	0.68
47:o:209:LYS:O	47:o:213:LYS:NZ	2.27	0.68
54:v:47:VAL:O	54:v:51:ALA:HB2	1.93	0.68
1:1:552:G:H2'	1:1:553:U:H6	1.59	0.68
3:3:25:G:N2	3:3:26:C:O4'	2.27	0.68
3:3:40:C:OP1	5:5:100:HIS:NE2	2.22	0.68
25:S:78:TRP:HE3	25:S:124:LEU:HD12	1.58	0.68
56:x:197:ASP:OD1	56:x:197:ASP:N	2.26	0.68
57:y:119:PRO:O	57:y:139:ARG:NH1	2.27	0.68
1:1:88:A:H4'	33:a:63:LYS:HD3	1.74	0.68
1:1:148:G:O6	13:G:135:GLY:HA3	1.92	0.68
1:1:1231:A:H5"	1:1:1232:C:H5'	1.76	0.68
1:1:3154:C:H1'	1:1:3158:G:H1'	1.74	0.68
53:u:95:ARG:NH1	53:u:98:GLU:OE2	2.26	0.68
56:x:321:HIS:HB3	56:x:379:ASP:HB2	1.75	0.68
1:1:595:G:OP2	12:F:30:ARG:NH2	2.26	0.68
36:d:112:ASP:HB2	53:u:147:LYS:HE2	1.76	0.68
45:m:408:GLN:HE22	45:m:410:LYS:HB3	1.58	0.68
56:x:494:TRP:NE1	56:x:498:GLY:HA2	2.07	0.68
1:1:1329:U:O2'	1:1:1330:A:OP1	2.12	0.68
3:3:35:C:N4	3:3:45:A:O2'	2.26	0.68
13:G:41:GLN:OE1	13:G:44:ARG:NH2	2.25	0.68
47:o:110:TYR:HB2	52:t:61:ILE:HD11	1.75	0.68
54:v:91:THR:OG1	54:v:99:ASN:O	2.11	0.68
1:1:974:G:N7	1:1:975:C:N4	2.42	0.68
1:1:2917:G:H1	1:1:2929:C:H5	1.40	0.68
3:3:68:C:N4	3:3:69:C:N4	2.42	0.68
17:K:36:ARG:NH2	17:K:291:LEU:O	2.27	0.68
1:1:838:G:O6	48:p:4:ARG:NH2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:108:GLU:HB2	8:B:137:TYR:CD1	2.28	0.68
1:1:2808:A:N6	1:1:2954:U:OP2	2.27	0.68
6:6:40:U:H4'	6:6:41:G:H5'	1.75	0.68
14:H:5:GLN:NE2	14:H:7:GLU:OE1	2.20	0.68
22:P:10:ASN:HD22	22:P:13:LYS:HE2	1.59	0.68
56:x:374:MET:HE2	56:x:376:THR:HG23	1.75	0.68
1:1:2594:C:C4	1:1:2595:A:H1'	2.28	0.67
3:3:47:C:H1'	10:D:222:LEU:HD22	1.75	0.67
1:1:2176:U:OP1	7:A:54:ARG:NH2	2.25	0.67
1:1:3021:A:H2	1:1:3033:A:H62	1.41	0.67
9:C:292:SER:OG	9:C:294:GLU:OE2	2.10	0.67
56:x:338:ALA:HB2	56:x:356:ALA:HB2	1.75	0.67
1:1:837:A:OP2	48:p:4:ARG:NH1	2.26	0.67
1:1:1207:G:OP1	50:r:54:ARG:NH2	2.21	0.67
1:1:2744:U:O2	1:1:2749:G:O6	2.11	0.67
4:4:41:TYR:HE1	4:4:68:THR:HA	1.59	0.67
13:G:145:ASN:H	13:G:146:LYS:HA	1.57	0.67
28:V:81:GLN:O	28:V:98:ASN:ND2	2.27	0.67
1:1:2631:U:O4	1:1:2632:G:O6	2.12	0.67
46:n:409:HIS:ND1	46:n:425:THR:OG1	2.27	0.67
1:1:2632:G:N1	1:1:2647:A:C6	2.63	0.67
3:3:103:A:H2'	3:3:104:A:C8	2.29	0.67
4:4:48:ASP:O	4:4:52:SER:OG	2.12	0.67
17:K:76:LYS:HG3	17:K:285:ARG:CZ	2.25	0.67
45:m:221:SER:HG	45:m:355:TYR:HH	1.37	0.67
2:2:153:U:OP1	13:G:63:LYS:NZ	2.26	0.67
6:6:8:A:H2'	6:6:9:A:C8	2.29	0.67
30:X:68:THR:HG21	40:h:36:LEU:HD13	1.77	0.67
55:w:47:GLU:O	55:w:51:LYS:HB3	1.95	0.67
56:x:160:VAL:HG12	56:x:170:ILE:HG23	1.75	0.67
56:x:171:TRP:HA	56:x:179:MET:H	1.60	0.67
1:1:1255:C:H2'	1:1:1256:G:H8	1.59	0.67
1:1:1281:G:H2'	1:1:1282:G:H8	1.59	0.67
1:1:2745:G:N2	1:1:2748:A:OP2	2.27	0.67
1:1:2595:A:H5"	1:1:2596:U:H5	1.60	0.67
17:K:124:LEU:HB3	17:K:180:ILE:HD12	1.77	0.67
34:b:155:GLN:O	34:b:159:ARG:NH1	2.28	0.67
46:n:147:SER:O	52:t:211:ARG:NH1	2.26	0.67
57:y:71:LEU:HD21	57:y:132:VAL:HG21	1.77	0.67
1:1:1065:A:H5"	1:1:1066:G:C8	2.30	0.67
1:1:1308:A:H5"	51:s:8:SER:HB2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2615:G:H21	1:1:2619:G:P	2.17	0.67
1:1:2624:G:H5"	55:w:151:ASN:HD21	1.58	0.67
1:1:2657:A:O2'	1:1:2658:G:O4'	2.10	0.67
8:B:163:HIS:ND1	8:B:164:THR:O	2.27	0.67
17:K:85:ASN:HB3	17:K:276:ILE:HA	1.76	0.67
34:b:246:LEU:O	34:b:281:LYS:NZ	2.24	0.67
1:1:2444:C:H5"	1:1:2503:G:H22	1.59	0.66
54:v:202:ARG:NH1	54:v:230:LEU:O	2.28	0.66
57:y:85:ARG:NH1	57:y:89:PRO:O	2.28	0.66
1:1:721:G:O2'	1:1:722:G:O5'	2.12	0.66
1:1:1278:A:HO2'	1:1:1279:C:H6	1.42	0.66
1:1:1750:A:OP1	43:k:44:LYS:NZ	2.26	0.66
1:1:3269:U:OP1	11:E:77:ARG:NH1	2.29	0.66
1:1:3283:U:H2'	1:1:3284:G:H8	1.58	0.66
54:v:252:PRO:HA	55:w:105:LEU:HD21	1.76	0.66
1:1:87:U:C2	1:1:99:A:N7	2.64	0.66
4:4:138:LEU:O	4:4:140:LYS:NZ	2.29	0.66
9:C:38:VAL:HG23	9:C:113:VAL:HG11	1.77	0.66
56:x:239:PRO:HB2	56:x:242:LEU:HD13	1.77	0.66
1:1:552:G:H2'	1:1:553:U:C6	2.31	0.66
17:K:170:ARG:NH2	17:K:193:LEU:O	2.28	0.66
54:v:80:GLU:HG2	54:v:108:TYR:HB3	1.78	0.66
56:x:375:VAL:HB	56:x:385:LEU:HD13	1.77	0.66
1:1:1581:C:H42	30:X:33:ARG:NH1	1.93	0.66
4:4:219:THR:HG23	4:4:222:LEU:H	1.58	0.66
7:A:68:LYS:HD3	7:A:70:ARG:HD3	1.78	0.66
53:u:66:ASP:OD1	53:u:103:ARG:NH1	2.28	0.66
1:1:2873:U:O2	1:1:2874:G:N1	2.29	0.66
8:B:299:ASP:HA	34:b:435:ILE:HG22	1.78	0.66
34:b:211:TYR:HB2	34:b:332:ARG:HH11	1.59	0.66
53:u:136:ILE:O	53:u:140:GLU:HG2	1.96	0.66
1:1:1243:G:N2	1:1:1270:A:O2'	2.28	0.66
25:S:66:GLU:HG3	25:S:98:SER:HB2	1.78	0.66
36:d:74:ARG:NE	36:d:94:GLU:OE2	2.28	0.66
38:f:15:SER:OG	38:f:16:TYR:N	2.25	0.66
39:g:82:ALA:HA	39:g:85:VAL:HB	1.78	0.66
1:1:2689:A:H4'	1:1:2690:G:H8	1.61	0.66
1:1:3158:G:O6	1:1:3292:A:C6	2.49	0.66
40:h:85:THR:HB	40:h:88:LEU:HD12	1.76	0.66
45:m:293:SER:O	45:m:293:SER:OG	2.14	0.66
53:u:80:ARG:NH1	57:y:85:ARG:O	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:880:G:OP2	22:P:131:ARG:NH1	2.29	0.66
1:1:2675:C:H3'	1:1:2676:A:H2'	1.77	0.66
3:3:22:A:N1	3:3:23:A:N6	2.43	0.66
13:G:206:GLU:HG3	17:K:163:VAL:HB	1.78	0.66
45:m:215:LEU:HD22	45:m:370:ILE:HG21	1.76	0.66
56:x:277:HIS:ND1	56:x:298:ASP:OD2	2.29	0.66
1:1:435:C:H2'	1:1:436:A:H8	1.61	0.66
1:1:714:G:O2'	1:1:753:C:O2'	2.12	0.66
1:1:1259:A:O2'	1:1:1260:A:O4'	2.08	0.66
1:1:2424:A:C6	1:1:2607:G:C2	2.84	0.66
6:6:41:G:N2	6:6:42:G:N3	2.43	0.66
10:D:107:ARG:HD2	10:D:248:ARG:HA	1.76	0.66
13:G:90:THR:HA	13:G:214:LEU:HD11	1.77	0.66
18:L:48:PRO:HA	18:L:137:GLN:HB3	1.78	0.66
34:b:537:THR:OG1	53:u:140:GLU:OE2	2.14	0.66
56:x:324:ASN:ND2	56:x:405:VAL:O	2.28	0.66
25:S:81:TYR:HH	25:S:114:HIS:CG	2.12	0.65
45:m:52:LYS:N	45:m:53:GLY:HA2	2.11	0.65
46:n:446:LYS:HB3	46:n:454:PRO:HD3	1.77	0.65
48:p:79:VAL:O	48:p:83:ILE:HG12	1.96	0.65
49:q:395:GLU:OE1	49:q:395:GLU:N	2.29	0.65
54:v:201:PHE:O	54:v:202:ARG:NH1	2.29	0.65
1:1:160:G:H2'	1:1:161:G:H8	1.59	0.65
5:5:58:LYS:HG2	5:5:62:LYS:HE2	1.78	0.65
8:B:59:ASP:OD1	8:B:59:ASP:N	2.27	0.65
50:r:198:LEU:HD21	50:r:224:ASN:HB2	1.77	0.65
1:1:542:G:O6	1:1:550:A:N6	2.29	0.65
1:1:1219:C:H4'	1:1:1223:A:H5'	1.77	0.65
1:1:1242:G:H2'	1:1:1243:G:C8	2.30	0.65
1:1:2525:G:N7	7:A:67:TYR:OH	2.29	0.65
6:6:230:A:O2'	52:t:148:ARG:NH1	2.30	0.65
29:W:105:THR:HB	29:W:107:GLU:HG3	1.78	0.65
38:f:13:HIS:NE2	38:f:28:SER:OG	2.29	0.65
54:v:21:ALA:HB3	55:w:106:PRO:HB3	1.78	0.65
1:1:994:G:O2'	1:1:1053:A:N6	2.29	0.65
4:4:423:MET:HA	4:4:426:ILE:HG22	1.79	0.65
17:K:159:ASP:HA	17:K:162:THR:HG22	1.76	0.65
45:m:411:HIS:O	45:m:415:THR:OG1	2.14	0.65
57:y:51:THR:OG1	57:y:52:THR:N	2.28	0.65
1:1:412:G:OP1	22:P:62:ARG:NH1	2.29	0.65
1:1:1277:C:O2'	1:1:1278:A:O5'	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1305:U:H3	8:B:257:PRO:HB3	1.62	0.65
1:1:2970:C:O2'	1:1:2972:G:OP2	2.14	0.65
4:4:155:SER:HB3	4:4:504:CYS:SG	2.37	0.65
32:Z:22:LYS:NZ	32:Z:132:SER:O	2.28	0.65
34:b:211:TYR:HE2	34:b:340:LEU:HD11	1.61	0.65
46:n:379:LEU:O	46:n:382:SER:OG	2.15	0.65
56:x:383:MET:HE2	56:x:408:VAL:HG11	1.79	0.65
1:1:954:U:OP2	1:1:1116:G:N2	2.30	0.65
1:1:1386:A:H5"	9:C:141:ARG:HH22	1.62	0.65
1:1:2534:G:H2'	1:1:2535:A:C8	2.30	0.65
1:1:2738:A:H2'	1:1:2739:A:H8	1.61	0.65
1:1:2949:U:H2'	1:1:2950:G:C8	2.32	0.65
9:C:328:ASN:OD1	12:F:48:ASN:ND2	2.29	0.65
56:x:484:GLY:O	56:x:511:ARG:NH2	2.29	0.65
1:1:160:G:H1	1:1:261:U:H3	0.73	0.65
1:1:431:U:OP1	38:f:65:ARG:NH1	2.27	0.65
1:1:1236:G:N2	1:1:1244:A:OP2	2.29	0.65
1:1:2676:A:N7	1:1:2680:A:N6	2.45	0.65
3:3:116:C:H2'	3:3:117:A:C8	2.31	0.65
18:L:76:THR:HG22	18:L:78:ALA:H	1.62	0.65
18:L:176:GLU:O	18:L:180:ARG:HB2	1.97	0.65
1:1:283:G:H3'	1:1:283:G:N3	2.12	0.65
1:1:1256:G:O6	1:1:1261:G:N2	2.28	0.65
1:1:1260:A:HO2'	1:1:1279:C:HO2'	1.34	0.65
1:1:1805:C:H2'	1:1:1806:A:H8	1.61	0.65
1:1:2745:G:O2'	1:1:2747:A:N7	2.29	0.65
42:j:68:LYS:HE2	42:j:69:HIS:HE1	1.62	0.65
46:n:173:GLU:HG2	46:n:175:LEU:HD12	1.78	0.65
1:1:621:A:OP1	22:P:167:ARG:NH1	2.30	0.65
4:4:343:TYR:O	40:h:34:GLN:NE2	2.30	0.65
16:J:163:PHE:HE2	16:J:171:VAL:HA	1.61	0.65
34:b:193:ASP:HB3	34:b:200:THR:HG22	1.79	0.65
41:i:29:LYS:HB3	41:i:32:ALA:HB2	1.77	0.65
1:1:728:G:H5'	23:Q:43:PRO:HB2	1.79	0.65
1:1:1000:C:H4'	1:1:1001:G:H5'	1.79	0.65
1:1:1200:A:H2	1:1:2824:G:H1	0.69	0.65
1:1:2516:U:O2'	1:1:2595:A:N6	2.30	0.65
4:4:314:GLY:N	4:4:509:LEU:O	2.28	0.65
17:K:41:VAL:O	17:K:45:ILE:HG12	1.96	0.65
17:K:196:GLY:O	17:K:200:ASN:ND2	2.30	0.65
27:U:101:ASN:HA	27:U:103:TYR:CZ	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:173:THR:HG22	29:W:182:ILE:HG22	1.77	0.65
47:o:174:GLU:OE1	47:o:175:LYS:NZ	2.29	0.65
57:y:203:LEU:HD21	57:y:205:VAL:HG23	1.78	0.65
1:1:1131:G:O2'	1:1:2822:U:O4	2.15	0.64
1:1:1229:G:O3'	29:W:126:ARG:NH2	2.26	0.64
1:1:2624:G:O2'	1:1:2625:C:OP1	2.14	0.64
2:2:84:C:O2	31:Y:113:LYS:N	2.26	0.64
4:4:193:THR:HG22	4:4:556:LEU:HD11	1.78	0.64
7:A:27:ALA:O	7:A:128:ARG:NH2	2.31	0.64
28:V:108:GLU:OE1	28:V:108:GLU:N	2.30	0.64
45:m:74:ASP:OD2	45:m:75:ARG:N	2.29	0.64
46:n:26:GLN:O	46:n:81:ARG:NH2	2.30	0.64
47:o:91:GLY:O	47:o:138:GLU:HG2	1.98	0.64
1:1:1104:G:H5'	1:1:1105:A:O4'	1.97	0.64
1:1:1868:G:HO2'	1:1:2118:C:HO2'	1.45	0.64
1:1:2743:A:N6	1:1:2751:G:O6	2.30	0.64
1:1:2841:G:H21	1:1:2847:A:N6	1.94	0.64
1:1:2923:U:H2'	1:1:2924:U:H2'	1.80	0.64
3:3:2:G:O6	3:3:119:U:O4	2.16	0.64
29:W:131:ALA:HB2	29:W:195:LEU:HD11	1.77	0.64
45:m:438:LEU:HA	45:m:444:PRO:HA	1.78	0.64
56:x:144:SER:O	56:x:508:LYS:HG3	1.98	0.64
1:1:1220:U:H5"	5:5:44:TRP:HE1	1.61	0.64
1:1:2705:A:H8	1:1:2705:A:O5'	1.80	0.64
54:v:144:GLN:HB2	54:v:185:THR:HG23	1.79	0.64
1:1:712:G:H2'	1:1:713:U:C6	2.32	0.64
1:1:2756:C:H4'	55:w:195:GLN:HG3	1.79	0.64
8:B:341:SER:O	8:B:343:TYR:N	2.30	0.64
15:I:117:GLU:O	15:I:120:GLU:HG3	1.97	0.64
20:N:4:TYR:CG	20:N:5:LYS:N	2.66	0.64
39:g:46:ASP:OD2	39:g:88:ARG:NH2	2.31	0.64
46:n:180:PHE:HB3	46:n:187:TYR:HB2	1.79	0.64
46:n:242:LEU:HD22	46:n:264:LEU:HD12	1.80	0.64
47:o:89:TYR:HB3	47:o:168:PRO:HA	1.79	0.64
54:v:233:LYS:HZ2	54:v:234:ILE:H	1.44	0.64
58:z:48:ASP:HA	58:z:51:LYS:HZ2	1.63	0.64
1:1:3002:C:O2'	8:B:180:GLU:OE2	2.10	0.64
20:N:9:GLU:OE2	41:i:41:ARG:NH1	2.30	0.64
54:v:220:ARG:CZ	55:w:59:GLN:HG3	2.27	0.64
56:x:188:TRP:HB2	56:x:206:MET:HG2	1.79	0.64
1:1:1724:U:OP1	24:R:128:LYS:NZ	2.24	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:75:G:OP2	3:3:76:A:O2'	2.16	0.64
10:D:98:ALA:HB1	10:D:162:ALA:HB2	1.80	0.64
10:D:140:ARG:HE	55:w:87:MET:HB3	1.62	0.64
21:O:52:LEU:HD12	51:s:1:MET:HE1	1.78	0.64
1:1:1097:G:H8	26:T:112:ASN:HD22	1.46	0.64
1:1:3018:C:OP1	57:y:9:ASN:ND2	2.18	0.64
29:W:49:ARG:HH11	29:W:51:PRO:HB2	1.62	0.64
32:Z:87:LEU:HD23	32:Z:88:ASP:H	1.62	0.64
56:x:169:ARG:HB3	56:x:171:TRP:NE1	2.12	0.64
1:1:1241:U:O2'	1:1:1242:G:O5'	2.15	0.64
1:1:1348:U:H4'	1:1:1349:G:OP1	1.96	0.64
4:4:391:LYS:HB2	4:4:394:HIS:ND1	2.13	0.64
20:N:68:ARG:NH1	20:N:124:ASP:O	2.31	0.64
1:1:2691:A:H3'	1:1:2692:A:C8	2.33	0.64
1:1:2819:A:H61	1:1:2945:G:H8	1.45	0.64
21:O:127:LEU:HD11	25:S:168:PRO:HG3	1.79	0.64
23:Q:23:ASN:HB3	23:Q:26:LEU:HB2	1.80	0.64
34:b:353:ARG:NH1	57:y:241:ILE:O	2.31	0.64
45:m:110:ARG:O	45:m:110:ARG:NH2	2.31	0.64
45:m:326:THR:N	60:m:501:GTP:O2B	2.29	0.64
49:q:228:ASN:ND2	49:q:403:SER:O	2.30	0.64
58:z:47:GLU:O	58:z:51:LYS:NZ	2.31	0.64
1:1:806:A:H2'	1:1:807:A:N3	2.13	0.64
1:1:2364:G:N2	1:1:2396:G:H1'	2.09	0.64
1:1:2630:C:O2	1:1:2649:A:N6	2.30	0.64
1:1:2898:G:H22	50:r:6:TYR:N	1.95	0.64
3:3:35:C:N4	3:3:45:A:HO2'	1.96	0.64
3:3:85:G:N2	3:3:95:A:N1	2.44	0.64
6:6:24:A:H1'	17:K:93:LYS:HD2	1.79	0.64
20:N:104:GLU:OE1	20:N:108:ARG:NH1	2.31	0.64
54:v:52:LEU:HB3	54:v:165:PHE:HE1	1.62	0.64
1:1:1741:A:H2'	1:1:1742:U:H5'	1.80	0.63
1:1:2737:C:H2'	1:1:2738:A:H8	1.63	0.63
1:1:2784:G:H2'	1:1:2785:A:C8	2.33	0.63
1:1:2872:A:N6	1:1:2925:C:O2	2.30	0.63
3:3:77:G:N2	3:3:102:A:OP2	2.31	0.63
1:1:1471:U:OP1	24:R:5:ARG:NH2	2.32	0.63
3:3:27:A:O2'	3:3:56:A:N1	2.30	0.63
25:S:81:TYR:HB2	25:S:120:SER:HB2	1.79	0.63
29:W:41:TRP:HB2	29:W:103:LEU:HB3	1.80	0.63
34:b:361:ILE:HD12	57:y:237:ARG:HD2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:w:85:SER:OG	56:x:480:VAL:HG11	1.97	0.63
1:1:760:G:H1'	1:1:770:G:H22	1.61	0.63
1:1:2595:A:H5"	1:1:2596:U:C5	2.32	0.63
11:E:51:ARG:NH1	11:E:158:TYR:O	2.31	0.63
34:b:435:ILE:HD11	53:u:3:ILE:HD11	1.79	0.63
34:b:586:THR:OG1	34:b:591:ASP:OD2	2.17	0.63
1:1:2784:G:H2'	1:1:2785:A:H8	1.63	0.63
3:3:11:A:N6	10:D:13:SER:O	2.25	0.63
14:H:28:VAL:HG22	14:H:33:THR:HG22	1.80	0.63
30:X:4:SER:O	30:X:7:ALA:N	2.32	0.63
1:1:97:U:C5	18:L:11:LYS:HD2	2.33	0.63
1:1:178:U:H2'	1:1:179:C:C6	2.33	0.63
1:1:993:G:O6	1:1:994:G:O6	2.17	0.63
1:1:2739:A:H2'	1:1:2740:A:C8	2.33	0.63
1:1:3164:C:HO2'	1:1:3165:A:H8	1.46	0.63
1:1:1107:C:O2'	1:1:1108:U:O4'	2.16	0.63
1:1:2503:G:N2	1:1:2504:U:O2	2.28	0.63
16:J:87:LYS:HD3	16:J:106:ILE:HG12	1.80	0.63
17:K:32:ILE:HD11	17:K:292:TYR:HB2	1.80	0.63
45:m:221:SER:HB2	50:r:163:ARG:HD2	1.81	0.63
1:1:2656:A:N1	55:w:145:TRP:HB2	2.14	0.63
1:1:2844:C:O2'	1:1:2846:U:OP2	2.17	0.63
4:4:25:LEU:HA	4:4:28:TYR:HB2	1.79	0.63
5:5:93:GLU:HB3	5:5:94:ARG:HH21	1.63	0.63
14:H:151:VAL:O	14:H:155:SER:OG	2.14	0.63
29:W:87:GLU:O	29:W:221:TYR:OH	2.12	0.63
33:a:85:ASP:OD1	33:a:85:ASP:N	2.27	0.63
1:1:837:A:H4'	48:p:10:ILE:HG13	1.81	0.63
1:1:990:U:H2'	1:1:991:G:H5"	1.81	0.63
1:1:1567:U:H4'	1:1:1568:U:H3'	1.81	0.63
1:1:2416:U:O2'	1:1:2966:G:O2'	2.17	0.63
1:1:2829:U:OP1	34:b:129:LYS:NZ	2.32	0.63
29:W:108:ASP:OD2	29:W:111:THR:N	2.31	0.63
51:s:54:PHE:CD1	51:s:55:PRO:HD2	2.34	0.63
55:w:183:GLU:OE1	55:w:186:ARG:NH2	2.31	0.63
1:1:590:G:OP1	37:e:62:LYS:NZ	2.30	0.62
23:Q:63:SER:OG	23:Q:64:VAL:N	2.28	0.62
32:Z:126:LYS:NZ	49:q:266:MET:O	2.28	0.62
34:b:74:VAL:HG13	34:b:75:HIS:H	1.63	0.62
34:b:175:TYR:CE2	34:b:267:GLN:HA	2.33	0.62
56:x:485:HIS:ND1	56:x:507:ASP:OD2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:831:G:O2'	1:1:1864:A:N3	2.27	0.62
1:1:848:A:C8	1:1:849:C:H1'	2.33	0.62
1:1:3275:U:H5'	38:f:68:TRP:HZ2	1.62	0.62
4:4:240:PRO:HB3	4:4:270:THR:HA	1.81	0.62
6:6:31:G:C2	6:6:48:A:N6	2.67	0.62
6:6:36:U:H2'	6:6:37:C:C6	2.34	0.62
17:K:100:LEU:HD21	17:K:266:ILE:HG23	1.81	0.62
29:W:64:LYS:O	29:W:104:PHE:N	2.30	0.62
34:b:188:THR:OG1	34:b:208:HIS:O	2.10	0.62
38:f:56:SER:O	38:f:63:LYS:NZ	2.29	0.62
45:m:302:LEU:HD12	45:m:305:GLN:HE21	1.64	0.62
49:q:390:ILE:HB	49:q:421:ARG:HG2	1.81	0.62
55:w:196:ARG:HG3	55:w:199:MET:HE2	1.81	0.62
56:x:289:GLN:HB3	56:x:291:LEU:HD13	1.81	0.62
1:1:849:C:H2'	1:1:850:U:H6	1.63	0.62
1:1:2760:C:H2'	1:1:2761:G:C8	2.34	0.62
34:b:268:VAL:HG21	34:b:305:LEU:HD22	1.79	0.62
35:c:43:ILE:HD13	35:c:68:TYR:HB3	1.81	0.62
56:x:243:VAL:O	56:x:353:GLN:NE2	2.31	0.62
1:1:97:U:H5	18:L:11:LYS:HD2	1.64	0.62
1:1:394:G:N1	1:1:397:A:OP2	2.32	0.62
1:1:1246:G:O2'	1:1:1264:G:OP2	2.16	0.62
1:1:2832:C:H2'	1:1:2833:A:C8	2.33	0.62
1:1:3194:C:H2'	1:1:3195:U:H5"	1.80	0.62
34:b:169:THR:HG23	34:b:217:GLN:HG3	1.81	0.62
34:b:280:ASN:N	34:b:280:ASN:OD1	2.32	0.62
54:v:99:ASN:ND2	54:v:115:GLU:OE1	2.32	0.62
56:x:166:ASN:ND2	56:x:185:HIS:O	2.32	0.62
57:y:11:ASN:OD1	57:y:208:LEU:N	2.32	0.62
1:1:208:C:OP2	9:C:163:LYS:NZ	2.23	0.62
1:1:275:U:H2'	1:1:276:U:C6	2.34	0.62
1:1:1268:G:N2	1:1:1273:A:H62	1.97	0.62
1:1:2414:G:N2	1:1:2807:U:O2	2.32	0.62
3:3:24:A:H2'	3:3:25:G:C8	2.34	0.62
3:3:25:G:H5"	3:3:26:C:H5	1.62	0.62
17:K:231:MET:HE2	17:K:232:ASN:HB3	1.82	0.62
31:Y:55:GLU:HA	31:Y:69:LYS:HA	1.82	0.62
54:v:202:ARG:HB3	54:v:204:TYR:HE2	1.65	0.62
56:x:509:MET:SD	56:x:511:ARG:NH2	2.73	0.62
57:y:112:ASP:OD1	57:y:112:ASP:N	2.31	0.62
1:1:1112:A:H2'	1:1:1113:G:C8	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1712:G:N1	1:1:1731:A:OP2	2.32	0.62
4:4:255:ASN:OD1	4:4:255:ASN:N	2.30	0.62
8:B:221:THR:OG1	8:B:221:THR:O	2.12	0.62
1:1:567:G:H2'	1:1:568:G:C8	2.34	0.62
1:1:2406:C:N4	1:1:2816:G:H1	1.88	0.62
1:1:2678:A:H2'	1:1:2679:A:C5	2.35	0.62
8:B:243:HIS:HD2	8:B:244:ARG:HG3	1.64	0.62
45:m:263:ASP:OD1	45:m:263:ASP:N	2.33	0.62
46:n:174:ARG:HH11	46:n:358:SER:H	1.45	0.62
48:p:84:ARG:HD3	48:p:88:GLU:HG2	1.81	0.62
52:t:76:LYS:HE3	52:t:80:ILE:HD11	1.80	0.62
56:x:383:MET:HG3	56:x:398:MET:HE1	1.79	0.62
1:1:1120:A:OP1	51:s:21:LYS:NZ	2.32	0.62
1:1:2730:G:O6	45:m:252:HIS:ND1	2.33	0.62
8:B:27:ALA:HB2	8:B:220:VAL:HG23	1.80	0.62
20:N:71:ARG:HB3	20:N:92:LEU:HB2	1.82	0.62
34:b:322:CYS:N	60:b:701:GTP:O6	2.32	0.62
1:1:399:A:HO2'	1:1:403:C:HO2'	1.36	0.62
1:1:2408:U:H5'	1:1:2409:G:OP2	1.99	0.62
1:1:3160:U:O2	1:1:3290:G:C2	2.52	0.62
6:6:5:C:H1'	52:t:304:ALA:HA	1.81	0.62
9:C:317:PRO:C	9:C:319:LYS:H	2.08	0.62
26:T:89:LEU:HD12	26:T:91:LEU:HD11	1.82	0.62
53:u:23:ARG:HD2	53:u:27:LYS:HZ3	1.65	0.62
54:v:211:SER:C	54:v:213:GLN:H	2.07	0.62
57:y:110:CYS:SG	57:y:111:ASN:N	2.73	0.62
12:F:40:LYS:NZ	12:F:170:GLU:OE2	2.32	0.62
1:1:3349:C:N4	1:1:3357:U:H3	1.98	0.61
15:I:27:THR:OG1	15:I:30:SER:OG	2.14	0.61
17:K:271:ILE:HG13	17:K:272:LYS:H	1.64	0.61
34:b:624:ARG:NH1	44:l:41:ARG:O	2.25	0.61
45:m:231:ALA:HA	45:m:259:LEU:HD12	1.82	0.61
47:o:189:ILE:HG22	47:o:191:LYS:H	1.65	0.61
54:v:115:GLU:O	54:v:235:GLY:CA	2.47	0.61
56:x:326:LEU:HA	56:x:376:THR:HG22	1.81	0.61
1:1:91:G:N2	1:1:95:A:C5	2.68	0.61
1:1:401:U:H3'	34:b:611:ARG:HH22	1.65	0.61
1:1:2632:G:H1	1:1:2647:A:N6	1.98	0.61
4:4:42:VAL:O	4:4:46:ILE:HG12	2.01	0.61
14:H:21:LYS:HG3	14:H:22:SER:H	1.65	0.61
34:b:329:MET:HA	34:b:332:ARG:HG2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:m:63:ASP:N	50:r:130:GLU:OE1	2.31	0.61
51:s:50:ILE:HD12	51:s:60:ILE:HD13	1.83	0.61
1:1:2752:U:H2'	1:1:2753:G:C8	2.36	0.61
1:1:2824:G:OP2	51:s:22:LYS:NZ	2.33	0.61
1:1:2965:U:H2'	1:1:2966:G:N3	2.15	0.61
38:f:49:ILE:HG12	38:f:100:ILE:HG12	1.83	0.61
1:1:3:U:H1'	6:6:232:A:C8	2.35	0.61
1:1:76:G:O2'	18:L:100:ARG:NH1	2.33	0.61
1:1:229:G:H5"	31:Y:4:GLN:HB2	1.81	0.61
1:1:1059:G:H2'	1:1:1060:U:C6	2.35	0.61
4:4:142:THR:HG23	4:4:155:SER:HB2	1.82	0.61
46:n:366:TYR:HA	46:n:388:ILE:HB	1.81	0.61
1:1:86:G:H1'	1:1:87:U:H5	1.65	0.61
1:1:1408:G:OP1	37:e:33:ARG:NH2	2.34	0.61
1:1:1645:U:O2'	46:n:50:LYS:NZ	2.33	0.61
1:1:1863:G:N1	1:1:1866:C:OP2	2.31	0.61
1:1:2698:G:H22	54:v:82:ASN:CG	2.07	0.61
1:1:2954:U:HO2'	1:1:2977:G:H1	1.49	0.61
3:3:35:C:H42	3:3:45:A:H1'	1.64	0.61
10:D:196:ARG:HE	56:x:177:THR:HB	1.65	0.61
12:F:155:LYS:NZ	12:F:200:ASN:OD1	2.27	0.61
17:K:181:LEU:HA	17:K:207:ILE:HG22	1.83	0.61
29:W:47:ASP:HB3	29:W:126:ARG:HE	1.65	0.61
33:a:124:ILE:HD12	33:a:144:VAL:HG12	1.83	0.61
52:t:128:LEU:O	52:t:130:ARG:NH2	2.33	0.61
1:1:261:U:H2'	1:1:262:U:C6	2.36	0.61
1:1:993:G:O6	1:1:1056:U:O2	2.17	0.61
1:1:2622:C:C2	1:1:2623:G:C8	2.88	0.61
1:1:2662:G:H2'	1:1:2663:G:C8	2.35	0.61
47:o:92:ILE:HG23	47:o:167:LEU:HB2	1.81	0.61
54:v:69:PHE:CE1	54:v:113:MET:HB2	2.36	0.61
1:1:1190:A:O2'	1:1:1193:A:OP2	2.18	0.61
1:1:3349:C:H42	1:1:3357:U:H3	1.48	0.61
4:4:543:LEU:HB3	4:4:550:VAL:HG13	1.83	0.61
29:W:31:ARG:HH21	29:W:31:ARG:HA	1.64	0.61
45:m:247:LYS:HG3	45:m:248:LYS:HG3	1.82	0.61
54:v:172:LEU:HD12	55:w:91:GLN:HE21	1.66	0.61
57:y:59:ILE:O	57:y:63:THR:HG22	2.00	0.61
3:3:78:U:OP2	3:3:101:G:N2	2.32	0.61
46:n:87:ALA:O	46:n:91:THR:HG23	2.00	0.61
30:X:2:ALA:O	47:o:141:ASN:ND2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:269:LYS:O	34:b:273:SER:OG	2.15	0.61
55:w:192:GLU:HG3	55:w:196:ARG:NH2	2.15	0.61
1:1:2832:C:H2'	1:1:2833:A:H8	1.66	0.61
1:1:3267:A:N6	11:E:70:LYS:O	2.33	0.61
27:U:10:LYS:O	27:U:68:THR:OG1	2.18	0.61
29:W:110:ASN:O	29:W:113:LYS:HG3	1.99	0.61
1:1:87:U:O2'	33:a:63:LYS:NZ	2.34	0.60
4:4:245:ARG:HG2	4:4:318:LEU:HB3	1.82	0.60
9:C:292:SER:OG	9:C:293:SER:N	2.31	0.60
11:E:99:GLU:OE1	11:E:99:GLU:N	2.30	0.60
25:S:42:TRP:HA	25:S:42:TRP:CE3	2.35	0.60
47:o:149:GLN:NE2	47:o:164:VAL:O	2.32	0.60
1:1:2670:G:H2'	1:1:2671:A:C8	2.36	0.60
1:1:2981:U:H1'	1:1:2982:A:H5'	1.82	0.60
45:m:85:SER:HA	50:r:236:LYS:HB3	1.84	0.60
45:m:416:TYR:HB2	45:m:418:ILE:HG23	1.83	0.60
45:m:417:GLU:OE1	45:m:417:GLU:N	2.32	0.60
54:v:15:ALA:O	54:v:19:ARG:HG3	2.01	0.60
1:1:878:G:O2'	1:1:2980:U:O2	2.15	0.60
3:3:19:C:O2	3:3:61:G:N2	2.34	0.60
46:n:247:LYS:NZ	46:n:265:GLU:OE2	2.34	0.60
54:v:147:ALA:HA	54:v:150:THR:HG22	1.83	0.60
1:1:1316:C:O2	21:O:130:LYS:NZ	2.34	0.60
1:1:1917:C:OP1	24:R:85:ARG:NH2	2.34	0.60
1:1:2621:G:O6	1:1:2757:U:O2	2.18	0.60
4:4:98:ASP:H	4:4:140:LYS:NZ	1.99	0.60
6:6:231:A:O2'	6:6:232:A:N3	2.34	0.60
13:G:185:ARG:O	13:G:188:THR:OG1	2.18	0.60
1:1:732:C:H2'	1:1:733:G:C8	2.36	0.60
1:1:2522:G:O2'	1:1:2523:A:OP1	2.19	0.60
16:J:162:TRP:HZ3	16:J:166:LYS:HG2	1.65	0.60
54:v:251:LYS:HG3	54:v:253:LYS:H	1.66	0.60
1:1:424:G:C6	1:1:635:G:N2	2.69	0.60
1:1:2875:U:O2'	1:1:2951:G:N1	2.33	0.60
1:1:3218:A:H5"	1:1:3219:G:C5	2.37	0.60
42:j:68:LYS:HE2	42:j:69:HIS:CE1	2.36	0.60
57:y:108:ILE:HD13	57:y:129:ILE:HD11	1.84	0.60
1:1:877:C:H42	34:b:647:ARG:HH12	1.50	0.60
1:1:2592:G:O2'	1:1:2594:C:N4	2.35	0.60
18:L:162:ASN:OD1	18:L:162:ASN:N	2.33	0.60
31:Y:91:ASN:OD1	31:Y:91:ASN:N	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:n:90:LEU:HD21	52:t:286:LEU:HD12	1.84	0.60
1:1:1240:A:N6	1:1:1241:U:O4	2.35	0.60
1:1:1253:U:H4'	1:1:1254:C:H5'	1.83	0.60
1:1:2845:A:O2'	1:1:2848:G:O6	2.15	0.60
5:5:101:ALA:HA	5:5:104:VAL:HG22	1.84	0.60
32:Z:28:PRO:O	32:Z:29:HIS:ND1	2.35	0.60
45:m:327:GLY:N	60:m:501:GTP:O2B	2.31	0.60
50:r:181:LYS:HD3	50:r:194:PHE:CE2	2.37	0.60
56:x:380:ASP:N	56:x:380:ASP:OD1	2.32	0.60
1:1:158:G:H2'	1:1:159:A:C8	2.36	0.60
1:1:760:G:H1'	1:1:770:G:N2	2.16	0.60
1:1:2440:G:H2'	1:1:2441:A:O4'	2.02	0.60
1:1:2600:C:H2'	1:1:2601:A:H8	1.67	0.60
1:1:2785:A:H2'	1:1:2786:G:C8	2.37	0.60
1:1:2838:A:N6	1:1:2850:G:O2'	2.35	0.60
1:1:2863:G:N1	34:b:92:LYS:HG2	2.16	0.60
1:1:3306:U:O2'	1:1:3308:C:OP2	2.18	0.60
12:F:98:LYS:HE2	12:F:129:LEU:HD11	1.83	0.60
57:y:4:ARG:HG2	57:y:206:THR:HG23	1.84	0.60
1:1:402:A:O5'	34:b:611:ARG:NH2	2.35	0.60
1:1:1217:A:H2'	1:1:1218:U:H6	1.66	0.60
1:1:1276:U:O2'	1:1:1277:C:H5'	2.01	0.60
3:3:20:A:H2'	3:3:21:G:O4'	2.02	0.60
4:4:77:GLU:OE2	4:4:78:GLN:NE2	2.35	0.60
14:H:62:ARG:NE	29:W:1:MET:SD	2.75	0.60
56:x:151:PHE:HE1	56:x:159:MET:HB3	1.66	0.60
1:1:1556:C:H2'	1:1:2169:G:N2	2.17	0.59
1:1:2506:U:H2'	1:1:2507:C:C6	2.37	0.59
6:6:22:G:N2	17:K:184:ASP:O	2.35	0.59
34:b:305:LEU:O	34:b:308:SER:OG	2.16	0.59
36:d:46:THR:HG21	36:d:91:SER:HB3	1.84	0.59
46:n:174:ARG:NH1	46:n:358:SER:H	2.00	0.59
1:1:117:U:O2'	1:1:118:U:O5'	2.19	0.59
1:1:520:U:N3	9:C:347:THR:O	2.31	0.59
1:1:1055:A:O2'	1:1:1056:U:H2'	2.02	0.59
1:1:2445:A:N6	1:1:2501:U:O2	2.36	0.59
1:1:2691:A:H5'	1:1:2692:A:N7	2.17	0.59
1:1:2832:C:H5'	50:r:247:ASN:HB3	1.84	0.59
2:2:21:C:OP1	9:C:193:LYS:NZ	2.32	0.59
7:A:180:LEU:HD11	48:p:26:VAL:HG21	1.84	0.59
10:D:183:TRP:HE1	10:D:185:PHE:HD1	1.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:q:237:LEU:O	49:q:240:LYS:HG3	2.01	0.59
50:r:22:GLU:OE1	50:r:25:ARG:NH2	2.32	0.59
2:2:39:G:O2'	2:2:105:A:N1	2.32	0.59
3:3:26:C:H2'	3:3:27:A:C4	2.37	0.59
4:4:28:TYR:CE1	4:4:150:TYR:HB3	2.36	0.59
4:4:195:VAL:HG12	4:4:569:LEU:HD22	1.83	0.59
9:C:82:THR:HG23	9:C:84:ARG:H	1.66	0.59
17:K:295:GLN:NE2	47:o:197:LYS:O	2.35	0.59
31:Y:70:ILE:HG12	31:Y:82:VAL:HG12	1.84	0.59
34:b:80:ASP:O	34:b:84:THR:HG22	2.02	0.59
34:b:343:ARG:HH21	34:b:347:LYS:HE3	1.67	0.59
35:c:58:TYR:O	35:c:61:MET:HG3	2.02	0.59
1:1:718:G:OP1	33:a:117:ARG:NH2	2.36	0.59
1:1:2112:U:OP1	53:u:44:ARG:NH2	2.36	0.59
1:1:2682:C:H4'	16:J:18:VAL:HG11	1.83	0.59
1:1:3122:A:N1	14:H:70:THR:HG21	2.17	0.59
8:B:140:ASP:O	8:B:142:ALA:N	2.35	0.59
45:m:318:VAL:HG23	45:m:364:LEU:HD23	1.83	0.59
51:s:65:GLU:HG3	51:s:68:LYS:HZ3	1.68	0.59
56:x:145:THR:HG22	56:x:506:LYS:HA	1.84	0.59
56:x:189:VAL:HA	56:x:205:SER:HA	1.83	0.59
1:1:849:C:H2'	1:1:850:U:C6	2.38	0.59
1:1:998:A:H2'	1:1:999:G:C5	2.37	0.59
1:1:2761:G:N7	1:1:2795:U:O2'	2.33	0.59
4:4:334:LEU:O	4:4:442:TRP:HA	2.01	0.59
18:L:55:ARG:NH1	18:L:73:ARG:O	2.29	0.59
23:Q:36:LEU:O	23:Q:40:THR:OG1	2.16	0.59
23:Q:98:LYS:HE3	23:Q:118:GLY:HA3	1.83	0.59
24:R:86:GLU:OE1	24:R:91:SER:N	2.26	0.59
34:b:104:LEU:HB3	34:b:139:ILE:HD13	1.83	0.59
35:c:16:LEU:HD22	35:c:98:SER:HB3	1.85	0.59
46:n:254:LYS:O	52:t:200:SER:OG	2.16	0.59
48:p:57:CYS:SG	48:p:59:CYS:N	2.75	0.59
49:q:246:LYS:HE3	52:t:19:LEU:HD22	1.83	0.59
3:3:100:C:H2'	3:3:101:G:C8	2.38	0.59
6:6:32:A:H3'	6:6:32:A:N3	2.18	0.59
11:E:70:LYS:HG2	11:E:142:ASP:OD1	2.02	0.59
15:I:16:ARG:NH2	15:I:24:ASP:OD1	2.35	0.59
17:K:171:ASN:HA	17:K:174:ILE:HG22	1.83	0.59
21:O:55:HIS:CE1	51:s:1:MET:HG3	2.37	0.59
47:o:191:LYS:HG3	47:o:192:PRO:HD2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:196:ILE:HB	52:t:311:GLU:HG3	1.82	0.59
1:1:435:C:H2'	1:1:436:A:C8	2.38	0.59
1:1:1597:C:H5'	1:1:1696:A:H1'	1.85	0.59
1:1:2533:G:H2'	1:1:2534:G:C4	2.36	0.59
1:1:3321:C:H2'	1:1:3322:A:H8	1.67	0.59
2:2:79:A:H5"	4:4:349:LYS:HZ2	1.68	0.59
3:3:34:C:H2'	3:3:35:C:H5'	1.85	0.59
3:3:68:C:N4	3:3:69:C:H41	1.99	0.59
4:4:406:GLU:CD	4:4:406:GLU:H	2.10	0.59
7:A:142:ASP:OD1	7:A:142:ASP:N	2.33	0.59
7:A:201:GLY:HA3	7:A:209:HIS:CG	2.37	0.59
14:H:188:THR:HA	14:H:189:GLU:HB2	1.83	0.59
19:M:15:VAL:HG12	19:M:65:LEU:HD11	1.85	0.59
26:T:55:LYS:NZ	55:w:161:GLU:OE1	2.36	0.59
34:b:119:GLY:HA2	34:b:124:GLN:NE2	2.18	0.59
46:n:147:SER:HA	46:n:151:VAL:HG11	1.84	0.59
1:1:1230:G:HO2'	29:W:50:THR:HG1	1.51	0.59
1:1:1268:G:H21	1:1:1273:A:N6	1.99	0.59
1:1:1523:U:H5"	1:1:1607:U:O2	2.03	0.59
1:1:2737:C:H2'	1:1:2738:A:C8	2.37	0.59
1:1:2762:A:OP2	1:1:2763:U:O2'	2.20	0.59
1:1:3166:C:H2'	1:1:3167:A:C8	2.38	0.59
4:4:98:ASP:H	4:4:140:LYS:HZ1	1.50	0.59
10:D:65:ILE:HG23	10:D:74:VAL:HG22	1.84	0.59
17:K:45:ILE:O	17:K:49:SER:OG	2.14	0.59
17:K:190:LEU:O	17:K:193:LEU:N	2.33	0.59
17:K:215:LYS:HG3	17:K:216:GLU:H	1.68	0.59
45:m:163:ALA:O	45:m:166:GLU:HG3	2.03	0.59
45:m:307:SER:HB3	45:m:362:ILE:HD11	1.85	0.59
54:v:39:ASN:OD1	54:v:42:LEU:N	2.35	0.59
1:1:784:A:N7	23:Q:69:ARG:NE	2.50	0.59
1:1:870:G:H1'	1:1:871:U:H5	1.67	0.59
1:1:2665:U:O2	1:1:2706:G:C2	2.56	0.59
1:1:2684:C:H2'	1:1:2685:C:C6	2.37	0.59
1:1:3187:A:H61	1:1:3205:G:H1	1.50	0.59
1:1:3356:G:H2'	1:1:3357:U:O4'	2.02	0.59
6:6:53:A:C2	17:K:166:ALA:HA	2.36	0.59
8:B:56:ILE:HD12	8:B:356:LEU:HD13	1.85	0.59
32:Z:15:ARG:HD2	32:Z:79:HIS:CD2	2.37	0.59
45:m:64:SER:O	45:m:64:SER:OG	2.16	0.59
56:x:487:ASP:HB3	56:x:507:ASP:HA	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:87:U:OP2	1:1:98:G:N1	2.32	0.59
1:1:846:A:H3'	1:1:847:A:H8	1.67	0.59
1:1:3186:A:N3	14:H:44:THR:OG1	2.36	0.59
8:B:111:SER:OG	8:B:112:ASP:N	2.34	0.59
17:K:212:HIS:HA	17:K:217:PHE:HB2	1.83	0.59
20:N:99:ARG:NH2	20:N:118:SER:O	2.35	0.59
27:U:36:TYR:CE2	27:U:83:TYR:HB2	2.38	0.59
47:o:174:GLU:HB3	47:o:175:LYS:HG3	1.85	0.59
56:x:170:ILE:HB	56:x:179:MET:O	2.02	0.59
4:4:36:GLN:O	4:4:40:LYS:HG2	2.02	0.58
5:5:56:GLN:O	5:5:59:GLU:HG3	2.03	0.58
9:C:359:LEU:HD12	25:S:8:GLN:HE21	1.67	0.58
56:x:325:HIS:HD2	56:x:408:VAL:H	1.51	0.58
1:1:1112:A:H2'	1:1:1113:G:H8	1.68	0.58
1:1:2411:U:O4	1:1:2811:A:N6	2.36	0.58
4:4:521:GLU:HG2	4:4:570:LYS:HE3	1.83	0.58
6:6:35:C:H1'	17:K:243:THR:HG21	1.85	0.58
16:J:12:LEU:HD12	16:J:131:MET:HB3	1.84	0.58
22:P:28:ASN:O	22:P:32:THR:HG22	2.02	0.58
30:X:134:ASP:OD1	30:X:134:ASP:N	2.31	0.58
32:Z:29:HIS:HD2	32:Z:40:HIS:NE2	2.01	0.58
32:Z:88:ASP:OD1	32:Z:89:VAL:N	2.35	0.58
45:m:69:ALA:HB2	50:r:205:GLN:HB3	1.83	0.58
55:w:192:GLU:HG3	55:w:196:ARG:HH21	1.68	0.58
56:x:385:LEU:HD12	56:x:386:TRP:H	1.67	0.58
1:1:8:C:H2'	1:1:9:U:C6	2.39	0.58
1:1:184:U:H3	1:1:232:G:H1	1.51	0.58
1:1:746:A:H2'	1:1:747:A:H8	1.68	0.58
1:1:1518:U:H4'	34:b:579:ASN:HD21	1.68	0.58
1:1:2424:A:N6	1:1:2607:G:C4	2.71	0.58
1:1:2687:G:O2'	1:1:2689:A:N3	2.30	0.58
3:3:74:C:H2'	3:3:75:G:C8	2.37	0.58
4:4:156:HIS:HA	4:4:503:GLU:HG3	1.85	0.58
4:4:221:GLN:O	4:4:225:THR:OG1	2.15	0.58
9:C:168:ALA:O	9:C:172:VAL:HG23	2.03	0.58
22:P:64:ASN:O	22:P:80:LYS:NZ	2.33	0.58
34:b:197:TYR:CZ	34:b:200:THR:HA	2.38	0.58
50:r:88:PRO:HD2	50:r:91:LEU:HB3	1.84	0.58
52:t:216:TYR:HE1	52:t:234:ILE:HD13	1.67	0.58
56:x:282:SER:N	56:x:295:GLY:O	2.34	0.58
1:1:351:A:N6	44:l:37:TYR:O	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1197:A:H3'	1:1:1197:A:N3	2.18	0.58
1:1:2646:C:N3	1:1:2647:A:N6	2.48	0.58
1:1:2898:G:H22	50:r:7:ILE:H	1.50	0.58
1:1:3369:G:OP1	53:u:111:ARG:NH1	2.36	0.58
8:B:187:SER:O	8:B:190:GLU:N	2.36	0.58
17:K:278:SER:HA	17:K:292:TYR:HD1	1.68	0.58
32:Z:22:LYS:HE3	32:Z:134:LEU:HB2	1.84	0.58
34:b:102:LYS:NZ	34:b:106:GLU:OE2	2.36	0.58
49:q:259:LYS:HA	49:q:262:ILE:HD12	1.84	0.58
54:v:58:LYS:NZ	54:v:82:ASN:O	2.26	0.58
1:1:3020:U:H3'	1:1:3021:A:H5"	1.85	0.58
4:4:96:ASP:HB2	4:4:140:LYS:HB2	1.85	0.58
12:F:180:SER:OG	12:F:181:ILE:N	2.34	0.58
20:N:192:LYS:O	20:N:195:ASN:N	2.36	0.58
52:t:236:GLU:HB2	52:t:245:ILE:HG23	1.85	0.58
52:t:246:CYS:O	52:t:248:GLU:N	2.37	0.58
1:1:1463:U:H3	1:1:1467:A:H62	1.52	0.58
3:3:119:U:H2'	3:3:120:C:C6	2.39	0.58
19:M:105:GLN:OE1	19:M:109:ARG:NH2	2.37	0.58
56:x:430:ASP:N	56:x:435:LYS:O	2.36	0.58
1:1:536:U:H2'	1:1:537:A:O4'	2.02	0.58
1:1:879:U:C6	22:P:135:ARG:HD3	2.38	0.58
1:1:1088:U:H3'	1:1:1089:G:H8	1.68	0.58
1:1:2596:U:H2'	1:1:2597:U:C6	2.39	0.58
1:1:3227:A:N7	1:1:3228:C:N4	2.52	0.58
27:U:89:LEU:HD11	34:b:535:MET:HE1	1.85	0.58
36:d:51:LEU:HB3	36:d:55:LEU:HD23	1.84	0.58
37:e:78:ASN:N	37:e:78:ASN:OD1	2.37	0.58
10:D:237:GLU:O	10:D:241:THR:HG23	2.02	0.58
17:K:213:ALA:N	17:K:217:PHE:HA	2.15	0.58
24:R:97:ARG:O	24:R:101:VAL:HG13	2.04	0.58
42:j:21:ARG:NH2	42:j:41:ALA:O	2.36	0.58
52:t:101:LEU:HD22	52:t:310:ILE:HD12	1.86	0.58
56:x:154:HIS:HB3	56:x:339:PHE:CZ	2.39	0.58
1:1:2408:U:O4	1:1:2409:G:N2	2.36	0.58
1:1:2841:G:N2	1:1:2847:A:H62	2.01	0.58
3:3:85:G:C2	3:3:87:G:C8	2.92	0.58
6:6:48:A:O4'	17:K:75:LYS:NZ	2.37	0.58
13:G:178:ALA:HB2	13:G:218:ILE:HG12	1.86	0.58
14:H:18:VAL:O	19:M:5:SER:OG	2.20	0.58
28:V:74:MET:HB3	45:m:194:TRP:HE3	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:54:GLN:O	29:W:58:THR:OG1	2.20	0.58
29:W:157:MET:HG2	29:W:161:LEU:HD11	1.86	0.58
34:b:398:LEU:O	34:b:400:ARG:N	2.37	0.58
55:w:154:LEU:HD13	55:w:157:GLN:NE2	2.19	0.58
57:y:83:HIS:O	57:y:87:SER:OG	2.20	0.58
1:1:757:C:H2'	1:1:758:C:C6	2.39	0.58
1:1:1810:A:O2'	46:n:57:THR:O	2.14	0.58
1:1:2323:G:O2'	1:1:2325:G:OP2	2.21	0.58
1:1:2966:G:H2'	1:1:2967:A:C4	2.39	0.58
3:3:7:G:OP2	10:D:22:ARG:NH1	2.31	0.58
3:3:65:G:H2'	3:3:66:A:C8	2.39	0.58
10:D:264:GLN:N	10:D:264:GLN:OE1	2.35	0.58
25:S:80:ARG:HH21	51:s:48:PRO:HG2	1.68	0.58
30:X:50:ALA:HB1	40:h:66:VAL:HG11	1.85	0.58
32:Z:97:SER:H	32:Z:100:THR:HG22	1.69	0.58
54:v:111:TYR:CE1	54:v:244:MET:HB3	2.38	0.58
54:v:152:PRO:O	54:v:156:GLN:HG2	2.03	0.58
56:x:238:GLU:HG3	56:x:286:TRP:HZ3	1.69	0.58
1:1:295:A:N3	41:i:82:ARG:NH1	2.50	0.57
1:1:956:U:N3	1:1:965:A:H2	1.99	0.57
1:1:971:G:N7	1:1:972:A:C6	2.72	0.57
1:1:2603:G:H2'	1:1:2604:U:C6	2.38	0.57
3:3:113:C:H2'	3:3:114:U:C6	2.39	0.57
9:C:23:PRO:HD2	9:C:26:PHE:CE2	2.38	0.57
14:H:130:ASP:OD1	14:H:130:ASP:N	2.37	0.57
1:1:85:A:P	33:a:65:GLN:HE21	2.26	0.57
1:1:3214:U:H2'	19:M:121:MET:HE3	1.86	0.57
3:3:81:U:H2'	3:3:82:G:N7	2.19	0.57
31:Y:72:SER:OG	31:Y:81:GLN:OE1	2.22	0.57
33:a:96:LYS:C	33:a:98:THR:H	2.12	0.57
45:m:83:VAL:HA	50:r:238:VAL:HA	1.86	0.57
46:n:449:PRO:HA	46:n:451:GLU:H	1.68	0.57
47:o:193:VAL:HA	47:o:196:LEU:HD12	1.86	0.57
49:q:416:LEU:O	49:q:420:VAL:HG22	2.04	0.57
1:1:216:G:OP1	31:Y:16:ARG:NH1	2.36	0.57
1:1:361:A:O3'	42:j:45:ARG:NH2	2.37	0.57
1:1:845:G:H21	1:1:848:A:H62	1.52	0.57
1:1:846:A:H2'	1:1:847:A:O4'	2.03	0.57
1:1:1191:U:C4	21:O:48:PHE:HD2	2.21	0.57
1:1:2561:A:O4'	13:G:32:LYS:NZ	2.37	0.57
1:1:2746:A:H5'	10:D:179:ARG:HH11	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:7:G:O2'	10:D:71:GLY:O	2.20	0.57
4:4:50:TYR:HE2	4:4:133:LEU:HG	1.69	0.57
6:6:35:C:OP1	47:o:207:ARG:NE	2.37	0.57
14:H:105:GLU:HB3	14:H:108:GLY:HA2	1.85	0.57
27:U:54:VAL:HG23	27:U:67:SER:HB2	1.86	0.57
34:b:535:MET:HG3	34:b:540:HIS:HB2	1.87	0.57
54:v:28:LYS:NZ	54:v:166:ARG:HH21	2.02	0.57
56:x:159:MET:HE3	56:x:171:TRP:HB2	1.87	0.57
56:x:267:SER:O	56:x:269:VAL:HG23	2.05	0.57
57:y:8:GLU:HG3	57:y:9:ASN:N	2.18	0.57
1:1:305:U:H4'	1:1:306:A:OP1	2.04	0.57
1:1:2653:C:H1'	1:1:2655:U:OP1	2.05	0.57
1:1:3281:U:H2'	1:1:3282:U:C6	2.39	0.57
3:3:17:A:H2'	3:3:18:C:C6	2.40	0.57
4:4:80:TYR:HD2	4:4:83:LYS:HB2	1.68	0.57
4:4:121:LYS:HD3	4:4:352:GLU:HB3	1.86	0.57
8:B:228:GLY:O	8:B:232:ARG:HB2	2.03	0.57
8:B:283:TYR:HB2	8:B:323:MET:HG2	1.85	0.57
16:J:92:ARG:HH12	16:J:104:PHE:HB2	1.70	0.57
47:o:172:LYS:HG3	47:o:174:GLU:HG3	1.85	0.57
56:x:375:VAL:HG12	56:x:410:PHE:CZ	2.39	0.57
1:1:835:G:O2'	1:1:857:G:N2	2.30	0.57
1:1:1097:G:HO2'	26:T:108:ARG:HH12	1.53	0.57
1:1:2943:G:HO2'	8:B:255:TRP:CD1	2.23	0.57
1:1:3269:U:H4'	1:1:3270:U:O5'	2.04	0.57
2:2:12:A:OP1	22:P:3:ARG:NH1	2.37	0.57
7:A:22:LEU:O	7:A:52:SER:OG	2.21	0.57
19:M:38:ILE:O	25:S:95:ARG:NH2	2.37	0.57
27:U:12:ALA:HA	27:U:67:SER:O	2.03	0.57
46:n:229:LEU:O	46:n:233:LEU:HD12	2.04	0.57
1:1:2701:U:O2	1:1:2705:A:N6	2.38	0.57
49:q:403:SER:OG	49:q:404:ASP:N	2.38	0.57
56:x:180:HIS:CD2	56:x:218:GLY:HA3	2.40	0.57
57:y:127:GLU:O	57:y:130:SER:OG	2.20	0.57
1:1:1940:G:H21	1:1:3362:A:H8	1.52	0.57
1:1:2849:C:H3'	1:1:2850:G:H8	1.69	0.57
1:1:2857:C:O2'	1:1:2858:U:O5'	2.21	0.57
6:6:28:A:H5"	47:o:132:ARG:HH21	1.69	0.57
10:D:183:TRP:CZ2	10:D:188:GLU:HB3	2.39	0.57
13:G:161:GLU:OE1	20:N:26:ARG:NH1	2.28	0.57
16:J:30:LEU:O	16:J:34:SER:OG	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:R:23:TRP:CD1	34:b:519:MET:HE1	2.39	0.57
34:b:227:ARG:O	34:b:229:THR:N	2.35	0.57
34:b:245:HIS:HA	45:m:168:ILE:HD11	1.86	0.57
45:m:223:ASP:N	45:m:317:SER:O	2.24	0.57
54:v:103:ILE:HG23	54:v:113:MET:HA	1.85	0.57
56:x:465:ASP:OD1	56:x:465:ASP:N	2.28	0.57
57:y:88:LEU:HD12	57:y:94:ILE:HD11	1.87	0.57
1:1:730:C:H2'	1:1:731:U:H6	1.69	0.57
1:1:1495:U:H5	1:1:1835:A:N1	2.03	0.57
2:2:52:A:H62	44:l:27:ILE:HD13	1.70	0.57
3:3:6:C:H2'	3:3:7:G:O4'	2.05	0.57
4:4:162:PRO:O	4:4:172:PRO:HB3	2.04	0.57
10:D:232:ASP:HB3	10:D:234:ASP:OD1	2.05	0.57
10:D:266:ALA:O	10:D:270:LYS:CB	2.49	0.57
18:L:42:ARG:O	18:L:46:ILE:HG12	2.04	0.57
18:L:129:ASN:OD1	18:L:129:ASN:N	2.37	0.57
33:a:86:LYS:HD3	33:a:89:GLN:HE22	1.70	0.57
56:x:274:MET:HB2	56:x:304:TRP:CZ3	2.39	0.57
1:1:962:A:H3'	1:1:963:G:H8	1.70	0.57
1:1:1464:G:N2	1:1:1467:A:OP2	2.38	0.57
1:1:2573:G:H2'	1:1:2574:G:H8	1.70	0.57
1:1:2716:U:O3'	45:m:76:ARG:NH2	2.37	0.57
1:1:3016:A:N3	1:1:3017:A:C8	2.73	0.57
3:3:38:U:H5"	5:5:100:HIS:CD2	2.39	0.57
3:3:61:G:H2'	3:3:62:U:O4'	2.05	0.57
7:A:80:GLU:OE1	48:p:73:THR:HG22	2.05	0.57
10:D:110:LEU:HD21	10:D:116:ASP:HB3	1.87	0.57
12:F:102:VAL:HG21	12:F:129:LEU:HD13	1.85	0.57
28:V:84:SER:HA	28:V:94:TYR:HB3	1.86	0.57
30:X:10:ALA:O	30:X:14:VAL:HG23	2.04	0.57
34:b:182:SER:N	60:b:701:GTP:O2A	2.29	0.57
42:j:18:LEU:HA	42:j:25:ARG:HA	1.87	0.57
45:m:67:PRO:HG2	50:r:205:GLN:HB2	1.86	0.57
54:v:80:GLU:HG2	54:v:108:TYR:HD1	1.70	0.57
1:1:232:G:H2'	1:1:233:C:C6	2.40	0.57
1:1:748:U:H2'	1:1:749:C:H6	1.70	0.57
1:1:1251:A:H2'	1:1:1252:A:N3	2.19	0.57
1:1:2658:G:C4	1:1:2659:G:C8	2.93	0.57
1:1:2828:G:N1	34:b:19:ASP:OD1	2.31	0.57
2:2:77:A:H2'	2:2:78:G:O4'	2.05	0.57
3:3:108:A:H2'	3:3:109:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:54:THR:HG22	4:4:56:GLN:N	2.17	0.57
4:4:107:GLU:OE1	4:4:420:ARG:NH2	2.37	0.57
4:4:314:GLY:CA	4:4:509:LEU:O	2.52	0.57
4:4:364:PHE:HB2	34:b:567:PHE:CD1	2.39	0.57
8:B:171:LEU:HD12	8:B:172:ALA:H	1.70	0.57
10:D:289:LYS:HA	10:D:293:LEU:HD13	1.87	0.57
55:w:84:SER:HB3	55:w:87:MET:HE1	1.86	0.57
1:1:259:C:H2'	1:1:260:C:C6	2.40	0.56
1:1:1348:U:O4'	1:1:1355:A:N6	2.38	0.56
1:1:1686:U:OP1	27:U:42:LYS:NZ	2.38	0.56
13:G:91:PHE:HE1	13:G:180:VAL:HG21	1.69	0.56
32:Z:54:THR:HG23	32:Z:57:HIS:HE1	1.70	0.56
38:f:13:HIS:HE2	38:f:28:SER:HG	1.46	0.56
52:t:130:ARG:HE	52:t:300:GLN:HE22	1.53	0.56
1:1:713:U:H2'	1:1:714:G:O4'	2.05	0.56
1:1:1507:G:N7	22:P:129:THR:OG1	2.38	0.56
1:1:2140:U:OP2	34:b:643:LYS:NZ	2.34	0.56
1:1:2529:A:N7	1:1:2530:G:O2'	2.35	0.56
1:1:2553:U:H4'	35:c:50:VAL:HG21	1.86	0.56
1:1:2683:U:H2'	1:1:2684:C:C6	2.40	0.56
1:1:2743:A:H2'	1:1:2744:U:C6	2.40	0.56
1:1:3000:A:H5"	8:B:120:LYS:HE2	1.87	0.56
2:2:9:A:H2'	2:2:10:A:C8	2.40	0.56
3:3:56:A:C5	3:3:57:G:C8	2.93	0.56
10:D:86:TYR:CE2	10:D:247:ILE:HA	2.40	0.56
12:F:88:ARG:O	12:F:89:ILE:HD13	2.05	0.56
35:c:99:ASP:O	35:c:103:THR:OG1	2.21	0.56
45:m:259:LEU:HB2	45:m:285:ALA:HA	1.87	0.56
46:n:414:ARG:NH2	52:t:246:CYS:SG	2.78	0.56
52:t:295:GLU:O	52:t:299:ARG:HG2	2.05	0.56
1:1:358:G:N2	1:1:361:A:OP2	2.36	0.56
1:1:997:A:H61	1:1:1053:A:H1'	1.70	0.56
1:1:1191:U:OP2	21:O:49:ARG:NH1	2.35	0.56
1:1:2683:U:O2'	16:J:99:THR:HG21	2.05	0.56
1:1:2740:A:OP1	55:w:80:THR:OG1	2.24	0.56
1:1:3318:G:O2'	1:1:3319:U:O5'	2.24	0.56
4:4:549:ILE:O	4:4:553:ILE:HG13	2.05	0.56
7:A:5:ILE:HD13	7:A:209:HIS:HA	1.86	0.56
8:B:320:ASP:OD1	8:B:320:ASP:N	2.36	0.56
17:K:86:LYS:HE3	17:K:300:GLU:HB3	1.88	0.56
19:M:16:GLU:HA	19:M:38:ILE:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:T:126:VAL:HB	26:T:128:LEU:HD23	1.87	0.56
28:V:67:PRO:HA	28:V:70:ARG:HH22	1.70	0.56
34:b:5:TRP:CD1	34:b:69:PRO:HB3	2.40	0.56
46:n:434:ASP:OD2	46:n:447:TYR:OH	2.20	0.56
52:t:279:GLY:HA3	52:t:284:ASN:HB3	1.88	0.56
57:y:129:ILE:HG23	57:y:133:LEU:HD12	1.87	0.56
1:1:998:A:H62	1:1:1052:U:HO2'	1.51	0.56
1:1:1222:G:O2'	1:1:1285:G:N1	2.34	0.56
1:1:1447:G:OP2	22:P:27:LYS:NZ	2.38	0.56
1:1:1721:U:O2'	1:1:1723:A:N7	2.31	0.56
1:1:2193:U:H3	1:1:2316:G:H4'	1.71	0.56
1:1:2532:U:H5	1:1:2547:A:N6	2.02	0.56
4:4:118:ASN:HD22	4:4:129:VAL:HG11	1.69	0.56
5:5:100:HIS:O	5:5:104:VAL:HG13	2.05	0.56
7:A:83:HIS:HB3	48:p:64:VAL:HG22	1.88	0.56
52:t:133:THR:HG22	52:t:134:THR:H	1.69	0.56
53:u:73:GLN:O	53:u:75:ARG:NH2	2.37	0.56
1:1:589:A:N6	1:1:610:G:O2'	2.31	0.56
1:1:2693:C:O2'	1:1:2694:A:OP2	2.23	0.56
3:3:7:G:H2'	3:3:8:G:C8	2.40	0.56
17:K:104:HIS:HD2	17:K:254:LEU:HD21	1.71	0.56
17:K:143:GLN:O	17:K:227:LYS:NZ	2.38	0.56
29:W:42:VAL:HG11	29:W:219:ALA:HB3	1.87	0.56
34:b:305:LEU:O	34:b:309:VAL:HG23	2.05	0.56
46:n:27:VAL:HG23	46:n:28:SER:H	1.71	0.56
47:o:202:GLN:O	47:o:205:GLU:HG2	2.05	0.56
57:y:214:GLU:HA	57:y:217:VAL:HG12	1.87	0.56
1:1:2407:C:H42	1:1:2814:G:H21	1.52	0.56
1:1:2747:A:H5'	10:D:175:HIS:HA	1.87	0.56
1:1:2828:G:C6	50:r:45:TRP:HH2	2.24	0.56
4:4:36:GLN:HA	4:4:39:LEU:HD12	1.87	0.56
4:4:247:ILE:HB	4:4:316:VAL:HB	1.86	0.56
5:5:59:GLU:HA	5:5:62:LYS:HE3	1.87	0.56
6:6:34:A:H5'	47:o:210:LYS:HZ2	1.71	0.56
14:H:177:ASP:O	14:H:180:TYR:OH	2.17	0.56
17:K:290:PRO:HD3	47:o:207:ARG:HB3	1.86	0.56
26:T:42:ILE:HD11	26:T:59:GLY:H	1.70	0.56
30:X:95:ILE:O	30:X:99:VAL:HG12	2.05	0.56
45:m:262:CYS:N	45:m:287:HIS:HB2	2.17	0.56
47:o:90:SER:HA	47:o:142:LYS:HE2	1.88	0.56
48:p:74:ALA:O	48:p:78:THR:HG23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r:146:SER:OG	50:r:147:TRP:N	2.38	0.56
50:r:182:ALA:HB2	50:r:197:ILE:HD11	1.87	0.56
56:x:172:ASP:OD1	56:x:173:CYS:N	2.39	0.56
1:1:298:U:O2'	41:i:29:LYS:NZ	2.37	0.56
1:1:763:G:H2'	1:1:764:U:O4'	2.06	0.56
1:1:1001:G:O6	1:1:1050:U:O2	2.23	0.56
1:1:1197:A:H5'	1:1:1198:C:C2'	2.34	0.56
1:1:3040:A:H5'	28:V:11:PHE:HA	1.87	0.56
17:K:290:PRO:HD2	47:o:211:LEU:HD23	1.87	0.56
56:x:327:SER:OG	56:x:375:VAL:O	2.20	0.56
1:1:95:A:C6	1:1:96:G:H1'	2.41	0.56
1:1:730:C:H2'	1:1:731:U:C6	2.41	0.56
1:1:992:A:H2'	1:1:993:G:O4'	2.06	0.56
1:1:1631:C:H5"	1:1:1632:A:H5"	1.88	0.56
1:1:2968:G:H2'	1:1:2969:A:C8	2.41	0.56
5:5:104:VAL:O	5:5:107:MET:HG3	2.06	0.56
15:I:65:LYS:HE2	15:I:131:LEU:HD12	1.88	0.56
16:J:98:ALA:HA	16:J:156:LYS:HG2	1.87	0.56
45:m:432:ALA:HB1	45:m:444:PRO:HB2	1.88	0.56
51:s:13:THR:O	51:s:17:GLU:HG2	2.06	0.56
56:x:146:ILE:HG13	56:x:163:ALA:HB2	1.88	0.56
1:1:1102:A:HO2'	1:1:1103:A:P	2.29	0.56
1:1:1307:G:H5'	21:O:60:LYS:NZ	2.20	0.56
1:1:1751:G:N7	43:k:44:LYS:NZ	2.53	0.56
1:1:2698:G:N2	54:v:82:ASN:OD1	2.31	0.56
3:3:63:A:O2'	3:3:65:G:OP2	2.19	0.56
4:4:73:LEU:HA	4:4:76:LEU:HB2	1.88	0.56
11:E:63:LEU:HD13	11:E:81:ALA:HB2	1.88	0.56
17:K:78:LEU:O	17:K:284:ASN:N	2.39	0.56
20:N:124:ASP:OD1	20:N:125:SER:N	2.39	0.56
35:c:86:ARG:NH2	48:p:44:LYS:HG2	2.21	0.56
51:s:65:GLU:HA	51:s:68:LYS:HG2	1.87	0.56
52:t:29:THR:O	52:t:33:ARG:HG2	2.06	0.56
56:x:297:HIS:HA	56:x:322:TRP:HB2	1.87	0.56
1:1:717:C:H41	1:1:751:A:H4'	1.71	0.56
1:1:748:U:H2'	1:1:749:C:C6	2.41	0.56
8:B:123:TYR:CZ	8:B:124:LYS:HG3	2.40	0.56
12:F:176:TYR:CZ	12:F:197:GLN:HG2	2.41	0.56
19:M:68:LEU:HD21	19:M:93:LYS:HG2	1.87	0.56
50:r:184:VAL:HA	50:r:257:ALA:O	2.05	0.56
1:1:262:U:H2'	1:1:263:C:H1'	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2656:A:H2'	55:w:146:GLY:O	2.05	0.55
1:1:2747:A:H2'	1:1:2748:A:C8	2.41	0.55
3:3:6:C:O5'	10:D:22:ARG:NH1	2.37	0.55
13:G:206:GLU:HG2	17:K:162:THR:OG1	2.06	0.55
17:K:107:TYR:HB2	17:K:230:TYR:HE2	1.69	0.55
34:b:250:VAL:HG23	34:b:283:VAL:HG23	1.88	0.55
46:n:185:GLY:HA2	46:n:203:PHE:CD2	2.40	0.55
1:1:900:G:H1'	1:1:1589:A:N6	2.20	0.55
1:1:2622:C:O2'	1:1:2623:G:H8	1.89	0.55
1:1:2672:G:O2'	16:J:156:LYS:NZ	2.36	0.55
4:4:524:ARG:HG2	4:4:527:GLY:HA3	1.88	0.55
29:W:80:LYS:NZ	29:W:83:GLU:H	2.04	0.55
33:a:78:LEU:HD21	33:a:125:VAL:HG21	1.89	0.55
41:i:34:SER:OG	41:i:35:ASN:OD1	2.24	0.55
46:n:191:ASN:HA	46:n:196:GLU:HA	1.89	0.55
54:v:69:PHE:HE1	54:v:103:ILE:HD11	1.70	0.55
56:x:255:SER:OG	56:x:256:LYS:N	2.35	0.55
1:1:710:A:H2'	1:1:711:A:C8	2.40	0.55
1:1:1795:U:H3	48:p:51:ALA:H	1.53	0.55
1:1:2632:G:N1	1:1:2647:A:N6	2.54	0.55
1:1:2642:A:N7	1:1:2643:A:N6	2.54	0.55
1:1:3166:C:N4	1:1:3284:G:O6	2.39	0.55
3:3:108:A:H2'	3:3:109:G:H8	1.71	0.55
4:4:164:ASP:OD1	4:4:164:ASP:N	2.39	0.55
11:E:54:TYR:CE1	11:E:63:LEU:HG	2.42	0.55
17:K:84:ASN:OD1	17:K:278:SER:N	2.39	0.55
25:S:42:TRP:HA	25:S:42:TRP:HE3	1.71	0.55
54:v:42:LEU:HA	54:v:45:ILE:HB	1.88	0.55
56:x:127:PHE:O	56:x:457:ARG:NH2	2.40	0.55
1:1:1048:A:H2'	1:1:1049:C:C4	2.42	0.55
1:1:2529:A:H3'	1:1:2530:G:H4'	1.89	0.55
1:1:2667:A:N7	1:1:2690:G:N1	2.55	0.55
1:1:2777:G:C2	33:a:61:PHE:HB2	2.41	0.55
1:1:2820:A:O2'	1:1:2821:C:OP1	2.20	0.55
7:A:205:ASN:O	7:A:207:VAL:N	2.40	0.55
39:g:101:VAL:O	39:g:105:VAL:HG13	2.06	0.55
45:m:84:ILE:O	50:r:236:LYS:HB3	2.05	0.55
45:m:302:LEU:HD12	45:m:305:GLN:NE2	2.22	0.55
46:n:184:LYS:NZ	49:q:418:ASP:OD2	2.27	0.55
46:n:185:GLY:HA2	46:n:203:PHE:HD2	1.71	0.55
1:1:538:G:H2'	1:1:539:C:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:745:C:H2'	1:1:746:A:H8	1.72	0.55
1:1:954:U:C5	1:1:1115:G:C8	2.92	0.55
7:A:89:TYR:H	7:A:100:ASN:HD22	1.54	0.55
10:D:107:ARG:HG3	10:D:247:ILE:HG22	1.89	0.55
17:K:219:LEU:O	17:K:223:THR:HG23	2.05	0.55
19:M:38:ILE:HA	19:M:44:VAL:HG23	1.89	0.55
22:P:163:LYS:HE2	22:P:165:VAL:HB	1.88	0.55
34:b:229:THR:HG21	45:m:157:LEU:HD21	1.89	0.55
56:x:359:ASN:O	56:x:363:ILE:HG12	2.07	0.55
1:1:90:C:H5"	1:1:283:G:H1'	1.88	0.55
1:1:237:G:O6	1:1:238:A:N6	2.39	0.55
1:1:280:U:H2'	1:1:281:G:H3'	1.88	0.55
1:1:880:G:N1	34:b:647:ARG:O	2.34	0.55
1:1:3165:A:H2'	1:1:3166:C:C6	2.41	0.55
4:4:388:TYR:HB3	4:4:389:PRO:HD2	1.89	0.55
6:6:53:A:O2'	6:6:54:A:OP2	2.23	0.55
9:C:349:THR:O	9:C:349:THR:OG1	2.25	0.55
29:W:183:ASP:OD2	29:W:183:ASP:N	2.40	0.55
38:f:59:VAL:HG13	38:f:60:ARG:H	1.70	0.55
45:m:139:ASP:HA	45:m:146:GLN:H	1.72	0.55
45:m:416:TYR:N	45:m:417:GLU:HA	2.22	0.55
46:n:242:LEU:HD23	46:n:266:SER:HA	1.88	0.55
54:v:47:VAL:HA	54:v:59:ARG:HH22	1.70	0.55
1:1:262:U:H2'	1:1:263:C:C1'	2.37	0.55
1:1:954:U:H5	1:1:1115:G:H8	1.51	0.55
1:1:1547:G:OP2	20:N:105:ARG:NH2	2.24	0.55
1:1:1950:U:O4	1:1:2096:A:N6	2.39	0.55
1:1:2112:U:H2'	1:1:2113:A:H5"	1.87	0.55
1:1:2568:C:O2'	1:1:2569:A:O4'	2.25	0.55
52:t:226:GLU:N	52:t:226:GLU:OE1	2.36	0.55
56:x:151:PHE:CE1	56:x:159:MET:HB3	2.42	0.55
1:1:3151:U:OP2	8:B:132:LYS:NZ	2.36	0.55
17:K:168:GLU:HG3	17:K:169:ALA:N	2.20	0.55
27:U:33:TYR:OH	27:U:80:THR:HG23	2.06	0.55
35:c:103:THR:HG22	35:c:104:LEU:H	1.72	0.55
45:m:257:TYR:HB2	45:m:283:THR:HA	1.89	0.55
45:m:432:ALA:HB2	45:m:449:VAL:HG21	1.88	0.55
1:1:80:G:OP1	20:N:193:ARG:NH1	2.40	0.55
1:1:996:A:O2'	1:1:998:A:OP2	2.25	0.55
1:1:1111:U:HO2'	1:1:1112:A:P	2.27	0.55
2:2:37:A:OP2	40:h:86:ARG:HD2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:246:ARG:NH2	4:4:248:ARG:HB2	2.22	0.55
10:D:200:PHE:HD1	10:D:237:GLU:HB2	1.72	0.55
25:S:12:ARG:HG2	25:S:59:VAL:HG22	1.89	0.55
29:W:31:ARG:NH1	29:W:76:ALA:O	2.40	0.55
45:m:80:ASN:HD21	50:r:238:VAL:HB	1.72	0.55
45:m:323:TYR:HE2	45:m:385:ARG:HD2	1.71	0.55
1:1:535:G:OP1	25:S:146:LYS:NZ	2.39	0.55
1:1:733:G:H21	1:1:736:A:H62	1.55	0.55
1:1:1157:G:O2'	1:1:1169:A:N3	2.34	0.55
1:1:2959:C:H2'	1:1:2960:C:C6	2.42	0.55
4:4:138:LEU:HD21	4:4:501:ALA:HB2	1.88	0.55
9:C:150:LEU:HD21	9:C:172:VAL:HG12	1.89	0.55
10:D:109:THR:HA	10:D:112:LYS:HG2	1.88	0.55
17:K:81:ILE:H	17:K:246:VAL:HG22	1.72	0.55
45:m:404:LEU:HD22	45:m:424:ALA:HB2	1.87	0.55
47:o:110:TYR:HB2	52:t:61:ILE:CD1	2.36	0.55
50:r:200:VAL:HG11	50:r:213:GLY:HA2	1.88	0.55
52:t:206:SER:O	52:t:210:LYS:HB2	2.07	0.55
1:1:255:A:H2'	1:1:256:G:H8	1.72	0.54
1:1:2809:C:H5"	1:1:2955:U:O2'	2.07	0.54
20:N:87:GLN:HE21	20:N:92:LEU:HA	1.72	0.54
20:N:94:TYR:CZ	20:N:96:ARG:HB3	2.43	0.54
25:S:171:PHE:HA	25:S:172:TYR:HB2	1.88	0.54
28:V:35:TYR:HB3	28:V:61:THR:HG23	1.89	0.54
32:Z:70:PRO:HG3	32:Z:115:LYS:HB2	1.88	0.54
52:t:64:LYS:O	52:t:68:THR:HG23	2.06	0.54
52:t:69:SER:O	52:t:73:GLU:HG3	2.08	0.54
57:y:187:ASN:OD1	57:y:210:THR:OG1	2.25	0.54
1:1:534:U:OP2	25:S:132:THR:OG1	2.25	0.54
1:1:617:G:H4'	22:P:171:ARG:HH12	1.71	0.54
1:1:1447:G:O6	22:P:25:SER:OG	2.24	0.54
6:6:33:U:O4	6:6:46:U:H1'	2.07	0.54
10:D:256:THR:HG22	10:D:258:LYS:H	1.72	0.54
12:F:165:ASP:OD2	12:F:166:ASN:N	2.36	0.54
17:K:278:SER:HA	17:K:292:TYR:CD1	2.43	0.54
17:K:295:GLN:HB3	47:o:197:LYS:HE3	1.89	0.54
26:T:100:LYS:HB2	26:T:103:GLN:HG3	1.89	0.54
34:b:316:GLU:OE1	34:b:338:LYS:NZ	2.40	0.54
34:b:496:ILE:HG12	34:b:500:GLN:HE21	1.71	0.54
40:h:78:LYS:HZ3	40:h:81:ARG:HH12	1.56	0.54
58:z:3:LYS:NZ	58:z:9:SER:OG	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2633:U:H2'	1:1:2634:U:C6	2.43	0.54
1:1:2808:A:C2	1:1:2955:U:H5"	2.42	0.54
3:3:103:A:H2'	3:3:104:A:H8	1.70	0.54
8:B:113:GLU:HB3	8:B:176:ALA:HB2	1.89	0.54
18:L:21:ARG:HD2	20:N:195:ASN:O	2.07	0.54
1:1:1220:U:H5"	5:5:44:TRP:NE1	2.21	0.54
1:1:1761:C:H4'	1:1:1763:U:H5	1.73	0.54
1:1:2555:G:N2	32:Z:135:ARG:O	2.33	0.54
1:1:2625:C:N4	55:w:148:LYS:HD2	2.21	0.54
1:1:2660:G:OP1	1:1:2750:U:O2'	2.26	0.54
1:1:3234:A:N6	1:1:3253:G:H1	2.06	0.54
3:3:2:G:H4'	10:D:273:ARG:HH12	1.72	0.54
3:3:112:G:O6	10:D:21:ARG:HD3	2.07	0.54
17:K:132:ILE:HA	17:K:135:VAL:HG12	1.89	0.54
34:b:2:GLN:HB2	34:b:3:LEU:HD12	1.89	0.54
45:m:219:ILE:O	45:m:253:LYS:NZ	2.40	0.54
57:y:32:GLU:OE1	57:y:32:GLU:N	2.40	0.54
1:1:1117:G:O2'	1:1:1118:C:OP2	2.18	0.54
1:1:1711:C:OP1	32:Z:78:ASN:ND2	2.40	0.54
1:1:2919:A:H61	1:1:2927:C:H42	1.55	0.54
4:4:148:ASP:C	4:4:150:TYR:H	2.15	0.54
8:B:41:VAL:HA	8:B:185:GLY:HA3	1.88	0.54
8:B:198:HIS:NE2	58:z:41:LEU:HG	2.23	0.54
9:C:285:ASP:OD2	9:C:288:ARG:N	2.29	0.54
14:H:79:ILE:O	14:H:83:THR:OG1	2.23	0.54
16:J:9:MET:O	16:J:134:PRO:HG2	2.07	0.54
19:M:55:ARG:HE	25:S:70:THR:HB	1.72	0.54
24:R:10:LEU:HD22	24:R:38:ARG:HG2	1.90	0.54
34:b:164:ASP:OD2	34:b:167:THR:N	2.38	0.54
48:p:49:ARG:HH21	48:p:52:ALA:HB2	1.72	0.54
52:t:140:ALA:HB3	52:t:179:LEU:HB3	1.90	0.54
52:t:286:LEU:HD22	52:t:290:LYS:HE3	1.88	0.54
54:v:250:LYS:HE3	55:w:105:LEU:HG	1.89	0.54
1:1:715:A:N7	33:a:115:LYS:NZ	2.55	0.54
1:1:991:G:C6	1:1:992:A:H2	2.25	0.54
1:1:1927:G:P	48:p:6:LYS:H	2.29	0.54
1:1:2530:G:N1	1:1:2531:C:N3	2.56	0.54
1:1:2665:U:N3	1:1:2706:G:N1	2.56	0.54
1:1:2667:A:C6	1:1:2668:U:H1'	2.42	0.54
1:1:2861:U:O4	45:m:132:LEU:HD23	2.08	0.54
4:4:493:LYS:N	4:4:494:GLU:OE2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:G:215:VAL:HA	13:G:218:ILE:HG22	1.89	0.54
18:L:37:ASN:O	18:L:41:THR:HG23	2.08	0.54
29:W:37:TYR:CD2	29:W:104:PHE:HB3	2.43	0.54
45:m:74:ASP:OD2	45:m:76:ARG:N	2.39	0.54
51:s:11:THR:OG1	51:s:12:SER:N	2.41	0.54
1:1:532:A:H2'	1:1:533:A:C8	2.43	0.54
1:1:571:U:C2	1:1:572:A:C8	2.95	0.54
1:1:1270:A:H2'	1:1:1271:A:C8	2.43	0.54
1:1:1278:A:O2'	1:1:1279:C:H6	1.90	0.54
1:1:1324:U:H5'	25:S:2:ALA:HA	1.90	0.54
1:1:2741:C:H2'	1:1:2742:C:O4'	2.07	0.54
1:1:2947:G:N3	8:B:250:ALA:HB1	2.22	0.54
1:1:2988:C:O2	8:B:266:ARG:NH1	2.40	0.54
1:1:3351:U:O2'	1:1:3352:U:O5'	2.21	0.54
4:4:33:GLN:NE2	4:4:573:GLN:O	2.41	0.54
14:H:20:ILE:HB	19:M:7:VAL:HG13	1.90	0.54
14:H:49:ASN:O	14:H:51:GLN:N	2.40	0.54
27:U:36:TYR:CG	27:U:83:TYR:HD1	2.25	0.54
34:b:255:ASP:OD1	34:b:256:LEU:N	2.41	0.54
35:c:20:SER:O	35:c:96:GLY:HA3	2.08	0.54
45:m:75:ARG:HG2	50:r:118:PHE:HE2	1.73	0.54
49:q:214:VAL:HG13	49:q:425:SER:HA	1.90	0.54
1:1:1730:G:O6	35:c:29:SER:OG	2.22	0.54
1:1:2593:A:H5'	1:1:2594:C:C6	2.42	0.54
4:4:46:ILE:HG13	4:4:47:ASN:ND2	2.23	0.54
4:4:190:ALA:HA	4:4:193:THR:OG1	2.07	0.54
6:6:53:A:H2'	47:o:160:HIS:CD2	2.42	0.54
11:E:143:LYS:HZ2	11:E:144:ALA:N	2.06	0.54
12:F:143:THR:HG21	12:F:237:ASN:HB3	1.90	0.54
13:G:118:GLU:N	13:G:118:GLU:OE2	2.41	0.54
13:G:160:ILE:HG13	13:G:164:VAL:HG13	1.90	0.54
30:X:34:LEU:HD12	30:X:35:PRO:HD2	1.89	0.54
34:b:227:ARG:HD2	34:b:231:GLU:HG2	1.89	0.54
50:r:181:LYS:HB2	50:r:194:PHE:CZ	2.43	0.54
52:t:234:ILE:O	52:t:237:GLU:HG3	2.08	0.54
56:x:210:ILE:HD11	56:x:232:ILE:HG13	1.89	0.54
1:1:1390:A:N6	1:1:1418:A:O2'	2.40	0.54
1:1:3177:G:H2'	1:1:3178:A:H5"	1.90	0.54
9:C:125:ALA:O	9:C:129:THR:HG23	2.07	0.54
25:S:81:TYR:HH	25:S:114:HIS:CE1	2.18	0.54
37:e:82:LEU:HD21	37:e:112:ALA:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:107:GLY:C	54:v:109:LYS:H	2.16	0.54
1:1:160:G:H2'	1:1:161:G:C8	2.41	0.54
1:1:1814:A:N3	1:1:1815:U:N3	2.56	0.54
1:1:2938:G:P	34:b:48:ARG:HH22	2.30	0.54
16:J:12:LEU:HB2	16:J:162:TRP:CZ2	2.43	0.54
18:L:159:VAL:HG22	33:a:124:ILE:HD11	1.90	0.54
26:T:124:VAL:HG12	26:T:125:ALA:H	1.73	0.54
29:W:178:GLY:HA2	50:r:12:LYS:O	2.08	0.54
34:b:363:VAL:HG11	57:y:182:VAL:HG22	1.89	0.54
39:g:66:SER:O	39:g:70:LYS:HE2	2.08	0.54
56:x:241:HIS:HD2	56:x:356:ALA:HB1	1.72	0.54
56:x:357:LEU:O	56:x:360:TYR:HB3	2.08	0.54
1:1:1087:G:H2'	1:1:1088:U:O4'	2.08	0.53
1:1:3170:A:H2'	1:1:3171:U:C6	2.44	0.53
3:3:6:C:O2'	10:D:72:ASP:OD2	2.15	0.53
4:4:161:TYR:CD2	4:4:172:PRO:HB2	2.43	0.53
8:B:156:SER:OG	8:B:157:VAL:N	2.41	0.53
8:B:169:THR:HG22	8:B:171:LEU:H	1.73	0.53
9:C:75:PRO:HG2	9:C:89:ALA:O	2.08	0.53
25:S:80:ARG:HD2	25:S:124:LEU:HD11	1.90	0.53
56:x:131:PRO:O	56:x:515:HIS:ND1	2.32	0.53
1:1:551:A:O2'	1:1:552:G:O4'	2.27	0.53
1:1:916:G:H5'	1:1:917:A:OP1	2.09	0.53
1:1:993:G:N7	1:1:994:G:N7	2.56	0.53
1:1:1267:U:H2'	1:1:1268:G:O4'	2.09	0.53
1:1:2162:U:H2'	1:1:2163:C:O4'	2.08	0.53
1:1:2638:C:H2'	1:1:2639:G:C8	2.43	0.53
4:4:39:LEU:HD21	4:4:154:VAL:HG21	1.88	0.53
10:D:164:LYS:HD3	10:D:180:PHE:HE2	1.72	0.53
13:G:69:LEU:HD13	20:N:24:ARG:HH12	1.74	0.53
32:Z:83:THR:HG23	39:g:93:PHE:HZ	1.73	0.53
34:b:90:HIS:HE1	45:m:135:GLU:HG2	1.72	0.53
1:1:884:A:N3	34:b:647:ARG:HD2	2.23	0.53
1:1:978:G:H4'	1:1:979:U:C5'	2.37	0.53
1:1:1404:G:N2	1:1:1407:A:OP2	2.40	0.53
1:1:1471:U:H2'	1:1:1472:U:C6	2.43	0.53
4:4:92:PRO:HB3	4:4:394:HIS:CE1	2.44	0.53
10:D:234:ASP:O	10:D:237:GLU:HG2	2.08	0.53
14:H:14:GLU:OE1	14:H:14:GLU:N	2.33	0.53
17:K:35:GLU:OE1	17:K:35:GLU:N	2.35	0.53
36:d:84:ASP:OD1	36:d:86:LYS:N	2.30	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:h:15:GLU:H	40:h:15:GLU:CD	2.15	0.53
46:n:116:HIS:O	46:n:120:GLU:HG3	2.08	0.53
47:o:207:ARG:HA	47:o:210:LYS:HG2	1.89	0.53
53:u:80:ARG:HH11	57:y:86:ASN:HA	1.72	0.53
55:w:160:VAL:HG23	55:w:162:VAL:H	1.74	0.53
1:1:271:C:H2'	1:1:272:G:O4'	2.09	0.53
1:1:308:A:H2'	1:1:309:U:H6	1.72	0.53
1:1:1653:G:H2'	1:1:1654:A:H8	1.73	0.53
1:1:2573:G:H2'	1:1:2574:G:C8	2.43	0.53
1:1:2649:A:H2'	1:1:2649:A:N3	2.23	0.53
1:1:2656:A:N7	55:w:148:LYS:N	2.55	0.53
1:1:2965:U:O4	45:m:30:TYR:N	2.41	0.53
2:2:97:A:OP1	40:h:67:ARG:NH2	2.41	0.53
3:3:7:G:O5'	10:D:33:ARG:NH1	2.41	0.53
3:3:111:U:OP1	10:D:276:LYS:NZ	2.41	0.53
13:G:227:ASP:O	13:G:230:LYS:NZ	2.24	0.53
17:K:283:THR:HG23	17:K:285:ARG:H	1.74	0.53
27:U:92:TRP:HB3	27:U:93:ILE:HD12	1.91	0.53
34:b:71:ILE:HD12	34:b:82:MET:HG3	1.90	0.53
34:b:359:ASN:ND2	57:y:165:THR:O	2.42	0.53
45:m:229:LEU:HD11	45:m:238:ARG:HG2	1.91	0.53
55:w:158:TRP:CD1	55:w:158:TRP:H	2.26	0.53
56:x:299:ARG:HA	56:x:322:TRP:HA	1.90	0.53
1:1:139:G:H2'	1:1:140:C:C6	2.44	0.53
1:1:1630:U:O2	1:1:1812:G:N2	2.41	0.53
1:1:3165:A:H2'	1:1:3166:C:H6	1.73	0.53
4:4:35:ALA:O	4:4:39:LEU:HG	2.09	0.53
4:4:429:ASN:O	4:4:431:LEU:N	2.39	0.53
6:6:28:A:OP1	47:o:132:ARG:NH2	2.42	0.53
8:B:222:LYS:HD3	8:B:331:ASN:HB3	1.91	0.53
10:D:40:HIS:H	10:D:41:LYS:HA	1.74	0.53
10:D:202:GLY:O	10:D:206:GLN:CB	2.56	0.53
12:F:74:SER:HB3	26:T:142:SER:HA	1.90	0.53
18:L:75:PHE:CE2	18:L:116:LEU:HG	2.44	0.53
22:P:169:THR:HG23	22:P:171:ARG:H	1.74	0.53
28:V:65:GLY:H	28:V:70:ARG:HH11	1.56	0.53
28:V:135:VAL:HG22	57:y:101:LEU:HB3	1.90	0.53
34:b:193:ASP:OD2	34:b:195:GLN:NE2	2.41	0.53
56:x:161:THR:HG23	56:x:169:ARG:HB2	1.91	0.53
1:1:257:U:H2'	1:1:258:G:C8	2.44	0.53
1:1:1581:C:H42	30:X:33:ARG:HH11	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2424:A:C5	1:1:2607:G:N2	2.76	0.53
1:1:2428:U:H5	1:1:2602:G:H1	1.55	0.53
1:1:2600:C:H2'	1:1:2601:A:C8	2.43	0.53
1:1:2720:G:H2'	1:1:2721:A:C8	2.43	0.53
1:1:2768:U:O4	1:1:2769:A:N6	2.42	0.53
3:3:109:G:O6	3:3:110:G:O6	2.26	0.53
15:I:60:THR:HG23	15:I:63:ALA:H	1.73	0.53
29:W:26:ILE:O	29:W:30:VAL:HG23	2.08	0.53
39:g:74:ARG:CZ	39:g:82:ALA:HB2	2.39	0.53
46:n:134:ASP:OD1	46:n:134:ASP:N	2.39	0.53
49:q:384:GLY:O	49:q:386:LYS:N	2.42	0.53
49:q:422:LYS:O	49:q:426:SER:OG	2.17	0.53
51:s:71:ASP:OD1	51:s:72:LEU:N	2.40	0.53
56:x:324:ASN:O	56:x:377:ALA:HB3	2.08	0.53
1:1:537:A:O2'	1:1:558:U:O2	2.17	0.53
1:1:985:U:H2'	1:1:986:U:H6	1.74	0.53
1:1:2597:U:H2'	1:1:2598:G:H5'	1.91	0.53
1:1:2695:A:H62	1:1:2700:G:H22	1.55	0.53
1:1:2739:A:H2'	1:1:2740:A:H8	1.73	0.53
7:A:113:VAL:HG23	7:A:134:VAL:HG22	1.91	0.53
10:D:270:LYS:HA	10:D:273:ARG:HG3	1.90	0.53
13:G:206:GLU:N	13:G:206:GLU:OE2	2.41	0.53
16:J:133:ARG:HD2	16:J:152:HIS:O	2.09	0.53
19:M:37:GLU:HB3	19:M:45:LEU:HD23	1.89	0.53
22:P:67:ILE:HD12	22:P:82:ARG:CZ	2.39	0.53
24:R:151:ARG:O	24:R:155:LEU:HG	2.08	0.53
27:U:20:SER:O	27:U:24:GLU:HG2	2.08	0.53
45:m:186:ASN:OD1	45:m:186:ASN:N	2.40	0.53
45:m:232:ARG:NH1	45:m:464:TRP:HE1	2.05	0.53
51:s:60:ILE:HG23	51:s:61:LEU:H	1.73	0.53
57:y:177:LEU:O	57:y:179:VAL:HG22	2.09	0.53
1:1:735:A:H2'	1:1:736:A:O4'	2.09	0.53
1:1:1646:G:O2'	1:1:1647:A:OP2	2.24	0.53
1:1:2862:U:H1'	34:b:92:LYS:HB3	1.91	0.53
3:3:25:G:H5"	3:3:26:C:C5	2.44	0.53
13:G:65:LEU:HD21	20:N:25:VAL:HG22	1.91	0.53
15:I:83:VAL:HG21	15:I:105:VAL:HG23	1.91	0.53
29:W:161:LEU:O	29:W:165:MET:HG3	2.08	0.53
30:X:70:GLU:H	30:X:70:GLU:CD	2.16	0.53
31:Y:83:ASP:OD1	31:Y:83:ASP:N	2.41	0.53
34:b:264:ILE:HA	34:b:267:GLN:HG3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:i:34:SER:OG	41:i:35:ASN:N	2.42	0.53
54:v:111:TYR:O	54:v:240:PRO:HB3	2.09	0.53
55:w:40:ASP:OD2	55:w:42:SER:OG	2.27	0.53
55:w:73:THR:HG22	55:w:75:GLU:H	1.72	0.53
57:y:232:ILE:O	57:y:236:LEU:HG	2.09	0.53
1:1:846:A:H3'	1:1:847:A:C8	2.44	0.53
1:1:2744:U:C2	1:1:2749:G:O6	2.62	0.53
1:1:3006:A:H2'	1:1:3007:U:O4'	2.09	0.53
1:1:3316:A:C6	8:B:124:LYS:HG2	2.44	0.53
2:2:97:A:OP1	40:h:63:ARG:NH2	2.35	0.53
3:3:11:A:O2'	3:3:13:A:OP2	2.26	0.53
8:B:57:VAL:HG12	8:B:358:TRP:HE3	1.73	0.53
35:c:43:ILE:HB	35:c:90:VAL:HG13	1.91	0.53
53:u:84:GLU:O	53:u:88:THR:HG23	2.09	0.53
56:x:238:GLU:OE1	56:x:249:PRO:HA	2.09	0.53
1:1:1230:G:O2'	29:W:50:THR:OG1	2.22	0.53
1:1:1816:A:H2'	1:1:1817:G:C8	2.44	0.53
1:1:2844:C:H3'	1:1:2845:A:H4'	1.91	0.53
3:3:118:A:H2'	3:3:119:U:C5	2.44	0.53
7:A:199:THR:HB	7:A:204:MET:HE1	1.91	0.53
9:C:354:VAL:O	9:C:358:THR:HG22	2.09	0.53
25:S:51:VAL:HG12	25:S:52:LYS:H	1.74	0.53
35:c:41:LEU:HD21	35:c:43:ILE:HD11	1.91	0.53
45:m:384:PHE:HE1	45:m:406:ARG:HH21	1.57	0.53
46:n:146:PRO:HA	52:t:210:LYS:HZ2	1.73	0.53
54:v:173:GLN:N	55:w:90:LEU:O	2.40	0.53
56:x:124:ARG:HB3	56:x:126:VAL:HG22	1.91	0.53
1:1:3057:U:O2'	1:1:3059:G:OP1	2.27	0.52
1:1:3085:G:H5"	1:1:3086:A:OP1	2.09	0.52
1:1:3086:A:H4'	8:B:366:GLY:HA2	1.89	0.52
1:1:3214:U:OP2	19:M:128:ARG:NH1	2.28	0.52
2:2:157:U:O4	52:t:55:PHE:HB3	2.09	0.52
4:4:525:LEU:O	4:4:526:THR:OG1	2.22	0.52
8:B:67:PHE:CZ	28:V:88:ARG:HG2	2.44	0.52
13:G:50:VAL:HG21	30:X:27:ARG:HD2	1.91	0.52
17:K:105:SER:OG	17:K:231:MET:O	2.17	0.52
17:K:265:LEU:O	17:K:269:GLN:HB2	2.09	0.52
17:K:269:GLN:O	17:K:272:LYS:NZ	2.38	0.52
18:L:75:PHE:O	18:L:76:THR:OG1	2.20	0.52
34:b:535:MET:HE2	34:b:540:HIS:HD2	1.74	0.52
46:n:133:ASP:OD1	46:n:134:ASP:N	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:15:ASN:OD1	52:t:18:ILE:HG12	2.09	0.52
1:1:2430:A:H2'	1:1:2431:C:C6	2.43	0.52
1:1:2621:G:C6	1:1:2622:C:C4	2.97	0.52
1:1:2716:U:O2'	1:1:2717:U:H5'	2.09	0.52
1:1:2830:G:H2'	1:1:2831:G:C8	2.44	0.52
1:1:3159:C:H2'	1:1:3160:U:H6	1.73	0.52
1:1:3164:C:C2	1:1:3165:A:C8	2.97	0.52
5:5:82:ARG:HG3	5:5:83:ARG:N	2.24	0.52
33:a:94:ALA:HA	33:a:121:VAL:HG13	1.90	0.52
36:d:15:ASN:O	36:d:19:ARG:NH1	2.41	0.52
45:m:419:SER:HB2	45:m:430:ILE:HD13	1.92	0.52
1:1:608:A:O2'	9:C:326:ARG:NH1	2.42	0.52
1:1:1255:C:H2'	1:1:1256:G:C8	2.43	0.52
1:1:2964:G:O3'	45:m:35:ARG:NH2	2.42	0.52
3:3:98:C:H5	3:3:99:G:C8	2.27	0.52
3:3:99:G:C2	3:3:100:C:H1'	2.44	0.52
10:D:65:ILE:HG12	10:D:74:VAL:HG13	1.91	0.52
10:D:68:THR:HG22	54:v:133:PHE:H	1.75	0.52
12:F:203:TRP:CD1	12:F:204:PRO:HD2	2.45	0.52
14:H:190:ASP:N	14:H:190:ASP:OD1	2.43	0.52
16:J:30:LEU:HD13	16:J:65:ILE:HD12	1.91	0.52
17:K:32:ILE:HD13	17:K:291:LEU:HD12	1.92	0.52
25:S:83:SER:HB2	25:S:84:ARG:HG2	1.91	0.52
45:m:225:VAL:HG23	45:m:255:LEU:HA	1.91	0.52
56:x:385:LEU:HB3	56:x:396:ALA:HB3	1.89	0.52
1:1:2620:G:O2'	1:1:2621:G:OP2	2.21	0.52
1:1:2713:U:H6	1:1:2714:G:H5"	1.75	0.52
1:1:2830:G:H2'	1:1:2831:G:H8	1.74	0.52
1:1:3344:A:N6	1:1:3361:G:O2'	2.42	0.52
3:3:17:A:H2'	3:3:18:C:H6	1.75	0.52
3:3:41:G:N3	3:3:44:C:N4	2.48	0.52
4:4:220:GLY:HA3	4:4:306:SER:HB3	1.91	0.52
22:P:172:GLN:O	22:P:176:ILE:HG23	2.10	0.52
29:W:165:MET:HE1	29:W:180:ILE:HG21	1.91	0.52
30:X:64:GLU:OE1	30:X:85:GLN:NE2	2.38	0.52
32:Z:83:THR:HG22	32:Z:84:ARG:H	1.73	0.52
34:b:86:TYR:O	34:b:149:TYR:OH	2.26	0.52
34:b:321:SER:O	34:b:324:LEU:N	2.41	0.52
36:d:70:ARG:HB3	36:d:101:ALA:HB3	1.90	0.52
45:m:151:ARG:NH1	45:m:152:LEU:HD12	2.23	0.52
50:r:232:THR:OG1	50:r:233:ALA:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:31:LEU:HD22	54:v:87:MET:HG2	1.90	0.52
1:1:308:A:H2'	1:1:309:U:C6	2.44	0.52
1:1:1220:U:H4'	1:1:1220:U:OP1	2.09	0.52
1:1:2444:C:H5"	1:1:2503:G:N2	2.24	0.52
1:1:2698:G:C6	54:v:81:LYS:HB3	2.45	0.52
3:3:27:A:H2'	3:3:28:C:C2	2.44	0.52
4:4:69:ASP:HB3	4:4:399:PHE:CZ	2.45	0.52
4:4:331:LYS:HE3	4:4:446:ASP:N	2.24	0.52
9:C:58:HIS:HA	9:C:90:PHE:CE1	2.44	0.52
10:D:111:GLN:NE2	10:D:251:PRO:O	2.42	0.52
12:F:132:PRO:HA	12:F:229:PHE:CD2	2.44	0.52
15:I:15:THR:HG22	15:I:16:ARG:N	2.24	0.52
17:K:45:ILE:HD13	17:K:251:LEU:HD13	1.90	0.52
17:K:183:ASP:OD2	17:K:185:SER:N	2.39	0.52
17:K:293:TYR:OH	47:o:201:LYS:N	2.42	0.52
32:Z:16:GLY:C	32:Z:18:TYR:H	2.18	0.52
45:m:221:SER:OG	45:m:355:TYR:OH	2.10	0.52
45:m:287:HIS:HB3	45:m:294:PHE:CE2	2.44	0.52
56:x:260:ILE:H	56:x:273:THR:HG23	1.75	0.52
56:x:407:HIS:CD2	56:x:450:VAL:H	2.27	0.52
57:y:66:ASN:OD1	57:y:66:ASN:N	2.40	0.52
1:1:90:C:H1'	1:1:281:G:H4'	1.91	0.52
1:1:198:A:N3	1:1:218:G:O2'	2.43	0.52
1:1:428:A:O2'	38:f:88:ASN:ND2	2.33	0.52
1:1:1270:A:C6	1:1:1271:A:C6	2.97	0.52
1:1:2720:G:H2'	1:1:2721:A:H8	1.74	0.52
1:1:2957:G:C6	1:1:2976:A:N1	2.78	0.52
3:3:38:U:N3	3:3:41:G:OP2	2.40	0.52
3:3:65:G:H2'	3:3:66:A:H8	1.74	0.52
10:D:48:LYS:HZ2	10:D:50:ARG:HE	1.57	0.52
17:K:300:GLU:O	17:K:304:LYS:HG3	2.09	0.52
25:S:101:ALA:O	25:S:105:THR:HG23	2.10	0.52
45:m:238:ARG:HH22	45:m:277:LEU:HD11	1.75	0.52
45:m:331:ILE:HA	45:m:334:THR:HG22	1.91	0.52
50:r:195:LEU:HD13	50:r:224:ASN:O	2.09	0.52
52:t:214:ILE:HD12	52:t:267:PHE:CE2	2.45	0.52
1:1:806:A:H2'	1:1:807:A:C2	2.44	0.52
1:1:817:A:OP1	42:j:30:GLN:NE2	2.40	0.52
1:1:1252:A:H2'	1:1:1253:U:O4'	2.09	0.52
1:1:1544:G:O2'	1:1:2167:A:N3	2.36	0.52
1:1:2665:U:C2	1:1:2706:G:N1	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2824:G:O2'	1:1:2825:C:OP2	2.28	0.52
1:1:3282:U:H2'	1:1:3283:U:O4'	2.09	0.52
4:4:40:LYS:HG3	4:4:574:PRO:HB3	1.90	0.52
13:G:145:ASN:HB3	13:G:147:LYS:HG3	1.92	0.52
18:L:47:ALA:HB3	18:L:48:PRO:HD3	1.90	0.52
34:b:263:THR:O	34:b:267:GLN:HG3	2.10	0.52
53:u:1:MET:HE2	53:u:1:MET:HA	1.92	0.52
55:w:11:VAL:O	55:w:63:ASN:ND2	2.43	0.52
1:1:274:G:H2'	1:1:275:U:C6	2.44	0.52
1:1:602:A:H2'	1:1:603:A:C8	2.44	0.52
1:1:1503:A:H2'	1:1:1504:A:H8	1.75	0.52
1:1:2645:G:H2'	1:1:2646:C:O4'	2.10	0.52
1:1:2667:A:N7	1:1:2690:G:C6	2.78	0.52
1:1:2757:U:H5"	55:w:198:ASN:ND2	2.25	0.52
1:1:2947:G:H2'	1:1:2948:C:C6	2.45	0.52
1:1:2949:U:H2'	1:1:2950:G:H8	1.72	0.52
1:1:3277:U:H3'	1:1:3278:C:C2	2.44	0.52
3:3:35:C:H2'	3:3:36:C:O4'	2.10	0.52
4:4:314:GLY:HA2	4:4:509:LEU:O	2.10	0.52
17:K:107:TYR:HB2	17:K:230:TYR:CE2	2.44	0.52
34:b:621:GLU:O	34:b:624:ARG:NH2	2.43	0.52
55:w:112:THR:C	55:w:114:TRP:H	2.17	0.52
56:x:146:ILE:O	56:x:505:GLY:HA2	2.10	0.52
56:x:324:ASN:OD1	56:x:324:ASN:N	2.41	0.52
1:1:994:G:O6	1:1:1055:A:N6	2.43	0.52
1:1:2770:G:O6	1:1:2788:C:N4	2.43	0.52
1:1:2929:C:O2'	1:1:2930:A:O5'	2.28	0.52
3:3:28:C:H3'	3:3:29:C:C6	2.45	0.52
4:4:21:GLN:HB2	4:4:24:VAL:HG23	1.91	0.52
32:Z:2:ALA:N	35:c:63:SER:HA	2.25	0.52
32:Z:33:SER:OG	32:Z:34:LYS:N	2.40	0.52
34:b:149:TYR:O	34:b:153:VAL:HG13	2.10	0.52
34:b:225:LEU:HG	34:b:226:ASP:H	1.74	0.52
34:b:298:LEU:HD23	34:b:298:LEU:H	1.75	0.52
47:o:204:HIS:NE2	47:o:208:ILE:HD11	2.25	0.52
48:p:75:ALA:O	48:p:79:VAL:HG13	2.10	0.52
1:1:63:A:H5"	20:N:174:ILE:HD13	1.91	0.52
1:1:766:U:H5"	18:L:186:ARG:HH11	1.75	0.52
1:1:962:A:H3'	1:1:963:G:C8	2.45	0.52
1:1:997:A:H61	1:1:1053:A:C1'	2.22	0.52
1:1:1234:G:N2	1:1:1255:C:H6	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1696:A:H2'	1:1:1697:A:C8	2.45	0.52
1:1:2424:A:N6	1:1:2607:G:C2	2.79	0.52
1:1:2676:A:H5'	1:1:2677:G:C8	2.45	0.52
1:1:2929:C:O2'	1:1:2930:A:H8	1.93	0.52
1:1:3217:C:C5	1:1:3220:G:H1'	2.45	0.52
9:C:206:LEU:HB2	9:C:246:ARG:HE	1.75	0.52
23:Q:22:ASP:OD1	23:Q:22:ASP:N	2.36	0.52
28:V:74:MET:HG3	28:V:102:ILE:HD13	1.91	0.52
29:W:89:LEU:O	29:W:92:LEU:HG	2.10	0.52
34:b:172:ILE:O	34:b:221:THR:HG22	2.10	0.52
43:k:31:LEU:HA	43:k:37:PRO:HA	1.91	0.52
43:k:69:LEU:HD23	43:k:70:PRO:HD2	1.92	0.52
46:n:176:VAL:O	46:n:356:VAL:HG21	2.09	0.52
54:v:105:THR:HB	54:v:109:LYS:O	2.10	0.52
56:x:410:PHE:O	56:x:452:TRP:NE1	2.44	0.52
1:1:1661:G:H2'	1:1:1662:G:C8	2.45	0.51
1:1:1948:G:N1	1:1:1949:G:C5	2.78	0.51
1:1:2722:U:H2'	1:1:2723:U:C6	2.45	0.51
1:1:2785:A:H2'	1:1:2786:G:H8	1.73	0.51
6:6:25:G:O6	17:K:93:LYS:HD3	2.09	0.51
13:G:168:ALA:HB3	41:i:47:ILE:HD11	1.92	0.51
36:d:23:VAL:O	36:d:28:ARG:NH1	2.43	0.51
45:m:424:ALA:HA	45:m:427:PHE:HB3	1.92	0.51
46:n:174:ARG:NH1	46:n:384:GLY:H	2.07	0.51
46:n:248:LEU:HD13	46:n:253:ASP:HB2	1.92	0.51
50:r:188:GLU:C	50:r:190:GLY:H	2.16	0.51
1:1:644:G:H2'	1:1:646:A:C5	2.45	0.51
1:1:2761:G:O2'	1:1:2762:A:OP1	2.25	0.51
1:1:2943:G:H1'	8:B:254:ALA:HB1	1.90	0.51
3:3:41:G:H5'	3:3:43:U:O4	2.10	0.51
3:3:79:A:H2'	3:3:80:G:H5'	1.92	0.51
4:4:40:LYS:NZ	4:4:530:LYS:HB3	2.26	0.51
10:D:34:LYS:HA	10:D:37:VAL:HG12	1.93	0.51
18:L:167:PHE:CE2	33:a:132:LYS:HE3	2.45	0.51
55:w:158:TRP:H	55:w:158:TRP:HD1	1.58	0.51
56:x:139:ILE:HD11	56:x:176:GLN:HB3	1.92	0.51
1:1:2640:A:H2'	1:1:2641:U:C2	2.46	0.51
1:1:2646:C:H2'	1:1:2647:A:C8	2.44	0.51
3:3:119:U:H2'	3:3:120:C:C5	2.45	0.51
4:4:87:ARG:HB3	4:4:147:ILE:HA	1.91	0.51
4:4:99:GLN:HE22	4:4:497:SER:HB3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:5:102:LYS:O	5:5:105:GLU:HG2	2.10	0.51
8:B:286:GLY:HA3	8:B:321:PHE:CZ	2.45	0.51
16:J:61:ARG:HG2	16:J:62:ASN:ND2	2.26	0.51
17:K:293:TYR:HH	17:K:295:GLN:HE21	1.55	0.51
24:R:98:ARG:NH1	24:R:132:PHE:O	2.43	0.51
32:Z:103:GLN:HB2	32:Z:106:GLN:HE22	1.75	0.51
46:n:91:THR:HG22	52:t:282:SER:OG	2.11	0.51
47:o:110:TYR:OH	47:o:152:MET:SD	2.65	0.51
50:r:193:VAL:HG23	50:r:195:LEU:HG	1.90	0.51
55:w:121:LYS:HG3	55:w:123:ILE:HG13	1.91	0.51
1:1:710:A:H2'	1:1:711:A:H8	1.76	0.51
1:1:2411:U:O2'	1:1:2412:G:OP2	2.22	0.51
1:1:2832:C:H4'	50:r:246:THR:HG23	1.92	0.51
1:1:2863:G:H22	34:b:92:LYS:HE3	1.76	0.51
1:1:3030:G:HO2'	1:1:3031:G:P	2.32	0.51
1:1:3036:G:OP1	58:z:17:LYS:HD2	2.10	0.51
3:3:3:U:H4'	3:3:25:G:N1	2.26	0.51
3:3:118:A:H1'	10:D:79:TYR:OH	2.10	0.51
6:6:27:G:N1	6:6:54:A:C6	2.79	0.51
6:6:37:C:H2'	6:6:38:U:O4'	2.10	0.51
7:A:108:PRO:O	7:A:111:THR:OG1	2.26	0.51
10:D:29:ASP:O	10:D:32:GLN:HG3	2.09	0.51
13:G:78:PHE:C	13:G:80:TYR:H	2.18	0.51
30:X:77:GLU:OE2	30:X:133:LEU:HD21	2.10	0.51
32:Z:96:VAL:HA	32:Z:100:THR:HG21	1.93	0.51
45:m:381:ASP:HA	45:m:384:PHE:HB2	1.92	0.51
45:m:426:GLU:O	45:m:429:GLU:HG3	2.09	0.51
52:t:304:ALA:C	52:t:306:THR:H	2.18	0.51
1:1:201:A:H2'	1:1:202:G:H8	1.76	0.51
1:1:383:G:H5'	22:P:96:GLN:HE22	1.76	0.51
1:1:706:A:C5	1:1:714:G:N2	2.78	0.51
1:1:1301:A:O2'	1:1:1302:A:H5'	2.09	0.51
1:1:1836:C:H41	44:l:3:ALA:HB2	1.76	0.51
1:1:2400:G:O2'	1:1:2401:A:O5'	2.27	0.51
1:1:2876:C:O2'	1:1:2877:G:H8	1.93	0.51
1:1:2999:U:O2	1:1:3149:G:O6	2.29	0.51
3:3:55:A:H2'	3:3:56:A:C8	2.44	0.51
4:4:319:ILE:HG13	4:4:319:ILE:O	2.10	0.51
18:L:54:LEU:HD22	18:L:119:TYR:CD2	2.46	0.51
18:L:105:ASN:OD1	18:L:106:GLN:N	2.42	0.51
22:P:47:TYR:OH	22:P:57:ALA:O	2.19	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:P:108:ASP:OD2	22:P:111:LYS:NZ	2.43	0.51
27:U:9:GLN:HG2	27:U:10:LYS:HG3	1.91	0.51
32:Z:57:HIS:HB3	32:Z:61:LYS:HB2	1.93	0.51
37:e:83:GLU:OE2	37:e:111:ARG:NH2	2.42	0.51
45:m:77:TRP:O	45:m:78:PHE:HB2	2.10	0.51
50:r:225:VAL:HG23	50:r:228:LEU:HD13	1.92	0.51
56:x:238:GLU:HA	56:x:286:TRP:HE3	1.75	0.51
56:x:379:ASP:N	56:x:379:ASP:OD1	2.39	0.51
1:1:1197:A:H2	51:s:19:ILE:HG21	1.74	0.51
1:1:1307:G:OP1	21:O:60:LYS:NZ	2.43	0.51
1:1:2665:U:C2	1:1:2706:G:C2	2.98	0.51
1:1:3185:U:C5	21:O:126:VAL:HG21	2.45	0.51
6:6:31:G:N2	6:6:32:A:H62	2.08	0.51
9:C:362:ASP:HA	25:S:28:ARG:HH21	1.76	0.51
12:F:190:THR:O	12:F:190:THR:OG1	2.28	0.51
29:W:27:PHE:CZ	29:W:76:ALA:HA	2.46	0.51
29:W:35:ASP:OD2	29:W:36:THR:HG23	2.09	0.51
34:b:90:HIS:CE1	45:m:140:ALA:HB2	2.45	0.51
34:b:90:HIS:NE2	45:m:135:GLU:O	2.37	0.51
42:j:17:THR:OG1	42:j:18:LEU:N	2.41	0.51
54:v:241:SER:HB3	54:v:244:MET:HG2	1.91	0.51
1:1:86:G:O2'	1:1:98:G:O6	2.28	0.51
1:1:92:G:H5"	1:1:94:G:C6	2.44	0.51
1:1:538:G:H2'	1:1:539:C:H6	1.75	0.51
1:1:1329:U:HO2'	1:1:1330:A:P	2.31	0.51
1:1:2692:A:O2'	1:1:2693:C:O5'	2.25	0.51
1:1:2745:G:N1	1:1:2749:G:N7	2.59	0.51
3:3:34:C:C4	3:3:35:C:H5	2.29	0.51
3:3:50:U:O4	3:3:51:A:N6	2.43	0.51
5:5:106:ARG:NH1	5:5:109:ARG:HD3	2.22	0.51
6:6:47:A:OP1	17:K:245:ASN:ND2	2.44	0.51
10:D:139:PRO:HG3	56:x:130:LYS:HG2	1.91	0.51
10:D:261:THR:OG1	10:D:262:LYS:N	2.44	0.51
10:D:287:ALA:HA	10:D:290:ILE:HG22	1.92	0.51
15:I:29:GLU:CD	15:I:29:GLU:H	2.19	0.51
29:W:21:GLU:O	29:W:24:GLU:HG2	2.11	0.51
43:k:12:LEU:HB3	43:k:16:ARG:NH2	2.26	0.51
45:m:50:ASN:ND2	45:m:54:ASN:O	2.43	0.51
45:m:202:ILE:HG12	45:m:392:HIS:HB3	1.93	0.51
52:t:74:ARG:O	52:t:78:VAL:HG12	2.11	0.51
53:u:8:PHE:HB3	53:u:36:CYS:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:140:MET:HG3	55:w:26:LEU:HB3	1.93	0.51
56:x:377:ALA:HB1	56:x:405:VAL:HG13	1.91	0.51
57:y:136:GLU:OE1	57:y:136:GLU:N	2.44	0.51
1:1:284:A:H1'	1:1:285:A:C8	2.46	0.51
1:1:627:U:H4'	1:1:1399:A:H1'	1.93	0.51
1:1:651:G:O2'	1:1:1435:A:OP1	2.28	0.51
1:1:980:A:H1'	1:1:981:U:C5	2.46	0.51
1:1:1054:A:C8	1:1:1055:A:N7	2.79	0.51
1:1:2695:A:H62	1:1:2700:G:N2	2.08	0.51
1:1:2810:C:H2'	1:1:2811:A:C8	2.46	0.51
8:B:316:GLU:OE2	8:B:318:LYS:NZ	2.33	0.51
17:K:277:ARG:NH1	47:o:200:MET:SD	2.84	0.51
22:P:176:ILE:O	22:P:180:LYS:HG2	2.11	0.51
33:a:65:GLN:N	33:a:65:GLN:OE1	2.43	0.51
45:m:262:CYS:O	45:m:265:VAL:N	2.33	0.51
45:m:277:LEU:HB3	45:m:283:THR:HG21	1.93	0.51
48:p:10:ILE:H	48:p:10:ILE:HD12	1.75	0.51
52:t:231:ASP:HB3	52:t:234:ILE:HG22	1.92	0.51
54:v:52:LEU:O	54:v:136:GLY:HA2	2.11	0.51
54:v:141:PHE:HZ	54:v:165:PHE:HB3	1.75	0.51
56:x:180:HIS:HD2	56:x:218:GLY:HA3	1.76	0.51
56:x:262:ILE:N	56:x:270:CYS:SG	2.83	0.51
1:1:239:G:H2'	1:1:240:U:C2	2.46	0.51
1:1:589:A:H62	1:1:610:G:HO2'	1.56	0.51
1:1:643:U:H5'	1:1:646:A:H2	1.75	0.51
1:1:1221:A:OP2	1:1:1221:A:H4'	2.11	0.51
1:1:1861:G:O2'	1:1:3066:U:OP1	2.18	0.51
1:1:2756:C:O2'	55:w:191:ASN:OD1	2.27	0.51
4:4:122:ASP:HB3	4:4:123:SER:HB2	1.92	0.51
4:4:420:ARG:HG3	30:X:142:ILE:HG21	1.92	0.51
7:A:112:ILE:HG23	7:A:133:TYR:CD2	2.46	0.51
8:B:382:THR:HG22	53:u:104:GLU:OE2	2.11	0.51
12:F:224:ILE:HG23	25:S:36:ILE:HG12	1.93	0.51
15:I:104:ARG:NH2	15:I:108:ILE:HD11	2.26	0.51
27:U:17:VAL:HG13	27:U:63:VAL:HB	1.93	0.51
27:U:110:VAL:HG23	34:b:526:LYS:HB2	1.93	0.51
48:p:44:LYS:HD2	48:p:59:CYS:HB2	1.93	0.51
50:r:7:ILE:O	50:r:11:ILE:HG13	2.11	0.51
56:x:136:SER:HB3	56:x:176:GLN:HE22	1.76	0.51
1:1:164:A:N6	1:1:258:G:O6	2.44	0.51
1:1:1278:A:O2'	1:1:1279:C:O5'	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1355:A:H3'	1:1:1356:U:H5	1.75	0.51
1:1:1474:A:O2'	36:d:57:GLN:OE1	2.26	0.51
1:1:2404:A:H62	1:1:2817:A:N6	2.09	0.51
1:1:2650:U:H2'	1:1:2651:G:N7	2.26	0.51
1:1:2727:A:C8	50:r:169:GLU:HB2	2.45	0.51
1:1:2849:C:H3'	1:1:2850:G:C8	2.46	0.51
1:1:3030:G:O2'	1:1:3031:G:OP1	2.22	0.51
1:1:3270:U:C4	11:E:46:ARG:HD2	2.46	0.51
1:1:3275:U:H5'	38:f:68:TRP:CZ2	2.45	0.51
4:4:41:TYR:CE1	4:4:68:THR:HA	2.44	0.51
4:4:87:ARG:HB3	4:4:147:ILE:HG12	1.93	0.51
7:A:20:THR:O	7:A:20:THR:OG1	2.29	0.51
10:D:166:ALA:HB1	10:D:171:LEU:HD13	1.93	0.51
15:I:27:THR:O	15:I:31:VAL:HG23	2.11	0.51
20:N:104:GLU:HA	20:N:160:GLU:HG3	1.92	0.51
32:Z:58:GLY:O	32:Z:60:LYS:N	2.44	0.51
32:Z:134:LEU:HD23	32:Z:136:PHE:HD1	1.76	0.51
34:b:270:LEU:O	34:b:274:ILE:HG13	2.11	0.51
45:m:224:VAL:HG12	45:m:318:VAL:CG1	2.40	0.51
45:m:381:ASP:HB3	45:m:385:ARG:HH21	1.75	0.51
46:n:38:PHE:O	46:n:121:ARG:NH1	2.44	0.51
47:o:209:LYS:O	47:o:213:LYS:HG2	2.11	0.51
56:x:277:HIS:HD1	56:x:298:ASP:CG	2.19	0.51
56:x:327:SER:HB3	56:x:408:VAL:HG23	1.91	0.51
1:1:1786:G:H2'	1:1:1787:A:C8	2.47	0.50
1:1:2625:C:N3	1:1:2626:A:N6	2.59	0.50
1:1:2647:A:H2'	1:1:2648:G:C8	2.46	0.50
1:1:2971:A:OP2	50:r:139:THR:OG1	2.18	0.50
8:B:215:ILE:HD13	8:B:282:ILE:HD11	1.93	0.50
8:B:233:TRP:CD1	8:B:265:ALA:HB1	2.46	0.50
25:S:14:LEU:H	25:S:56:GLY:HA2	1.75	0.50
31:Y:5:SER:OG	31:Y:7:ASP:OD2	2.18	0.50
46:n:44:ARG:HH12	49:q:211:PRO:HA	1.74	0.50
46:n:203:PHE:HB3	46:n:205:PHE:HD2	1.76	0.50
56:x:426:ILE:HG22	56:x:440:PHE:CD2	2.46	0.50
57:y:120:ASP:OD1	57:y:120:ASP:N	2.44	0.50
1:1:86:G:N2	1:1:98:G:H2'	2.27	0.50
1:1:114:A:C2'	1:1:115:A:H5'	2.41	0.50
1:1:157:A:H61	1:1:264:G:H2'	1.75	0.50
1:1:761:A:O2'	1:1:762:U:OP1	2.28	0.50
1:1:2716:U:C2'	1:1:2717:U:H5'	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2836:C:H3'	1:1:2837:A:C8	2.46	0.50
10:D:95:TRP:HA	10:D:158:ARG:HG2	1.92	0.50
11:E:2:SER:N	37:e:81:ASP:OD1	2.45	0.50
16:J:53:THR:HG22	16:J:60:ARG:HA	1.93	0.50
16:J:78:GLU:O	16:J:81:GLU:HG3	2.10	0.50
17:K:260:VAL:HA	17:K:263:VAL:HG12	1.93	0.50
34:b:73:ASP:N	34:b:73:ASP:OD1	2.42	0.50
45:m:72:GLN:H	45:m:72:GLN:CD	2.20	0.50
54:v:36:GLN:HA	54:v:63:LYS:HB3	1.93	0.50
56:x:149:SER:HA	56:x:160:VAL:O	2.12	0.50
56:x:201:ILE:HB	56:x:213:TRP:HB2	1.93	0.50
1:1:259:C:H2'	1:1:260:C:H6	1.77	0.50
1:1:986:U:O2'	12:F:125:GLU:HB2	2.12	0.50
1:1:2746:A:H2'	1:1:2747:A:C8	2.47	0.50
1:1:2746:A:H2'	1:1:2747:A:O4'	2.11	0.50
3:3:19:C:N4	3:3:20:A:H62	2.10	0.50
4:4:186:ALA:HA	4:4:189:ILE:HD12	1.92	0.50
6:6:17:G:O3'	17:K:228:LYS:NZ	2.45	0.50
6:6:35:C:H5"	47:o:207:ARG:HE	1.76	0.50
8:B:211:GLN:NE2	8:B:283:TYR:O	2.44	0.50
9:C:291:ASN:OD1	9:C:291:ASN:N	2.44	0.50
13:G:228:GLU:OE1	13:G:232:HIS:ND1	2.44	0.50
16:J:156:LYS:O	16:J:160:VAL:HG23	2.11	0.50
18:L:56:PRO:HG3	18:L:74:GLY:O	2.12	0.50
29:W:141:ILE:HD11	29:W:179:LYS:HG2	1.93	0.50
30:X:135:ILE:O	30:X:139:ILE:HG23	2.11	0.50
52:t:75:ILE:O	52:t:79:SER:OG	2.26	0.50
54:v:251:LYS:HG3	54:v:253:LYS:N	2.25	0.50
1:1:198:A:H5'	31:Y:62:SER:HB2	1.92	0.50
1:1:1132:C:H2'	1:1:1133:A:H8	1.76	0.50
1:1:1333:C:OP1	12:F:110:ARG:NH2	2.44	0.50
1:1:1630:U:O4	1:1:1813:A:H5"	2.11	0.50
1:1:1688:U:H2'	1:1:1689:U:C6	2.47	0.50
1:1:2423:U:H1'	1:1:2608:G:N2	2.27	0.50
1:1:2503:G:OP2	1:1:2503:G:H8	1.95	0.50
4:4:218:ILE:HG21	4:4:311:VAL:HG23	1.94	0.50
9:C:217:LYS:HG2	9:C:220:ARG:HH21	1.75	0.50
10:D:83:LEU:N	10:D:84:PRO:HD2	2.25	0.50
14:H:167:VAL:CG1	14:H:170:LYS:HB2	2.42	0.50
27:U:27:VAL:HG12	34:b:540:HIS:CD2	2.47	0.50
34:b:1:MET:O	34:b:5:TRP:NE1	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:406:ASN:HB3	34:b:407:GLY:HA2	1.93	0.50
34:b:613:ARG:HG2	34:b:618:LYS:HG3	1.92	0.50
47:o:110:TYR:O	47:o:113:GLN:HG2	2.12	0.50
53:u:145:LEU:HA	53:u:148:GLU:HG2	1.92	0.50
1:1:309:U:H2'	1:1:310:U:O4'	2.11	0.50
1:1:2316:G:H1'	1:1:2317:A:N1	2.26	0.50
1:1:2658:G:H1'	1:1:2659:G:O5'	2.11	0.50
1:1:2865:U:O2'	1:1:2866:U:H5'	2.12	0.50
2:2:26:U:H2'	2:2:27:U:C6	2.47	0.50
2:2:130:C:OP2	46:n:13:ARG:NH1	2.45	0.50
3:3:73:C:O2'	3:3:77:G:OP2	2.29	0.50
3:3:81:U:H2'	3:3:82:G:C8	2.46	0.50
10:D:269:SER:O	10:D:273:ARG:NE	2.44	0.50
17:K:262:ASN:O	17:K:266:ILE:HG13	2.12	0.50
17:K:271:ILE:HG13	17:K:272:LYS:N	2.27	0.50
25:S:8:GLN:HB3	25:S:64:ILE:HD11	1.93	0.50
46:n:175:LEU:HD22	46:n:177:ARG:NH2	2.26	0.50
1:1:172:G:N1	1:1:246:U:N3	2.17	0.50
1:1:671:U:H2'	1:1:672:A:H8	1.77	0.50
1:1:1253:U:OP2	1:1:1253:U:H6	1.95	0.50
1:1:2677:G:N3	1:1:2677:G:H2'	2.25	0.50
1:1:2982:A:H1'	1:1:2984:C:H41	1.76	0.50
1:1:3298:C:C2	1:1:3299:A:C8	3.00	0.50
3:3:41:G:O4'	3:3:44:C:N4	2.45	0.50
8:B:116:ARG:HD2	8:B:174:LYS:O	2.12	0.50
9:C:269:SER:O	9:C:270:SER:HB3	2.11	0.50
10:D:258:LYS:HG3	10:D:265:TYR:HE2	1.77	0.50
17:K:156:CYS:SG	17:K:158:LYS:NZ	2.75	0.50
17:K:293:TYR:HH	17:K:295:GLN:NE2	2.09	0.50
32:Z:119:GLU:O	32:Z:123:GLN:HG2	2.12	0.50
46:n:207:GLU:HG3	46:n:208:ASN:H	1.76	0.50
46:n:359:LEU:HD22	46:n:441:LEU:HD21	1.92	0.50
47:o:88:GLU:O	47:o:169:LYS:HG3	2.12	0.50
47:o:198:ASP:OD1	47:o:199:ASN:N	2.45	0.50
49:q:203:ARG:HG2	49:q:207:LEU:HD23	1.93	0.50
49:q:414:ASN:HD21	49:q:416:LEU:HB2	1.75	0.50
54:v:30:ALA:HA	54:v:86:LEU:HB2	1.94	0.50
54:v:36:GLN:N	54:v:64:ASN:O	2.44	0.50
56:x:407:HIS:ND1	56:x:449:GLN:HA	2.26	0.50
1:1:974:G:OP2	23:Q:15:HIS:N	2.44	0.50
1:1:1621:A:H2'	1:1:1622:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1680:G:H2'	1:1:1681:U:C6	2.47	0.50
1:1:2789:U:H2'	1:1:2790:A:O4'	2.11	0.50
1:1:2864:A:N7	1:1:2865:U:N3	2.59	0.50
3:3:6:C:P	10:D:54:ARG:HE	2.34	0.50
9:C:36:HIS:O	9:C:40:THR:HG23	2.12	0.50
24:R:23:TRP:HB3	24:R:51:VAL:HG22	1.93	0.50
36:d:80:ASN:HB3	36:d:88:PRO:CB	2.42	0.50
40:h:54:VAL:O	40:h:58:ILE:HG13	2.11	0.50
45:m:290:ILE:H	45:m:290:ILE:HD12	1.76	0.50
47:o:90:SER:HB3	47:o:169:LYS:HA	1.93	0.50
54:v:139:PRO:HB3	54:v:180:HIS:CD2	2.46	0.50
55:w:117:PHE:O	55:w:121:LYS:HB3	2.11	0.50
1:1:69:C:OP1	20:N:178:HIS:ND1	2.45	0.50
1:1:177:U:H2'	1:1:178:U:H6	1.77	0.50
1:1:1242:G:H5"	34:b:227:ARG:HH12	1.75	0.50
1:1:2707:C:H2'	1:1:2708:C:C6	2.47	0.50
1:1:3115:C:OP1	29:W:1:MET:HG3	2.12	0.50
10:D:282:ARG:HA	10:D:285:ARG:HD2	1.94	0.50
13:G:219:ASP:HA	13:G:223:ALA:HB3	1.93	0.50
16:J:37:LEU:HB2	16:J:45:PRO:HG3	1.94	0.50
16:J:156:LYS:HA	16:J:159:THR:HG22	1.93	0.50
26:T:71:SER:OG	26:T:90:ASN:OD1	2.18	0.50
34:b:134:GLY:O	34:b:138:THR:HG23	2.11	0.50
35:c:32:LYS:O	35:c:36:GLN:NE2	2.45	0.50
39:g:44:CYS:HB3	39:g:48:GLY:H	1.77	0.50
46:n:140:PHE:HZ	46:n:167:LEU:HD13	1.76	0.50
48:p:39:CYS:HB3	48:p:42:CYS:HB2	1.94	0.50
56:x:139:ILE:HG22	56:x:140:ALA:O	2.12	0.50
1:1:514:G:N3	9:C:341:SER:OG	2.45	0.50
1:1:1192:C:C5	51:s:6:ARG:HB2	2.47	0.50
1:1:1241:U:HO2'	1:1:1242:G:P	2.34	0.50
1:1:1326:A:O2'	38:f:77:ASN:OD1	2.25	0.50
3:3:1:G:C2	10:D:265:TYR:HB3	2.47	0.50
4:4:92:PRO:HB3	4:4:394:HIS:HE1	1.77	0.50
11:E:38:THR:OG1	11:E:39:VAL:N	2.45	0.50
17:K:111:LYS:O	17:K:114:SER:OG	2.27	0.50
18:L:134:GLU:OE2	18:L:135:ALA:N	2.44	0.50
26:T:136:ARG:HB2	26:T:139:ARG:HH12	1.77	0.50
34:b:78:HIS:O	34:b:82:MET:HG2	2.11	0.50
34:b:360:LYS:HG2	57:y:183:ALA:HB3	1.94	0.50
45:m:169:THR:O	45:m:173:GLU:HG2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:n:148:THR:OG1	46:n:149:ASN:N	2.45	0.50
49:q:205:SER:HA	49:q:208:ASP:HB2	1.91	0.50
49:q:215:LYS:HB2	49:q:381:HIS:CE1	2.47	0.50
49:q:265:LEU:HD13	49:q:269:LEU:HD22	1.94	0.50
54:v:89:LEU:HB3	54:v:101:THR:OG1	2.12	0.50
56:x:340:ASP:N	56:x:355:LYS:HZ1	2.08	0.50
56:x:408:VAL:HA	56:x:418:VAL:O	2.12	0.50
1:1:283:G:H5'	1:1:284:A:H2	1.77	0.49
1:1:371:G:N1	1:1:374:A:OP2	2.38	0.49
1:1:542:G:H2'	1:1:543:C:C6	2.46	0.49
1:1:853:G:H2'	1:1:854:G:O4'	2.12	0.49
1:1:1200:A:H2	1:1:2824:G:N2	2.08	0.49
1:1:2316:G:H2'	1:1:2316:G:N3	2.27	0.49
1:1:2536:A:H2	1:1:2545:C:N4	2.10	0.49
1:1:2674:A:H2'	1:1:2674:A:N3	2.27	0.49
1:1:2871:G:N7	50:r:174:PRO:HA	2.27	0.49
1:1:3140:G:N7	8:B:28:ARG:NH2	2.60	0.49
13:G:106:LYS:O	13:G:110:THR:HG22	2.12	0.49
15:I:51:CYS:SG	15:I:73:HIS:CE1	3.04	0.49
24:R:11:ALA:O	24:R:15:VAL:HG23	2.12	0.49
29:W:56:ILE:O	29:W:59:SER:OG	2.30	0.49
29:W:90:TYR:HA	29:W:93:SER:OG	2.12	0.49
34:b:25:THR:O	34:b:29:THR:OG1	2.30	0.49
34:b:528:PHE:HE2	34:b:549:GLN:HG2	1.77	0.49
37:e:91:THR:HG1	37:e:92:TYR:HD2	1.59	0.49
44:l:16:ALA:HB1	44:l:42:ARG:HH12	1.75	0.49
46:n:394:ASP:OD1	52:t:252:HIS:ND1	2.44	0.49
52:t:175:VAL:HG22	52:t:270:PRO:HB3	1.94	0.49
54:v:116:LEU:HD13	54:v:232:PHE:HB3	1.92	0.49
54:v:202:ARG:HB3	54:v:204:TYR:CE2	2.45	0.49
55:w:74:THR:C	56:x:480:VAL:HG12	2.36	0.49
1:1:733:G:N2	1:1:737:G:C6	2.80	0.49
1:1:1278:A:O2'	1:1:1279:C:C6	2.64	0.49
1:1:1355:A:H4'	1:1:1356:U:O5'	2.11	0.49
1:1:2840:C:C2	1:1:2841:G:C8	3.00	0.49
1:1:2858:U:H3'	1:1:2859:U:C5'	2.41	0.49
11:E:137:ASP:HA	11:E:140:VAL:HG12	1.93	0.49
13:G:159:PRO:HB2	13:G:162:LEU:HD12	1.94	0.49
15:I:28:LYS:NZ	15:I:32:GLN:HB2	2.26	0.49
26:T:65:TYR:CD2	26:T:66:ASN:HB2	2.47	0.49
33:a:84:GLU:HA	33:a:87:ARG:NH1	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:400:ARG:HB2	57:y:36:SER:CB	2.42	0.49
57:y:111:ASN:ND2	57:y:156:ASN:OD1	2.36	0.49
1:1:283:G:H5'	1:1:284:A:C2	2.47	0.49
1:1:768:C:H5	1:1:2772:C:N3	2.10	0.49
1:1:954:U:H5	1:1:1115:G:C8	2.30	0.49
1:1:965:A:H2'	1:1:966:U:C2	2.48	0.49
1:1:1501:U:O2'	1:1:1502:C:H5'	2.12	0.49
1:1:2546:C:O2	1:1:2548:C:N4	2.32	0.49
1:1:2646:C:N4	1:1:2647:A:H61	2.06	0.49
1:1:2699:G:H2'	1:1:2700:G:O4'	2.12	0.49
1:1:2835:U:H2'	1:1:2836:C:O4'	2.12	0.49
1:1:3166:C:H2'	1:1:3167:A:H8	1.78	0.49
1:1:3344:A:H2	1:1:3361:G:H21	1.57	0.49
3:3:75:G:H2'	3:3:103:A:N6	2.27	0.49
4:4:343:TYR:CD1	40:h:38:ARG:HB2	2.48	0.49
15:I:91:ASP:O	15:I:96:TYR:HB3	2.12	0.49
28:V:23:MET:HE3	28:V:34:LEU:HD12	1.94	0.49
34:b:437:ASP:N	34:b:437:ASP:OD1	2.43	0.49
37:e:94:ALA:O	37:e:120:THR:HG23	2.11	0.49
42:j:39:TYR:CD1	42:j:40:PRO:HA	2.47	0.49
45:m:207:GLN:HA	45:m:212:TRP:HE1	1.76	0.49
50:r:206:SER:HB3	50:r:209:TYR:CG	2.47	0.49
56:x:495:SER:OG	56:x:500:ARG:N	2.35	0.49
57:y:154:LEU:HD12	57:y:155:SER:H	1.76	0.49
58:z:4:SER:OG	58:z:5:LEU:N	2.46	0.49
1:1:173:G:O6	1:1:245:U:C4	2.64	0.49
1:1:617:G:H2'	1:1:618:C:O4'	2.13	0.49
1:1:961:C:H2'	1:1:962:A:C8	2.47	0.49
1:1:1214:U:OP1	25:S:91:TYR:N	2.46	0.49
1:1:1259:A:H1'	1:1:1280:C:O2'	2.12	0.49
1:1:1307:G:H5'	21:O:60:LYS:HZ2	1.76	0.49
1:1:1460:A:H2'	1:1:1461:A:C8	2.46	0.49
1:1:1682:U:C6	27:U:85:LYS:HG2	2.46	0.49
1:1:2138:A:H3'	1:1:2139:A:H2'	1.94	0.49
1:1:2693:C:HO2'	1:1:2694:A:P	2.36	0.49
1:1:2743:A:C6	1:1:2751:G:N1	2.80	0.49
3:3:84:A:N1	3:3:97:A:H1'	2.27	0.49
6:6:48:A:O2'	6:6:49:C:H6	1.95	0.49
7:A:84:THR:O	48:p:62:LYS:NZ	2.44	0.49
16:J:117:ASP:O	16:J:120:ILE:HG22	2.12	0.49
17:K:168:GLU:HG3	17:K:169:ALA:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:18:TRP:CD1	18:L:18:TRP:H	2.30	0.49
26:T:129:LYS:O	26:T:131:GLN:NE2	2.46	0.49
29:W:34:LEU:O	29:W:86:LYS:NZ	2.45	0.49
29:W:139:GLU:HA	29:W:182:ILE:HD11	1.94	0.49
54:v:38:CYS:HB3	54:v:42:LEU:HD23	1.94	0.49
57:y:225:GLN:O	57:y:227:ALA:HA	2.13	0.49
1:1:1237:G:N7	1:1:1263:A:O2'	2.45	0.49
1:1:1605:A:O2'	1:1:1607:U:OP2	2.29	0.49
1:1:2755:C:H2'	1:1:2756:C:H6	1.77	0.49
5:5:106:ARG:HD2	5:5:109:ARG:HD2	1.94	0.49
7:A:70:ARG:HH21	7:A:72:ARG:NH2	2.11	0.49
10:D:197:SER:O	10:D:202:GLY:N	2.46	0.49
16:J:11:ASP:HB3	16:J:13:LYS:NZ	2.26	0.49
16:J:160:VAL:O	16:J:164:LYS:HG2	2.11	0.49
17:K:181:LEU:HB3	17:K:209:ILE:HG12	1.94	0.49
19:M:58:ILE:HD12	19:M:59:ASN:H	1.76	0.49
20:N:71:ARG:NH2	20:N:92:LEU:HB3	2.28	0.49
29:W:226:SER:O	29:W:226:SER:OG	2.25	0.49
34:b:454:GLN:O	34:b:458:GLU:HG2	2.12	0.49
36:d:80:ASN:HB3	36:d:88:PRO:HB3	1.93	0.49
45:m:224:VAL:HG12	45:m:318:VAL:HG12	1.95	0.49
49:q:397:LYS:NZ	49:q:410:LYS:HB3	2.27	0.49
50:r:128:ILE:HG21	50:r:133:MET:HE3	1.94	0.49
57:y:206:THR:OG1	57:y:207:GLY:N	2.46	0.49
1:1:261:U:O2'	1:1:262:U:O5'	2.28	0.49
1:1:644:G:H2'	1:1:646:A:C6	2.47	0.49
1:1:2410:U:H4'	1:1:2411:U:H3'	1.95	0.49
1:1:2631:U:C4	1:1:2632:G:O6	2.65	0.49
1:1:2666:C:H1'	1:1:2691:A:H1'	1.95	0.49
1:1:2834:G:H2'	1:1:2835:U:H6	1.76	0.49
1:1:3264:G:H2'	1:1:3265:C:C6	2.47	0.49
3:3:3:U:H4'	3:3:25:G:H1	1.76	0.49
4:4:185:ALA:O	4:4:189:ILE:HG13	2.12	0.49
4:4:364:PHE:HD1	34:b:567:PHE:HE1	1.60	0.49
7:A:51:ASP:HB2	7:A:58:LEU:HG	1.95	0.49
34:b:361:ILE:HA	57:y:237:ARG:CZ	2.42	0.49
41:i:98:ARG:HB3	41:i:99:ARG:HD2	1.94	0.49
45:m:354:GLN:O	45:m:365:ILE:HG22	2.12	0.49
49:q:410:LYS:HB2	52:t:231:ASP:OD1	2.13	0.49
57:y:1:MET:HE3	57:y:203:LEU:HD12	1.93	0.49
1:1:19:U:H2'	1:1:20:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:180:C:H2'	1:1:181:U:C6	2.48	0.49
1:1:1757:A:H2'	1:1:1758:G:H8	1.77	0.49
1:1:1805:C:H2'	1:1:1806:A:C8	2.45	0.49
1:1:2632:G:C6	1:1:2647:A:N6	2.80	0.49
1:1:2798:C:H2'	1:1:2799:A:C2	2.48	0.49
1:1:3220:G:H2'	1:1:3221:C:C6	2.46	0.49
1:1:3286:G:H2'	1:1:3287:U:C6	2.48	0.49
1:1:3316:A:O2'	1:1:3317:U:OP1	2.30	0.49
3:3:72:A:H2'	3:3:74:C:C6	2.47	0.49
3:3:85:G:C6	3:3:95:A:N6	2.80	0.49
4:4:240:PRO:HA	4:4:269:TRP:O	2.12	0.49
14:H:76:ASP:O	14:H:80:THR:HG23	2.12	0.49
22:P:61:ARG:O	22:P:64:ASN:ND2	2.46	0.49
25:S:89:ASN:ND2	51:s:48:PRO:HB2	2.28	0.49
26:T:44:ALA:HA	26:T:95:HIS:HB3	1.94	0.49
27:U:80:THR:HG21	27:U:95:PHE:CD2	2.43	0.49
34:b:332:ARG:HG3	34:b:333:ASN:N	2.28	0.49
34:b:478:TYR:HB3	34:b:481:PHE:CD1	2.39	0.49
1:1:1130:A:H2'	1:1:1131:G:O4'	2.12	0.49
1:1:1815:U:H1'	1:1:1816:A:C8	2.48	0.49
1:1:2110:G:H2'	1:1:2111:G:O4'	2.13	0.49
1:1:2129:U:H2'	1:1:2130:G:C8	2.48	0.49
1:1:2749:G:H2'	1:1:2750:U:C6	2.48	0.49
1:1:3116:G:N3	1:1:3116:G:H2'	2.27	0.49
2:2:10:A:H2'	2:2:11:C:C6	2.48	0.49
4:4:392:LEU:HD13	4:4:419:PHE:HB3	1.93	0.49
6:6:28:A:OP2	47:o:125:ASN:ND2	2.46	0.49
18:L:187:ALA:HA	18:L:190:LYS:HG2	1.95	0.49
20:N:115:VAL:HG11	20:N:160:GLU:HB3	1.93	0.49
22:P:10:ASN:HD21	22:P:12:ALA:HB3	1.76	0.49
29:W:220:TYR:CE2	29:W:222:ASP:HB2	2.48	0.49
34:b:87:GLU:HG2	34:b:90:HIS:ND1	2.28	0.49
34:b:175:TYR:HB3	34:b:262:PHE:CE2	2.48	0.49
37:e:99:ASN:N	37:e:99:ASN:OD1	2.42	0.49
45:m:409:VAL:HG13	45:m:421:TRP:CH2	2.48	0.49
46:n:152:SER:O	46:n:154:LYS:N	2.46	0.49
49:q:199:THR:C	49:q:201:SER:H	2.21	0.49
55:w:131:LYS:O	55:w:133:ILE:HG23	2.13	0.49
1:1:272:G:N1	1:1:294:U:O2	2.46	0.49
1:1:1269:U:H5"	29:W:159:HIS:HE1	1.78	0.49
1:1:2630:C:H1'	1:1:2649:A:H61	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2651:G:H4'	1:1:2652:U:OP2	2.10	0.49
1:1:2670:G:H2'	1:1:2671:A:H8	1.78	0.49
1:1:2756:C:H5'	55:w:195:GLN:HE21	1.78	0.49
4:4:379:LEU:C	4:4:381:LYS:H	2.20	0.49
6:6:43:A:H2'	6:6:44:G:C8	2.47	0.49
9:C:206:LEU:HB3	9:C:248:VAL:HG22	1.95	0.49
10:D:281:GLU:O	10:D:285:ARG:HG3	2.13	0.49
22:P:113:TYR:CE1	22:P:151:THR:HB	2.47	0.49
28:V:72:LYS:HA	45:m:196:SER:HA	1.95	0.49
34:b:22:LEU:O	34:b:25:THR:HG22	2.12	0.49
45:m:346:ILE:CG2	45:m:389:ARG:HE	2.19	0.49
50:r:2:PRO:HB2	50:r:6:TYR:CD1	2.47	0.49
52:t:197:GLY:HA3	52:t:314:ILE:HB	1.94	0.49
56:x:145:THR:O	56:x:164:GLY:N	2.46	0.49
1:1:761:A:P	1:1:761:A:H8	2.36	0.49
1:1:878:G:H21	34:b:647:ARG:C	2.21	0.49
1:1:2622:C:O2'	1:1:2623:G:OP2	2.28	0.49
1:1:2743:A:H2'	1:1:2744:U:O4'	2.13	0.49
1:1:2875:U:O2'	1:1:2951:G:N2	2.42	0.49
1:1:3160:U:N3	1:1:3290:G:N1	2.45	0.49
4:4:229:THR:HG21	4:4:549:ILE:HG12	1.95	0.49
4:4:360:TYR:CD1	4:4:423:MET:HE2	2.48	0.49
6:6:14:U:H2'	6:6:15:C:H5"	1.94	0.49
7:A:32:LEU:HD13	7:A:163:ARG:HD3	1.95	0.49
8:B:232:ARG:HA	8:B:270:ARG:HD2	1.95	0.49
17:K:149:ILE:HG12	17:K:230:TYR:HE1	1.78	0.49
17:K:186:ILE:O	17:K:190:LEU:HG	2.12	0.49
34:b:289:LYS:HG2	60:b:701:GTP:C4	2.48	0.49
41:i:4:LYS:HD3	41:i:14:GLY:HA3	1.94	0.49
53:u:56:ARG:NH1	53:u:62:GLU:OE1	2.46	0.49
56:x:298:ASP:O	56:x:300:THR:HG23	2.13	0.49
56:x:299:ARG:HG2	56:x:321:HIS:C	2.37	0.49
1:1:970:A:C5	1:1:971:G:C6	3.01	0.48
1:1:997:A:N6	1:1:1053:A:H1'	2.28	0.48
1:1:2552:C:N4	35:c:54:SER:OG	2.45	0.48
1:1:2751:G:O2'	1:1:2752:U:OP2	2.29	0.48
1:1:3160:U:C2	1:1:3290:G:N1	2.74	0.48
1:1:3231:U:H2'	1:1:3232:G:H8	1.78	0.48
2:2:76:C:H2'	2:2:77:A:O4'	2.13	0.48
9:C:118:LYS:O	9:C:122:THR:HG23	2.13	0.48
11:E:40:LEU:HG	11:E:84:VAL:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:178:ILE:HG23	12:F:183:ASP:HB2	1.94	0.48
32:Z:15:ARG:HH21	39:g:86:LYS:HE2	1.78	0.48
41:i:67:LYS:HG3	41:i:70:ARG:HH21	1.78	0.48
45:m:238:ARG:NH1	45:m:240:LYS:HD3	2.26	0.48
52:t:303:ASN:N	52:t:303:ASN:OD1	2.45	0.48
54:v:112:ASP:HB3	54:v:240:PRO:HD3	1.95	0.48
54:v:201:PHE:HB2	54:v:232:PHE:CZ	2.48	0.48
56:x:291:LEU:HA	56:x:305:ASP:OD1	2.13	0.48
1:1:70:A:H2	1:1:72:C:H42	1.61	0.48
1:1:1933:A:C2	45:m:438:LEU:HD11	2.48	0.48
1:1:3230:G:C6	1:1:3231:U:C4	3.01	0.48
4:4:417:LYS:HG3	30:X:133:LEU:HB3	1.94	0.48
8:B:105:VAL:HG13	8:B:144:ILE:HD12	1.94	0.48
14:H:4:ILE:HG13	19:M:41:GLN:NE2	2.24	0.48
30:X:88:MET:HE1	44:l:7:PHE:HZ	1.77	0.48
35:c:23:TYR:CE2	35:c:25:LEU:HD11	2.48	0.48
35:c:34:LEU:HD13	35:c:59:TYR:HB3	1.95	0.48
46:n:16:ILE:HD11	46:n:68:ILE:HG13	1.95	0.48
54:v:200:LEU:HD23	54:v:202:ARG:HH21	1.78	0.48
56:x:241:HIS:HA	56:x:353:GLN:HB3	1.94	0.48
57:y:118:HIS:CD2	57:y:146:ILE:HG12	2.48	0.48
58:z:14:LYS:HA	58:z:17:LYS:HD3	1.94	0.48
1:1:3034:C:H42	14:H:121:LYS:HG2	1.78	0.48
3:3:33:U:H2'	3:3:34:C:O4'	2.13	0.48
6:6:49:C:H2'	6:6:50:U:H6	1.78	0.48
9:C:23:PRO:HD2	9:C:26:PHE:CD2	2.47	0.48
23:Q:102:ALA:HA	23:Q:122:ILE:O	2.12	0.48
29:W:217:VAL:HG13	29:W:233:ILE:HG13	1.95	0.48
32:Z:27:LYS:HB2	32:Z:42:LEU:HD13	1.96	0.48
32:Z:121:ARG:HH21	49:q:269:LEU:HD21	1.79	0.48
45:m:305:GLN:O	45:m:309:LEU:HG	2.12	0.48
45:m:417:GLU:O	45:m:418:ILE:HG12	2.13	0.48
47:o:141:ASN:ND2	47:o:143:GLU:HB3	2.25	0.48
47:o:158:MET:HE1	52:t:62:VAL:CG1	2.43	0.48
50:r:122:LEU:HB3	50:r:244:GLN:NE2	2.28	0.48
52:t:38:LYS:HB2	52:t:39:LYS:HZ2	1.78	0.48
56:x:142:HIS:CE1	56:x:169:ARG:HG3	2.48	0.48
56:x:241:HIS:HB3	56:x:356:ALA:HB3	1.95	0.48
57:y:19:LEU:HD12	57:y:20:THR:H	1.78	0.48
57:y:146:ILE:O	57:y:147:LEU:HB2	2.13	0.48
1:1:971:G:N2	1:1:1112:A:N1	2.57	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2404:A:H62	1:1:2817:A:H62	1.62	0.48
1:1:2712:U:H5'	1:1:2713:U:OP1	2.14	0.48
4:4:331:LYS:HE3	4:4:446:ASP:H	1.77	0.48
8:B:107:ALA:O	8:B:108:GLU:HB3	2.13	0.48
22:P:133:HIS:CD2	34:b:633:HIS:HD2	2.31	0.48
29:W:69:LYS:HB3	29:W:72:VAL:HG23	1.94	0.48
33:a:86:LYS:HD3	33:a:89:GLN:NE2	2.28	0.48
34:b:353:ARG:O	34:b:357:VAL:HG22	2.13	0.48
37:e:47:ARG:HE	37:e:47:ARG:HB3	1.29	0.48
41:i:34:SER:HG	41:i:35:ASN:H	1.61	0.48
44:l:21:ARG:HG3	44:l:22:PRO:O	2.13	0.48
45:m:276:HIS:O	45:m:279:LYS:NZ	2.46	0.48
50:r:138:LYS:HE3	50:r:143:ARG:HD2	1.95	0.48
52:t:264:CYS:O	52:t:268:LEU:HG	2.13	0.48
54:v:206:LEU:HD22	54:v:221:ILE:HG21	1.95	0.48
55:w:160:VAL:HG23	55:w:162:VAL:N	2.27	0.48
1:1:1308:A:N6	1:1:2367:A:N3	2.61	0.48
1:1:1824:U:H2'	1:1:1825:G:H8	1.77	0.48
1:1:2404:A:C2	1:1:2405:C:H1'	2.48	0.48
1:1:2608:G:O6	1:1:2609:A:N6	2.47	0.48
1:1:3163:A:C6	1:1:3288:G:N1	2.82	0.48
1:1:3320:A:H2'	1:1:3321:C:C6	2.47	0.48
4:4:127:SER:HB2	4:4:134:ARG:HG3	1.94	0.48
6:6:36:U:H2'	6:6:37:C:H6	1.75	0.48
7:A:58:LEU:HD13	7:A:75:ILE:HG21	1.96	0.48
11:E:138:GLN:O	11:E:142:ASP:HB2	2.14	0.48
11:E:157:GLN:H	11:E:157:GLN:CD	2.21	0.48
12:F:24:GLU:HG3	12:F:25:GLN:HG3	1.94	0.48
16:J:11:ASP:HB3	16:J:13:LYS:HZ3	1.77	0.48
16:J:50:ALA:HB1	16:J:59:ILE:HG13	1.94	0.48
29:W:47:ASP:HB3	29:W:126:ARG:HG3	1.95	0.48
29:W:65:LEU:HD12	29:W:102:LEU:O	2.12	0.48
29:W:135:PHE:CZ	29:W:208:ILE:HG21	2.48	0.48
29:W:196:ASP:H	29:W:199:GLN:HB2	1.78	0.48
30:X:71:THR:O	30:X:75:LYS:HG3	2.13	0.48
33:a:105:LEU:O	33:a:108:GLY:N	2.47	0.48
34:b:361:ILE:O	57:y:237:ARG:NH2	2.46	0.48
45:m:80:ASN:OD1	45:m:81:THR:N	2.44	0.48
45:m:138:ALA:O	45:m:144:LYS:HB2	2.13	0.48
46:n:430:GLN:HA	46:n:433:PHE:HD2	1.79	0.48
54:v:69:PHE:CE2	54:v:236:ARG:HB3	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:w:51:LYS:O	55:w:55:ARG:HB2	2.13	0.48
56:x:377:ALA:HA	56:x:383:MET:SD	2.53	0.48
57:y:75:GLN:HE22	57:y:102:SER:HB3	1.79	0.48
1:1:243:G:H2'	1:1:244:G:H8	1.78	0.48
1:1:643:U:H5'	1:1:646:A:C2	2.48	0.48
1:1:769:G:O6	1:1:770:G:N1	2.46	0.48
1:1:1116:G:H2'	1:1:1117:G:H5"	1.96	0.48
1:1:1728:G:O3'	35:c:26:GLY:HA2	2.14	0.48
1:1:2127:U:OP1	45:m:459:ARG:NH2	2.46	0.48
1:1:2533:G:H2'	1:1:2534:G:N9	2.29	0.48
1:1:2633:U:H3	1:1:2645:G:H22	1.60	0.48
1:1:2727:A:H3'	1:1:2729:U:N3	2.28	0.48
1:1:3387:U:H2'	1:1:3388:C:C6	2.49	0.48
3:3:23:A:H2'	3:3:24:A:C4	2.48	0.48
3:3:56:A:C6	3:3:57:G:C8	3.00	0.48
4:4:23:SER:O	4:4:27:LYS:HG3	2.13	0.48
5:5:64:LEU:O	5:5:67:GLU:HG2	2.13	0.48
10:D:63:GLN:HG2	10:D:77:ALA:HA	1.96	0.48
18:L:49:ARG:HH12	40:h:115:LYS:HZ3	1.61	0.48
19:M:135:LEU:C	19:M:137:LYS:H	2.20	0.48
39:g:42:PRO:HB2	39:g:51:LEU:HD21	1.96	0.48
41:i:34:SER:HG	41:i:35:ASN:N	2.12	0.48
44:l:2:ALA:C	44:l:4:GLN:H	2.22	0.48
45:m:417:GLU:HG2	45:m:418:ILE:H	1.77	0.48
47:o:141:ASN:OD1	47:o:143:GLU:N	2.41	0.48
54:v:22:LYS:HB3	54:v:25:GLU:HA	1.96	0.48
1:1:741:U:H2'	1:1:742:G:O4'	2.14	0.48
1:1:768:C:H2'	1:1:769:G:O4'	2.13	0.48
1:1:774:G:H2'	1:1:775:A:C8	2.48	0.48
1:1:991:G:N2	1:1:1058:U:O2	2.45	0.48
1:1:1405:U:H1'	37:e:54:LYS:O	2.12	0.48
1:1:1556:C:C2	1:1:2169:G:C2	3.02	0.48
1:1:2160:G:H2'	1:1:2161:G:H8	1.79	0.48
1:1:2393:G:H4'	8:B:252:ILE:HD13	1.96	0.48
1:1:2530:G:N3	1:1:2530:G:H2'	2.27	0.48
1:1:2610:G:H8	1:1:2610:G:OP2	1.95	0.48
1:1:2662:G:N1	1:1:2709:C:C4	2.82	0.48
2:2:21:C:O2'	2:2:22:U:H5'	2.14	0.48
2:2:95:G:O2'	42:j:81:GLY:O	2.27	0.48
4:4:46:ILE:C	4:4:48:ASP:H	2.22	0.48
4:4:408:GLU:HA	4:4:411:SER:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:74:GLU:OE1	8:B:74:GLU:N	2.47	0.48
28:V:67:PRO:HA	28:V:70:ARG:NH2	2.29	0.48
29:W:162:GLU:OE2	29:W:173:THR:OG1	2.20	0.48
39:g:46:ASP:OD1	39:g:46:ASP:N	2.47	0.48
46:n:460:TRP:CD2	49:q:220:ILE:HD11	2.49	0.48
47:o:149:GLN:HG2	47:o:164:VAL:HG22	1.94	0.48
47:o:207:ARG:HG2	47:o:210:LYS:HE3	1.96	0.48
53:u:41:LYS:HB3	53:u:41:LYS:HE2	1.54	0.48
1:1:925:A:N3	7:A:3:ARG:NH2	2.62	0.48
1:1:1302:A:O2'	1:1:1303:A:O5'	2.31	0.48
1:1:1506:A:O2'	1:1:1848:G:N1	2.46	0.48
1:1:1595:U:C2	1:1:1613:A:C2	3.01	0.48
1:1:2571:U:H1'	1:1:2572:C:H6	1.79	0.48
1:1:2656:A:H5'	1:1:2656:A:H8	1.78	0.48
1:1:2667:A:C8	1:1:2687:G:C2	3.02	0.48
1:1:3263:G:C6	1:1:3264:G:C8	3.02	0.48
2:2:103:G:OP2	2:2:105:A:O2'	2.29	0.48
3:3:87:G:H3'	3:3:88:G:C8	2.48	0.48
4:4:507:ILE:HG22	4:4:524:ARG:HA	1.96	0.48
7:A:115:ASN:OD1	7:A:128:ARG:HG2	2.14	0.48
9:C:211:GLU:OE2	9:C:213:ASN:ND2	2.46	0.48
10:D:237:GLU:HA	10:D:240:TYR:HD2	1.79	0.48
11:E:52:VAL:CG1	11:E:65:ILE:HB	2.43	0.48
16:J:10:ARG:HA	16:J:134:PRO:HD2	1.95	0.48
17:K:267:SER:O	17:K:271:ILE:HG23	2.13	0.48
22:P:29:THR:HG21	22:P:146:ILE:HD11	1.96	0.48
29:W:77:LEU:HG	29:W:92:LEU:HD11	1.95	0.48
32:Z:14:VAL:HG12	32:Z:15:ARG:HG3	1.96	0.48
40:h:70:TYR:O	40:h:73:LYS:HG2	2.14	0.48
45:m:417:GLU:HG2	45:m:418:ILE:N	2.29	0.48
46:n:125:PHE:HE1	46:n:235:LYS:HB3	1.78	0.48
50:r:207:PRO:O	50:r:211:GLN:HG3	2.14	0.48
54:v:151:HIS:O	54:v:155:LYS:HG3	2.14	0.48
1:1:1089:G:H2'	1:1:1090:G:C8	2.48	0.48
1:1:1198:C:H1'	1:1:1199:C:H4'	1.95	0.48
1:1:2602:G:H2'	1:1:2603:G:H1'	1.96	0.48
1:1:2746:A:H5'	10:D:179:ARG:NH1	2.29	0.48
4:4:362:ARG:NH2	4:4:364:PHE:HA	2.29	0.48
9:C:329:PRO:HB3	12:F:41:ARG:NH2	2.28	0.48
27:U:67:SER:OG	27:U:68:THR:N	2.46	0.48
30:X:49:LYS:HB3	30:X:49:LYS:HE2	1.59	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:88:ASP:OD1	32:Z:90:GLU:N	2.46	0.48
53:u:9:CYS:SG	53:u:36:CYS:SG	3.12	0.48
53:u:57:LYS:HD3	53:u:62:GLU:HG2	1.94	0.48
55:w:51:LYS:HB3	55:w:51:LYS:HE2	1.65	0.48
57:y:7:PHE:O	57:y:8:GLU:C	2.57	0.48
1:1:169:U:H3	1:1:253:A:H61	1.62	0.48
1:1:757:C:H2'	1:1:758:C:H6	1.78	0.48
1:1:1049:C:O2'	1:1:1050:U:O5'	2.32	0.48
1:1:1063:G:O2'	1:1:1097:G:N2	2.47	0.48
1:1:1269:U:H5"	29:W:159:HIS:CE1	2.49	0.48
1:1:1749:A:H5'	1:1:1750:A:C2	2.49	0.48
1:1:2407:C:H42	1:1:2814:G:N2	2.12	0.48
1:1:2425:G:C6	1:1:2605:G:N3	2.82	0.48
1:1:2643:A:H2'	1:1:2645:G:O5'	2.14	0.48
1:1:3337:G:H2'	1:1:3338:C:C6	2.49	0.48
4:4:368:HIS:HB3	4:4:431:LEU:HD11	1.95	0.48
8:B:262:TRP:CD1	8:B:262:TRP:H	2.32	0.48
12:F:233:GLU:CD	25:S:35:VAL:HG22	2.38	0.48
18:L:170:LEU:HD21	33:a:147:LEU:HD13	1.96	0.48
29:W:38:ARG:NH1	29:W:39:TYR:OH	2.46	0.48
29:W:159:HIS:CG	29:W:160:SER:N	2.80	0.48
45:m:42:TYR:OH	50:r:167:LYS:O	2.23	0.48
45:m:300:ILE:HD13	45:m:335:LEU:HG	1.96	0.48
47:o:121:ARG:HG2	47:o:173:ILE:HD11	1.96	0.48
54:v:113:MET:H	54:v:238:HIS:HB3	1.78	0.48
55:w:144:LYS:HD2	55:w:150:ALA:HB3	1.95	0.48
1:1:293:C:H2'	1:1:294:U:O4'	2.14	0.47
1:1:528:U:H2'	1:1:529:A:C8	2.48	0.47
1:1:1700:G:H2'	1:1:1701:C:C6	2.49	0.47
1:1:1725:C:H2'	1:1:1726:C:C6	2.49	0.47
1:1:2805:G:H2'	1:1:2806:U:C6	2.49	0.47
1:1:3150:A:H5'	8:B:129:ALA:O	2.14	0.47
6:6:23:U:H1'	17:K:191:PRO:HG3	1.96	0.47
8:B:256:HIS:HA	8:B:257:PRO:C	2.38	0.47
10:D:167:SER:OG	10:D:168:ASP:N	2.46	0.47
12:F:142:SER:O	12:F:146:GLN:HG3	2.13	0.47
14:H:170:LYS:HB3	14:H:175:PHE:CD1	2.49	0.47
15:I:17:ASP:O	15:I:19:ASP:N	2.47	0.47
18:L:8:PRO:HB2	18:L:10:LEU:HD23	1.96	0.47
54:v:214:GLY:HA3	54:v:218:LEU:HB2	1.95	0.47
55:w:50:ILE:O	55:w:54:THR:HG22	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:x:154:HIS:HB3	56:x:339:PHE:CE2	2.49	0.47
56:x:375:VAL:HG22	56:x:383:MET:HE3	1.96	0.47
1:1:1518:U:C4'	34:b:579:ASN:HD21	2.26	0.47
1:1:1646:G:O2'	1:1:1808:G:N2	2.42	0.47
1:1:1803:C:H2'	1:1:1804:A:C8	2.49	0.47
1:1:2408:U:H1'	45:m:51:LYS:HA	1.96	0.47
1:1:2423:U:H2'	1:1:2605:G:H22	1.79	0.47
1:1:2655:U:H2'	1:1:2657:A:C5	2.49	0.47
1:1:2713:U:C6	1:1:2714:G:H5"	2.49	0.47
1:1:2836:C:H3'	1:1:2837:A:H8	1.79	0.47
1:1:2836:C:H41	1:1:2852:C:H41	1.62	0.47
1:1:2967:A:H5"	7:A:214:GLY:N	2.30	0.47
1:1:3000:A:H2'	1:1:3001:C:C6	2.50	0.47
4:4:198:LEU:HD21	4:4:311:VAL:HG11	1.94	0.47
42:j:64:MET:O	42:j:68:LYS:HD3	2.13	0.47
45:m:108:LEU:HD11	45:m:309:LEU:HB3	1.96	0.47
45:m:338:LYS:HE2	45:m:340:VAL:HG12	1.94	0.47
45:m:423:ASP:O	45:m:426:GLU:N	2.47	0.47
47:o:199:ASN:ND2	47:o:202:GLN:OE1	2.47	0.47
54:v:24:VAL:HG13	54:v:24:VAL:O	2.14	0.47
1:1:247:C:N4	1:1:249:U:H3	2.12	0.47
1:1:523:A:O2'	25:S:69:PRO:HD2	2.14	0.47
1:1:1122:U:H2'	1:1:1123:U:C6	2.49	0.47
1:1:1195:A:OP1	1:1:1196:C:H2'	2.14	0.47
1:1:2103:U:H2'	1:1:2104:A:H8	1.80	0.47
4:4:39:LEU:O	4:4:43:THR:HG23	2.14	0.47
14:H:49:ASN:C	14:H:51:GLN:H	2.23	0.47
17:K:251:LEU:C	17:K:253:TRP:H	2.22	0.47
26:T:52:MET:O	26:T:54:HIS:N	2.47	0.47
31:Y:43:TYR:CE2	31:Y:109:LEU:HD12	2.50	0.47
31:Y:55:GLU:OE1	31:Y:107:THR:OG1	2.31	0.47
35:c:77:LEU:O	35:c:81:VAL:HG22	2.14	0.47
45:m:24:VAL:HG11	45:m:36:VAL:HG11	1.96	0.47
48:p:42:CYS:HB3	48:p:59:CYS:SG	2.55	0.47
53:u:56:ARG:O	53:u:58:ALA:N	2.48	0.47
54:v:13:LYS:O	54:v:17:VAL:HG22	2.15	0.47
54:v:151:HIS:HE1	54:v:153:VAL:HB	1.79	0.47
55:w:105:LEU:O	55:w:107:LYS:NZ	2.34	0.47
56:x:260:ILE:HD13	56:x:304:TRP:CH2	2.45	0.47
56:x:462:CYS:HB2	56:x:489:VAL:HG23	1.96	0.47
57:y:95:GLN:HG2	57:y:96:ARG:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:181:U:C2	1:1:236:G:N2	2.82	0.47
1:1:771:A:H2'	1:1:772:U:C6	2.49	0.47
1:1:1215:U:H2'	1:1:1216:C:O4'	2.15	0.47
1:1:1623:G:H2'	1:1:1624:G:O4'	2.14	0.47
1:1:1677:G:H1	1:1:1691:U:H3	1.62	0.47
1:1:1760:A:N7	1:1:1766:G:N1	2.63	0.47
1:1:2103:U:H2'	1:1:2104:A:C8	2.49	0.47
1:1:2424:A:C5	1:1:2607:G:C2	3.01	0.47
1:1:2552:C:H3'	1:1:2553:U:O2	2.14	0.47
1:1:2625:C:H3'	1:1:2625:C:P	2.55	0.47
6:6:9:A:H2'	6:6:10:A:C8	2.50	0.47
8:B:57:VAL:HG11	53:u:1:MET:HE3	1.95	0.47
16:J:106:ILE:HG13	16:J:127:PHE:CE2	2.49	0.47
29:W:22:ASN:OD1	29:W:25:ARG:NE	2.38	0.47
36:d:25:PHE:C	36:d:27:LYS:H	2.22	0.47
42:j:60:GLY:CA	42:j:64:MET:HE3	2.43	0.47
45:m:338:LYS:HG3	45:m:340:VAL:HG13	1.95	0.47
46:n:414:ARG:NH1	52:t:249:ASP:OD2	2.48	0.47
50:r:185:THR:OG1	50:r:186:HIS:N	2.46	0.47
52:t:98:ASP:HB3	52:t:184:TYR:CE1	2.49	0.47
54:v:80:GLU:HG2	54:v:108:TYR:CD1	2.50	0.47
56:x:443:HIS:NE2	56:x:469:LYS:HD2	2.29	0.47
57:y:5:THR:HG22	57:y:6:GLN:N	2.23	0.47
1:1:39:A:N6	1:1:42:C:H3'	2.30	0.47
1:1:532:A:H2'	1:1:533:A:H8	1.78	0.47
1:1:977:C:H6	1:1:978:G:H5"	1.80	0.47
1:1:1103:A:H1'	1:1:1104:G:OP1	2.14	0.47
1:1:1599:G:N2	1:1:1609:C:C2	2.82	0.47
1:1:1771:C:H2'	1:1:1772:U:O4'	2.14	0.47
1:1:2106:A:H2'	1:1:2107:A:C8	2.50	0.47
1:1:2646:C:H42	1:1:2647:A:N6	2.03	0.47
1:1:2673:A:OP1	16:J:94:ARG:HB2	2.14	0.47
1:1:2869:U:O4	45:m:373:PRO:HG3	2.14	0.47
4:4:30:THR:O	4:4:34:ILE:HG22	2.14	0.47
4:4:55:THR:O	4:4:55:THR:OG1	2.31	0.47
9:C:290:ILE:O	9:C:296:GLN:NE2	2.46	0.47
13:G:80:TYR:HB3	13:G:226:TYR:CD1	2.49	0.47
14:H:152:GLU:OE1	14:H:152:GLU:N	2.34	0.47
19:M:76:ALA:HB1	19:M:80:THR:OG1	2.15	0.47
26:T:65:TYR:CZ	26:T:73:GLY:HA3	2.49	0.47
29:W:135:PHE:CZ	29:W:208:ILE:HD13	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:143:TYR:HA	29:W:156:PRO:HA	1.97	0.47
51:s:15:LEU:O	51:s:19:ILE:HG12	2.15	0.47
54:v:109:LYS:O	54:v:110:ILE:HD13	2.14	0.47
56:x:186:TYR:CE1	56:x:187:ASN:HB2	2.49	0.47
1:1:822:G:H1'	7:A:15:ILE:HB	1.96	0.47
1:1:1312:C:H2'	1:1:1313:G:O4'	2.14	0.47
1:1:1369:A:H2'	1:1:1370:G:O4'	2.14	0.47
1:1:1683:A:H2'	1:1:1684:U:H6	1.80	0.47
1:1:2438:A:H2'	1:1:2439:A:O4'	2.15	0.47
1:1:2672:G:H5'	1:1:2673:A:OP2	2.14	0.47
8:B:80:ASP:OD2	8:B:314:TYR:OH	2.30	0.47
10:D:44:TYR:CE2	54:v:174:ASP:HB2	2.39	0.47
18:L:134:GLU:OE2	18:L:136:GLU:N	2.42	0.47
22:P:169:THR:HG23	22:P:171:ARG:N	2.29	0.47
23:Q:123:THR:OG1	23:Q:124:LEU:N	2.36	0.47
34:b:87:GLU:HB2	45:m:147:ARG:HH11	1.78	0.47
34:b:268:VAL:HG21	34:b:305:LEU:HD13	1.96	0.47
39:g:41:ARG:HE	39:g:41:ARG:HB3	1.48	0.47
45:m:267:THR:HA	45:m:270:ALA:HB3	1.96	0.47
46:n:241:GLY:O	46:n:242:LEU:HG	2.14	0.47
54:v:153:VAL:O	54:v:157:ILE:HG22	2.15	0.47
57:y:167:VAL:O	57:y:171:GLU:HG2	2.15	0.47
1:1:107:A:O2'	1:1:324:A:N3	2.43	0.47
1:1:425:G:H5'	37:e:23:ASP:OD1	2.15	0.47
1:1:596:C:OP1	12:F:37:ASN:ND2	2.48	0.47
1:1:768:C:H5	1:1:2772:C:C2	2.32	0.47
1:1:1073:U:H3	1:1:1085:A:N6	2.12	0.47
1:1:1083:G:H5"	1:1:1084:A:OP2	2.15	0.47
1:1:1219:C:O2	5:5:47:LYS:NZ	2.46	0.47
1:1:1595:U:H1'	1:1:1596:C:C6	2.50	0.47
1:1:1682:U:O2	27:U:82:LYS:HD3	2.15	0.47
1:1:1795:U:H2'	7:A:50:HIS:CD2	2.50	0.47
1:1:2107:A:H2	1:1:3344:A:H8	1.62	0.47
2:2:83:C:H5"	2:2:85:G:C2	2.49	0.47
3:3:48:U:OP2	10:D:94:ASN:HB3	2.15	0.47
3:3:112:G:H2'	3:3:113:C:C5	2.50	0.47
4:4:28:TYR:C	4:4:30:THR:H	2.23	0.47
4:4:62:PRO:HA	4:4:106:PRO:HG2	1.96	0.47
9:C:22:LEU:HD22	9:C:26:PHE:CD2	2.50	0.47
10:D:223:PHE:CB	10:D:226:TYR:HB2	2.37	0.47
15:I:62:ILE:O	15:I:66:THR:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:122:LYS:O	17:K:178:SER:OG	2.27	0.47
17:K:183:ASP:HB3	17:K:186:ILE:HG12	1.97	0.47
19:M:31:LYS:HD3	19:M:51:ALA:HB1	1.97	0.47
22:P:130:TYR:O	22:P:131:ARG:NE	2.42	0.47
28:V:135:VAL:HG11	53:u:26:ALA:HB2	1.96	0.47
29:W:131:ALA:O	29:W:133:LEU:N	2.43	0.47
34:b:187:ILE:HD11	34:b:332:ARG:HD2	1.95	0.47
34:b:197:TYR:CE2	34:b:200:THR:HA	2.50	0.47
36:d:46:THR:HG21	36:d:91:SER:CB	2.45	0.47
39:g:110:GLU:OE1	39:g:110:GLU:N	2.47	0.47
45:m:48:ILE:O	45:m:55:LEU:HD23	2.15	0.47
45:m:139:ASP:HB3	45:m:146:GLN:HB2	1.97	0.47
46:n:151:VAL:O	46:n:152:SER:OG	2.21	0.47
47:o:205:GLU:HA	47:o:208:ILE:HD12	1.96	0.47
49:q:424:GLN:HE21	49:q:431:THR:HA	1.80	0.47
52:t:245:ILE:HG22	52:t:246:CYS:N	2.29	0.47
54:v:149:ASP:O	54:v:155:LYS:HE2	2.15	0.47
54:v:174:ASP:O	54:v:178:LEU:HG	2.15	0.47
54:v:179:GLN:HB2	54:v:205:LYS:HE2	1.97	0.47
55:w:30:ASP:OD1	55:w:32:ASN:ND2	2.40	0.47
55:w:144:LYS:HA	55:w:150:ALA:HB3	1.97	0.47
56:x:132:VAL:HA	56:x:515:HIS:HB2	1.97	0.47
56:x:429:TRP:HE3	56:x:436:PHE:HA	1.78	0.47
56:x:487:ASP:CG	56:x:488:GLU:H	2.22	0.47
1:1:2:U:C6	49:q:445:ILE:HD13	2.50	0.47
1:1:535:G:N2	1:1:555:U:O2	2.48	0.47
1:1:912:G:OP2	7:A:9:ARG:NH1	2.48	0.47
1:1:1055:A:H2	1:1:1057:A:N7	2.12	0.47
1:1:2659:G:C4	1:1:2660:G:C8	3.02	0.47
1:1:2916:U:O2'	1:1:2917:G:H5'	2.15	0.47
3:3:13:A:H1'	10:D:24:ARG:NH2	2.24	0.47
4:4:50:TYR:CE2	4:4:133:LEU:HG	2.49	0.47
9:C:294:GLU:H	9:C:294:GLU:CD	2.22	0.47
11:E:150:LYS:HE3	11:E:150:LYS:HB3	1.79	0.47
13:G:122:LYS:HE2	13:G:124:ASP:OD1	2.15	0.47
23:Q:30:VAL:O	23:Q:34:THR:OG1	2.28	0.47
24:R:118:HIS:O	24:R:122:VAL:HG23	2.15	0.47
25:S:138:GLN:O	25:S:141:LYS:N	2.48	0.47
29:W:176:LYS:HB2	29:W:181:THR:HG21	1.96	0.47
34:b:153:VAL:HG12	45:m:141:PHE:HD1	1.80	0.47
34:b:542:MET:HG3	34:b:546:GLN:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:f:62:SER:OG	38:f:63:LYS:N	2.48	0.47
45:m:204:SER:HB3	45:m:207:GLN:HE21	1.79	0.47
52:t:101:LEU:HB3	52:t:310:ILE:HD12	1.96	0.47
55:w:15:LYS:HG3	55:w:19:VAL:HG13	1.96	0.47
55:w:105:LEU:O	55:w:107:LYS:N	2.44	0.47
56:x:169:ARG:HD2	56:x:171:TRP:HE1	1.80	0.47
56:x:383:MET:CE	56:x:408:VAL:HG11	2.44	0.47
56:x:430:ASP:HB3	56:x:435:LYS:H	1.79	0.47
1:1:178:U:H2'	1:1:179:C:H6	1.80	0.47
1:1:549:U:H2'	1:1:550:A:C8	2.50	0.47
1:1:1249:G:H2'	1:1:1250:G:C8	2.50	0.47
1:1:2100:A:O2'	1:1:2101:C:H5'	2.15	0.47
1:1:2694:A:N7	54:v:9:ASN:HA	2.29	0.47
1:1:2751:G:C4	1:1:2752:U:C4	3.03	0.47
1:1:2758:A:OP2	55:w:114:TRP:HB2	2.15	0.47
4:4:45:LEU:O	4:4:49:SER:OG	2.30	0.47
6:6:7:C:H5	6:6:21:G:H22	1.63	0.47
6:6:230:A:N6	52:t:292:ARG:HG2	2.30	0.47
10:D:80:SER:OG	10:D:92:LEU:HD13	2.15	0.47
13:G:75:ILE:O	13:G:76:ALA:HB3	2.15	0.47
16:J:47:GLN:HB3	16:J:64:LYS:HB3	1.97	0.47
16:J:92:ARG:HG3	16:J:94:ARG:HG2	1.95	0.47
17:K:242:THR:HG23	17:K:243:THR:HG23	1.97	0.47
19:M:72:LEU:HD12	19:M:73:PRO:HD2	1.97	0.47
20:N:155:VAL:O	20:N:162:ARG:NH2	2.41	0.47
28:V:2:SER:OG	28:V:3:GLY:N	2.45	0.47
28:V:66:LYS:HG2	28:V:68:GLU:OE2	2.14	0.47
28:V:136:VAL:N	57:y:102:SER:OG	2.46	0.47
29:W:165:MET:HB3	29:W:171:ILE:HD11	1.96	0.47
32:Z:121:ARG:HD3	32:Z:127:ASN:OD1	2.15	0.47
56:x:136:SER:N	56:x:512:LEU:O	2.44	0.47
56:x:506:LYS:HB3	56:x:506:LYS:HE2	1.64	0.47
1:1:159:A:H2'	1:1:160:G:C8	2.50	0.47
1:1:619:A:H5'	1:1:620:U:H5'	1.97	0.47
1:1:779:G:OP2	1:1:779:G:H8	1.98	0.47
1:1:806:A:C8	1:1:936:A:C6	3.03	0.47
1:1:937:G:O6	1:1:2813:A:O2'	2.32	0.47
1:1:991:G:O6	1:1:1058:U:C4	2.68	0.47
1:1:1091:A:H2'	1:1:1092:C:C6	2.50	0.47
1:1:2834:G:H2'	1:1:2835:U:C6	2.50	0.47
1:1:2841:G:N1	1:1:2848:G:C6	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3229:G:N1	1:1:3230:G:C5	2.83	0.47
2:2:79:A:H5'	4:4:348:HIS:H	1.80	0.47
3:3:29:C:OP2	16:J:137:ARG:NE	2.48	0.47
8:B:79:VAL:HG22	8:B:322:ILE:HB	1.97	0.47
9:C:30:ILE:HA	9:C:124:SER:OG	2.14	0.47
9:C:285:ASP:HB3	9:C:288:ARG:HE	1.79	0.47
12:F:190:THR:O	12:F:191:VAL:C	2.57	0.47
14:H:22:SER:OG	14:H:23:ARG:N	2.46	0.47
14:H:89:LYS:HG2	14:H:145:VAL:HG22	1.95	0.47
16:J:90:GLN:HG3	16:J:170:ASP:HB2	1.96	0.47
17:K:108:LYS:NZ	17:K:148:GLY:O	2.47	0.47
17:K:294:ASN:OD1	17:K:296:ASP:N	2.44	0.47
30:X:131:ASP:HB3	30:X:134:ASP:OD1	2.14	0.47
32:Z:87:LEU:HD23	32:Z:88:ASP:N	2.28	0.47
32:Z:103:GLN:HB2	32:Z:106:GLN:NE2	2.29	0.47
34:b:171:LEU:HB2	34:b:250:VAL:HG12	1.97	0.47
42:j:69:HIS:O	42:j:73:ARG:HG3	2.14	0.47
45:m:34:LYS:HA	45:m:37:LYS:HE3	1.96	0.47
49:q:385:THR:HG23	49:q:387:TYR:H	1.79	0.47
1:1:525:C:OP2	19:M:77:ARG:NH2	2.48	0.46
1:1:527:A:H2'	1:1:528:U:O4'	2.15	0.46
1:1:973:A:H2'	1:1:974:G:C8	2.50	0.46
1:1:1053:A:H2'	1:1:1054:A:C8	2.50	0.46
1:1:1068:C:H2'	1:1:1069:C:C6	2.50	0.46
1:1:1554:U:H4'	1:1:1555:U:H5'	1.96	0.46
1:1:2148:U:H2'	1:1:2149:A:C8	2.49	0.46
1:1:2382:G:OP1	21:O:85:ARG:NH2	2.48	0.46
1:1:2620:G:H21	1:1:2621:G:H1'	1.80	0.46
1:1:2664:C:N3	1:1:2707:C:N4	2.63	0.46
1:1:3113:A:H4'	14:H:69:ARG:HG3	1.97	0.46
1:1:3279:A:H3'	1:1:3280:U:C6	2.50	0.46
1:1:3321:C:H2'	1:1:3322:A:C8	2.48	0.46
4:4:246:ARG:HD3	4:4:265:LYS:HE3	1.96	0.46
9:C:362:ASP:HA	25:S:28:ARG:NH2	2.30	0.46
15:I:65:LYS:HZ3	15:I:131:LEU:HB3	1.81	0.46
22:P:13:LYS:HA	22:P:107:LEU:HD21	1.97	0.46
26:T:65:TYR:CE1	26:T:88:ARG:HG3	2.50	0.46
28:V:95:PHE:HZ	28:V:137:VAL:HG23	1.80	0.46
45:m:41:MET:HE3	50:r:170:ARG:HD3	1.97	0.46
51:s:52:SER:OG	51:s:53:ASN:N	2.48	0.46
54:v:158:LYS:O	54:v:162:LEU:HG	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:952:A:C2	1:1:1114:U:H4'	2.50	0.46
1:1:1094:U:O2	1:1:1096:U:O2'	2.26	0.46
1:1:2407:C:N3	1:1:2815:G:C2	2.83	0.46
1:1:2532:U:C5	1:1:2547:A:N6	2.84	0.46
1:1:2723:U:O2'	1:1:2724:U:H2'	2.15	0.46
1:1:2864:A:N7	1:1:2865:U:C4	2.84	0.46
1:1:2899:C:O2'	1:1:2901:G:OP2	2.33	0.46
1:1:3242:G:H8	8:B:154:TYR:CE1	2.33	0.46
4:4:277:ASP:OD1	4:4:278:LEU:HD22	2.15	0.46
8:B:243:HIS:CD2	8:B:244:ARG:HG3	2.48	0.46
10:D:77:ALA:O	10:D:108:ARG:NH1	2.43	0.46
10:D:237:GLU:HA	10:D:240:TYR:HB2	1.96	0.46
16:J:87:LYS:HE2	16:J:104:PHE:HD2	1.80	0.46
16:J:106:ILE:HG13	16:J:127:PHE:HE2	1.78	0.46
34:b:17:LEU:O	34:b:21:VAL:HG23	2.15	0.46
38:f:13:HIS:CD2	38:f:28:SER:HG	2.33	0.46
45:m:221:SER:OG	45:m:221:SER:O	2.34	0.46
45:m:227:HIS:HB3	45:m:257:TYR:CE1	2.50	0.46
45:m:291:THR:OG1	45:m:292:ASN:OD1	2.31	0.46
52:t:288:LYS:HE3	52:t:292:ARG:HH12	1.78	0.46
54:v:35:GLY:O	54:v:63:LYS:HB3	2.14	0.46
55:w:14:GLU:HG3	55:w:16:PRO:HD3	1.97	0.46
56:x:374:MET:O	56:x:386:TRP:N	2.47	0.46
57:y:19:LEU:HG	57:y:200:ASN:ND2	2.30	0.46
1:1:190:U:H2'	31:Y:60:ARG:HH12	1.81	0.46
1:1:1198:C:H4'	1:1:1199:C:H5'	1.96	0.46
1:1:1549:U:H2'	1:1:1550:C:C6	2.50	0.46
1:1:1897:G:O2'	28:V:16:GLY:O	2.29	0.46
1:1:2437:G:N2	1:1:2511:A:C2	2.83	0.46
1:1:2522:G:O6	7:A:70:ARG:NH2	2.44	0.46
1:1:2683:U:O2'	1:1:2684:C:H5'	2.15	0.46
1:1:3180:A:C2	21:O:114:LYS:HD3	2.51	0.46
2:2:59:A:H5"	2:2:61:A:C8	2.49	0.46
2:2:79:A:H5"	4:4:349:LYS:HZ3	1.79	0.46
3:3:20:A:C6	3:3:60:G:N1	2.83	0.46
4:4:274:GLN:NE2	4:4:335:VAL:HG12	2.31	0.46
6:6:35:C:H5"	47:o:207:ARG:HH11	1.80	0.46
8:B:131:THR:OG1	8:B:132:LYS:N	2.48	0.46
10:D:52:VAL:HG21	10:D:65:ILE:HD11	1.97	0.46
17:K:124:LEU:HD23	17:K:125:LEU:N	2.30	0.46
26:T:63:VAL:O	26:T:75:ILE:HG12	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:37:TYR:HD2	29:W:104:PHE:HB3	1.80	0.46
31:Y:111:LEU:HD12	31:Y:111:LEU:HA	1.79	0.46
45:m:223:ASP:OD2	45:m:316:ILE:HA	2.15	0.46
46:n:17:THR:HG23	46:n:60:THR:CG2	2.46	0.46
46:n:142:PHE:C	46:n:144:ASN:H	2.23	0.46
52:t:142:LEU:HD11	52:t:179:LEU:HD13	1.96	0.46
55:w:196:ARG:HA	55:w:199:MET:HG2	1.97	0.46
56:x:238:GLU:OE2	56:x:250:ARG:HG3	2.14	0.46
57:y:6:GLN:HE21	57:y:9:ASN:HA	1.79	0.46
57:y:208:LEU:HD23	57:y:208:LEU:HA	1.52	0.46
57:y:212:ALA:O	57:y:216:SER:OG	2.33	0.46
1:1:90:C:H5"	1:1:283:G:C1'	2.44	0.46
1:1:501:A:H2'	1:1:502:U:C6	2.49	0.46
1:1:506:U:H2'	1:1:507:U:O4'	2.15	0.46
1:1:997:A:H61	1:1:1053:A:C2'	2.28	0.46
1:1:1001:G:O6	1:1:1050:U:C2	2.68	0.46
1:1:1071:U:HO2'	1:1:1072:G:H8	1.64	0.46
1:1:1653:G:H2'	1:1:1654:A:C8	2.50	0.46
1:1:1761:C:O2'	1:1:1762:C:H5"	2.16	0.46
1:1:2853:A:H8	1:1:2853:A:H5"	1.79	0.46
1:1:2908:G:OP1	50:r:46:LYS:HE2	2.15	0.46
1:1:3228:C:H5"	19:M:137:LYS:HE2	1.98	0.46
10:D:95:TRP:CH2	10:D:199:ILE:HA	2.49	0.46
10:D:278:SER:OG	10:D:281:GLU:HG3	2.15	0.46
28:V:13:ILE:HD11	28:V:54:LEU:H	1.81	0.46
28:V:35:TYR:O	28:V:60:ALA:HA	2.14	0.46
34:b:588:ARG:HB2	44:l:21:ARG:HH21	1.80	0.46
40:h:78:LYS:HZ3	40:h:81:ARG:NH1	2.13	0.46
45:m:122:ASP:HB2	56:x:441:ARG:NH2	2.31	0.46
45:m:316:ILE:CG2	45:m:362:ILE:HG12	2.45	0.46
49:q:249:GLU:O	49:q:253:ILE:HG12	2.15	0.46
57:y:121:ILE:O	57:y:139:ARG:NH1	2.41	0.46
1:1:1085:A:H2'	1:1:1086:C:C6	2.51	0.46
1:1:1561:G:O2'	1:1:1562:C:OP2	2.30	0.46
1:1:2424:A:C8	1:1:2425:G:C8	3.03	0.46
1:1:2428:U:O2	1:1:2428:U:H3'	2.16	0.46
1:1:2820:A:H1'	34:b:37:PHE:CE1	2.51	0.46
3:3:37:G:H2'	3:3:38:U:C6	2.50	0.46
8:B:198:HIS:CE1	58:z:41:LEU:HG	2.50	0.46
9:C:321:LYS:O	9:C:325:LEU:HG	2.15	0.46
12:F:105:LEU:HA	12:F:105:LEU:HD23	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:94:TYR:HA	14:H:177:ASP:OD1	2.16	0.46
16:J:21:ILE:HD11	16:J:125:MET:HG3	1.96	0.46
26:T:78:LYS:HD3	26:T:87:LYS:HG3	1.97	0.46
29:W:73:LEU:HG	29:W:77:LEU:HD23	1.97	0.46
35:c:30:THR:O	35:c:33:SER:OG	2.22	0.46
43:k:32:ASN:HB3	43:k:38:PHE:CD1	2.51	0.46
45:m:133:ASP:HB2	56:x:321:HIS:HE2	1.81	0.46
45:m:417:GLU:CD	45:m:417:GLU:H	2.18	0.46
48:p:38:ASP:HA	48:p:45:LYS:HA	1.98	0.46
52:t:128:LEU:HB2	52:t:130:ARG:HH22	1.80	0.46
54:v:85:SER:O	54:v:105:THR:HG23	2.16	0.46
56:x:375:VAL:HA	56:x:385:LEU:HA	1.97	0.46
1:1:310:U:H2'	1:1:311:C:C6	2.51	0.46
1:1:747:A:C6	1:1:748:U:C4	3.04	0.46
1:1:1053:A:H2'	1:1:1054:A:C4	2.50	0.46
1:1:1055:A:HO2'	1:1:1056:U:H2'	1.80	0.46
1:1:2602:G:H2'	1:1:2603:G:C1'	2.45	0.46
1:1:2678:A:H2'	1:1:2679:A:C4	2.50	0.46
1:1:3163:A:O2'	1:1:3164:C:H5'	2.15	0.46
1:1:3302:U:O2'	1:1:3303:G:H5'	2.15	0.46
4:4:336:THR:O	4:4:337:LEU:HD23	2.16	0.46
8:B:34:LYS:HG3	8:B:35:ASP:N	2.29	0.46
8:B:323:MET:HE3	8:B:323:MET:HB2	1.60	0.46
10:D:155:THR:HG1	10:D:179:ARG:C	2.22	0.46
11:E:152:THR:OG1	11:E:155:LEU:HB2	2.16	0.46
17:K:85:ASN:HA	17:K:277:ARG:HB2	1.96	0.46
18:L:155:GLU:O	33:a:101:VAL:HG23	2.16	0.46
25:S:83:SER:HA	25:S:84:ARG:HA	1.70	0.46
26:T:80:VAL:HG23	26:T:80:VAL:O	2.16	0.46
28:V:120:LYS:HG2	57:y:56:THR:HG21	1.97	0.46
34:b:68:PHE:HD1	34:b:69:PRO:HD2	1.81	0.46
45:m:229:LEU:HD21	45:m:238:ARG:HG2	1.98	0.46
46:n:235:LYS:HA	46:n:238:THR:HG22	1.97	0.46
47:o:153:ASN:HA	47:o:164:VAL:CG1	2.46	0.46
1:1:169:U:H4'	1:1:170:G:OP1	2.16	0.46
1:1:1215:U:OP2	51:s:52:SER:HB3	2.15	0.46
1:1:2512:C:H2'	1:1:2513:U:H6	1.81	0.46
1:1:2632:G:C6	1:1:2633:U:O4	2.69	0.46
1:1:2788:C:O2	1:1:2788:C:H2'	2.15	0.46
1:1:2863:G:H22	34:b:92:LYS:CE	2.29	0.46
1:1:2873:U:H4'	1:1:2874:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3351:U:O2'	1:1:3352:U:H6	1.99	0.46
3:3:26:C:OP1	10:D:56:THR:HB	2.16	0.46
3:3:78:U:H2'	3:3:79:A:O4'	2.16	0.46
4:4:99:GLN:NE2	4:4:497:SER:HB3	2.31	0.46
4:4:184:VAL:HG23	4:4:537:ILE:HD13	1.97	0.46
7:A:91:GLY:O	7:A:103:PRO:HD3	2.16	0.46
8:B:92:TYR:HB2	8:B:157:VAL:HG12	1.98	0.46
9:C:55:LYS:O	9:C:59:GLN:HG3	2.15	0.46
10:D:99:TYR:O	10:D:103:LEU:HG	2.15	0.46
11:E:4:GLN:HG3	37:e:75:LEU:HB2	1.97	0.46
14:H:21:LYS:O	14:H:22:SER:C	2.59	0.46
16:J:23:VAL:HG12	16:J:25:GLU:HG2	1.98	0.46
18:L:122:LYS:HE2	40:h:120:ALA:HA	1.98	0.46
20:N:94:TYR:OH	20:N:96:ARG:NE	2.40	0.46
25:S:26:ARG:HD3	26:T:150:THR:HG22	1.98	0.46
28:V:25:CYS:SG	28:V:31:ALA:HB3	2.56	0.46
29:W:21:GLU:HA	29:W:24:GLU:OE2	2.16	0.46
32:Z:124:ALA:HB1	49:q:266:MET:HA	1.96	0.46
34:b:445:LEU:HD21	53:u:85:LEU:HD21	1.96	0.46
46:n:188:TYR:O	46:n:198:ARG:HA	2.15	0.46
49:q:263:ARG:HA	49:q:266:MET:HE2	1.98	0.46
52:t:142:LEU:HD23	52:t:198:LYS:HG2	1.98	0.46
56:x:411:SER:HA	56:x:452:TRP:CE2	2.50	0.46
1:1:92:G:H5"	1:1:94:G:C5	2.51	0.46
1:1:916:G:O2'	1:1:917:A:H5"	2.15	0.46
1:1:979:U:H5"	1:1:980:A:P	2.56	0.46
1:1:2632:G:O6	1:1:2647:A:N6	2.47	0.46
1:1:2634:U:H2'	1:1:2635:A:C8	2.51	0.46
1:1:2666:C:C2	1:1:2687:G:C2	3.04	0.46
1:1:2715:A:O4'	55:w:128:ARG:NH1	2.49	0.46
1:1:3113:A:H2'	1:1:3114:A:O4'	2.15	0.46
1:1:3333:G:N2	1:1:3369:G:O2'	2.49	0.46
2:2:49:G:O2'	40:h:40:SER:HA	2.16	0.46
3:3:1:G:H2'	3:3:2:G:C8	2.51	0.46
4:4:37:THR:HG22	4:4:71:PHE:HE2	1.81	0.46
4:4:254:GLN:H	4:4:254:GLN:CD	2.24	0.46
4:4:482:ALA:HA	4:4:485:LEU:HB3	1.98	0.46
4:4:509:LEU:HD13	4:4:509:LEU:HA	1.75	0.46
9:C:99:MET:HE2	9:C:102:PRO:HA	1.98	0.46
17:K:246:VAL:O	17:K:247:HIS:ND1	2.48	0.46
31:Y:97:ILE:HD13	31:Y:97:ILE:HA	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:81:LEU:HD12	34:b:81:LEU:HA	1.63	0.46
34:b:290:THR:HG22	34:b:295:PRO:HG3	1.97	0.46
45:m:86:GLN:O	45:m:90:GLN:HG2	2.16	0.46
46:n:178:LYS:HD2	46:n:189:GLN:NE2	2.31	0.46
46:n:429:PRO:O	46:n:432:ILE:HG22	2.15	0.46
49:q:259:LYS:HE2	49:q:259:LYS:HB3	1.76	0.46
1:1:1618:G:O2'	1:1:1619:A:H5'	2.16	0.46
1:1:2594:C:C5	1:1:2595:A:N3	2.83	0.46
1:1:2951:G:C2	1:1:2952:G:H1'	2.50	0.46
1:1:3223:A:H1'	1:1:3263:G:N2	2.31	0.46
3:3:26:C:H3'	3:3:26:C:OP2	2.16	0.46
4:4:163:VAL:HA	4:4:172:PRO:HB3	1.97	0.46
6:6:21:G:O2'	52:t:92:HIS:HA	2.16	0.46
9:C:181:VAL:C	9:C:183:LYS:H	2.24	0.46
14:H:150:SER:OG	14:H:153:ASP:HB2	2.16	0.46
16:J:12:LEU:O	16:J:131:MET:HG3	2.16	0.46
17:K:126:ILE:HG12	17:K:155:ILE:HG22	1.97	0.46
32:Z:125:GLY:O	32:Z:126:LYS:HD3	2.14	0.46
36:d:87:ASN:O	36:d:89:LEU:N	2.49	0.46
51:s:70:LYS:HA	51:s:73:GLU:HG2	1.97	0.46
54:v:211:SER:O	55:w:9:LEU:HG	2.16	0.46
1:1:1055:A:O2'	1:1:1056:U:OP2	2.34	0.46
1:1:1546:A:H2'	1:1:1547:G:O4'	2.16	0.46
1:1:2177:G:C6	7:A:125:ALA:HB1	2.51	0.46
2:2:83:C:C4	31:Y:110:HIS:NE2	2.84	0.46
4:4:148:ASP:O	4:4:150:TYR:N	2.47	0.46
4:4:316:VAL:HG13	4:4:508:VAL:HG22	1.98	0.46
8:B:299:ASP:HA	34:b:435:ILE:CG2	2.45	0.46
12:F:175:LYS:HE2	12:F:175:LYS:HB3	1.71	0.46
13:G:122:LYS:O	13:G:122:LYS:HG2	2.16	0.46
14:H:138:THR:C	14:H:140:VAL:H	2.23	0.46
15:I:65:LYS:NZ	15:I:131:LEU:HB3	2.31	0.46
16:J:147:THR:OG1	16:J:148:VAL:N	2.48	0.46
17:K:109:PRO:HA	17:K:112:GLU:OE1	2.16	0.46
17:K:223:THR:HA	17:K:226:ILE:HG22	1.98	0.46
20:N:183:THR:O	20:N:183:THR:OG1	2.34	0.46
22:P:112:LEU:HA	22:P:151:THR:O	2.15	0.46
22:P:130:TYR:C	22:P:131:ARG:HE	2.24	0.46
25:S:94:ILE:HG22	25:S:96:ASP:HB2	1.98	0.46
25:S:127:ALA:HB1	51:s:56:TYR:HE2	1.81	0.46
28:V:86:ARG:HG2	28:V:87:ARG:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:132:PRO:HA	29:W:191:GLU:OE2	2.16	0.46
32:Z:42:LEU:HG	32:Z:74:VAL:HG12	1.98	0.46
34:b:162:SER:O	34:b:162:SER:OG	2.31	0.46
34:b:486:VAL:HG12	53:u:120:PHE:CE1	2.50	0.46
45:m:235:LEU:HD13	45:m:273:TRP:CZ3	2.51	0.46
46:n:173:GLU:OE1	46:n:175:LEU:HB2	2.16	0.46
50:r:186:HIS:ND1	50:r:189:LEU:HD12	2.31	0.46
50:r:186:HIS:CE1	50:r:189:LEU:HD12	2.50	0.46
53:u:124:LYS:O	53:u:128:GLU:HG2	2.15	0.46
54:v:143:PHE:CE1	54:v:162:LEU:HD21	2.51	0.46
56:x:248:LYS:HG3	56:x:266:VAL:HG13	1.97	0.46
57:y:172:GLU:O	57:y:175:SER:OG	2.31	0.46
1:1:267:G:H2'	1:1:318:A:N7	2.31	0.45
1:1:284:A:O2'	1:1:285:A:OP2	2.31	0.45
1:1:1154:A:O2'	1:1:1155:C:OP1	2.24	0.45
1:1:1251:A:O2'	1:1:1252:A:O4'	2.31	0.45
1:1:1629:U:O4	32:Z:108:GLU:HG3	2.15	0.45
1:1:2407:C:O2'	45:m:49:ARG:NH1	2.49	0.45
1:1:2681:U:HO2'	16:J:20:ASN:CG	2.16	0.45
1:1:2705:A:H8	1:1:2705:A:P	2.39	0.45
4:4:71:PHE:HZ	4:4:577:GLN:HG2	1.80	0.45
4:4:343:TYR:O	4:4:345:GLY:N	2.49	0.45
17:K:100:LEU:HD12	17:K:101:ASN:H	1.80	0.45
17:K:119:LYS:HZ1	17:K:121:PHE:HD1	1.64	0.45
25:S:170:THR:O	25:S:172:TYR:HD1	1.99	0.45
28:V:54:LEU:HD11	28:V:119:GLY:HA3	1.98	0.45
30:X:90:ALA:O	30:X:120:LYS:NZ	2.46	0.45
34:b:201:THR:O	34:b:202:LYS:HD3	2.16	0.45
37:e:32:TRP:O	37:e:33:ARG:HG2	2.16	0.45
49:q:212:ILE:O	49:q:427:GLY:HA3	2.16	0.45
50:r:164:ARG:HH22	50:r:168:MET:HB3	1.82	0.45
54:v:200:LEU:HB3	54:v:202:ARG:NE	2.31	0.45
55:w:23:LEU:O	55:w:92:LEU:HG	2.16	0.45
56:x:254:SER:HB2	56:x:281:VAL:HG23	1.98	0.45
56:x:319:HIS:HE1	56:x:384:PHE:HD2	1.64	0.45
57:y:100:ARG:HH11	57:y:101:LEU:HD23	1.81	0.45
57:y:125:THR:HA	57:y:128:LEU:HB3	1.98	0.45
57:y:234:GLY:HA2	57:y:237:ARG:HG2	1.98	0.45
1:1:712:G:H5"	18:L:174:ARG:CZ	2.46	0.45
1:1:1198:C:P	1:1:1198:C:H3'	2.57	0.45
1:1:2138:A:H2'	42:j:3:LYS:HE3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2964:G:N2	1:1:2966:G:H3'	2.32	0.45
1:1:3264:G:H2'	1:1:3265:C:H6	1.79	0.45
1:1:3352:U:H1'	1:1:3353:G:C6	2.51	0.45
4:4:239:VAL:HG23	4:4:322:LYS:O	2.17	0.45
10:D:34:LYS:O	10:D:38:THR:HG22	2.16	0.45
13:G:121:SER:CB	13:G:124:ASP:H	2.24	0.45
13:G:154:ALA:HB2	13:G:186:LEU:HD12	1.99	0.45
13:G:245:LYS:O	13:G:248:LYS:HG2	2.16	0.45
17:K:274:TYR:C	17:K:275:GLN:HG3	2.41	0.45
25:S:130:GLU:OE1	51:s:56:TYR:OH	2.32	0.45
32:Z:83:THR:HG22	32:Z:84:ARG:N	2.30	0.45
33:a:88:ASP:O	33:a:92:LYS:NZ	2.41	0.45
40:h:2:ALA:O	40:h:46:THR:HB	2.17	0.45
41:i:58:ILE:HG12	41:i:90:MET:SD	2.56	0.45
49:q:199:THR:HG22	49:q:201:SER:H	1.81	0.45
52:t:245:ILE:HG22	52:t:246:CYS:H	1.81	0.45
54:v:154:TYR:OH	54:v:197:PRO:O	2.27	0.45
56:x:194:TRP:CZ2	56:x:215:PRO:HG2	2.52	0.45
1:1:848:A:H8	1:1:849:C:H1'	1.78	0.45
1:1:992:A:C8	1:1:992:A:H3'	2.51	0.45
1:1:1129:A:OP2	50:r:251:ARG:NH1	2.50	0.45
1:1:1680:G:H2'	1:1:1681:U:H6	1.80	0.45
1:1:2511:A:H2'	1:1:2512:C:H5'	1.99	0.45
1:1:2530:G:C6	1:1:2531:C:N3	2.85	0.45
1:1:2536:A:H2	1:1:2545:C:H42	1.64	0.45
1:1:2965:U:H2'	1:1:2966:G:C4	2.51	0.45
1:1:3282:U:O5'	1:1:3282:U:H6	2.00	0.45
4:4:159:VAL:HG23	4:4:184:VAL:HG11	1.98	0.45
4:4:334:LEU:HD21	4:4:475:LEU:HD21	1.97	0.45
4:4:430:TYR:OH	34:b:583:LEU:HA	2.17	0.45
13:G:78:PHE:CD2	13:G:179:ILE:HD13	2.52	0.45
15:I:121:ALA:O	15:I:125:GLU:HG2	2.16	0.45
16:J:25:GLU:O	16:J:65:ILE:HD11	2.14	0.45
17:K:77:ASP:O	17:K:283:THR:OG1	2.34	0.45
17:K:141:PHE:O	17:K:145:ASP:HB2	2.16	0.45
25:S:13:ARG:HA	25:S:56:GLY:HA2	1.98	0.45
27:U:42:LYS:HB2	27:U:46:ALA:C	2.42	0.45
32:Z:85:TYR:OH	39:g:97:GLU:OE1	2.27	0.45
34:b:224:ILE:HG22	34:b:225:LEU:O	2.16	0.45
46:n:180:PHE:HZ	49:q:226:SER:HG	1.62	0.45
54:v:80:GLU:HA	54:v:108:TYR:CD1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:v:220:ARG:NH1	55:w:10:PRO:O	2.49	0.45
56:x:429:TRP:CE3	56:x:436:PHE:HA	2.51	0.45
58:z:20:GLY:O	58:z:24:LYS:HG2	2.16	0.45
1:1:773:G:H2'	1:1:774:G:C8	2.51	0.45
1:1:974:G:C4	1:1:975:C:H5	2.35	0.45
1:1:2357:A:H2'	1:1:2358:A:C8	2.51	0.45
1:1:2916:U:H2'	1:1:2917:G:H8	1.82	0.45
1:1:2965:U:H3	45:m:29:PHE:HB2	1.81	0.45
1:1:3272:C:C5	11:E:62:THR:HG21	2.51	0.45
2:2:106:C:H4'	2:2:107:G:H5"	1.97	0.45
3:3:75:G:N2	3:3:105:C:H41	2.14	0.45
4:4:507:ILE:HB	4:4:522:LEU:HD21	1.98	0.45
6:6:50:U:O2'	6:6:51:U:H5'	2.16	0.45
8:B:161:LEU:HG	8:B:180:GLU:HG2	1.99	0.45
9:C:334:PHE:CD2	9:C:339:LEU:HB2	2.52	0.45
10:D:13:SER:HA	10:D:16:PHE:CD1	2.52	0.45
16:J:48:SER:O	16:J:64:LYS:HA	2.17	0.45
22:P:89:LYS:HE3	22:P:89:LYS:HB3	1.56	0.45
34:b:353:ARG:HE	34:b:353:ARG:HB3	1.63	0.45
35:c:24:THR:OG1	35:c:93:LEU:HD11	2.17	0.45
38:f:18:ARG:NH2	38:f:20:LYS:O	2.49	0.45
40:h:18:ALA:O	40:h:22:VAL:HG13	2.17	0.45
1:1:736:A:N6	1:1:737:G:N3	2.64	0.45
1:1:1386:A:O4'	9:C:141:ARG:NH2	2.49	0.45
1:1:1485:G:N2	39:g:4:ARG:HD2	2.32	0.45
1:1:1659:U:H2'	1:1:1660:C:C6	2.51	0.45
1:1:1799:A:H2'	1:1:1800:A:C8	2.52	0.45
1:1:2157:G:C4	7:A:150:LEU:HD13	2.52	0.45
1:1:2178:A:H3'	7:A:132:ASN:ND2	2.20	0.45
1:1:2628:A:N6	1:1:2651:G:O5'	2.49	0.45
1:1:2680:A:N1	16:J:57:PHE:HB3	2.31	0.45
1:1:2703:A:H5'	1:1:2704:A:C8	2.52	0.45
1:1:2708:C:H2'	1:1:2709:C:C6	2.52	0.45
1:1:2834:G:O6	1:1:2854:U:O4	2.34	0.45
4:4:424:SER:HB3	30:X:142:ILE:HG22	1.99	0.45
6:6:56:U:O2'	6:6:57:U:O5'	2.35	0.45
8:B:7:GLU:OE1	8:B:7:GLU:N	2.49	0.45
9:C:317:PRO:C	9:C:319:LYS:N	2.72	0.45
13:G:224:ASP:OD2	13:G:224:ASP:N	2.49	0.45
15:I:92:ALA:C	15:I:94:ALA:H	2.24	0.45
17:K:180:ILE:HG23	17:K:206:PRO:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:75:PHE:O	18:L:101:ARG:NH1	2.50	0.45
19:M:34:ALA:HB2	19:M:85:TRP:HZ3	1.81	0.45
23:Q:36:LEU:HD23	23:Q:36:LEU:HA	1.76	0.45
24:R:15:VAL:CG1	24:R:52:LYS:HD3	2.46	0.45
30:X:117:ASN:OD1	30:X:117:ASN:C	2.60	0.45
31:Y:103:LYS:O	31:Y:104:LEU:HD23	2.16	0.45
32:Z:109:GLU:N	32:Z:109:GLU:OE2	2.48	0.45
34:b:309:VAL:O	34:b:312:VAL:HG13	2.15	0.45
45:m:144:LYS:C	45:m:146:GLN:HE21	2.24	0.45
45:m:215:LEU:HD11	45:m:321:ILE:CD1	2.46	0.45
54:v:122:PHE:HA	54:v:230:LEU:HD13	1.98	0.45
56:x:244:LYS:HE3	56:x:244:LYS:HB3	1.76	0.45
57:y:42:LEU:HD13	57:y:46:ILE:HD11	1.99	0.45
1:1:530:G:H8	1:1:530:G:OP2	2.00	0.45
1:1:542:G:H2'	1:1:543:C:H6	1.82	0.45
1:1:598:A:H2'	1:1:599:C:C6	2.52	0.45
1:1:2876:C:OP2	1:1:2876:C:H6	2.00	0.45
1:1:3215:A:H5"	38:f:2:ALA:HB2	1.98	0.45
3:3:95:A:H2'	3:3:96:U:O4'	2.15	0.45
4:4:271:GLU:OE1	4:4:336:THR:OG1	2.25	0.45
10:D:22:ARG:HB3	10:D:28:THR:HG21	1.99	0.45
10:D:38:THR:HA	10:D:41:LYS:CD	2.46	0.45
15:I:104:ARG:O	15:I:108:ILE:HG12	2.17	0.45
16:J:48:SER:C	16:J:64:LYS:HD3	2.41	0.45
17:K:300:GLU:HA	17:K:303:ALA:HB3	1.98	0.45
18:L:62:THR:HB	18:L:64:LYS:H	1.81	0.45
28:V:81:GLN:HE21	28:V:83:LYS:HB3	1.82	0.45
46:n:403:ASP:OD2	46:n:406:LYS:N	2.36	0.45
50:r:154:HIS:ND1	50:r:249:PRO:O	2.50	0.45
51:s:68:LYS:HA	51:s:71:ASP:CG	2.42	0.45
52:t:15:ASN:OD1	52:t:17:GLU:N	2.49	0.45
52:t:141:LEU:HG	52:t:142:LEU:N	2.31	0.45
56:x:170:ILE:HD11	56:x:182:LEU:HB2	1.98	0.45
57:y:187:ASN:OD1	57:y:187:ASN:N	2.48	0.45
1:1:708:G:C2	1:1:712:G:C6	3.04	0.45
1:1:1347:U:P	9:C:300:ARG:HH22	2.40	0.45
1:1:1566:A:H5'	1:1:1566:A:N3	2.31	0.45
1:1:2106:A:OP2	15:I:69:LYS:NZ	2.45	0.45
1:1:2111:G:O6	15:I:75:ARG:HD2	2.17	0.45
1:1:2443:A:O2'	1:1:2445:A:OP2	2.27	0.45
1:1:2777:G:H21	33:a:62:HIS:CE1	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2831:G:N3	50:r:256:ASN:ND2	2.58	0.45
1:1:2926:A:H2'	1:1:2927:C:C6	2.51	0.45
2:2:68:G:H2'	2:2:69:U:O4'	2.16	0.45
7:A:107:VAL:HG21	7:A:136:ILE:HD13	1.99	0.45
8:B:305:ILE:HD11	8:B:323:MET:HE1	1.98	0.45
16:J:6:GLN:O	16:J:10:ARG:HD3	2.17	0.45
16:J:149:GLY:O	16:J:153:LYS:HE2	2.17	0.45
18:L:180:ARG:NH1	18:L:184:GLU:HG3	2.31	0.45
33:a:58:MET:SD	33:a:60:TYR:HD1	2.40	0.45
34:b:302:ARG:H	34:b:302:ARG:HG2	1.60	0.45
41:i:27:SER:O	41:i:27:SER:OG	2.31	0.45
45:m:264:LEU:H	45:m:264:LEU:HD12	1.82	0.45
45:m:288:ALA:O	45:m:289:SER:OG	2.34	0.45
45:m:310:HIS:HB3	45:m:313:ARG:CG	2.47	0.45
46:n:17:THR:HG22	46:n:18:ARG:N	2.32	0.45
52:t:257:MET:HE2	52:t:257:MET:HB2	1.86	0.45
54:v:131:LEU:HD23	54:v:131:LEU:HA	1.76	0.45
56:x:285:LYS:O	56:x:286:TRP:HD1	2.00	0.45
1:1:173:G:C6	1:1:245:U:N3	2.79	0.45
1:1:255:A:H2'	1:1:256:G:C8	2.51	0.45
1:1:837:A:OP2	48:p:4:ARG:HD2	2.16	0.45
1:1:1055:A:C2	1:1:1056:U:C2	3.04	0.45
1:1:1205:A:C2	1:1:1206:G:C8	3.05	0.45
1:1:2325:G:O6	1:1:2326:A:N6	2.50	0.45
1:1:2533:G:H2'	1:1:2534:G:C8	2.52	0.45
1:1:2634:U:H2'	1:1:2635:A:H8	1.81	0.45
1:1:2787:G:C6	1:1:2788:C:N4	2.84	0.45
1:1:2839:G:C6	1:1:2850:G:N2	2.84	0.45
1:1:2914:G:C6	1:1:2915:U:N3	2.85	0.45
1:1:3353:G:H3'	1:1:3354:U:C6	2.52	0.45
2:2:85:G:H3'	2:2:86:U:H5"	1.99	0.45
3:3:102:A:H2'	3:3:103:A:C8	2.52	0.45
4:4:363:ASP:OD1	34:b:573:LEU:HD21	2.17	0.45
4:4:543:LEU:HB3	4:4:550:VAL:CG1	2.44	0.45
6:6:20:U:C2	6:6:21:G:C8	3.04	0.45
8:B:95:THR:C	8:B:97:ARG:H	2.25	0.45
8:B:137:TYR:CD1	8:B:144:ILE:HG13	2.51	0.45
9:C:162:THR:O	9:C:166:VAL:HG23	2.17	0.45
9:C:299:ILE:HG12	23:Q:39:ARG:HB3	1.98	0.45
10:D:148:ILE:HG13	10:D:149:GLY:O	2.17	0.45
34:b:168:ARG:HG3	34:b:343:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:360:LYS:NZ	57:y:244:TYR:OH	2.50	0.45
35:c:102:THR:O	35:c:102:THR:OG1	2.33	0.45
37:e:11:LYS:O	37:e:12:LYS:HB2	2.16	0.45
50:r:133:MET:HA	50:r:152:THR:OG1	2.17	0.45
52:t:143:PHE:CE2	52:t:318:LEU:HD21	2.51	0.45
56:x:156:SER:HB2	56:x:495:SER:HB2	1.98	0.45
1:1:64:G:C6	1:1:322:U:C5	3.04	0.45
1:1:341:G:H2'	9:C:191:LYS:HE2	1.99	0.45
1:1:874:U:H3'	1:1:875:G:H5'	1.99	0.45
1:1:1191:U:C5	21:O:48:PHE:HD2	2.34	0.45
1:1:2410:U:H4'	1:1:2411:U:H5"	1.98	0.45
1:1:2546:C:H1'	1:1:2548:C:N4	2.32	0.45
1:1:2753:G:O2'	1:1:2754:G:OP2	2.35	0.45
1:1:3027:A:H2	50:r:2:PRO:N	2.15	0.45
1:1:3055:U:H1'	1:1:3057:U:OP2	2.17	0.45
1:1:3110:C:H2'	1:1:3111:U:C6	2.51	0.45
3:3:2:G:O6	3:3:119:U:C4	2.70	0.45
3:3:76:A:C2	3:3:102:A:H5'	2.52	0.45
3:3:109:G:H5"	10:D:279:LYS:NZ	2.31	0.45
4:4:399:PHE:HB3	4:4:400:PRO:HD3	1.98	0.45
5:5:75:LYS:HA	5:5:78:MET:HG2	1.98	0.45
6:6:230:A:C4	52:t:151:LEU:HD11	2.52	0.45
9:C:282:SER:OG	9:C:283:THR:N	2.49	0.45
15:I:41:GLU:HA	15:I:46:LEU:HD22	1.99	0.45
16:J:20:ASN:O	16:J:21:ILE:HD13	2.17	0.45
29:W:4:SER:O	29:W:4:SER:OG	2.35	0.45
33:a:73:LEU:HD22	33:a:109:TYR:CD2	2.52	0.45
41:i:35:ASN:OD1	41:i:35:ASN:N	2.48	0.45
43:k:38:PHE:HE2	43:k:57:ASN:HD22	1.65	0.45
46:n:169:TYR:HB2	46:n:237:TYR:CE1	2.52	0.45
46:n:213:VAL:HG23	49:q:420:VAL:HG11	1.98	0.45
48:p:46:THR:HG23	48:p:57:CYS:SG	2.57	0.45
49:q:418:ASP:HB3	49:q:422:LYS:NZ	2.32	0.45
53:u:98:GLU:HG2	53:u:99:ILE:N	2.32	0.45
56:x:304:TRP:CD1	56:x:312:CYS:HA	2.52	0.45
1:1:39:A:H61	1:1:42:C:H3'	1.81	0.45
1:1:243:G:C2	1:1:244:G:C4	3.04	0.45
1:1:673:U:H2'	1:1:674:G:H8	1.82	0.45
1:1:1299:U:O2'	50:r:42:LEU:O	2.34	0.45
1:1:2615:G:N7	45:m:57:ARG:HD3	2.32	0.45
1:1:2661:G:OP1	10:D:35:ARG:NH2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2836:C:H41	1:1:2852:C:N4	2.15	0.45
1:1:2883:U:H2'	1:1:2884:C:C6	2.52	0.45
1:1:3197:G:O2'	1:1:3198:U:H3'	2.16	0.45
3:3:19:C:C2	3:3:61:G:N2	2.85	0.45
4:4:158:MET:HE3	4:4:158:MET:HB2	1.88	0.45
4:4:240:PRO:HD3	4:4:335:VAL:HG13	1.98	0.45
8:B:341:SER:C	8:B:343:TYR:H	2.25	0.45
9:C:343:LYS:HE2	9:C:343:LYS:HB3	1.83	0.45
10:D:40:HIS:N	10:D:41:LYS:HA	2.32	0.45
10:D:231:ILE:HG23	10:D:235:SER:HB2	1.99	0.45
11:E:131:LYS:HB2	11:E:131:LYS:HE3	1.67	0.45
17:K:84:ASN:O	17:K:277:ARG:N	2.45	0.45
18:L:106:GLN:HE21	41:i:20:MET:HG2	1.81	0.45
20:N:97:SER:OG	20:N:98:LEU:N	2.50	0.45
20:N:191:TRP:O	20:N:194:GLN:HG2	2.16	0.45
24:R:98:ARG:O	24:R:101:VAL:HG22	2.16	0.45
25:S:112:ALA:O	25:S:115:ARG:NH1	2.50	0.45
33:a:78:LEU:HD12	33:a:78:LEU:HA	1.85	0.45
34:b:383:LYS:HA	34:b:383:LYS:HD3	1.83	0.45
34:b:483:ALA:C	34:b:485:GLU:H	2.25	0.45
34:b:602:ALA:HB1	44:l:25:GLN:CD	2.42	0.45
35:c:14:LEU:O	35:c:17:VAL:HG22	2.17	0.45
46:n:126:PRO:HA	46:n:129:ILE:HG22	1.99	0.45
46:n:149:ASN:O	46:n:150:GLN:HB2	2.17	0.45
47:o:124:ARG:HH11	47:o:178:LYS:HG3	1.82	0.45
48:p:32:GLN:O	48:p:37:TYR:OH	2.23	0.45
49:q:237:LEU:HD22	49:q:396:ILE:HD11	1.99	0.45
50:r:122:LEU:HD21	50:r:217:LYS:HE2	1.98	0.45
55:w:153:LYS:HA	55:w:156:ASP:OD2	2.16	0.45
56:x:238:GLU:HA	56:x:286:TRP:CE3	2.52	0.45
57:y:41:GLU:HG3	57:y:203:LEU:HD11	1.99	0.45
1:1:249:U:H3'	1:1:250:U:C5	2.52	0.44
1:1:746:A:H2'	1:1:747:A:C8	2.48	0.44
1:1:835:G:N3	1:1:857:G:C2	2.85	0.44
1:1:1722:U:H5"	24:R:103:ARG:HH12	1.82	0.44
1:1:1758:G:H2'	1:1:1759:C:C6	2.52	0.44
1:1:2689:A:O3'	1:1:2690:G:H3'	2.16	0.44
1:1:3232:G:H2'	1:1:3233:C:H6	1.82	0.44
3:3:117:A:H2'	3:3:118:A:O4'	2.17	0.44
5:5:102:LYS:HA	5:5:105:GLU:OE2	2.17	0.44
9:C:328:ASN:C	9:C:330:TYR:H	2.25	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:203:ARG:HA	20:N:203:ARG:HD3	1.76	0.44
25:S:27:MET:HE1	25:S:44:PHE:CD1	2.52	0.44
32:Z:30:ASP:OD1	32:Z:30:ASP:N	2.50	0.44
33:a:59:ARG:N	33:a:59:ARG:HD2	2.32	0.44
34:b:80:ASP:HB3	34:b:241:TYR:CD2	2.53	0.44
39:g:102:LYS:O	39:g:105:VAL:HG22	2.16	0.44
41:i:98:ARG:HA	41:i:98:ARG:HD3	1.81	0.44
49:q:403:SER:OG	49:q:404:ASP:OD1	2.35	0.44
55:w:54:THR:O	55:w:58:VAL:HG22	2.17	0.44
56:x:188:TRP:N	56:x:188:TRP:CD1	2.85	0.44
56:x:296:SER:O	56:x:323:VAL:HG22	2.17	0.44
56:x:453:SER:HA	56:x:494:TRP:CE2	2.52	0.44
1:1:7:C:H2'	1:1:8:C:H6	1.83	0.44
1:1:90:C:P	1:1:283:G:H8	2.40	0.44
1:1:744:A:H2'	1:1:745:C:O4'	2.17	0.44
1:1:744:A:H5'	23:Q:141:ARG:O	2.17	0.44
1:1:1055:A:O2'	1:1:1055:A:N3	2.47	0.44
1:1:1804:A:H2'	1:1:1805:C:C6	2.53	0.44
1:1:1949:G:OP1	24:R:104:ARG:NH2	2.50	0.44
1:1:2414:G:C2	1:1:2807:U:O2	2.70	0.44
4:4:453:ASN:HB3	4:4:484:LYS:HD2	1.99	0.44
4:4:495:SER:O	4:4:495:SER:OG	2.30	0.44
8:B:136:LYS:HE3	8:B:136:LYS:HB2	1.59	0.44
8:B:152:LYS:HG3	8:B:189:SER:HA	1.98	0.44
11:E:164:SER:OG	38:f:6:ARG:N	2.49	0.44
14:H:69:ARG:HA	14:H:69:ARG:HD2	1.79	0.44
23:Q:58:ASN:O	23:Q:60:PRO:HD3	2.18	0.44
29:W:71:LYS:HD3	29:W:71:LYS:HA	1.72	0.44
29:W:81:ARG:HA	29:W:90:TYR:CG	2.51	0.44
29:W:174:LYS:NZ	29:W:176:LYS:HE3	2.32	0.44
33:a:60:TYR:CD2	33:a:63:LYS:HG3	2.52	0.44
34:b:153:VAL:O	34:b:157:ILE:HG22	2.17	0.44
34:b:175:TYR:OH	34:b:270:LEU:HB2	2.17	0.44
45:m:158:GLU:OE2	45:m:158:GLU:N	2.39	0.44
45:m:408:GLN:HE22	45:m:410:LYS:HE3	1.81	0.44
45:m:408:GLN:HE21	45:m:411:HIS:CD2	2.35	0.44
53:u:141:ILE:HA	53:u:144:LYS:HE2	1.99	0.44
56:x:327:SER:H	56:x:374:MET:HE1	1.82	0.44
56:x:327:SER:N	56:x:374:MET:HE1	2.32	0.44
1:1:1262:G:C8	1:1:1264:G:C8	3.06	0.44
1:1:1563:C:H2'	1:1:1564:U:H6	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1639:C:OP1	39:g:52:GLN:HB2	2.17	0.44
1:1:1763:U:H5'	1:1:1765:U:C4	2.53	0.44
1:1:2598:G:H2'	1:1:2599:U:C6	2.53	0.44
1:1:2634:U:C6	1:1:2635:A:H2'	2.53	0.44
1:1:2799:A:C5	1:1:2800:G:C6	3.05	0.44
1:1:2841:G:C2	1:1:2848:G:C6	3.05	0.44
1:1:3047:U:O2'	1:1:3048:A:H5'	2.17	0.44
2:2:134:G:OP1	30:X:56:ARG:NH1	2.51	0.44
3:3:88:G:N2	3:3:94:C:C4	2.85	0.44
3:3:100:C:N4	3:3:101:G:O6	2.50	0.44
4:4:198:LEU:HD12	4:4:201:ALA:HB3	1.98	0.44
10:D:97:ALA:O	10:D:101:THR:HG22	2.17	0.44
15:I:113:GLY:O	15:I:117:GLU:HG2	2.17	0.44
16:J:96:PHE:HZ	16:J:171:VAL:HG23	1.83	0.44
18:L:105:ASN:OD1	18:L:107:GLU:N	2.46	0.44
23:Q:45:ASN:HA	23:Q:48:VAL:HG12	2.00	0.44
34:b:173:CYS:C	34:b:180:LYS:HD2	2.42	0.44
34:b:542:MET:HE3	34:b:542:MET:O	2.17	0.44
43:k:41:THR:HG23	43:k:56:ILE:HB	1.98	0.44
47:o:111:PHE:CE1	47:o:152:MET:HE1	2.53	0.44
50:r:63:LYS:HB2	50:r:63:LYS:HE3	1.57	0.44
54:v:45:ILE:HG22	54:v:46:MET:SD	2.58	0.44
54:v:52:LEU:HB3	54:v:165:PHE:CE1	2.48	0.44
56:x:230:LYS:HB2	56:x:257:ASP:OD1	2.17	0.44
56:x:319:HIS:ND1	56:x:382:THR:OG1	2.49	0.44
56:x:468:LEU:HD13	56:x:513:TRP:HZ2	1.82	0.44
57:y:58:ILE:O	57:y:58:ILE:HG13	2.17	0.44
1:1:176:G:C6	1:1:243:G:C6	3.05	0.44
1:1:251:G:H2'	1:1:251:G:N3	2.32	0.44
1:1:1103:A:H4'	1:1:1104:G:OP2	2.16	0.44
1:1:1223:A:C8	1:1:1286:A:N1	2.85	0.44
1:1:1257:C:H2'	1:1:1258:U:O4'	2.18	0.44
1:1:1305:U:O4	8:B:256:HIS:HB3	2.18	0.44
1:1:1393:A:N3	1:1:1419:A:O2'	2.45	0.44
1:1:2424:A:C6	1:1:2607:G:N3	2.85	0.44
1:1:2715:A:H4'	1:1:2754:G:OP2	2.17	0.44
1:1:2837:A:C4	1:1:2850:G:C2	3.04	0.44
1:1:3324:C:OP1	36:d:19:ARG:NH2	2.41	0.44
1:1:3358:U:H2'	1:1:3359:A:C8	2.52	0.44
6:6:17:G:H2'	6:6:18:U:H6	1.81	0.44
6:6:52:G:N2	13:G:216:SER:OG	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:45:ASN:OD1	10:D:45:ASN:N	2.49	0.44
10:D:159:VAL:O	10:D:163:LEU:HD23	2.18	0.44
10:D:187:THR:O	10:D:189:GLU:N	2.50	0.44
10:D:234:ASP:OD1	10:D:235:SER:N	2.50	0.44
10:D:262:LYS:HB3	10:D:262:LYS:HE3	1.47	0.44
12:F:120:THR:HB	26:T:132:PRO:HB2	2.00	0.44
15:I:4:TYR:OH	15:I:8:ARG:NH2	2.50	0.44
18:L:59:ARG:HA	18:L:59:ARG:HD3	1.70	0.44
20:N:136:ASP:OD2	20:N:139:HIS:HB2	2.17	0.44
29:W:60:TRP:HH2	29:W:115:TYR:CD2	2.35	0.44
29:W:62:GLY:O	29:W:105:THR:HG22	2.17	0.44
29:W:220:TYR:O	29:W:228:VAL:HG22	2.17	0.44
30:X:91:ASN:O	30:X:95:ILE:HG13	2.18	0.44
39:g:38:LEU:HD23	39:g:38:LEU:HA	1.59	0.44
41:i:91:ASN:O	41:i:94:ILE:HG22	2.18	0.44
49:q:381:HIS:O	49:q:389:VAL:HG23	2.17	0.44
56:x:129:VAL:HG21	56:x:498:GLY:HA3	1.99	0.44
58:z:50:LYS:HA	58:z:53:GLU:OE1	2.17	0.44
1:1:44:U:H3'	1:1:44:U:OP1	2.18	0.44
1:1:306:A:H2'	1:1:307:A:C8	2.52	0.44
1:1:596:C:C5	1:1:597:G:C8	3.05	0.44
1:1:637:C:O2'	1:1:638:C:O5'	2.33	0.44
1:1:757:C:H2'	1:1:758:C:O4'	2.17	0.44
1:1:1551:C:H2'	1:1:1552:G:O4'	2.17	0.44
1:1:1811:G:O6	32:Z:64:LYS:NZ	2.36	0.44
1:1:2404:A:N6	1:1:2817:A:H62	2.16	0.44
1:1:2603:G:O2'	1:1:2604:U:H5'	2.18	0.44
1:1:2705:A:O5'	1:1:2705:A:C8	2.66	0.44
1:1:2724:U:H1'	1:1:2725:U:C5	2.53	0.44
1:1:2767:U:H3	1:1:2791:G:H1	1.66	0.44
1:1:2938:G:OP1	34:b:48:ARG:NH2	2.50	0.44
1:1:3119:U:OP1	50:r:25:ARG:NH1	2.50	0.44
1:1:3288:G:H1'	1:1:3289:G:C8	2.52	0.44
2:2:69:U:H2'	2:2:70:G:O4'	2.17	0.44
4:4:505:ASN:OD1	4:4:506:THR:N	2.40	0.44
5:5:79:LEU:HA	5:5:82:ARG:HG2	1.99	0.44
8:B:79:VAL:CG2	8:B:322:ILE:HB	2.47	0.44
10:D:12:TYR:O	10:D:16:PHE:HB3	2.18	0.44
10:D:177:GLU:C	10:D:179:ARG:H	2.26	0.44
16:J:82:ARG:O	16:J:86:VAL:HG22	2.18	0.44
16:J:127:PHE:CD2	16:J:127:PHE:N	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:76:LYS:HG3	17:K:285:ARG:NH1	2.32	0.44
21:O:119:VAL:HG11	25:S:167:ARG:HD2	2.00	0.44
23:Q:96:PHE:CD2	23:Q:97:PRO:HD2	2.52	0.44
29:W:28:ASP:O	29:W:31:ARG:HB2	2.18	0.44
34:b:147:LEU:HD23	34:b:147:LEU:HA	1.77	0.44
45:m:284:LEU:HD11	45:m:302:LEU:HD22	2.00	0.44
49:q:220:ILE:HD12	49:q:221:PRO:HD2	1.98	0.44
49:q:395:GLU:O	49:q:395:GLU:HG2	2.18	0.44
50:r:189:LEU:HB2	50:r:191:VAL:HG22	2.00	0.44
52:t:180:THR:O	52:t:183:VAL:N	2.50	0.44
54:v:121:ASN:O	54:v:123:LYS:HG2	2.17	0.44
55:w:70:MET:N	55:w:70:MET:SD	2.90	0.44
56:x:461:SER:HG	56:x:471:TRP:HZ2	1.61	0.44
1:1:180:C:C2	1:1:237:G:N2	2.86	0.44
1:1:760:G:H8	1:1:760:G:OP2	2.01	0.44
1:1:1083:G:H2'	1:1:1083:G:N3	2.33	0.44
1:1:2393:G:O2'	1:1:2394:G:OP2	2.30	0.44
1:1:2530:G:C2	1:1:2531:C:C2	3.06	0.44
1:1:2614:G:O2'	1:1:2615:G:H8	2.00	0.44
1:1:2838:A:H3'	1:1:2839:G:H8	1.83	0.44
1:1:3286:G:C5	1:1:3287:U:C4	3.05	0.44
5:5:89:ASN:HA	5:5:92:TYR:CE1	2.52	0.44
8:B:213:GLU:OE2	58:z:29:ARG:NH1	2.51	0.44
8:B:339:ARG:HG2	8:B:340:LYS:N	2.33	0.44
10:D:208:MET:HB3	10:D:219:PHE:HE1	1.83	0.44
16:J:105:GLY:HA2	16:J:126:ASP:HA	1.98	0.44
17:K:124:LEU:O	17:K:181:LEU:HD12	2.17	0.44
17:K:289:LEU:HD12	47:o:211:LEU:HD22	1.99	0.44
18:L:153:ASP:OD1	18:L:154:VAL:N	2.51	0.44
25:S:148:LEU:HD12	25:S:148:LEU:HA	1.76	0.44
29:W:38:ARG:O	29:W:222:ASP:HA	2.18	0.44
32:Z:97:SER:H	32:Z:100:THR:CG2	2.29	0.44
34:b:268:VAL:HG11	34:b:305:LEU:HD13	1.99	0.44
34:b:324:LEU:HD23	34:b:324:LEU:HA	1.84	0.44
34:b:420:TYR:HB3	57:y:87:SER:HA	2.00	0.44
36:d:87:ASN:O	36:d:89:LEU:HD12	2.18	0.44
40:h:38:ARG:HD2	40:h:38:ARG:HA	1.77	0.44
47:o:208:ILE:O	47:o:211:LEU:HG	2.18	0.44
55:w:101:ARG:HH12	55:w:105:LEU:HD23	1.81	0.44
56:x:208:ASN:O	56:x:228:HIS:HB2	2.17	0.44
56:x:495:SER:OG	56:x:499:LYS:N	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:40:A:H4'	1:1:41:G:O5'	2.17	0.44
1:1:76:G:N7	18:L:101:ARG:HG3	2.33	0.44
1:1:202:G:C2	1:1:203:G:C8	3.05	0.44
1:1:543:C:H3'	1:1:544:C:C6	2.53	0.44
1:1:706:A:C6	1:1:714:G:C2	3.05	0.44
1:1:1189:C:N4	21:O:133:ARG:HH21	2.15	0.44
1:1:1566:A:H1'	1:1:1568:U:C4	2.53	0.44
1:1:2444:C:O2	1:1:2503:G:N2	2.51	0.44
1:1:2561:A:N3	1:1:2562:A:C8	2.86	0.44
1:1:2858:U:H6	1:1:2858:U:H2'	1.61	0.44
1:1:2951:G:C5	1:1:2952:G:C8	3.05	0.44
1:1:3187:A:N6	1:1:3205:G:H1	2.15	0.44
1:1:3304:U:P	8:B:332:ARG:HH22	2.41	0.44
1:1:3316:A:N6	8:B:124:LYS:HG2	2.33	0.44
3:3:77:G:N2	3:3:101:G:OP2	2.47	0.44
3:3:100:C:H2'	3:3:101:G:H8	1.83	0.44
4:4:69:ASP:HB3	4:4:399:PHE:CE2	2.52	0.44
4:4:362:ARG:O	4:4:364:PHE:N	2.51	0.44
4:4:364:PHE:HB2	34:b:567:PHE:CE1	2.53	0.44
7:A:118:GLU:HG2	7:A:126:LEU:HD11	1.99	0.44
7:A:179:LEU:O	7:A:180:LEU:HB2	2.17	0.44
8:B:287:LYS:HE3	8:B:287:LYS:HB3	1.75	0.44
10:D:38:THR:HA	10:D:41:LYS:HD3	1.99	0.44
11:E:52:VAL:HG11	11:E:65:ILE:HB	1.98	0.44
17:K:294:ASN:O	17:K:298:LEU:HD22	2.18	0.44
20:N:144:ARG:O	20:N:145:ASP:HB3	2.18	0.44
21:O:55:HIS:ND1	51:s:1:MET:HG3	2.32	0.44
34:b:436:LEU:HD12	34:b:436:LEU:HA	1.71	0.44
37:e:24:ARG:HE	37:e:24:ARG:HB3	1.53	0.44
37:e:128:LEU:HD23	37:e:128:LEU:HA	1.86	0.44
46:n:166:TRP:HD1	46:n:167:LEU:HD12	1.82	0.44
52:t:204:ILE:O	52:t:208:ILE:HG12	2.18	0.44
54:v:40:LYS:HB3	54:v:40:LYS:HE3	1.80	0.44
54:v:220:ARG:NH1	55:w:59:GLN:HG3	2.32	0.44
54:v:223:LEU:HD23	54:v:223:LEU:H	1.83	0.44
56:x:366:LYS:HB3	56:x:432:ARG:NH1	2.33	0.44
56:x:482:LEU:HD13	56:x:513:TRP:CZ3	2.52	0.44
1:1:170:G:O6	1:1:249:U:O2'	2.18	0.44
1:1:281:G:H8	1:1:281:G:OP1	2.01	0.44
1:1:881:C:H2'	1:1:882:A:H8	1.83	0.44
1:1:976:U:C2	1:1:1106:G:N1	2.74	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1208:U:H4'	29:W:4:SER:H	1.82	0.44
1:1:1759:C:N3	1:1:1760:A:C8	2.86	0.44
1:1:2655:U:H4'	1:1:2656:A:OP2	2.14	0.44
1:1:3017:A:C2	1:1:3018:C:C5	3.05	0.44
2:2:72:A:C5	2:2:73:U:C5	3.06	0.44
3:3:87:G:H2'	3:3:88:G:O4'	2.18	0.44
4:4:47:ASN:HA	4:4:50:TYR:HB2	2.00	0.44
10:D:41:LYS:HG3	10:D:41:LYS:O	2.18	0.44
20:N:148:TYR:O	20:N:151:ILE:HG22	2.18	0.44
29:W:37:TYR:O	29:W:223:ASN:ND2	2.51	0.44
31:Y:51:ARG:HG2	31:Y:115:ARG:HH22	1.83	0.44
34:b:143:LEU:HD23	34:b:143:LEU:HA	1.63	0.44
34:b:558:TYR:HB2	34:b:560:GLU:OE2	2.18	0.44
45:m:165:ASN:O	45:m:169:THR:HG23	2.18	0.44
46:n:42:TYR:CD2	49:q:211:PRO:HB3	2.53	0.44
50:r:148:LYS:HE3	50:r:172:ILE:HD11	2.00	0.44
54:v:94:LYS:HA	54:v:94:LYS:HD3	1.79	0.44
56:x:384:PHE:CZ	56:x:397:ARG:HD2	2.53	0.44
1:1:761:A:N6	1:1:770:G:O4'	2.51	0.44
1:1:844:G:H8	1:1:844:G:O5'	2.01	0.44
1:1:985:U:H2'	1:1:986:U:C6	2.51	0.44
1:1:2692:A:H2'	1:1:2692:A:OP2	2.18	0.44
1:1:3016:A:O2'	1:1:3017:A:P	2.76	0.44
3:3:72:A:N6	3:3:106:U:C4	2.86	0.44
4:4:73:LEU:HD23	4:4:76:LEU:HD12	2.00	0.44
13:G:134:TYR:CG	13:G:190:VAL:HG21	2.52	0.44
14:H:164:ILE:HD12	14:H:164:ILE:HA	1.80	0.44
17:K:102:VAL:N	17:K:232:ASN:O	2.34	0.44
26:T:83:ARG:HD3	26:T:85:LEU:HD21	1.99	0.44
29:W:120:VAL:HG13	29:W:212:GLU:HG2	2.00	0.44
34:b:85:LEU:HB3	34:b:86:TYR:CE1	2.53	0.44
34:b:233:ASN:HB2	34:b:235:ILE:HB	1.99	0.44
40:h:38:ARG:NH1	40:h:40:SER:OG	2.51	0.44
47:o:118:LYS:HE2	47:o:138:GLU:HB3	1.99	0.44
53:u:132:GLU:O	53:u:135:ARG:HG2	2.18	0.44
54:v:28:LYS:HZ1	54:v:166:ARG:HH21	1.66	0.44
56:x:420:ALA:HB1	56:x:447:VAL:HB	2.00	0.44
1:1:3:U:H1'	6:6:232:A:N7	2.32	0.43
1:1:977:C:C4	1:1:1105:A:N6	2.86	0.43
1:1:1637:A:H1'	1:1:1709:C:O2'	2.18	0.43
1:1:1687:U:H5"	1:1:1688:U:H5'	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2119:A:O5'	1:1:2119:A:H8	2.00	0.43
1:1:2622:C:O2'	1:1:2623:G:H5'	2.18	0.43
1:1:2681:U:OP2	16:J:51:ARG:HD3	2.17	0.43
1:1:2746:A:C4	1:1:2747:A:C8	3.05	0.43
5:5:74:ALA:O	5:5:77:THR:HG22	2.18	0.43
10:D:80:SER:HB2	10:D:92:LEU:HD22	2.00	0.43
13:G:82:LEU:HD22	13:G:218:ILE:HD13	2.00	0.43
13:G:145:ASN:N	13:G:146:LYS:HA	2.26	0.43
17:K:162:THR:HG23	17:K:163:VAL:HG12	2.00	0.43
26:T:41:ASP:OD1	26:T:42:ILE:N	2.42	0.43
27:U:99:LYS:HB2	27:U:99:LYS:HE2	1.74	0.43
28:V:63:LYS:HD2	28:V:63:LYS:HA	1.78	0.43
28:V:97:ASP:N	28:V:97:ASP:OD2	2.51	0.43
34:b:182:SER:HB3	60:b:701:GTP:C5'	2.48	0.43
45:m:355:TYR:CE2	45:m:365:ILE:HD13	2.53	0.43
46:n:218:MET:HE1	49:q:416:LEU:HD22	2.00	0.43
49:q:394:LEU:HD21	52:t:20:LEU:HG	1.99	0.43
50:r:138:LYS:HE3	50:r:143:ARG:HB3	2.00	0.43
56:x:157:SER:HB3	56:x:172:ASP:OD1	2.17	0.43
56:x:472:ASP:O	56:x:476:ARG:N	2.51	0.43
58:z:41:LEU:HD22	58:z:41:LEU:HA	1.73	0.43
1:1:162:G:H2'	1:1:163:C:H5'	2.00	0.43
1:1:238:A:H2'	1:1:239:G:C8	2.53	0.43
1:1:1214:U:O2'	1:1:1215:U:H5'	2.17	0.43
1:1:1251:A:H2'	1:1:1252:A:C2	2.53	0.43
1:1:1251:A:H8	1:1:1251:A:OP2	2.00	0.43
1:1:2649:A:H3'	1:1:2650:U:C6	2.53	0.43
1:1:2921:U:O2	1:1:2921:U:H2'	2.17	0.43
3:3:62:U:OP1	10:D:282:ARG:NH2	2.51	0.43
4:4:122:ASP:HA	4:4:123:SER:HA	1.87	0.43
9:C:258:LEU:HD12	9:C:258:LEU:HA	1.69	0.43
10:D:40:HIS:HB3	10:D:41:LYS:HA	1.99	0.43
22:P:62:ARG:HE	22:P:62:ARG:HB2	1.64	0.43
30:X:131:ASP:OD1	30:X:132:ALA:N	2.50	0.43
34:b:387:LYS:HG2	34:b:388:TYR:H	1.83	0.43
41:i:96:ALA:HA	41:i:100:HIS:C	2.43	0.43
45:m:122:ASP:HB2	56:x:441:ARG:HH22	1.82	0.43
46:n:63:TYR:O	46:n:64:TYR:HB2	2.18	0.43
52:t:180:THR:H	52:t:183:VAL:HG22	1.84	0.43
54:v:220:ARG:HH21	55:w:55:ARG:NH1	2.16	0.43
56:x:207:ASP:OD2	56:x:209:THR:OG1	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:y:1:MET:CE	57:y:203:LEU:HD12	2.48	0.43
1:1:68:C:N4	1:1:314:U:O2'	2.49	0.43
1:1:564:G:H2'	1:1:565:U:H6	1.83	0.43
1:1:1090:G:H2'	1:1:1091:A:C8	2.53	0.43
1:1:1264:G:H4'	1:1:1265:U:OP1	2.18	0.43
1:1:2567:C:C2'	1:1:2568:C:H5'	2.48	0.43
1:1:2651:G:H1'	1:1:2652:U:C5	2.53	0.43
1:1:2883:U:H2'	1:1:2884:C:H6	1.83	0.43
3:3:20:A:N6	3:3:60:G:C6	2.86	0.43
3:3:45:A:H2'	3:3:46:A:N7	2.33	0.43
3:3:47:C:H2'	3:3:48:U:C6	2.53	0.43
4:4:206:LYS:HE3	4:4:206:LYS:HB3	1.68	0.43
4:4:331:LYS:HE2	4:4:444:PRO:HB2	1.98	0.43
12:F:160:ARG:HG3	12:F:203:TRP:CD2	2.53	0.43
14:H:171:ASP:OD2	14:H:174:LYS:N	2.50	0.43
17:K:42:ASN:O	17:K:46:LYS:HG3	2.19	0.43
24:R:25:ASP:OD1	24:R:28:GLU:HB2	2.16	0.43
29:W:132:PRO:HA	29:W:191:GLU:CD	2.43	0.43
29:W:227:THR:OG1	29:W:228:VAL:N	2.51	0.43
31:Y:127:GLU:OE1	31:Y:127:GLU:N	2.51	0.43
35:c:17:VAL:HG12	35:c:96:GLY:H	1.84	0.43
45:m:273:TRP:CH2	45:m:468:PRO:HB3	2.53	0.43
46:n:453:LEU:HD22	49:q:404:ASP:HB3	2.00	0.43
50:r:151:ILE:HD11	50:r:212:LEU:HD12	2.01	0.43
53:u:82:ASN:O	53:u:86:VAL:HG23	2.18	0.43
53:u:90:LEU:HA	53:u:90:LEU:HD23	1.80	0.43
56:x:277:HIS:NE2	56:x:302:ARG:HB2	2.33	0.43
56:x:427:LYS:HD3	56:x:429:TRP:CZ2	2.53	0.43
57:y:63:THR:OG1	57:y:64:ALA:N	2.51	0.43
1:1:705:A:N3	1:1:714:G:N2	2.66	0.43
1:1:1108:U:O2	1:1:1109:U:H5	2.01	0.43
1:1:1228:C:H2'	1:1:1229:G:H8	1.83	0.43
1:1:2407:C:N4	1:1:2814:G:H21	2.16	0.43
1:1:2608:G:C6	1:1:2609:A:N6	2.87	0.43
1:1:3236:U:H2'	1:1:3237:U:H6	1.84	0.43
2:2:79:A:H3'	4:4:349:LYS:NZ	2.33	0.43
3:3:34:C:N4	3:3:35:C:H5	2.16	0.43
6:6:7:C:H5	6:6:21:G:H1	1.66	0.43
8:B:108:GLU:HB2	8:B:137:TYR:CG	2.53	0.43
9:C:38:VAL:HG11	9:C:121:ALA:CB	2.49	0.43
15:I:35:LEU:HD11	15:I:126:HIS:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:86:LYS:NZ	17:K:297:VAL:O	2.51	0.43
18:L:106:GLN:HB2	41:i:18:THR:OG1	2.18	0.43
23:Q:21:SER:O	23:Q:27:LYS:NZ	2.49	0.43
34:b:336:CYS:O	34:b:340:LEU:HG	2.19	0.43
35:c:59:TYR:O	35:c:63:SER:OG	2.29	0.43
45:m:210:ARG:NH1	45:m:351:LYS:O	2.50	0.43
45:m:407:CYS:HB3	45:m:411:HIS:CE1	2.54	0.43
50:r:129:SER:OG	50:r:130:GLU:N	2.52	0.43
56:x:396:ALA:HB2	56:x:433:ASP:O	2.18	0.43
57:y:101:LEU:HD12	57:y:101:LEU:O	2.19	0.43
57:y:107:VAL:HB	57:y:118:HIS:CB	2.48	0.43
1:1:201:A:N3	1:1:202:G:C8	2.86	0.43
1:1:296:A:O5’	1:1:296:A:H8	2.02	0.43
1:1:420:G:N2	1:1:2385:G:OP2	2.38	0.43
1:1:698:U:H2’	1:1:699:A:O4’	2.19	0.43
1:1:1085:A:H2’	1:1:1086:C:C5	2.53	0.43
1:1:2693:C:O2’	1:1:2694:A:P	2.77	0.43
1:1:2695:A:O2’	1:1:2696:A:H5”	2.19	0.43
1:1:2745:G:H2’	1:1:2747:A:OP2	2.18	0.43
1:1:2965:U:C4	45:m:30:TYR:HD1	2.36	0.43
1:1:3262:U:H2’	1:1:3263:G:O4’	2.18	0.43
4:4:87:ARG:CB	4:4:147:ILE:HG12	2.49	0.43
4:4:96:ASP:OD2	4:4:104:TRP:HB3	2.18	0.43
10:D:56:THR:OG1	10:D:59:ASP:HB2	2.18	0.43
10:D:137:ASP:OD1	10:D:137:ASP:N	2.51	0.43
20:N:72:LYS:HA	20:N:89:VAL:O	2.19	0.43
26:T:52:MET:HB2	26:T:53:PRO:HD3	2.01	0.43
27:U:101:ASN:OD1	27:U:103:TYR:OH	2.23	0.43
29:W:80:LYS:NZ	29:W:82:GLU:HB2	2.33	0.43
32:Z:58:GLY:C	32:Z:60:LYS:H	2.25	0.43
46:n:141:LEU:HD13	49:q:415:LEU:HB3	1.99	0.43
46:n:377:GLU:OE1	46:n:378:PHE:N	2.52	0.43
49:q:426:SER:HB2	49:q:428:LYS:HG3	2.01	0.43
56:x:379:ASP:C	56:x:381:TYR:H	2.26	0.43
56:x:457:ARG:HA	56:x:473:VAL:HG22	2.01	0.43
1:1:1106:G:H2’	1:1:1106:G:N3	2.34	0.43
1:1:1247:U:N3	1:1:1268:G:O6	2.51	0.43
1:1:1494:U:OP1	44:l:44:TRP:HB3	2.19	0.43
1:1:1508:C:OP1	22:P:127:ARG:NH2	2.35	0.43
1:1:1767:C:C4	1:1:1768:U:C5	3.06	0.43
1:1:1900:A:N3	1:1:1902:G:C6	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2160:G:C2	1:1:2161:G:N7	2.87	0.43
1:1:2623:G:N1	1:1:2756:C:C2	2.86	0.43
1:1:2684:C:OP2	1:1:2684:C:H6	2.02	0.43
1:1:2746:A:H2'	1:1:2747:A:H8	1.84	0.43
1:1:3066:U:H2'	1:1:3067:C:C6	2.53	0.43
3:3:6:C:OP1	10:D:54:ARG:NE	2.38	0.43
3:3:28:C:OP2	3:3:29:C:N4	2.52	0.43
3:3:101:G:O5'	54:v:93:SER:OG	2.36	0.43
4:4:47:ASN:O	4:4:51:HIS:HB2	2.18	0.43
4:4:556:LEU:HA	4:4:559:LEU:CD2	2.48	0.43
5:5:59:GLU:C	5:5:59:GLU:CD	2.87	0.43
7:A:112:ILE:HG23	7:A:133:TYR:HD2	1.83	0.43
9:C:233:LEU:HA	9:C:233:LEU:HD23	1.61	0.43
10:D:48:LYS:NZ	10:D:50:ARG:HE	2.17	0.43
12:F:202:LEU:HD23	12:F:202:LEU:HA	1.80	0.43
18:L:188:ARG:O	18:L:192:GLU:HB2	2.18	0.43
19:M:101:LYS:HB3	19:M:101:LYS:HE2	1.84	0.43
23:Q:20:LYS:HB3	23:Q:20:LYS:HE3	1.73	0.43
28:V:85:TRP:HH2	28:V:95:PHE:CE1	2.36	0.43
29:W:157:MET:HG2	29:W:158:ILE:H	1.84	0.43
34:b:75:HIS:CG	34:b:76:PRO:HD2	2.54	0.43
34:b:228:PRO:C	34:b:230:GLU:H	2.27	0.43
36:d:78:LYS:HE3	36:d:92:TYR:HB3	2.00	0.43
45:m:173:GLU:O	45:m:176:VAL:HG12	2.18	0.43
45:m:262:CYS:HB3	45:m:287:HIS:CB	2.47	0.43
46:n:7:ASN:HD21	46:n:54:LYS:HA	1.82	0.43
46:n:179:VAL:O	46:n:459:PRO:HG3	2.19	0.43
46:n:416:VAL:HG13	46:n:418:LYS:HG2	2.00	0.43
47:o:96:SER:OG	47:o:134:TYR:HB3	2.19	0.43
54:v:72:MET:HE1	54:v:75:LEU:HD13	2.01	0.43
55:w:184:ARG:O	55:w:188:VAL:HG22	2.18	0.43
1:1:979:U:H5"	1:1:980:A:OP2	2.18	0.43
1:1:1098:A:O2'	26:T:130:ARG:O	2.34	0.43
1:1:1757:A:H2'	1:1:1758:G:C8	2.54	0.43
1:1:1761:C:H4'	1:1:1763:U:C5	2.52	0.43
1:1:1766:G:C6	1:1:1767:C:C4	3.06	0.43
1:1:1767:C:N4	1:1:1768:U:O4	2.52	0.43
1:1:2623:G:H2'	1:1:2624:G:C8	2.53	0.43
1:1:2876:C:O2'	1:1:2877:G:O5'	2.36	0.43
1:1:2950:G:C2	1:1:2951:G:C8	3.07	0.43
1:1:3017:A:H2'	1:1:3018:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:6:53:A:C5	17:K:167:TYR:CZ	3.06	0.43
10:D:156:GLY:HA2	10:D:181:PRO:HB3	2.01	0.43
12:F:124:LEU:HD23	12:F:124:LEU:HA	1.85	0.43
15:I:86:THR:HG22	15:I:87:GLN:N	2.34	0.43
15:I:96:TYR:HD2	53:u:72:ALA:HB1	1.84	0.43
17:K:120:ASP:O	17:K:122:LYS:HG3	2.18	0.43
18:L:116:LEU:HA	18:L:116:LEU:HD23	1.55	0.43
20:N:35:VAL:HG12	20:N:36:ILE:HG13	2.01	0.43
24:R:99:LEU:HD12	24:R:99:LEU:HA	1.85	0.43
27:U:10:LYS:HB3	27:U:68:THR:OG1	2.18	0.43
34:b:90:HIS:CE1	45:m:135:GLU:HG2	2.53	0.43
34:b:104:LEU:HA	34:b:104:LEU:HD23	1.83	0.43
34:b:186:CYS:HB2	34:b:325:GLU:OE1	2.18	0.43
45:m:33:SER:OG	45:m:34:LYS:N	2.52	0.43
46:n:141:LEU:HD21	49:q:416:LEU:HD23	2.00	0.43
54:v:29:GLN:O	54:v:86:LEU:HG	2.18	0.43
54:v:98:ASN:HB3	54:v:118:VAL:HG13	2.01	0.43
54:v:128:PHE:CE1	54:v:129:LYS:HE3	2.54	0.43
56:x:255:SER:HB3	56:x:259:THR:HG23	2.01	0.43
57:y:103:ALA:HB1	57:y:106:ASN:HD22	1.84	0.43
1:1:172:G:C6	1:1:246:U:N3	2.81	0.43
1:1:963:G:C6	1:1:964:G:C8	3.06	0.43
1:1:993:G:N7	1:1:994:G:C5	2.86	0.43
1:1:1262:G:C6	1:1:1278:A:N1	2.87	0.43
1:1:1303:A:OP1	1:1:1303:A:H4'	2.17	0.43
1:1:1666:G:H2'	1:1:1667:A:H8	1.83	0.43
1:1:2433:U:H6	1:1:2433:U:OP1	2.02	0.43
1:1:2667:A:N7	1:1:2687:G:C2	2.86	0.43
1:1:2940:A:OP2	8:B:2:SER:N	2.51	0.43
1:1:3232:G:H2'	1:1:3233:C:C6	2.54	0.43
3:3:10:C:OP1	54:v:43:HIS:HE1	2.02	0.43
5:5:94:ARG:HD3	5:5:94:ARG:N	2.33	0.43
9:C:230:VAL:CG1	9:C:254:ALA:HB1	2.49	0.43
9:C:351:PRO:HA	12:F:71:ALA:HA	2.00	0.43
10:D:95:TRP:HD1	10:D:158:ARG:HA	1.84	0.43
11:E:174:LEU:HA	11:E:174:LEU:HD23	1.73	0.43
15:I:35:LEU:HD21	15:I:126:HIS:CE1	2.54	0.43
16:J:93:ASP:OD1	16:J:94:ARG:N	2.52	0.43
17:K:276:ILE:HD12	17:K:279:ILE:HD11	2.00	0.43
18:L:12:ASN:O	18:L:14:PHE:N	2.48	0.43
22:P:67:ILE:HB	22:P:80:LYS:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:132:PRO:C	29:W:133:LEU:HG	2.44	0.43
34:b:9:PRO:O	34:b:10:THR:OG1	2.28	0.43
34:b:227:ARG:HD2	34:b:227:ARG:HA	1.81	0.43
34:b:397:LYS:HA	34:b:397:LYS:HD2	1.72	0.43
34:b:493:ALA:HB1	53:u:126:LEU:HD23	2.00	0.43
35:c:51:LEU:HD12	35:c:51:LEU:HA	1.70	0.43
46:n:375:ILE:O	46:n:375:ILE:HG23	2.19	0.43
47:o:139:PHE:CD2	47:o:139:PHE:N	2.87	0.43
48:p:49:ARG:HB2	48:p:55:TRP:CE3	2.54	0.43
51:s:36:LYS:HD3	51:s:36:LYS:HA	1.68	0.43
52:t:47:LYS:HD3	52:t:50:SER:HB3	2.01	0.43
54:v:244:MET:O	54:v:247:GLU:HG3	2.19	0.43
57:y:13:ILE:HG21	57:y:205:VAL:HG12	2.00	0.43
1:1:878:G:H1'	1:1:880:G:N2	2.34	0.43
1:1:1200:A:H2	1:1:2824:G:H22	1.67	0.43
1:1:1617:G:OP1	46:n:6:LYS:HE2	2.19	0.43
1:1:2101:C:O2'	1:1:2102:U:O5'	2.29	0.43
1:1:2133:U:O4	1:1:2147:A:H2	2.01	0.43
1:1:2592:G:HO2'	1:1:2594:C:N4	2.17	0.43
1:1:2945:G:H4'	1:1:2946:A:H5"	2.00	0.43
1:1:3383:G:H2'	1:1:3384:U:C6	2.54	0.43
4:4:93:THR:HA	4:4:142:THR:O	2.19	0.43
4:4:169:ILE:HD12	4:4:169:ILE:HA	1.81	0.43
7:A:104:LEU:HA	7:A:104:LEU:HD23	1.75	0.43
8:B:73:VAL:HG11	28:V:90:GLY:HA3	2.01	0.43
8:B:293:ASN:C	8:B:295:ALA:H	2.27	0.43
10:D:96:ALA:HB2	10:D:240:TYR:OH	2.19	0.43
10:D:137:ASP:HA	10:D:138:GLY:HA2	1.71	0.43
27:U:59:ASP:C	27:U:61:THR:H	2.27	0.43
29:W:175:ILE:HA	29:W:179:LYS:O	2.19	0.43
34:b:172:ILE:HD12	34:b:219:ILE:C	2.44	0.43
34:b:461:GLU:O	34:b:465:ASN:ND2	2.51	0.43
34:b:535:MET:HE2	34:b:540:HIS:CD2	2.53	0.43
46:n:161:LYS:O	46:n:165:GLN:HG3	2.19	0.43
47:o:131:SER:C	47:o:133:HIS:H	2.25	0.43
48:p:31:ILE:HD13	48:p:31:ILE:HA	1.77	0.43
49:q:398:PHE:HE2	52:t:21:ARG:HB2	1.84	0.43
50:r:133:MET:O	50:r:133:MET:HG3	2.18	0.43
52:t:58:ALA:O	52:t:62:VAL:HG12	2.19	0.43
55:w:155:ASP:OD1	55:w:155:ASP:N	2.32	0.43
56:x:169:ARG:CB	56:x:171:TRP:HE1	2.25	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:x:466:THR:CG2	56:x:484:GLY:H	2.32	0.43
58:z:42:LEU:HD13	58:z:42:LEU:HA	1.68	0.43
1:1:257:U:H2'	1:1:258:G:H8	1.82	0.43
1:1:1244:A:C4	1:1:1248:C:C5	3.07	0.43
1:1:1568:U:H1'	1:1:1569:U:OP2	2.18	0.43
1:1:1725:C:H2'	1:1:1726:C:H6	1.84	0.43
1:1:2155:G:H2'	1:1:2156:C:C6	2.54	0.43
1:1:2743:A:C2	1:1:2744:U:C2	3.07	0.43
1:1:2777:G:N1	33:a:61:PHE:HB2	2.33	0.43
1:1:2838:A:H3'	1:1:2839:G:C8	2.54	0.43
4:4:124:THR:HG23	4:4:125:PHE:HD2	1.84	0.43
6:6:36:U:OP2	47:o:207:ARG:NH1	2.52	0.43
10:D:216:GLU:O	10:D:220:SER:OG	2.25	0.43
17:K:238:LEU:HA	17:K:244:LEU:HD12	2.01	0.43
17:K:255:ARG:HB3	17:K:257:GLU:OE2	2.19	0.43
17:K:261:ASP:OD1	17:K:261:ASP:N	2.50	0.43
20:N:5:LYS:NZ	41:i:37:THR:OG1	2.52	0.43
24:R:23:TRP:CZ2	24:R:25:ASP:HB3	2.54	0.43
34:b:259:GLN:OE1	60:b:701:GTP:O2'	2.37	0.43
35:c:36:GLN:HB3	35:c:38:LYS:HE2	2.01	0.43
35:c:83:LYS:HB3	35:c:85:PHE:CE2	2.53	0.43
47:o:141:ASN:ND2	47:o:144:ASP:H	2.16	0.43
52:t:274:ASN:O	52:t:321:LEU:HD22	2.18	0.43
54:v:27:VAL:HG23	54:v:29:GLN:NE2	2.34	0.43
54:v:117:MET:HB2	54:v:233:LYS:HB3	2.01	0.43
54:v:140:MET:O	54:v:181:VAL:HA	2.19	0.43
56:x:194:TRP:NE1	56:x:198:GLY:HA2	2.23	0.43
56:x:248:LYS:NZ	56:x:265:THR:HB	2.33	0.43
56:x:289:GLN:HB3	56:x:291:LEU:CD1	2.47	0.43
56:x:298:ASP:OD1	56:x:298:ASP:N	2.46	0.43
56:x:319:HIS:CE1	56:x:384:PHE:HD2	2.37	0.43
1:1:44:U:C4	1:1:45:A:H1'	2.53	0.42
1:1:159:A:H2'	1:1:160:G:H8	1.83	0.42
1:1:535:G:N2	1:1:555:U:C2	2.87	0.42
1:1:1298:C:O2'	50:r:40:GLN:O	2.33	0.42
1:1:1561:G:O2'	1:1:1562:C:P	2.77	0.42
1:1:1950:U:H2'	1:1:1951:C:C2	2.54	0.42
1:1:2551:U:O4	7:A:95:SER:N	2.51	0.42
1:1:3158:G:C2	1:1:3292:A:H2	2.34	0.42
1:1:3270:U:C5	11:E:46:ARG:HD2	2.53	0.42
5:5:80:LYS:HD2	5:5:80:LYS:HA	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:6:7:C:H41	6:6:21:G:H1	1.67	0.42
10:D:36:LEU:HD22	10:D:147:ASP:HB3	2.01	0.42
10:D:43:LYS:O	54:v:170:THR:HG21	2.20	0.42
11:E:102:ASN:O	11:E:105:TYR:HB3	2.19	0.42
13:G:101:THR:HG23	13:G:104:GLU:H	1.83	0.42
13:G:213:LYS:HD3	13:G:213:LYS:HA	1.80	0.42
17:K:305:LYS:HE2	17:K:305:LYS:HB2	1.81	0.42
19:M:6:ILE:O	19:M:6:ILE:HG13	2.17	0.42
25:S:81:TYR:HB3	25:S:121:ILE:HA	2.01	0.42
29:W:130:LYS:HE3	29:W:130:LYS:HB3	1.87	0.42
29:W:130:LYS:HG2	29:W:192:GLY:HA2	2.01	0.42
33:a:76:ASP:HA	33:a:118:ILE:HG22	2.01	0.42
45:m:225:VAL:O	45:m:256:ILE:HD12	2.19	0.42
49:q:408:LYS:HD2	52:t:233:ASN:ND2	2.34	0.42
52:t:36:LEU:HD23	52:t:36:LEU:HA	1.68	0.42
54:v:207:LYS:O	54:v:221:ILE:HA	2.19	0.42
55:w:53:LEU:O	55:w:57:ASN:ND2	2.50	0.42
56:x:372:GLU:OE1	56:x:389:LEU:HD11	2.18	0.42
56:x:459:LEU:HG	56:x:460:VAL:N	2.34	0.42
1:1:422:A:C2	1:1:2363:A:H4'	2.55	0.42
1:1:561:C:H2'	1:1:562:C:C6	2.54	0.42
1:1:591:G:C2	11:E:18:LEU:HB3	2.54	0.42
1:1:645:A:H4'	1:1:646:A:OP2	2.19	0.42
1:1:646:A:H4'	1:1:647:A:OP1	2.19	0.42
1:1:731:U:C2	1:1:739:G:N2	2.87	0.42
1:1:998:A:H3'	1:1:999:G:H2'	2.01	0.42
1:1:1190:A:H2'	1:1:1190:A:N3	2.34	0.42
1:1:1460:A:H2'	1:1:1461:A:H8	1.84	0.42
1:1:1488:G:C2	1:1:1489:A:C8	3.07	0.42
1:1:2398:A:H2'	1:1:2399:A:C8	2.54	0.42
1:1:2638:C:H2'	1:1:2639:G:N7	2.34	0.42
1:1:2740:A:O3'	50:r:236:LYS:NZ	2.52	0.42
1:1:2917:G:C6	1:1:2930:A:N1	2.87	0.42
6:6:28:A:P	47:o:125:ASN:HD22	2.42	0.42
8:B:16:PHE:O	8:B:17:LEU:HD12	2.19	0.42
8:B:35:ASP:OD1	8:B:36:ASP:N	2.50	0.42
9:C:77:VAL:HG23	9:C:87:GLN:O	2.20	0.42
9:C:159:ILE:HG21	9:C:165:ALA:HB2	2.02	0.42
10:D:157:ALA:O	10:D:181:PRO:HG3	2.19	0.42
11:E:133:GLU:HG2	11:E:134:ARG:N	2.33	0.42
16:J:20:ASN:HB2	16:J:126:ASP:OD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:137:GLN:O	18:L:137:GLN:HG3	2.17	0.42
19:M:126:GLN:O	19:M:130:THR:HG22	2.19	0.42
20:N:121:VAL:HG11	20:N:131:GLU:HG3	2.01	0.42
25:S:21:GLU:N	25:S:22:PRO:HD3	2.34	0.42
34:b:169:THR:HG22	34:b:170:LEU:H	1.84	0.42
35:c:74:ASN:OD1	35:c:75:ASN:N	2.51	0.42
36:d:86:LYS:HD3	36:d:86:LYS:HA	1.72	0.42
39:g:61:GLN:HA	39:g:64:THR:HG23	2.01	0.42
41:i:23:ALA:HA	41:i:24:PRO:HD3	1.88	0.42
46:n:125:PHE:CE1	46:n:235:LYS:HB3	2.53	0.42
46:n:219:LEU:HD23	46:n:219:LEU:HA	1.67	0.42
52:t:101:LEU:HB3	52:t:310:ILE:CD1	2.49	0.42
54:v:228:PRO:HB2	54:v:230:LEU:HD23	2.00	0.42
56:x:449:GLN:OE1	56:x:491:THR:HA	2.18	0.42
1:1:1259:A:H2'	1:1:1260:A:C8	2.55	0.42
1:1:1279:C:H2'	1:1:1280:C:C6	2.55	0.42
1:1:1784:G:H2'	1:1:1785:U:O4'	2.19	0.42
1:1:2143:A:O2'	1:1:2144:A:H8	2.02	0.42
1:1:2523:A:H2'	13:G:49:TYR:O	2.19	0.42
1:1:2531:C:H2'	1:1:2532:U:C6	2.54	0.42
1:1:2728:G:H4'	1:1:2729:U:O5'	2.19	0.42
1:1:2730:G:C2	50:r:159:GLU:HB3	2.53	0.42
1:1:3039:C:OP1	8:B:62:ARG:NH1	2.52	0.42
4:4:275:GLU:HA	4:4:278:LEU:HD23	2.01	0.42
4:4:344:THR:O	4:4:344:THR:HG22	2.18	0.42
4:4:474:PRO:HB2	4:4:475:LEU:HD12	2.00	0.42
5:5:106:ARG:HD2	5:5:106:ARG:HA	1.66	0.42
11:E:40:LEU:HD22	11:E:54:TYR:HB2	2.00	0.42
17:K:71:GLU:O	17:K:74:LEU:N	2.52	0.42
22:P:153:LYS:HD2	22:P:153:LYS:HA	1.79	0.42
25:S:12:ARG:O	25:S:13:ARG:C	2.62	0.42
26:T:34:TYR:HB2	26:T:67:VAL:HG13	2.02	0.42
26:T:95:HIS:O	26:T:96:ILE:HD13	2.19	0.42
29:W:187:LEU:HD12	29:W:187:LEU:O	2.18	0.42
34:b:182:SER:HB3	60:b:701:GTP:H5'	2.01	0.42
37:e:84:THR:C	37:e:86:THR:H	2.27	0.42
41:i:85:ALA:O	41:i:89:GLU:HG2	2.19	0.42
43:k:58:ASP:O	43:k:61:LYS:N	2.53	0.42
45:m:262:CYS:HG	45:m:294:PHE:HZ	1.67	0.42
47:o:140:VAL:HG23	47:o:141:ASN:N	2.34	0.42
56:x:281:VAL:HG12	56:x:296:SER:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:x:488:GLU:HG2	56:x:489:VAL:N	2.34	0.42
1:1:7:C:H2'	1:1:8:C:C6	2.54	0.42
1:1:98:G:N7	18:L:13:HIS:CE1	2.88	0.42
1:1:121:A:O2'	13:G:105:LYS:NZ	2.30	0.42
1:1:213:A:H2	31:Y:9:SER:O	2.02	0.42
1:1:835:G:N3	1:1:857:G:N2	2.66	0.42
1:1:844:G:C6	1:1:845:G:C6	3.07	0.42
1:1:971:G:C5	1:1:972:A:N1	2.87	0.42
1:1:1245:A:O2'	1:1:1272:C:H4'	2.19	0.42
1:1:1274:A:C6	1:1:1275:C:C4	3.08	0.42
1:1:1294:A:O2'	1:1:1295:G:H5'	2.19	0.42
1:1:2403:G:H2'	1:1:2404:A:C8	2.54	0.42
1:1:2434:U:H6	1:1:2434:U:H2'	1.47	0.42
1:1:2621:G:O6	1:1:2757:U:C2	2.71	0.42
1:1:2681:U:H2'	1:1:2682:C:C6	2.55	0.42
1:1:2888:U:C4	1:1:2910:A:C5	3.07	0.42
1:1:3227:A:C5	1:1:3228:C:N4	2.88	0.42
1:1:3274:A:H8	1:1:3274:A:OP2	2.03	0.42
3:3:18:C:H2'	3:3:19:C:C6	2.54	0.42
3:3:73:C:O2'	3:3:75:G:OP2	2.37	0.42
3:3:77:G:H1	54:v:95:LYS:HB2	1.84	0.42
3:3:78:U:C2	3:3:102:A:C8	3.07	0.42
4:4:256:GLU:HG2	4:4:256:GLU:O	2.19	0.42
7:A:52:SER:HB2	7:A:191:LEU:HD12	2.00	0.42
8:B:90:VAL:HG23	8:B:103:THR:O	2.19	0.42
10:D:15:ARG:HE	10:D:15:ARG:HB3	1.58	0.42
14:H:54:LYS:HE3	14:H:54:LYS:HB2	1.57	0.42
15:I:127:LEU:O	15:I:131:LEU:HB2	2.19	0.42
16:J:18:VAL:HG22	16:J:70:THR:HG23	2.01	0.42
16:J:28:ASP:HA	16:J:31:THR:OG1	2.19	0.42
16:J:109:HIS:CD2	16:J:122:ILE:HG23	2.54	0.42
17:K:150:LYS:HE2	17:K:150:LYS:HB2	1.79	0.42
18:L:77:LEU:HA	18:L:80:VAL:HG22	2.01	0.42
24:R:15:VAL:HG11	24:R:52:LYS:HD3	2.02	0.42
25:S:82:ASP:H	25:S:120:SER:HB2	1.84	0.42
26:T:105:PHE:O	26:T:109:VAL:HG23	2.19	0.42
31:Y:37:LYS:HB2	31:Y:37:LYS:HE2	1.73	0.42
34:b:566:VAL:HG13	34:b:567:PHE:CD2	2.54	0.42
38:f:25:PRO:O	38:f:88:ASN:HB3	2.19	0.42
45:m:300:ILE:HD12	45:m:300:ILE:HA	1.87	0.42
45:m:310:HIS:HB3	45:m:313:ARG:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:n:16:ILE:HD11	46:n:68:ILE:CG1	2.49	0.42
51:s:61:LEU:HD12	51:s:62:GLU:N	2.34	0.42
53:u:32:CYS:SG	53:u:33:ARG:NH2	2.92	0.42
54:v:80:GLU:HA	54:v:108:TYR:HD1	1.85	0.42
55:w:62:ILE:HD12	55:w:62:ILE:HA	1.77	0.42
56:x:446:SER:OG	56:x:464:LYS:HB2	2.19	0.42
56:x:459:LEU:O	56:x:471:TRP:HD1	2.03	0.42
57:y:99:GLU:OE1	57:y:125:THR:OG1	2.37	0.42
1:1:595:G:N2	1:1:609:G:O4'	2.53	0.42
1:1:1088:U:C2	1:1:1089:G:C8	3.07	0.42
1:1:1305:U:H3	8:B:257:PRO:CB	2.31	0.42
1:1:1722:U:OP2	24:R:103:ARG:NH1	2.53	0.42
1:1:2127:U:H5'	45:m:459:ARG:NH1	2.34	0.42
1:1:2664:C:H2'	1:1:2665:U:O4'	2.20	0.42
1:1:2844:C:C3'	1:1:2845:A:H4'	2.49	0.42
1:1:2873:U:C2	1:1:2874:G:N2	2.87	0.42
1:1:2962:U:H2'	1:1:2963:C:C6	2.55	0.42
1:1:3020:U:C3'	1:1:3021:A:H5"	2.49	0.42
1:1:3288:G:OP2	1:1:3288:G:H8	2.03	0.42
4:4:191:MET:SD	4:4:319:ILE:HD11	2.59	0.42
8:B:165:GLN:O	8:B:167:ARG:N	2.53	0.42
8:B:221:THR:HG21	8:B:275:ARG:HG2	2.01	0.42
10:D:65:ILE:HG12	10:D:74:VAL:HG22	2.02	0.42
11:E:96:VAL:HG12	11:E:141:VAL:HG23	2.01	0.42
11:E:149:ILE:C	11:E:151:LYS:H	2.27	0.42
19:M:103:ILE:O	19:M:107:GLU:HG2	2.18	0.42
22:P:178:ALA:O	22:P:182:ILE:HG12	2.19	0.42
24:R:10:LEU:HD23	24:R:10:LEU:HA	1.73	0.42
26:T:112:ASN:ND2	26:T:128:LEU:O	2.53	0.42
29:W:16:ASP:HB2	50:r:72:LYS:NZ	2.35	0.42
29:W:81:ARG:HH21	29:W:82:GLU:HA	1.84	0.42
39:g:36:LYS:HE3	39:g:36:LYS:HB2	1.85	0.42
41:i:51:SER:H	41:i:54:GLU:HG2	1.84	0.42
45:m:188:GLU:O	45:m:192:ASN:ND2	2.43	0.42
52:t:173:THR:HG23	52:t:271:PHE:O	2.20	0.42
52:t:291:GLN:HE21	52:t:295:GLU:HB2	1.84	0.42
1:1:976:U:N3	1:1:1106:G:N1	2.66	0.42
1:1:984:G:H4'	1:1:985:U:OP2	2.20	0.42
1:1:2416:U:H1'	1:1:2967:A:H1'	2.02	0.42
1:1:2424:A:N6	1:1:2607:G:N3	2.67	0.42
1:1:2634:U:O2'	1:1:2642:A:N6	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2641:U:O2'	1:1:2642:A:H5'	2.20	0.42
1:1:2919:A:H61	1:1:2927:C:N4	2.17	0.42
1:1:3229:G:C2	1:1:3230:G:C4	3.08	0.42
1:1:3369:G:OP2	53:u:61:LYS:HE3	2.19	0.42
3:3:87:G:H3'	3:3:88:G:H8	1.84	0.42
8:B:96:PRO:HB3	21:O:153:VAL:HG22	2.01	0.42
10:D:160:PHE:HA	10:D:163:LEU:HB2	2.02	0.42
14:H:20:ILE:HG12	14:H:25:VAL:HG13	2.01	0.42
25:S:114:HIS:C	25:S:116:ALA:N	2.77	0.42
27:U:37:LEU:HD21	27:U:76:LEU:HD11	2.01	0.42
27:U:38:ILE:HD12	27:U:56:VAL:HB	2.02	0.42
32:Z:63:ALA:O	32:Z:67:LYS:HE2	2.19	0.42
34:b:255:ASP:CG	34:b:256:LEU:N	2.77	0.42
34:b:448:GLU:HB2	34:b:451:ALA:HB3	2.01	0.42
38:f:90:PRO:C	38:f:92:LYS:H	2.28	0.42
45:m:81:THR:OG1	45:m:82:ARG:N	2.52	0.42
47:o:172:LYS:O	47:o:174:GLU:HG3	2.20	0.42
49:q:418:ASP:O	49:q:422:LYS:HG3	2.19	0.42
50:r:21:GLU:N	50:r:21:GLU:OE1	2.52	0.42
50:r:204:PRO:O	50:r:205:GLN:HG2	2.20	0.42
52:t:186:LEU:H	52:t:186:LEU:HG	1.61	0.42
52:t:259:GLU:C	52:t:261:PHE:H	2.27	0.42
53:u:2:ARG:O	53:u:3:ILE:C	2.63	0.42
55:w:148:LYS:HB2	55:w:148:LYS:HE2	1.91	0.42
56:x:365:LYS:HZ3	56:x:370:SER:N	2.17	0.42
1:1:380:U:H2'	1:1:381:U:C6	2.55	0.42
1:1:993:G:C8	1:1:993:G:H3'	2.55	0.42
1:1:1875:G:N7	24:R:20:ARG:NH1	2.66	0.42
1:1:2425:G:C2	1:1:2605:G:H1'	2.54	0.42
1:1:2534:G:C2	1:1:2535:A:C5	3.08	0.42
1:1:2689:A:H5"	1:1:2690:G:OP1	2.18	0.42
1:1:2755:C:H2'	1:1:2756:C:C6	2.53	0.42
1:1:3047:U:O2'	8:B:53:MET:HE1	2.20	0.42
1:1:3353:G:C6	1:1:3356:G:O6	2.73	0.42
4:4:182:ASP:OD1	4:4:183:ALA:N	2.53	0.42
4:4:383:ASP:OD1	4:4:383:ASP:C	2.63	0.42
4:4:512:SER:HA	4:4:515:SER:O	2.20	0.42
4:4:556:LEU:HA	4:4:559:LEU:HG	2.01	0.42
6:6:48:A:HO2'	6:6:49:C:P	2.43	0.42
8:B:19:ARG:HB2	8:B:232:ARG:NH2	2.35	0.42
8:B:187:SER:O	8:B:187:SER:OG	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:187:SER:OG	8:B:190:GLU:HB2	2.19	0.42
12:F:211:SER:O	12:F:211:SER:OG	2.33	0.42
14:H:92:TYR:H	14:H:142:ASP:CG	2.22	0.42
17:K:46:LYS:O	17:K:50:LYS:HD3	2.20	0.42
17:K:214:ASN:HA	17:K:215:LYS:HA	1.78	0.42
18:L:156:ALA:HA	33:a:99:ALA:O	2.20	0.42
26:T:65:TYR:CD2	26:T:65:TYR:C	2.97	0.42
26:T:90:ASN:O	55:w:159:LEU:HA	2.20	0.42
30:X:108:LEU:N	30:X:125:ARG:O	2.50	0.42
34:b:206:VAL:H	50:r:3:GLN:HE22	1.66	0.42
36:d:7:VAL:HG13	36:d:77:ARG:O	2.19	0.42
36:d:80:ASN:HB3	36:d:88:PRO:CA	2.50	0.42
37:e:23:ASP:OD2	37:e:23:ASP:N	2.43	0.42
41:i:19:SER:OG	41:i:20:MET:N	2.52	0.42
45:m:316:ILE:HG23	45:m:362:ILE:HA	2.00	0.42
46:n:144:ASN:O	52:t:210:LYS:NZ	2.32	0.42
47:o:117:LEU:HA	47:o:139:PHE:HA	2.01	0.42
49:q:418:ASP:HA	49:q:421:ARG:NH2	2.35	0.42
49:q:418:ASP:HA	49:q:421:ARG:HH21	1.84	0.42
50:r:185:THR:HA	50:r:192:THR:HA	2.01	0.42
56:x:385:LEU:HD12	56:x:386:TRP:N	2.33	0.42
1:1:221:A:C4	1:1:224:C:N4	2.88	0.42
1:1:249:U:H3’	1:1:250:U:C4	2.55	0.42
1:1:870:G:H1’	1:1:871:U:C5	2.52	0.42
1:1:878:G:H8	1:1:878:G:OP2	2.03	0.42
1:1:2516:U:C4	1:1:2592:G:N2	2.85	0.42
1:1:2727:A:H8	50:r:169:GLU:HB2	1.85	0.42
1:1:2882:U:H2’	1:1:2883:U:C6	2.55	0.42
4:4:243:ARG:HD3	4:4:256:GLU:OE2	2.20	0.42
4:4:348:HIS:NE2	40:h:43:LYS:HG3	2.33	0.42
6:6:20:U:H2’	6:6:21:G:H8	1.81	0.42
12:F:159:GLN:O	12:F:160:ARG:C	2.61	0.42
13:G:228:GLU:O	13:G:230:LYS:N	2.53	0.42
16:J:65:ILE:HD12	16:J:65:ILE:HA	1.71	0.42
17:K:209:ILE:O	17:K:211:THR:N	2.53	0.42
17:K:270:LEU:HD13	17:K:273:ALA:HB3	2.02	0.42
20:N:22:LEU:HA	20:N:22:LEU:HD23	1.81	0.42
20:N:110:ALA:HB1	20:N:113:LEU:HD12	2.01	0.42
32:Z:55:LYS:HB3	32:Z:55:LYS:HE2	1.72	0.42
34:b:128:LEU:HD23	34:b:128:LEU:HA	1.79	0.42
34:b:174:GLY:C	34:b:180:LYS:HZ2	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:h:19:SER:O	40:h:22:VAL:HG22	2.19	0.42
41:i:57:LEU:HA	41:i:57:LEU:HD23	1.73	0.42
45:m:240:LYS:C	45:m:242:VAL:H	2.28	0.42
47:o:180:LYS:HB2	47:o:180:LYS:HE3	1.80	0.42
47:o:207:ARG:HA	47:o:210:LYS:HE3	2.02	0.42
50:r:230:MET:HE3	50:r:230:MET:HB2	1.82	0.42
54:v:27:VAL:HG23	54:v:29:GLN:HE22	1.85	0.42
54:v:187:GLN:HE21	55:w:40:ASP:HA	1.84	0.42
56:x:170:ILE:O	56:x:179:MET:N	2.52	0.42
56:x:470:VAL:HG23	56:x:480:VAL:H	1.85	0.42
57:y:157:GLN:O	57:y:180:PRO:HD2	2.20	0.42
1:1:730:C:C2	1:1:731:U:C5	3.08	0.42
1:1:994:G:C2	1:1:1054:A:N6	2.88	0.42
1:1:1277:C:HO2'	1:1:1278:A:P	2.41	0.42
1:1:1613:A:OP1	43:k:51:LEU:N	2.53	0.42
1:1:2147:A:H2'	1:1:2148:U:O4'	2.19	0.42
1:1:2154:U:H2'	1:1:2155:G:H8	1.84	0.42
1:1:2402:A:O2'	1:1:2403:G:H5"	2.19	0.42
1:1:2423:U:H3	1:1:2607:G:H1	1.68	0.42
1:1:2698:G:H22	54:v:82:ASN:ND2	2.17	0.42
1:1:2839:G:H2'	1:1:2840:C:H6	1.85	0.42
1:1:2866:U:O5'	1:1:2867:C:H5"	2.20	0.42
1:1:2997:G:H2'	1:1:2998:U:H6	1.84	0.42
1:1:3005:A:O2'	1:1:3140:G:N2	2.50	0.42
2:2:29:U:H5"	18:L:27:ASP:HB3	2.02	0.42
2:2:154:C:H2'	2:2:155:A:C8	2.55	0.42
3:3:120:C:H2'	10:D:265:TYR:CD1	2.54	0.42
4:4:332:LYS:HA	4:4:332:LYS:HD2	1.70	0.42
4:4:364:PHE:CD1	34:b:567:PHE:HE1	2.38	0.42
4:4:445:TRP:HA	4:4:448:ILE:HD12	2.00	0.42
8:B:332:ARG:O	8:B:333:LYS:HB2	2.19	0.42
8:B:344:THR:HG23	58:z:26:VAL:HG21	2.02	0.42
9:C:135:VAL:O	9:C:140:HIS:HB2	2.20	0.42
17:K:167:TYR:CD1	17:K:167:TYR:N	2.85	0.42
18:L:12:ASN:OD1	18:L:12:ASN:N	2.53	0.42
23:Q:74:GLU:OE1	23:Q:74:GLU:N	2.52	0.42
25:S:154:HIS:O	25:S:154:HIS:CG	2.73	0.42
30:X:73:MET:N	30:X:73:MET:SD	2.92	0.42
30:X:103:TYR:O	30:X:105:VAL:HG23	2.20	0.42
31:Y:27:ARG:HA	31:Y:30:LEU:HB2	2.01	0.42
34:b:1:MET:HE3	34:b:5:TRP:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:69:PRO:HG3	34:b:157:ILE:CD1	2.50	0.42
34:b:85:LEU:HD21	34:b:238:GLN:HE22	1.85	0.42
34:b:112:TYR:OH	34:b:135:ARG:NH1	2.52	0.42
34:b:303:ALA:O	34:b:306:LEU:HG	2.20	0.42
34:b:344:ILE:O	34:b:348:LEU:HG	2.20	0.42
46:n:253:ASP:C	46:n:255:ILE:H	2.27	0.42
48:p:3:LYS:HE2	48:p:3:LYS:HB3	1.88	0.42
50:r:120:VAL:HG12	50:r:121:PRO:HD2	2.01	0.42
52:t:15:ASN:CG	52:t:18:ILE:HG12	2.45	0.42
56:x:253:SER:OG	56:x:263:TRP:NE1	2.52	0.42
1:1:98:G:O6	18:L:11:LYS:HE2	2.20	0.42
1:1:673:U:H2'	1:1:674:G:C8	2.55	0.42
1:1:706:A:H2'	1:1:707:U:O4'	2.19	0.42
1:1:778:U:O2'	1:1:779:G:H5'	2.20	0.42
1:1:1913:A:N3	1:1:2120:A:H2'	2.35	0.42
1:1:2407:C:H3'	1:1:2408:U:H5"	2.02	0.42
1:1:2538:U:OP1	1:1:2538:U:H4'	2.19	0.42
1:1:2868:U:C5	45:m:245:TYR:HB2	2.55	0.42
1:1:3027:A:H2'	1:1:3028:G:O4'	2.20	0.42
3:3:6:C:P	10:D:22:ARG:HH12	2.42	0.42
3:3:38:U:H2'	3:3:40:C:OP2	2.20	0.42
3:3:47:C:OP1	10:D:94:ASN:HB2	2.20	0.42
4:4:156:HIS:NE2	4:4:157:THR:O	2.53	0.42
10:D:95:TRP:HH2	10:D:199:ILE:HA	1.85	0.42
13:G:147:LYS:HZ2	13:G:147:LYS:HG2	1.74	0.42
19:M:45:LEU:HD12	19:M:56:GLN:O	2.20	0.42
30:X:72:ALA:O	30:X:76:VAL:HG23	2.20	0.42
31:Y:85:VAL:HG23	31:Y:85:VAL:O	2.19	0.42
34:b:150:LEU:HA	34:b:153:VAL:HG22	2.01	0.42
43:k:43:PHE:O	43:k:53:THR:HA	2.20	0.42
46:n:387:VAL:O	46:n:388:ILE:HD13	2.20	0.42
54:v:111:TYR:CZ	54:v:244:MET:HB3	2.54	0.42
56:x:190:LEU:HD21	56:x:206:MET:HE3	2.01	0.42
56:x:238:GLU:CD	56:x:243:VAL:HG21	2.45	0.42
56:x:464:LYS:O	56:x:488:GLU:HG3	2.19	0.42
57:y:82:GLN:HE21	57:y:86:ASN:CG	2.28	0.42
57:y:197:MET:HE2	57:y:197:MET:HB2	1.44	0.42
1:1:550:A:C2	1:1:551:A:C5	3.08	0.41
1:1:713:U:O2'	1:1:754:G:OP1	2.38	0.41
1:1:1621:A:H2'	1:1:1622:U:H6	1.83	0.41
1:1:1830:G:N7	46:n:1:MET:HG3	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2623:G:N1	1:1:2756:C:N3	2.62	0.41
1:1:2730:G:N2	45:m:112:LYS:HD2	2.25	0.41
1:1:3084:C:H2'	1:1:3085:G:O4'	2.20	0.41
3:3:22:A:N3	3:3:22:A:H2'	2.35	0.41
4:4:507:ILE:HD12	4:4:522:LEU:HD11	2.02	0.41
6:6:43:A:C2	6:6:44:G:C5	3.08	0.41
6:6:48:A:O2'	6:6:49:C:O5'	2.33	0.41
11:E:2:SER:O	11:E:2:SER:OG	2.18	0.41
14:H:13:PRO:HG2	14:H:16:VAL:HG11	2.02	0.41
15:I:96:TYR:CD2	53:u:72:ALA:HB1	2.55	0.41
16:J:10:ARG:HH21	16:J:133:ARG:NH2	2.18	0.41
16:J:171:VAL:HG13	16:J:174:LYS:H	1.85	0.41
18:L:32:LYS:O	18:L:36:ARG:HG3	2.20	0.41
20:N:87:GLN:NE2	20:N:92:LEU:HA	2.33	0.41
25:S:33:ASN:OD1	25:S:33:ASN:N	2.52	0.41
25:S:42:TRP:CD1	25:S:53:LYS:HD2	2.55	0.41
27:U:29:ASP:OD1	27:U:32:SER:HB3	2.20	0.41
33:a:77:LYS:O	33:a:80:THR:HB	2.20	0.41
41:i:25:LYS:HB2	41:i:28:TYR:CZ	2.55	0.41
45:m:416:TYR:N	45:m:417:GLU:CA	2.83	0.41
47:o:209:LYS:HA	47:o:209:LYS:HD2	1.78	0.41
50:r:195:LEU:HD23	50:r:195:LEU:HA	1.87	0.41
52:t:171:THR:O	52:t:172:ASN:HB2	2.20	0.41
54:v:201:PHE:HB3	54:v:230:LEU:HB2	2.02	0.41
55:w:47:GLU:H	55:w:47:GLU:CD	2.28	0.41
56:x:133:THR:H	56:x:515:HIS:HA	1.85	0.41
57:y:20:THR:HG22	57:y:21:ASN:H	1.83	0.41
1:1:160:G:N1	1:1:261:U:N3	2.29	0.41
1:1:693:A:OP1	9:C:45:ASN:ND2	2.39	0.41
1:1:2425:G:C2	1:1:2426:U:H1'	2.55	0.41
1:1:2578:U:H2'	1:1:2579:G:O4'	2.20	0.41
1:1:2663:G:C5	1:1:2664:C:C5	3.08	0.41
1:1:2746:A:OP1	10:D:179:ARG:HD2	2.20	0.41
3:3:55:A:H2'	3:3:56:A:H8	1.84	0.41
3:3:61:G:C2	3:3:62:U:C2	3.08	0.41
7:A:178:PRO:HD2	48:p:26:VAL:HG22	2.02	0.41
8:B:53:MET:HG3	8:B:76:VAL:O	2.20	0.41
9:C:230:VAL:HG21	9:C:257:LYS:HD3	2.02	0.41
11:E:33:SER:O	11:E:35:VAL:HG12	2.20	0.41
11:E:50:LYS:NZ	11:E:72:ASN:O	2.53	0.41
11:E:63:LEU:HB2	11:E:79:VAL:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:121:LYS:HE2	12:F:121:LYS:HB2	1.67	0.41
16:J:32:ARG:HB3	16:J:120:ILE:O	2.20	0.41
20:N:51:LEU:HD23	20:N:51:LEU:HA	1.84	0.41
22:P:133:HIS:NE2	34:b:633:HIS:O	2.50	0.41
28:V:104:ASN:OD1	28:V:108:GLU:HB2	2.20	0.41
29:W:15:THR:OG1	29:W:16:ASP:N	2.52	0.41
34:b:46:TYR:O	34:b:50:VAL:HG23	2.20	0.41
40:h:55:LEU:HA	40:h:55:LEU:HD23	1.83	0.41
45:m:227:HIS:HB3	45:m:257:TYR:HE1	1.85	0.41
45:m:234:PRO:HB3	45:m:259:LEU:HD11	2.01	0.41
45:m:349:GLU:HB3	60:m:501:GTP:O2G	2.21	0.41
45:m:395:HIS:HB3	45:m:398:GLN:HG2	2.02	0.41
46:n:430:GLN:HA	46:n:433:PHE:CD2	2.55	0.41
55:w:86:VAL:HG12	56:x:133:THR:HG21	2.02	0.41
55:w:103:LYS:HE2	55:w:103:LYS:HB2	1.75	0.41
56:x:153:PRO:C	56:x:496:VAL:HG11	2.45	0.41
1:1:172:G:O6	1:1:246:U:C4	2.71	0.41
1:1:233:C:H2'	1:1:234:G:O4'	2.20	0.41
1:1:270:U:O2'	1:1:318:A:H1'	2.20	0.41
1:1:1242:G:C2	1:1:1243:G:C4	3.08	0.41
1:1:1362:G:H4'	12:F:159:GLN:O	2.20	0.41
1:1:1506:A:H1'	1:1:1848:G:O6	2.20	0.41
1:1:1632:A:H2'	1:1:1633:C:O4'	2.19	0.41
1:1:3388:C:H5"	1:1:3389:U:H5'	2.02	0.41
3:3:37:G:N1	3:3:41:G:C2	2.88	0.41
9:C:140:HIS:O	9:C:142:VAL:HG22	2.19	0.41
10:D:52:VAL:O	10:D:62:CYS:HA	2.20	0.41
10:D:108:ARG:HA	10:D:111:GLN:HG2	2.02	0.41
12:F:38:LYS:HB2	12:F:38:LYS:HE3	1.70	0.41
15:I:50:TYR:HE1	15:I:52:ILE:HD12	1.85	0.41
17:K:257:GLU:CD	17:K:257:GLU:H	2.29	0.41
24:R:53:LYS:HD2	34:b:516:LYS:HE2	2.01	0.41
29:W:85:TYR:CD2	29:W:86:LYS:HG3	2.54	0.41
33:a:61:PHE:O	33:a:62:HIS:CG	2.72	0.41
34:b:71:ILE:CD1	34:b:82:MET:HG3	2.51	0.41
34:b:153:VAL:HG12	45:m:141:PHE:CD1	2.55	0.41
34:b:526:LYS:NZ	34:b:531:MET:HG3	2.35	0.41
34:b:587:ASP:O	34:b:591:ASP:HB2	2.20	0.41
46:n:408:THR:O	46:n:425:THR:OG1	2.35	0.41
52:t:99:PHE:HD1	52:t:99:PHE:HA	1.71	0.41
54:v:204:TYR:HE1	54:v:225:GLU:HB3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:598:A:C6	1:1:599:C:N4	2.89	0.41
1:1:1082:U:H2'	1:1:1083:G:O4'	2.20	0.41
1:1:1097:G:H1'	1:1:1098:A:OP2	2.20	0.41
1:1:1350:A:H8	1:1:1352:A:OP2	2.04	0.41
1:1:1760:A:C5	1:1:1766:G:C2	3.08	0.41
1:1:2363:A:H2'	1:1:2364:G:O4'	2.20	0.41
1:1:2408:U:C4	1:1:2409:G:N2	2.89	0.41
1:1:2594:C:N3	1:1:2595:A:H1'	2.35	0.41
1:1:2658:G:C5	1:1:2659:G:N7	2.88	0.41
1:1:2720:G:H3'	1:1:2720:G:N3	2.35	0.41
1:1:2857:C:H6	1:1:2857:C:H2'	1.71	0.41
1:1:2918:G:O2'	1:1:2919:A:H5'	2.20	0.41
1:1:3016:A:O2'	1:1:3017:A:OP2	2.35	0.41
2:2:154:C:H2'	2:2:155:A:H8	1.84	0.41
4:4:189:ILE:HD11	4:4:234:TYR:OH	2.21	0.41
4:4:547:ASP:OD1	4:4:550:VAL:HB	2.20	0.41
10:D:73:VAL:HG12	10:D:75:LEU:HD22	2.01	0.41
14:H:112:ILE:HD11	14:H:134:ILE:CD1	2.50	0.41
17:K:251:LEU:C	17:K:253:TRP:N	2.77	0.41
17:K:299:ASP:OD1	47:o:197:LYS:HD2	2.21	0.41
24:R:147:ALA:O	24:R:150:GLN:HB2	2.21	0.41
31:Y:3:LYS:NZ	31:Y:5:SER:O	2.54	0.41
32:Z:105:SER:HB2	32:Z:106:GLN:OE1	2.20	0.41
37:e:32:TRP:CZ2	37:e:53:PRO:HD2	2.55	0.41
38:f:18:ARG:HE	38:f:18:ARG:HB2	1.57	0.41
38:f:24:ASN:O	38:f:26:ASN:N	2.53	0.41
45:m:115:MET:O	45:m:117:LEU:N	2.54	0.41
46:n:94:LEU:HD23	46:n:94:LEU:HA	1.88	0.41
47:o:121:ARG:CG	47:o:173:ILE:HD11	2.50	0.41
55:w:24:GLY:O	55:w:92:LEU:HD23	2.19	0.41
56:x:121:TYR:HB2	56:x:122:THR:H	1.62	0.41
1:1:94:G:O6	1:1:95:A:N6	2.53	0.41
1:1:174:C:H2'	1:1:175:C:C6	2.56	0.41
1:1:537:A:H62	1:1:554:A:H1'	1.84	0.41
1:1:542:G:C6	1:1:550:A:N6	2.88	0.41
1:1:637:C:HO2'	1:1:638:C:P	2.43	0.41
1:1:718:G:H8	1:1:718:G:OP2	2.03	0.41
1:1:760:G:O3'	1:1:761:A:H8	2.04	0.41
1:1:1318:A:N7	21:O:18:ARG:NH1	2.68	0.41
1:1:1486:G:H21	39:g:6:THR:HG22	1.86	0.41
1:1:2804:A:C6	1:1:2805:G:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2843:U:H2'	1:1:2844:C:O4'	2.21	0.41
1:1:3037:U:O2'	34:b:410:GLY:O	2.38	0.41
4:4:98:ASP:HB2	4:4:137:ASP:O	2.20	0.41
6:6:27:G:OP1	47:o:130:ASN:ND2	2.48	0.41
6:6:32:A:O2'	17:K:285:ARG:HD2	2.21	0.41
7:A:89:TYR:H	7:A:100:ASN:ND2	2.19	0.41
8:B:33:PRO:HB2	8:B:184:ASN:HD21	1.86	0.41
8:B:274:SER:O	8:B:274:SER:OG	2.28	0.41
9:C:3:ARG:NH2	9:C:22:LEU:O	2.53	0.41
9:C:276:LEU:HD23	9:C:276:LEU:HA	1.88	0.41
18:L:54:LEU:HD22	18:L:119:TYR:CG	2.54	0.41
25:S:154:HIS:O	25:S:156:VAL:HG13	2.20	0.41
32:Z:10:VAL:HB	32:Z:85:TYR:HB2	2.02	0.41
33:a:111:LYS:O	33:a:112:ILE:HD13	2.21	0.41
34:b:111:ASP:N	34:b:111:ASP:OD1	2.52	0.41
34:b:214:LEU:HD12	34:b:215:ARG:H	1.84	0.41
43:k:36:LYS:HE2	43:k:36:LYS:HB2	1.89	0.41
45:m:471:LYS:HD2	45:m:471:LYS:HA	1.85	0.41
46:n:453:LEU:HG	46:n:454:PRO:O	2.20	0.41
56:x:328:LEU:HD23	56:x:328:LEU:HA	1.81	0.41
56:x:417:ILE:CD1	56:x:431:GLY:HA2	2.49	0.41
57:y:116:LEU:HD11	57:y:177:LEU:HD21	2.03	0.41
1:1:833:G:C2	1:1:862:U:O2	2.73	0.41
1:1:845:G:H8	1:1:845:G:O5'	2.03	0.41
1:1:992:A:H5"	26:T:43:LYS:HE2	2.02	0.41
1:1:1105:A:H5'	1:1:1106:G:OP2	2.20	0.41
1:1:1221:A:O4'	29:W:75:LYS:HG3	2.21	0.41
1:1:1308:A:O2'	51:s:10:ARG:NE	2.52	0.41
1:1:1710:C:H2'	1:1:1711:C:C6	2.56	0.41
1:1:2165:G:H2'	1:1:2167:A:OP2	2.20	0.41
1:1:2404:A:N1	1:1:2405:C:H1'	2.35	0.41
1:1:2615:G:N2	1:1:2619:G:P	2.90	0.41
1:1:2781:U:H2'	1:1:2782:U:C6	2.56	0.41
1:1:2819:A:H2'	1:1:2819:A:N3	2.35	0.41
1:1:3057:U:O2	1:1:3057:U:H2'	2.20	0.41
1:1:3229:G:C2	1:1:3230:G:C5	3.09	0.41
3:3:5:G:C6	3:3:117:A:N6	2.89	0.41
4:4:97:ILE:HD13	4:4:139:VAL:HG22	2.02	0.41
7:A:101:VAL:C	7:A:102:LEU:HD12	2.45	0.41
8:B:99:LEU:HD23	8:B:99:LEU:HA	1.72	0.41
9:C:269:SER:C	9:C:271:LYS:H	2.28	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:53:VAL:O	10:D:54:ARG:NH1	2.50	0.41
14:H:188:THR:HA	14:H:189:GLU:CB	2.50	0.41
17:K:114:SER:HB3	17:K:119:LYS:HG3	2.03	0.41
17:K:124:LEU:HB2	17:K:177:PHE:CD1	2.56	0.41
18:L:180:ARG:HE	18:L:180:ARG:HB3	1.67	0.41
22:P:24:VAL:HG12	22:P:25:SER:N	2.35	0.41
23:Q:86:THR:HB	23:Q:105:ARG:HB3	2.02	0.41
24:R:132:PHE:CE2	24:R:138:LEU:HD13	2.55	0.41
26:T:40:VAL:HG22	26:T:62:GLY:O	2.20	0.41
26:T:91:LEU:HA	55:w:158:TRP:O	2.21	0.41
29:W:25:ARG:HA	29:W:28:ASP:OD2	2.20	0.41
34:b:192:VAL:HG13	34:b:205:TYR:HD2	1.86	0.41
34:b:387:LYS:HG2	34:b:388:TYR:N	2.36	0.41
34:b:400:ARG:HB2	57:y:36:SER:HB3	2.02	0.41
38:f:40:ASP:C	38:f:42:GLN:H	2.29	0.41
45:m:38:PHE:O	45:m:41:MET:HG2	2.21	0.41
51:s:12:SER:O	51:s:15:LEU:N	2.54	0.41
54:v:158:LYS:HE3	55:w:29:PHE:CE1	2.56	0.41
54:v:223:LEU:HD11	55:w:51:LYS:HG3	2.02	0.41
56:x:244:LYS:HG2	56:x:245:PRO:HD2	2.02	0.41
56:x:255:SER:H	56:x:281:VAL:HG23	1.85	0.41
56:x:432:ARG:HA	56:x:432:ARG:HD2	1.89	0.41
56:x:500:ARG:NH1	56:x:514:THR:HB	2.36	0.41
58:z:6:ARG:HH21	58:z:6:ARG:HD3	1.73	0.41
1:1:620:U:H4'	1:1:621:A:OP1	2.21	0.41
1:1:772:U:H2'	1:1:773:G:O4'	2.20	0.41
1:1:1102:A:H4'	1:1:1103:A:OP1	2.20	0.41
1:1:1141:C:H2'	1:1:1142:G:O4'	2.21	0.41
1:1:1250:G:C6	1:1:1251:A:N6	2.89	0.41
1:1:2506:U:H2'	1:1:2507:C:C5	2.55	0.41
1:1:2651:G:O2'	1:1:2652:U:C2	2.73	0.41
1:1:2852:C:H2'	1:1:2853:A:O4'	2.20	0.41
1:1:2951:G:N1	1:1:2952:G:H1'	2.36	0.41
1:1:3133:C:H2'	1:1:3134:A:O4'	2.20	0.41
3:3:37:G:N2	3:3:44:C:C4	2.88	0.41
4:4:180:LYS:O	4:4:184:VAL:HG22	2.20	0.41
4:4:354:ILE:HD12	4:4:354:ILE:HA	1.88	0.41
5:5:87:GLU:HA	5:5:90:GLU:HB2	2.01	0.41
8:B:56:ILE:HG13	8:B:76:VAL:HG11	2.02	0.41
10:D:181:PRO:HB2	10:D:198:TYR:CE2	2.55	0.41
10:D:190:ILE:O	10:D:192:PRO:HD3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:154:LEU:HA	11:E:154:LEU:HD23	1.87	0.41
17:K:76:LYS:HG3	17:K:285:ARG:NE	2.36	0.41
17:K:239:PRO:HD2	17:K:244:LEU:HD12	2.02	0.41
17:K:282:LYS:HB2	17:K:282:LYS:HE3	1.85	0.41
18:L:183:ARG:HA	18:L:186:ARG:HG2	2.02	0.41
20:N:93:LYS:HA	20:N:93:LYS:HD3	1.83	0.41
20:N:199:LEU:HD23	20:N:199:LEU:HA	1.80	0.41
25:S:27:MET:HE2	25:S:27:MET:HB3	1.69	0.41
34:b:71:ILE:O	34:b:74:VAL:HG12	2.21	0.41
34:b:80:ASP:HB3	34:b:241:TYR:CE2	2.56	0.41
34:b:82:MET:HA	34:b:85:LEU:HB2	2.03	0.41
34:b:101:ALA:O	34:b:105:VAL:HG13	2.21	0.41
35:c:25:LEU:O	35:c:29:SER:OG	2.39	0.41
46:n:181:VAL:HG23	46:n:181:VAL:O	2.20	0.41
49:q:266:MET:HB3	49:q:267:GLU:OE1	2.21	0.41
53:u:39:ALA:HB1	53:u:44:ARG:HD3	2.02	0.41
54:v:134:THR:OG1	54:v:179:GLN:OE1	2.24	0.41
56:x:248:LYS:HD2	56:x:248:LYS:HA	1.85	0.41
56:x:466:THR:HG21	56:x:484:GLY:H	1.86	0.41
57:y:18:LYS:HB2	57:y:18:LYS:HE2	1.74	0.41
1:1:1259:A:H62	29:W:53:LEU:HD22	1.85	0.41
1:1:1448:U:H5”	22:P:66:SER:HB2	2.02	0.41
1:1:1616:U:H2’	1:1:1617:G:C8	2.56	0.41
1:1:2632:G:C2	1:1:2633:U:C4	3.09	0.41
1:1:2647:A:O2’	1:1:2648:G:O5’	2.33	0.41
1:1:2651:G:O3’	1:1:2652:U:H2’	2.21	0.41
1:1:2762:A:H5”	1:1:2763:U:H3’	2.01	0.41
1:1:2824:G:HO2’	1:1:2825:C:P	2.44	0.41
1:1:2922:G:C2	45:m:205:LYS:HB3	2.55	0.41
1:1:3268:A:C6	11:E:69:PHE:HE1	2.38	0.41
3:3:8:G:O4’	10:D:71:GLY:HA2	2.20	0.41
7:A:95:SER:OG	7:A:96:LEU:N	2.54	0.41
7:A:205:ASN:C	7:A:207:VAL:H	2.29	0.41
9:C:82:THR:HG23	9:C:84:ARG:N	2.34	0.41
10:D:80:SER:O	10:D:83:LEU:HD13	2.20	0.41
12:F:231:ASN:OD1	12:F:232:ARG:N	2.53	0.41
17:K:38:ILE:HD13	17:K:38:ILE:HA	1.85	0.41
22:P:176:ILE:HG13	22:P:180:LYS:NZ	2.36	0.41
34:b:347:LYS:HD3	34:b:347:LYS:HA	1.67	0.41
40:h:14:LYS:HB2	40:h:14:LYS:HE3	1.95	0.41
43:k:12:LEU:HD12	43:k:16:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:m:409:VAL:HG13	45:m:421:TRP:CZ2	2.55	0.41
46:n:430:GLN:HE22	46:n:456:HIS:CD2	2.26	0.41
49:q:414:ASN:ND2	49:q:416:LEU:HB2	2.36	0.41
50:r:34:LYS:HA	50:r:34:LYS:HD3	1.79	0.41
53:u:34:SER:OG	53:u:38:LYS:HE3	2.21	0.41
56:x:231:TRP:CE2	56:x:256:LYS:HD3	2.56	0.41
56:x:231:TRP:NE1	56:x:256:LYS:HD3	2.36	0.41
57:y:85:ARG:NH2	57:y:94:ILE:HG13	2.36	0.41
57:y:109:CYS:HB3	57:y:149:GLY:HA2	2.02	0.41
58:z:47:GLU:O	58:z:50:LYS:HB2	2.21	0.41
1:1:255:A:C2	1:1:256:G:C5	3.09	0.41
1:1:541:U:H2'	1:1:542:G:C8	2.55	0.41
1:1:982:C:O2'	1:1:983:A:H5'	2.20	0.41
1:1:1071:U:O2'	1:1:1072:G:H8	2.04	0.41
1:1:1658:G:H2'	1:1:1659:U:O4'	2.20	0.41
1:1:1708:C:H1'	39:g:52:GLN:HE22	1.85	0.41
1:1:2577:C:H2'	1:1:2578:U:O4'	2.21	0.41
1:1:2602:G:H2'	1:1:2603:G:O4'	2.21	0.41
1:1:2656:A:C6	55:w:146:GLY:N	2.86	0.41
1:1:2659:G:C5	1:1:2660:G:N7	2.89	0.41
1:1:2719:U:O4	1:1:2738:A:N6	2.53	0.41
1:1:2870:C:H42	45:m:245:TYR:HE1	1.68	0.41
1:1:2898:G:H22	50:r:6:TYR:H	1.66	0.41
1:1:3117:C:N4	29:W:6:ARG:HD2	2.35	0.41
1:1:3131:U:H2'	1:1:3132:C:C6	2.56	0.41
2:2:158:U:H3'	6:6:1:C:P	2.61	0.41
3:3:19:C:H2'	3:3:20:A:C8	2.56	0.41
3:3:71:G:C2	3:3:72:A:N7	2.89	0.41
4:4:64:LEU:O	4:4:68:THR:HG23	2.21	0.41
4:4:189:ILE:HD13	4:4:543:LEU:HD11	2.03	0.41
4:4:198:LEU:HD12	4:4:198:LEU:HA	1.85	0.41
4:4:218:ILE:HD13	4:4:311:VAL:N	2.36	0.41
4:4:484:LYS:O	4:4:488:LEU:HD23	2.20	0.41
8:B:245:GLY:HA3	8:B:248:LYS:NZ	2.36	0.41
10:D:51:LEU:HD23	10:D:63:GLN:O	2.21	0.41
10:D:164:LYS:HD3	10:D:180:PHE:CE2	2.54	0.41
11:E:145:LEU:HA	11:E:145:LEU:HD23	1.65	0.41
13:G:33:ASN:HB3	13:G:38:GLN:HE21	1.86	0.41
15:I:15:THR:CG2	15:I:16:ARG:H	2.28	0.41
15:I:21:ILE:HD13	15:I:53:HIS:O	2.21	0.41
16:J:64:LYS:HA	16:J:64:LYS:HD3	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:106:PHE:CE2	17:K:107:TYR:HE1	2.39	0.41
17:K:124:LEU:HD12	17:K:177:PHE:CD2	2.56	0.41
17:K:156:CYS:SG	17:K:158:LYS:HG2	2.61	0.41
17:K:270:LEU:HD13	17:K:270:LEU:HA	1.91	0.41
18:L:183:ARG:O	18:L:186:ARG:HG2	2.21	0.41
22:P:124:LYS:HD3	22:P:141:SER:O	2.21	0.41
23:Q:116:LYS:HE2	23:Q:116:LYS:HB3	1.74	0.41
27:U:17:VAL:HA	27:U:103:TYR:O	2.21	0.41
29:W:85:TYR:HE2	29:W:86:LYS:HE3	1.85	0.41
30:X:34:LEU:HD12	30:X:35:PRO:CD	2.51	0.41
32:Z:4:PHE:O	32:Z:6:LYS:N	2.51	0.41
33:a:59:ARG:HD2	33:a:59:ARG:H	1.85	0.41
33:a:68:PHE:HD1	33:a:68:PHE:HA	1.67	0.41
34:b:562:GLY:HA2	34:b:565:VAL:HG22	2.03	0.41
37:e:11:LYS:C	37:e:13:HIS:H	2.29	0.41
39:g:86:LYS:O	39:g:90:ILE:HG13	2.21	0.41
40:h:84:LYS:O	40:h:89:ARG:NH1	2.54	0.41
42:j:73:ARG:HH11	42:j:73:ARG:HD2	1.75	0.41
46:n:61:THR:O	46:n:61:THR:OG1	2.36	0.41
46:n:99:VAL:O	46:n:103:LYS:HG3	2.21	0.41
46:n:175:LEU:HB3	46:n:177:ARG:HH12	1.86	0.41
47:o:204:HIS:HE1	47:o:220:TRP:NE1	2.18	0.41
50:r:173:ARG:CZ	50:r:212:LEU:HD13	2.50	0.41
52:t:87:LYS:HA	52:t:87:LYS:HD3	1.75	0.41
52:t:214:ILE:HD13	52:t:214:ILE:HA	1.92	0.41
53:u:55:PHE:O	53:u:59:ALA:CB	2.68	0.41
53:u:73:GLN:O	53:u:75:ARG:HD2	2.21	0.41
54:v:21:ALA:HA	55:w:103:LYS:HE3	2.03	0.41
54:v:162:LEU:O	54:v:166:ARG:HB2	2.21	0.41
56:x:393:LYS:HD3	56:x:394:PRO:HD2	2.02	0.41
57:y:132:VAL:HG23	57:y:133:LEU:H	1.86	0.41
57:y:192:VAL:O	57:y:192:VAL:HG23	2.21	0.41
1:1:537:A:N6	1:1:554:A:H1'	2.36	0.41
1:1:2689:A:H4'	1:1:2690:G:C8	2.49	0.41
1:1:2738:A:C2	1:1:2739:A:C5	3.09	0.41
1:1:3040:A:C2	1:1:3041:U:C5	3.09	0.41
1:1:3353:G:C2	1:1:3356:G:N1	2.89	0.41
3:3:82:G:H8	3:3:82:G:O5'	2.04	0.41
6:6:232:A:OP1	52:t:49:ARG:HG3	2.21	0.41
8:B:55:THR:C	8:B:56:ILE:HG12	2.46	0.41
10:D:50:ARG:CZ	10:D:65:ILE:HD12	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:144:VAL:O	10:D:173:VAL:HG13	2.21	0.41
10:D:260:PHE:HB3	10:D:264:GLN:HB2	2.02	0.41
12:F:53:LYS:HD2	12:F:53:LYS:HA	1.72	0.41
13:G:128:LYS:HG3	13:G:129:PRO:HD2	2.03	0.41
19:M:60:LEU:HA	19:M:60:LEU:HD23	1.90	0.41
25:S:71:LYS:O	25:S:73:LYS:HG3	2.21	0.41
26:T:41:ASP:HB3	26:T:97:LYS:HG3	2.03	0.41
29:W:87:GLU:HB3	29:W:226:SER:OG	2.21	0.41
29:W:136:THR:O	29:W:136:THR:OG1	2.32	0.41
31:Y:82:VAL:HG23	31:Y:83:ASP:O	2.21	0.41
33:a:105:LEU:HD12	33:a:105:LEU:HA	1.84	0.41
34:b:377:PHE:N	57:y:201:ASP:OD1	2.54	0.41
44:l:15:LYS:HE3	44:l:19:GLN:HE21	1.86	0.41
45:m:72:GLN:O	45:m:77:TRP:HZ3	2.03	0.41
45:m:108:LEU:CD1	45:m:309:LEU:HB3	2.51	0.41
46:n:244:TYR:HA	46:n:245:PRO:HA	1.80	0.41
52:t:38:LYS:HB2	52:t:39:LYS:NZ	2.36	0.41
54:v:68:PRO:HG2	54:v:115:GLU:OE2	2.21	0.41
54:v:173:GLN:HG3	54:v:178:LEU:HD11	2.03	0.41
1:1:309:U:H2'	1:1:310:U:C6	2.57	0.40
1:1:880:G:OP2	22:P:131:ARG:HD3	2.21	0.40
1:1:977:C:C6	1:1:978:G:H5"	2.56	0.40
1:1:1055:A:C4	1:1:1056:U:C4	3.09	0.40
1:1:1132:C:H2'	1:1:1133:A:C8	2.54	0.40
1:1:2190:U:H3'	1:1:2191:U:C5	2.56	0.40
1:1:2437:G:N2	1:1:2511:A:C4	2.89	0.40
1:1:2774:C:H2'	1:1:2775:U:C6	2.56	0.40
1:1:2839:G:C4	1:1:2840:C:C5	3.09	0.40
1:1:3334:U:H2'	53:u:50:LYS:HD2	2.02	0.40
1:1:3372:A:C6	1:1:3373:U:C4	3.09	0.40
2:2:93:U:H2'	2:2:94:C:O4'	2.21	0.40
3:3:85:G:H2'	3:3:86:U:H5"	2.03	0.40
4:4:274:GLN:HE22	4:4:335:VAL:HG12	1.86	0.40
5:5:62:LYS:HA	5:5:65:LYS:HG3	2.03	0.40
5:5:62:LYS:O	5:5:65:LYS:HG3	2.21	0.40
6:6:48:A:O2'	6:6:49:C:P	2.79	0.40
9:C:329:PRO:HB3	12:F:41:ARG:HH21	1.85	0.40
11:E:90:LYS:HB3	11:E:90:LYS:HE2	1.81	0.40
17:K:171:ASN:O	17:K:175:SER:OG	2.26	0.40
20:N:88:GLY:O	20:N:91:GLU:N	2.53	0.40
27:U:36:TYR:CD1	27:U:83:TYR:HD1	2.38	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:X:46:TYR:CD2	40:h:75:TYR:HB3	2.56	0.40
31:Y:122:LYS:HE2	31:Y:122:LYS:HB3	1.84	0.40
34:b:324:LEU:C	34:b:326:GLU:H	2.29	0.40
34:b:368:ALA:O	34:b:370:ASP:N	2.54	0.40
44:l:24:PRO:HD2	44:l:27:ILE:HD12	2.03	0.40
45:m:108:LEU:HD22	45:m:310:HIS:CE1	2.56	0.40
45:m:408:GLN:HE21	45:m:411:HIS:CE1	2.39	0.40
46:n:146:PRO:HD2	46:n:209:ILE:HD11	2.03	0.40
52:t:208:ILE:HB	52:t:251:ILE:HD11	2.03	0.40
54:v:211:SER:HB2	54:v:214:GLY:H	1.85	0.40
56:x:210:ILE:HG22	56:x:211:ARG:N	2.37	0.40
56:x:270:CYS:SG	56:x:271:GLN:N	2.94	0.40
56:x:339:PHE:HE1	56:x:346:PRO:CD	2.33	0.40
56:x:507:ASP:OD1	56:x:507:ASP:N	2.42	0.40
1:1:296:A:H2'	1:1:297:G:N3	2.36	0.40
1:1:346:C:OP1	2:2:26:U:H4'	2.21	0.40
1:1:439:C:H1'	1:1:440:A:N7	2.36	0.40
1:1:548:G:H8	1:1:548:G:O5'	2.03	0.40
1:1:757:C:N4	1:1:775:A:H61	2.19	0.40
1:1:1291:A:H2'	1:1:1292:C:H6	1.86	0.40
1:1:3027:A:C2	50:r:3:GLN:HG2	2.56	0.40
3:3:57:G:OP1	16:J:147:THR:HG23	2.21	0.40
3:3:98:C:N4	3:3:100:C:N4	2.69	0.40
3:3:102:A:H2'	3:3:103:A:H8	1.87	0.40
5:5:107:MET:O	5:5:111:GLU:HG3	2.20	0.40
13:G:24:ASN:HA	13:G:25:PRO:HD3	1.83	0.40
13:G:145:ASN:H	13:G:146:LYS:CA	2.31	0.40
15:I:60:THR:OG1	15:I:61:ALA:N	2.55	0.40
16:J:102:PHE:O	16:J:129:VAL:HG12	2.21	0.40
16:J:142:LYS:O	16:J:145:LYS:NZ	2.50	0.40
24:R:55:VAL:H	24:R:55:VAL:HG12	1.68	0.40
25:S:13:ARG:HE	25:S:13:ARG:HB2	1.67	0.40
27:U:74:LYS:HE2	27:U:74:LYS:HB2	1.83	0.40
28:V:88:ARG:HA	28:V:88:ARG:HD2	1.75	0.40
32:Z:80:LEU:HD23	32:Z:80:LEU:HA	1.77	0.40
33:a:64:GLN:HG2	33:a:66:ALA:H	1.86	0.40
34:b:18:LEU:HD11	34:b:137:ALA:HA	2.04	0.40
34:b:169:THR:HB	34:b:248:SER:OG	2.21	0.40
34:b:492:LYS:O	34:b:496:ILE:HG22	2.22	0.40
45:m:85:SER:O	45:m:89:LEU:HG	2.21	0.40
45:m:277:LEU:HD23	45:m:283:THR:HG23	2.01	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:m:356:ILE:HD13	45:m:356:ILE:HA	1.85	0.40
46:n:248:LEU:HB3	46:n:262:TYR:CE1	2.56	0.40
46:n:370:GLU:OE2	46:n:413:ASP:HB2	2.21	0.40
47:o:120:VAL:HB	47:o:137:LEU:HD23	2.02	0.40
47:o:142:LYS:HZ3	47:o:169:LYS:HE2	1.85	0.40
55:w:121:LYS:O	55:w:123:ILE:N	2.53	0.40
55:w:140:GLU:HG3	55:w:141:TRP:H	1.85	0.40
57:y:114:VAL:HA	57:y:135:VAL:HB	2.02	0.40
1:1:71:A:H4'	1:1:72:C:C2	2.57	0.40
1:1:182:U:C4	1:1:234:G:O6	2.74	0.40
1:1:364:G:O6	42:j:56:ARG:NE	2.54	0.40
1:1:769:G:O6	1:1:2772:C:N4	2.52	0.40
1:1:1239:C:C2	1:1:1250:G:N1	2.89	0.40
1:1:1240:A:H2	1:1:1248:C:N4	2.19	0.40
1:1:1281:G:H2'	1:1:1282:G:C8	2.47	0.40
1:1:1824:U:H2'	1:1:1825:G:C8	2.56	0.40
1:1:2673:A:OP1	16:J:95:ASN:N	2.50	0.40
3:3:23:A:H2'	3:3:24:A:N9	2.36	0.40
3:3:32:U:O5'	3:3:32:U:H6	2.03	0.40
3:3:109:G:C6	3:3:110:G:O6	2.74	0.40
4:4:198:LEU:HD23	4:4:509:LEU:HD21	2.04	0.40
4:4:360:TYR:CG	4:4:423:MET:HE2	2.56	0.40
4:4:551:GLN:O	4:4:555:GLN:HG3	2.21	0.40
9:C:151:VAL:HA	9:C:250:TRP:O	2.22	0.40
9:C:361:HIS:CG	9:C:362:ASP:N	2.88	0.40
13:G:50:VAL:HG21	30:X:27:ARG:CD	2.52	0.40
13:G:143:ILE:H	13:G:143:ILE:HG13	1.68	0.40
13:G:203:VAL:HG23	13:G:204:ARG:O	2.21	0.40
14:H:27:VAL:HG12	14:H:82:VAL:HG11	2.02	0.40
14:H:118:LEU:HA	14:H:118:LEU:HD23	1.75	0.40
16:J:158:ASP:O	16:J:162:TRP:HD1	2.04	0.40
19:M:99:TRP:CD1	19:M:99:TRP:C	2.99	0.40
19:M:124:ARG:HH11	19:M:124:ARG:HD3	1.75	0.40
22:P:24:VAL:HG12	22:P:25:SER:H	1.87	0.40
22:P:138:LYS:NZ	22:P:140:GLU:OE1	2.37	0.40
25:S:3:HIS:HA	25:S:104:GLU:OE1	2.22	0.40
25:S:51:VAL:O	25:S:52:LYS:HG2	2.20	0.40
29:W:204:LYS:HB2	29:W:204:LYS:HE2	1.84	0.40
31:Y:112:ASP:O	31:Y:116:LYS:HG3	2.21	0.40
34:b:361:ILE:HD11	57:y:241:ILE:HG23	2.03	0.40
35:c:26:GLY:O	35:c:89:VAL:HB	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:m:240:LYS:C	45:m:242:VAL:N	2.79	0.40
47:o:142:LYS:NZ	47:o:169:LYS:HE2	2.36	0.40
47:o:158:MET:HE1	52:t:62:VAL:HG11	2.02	0.40
47:o:191:LYS:HG2	47:o:196:LEU:HG	2.03	0.40
52:t:170:GLU:O	52:t:173:THR:OG1	2.39	0.40
54:v:75:LEU:H	54:v:75:LEU:HD12	1.86	0.40
54:v:90:MET:SD	54:v:100:MET:HB3	2.61	0.40
58:z:49:LEU:HA	58:z:52:LYS:HB3	2.03	0.40
1:1:8:C:H2'	1:1:9:U:H6	1.83	0.40
1:1:187:A:N3	1:1:208:C:O2'	2.46	0.40
1:1:258:G:C2	1:1:259:C:C6	3.09	0.40
1:1:974:G:C5	1:1:975:C:C5	3.09	0.40
1:1:1272:C:H3'	1:1:1273:A:H8	1.87	0.40
1:1:1948:G:C2	1:1:2099:A:C2	3.10	0.40
1:1:2193:U:H3	1:1:2316:G:C4'	2.33	0.40
1:1:2634:U:C4	1:1:2635:A:C5	3.10	0.40
1:1:2720:G:C6	1:1:2721:A:N6	2.89	0.40
1:1:2745:G:C2	1:1:2749:G:C5	3.10	0.40
1:1:3234:A:H2'	1:1:3235:C:C6	2.57	0.40
2:2:2:A:C4	2:2:3:A:C8	3.09	0.40
2:2:82:U:H2'	2:2:83:C:H3'	2.03	0.40
3:3:84:A:N6	3:3:96:U:C4	2.86	0.40
6:6:53:A:C8	17:K:167:TYR:CE2	3.09	0.40
8:B:142:ALA:O	8:B:146:ARG:HB2	2.20	0.40
8:B:346:THR:HA	58:z:22:PHE:CD2	2.56	0.40
9:C:181:VAL:HG12	9:C:182:LEU:H	1.87	0.40
10:D:277:LEU:HD13	10:D:277:LEU:HA	1.92	0.40
11:E:31:ARG:NH2	11:E:81:ALA:O	2.55	0.40
14:H:1:MET:HE3	14:H:1:MET:HB2	1.99	0.40
16:J:20:ASN:C	16:J:21:ILE:HD13	2.46	0.40
16:J:92:ARG:HH12	16:J:104:PHE:CB	2.33	0.40
20:N:4:TYR:CE2	20:N:5:LYS:HE3	2.57	0.40
28:V:13:ILE:HD11	28:V:54:LEU:HB3	2.03	0.40
31:Y:57:LEU:HD12	31:Y:67:GLU:HB3	2.03	0.40
33:a:132:LYS:O	33:a:135:GLU:HB3	2.21	0.40
34:b:116:LEU:C	34:b:118:PHE:H	2.29	0.40
34:b:175:TYR:O	34:b:180:LYS:NZ	2.37	0.40
34:b:199:PHE:N	34:b:199:PHE:CD2	2.90	0.40
34:b:200:THR:OG1	60:b:701:GTP:O1B	2.32	0.40
34:b:373:LYS:C	34:b:374:ARG:HD2	2.46	0.40
35:c:93:LEU:HD12	35:c:93:LEU:N	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:d:25:PHE:C	36:d:27:LYS:N	2.80	0.40
45:m:32:ASP:OD1	45:m:32:ASP:N	2.54	0.40
46:n:369:ARG:HH11	52:t:252:HIS:CD2	2.39	0.40
48:p:49:ARG:HB2	48:p:55:TRP:CZ3	2.56	0.40
49:q:218:THR:OG1	49:q:220:ILE:O	2.39	0.40
52:t:47:LYS:HD3	52:t:47:LYS:HA	1.80	0.40
53:u:53:LYS:HD2	53:u:53:LYS:HA	1.83	0.40
54:v:11:ARG:C	54:v:13:LYS:H	2.30	0.40
56:x:361:GLU:HA	56:x:365:LYS:HG2	2.03	0.40
56:x:396:ALA:HB1	56:x:398:MET:HG3	2.03	0.40
56:x:459:LEU:HB3	56:x:471:TRP:HB2	2.02	0.40
1:1:116:A:H8	1:1:116:A:H5"	1.85	0.40
1:1:243:G:C4	1:1:244:G:C8	3.09	0.40
1:1:519:A:H61	25:S:65:ASN:H	1.68	0.40
1:1:993:G:C6	1:1:1056:U:O2	2.75	0.40
1:1:1265:U:N3	1:1:1266:G:N7	2.70	0.40
1:1:1949:G:H2'	1:1:1950:U:C6	2.56	0.40
1:1:2406:C:H6	1:1:2406:C:O5'	2.05	0.40
1:1:2582:C:H2'	1:1:2583:C:C6	2.56	0.40
1:1:2964:G:O2'	45:m:31:ARG:NH2	2.54	0.40
1:1:3263:G:C6	1:1:3264:G:N7	2.89	0.40
2:2:79:A:H3'	4:4:349:LYS:HZ2	1.86	0.40
3:3:27:A:C8	3:3:28:C:C4	3.10	0.40
3:3:67:G:H8	3:3:67:G:O5'	2.04	0.40
3:3:78:U:N3	3:3:79:A:C5	2.90	0.40
4:4:439:ILE:HG22	4:4:441:ARG:HG2	2.02	0.40
4:4:478:LEU:HD12	4:4:478:LEU:HA	1.81	0.40
8:B:123:TYR:CE2	8:B:124:LYS:HG3	2.57	0.40
8:B:232:ARG:HG3	8:B:270:ARG:HB2	2.03	0.40
10:D:217:GLU:O	10:D:221:GLU:HG3	2.21	0.40
15:I:65:LYS:HE2	15:I:65:LYS:HB2	1.89	0.40
20:N:104:GLU:O	20:N:108:ARG:HG3	2.21	0.40
25:S:138:GLN:O	25:S:140:VAL:N	2.55	0.40
29:W:5:LYS:HE2	29:W:5:LYS:HB2	1.85	0.40
30:X:70:GLU:HA	30:X:73:MET:HG2	2.04	0.40
41:i:86:LYS:HD2	41:i:86:LYS:HA	1.95	0.40
43:k:8:ILE:HA	43:k:8:ILE:HD13	1.89	0.40
43:k:15:THR:O	43:k:15:THR:OG1	2.33	0.40
45:m:413:GLU:O	45:m:417:GLU:HB2	2.21	0.40
46:n:454:PRO:HA	46:n:455:PRO:HD3	1.97	0.40
52:t:200:SER:O	52:t:203:SER:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:244:ILE:HD13	52:t:244:ILE:HA	1.80	0.40
52:t:304:ALA:C	52:t:306:THR:N	2.79	0.40
54:v:133:PHE:HE1	54:v:180:HIS:HB3	1.86	0.40
55:w:43:ASN:HB3	55:w:46:ARG:HB3	2.04	0.40
55:w:153:LYS:HD2	55:w:156:ASP:OD2	2.22	0.40
56:x:264:ASP:OD1	56:x:267:SER:HB3	2.22	0.40
56:x:325:HIS:CD2	56:x:408:VAL:H	2.35	0.40
56:x:488:GLU:OE1	56:x:506:LYS:HD3	2.21	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
4	4	508/593 (86%)	423 (83%)	84 (16%)	1 (0%)	43 73
5	5	71/120 (59%)	69 (97%)	2 (3%)	0	100 100
7	A	211/254 (83%)	173 (82%)	38 (18%)	0	100 100
8	B	384/387 (99%)	322 (84%)	59 (15%)	3 (1%)	16 50
9	C	359/362 (99%)	297 (83%)	61 (17%)	1 (0%)	36 68
10	D	272/297 (92%)	223 (82%)	48 (18%)	1 (0%)	30 62
11	E	152/176 (86%)	137 (90%)	15 (10%)	0	100 100
12	F	220/244 (90%)	197 (90%)	23 (10%)	0	100 100
13	G	231/256 (90%)	194 (84%)	37 (16%)	0	100 100
14	H	189/191 (99%)	161 (85%)	27 (14%)	1 (0%)	24 59
15	I	129/166 (78%)	113 (88%)	15 (12%)	1 (1%)	16 50
16	J	167/174 (96%)	134 (80%)	33 (20%)	0	100 100
17	K	252/376 (67%)	219 (87%)	33 (13%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	L	185/199 (93%)	151 (82%)	33 (18%)	1 (0%)	24 59
19	M	135/138 (98%)	119 (88%)	16 (12%)	0	100 100
20	N	201/204 (98%)	176 (88%)	24 (12%)	1 (0%)	24 59
21	O	195/199 (98%)	184 (94%)	11 (6%)	0	100 100
22	P	181/184 (98%)	156 (86%)	25 (14%)	0	100 100
23	Q	132/186 (71%)	116 (88%)	16 (12%)	0	100 100
24	R	154/189 (82%)	141 (92%)	13 (8%)	0	100 100
25	S	169/172 (98%)	141 (83%)	28 (17%)	0	100 100
26	T	115/160 (72%)	103 (90%)	12 (10%)	0	100 100
27	U	104/121 (86%)	89 (86%)	15 (14%)	0	100 100
28	V	134/137 (98%)	120 (90%)	14 (10%)	0	100 100
29	W	232/236 (98%)	201 (87%)	31 (13%)	0	100 100
30	X	139/142 (98%)	122 (88%)	17 (12%)	0	100 100
31	Y	124/127 (98%)	111 (90%)	13 (10%)	0	100 100
32	Z	133/136 (98%)	110 (83%)	23 (17%)	0	100 100
33	a	91/149 (61%)	74 (81%)	17 (19%)	0	100 100
34	b	638/647 (99%)	525 (82%)	110 (17%)	3 (0%)	24 59
35	c	95/105 (90%)	84 (88%)	11 (12%)	0	100 100
36	d	105/113 (93%)	87 (83%)	18 (17%)	0	100 100
37	e	125/130 (96%)	112 (90%)	13 (10%)	0	100 100
38	f	104/107 (97%)	91 (88%)	13 (12%)	0	100 100
39	g	110/121 (91%)	98 (89%)	12 (11%)	0	100 100
40	h	117/120 (98%)	110 (94%)	7 (6%)	0	100 100
41	i	97/100 (97%)	84 (87%)	13 (13%)	0	100 100
42	j	85/88 (97%)	76 (89%)	9 (11%)	0	100 100
43	k	75/78 (96%)	69 (92%)	6 (8%)	0	100 100
44	l	48/51 (94%)	41 (85%)	7 (15%)	0	100 100
45	m	449/486 (92%)	358 (80%)	86 (19%)	5 (1%)	11 43
46	n	365/605 (60%)	307 (84%)	56 (15%)	2 (0%)	24 59
47	o	131/220 (60%)	106 (81%)	25 (19%)	0	100 100
48	p	89/92 (97%)	77 (86%)	12 (14%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
49	q	147/455 (32%)	120 (82%)	26 (18%)	1 (1%)	18 52
50	r	224/261 (86%)	185 (83%)	38 (17%)	1 (0%)	30 62
51	s	65/520 (12%)	57 (88%)	8 (12%)	0	100 100
52	t	283/322 (88%)	239 (84%)	42 (15%)	2 (1%)	18 52
53	u	148/199 (74%)	129 (87%)	19 (13%)	0	100 100
54	v	243/254 (96%)	201 (83%)	42 (17%)	0	100 100
55	w	178/203 (88%)	143 (80%)	35 (20%)	0	100 100
56	x	393/515 (76%)	316 (80%)	77 (20%)	0	100 100
57	y	242/245 (99%)	203 (84%)	39 (16%)	0	100 100
58	z	53/106 (50%)	51 (96%)	2 (4%)	0	100 100
All	All	10178/12418 (82%)	8645 (85%)	1509 (15%)	24 (0%)	44 73

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	C	4	PRO
20	N	95	GLN
34	b	9	PRO
34	b	399	ALA
46	n	153	SER
15	I	18	LEU
45	m	136	SER
52	t	58	ALA
4	4	363	ASP
8	B	342	LEU
10	D	261	THR
34	b	484	SER
45	m	240	LYS
45	m	424	ALA
50	r	147	TRP
52	t	247	VAL
14	H	50	ASN
18	L	76	THR
45	m	241	SER
45	m	418	ILE
49	q	385	THR
46	n	455	PRO
8	B	166	ILE
8	B	188	ILE

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
4	4	453/520 (87%)	413 (91%)	40 (9%)	9 35
5	5	67/106 (63%)	66 (98%)	1 (2%)	57 76
7	A	166/196 (85%)	150 (90%)	16 (10%)	8 32
8	B	322/323 (100%)	282 (88%)	40 (12%)	4 21
9	C	288/289 (100%)	268 (93%)	20 (7%)	14 45
10	D	227/245 (93%)	207 (91%)	20 (9%)	9 35
11	E	134/153 (88%)	128 (96%)	6 (4%)	24 58
12	F	186/205 (91%)	170 (91%)	16 (9%)	10 36
13	G	191/208 (92%)	170 (89%)	21 (11%)	6 26
14	H	171/171 (100%)	150 (88%)	21 (12%)	4 22
15	I	117/141 (83%)	109 (93%)	8 (7%)	14 46
16	J	147/150 (98%)	135 (92%)	12 (8%)	10 39
17	K	236/346 (68%)	208 (88%)	28 (12%)	5 23
18	L	149/159 (94%)	130 (87%)	19 (13%)	4 20
19	M	108/109 (99%)	95 (88%)	13 (12%)	5 23
20	N	175/176 (99%)	164 (94%)	11 (6%)	16 48
21	O	160/162 (99%)	149 (93%)	11 (7%)	14 45
22	P	145/146 (99%)	135 (93%)	10 (7%)	14 45
23	Q	110/151 (73%)	100 (91%)	10 (9%)	9 34
24	R	129/154 (84%)	120 (93%)	9 (7%)	14 45
25	S	155/156 (99%)	139 (90%)	16 (10%)	7 28
26	T	102/137 (74%)	92 (90%)	10 (10%)	7 31
27	U	93/107 (87%)	88 (95%)	5 (5%)	20 53
28	V	104/105 (99%)	93 (89%)	11 (11%)	6 27
29	W	211/213 (99%)	195 (92%)	16 (8%)	12 42
30	X	117/118 (99%)	105 (90%)	12 (10%)	7 28

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
31	Y	109/110 (99%)	98 (90%)	11 (10%)	7 30
32	Z	115/116 (99%)	111 (96%)	4 (4%)	32 64
33	a	76/119 (64%)	72 (95%)	4 (5%)	20 53
34	b	568/573 (99%)	522 (92%)	46 (8%)	11 39
35	c	81/88 (92%)	71 (88%)	10 (12%)	4 22
36	d	94/97 (97%)	86 (92%)	8 (8%)	10 37
37	e	109/111 (98%)	96 (88%)	13 (12%)	5 23
38	f	90/91 (99%)	84 (93%)	6 (7%)	15 47
39	g	95/103 (92%)	85 (90%)	10 (10%)	6 28
40	h	104/105 (99%)	97 (93%)	7 (7%)	15 47
41	i	81/82 (99%)	72 (89%)	9 (11%)	6 25
42	j	70/71 (99%)	63 (90%)	7 (10%)	7 30
43	k	68/69 (99%)	61 (90%)	7 (10%)	7 28
44	l	45/46 (98%)	44 (98%)	1 (2%)	45 71
45	m	400/428 (94%)	352 (88%)	48 (12%)	5 23
46	n	334/548 (61%)	306 (92%)	28 (8%)	10 38
47	o	118/199 (59%)	107 (91%)	11 (9%)	8 33
48	p	71/72 (99%)	66 (93%)	5 (7%)	14 45
49	q	140/420 (33%)	134 (96%)	6 (4%)	26 59
50	r	203/229 (89%)	176 (87%)	27 (13%)	4 19
51	s	62/445 (14%)	55 (89%)	7 (11%)	5 24
52	t	256/287 (89%)	243 (95%)	13 (5%)	21 54
53	u	133/180 (74%)	127 (96%)	6 (4%)	24 58
54	v	222/231 (96%)	207 (93%)	15 (7%)	14 46
55	w	161/179 (90%)	147 (91%)	14 (9%)	9 36
56	x	344/451 (76%)	305 (89%)	39 (11%)	5 24
57	y	210/211 (100%)	187 (89%)	23 (11%)	6 26
58	z	48/95 (50%)	45 (94%)	3 (6%)	16 48
All	All	8870/10702 (83%)	8080 (91%)	790 (9%)	11 34

All (790) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	28	TYR
4	4	45	LEU
4	4	55	THR
4	4	61	VAL
4	4	77	GLU
4	4	87	ARG
4	4	114	LEU
4	4	115	LEU
4	4	116	ASN
4	4	124	THR
4	4	129	VAL
4	4	137	ASP
4	4	146	HIS
4	4	161	TYR
4	4	163	VAL
4	4	169	ILE
4	4	203	THR
4	4	222	LEU
4	4	242	SER
4	4	244	VAL
4	4	247	ILE
4	4	255	ASN
4	4	316	VAL
4	4	319	ILE
4	4	326	LEU
4	4	331	LYS
4	4	340	VAL
4	4	353	LEU
4	4	367	THR
4	4	378	LEU
4	4	383	ASP
4	4	412	LEU
4	4	453	ASN
4	4	483	ILE
4	4	500	VAL
4	4	509	LEU
4	4	531	THR
4	4	544	ASN
4	4	571	GLU
4	4	572	THR
5	5	52	LEU
7	A	15	ILE
7	A	20	THR

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Mol	Chain	Res	Type
7	A	45	VAL
7	A	49	VAL
7	A	71	LEU
7	A	101	VAL
7	A	122	ASP
7	A	130	SER
7	A	134	VAL
7	A	137	ILE
7	A	142	ASP
7	A	147	ARG
7	A	158	ILE
7	A	166	ILE
7	A	191	LEU
7	A	211	HIS
8	B	10	ARG
8	B	17	LEU
8	B	25	ILE
8	B	57	VAL
8	B	59	ASP
8	B	60	LEU
8	B	73	VAL
8	B	84	VAL
8	B	89	VAL
8	B	102	LEU
8	B	111	SER
8	B	156	SER
8	B	161	LEU
8	B	169	THR
8	B	188	ILE
8	B	199	PHE
8	B	216	ASP
8	B	221	THR
8	B	229	VAL
8	B	246	LEU
8	B	248	LYS
8	B	249	VAL
8	B	252	ILE
8	B	260	VAL
8	B	266	ARG
8	B	285	VAL
8	B	296	THR
8	B	299	ASP

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Mol	Chain	Res	Type
8	B	301	THR
8	B	306	THR
8	B	312	VAL
8	B	319	ASN
8	B	320	ASP
8	B	322	ILE
8	B	323	MET
8	B	324	VAL
8	B	340	LYS
8	B	361	THR
8	B	382	THR
8	B	386	ASP
9	C	8	VAL
9	C	16	THR
9	C	34	ILE
9	C	60	THR
9	C	110	ASN
9	C	136	LEU
9	C	179	LEU
9	C	181	VAL
9	C	194	TYR
9	C	211	GLU
9	C	230	VAL
9	C	258	LEU
9	C	291	ASN
9	C	292	SER
9	C	306	THR
9	C	310	THR
9	C	347	THR
9	C	349	THR
9	C	354	VAL
9	C	362	ASP
10	D	28	THR
10	D	51	LEU
10	D	56	THR
10	D	60	ILE
10	D	85	ARG
10	D	116	ASP
10	D	146	LEU
10	D	154	THR
10	D	159	VAL
10	D	168	ASP

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Mol	Chain	Res	Type
10	D	176	SER
10	D	187	THR
10	D	190	ILE
10	D	197	SER
10	D	205	SER
10	D	227	LEU
10	D	232	ASP
10	D	239	ILE
10	D	262	LYS
10	D	297	GLN
11	E	35	VAL
11	E	63	LEU
11	E	84	VAL
11	E	87	THR
11	E	101	PHE
11	E	152	THR
12	F	26	VAL
12	F	62	ILE
12	F	74	SER
12	F	89	ILE
12	F	95	ILE
12	F	109	THR
12	F	111	ILE
12	F	113	SER
12	F	129	LEU
12	F	143	THR
12	F	160	ARG
12	F	179	LEU
12	F	183	ASP
12	F	233	GLU
12	F	240	VAL
12	F	242	SER
13	G	28	HIS
13	G	47	SER
13	G	48	ARG
13	G	64	ILE
13	G	65	LEU
13	G	66	SER
13	G	70	LYS
13	G	71	VAL
13	G	74	THR
13	G	77	GLN

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Mol	Chain	Res	Type
13	G	86	THR
13	G	139	VAL
13	G	143	ILE
13	G	147	LYS
13	G	151	VAL
13	G	164	VAL
13	G	166	LEU
13	G	190	VAL
13	G	194	THR
13	G	201	THR
13	G	237	ILE
14	H	4	ILE
14	H	16	VAL
14	H	18	VAL
14	H	41	ILE
14	H	49	ASN
14	H	50	ASN
14	H	51	GLN
14	H	52	LEU
14	H	65	VAL
14	H	68	LEU
14	H	70	THR
14	H	71	VAL
14	H	82	VAL
14	H	83	THR
14	H	133	THR
14	H	134	ILE
14	H	139	ASN
14	H	149	ASN
14	H	164	ILE
14	H	188	THR
14	H	191	LEU
15	I	1	MET
15	I	11	THR
15	I	34	LEU
15	I	39	LEU
15	I	42	THR
15	I	68	LEU
15	I	105	VAL
15	I	123	LEU
16	J	30	LEU
16	J	48	SER

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Mol	Chain	Res	Type
16	J	53	THR
16	J	56	THR
16	J	59	ILE
16	J	65	ILE
16	J	68	HIS
16	J	78	GLU
16	J	109	HIS
16	J	127	PHE
16	J	148	VAL
16	J	152	HIS
17	K	32	ILE
17	K	38	ILE
17	K	49	SER
17	K	78	LEU
17	K	89	THR
17	K	116	THR
17	K	129	ASP
17	K	144	LEU
17	K	145	ASP
17	K	151	VAL
17	K	152	ASP
17	K	154	ILE
17	K	163	VAL
17	K	175	SER
17	K	181	LEU
17	K	202	VAL
17	K	204	THR
17	K	205	THR
17	K	211	THR
17	K	216	GLU
17	K	217	PHE
17	K	220	THR
17	K	236	VAL
17	K	242	THR
17	K	246	VAL
17	K	261	ASP
17	K	283	THR
17	K	288	VAL
18	L	10	LEU
18	L	12	ASN
18	L	24	VAL
18	L	27	ASP

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Mol	Chain	Res	Type
18	L	34	SER
18	L	52	ASP
18	L	57	VAL
18	L	58	VAL
18	L	62	THR
18	L	69	VAL
18	L	86	THR
18	L	93	ILE
18	L	100	ARG
18	L	138	VAL
18	L	153	ASP
18	L	154	VAL
18	L	162	ASN
18	L	169	THR
18	L	182	ILE
19	M	6	ILE
19	M	20	VAL
19	M	37	GLU
19	M	47	ASP
19	M	53	VAL
19	M	63	VAL
19	M	64	VAL
19	M	65	LEU
19	M	90	VAL
19	M	105	GLN
19	M	120	VAL
19	M	130	THR
19	M	135	LEU
20	N	4	TYR
20	N	15	GLN
20	N	19	LEU
20	N	43	THR
20	N	50	ARG
20	N	60	VAL
20	N	64	VAL
20	N	124	ASP
20	N	159	ARG
20	N	167	THR
20	N	196	THR
21	O	7	VAL
21	O	34	VAL
21	O	39	GLU

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Mol	Chain	Res	Type
21	O	43	ILE
21	O	84	LEU
21	O	88	VAL
21	O	126	VAL
21	O	137	THR
21	O	138	LEU
21	O	150	GLU
21	O	187	GLU
22	P	7	THR
22	P	29	THR
22	P	32	THR
22	P	36	ILE
22	P	41	LEU
22	P	42	THR
22	P	87	SER
22	P	114	VAL
22	P	119	VAL
22	P	144	SER
23	Q	22	ASP
23	Q	40	THR
23	Q	55	SER
23	Q	57	ILE
23	Q	64	VAL
23	Q	81	VAL
23	Q	84	VAL
23	Q	86	THR
23	Q	107	THR
23	Q	137	THR
24	R	13	SER
24	R	22	VAL
24	R	29	THR
24	R	55	VAL
24	R	86	GLU
24	R	98	ARG
24	R	115	ILE
24	R	127	SER
24	R	134	HIS
25	S	3	HIS
25	S	19	VAL
25	S	32	SER
25	S	42	TRP
25	S	45	LEU

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Mol	Chain	Res	Type
25	S	48	LEU
25	S	51	VAL
25	S	55	SER
25	S	59	VAL
25	S	61	ILE
25	S	64	ILE
25	S	77	VAL
25	S	82	ASP
25	S	105	THR
25	S	134	ASP
25	S	162	THR
26	T	39	ILE
26	T	61	THR
26	T	68	THR
26	T	72	VAL
26	T	89	LEU
26	T	93	VAL
26	T	95	HIS
26	T	124	VAL
26	T	126	VAL
26	T	147	VAL
27	U	17	VAL
27	U	57	THR
27	U	61	THR
27	U	89	LEU
27	U	105	LEU
28	V	13	ILE
28	V	39	VAL
28	V	44	SER
28	V	53	SER
28	V	54	LEU
28	V	59	MET
28	V	61	THR
28	V	91	VAL
28	V	93	LEU
28	V	98	ASN
28	V	137	VAL
29	W	10	VAL
29	W	24	GLU
29	W	26	ILE
29	W	32	GLU
29	W	45	LEU

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Mol	Chain	Res	Type
29	W	49	ARG
29	W	58	THR
29	W	59	SER
29	W	99	VAL
29	W	105	THR
29	W	112	VAL
29	W	133	LEU
29	W	139	GLU
29	W	149	ILE
29	W	217	VAL
29	W	224	ASP
30	X	18	THR
30	X	26	VAL
30	X	34	LEU
30	X	38	LEU
30	X	49	LYS
30	X	51	VAL
30	X	81	ILE
30	X	105	VAL
30	X	113	LEU
30	X	119	THR
30	X	126	LEU
30	X	134	ASP
31	Y	8	VAL
31	Y	24	SER
31	Y	56	VAL
31	Y	57	LEU
31	Y	67	GLU
31	Y	80	VAL
31	Y	82	VAL
31	Y	91	ASN
31	Y	97	ILE
31	Y	102	SER
31	Y	105	VAL
32	Z	14	VAL
32	Z	26	VAL
32	Z	68	ILE
32	Z	87	LEU
33	a	68	PHE
33	a	72	VAL
33	a	80	THR
33	a	130	VAL

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Mol	Chain	Res	Type
34	b	5	TRP
34	b	8	ILE
34	b	11	VAL
34	b	17	LEU
34	b	29	THR
34	b	73	ASP
34	b	74	VAL
34	b	84	THR
34	b	140	VAL
34	b	153	VAL
34	b	163	ILE
34	b	167	THR
34	b	169	THR
34	b	172	ILE
34	b	191	ASP
34	b	200	THR
34	b	253	PHE
34	b	256	LEU
34	b	280	ASN
34	b	286	VAL
34	b	302	ARG
34	b	312	VAL
34	b	315	VAL
34	b	319	THR
34	b	322	CYS
34	b	354	ILE
34	b	372	VAL
34	b	398	LEU
34	b	411	VAL
34	b	416	LEU
34	b	420	TYR
34	b	435	ILE
34	b	440	ASN
34	b	441	VAL
34	b	512	SER
34	b	513	LEU
34	b	518	ILE
34	b	524	LEU
34	b	565	VAL
34	b	566	VAL
34	b	569	ASP
34	b	571	ASP

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Mol	Chain	Res	Type
34	b	587	ASP
34	b	593	VAL
34	b	634	LEU
34	b	639	ARG
35	c	30	THR
35	c	41	LEU
35	c	43	ILE
35	c	48	THR
35	c	63	SER
35	c	67	VAL
35	c	87	VAL
35	c	90	VAL
35	c	102	THR
35	c	104	LEU
36	d	8	VAL
36	d	24	SER
36	d	47	ASP
36	d	55	LEU
36	d	64	VAL
36	d	71	LEU
36	d	94	GLU
36	d	106	THR
37	e	24	ARG
37	e	47	ARG
37	e	51	SER
37	e	55	ILE
37	e	69	SER
37	e	73	THR
37	e	75	LEU
37	e	78	ASN
37	e	88	HIS
37	e	95	GLU
37	e	99	ASN
37	e	106	VAL
37	e	109	LEU
38	f	22	VAL
38	f	35	VAL
38	f	37	THR
38	f	45	LEU
38	f	88	ASN
38	f	98	VAL
39	g	20	ILE

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Mol	Chain	Res	Type
39	g	23	VAL
39	g	46	ASP
39	g	47	CYS
39	g	51	LEU
39	g	55	SER
39	g	65	VAL
39	g	87	GLU
39	g	100	ILE
39	g	105	VAL
40	h	11	THR
40	h	22	VAL
40	h	36	LEU
40	h	47	VAL
40	h	69	LEU
40	h	79	ASP
40	h	93	THR
41	i	18	THR
41	i	21	THR
41	i	47	ILE
41	i	51	SER
41	i	58	ILE
41	i	59	ASP
41	i	60	LEU
41	i	61	ILE
41	i	97	SER
42	j	21	ARG
42	j	33	THR
42	j	45	ARG
42	j	59	THR
42	j	69	HIS
42	j	72	ARG
42	j	80	THR
43	k	8	ILE
43	k	19	ASP
43	k	41	THR
43	k	53	THR
43	k	56	ILE
43	k	69	LEU
43	k	76	ASN
44	l	34	THR
45	m	21	ASN
45	m	29	PHE

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Mol	Chain	Res	Type
45	m	32	ASP
45	m	43	THR
45	m	47	GLU
45	m	64	SER
45	m	81	THR
45	m	83	VAL
45	m	103	THR
45	m	109	ARG
45	m	119	GLU
45	m	120	GLU
45	m	132	LEU
45	m	133	ASP
45	m	134	THR
45	m	135	GLU
45	m	166	GLU
45	m	186	ASN
45	m	194	TRP
45	m	196	SER
45	m	219	ILE
45	m	224	VAL
45	m	240	LYS
45	m	250	THR
45	m	265	VAL
45	m	269	VAL
45	m	274	VAL
45	m	290	ILE
45	m	291	THR
45	m	311	THR
45	m	316	ILE
45	m	329	SER
45	m	337	LYS
45	m	341	CYS
45	m	365	ILE
45	m	377	ASP
45	m	381	ASP
45	m	388	VAL
45	m	394	THR
45	m	395	HIS
45	m	411	HIS
45	m	412	LEU
45	m	415	THR
45	m	425	THR

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Mol	Chain	Res	Type
45	m	438	LEU
45	m	466	VAL
45	m	467	LEU
45	m	472	GLU
46	n	3	ILE
46	n	8	THR
46	n	35	LEU
46	n	61	THR
46	n	85	THR
46	n	117	ILE
46	n	134	ASP
46	n	139	LEU
46	n	151	VAL
46	n	158	ASP
46	n	176	VAL
46	n	179	VAL
46	n	186	VAL
46	n	189	GLN
46	n	227	THR
46	n	233	LEU
46	n	261	SER
46	n	264	LEU
46	n	360	PHE
46	n	367	VAL
46	n	371	VAL
46	n	377	GLU
46	n	407	VAL
46	n	409	HIS
46	n	411	ILE
46	n	417	LEU
46	n	427	ILE
46	n	434	ASP
47	o	92	ILE
47	o	120	VAL
47	o	122	LEU
47	o	139	PHE
47	o	144	ASP
47	o	147	ILE
47	o	157	LEU
47	o	173	ILE
47	o	185	VAL
47	o	191	LYS

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Mol	Chain	Res	Type
47	o	214	SER
48	p	31	ILE
48	p	41	PHE
48	p	56	THR
48	p	70	THR
48	p	90	VAL
49	q	218	THR
49	q	244	GLU
49	q	269	LEU
49	q	271	ASP
49	q	415	LEU
49	q	429	VAL
50	r	18	LEU
50	r	32	SER
50	r	42	LEU
50	r	43	THR
50	r	60	SER
50	r	89	THR
50	r	92	LEU
50	r	119	SER
50	r	120	VAL
50	r	124	LYS
50	r	132	GLU
50	r	133	MET
50	r	136	VAL
50	r	152	THR
50	r	157	VAL
50	r	162	THR
50	r	163	ARG
50	r	184	VAL
50	r	205	GLN
50	r	208	MET
50	r	210	THR
50	r	212	LEU
50	r	238	VAL
50	r	245	VAL
50	r	248	GLU
50	r	260	LEU
50	r	261	VAL
51	s	1	MET
51	s	3	VAL
51	s	13	THR

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Mol	Chain	Res	Type
51	s	50	ILE
51	s	60	ILE
51	s	61	LEU
51	s	73	GLU
52	t	44	GLN
52	t	50	SER
52	t	56	VAL
52	t	59	GLU
52	t	104	THR
52	t	134	THR
52	t	141	LEU
52	t	154	ASN
52	t	187	LEU
52	t	244	ILE
52	t	250	ILE
52	t	251	ILE
52	t	303	ASN
53	u	9	CYS
53	u	19	ILE
53	u	22	VAL
53	u	63	LEU
53	u	73	GLN
53	u	98	GLU
54	v	45	ILE
54	v	50	SER
54	v	56	ASP
54	v	72	MET
54	v	102	PHE
54	v	113	MET
54	v	134	THR
54	v	144	GLN
54	v	161	PHE
54	v	165	PHE
54	v	170	THR
54	v	175	VAL
54	v	236	ARG
54	v	243	ASP
54	v	247	GLU
55	w	12	THR
55	w	31	SER
55	w	39	LEU
55	w	61	LEU

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Mol	Chain	Res	Type
55	w	62	ILE
55	w	65	LEU
55	w	72	THR
55	w	90	LEU
55	w	96	THR
55	w	154	LEU
55	w	155	ASP
55	w	159	LEU
55	w	162	VAL
55	w	196	ARG
56	x	121	TYR
56	x	129	VAL
56	x	142	HIS
56	x	148	CYS
56	x	155	THR
56	x	161	THR
56	x	186	TYR
56	x	195	SER
56	x	197	ASP
56	x	203	THR
56	x	229	SER
56	x	255	SER
56	x	259	THR
56	x	263	TRP
56	x	266	VAL
56	x	278	THR
56	x	280	SER
56	x	291	LEU
56	x	313	ILE
56	x	318	SER
56	x	326	LEU
56	x	328	LEU
56	x	329	SER
56	x	330	THR
56	x	376	THR
56	x	379	ASP
56	x	383	MET
56	x	392	THR
56	x	398	MET
56	x	413	ASP
56	x	418	VAL
56	x	426	ILE

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Mol	Chain	Res	Type
56	x	443	HIS
56	x	447	VAL
56	x	463	SER
56	x	473	VAL
56	x	478	LEU
56	x	480	VAL
56	x	493	ASP
57	y	20	THR
57	y	21	ASN
57	y	26	VAL
57	y	51	THR
57	y	52	THR
57	y	76	THR
57	y	81	LEU
57	y	101	LEU
57	y	107	VAL
57	y	112	ASP
57	y	120	ASP
57	y	121	ILE
57	y	141	THR
57	y	147	LEU
57	y	164	GLN
57	y	176	LEU
57	y	187	ASN
57	y	193	VAL
57	y	197	MET
57	y	199	VAL
57	y	202	TYR
57	y	206	THR
57	y	216	SER
58	z	21	VAL
58	z	41	LEU
58	z	42	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (133) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	58	GLN
4	4	118	ASN
4	4	235	ASN
4	4	377	GLN
4	4	555	GLN

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Mol	Chain	Res	Type
7	A	132	ASN
7	A	194	ASN
8	B	3	HIS
8	B	13	HIS
8	B	68	HIS
8	B	177	HIS
8	B	184	ASN
8	B	224	HIS
8	B	243	HIS
8	B	273	HIS
9	C	243	HIS
9	C	322	GLN
10	D	151	GLN
11	E	57	HIS
12	F	80	GLN
12	F	159	GLN
12	F	172	ASN
12	F	186	HIS
12	F	225	GLN
13	G	33	ASN
13	G	38	GLN
13	G	123	GLN
14	H	125	ASN
14	H	183	HIS
15	I	37	GLN
15	I	99	ASN
15	I	126	HIS
17	K	200	ASN
17	K	247	HIS
17	K	262	ASN
17	K	284	ASN
17	K	295	GLN
18	L	25	HIS
18	L	106	GLN
19	M	27	GLN
19	M	41	GLN
20	N	87	GLN
20	N	90	ASN
20	N	123	GLN
21	O	31	GLN
21	O	182	ASN
22	P	10	ASN

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Mol	Chain	Res	Type
22	P	45	GLN
23	Q	23	ASN
24	R	3	ASN
24	R	36	ASN
24	R	68	GLN
24	R	141	HIS
24	R	144	GLN
25	S	65	ASN
25	S	88	HIS
26	T	54	HIS
26	T	66	ASN
26	T	77	ASN
26	T	112	ASN
27	U	109	GLN
28	V	81	GLN
29	W	91	GLN
29	W	159	HIS
31	Y	66	GLN
32	Z	29	HIS
33	a	120	ASN
34	b	26	GLN
34	b	124	GLN
34	b	333	ASN
34	b	365	GLN
34	b	413	ASN
34	b	465	ASN
34	b	500	GLN
34	b	540	HIS
34	b	579	ASN
34	b	614	ASN
37	e	21	HIS
37	e	35	GLN
37	e	49	ASN
37	e	52	GLN
37	e	88	HIS
37	e	98	HIS
38	f	42	GLN
39	g	52	GLN
39	g	98	GLN
40	h	104	GLN
42	j	69	HIS
42	j	79	GLN

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Mol	Chain	Res	Type
43	k	32	ASN
43	k	57	ASN
44	l	33	ASN
45	m	207	GLN
45	m	310	HIS
45	m	408	GLN
45	m	455	ASN
46	n	456	HIS
47	o	163	GLN
47	o	199	ASN
48	p	32	GLN
50	r	33	HIS
50	r	40	GLN
50	r	96	GLN
50	r	203	ASN
52	t	25	ASN
52	t	88	ASN
52	t	92	HIS
52	t	225	HIS
52	t	238	GLN
52	t	284	ASN
52	t	291	GLN
52	t	300	GLN
53	u	7	HIS
53	u	130	ASN
54	v	144	GLN
54	v	173	GLN
54	v	191	GLN
55	w	25	ASN
55	w	57	ASN
55	w	63	ASN
55	w	151	ASN
55	w	195	GLN
55	w	198	ASN
56	x	176	GLN
56	x	228	HIS
56	x	325	HIS
56	x	443	HIS
57	y	82	GLN
57	y	86	ASN
57	y	164	GLN
57	y	178	GLN

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Mol	Chain	Res	Type
58	z	31	GLN
58	z	44	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2962/3396 (87%)	915 (30%)	58 (1%)
2	2	157/158 (99%)	33 (21%)	2 (1%)
3	3	120/121 (99%)	54 (45%)	0
6	6	63/232 (27%)	33 (52%)	5 (7%)
All	All	3302/3907 (84%)	1035 (31%)	65 (1%)

All (1035) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	2	U
1	1	5	G
1	1	6	A
1	1	18	G
1	1	26	A
1	1	39	A
1	1	40	A
1	1	41	G
1	1	42	C
1	1	43	A
1	1	45	A
1	1	48	A
1	1	49	A
1	1	59	G
1	1	60	A
1	1	65	A
1	1	66	A
1	1	73	C
1	1	74	G
1	1	75	G
1	1	85	A
1	1	92	G
1	1	93	C
1	1	94	G
1	1	96	G
1	1	109	A

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Mol	Chain	Res	Type
1	1	110	G
1	1	115	A
1	1	116	A
1	1	118	U
1	1	119	U
1	1	121	A
1	1	122	A
1	1	135	C
1	1	136	G
1	1	142	C
1	1	143	G
1	1	146	U
1	1	148	G
1	1	155	G
1	1	156	G
1	1	157	A
1	1	160	G
1	1	161	G
1	1	163	C
1	1	166	C
1	1	168	U
1	1	169	U
1	1	170	G
1	1	173	G
1	1	175	C
1	1	181	U
1	1	182	U
1	1	187	A
1	1	190	U
1	1	191	U
1	1	198	A
1	1	200	C
1	1	210	U
1	1	211	A
1	1	213	A
1	1	218	G
1	1	219	A
1	1	240	U
1	1	241	G
1	1	242	C
1	1	243	G
1	1	248	U

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Mol	Chain	Res	Type
1	1	249	U
1	1	250	U
1	1	251	G
1	1	252	U
1	1	253	A
1	1	254	A
1	1	260	C
1	1	262	U
1	1	263	C
1	1	269	G
1	1	281	G
1	1	284	A
1	1	285	A
1	1	286	U
1	1	292	U
1	1	295	A
1	1	299	G
1	1	305	U
1	1	306	A
1	1	307	A
1	1	308	A
1	1	311	C
1	1	323	A
1	1	329	U
1	1	338	A
1	1	339	C
1	1	354	U
1	1	359	U
1	1	368	G
1	1	376	G
1	1	390	G
1	1	398	A
1	1	399	A
1	1	401	U
1	1	402	A
1	1	403	C
1	1	404	G
1	1	407	A
1	1	421	G
1	1	422	A
1	1	429	U
1	1	437	G

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Mol	Chain	Res	Type
1	1	438	A
1	1	439	C
1	1	440	A
1	1	495	G
1	1	503	C
1	1	518	G
1	1	520	U
1	1	521	A
1	1	530	G
1	1	536	U
1	1	544	C
1	1	546	C
1	1	547	G
1	1	549	U
1	1	550	A
1	1	551	A
1	1	552	G
1	1	555	U
1	1	557	A
1	1	559	A
1	1	566	G
1	1	575	G
1	1	578	A
1	1	579	G
1	1	592	A
1	1	597	G
1	1	602	A
1	1	604	G
1	1	607	A
1	1	609	G
1	1	611	A
1	1	619	A
1	1	620	U
1	1	621	A
1	1	622	A
1	1	636	C
1	1	637	C
1	1	638	C
1	1	643	U
1	1	644	G
1	1	645	A
1	1	646	A

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Mol	Chain	Res	Type
1	1	647	A
1	1	648	C
1	1	649	A
1	1	650	C
1	1	654	C
1	1	660	A
1	1	676	G
1	1	677	A
1	1	681	U
1	1	689	U
1	1	690	A
1	1	691	A
1	1	705	A
1	1	708	G
1	1	709	A
1	1	710	A
1	1	715	A
1	1	716	A
1	1	718	G
1	1	719	U
1	1	720	A
1	1	721	G
1	1	722	G
1	1	725	G
1	1	735	A
1	1	739	G
1	1	742	G
1	1	760	G
1	1	762	U
1	1	763	G
1	1	766	U
1	1	767	U
1	1	768	C
1	1	772	U
1	1	773	G
1	1	774	G
1	1	775	A
1	1	776	U
1	1	777	U
1	1	779	G
1	1	780	A
1	1	781	G

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Mol	Chain	Res	Type
1	1	782	U
1	1	785	G
1	1	801	A
1	1	806	A
1	1	808	A
1	1	816	A
1	1	817	A
1	1	830	A
1	1	832	G
1	1	846	A
1	1	848	A
1	1	849	C
1	1	850	U
1	1	861	C
1	1	871	U
1	1	874	U
1	1	875	G
1	1	879	U
1	1	884	A
1	1	896	A
1	1	897	U
1	1	907	G
1	1	908	G
1	1	909	G
1	1	914	A
1	1	915	A
1	1	916	G
1	1	917	A
1	1	918	C
1	1	924	G
1	1	925	A
1	1	932	U
1	1	934	G
1	1	936	A
1	1	939	U
1	1	941	G
1	1	944	C
1	1	954	U
1	1	959	C
1	1	960	U
1	1	961	C
1	1	964	G

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Mol	Chain	Res	Type
1	1	967	A
1	1	975	C
1	1	976	U
1	1	977	C
1	1	978	G
1	1	979	U
1	1	980	A
1	1	984	G
1	1	991	G
1	1	992	A
1	1	993	G
1	1	994	G
1	1	995	U
1	1	996	A
1	1	997	A
1	1	998	A
1	1	999	G
1	1	1000	C
1	1	1001	G
1	1	1048	A
1	1	1049	C
1	1	1050	U
1	1	1053	A
1	1	1054	A
1	1	1055	A
1	1	1056	U
1	1	1057	A
1	1	1058	U
1	1	1064	A
1	1	1065	A
1	1	1068	C
1	1	1070	U
1	1	1072	G
1	1	1084	A
1	1	1086	C
1	1	1087	G
1	1	1088	U
1	1	1092	C
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1097	G

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Mol	Chain	Res	Type
1	1	1098	A
1	1	1103	A
1	1	1104	G
1	1	1106	G
1	1	1107	C
1	1	1111	U
1	1	1112	A
1	1	1113	G
1	1	1115	G
1	1	1117	G
1	1	1118	C
1	1	1127	G
1	1	1128	U
1	1	1129	A
1	1	1130	A
1	1	1132	C
1	1	1135	A
1	1	1136	A
1	1	1153	A
1	1	1155	C
1	1	1178	G
1	1	1180	A
1	1	1181	U
1	1	1182	A
1	1	1187	C
1	1	1190	A
1	1	1192	C
1	1	1193	A
1	1	1196	C
1	1	1197	A
1	1	1198	C
1	1	1199	C
1	1	1200	A
1	1	1203	A
1	1	1204	A
1	1	1206	G
1	1	1207	G
1	1	1209	G
1	1	1220	U
1	1	1222	G
1	1	1227	C
1	1	1235	U

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Mol	Chain	Res	Type
1	1	1236	G
1	1	1237	G
1	1	1239	C
1	1	1241	U
1	1	1242	G
1	1	1244	A
1	1	1245	A
1	1	1251	A
1	1	1253	U
1	1	1254	C
1	1	1257	C
1	1	1262	G
1	1	1263	A
1	1	1265	U
1	1	1266	G
1	1	1271	A
1	1	1272	C
1	1	1273	A
1	1	1274	A
1	1	1278	A
1	1	1279	C
1	1	1285	G
1	1	1286	A
1	1	1287	A
1	1	1290	A
1	1	1302	A
1	1	1303	A
1	1	1304	A
1	1	1305	U
1	1	1307	G
1	1	1308	A
1	1	1309	U
1	1	1313	G
1	1	1314	C
1	1	1330	A
1	1	1331	U
1	1	1348	U
1	1	1349	G
1	1	1350	A
1	1	1351	U
1	1	1352	A
1	1	1353	U

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Mol	Chain	Res	Type
1	1	1354	G
1	1	1355	A
1	1	1356	U
1	1	1357	G
1	1	1380	G
1	1	1383	G
1	1	1386	A
1	1	1391	C
1	1	1392	G
1	1	1394	A
1	1	1399	A
1	1	1400	G
1	1	1419	A
1	1	1421	G
1	1	1431	G
1	1	1434	G
1	1	1437	C
1	1	1443	G
1	1	1446	A
1	1	1449	A
1	1	1450	G
1	1	1495	U
1	1	1503	A
1	1	1508	C
1	1	1523	U
1	1	1533	U
1	1	1536	G
1	1	1547	G
1	1	1555	U
1	1	1556	C
1	1	1557	A
1	1	1560	G
1	1	1561	G
1	1	1562	C
1	1	1566	A
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1573	G
1	1	1575	A
1	1	1577	G
1	1	1580	A

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Mol	Chain	Res	Type
1	1	1581	C
1	1	1582	C
1	1	1583	A
1	1	1589	A
1	1	1596	C
1	1	1605	A
1	1	1619	A
1	1	1629	U
1	1	1639	C
1	1	1642	A
1	1	1643	A
1	1	1657	C
1	1	1683	A
1	1	1694	U
1	1	1704	A
1	1	1705	U
1	1	1713	G
1	1	1714	A
1	1	1717	U
1	1	1718	G
1	1	1724	U
1	1	1725	C
1	1	1730	G
1	1	1736	G
1	1	1741	A
1	1	1742	U
1	1	1750	A
1	1	1751	G
1	1	1756	C
1	1	1758	G
1	1	1760	A
1	1	1761	C
1	1	1763	U
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1770	G
1	1	1780	G
1	1	1792	C
1	1	1793	C
1	1	1796	G
1	1	1797	A

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Mol	Chain	Res	Type
1	1	1802	C
1	1	1808	G
1	1	1810	A
1	1	1813	A
1	1	1816	A
1	1	1817	G
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1830	G
1	1	1838	G
1	1	1839	A
1	1	1842	A
1	1	1849	C
1	1	1866	C
1	1	1871	U
1	1	1878	G
1	1	1880	U
1	1	1884	A
1	1	1893	A
1	1	1906	G
1	1	1909	A
1	1	1926	C
1	1	1951	C
1	1	1952	G
1	1	2094	C
1	1	2096	A
1	1	2101	C
1	1	2102	U
1	1	2110	G
1	1	2114	C
1	1	2121	G
1	1	2122	G
1	1	2126	A
1	1	2131	A
1	1	2138	A
1	1	2142	A
1	1	2158	A
1	1	2163	C
1	1	2170	U
1	1	2174	G
1	1	2185	G

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Mol	Chain	Res	Type
1	1	2190	U
1	1	2191	U
1	1	2193	U
1	1	2194	G
1	1	2195	C
1	1	2315	G
1	1	2316	G
1	1	2317	A
1	1	2318	U
1	1	2319	U
1	1	2320	A
1	1	2334	U
1	1	2335	G
1	1	2336	U
1	1	2355	G
1	1	2371	G
1	1	2385	G
1	1	2397	A
1	1	2398	A
1	1	2401	A
1	1	2403	G
1	1	2404	A
1	1	2405	C
1	1	2406	C
1	1	2407	C
1	1	2408	U
1	1	2409	G
1	1	2410	U
1	1	2415	C
1	1	2416	U
1	1	2418	G
1	1	2419	A
1	1	2420	C
1	1	2425	G
1	1	2426	U
1	1	2427	U
1	1	2429	G
1	1	2430	A
1	1	2432	A
1	1	2433	U
1	1	2434	U
1	1	2435	G

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Mol	Chain	Res	Type
1	1	2437	G
1	1	2438	A
1	1	2439	A
1	1	2441	A
1	1	2444	C
1	1	2445	A
1	1	2502	A
1	1	2504	U
1	1	2505	U
1	1	2506	U
1	1	2507	C
1	1	2508	U
1	1	2511	A
1	1	2512	C
1	1	2522	G
1	1	2523	A
1	1	2524	A
1	1	2525	G
1	1	2526	C
1	1	2529	A
1	1	2530	G
1	1	2531	C
1	1	2532	U
1	1	2533	G
1	1	2534	G
1	1	2536	A
1	1	2537	U
1	1	2538	U
1	1	2539	C
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2543	U
1	1	2545	C
1	1	2546	C
1	1	2548	C
1	1	2549	G
1	1	2552	C
1	1	2558	U
1	1	2561	A
1	1	2567	C
1	1	2568	C

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Mol	Chain	Res	Type
1	1	2569	A
1	1	2570	U
1	1	2571	U
1	1	2572	C
1	1	2573	G
1	1	2575	G
1	1	2586	G
1	1	2588	U
1	1	2593	A
1	1	2594	C
1	1	2595	A
1	1	2596	U
1	1	2602	G
1	1	2603	G
1	1	2604	U
1	1	2606	G
1	1	2610	G
1	1	2612	U
1	1	2613	U
1	1	2614	G
1	1	2620	G
1	1	2621	G
1	1	2623	G
1	1	2625	C
1	1	2626	A
1	1	2627	C
1	1	2628	A
1	1	2629	U
1	1	2631	U
1	1	2632	G
1	1	2633	U
1	1	2635	A
1	1	2636	A
1	1	2639	G
1	1	2641	U
1	1	2642	A
1	1	2643	A
1	1	2644	C
1	1	2645	G
1	1	2646	C
1	1	2647	A
1	1	2648	G

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Mol	Chain	Res	Type
1	1	2649	A
1	1	2650	U
1	1	2652	U
1	1	2653	C
1	1	2654	C
1	1	2655	U
1	1	2656	A
1	1	2657	A
1	1	2659	G
1	1	2661	G
1	1	2665	U
1	1	2666	C
1	1	2668	U
1	1	2672	G
1	1	2674	A
1	1	2675	C
1	1	2676	A
1	1	2677	G
1	1	2679	A
1	1	2681	U
1	1	2683	U
1	1	2684	C
1	1	2685	C
1	1	2686	A
1	1	2687	G
1	1	2688	U
1	1	2689	A
1	1	2690	G
1	1	2691	A
1	1	2692	A
1	1	2693	C
1	1	2694	A
1	1	2695	A
1	1	2696	A
1	1	2698	G
1	1	2701	U
1	1	2702	A
1	1	2703	A
1	1	2704	A
1	1	2705	A
1	1	2706	G
1	1	2707	C

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Mol	Chain	Res	Type
1	1	2709	C
1	1	2712	U
1	1	2713	U
1	1	2714	G
1	1	2715	A
1	1	2716	U
1	1	2717	U
1	1	2718	U
1	1	2719	U
1	1	2720	G
1	1	2721	A
1	1	2722	U
1	1	2724	U
1	1	2726	C
1	1	2727	A
1	1	2728	G
1	1	2729	U
1	1	2730	G
1	1	2731	U
1	1	2732	G
1	1	2734	A
1	1	2740	A
1	1	2743	A
1	1	2746	A
1	1	2749	G
1	1	2752	U
1	1	2754	G
1	1	2756	C
1	1	2758	A
1	1	2759	U
1	1	2760	C
1	1	2761	G
1	1	2762	A
1	1	2763	U
1	1	2764	C
1	1	2765	C
1	1	2766	U
1	1	2772	C
1	1	2773	C
1	1	2777	G
1	1	2778	G
1	1	2782	U

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Mol	Chain	Res	Type
1	1	2786	G
1	1	2788	C
1	1	2789	U
1	1	2790	A
1	1	2791	G
1	1	2794	G
1	1	2795	U
1	1	2796	G
1	1	2797	C
1	1	2798	C
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2803	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2816	G
1	1	2817	A
1	1	2819	A
1	1	2820	A
1	1	2821	C
1	1	2822	U
1	1	2824	G
1	1	2825	C
1	1	2826	U
1	1	2828	G
1	1	2834	G
1	1	2837	A
1	1	2839	G
1	1	2841	G
1	1	2842	U
1	1	2843	U
1	1	2844	C
1	1	2845	A
1	1	2846	U
1	1	2847	A
1	1	2849	C
1	1	2850	G
1	1	2853	A
1	1	2854	U

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Mol	Chain	Res	Type
1	1	2855	U
1	1	2857	C
1	1	2858	U
1	1	2859	U
1	1	2861	U
1	1	2863	G
1	1	2864	A
1	1	2866	U
1	1	2867	C
1	1	2868	U
1	1	2869	U
1	1	2870	C
1	1	2872	A
1	1	2873	U
1	1	2874	G
1	1	2875	U
1	1	2876	C
1	1	2877	G
1	1	2878	G
1	1	2879	C
1	1	2887	A
1	1	2889	C
1	1	2897	A
1	1	2898	G
1	1	2899	C
1	1	2900	A
1	1	2904	U
1	1	2911	A
1	1	2923	U
1	1	2925	C
1	1	2926	A
1	1	2928	C
1	1	2929	C
1	1	2930	A
1	1	2935	U
1	1	2936	A
1	1	2944	U
1	1	2945	G
1	1	2946	A
1	1	2947	G
1	1	2950	G
1	1	2951	G

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Mol	Chain	Res	Type
1	1	2952	G
1	1	2953	U
1	1	2954	U
1	1	2955	U
1	1	2956	A
1	1	2957	G
1	1	2966	G
1	1	2971	A
1	1	2972	G
1	1	2973	G
1	1	2978	U
1	1	2980	U
1	1	2981	U
1	1	2982	A
1	1	2983	C
1	1	2986	U
1	1	2990	G
1	1	2992	U
1	1	2997	G
1	1	3012	A
1	1	3017	A
1	1	3021	A
1	1	3022	G
1	1	3023	U
1	1	3024	A
1	1	3031	G
1	1	3032	A
1	1	3059	G
1	1	3074	G
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3086	A
1	1	3090	U
1	1	3092	C
1	1	3093	C
1	1	3100	U
1	1	3104	U
1	1	3113	A
1	1	3121	U
1	1	3122	A
1	1	3123	A

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Mol	Chain	Res	Type
1	1	3127	A
1	1	3129	A
1	1	3130	A
1	1	3131	U
1	1	3142	A
1	1	3143	C
1	1	3151	U
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3157	U
1	1	3158	G
1	1	3159	C
1	1	3162	C
1	1	3163	A
1	1	3164	C
1	1	3165	A
1	1	3168	A
1	1	3170	A
1	1	3172	A
1	1	3173	G
1	1	3174	A
1	1	3176	G
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3187	A
1	1	3194	C
1	1	3195	U
1	1	3196	U
1	1	3206	C
1	1	3207	U
1	1	3213	A
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3224	G
1	1	3228	C
1	1	3229	G
1	1	3239	G
1	1	3242	G

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Mol	Chain	Res	Type
1	1	3243	A
1	1	3245	A
1	1	3247	G
1	1	3253	G
1	1	3259	U
1	1	3260	G
1	1	3263	G
1	1	3270	U
1	1	3273	A
1	1	3274	A
1	1	3276	G
1	1	3279	A
1	1	3280	U
1	1	3281	U
1	1	3287	U
1	1	3288	G
1	1	3289	G
1	1	3290	G
1	1	3294	A
1	1	3295	A
1	1	3304	U
1	1	3309	G
1	1	3313	U
1	1	3317	U
1	1	3319	U
1	1	3320	A
1	1	3341	U
1	1	3342	A
1	1	3345	G
1	1	3350	C
1	1	3351	U
1	1	3352	U
1	1	3353	G
1	1	3354	U
1	1	3355	U
1	1	3356	G
1	1	3357	U
1	1	3359	A
1	1	3369	G
1	1	3375	A
1	1	3376	A
1	1	3378	C

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Mol	Chain	Res	Type
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3389	U
1	1	3390	G
1	1	3391	A
1	1	3396	U
2	2	25	G
2	2	34	U
2	2	35	C
2	2	52	A
2	2	53	A
2	2	59	A
2	2	62	C
2	2	63	G
2	2	71	A
2	2	79	A
2	2	80	A
2	2	82	U
2	2	83	C
2	2	84	C
2	2	85	G
2	2	86	U
2	2	87	G
2	2	88	A
2	2	90	U
2	2	95	G
2	2	104	A
2	2	106	C
2	2	111	A
2	2	113	U
2	2	114	G
2	2	121	U
2	2	124	G
2	2	125	U
2	2	126	A
2	2	138	A
2	2	148	G
2	2	151	C
2	2	158	U
3	3	7	G
3	3	11	A

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Mol	Chain	Res	Type
3	3	13	A
3	3	17	A
3	3	19	C
3	3	22	A
3	3	23	A
3	3	25	G
3	3	26	C
3	3	27	A
3	3	33	U
3	3	35	C
3	3	36	C
3	3	38	U
3	3	39	C
3	3	40	C
3	3	43	U
3	3	44	C
3	3	46	A
3	3	47	C
3	3	50	U
3	3	51	A
3	3	52	G
3	3	53	U
3	3	54	U
3	3	55	A
3	3	60	G
3	3	63	A
3	3	64	A
3	3	65	G
3	3	69	C
3	3	73	C
3	3	74	C
3	3	76	A
3	3	78	U
3	3	82	G
3	3	84	A
3	3	87	G
3	3	89	G
3	3	93	C
3	3	94	C
3	3	95	A
3	3	98	C
3	3	99	G

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Mol	Chain	Res	Type
3	3	101	G
3	3	102	A
3	3	108	A
3	3	112	G
3	3	113	C
3	3	117	A
3	3	118	A
3	3	119	U
3	3	120	C
3	3	121	U
6	6	4	U
6	6	5	C
6	6	6	U
6	6	7	C
6	6	8	A
6	6	14	U
6	6	15	C
6	6	16	U
6	6	17	G
6	6	19	U
6	6	23	U
6	6	24	A
6	6	26	U
6	6	34	A
6	6	39	U
6	6	40	U
6	6	41	G
6	6	42	G
6	6	43	A
6	6	44	G
6	6	45	U
6	6	47	A
6	6	49	C
6	6	53	A
6	6	54	A
6	6	56	U
6	6	57	U
6	6	58	G
6	6	59	C
6	6	229	U
6	6	230	A
6	6	231	A

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Mol	Chain	Res	Type
6	6	232	A

All (65) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	40	A
1	1	160	G
1	1	239	G
1	1	284	A
1	1	305	U
1	1	588	G
1	1	637	C
1	1	645	A
1	1	646	A
1	1	649	A
1	1	720	A
1	1	761	A
1	1	849	C
1	1	916	G
1	1	976	U
1	1	1064	A
1	1	1097	G
1	1	1102	A
1	1	1103	A
1	1	1128	U
1	1	1205	A
1	1	1241	U
1	1	1302	A
1	1	1307	G
1	1	1329	U
1	1	1331	U
1	1	1355	A
1	1	1568	U
1	1	1574	C
1	1	2101	C
1	1	2400	G
1	1	2432	A
1	1	2522	G
1	1	2537	U
1	1	2541	U
1	1	2593	A
1	1	2651	G

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Mol	Chain	Res	Type
1	1	2655	U
1	1	2658	G
1	1	2693	C
1	1	2715	A
1	1	2728	G
1	1	2753	G
1	1	2824	G
1	1	2857	C
1	1	2866	U
1	1	2875	U
1	1	2950	G
1	1	2970	C
1	1	3030	G
1	1	3078	U
1	1	3121	U
1	1	3218	A
1	1	3228	C
1	1	3269	U
1	1	3341	U
1	1	3350	C
1	1	3351	U
2	2	39	G
2	2	123	G
6	6	16	U
6	6	23	U
6	6	53	A
6	6	56	U
6	6	57	U

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 8 ligands modelled in this entry, 6 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
60	GTP	m	501	61	33,34,34	0.95	2 (6%)	50,54,54	1.71	10 (20%)
60	GTP	b	701	61	33,34,34	0.91	0	50,54,54	1.63	8 (16%)

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
60	GTP	m	501	61	-	6/22/38/38	0/3/3/3
60	GTP	b	701	61	-	7/22/38/38	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	m	501	GTP	C5-N7	-2.11	1.34	1.39
60	m	501	GTP	C2-N3	2.06	1.38	1.33

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	b	701	GTP	C5-C4-N3	-5.18	120.15	128.39
60	m	501	GTP	C5-C4-N3	-5.05	120.36	128.39
60	b	701	GTP	C2-N3-C4	4.86	120.66	112.30
60	m	501	GTP	C2-N3-C4	4.72	120.43	112.30
60	b	701	GTP	N9-C4-N3	3.50	132.95	125.95
60	m	501	GTP	N9-C4-N3	3.38	132.72	125.95
60	b	701	GTP	C2-N1-C6	-2.97	119.72	125.11
60	b	701	GTP	N9-C8-N7	-2.94	107.94	113.40
60	m	501	GTP	C2-N1-C6	-2.94	119.78	125.11
60	b	701	GTP	C8-N7-C5	2.79	109.22	104.26
60	m	501	GTP	N9-C8-N7	-2.76	108.28	113.40
60	m	501	GTP	C5-C6-N1	2.67	120.04	113.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	m	501	GTP	O6-C6-C5	-2.61	119.64	126.53
60	b	701	GTP	C5-C6-N1	2.60	119.87	113.25
60	m	501	GTP	C8-N7-C5	2.50	108.72	104.26
60	b	701	GTP	O6-C6-C5	-2.29	120.50	126.53
60	m	501	GTP	O2B-PB-O3B	2.13	113.03	107.27
60	m	501	GTP	O2'-C2'-C3'	-2.03	105.31	111.82

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
60	b	701	GTP	C5'-O5'-PA-O3A
60	b	701	GTP	C5'-O5'-PA-O1A
60	b	701	GTP	C5'-O5'-PA-O2A
60	b	701	GTP	C3'-C4'-C5'-O5'
60	b	701	GTP	O4'-C4'-C5'-O5'
60	m	501	GTP	PA-O3A-PB-O3B
60	m	501	GTP	PG-O3B-PB-O1B
60	m	501	GTP	PA-O3A-PB-O1B
60	m	501	GTP	O4'-C4'-C5'-O5'
60	b	701	GTP	PB-O3A-PA-O1A
60	b	701	GTP	PB-O3A-PA-O2A
60	m	501	GTP	PG-O3B-PB-O2B
60	m	501	GTP	PA-O3A-PB-O2B

There are no ring outliers.

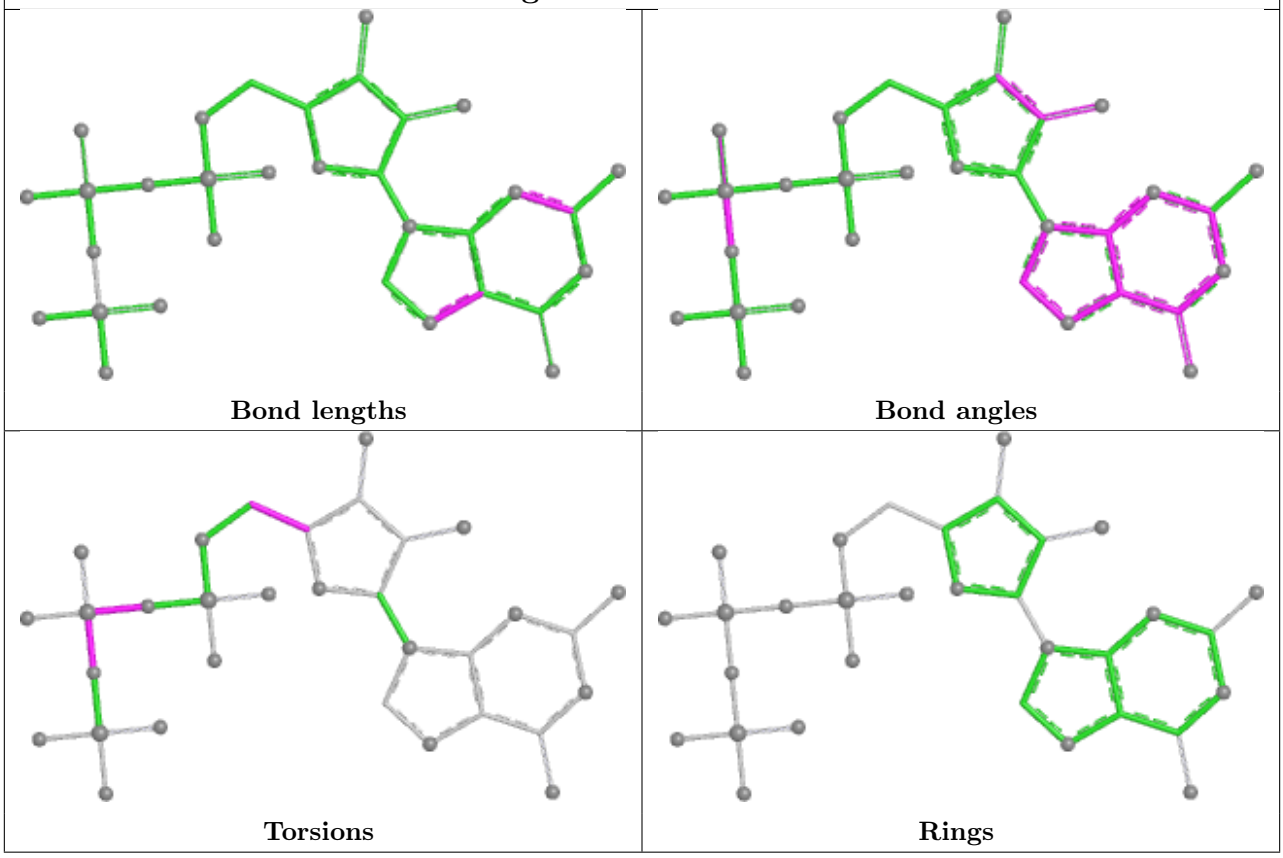
2 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	m	501	GTP	3	0
60	b	701	GTP	9	0

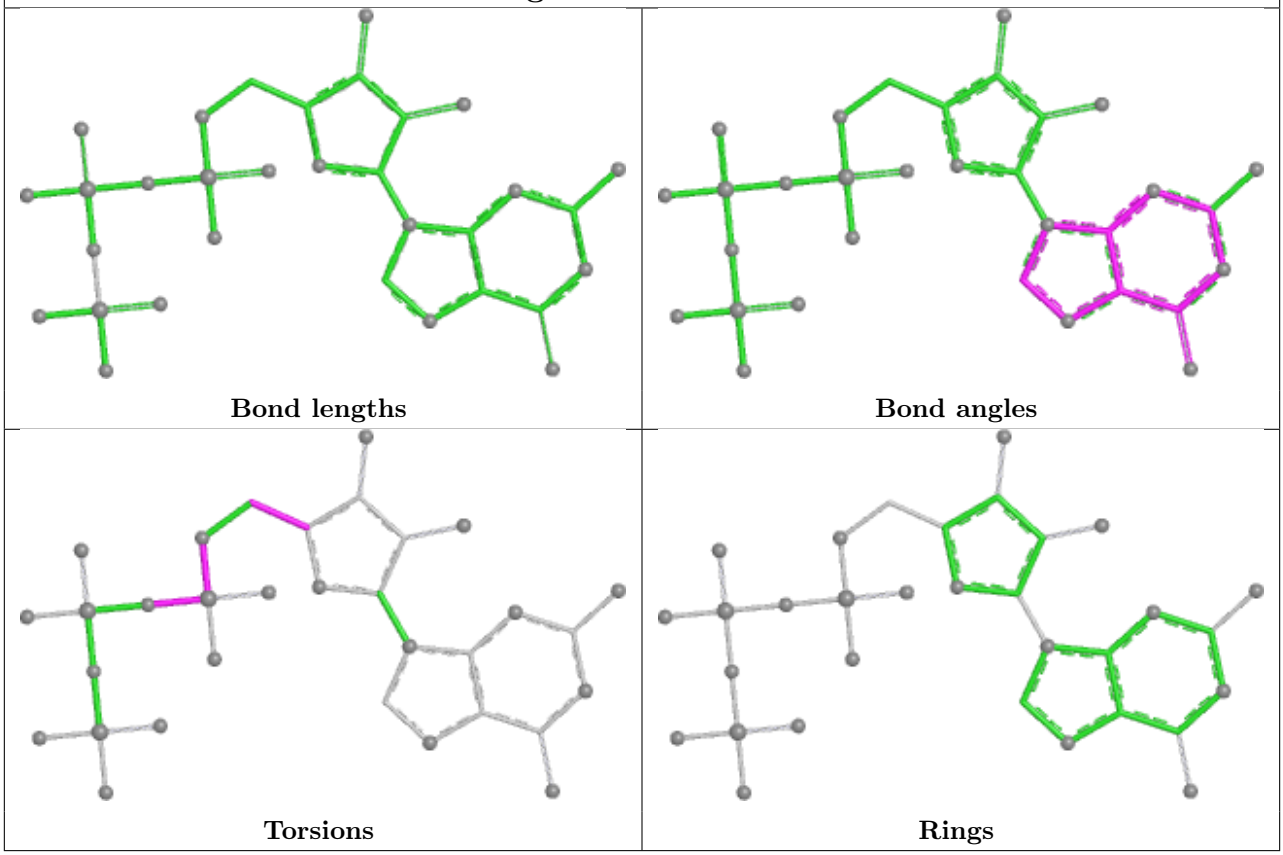
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand GTP m 501



Ligand GTP b 701



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

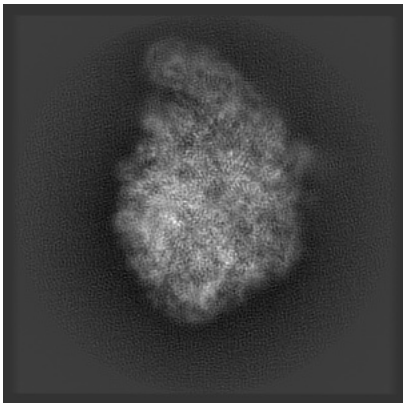
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-30108. These allow visual inspection of the internal detail of the map and identification of artifacts.

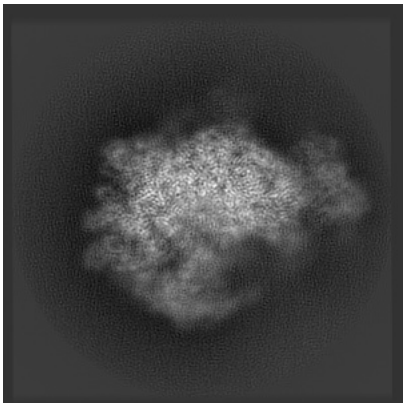
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

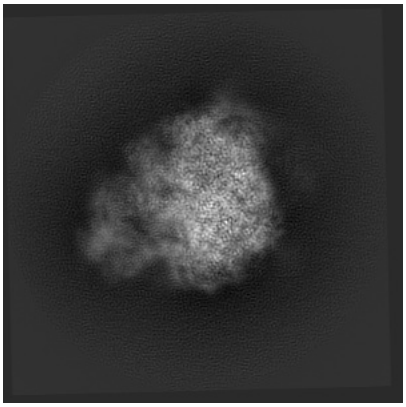
6.1.1 Primary map



X



Y

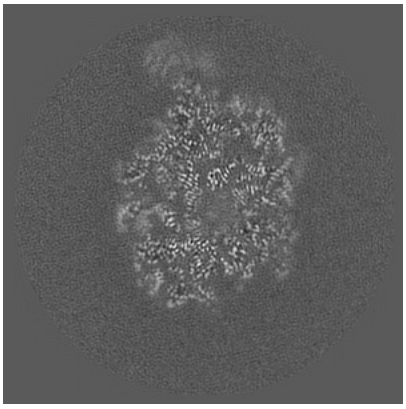


Z

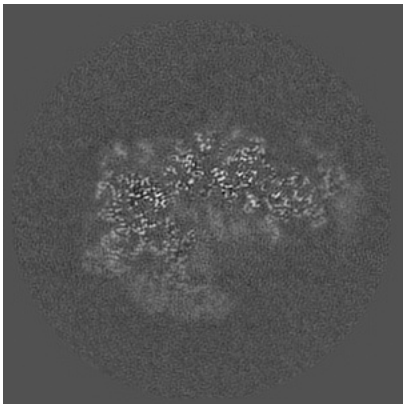
The images above show the map projected in three orthogonal directions.

6.2 Central slices

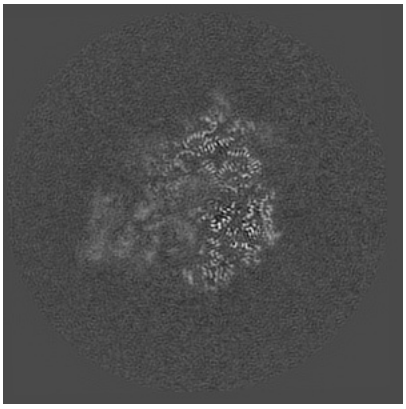
6.2.1 Primary map



X Index: 200



Y Index: 200

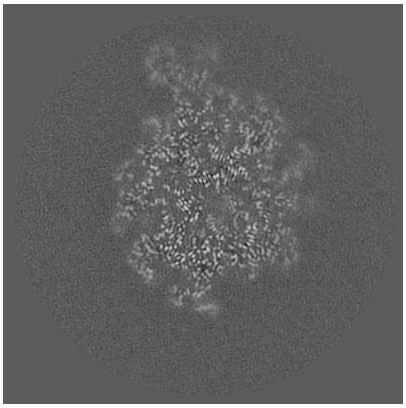


Z Index: 200

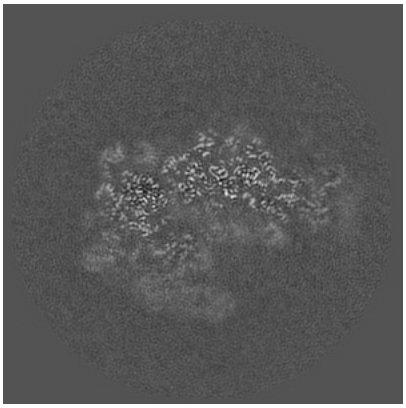
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

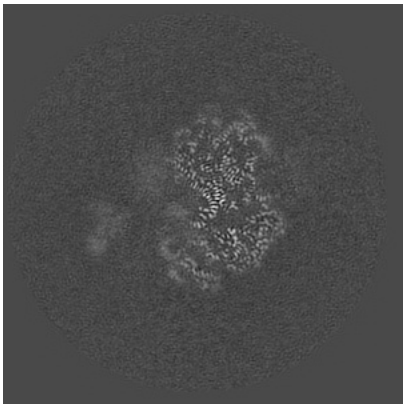
6.3.1 Primary map



X Index: 210



Y Index: 197

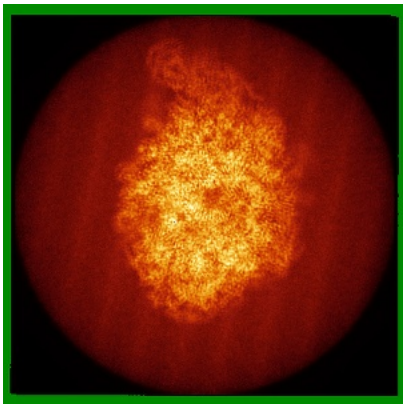


Z Index: 223

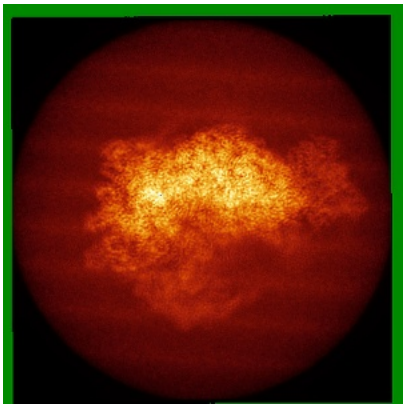
The images above show the largest variance slices of the map in three orthogonal directions.

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

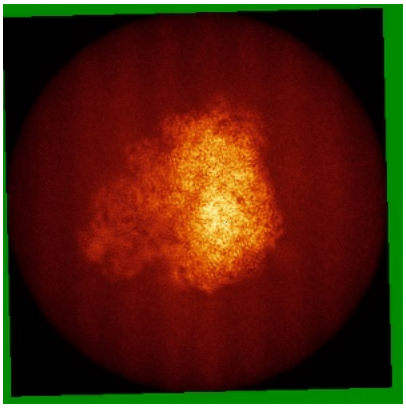
6.4.1 Primary map



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

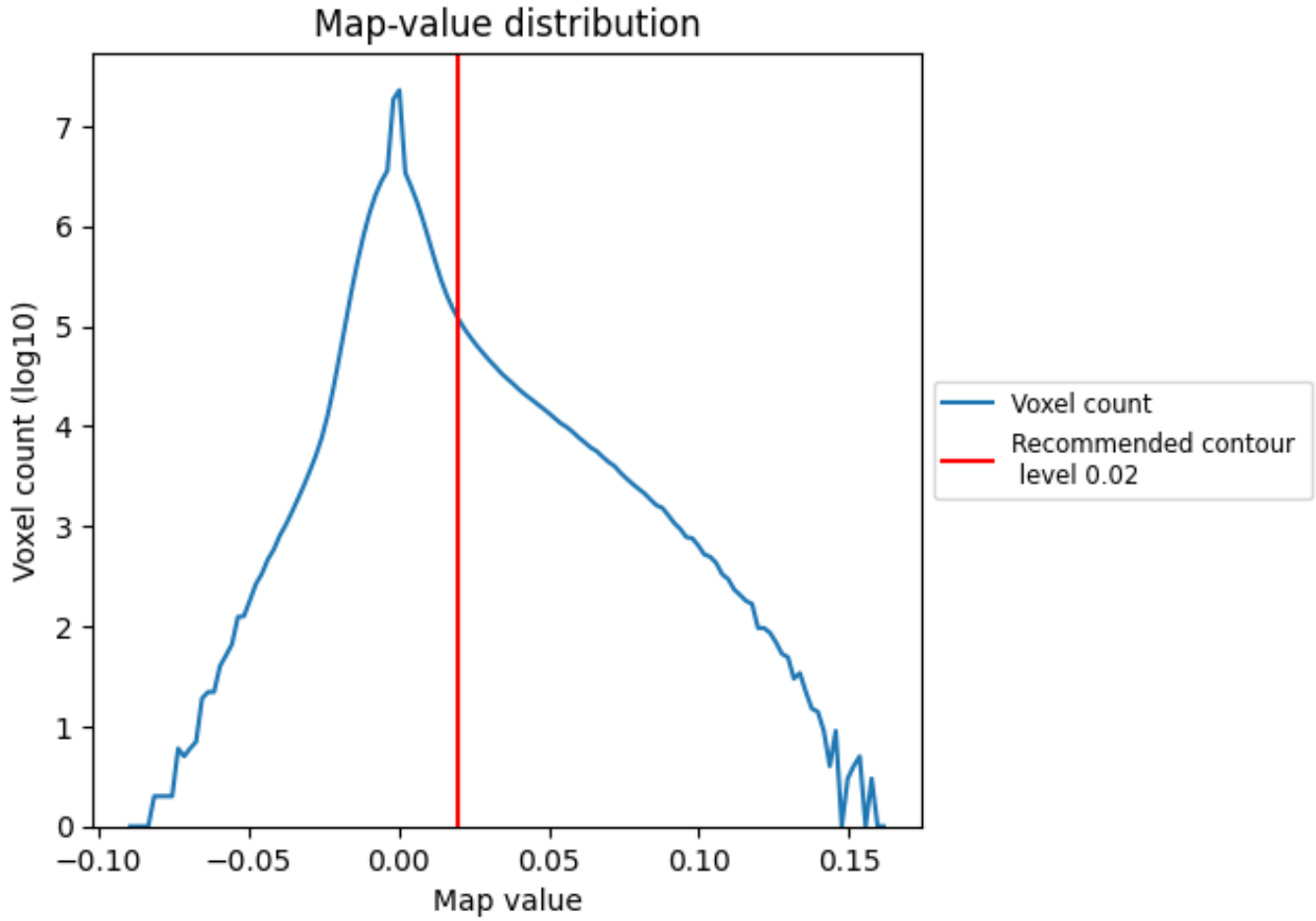
6.6 Mask visualisation (i)

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

7 Map analysis

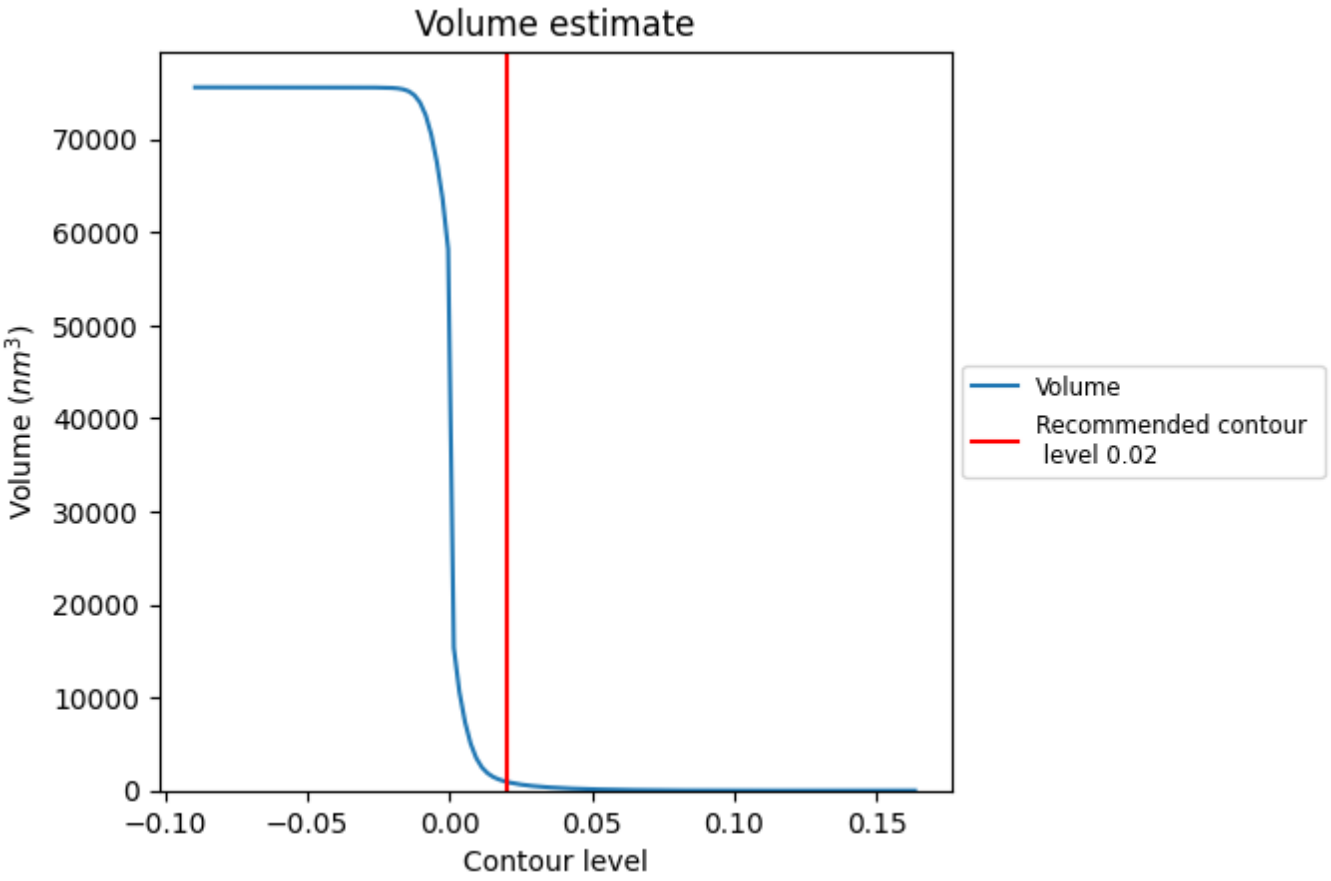
This section contains the results of statistical analysis of the map.

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.

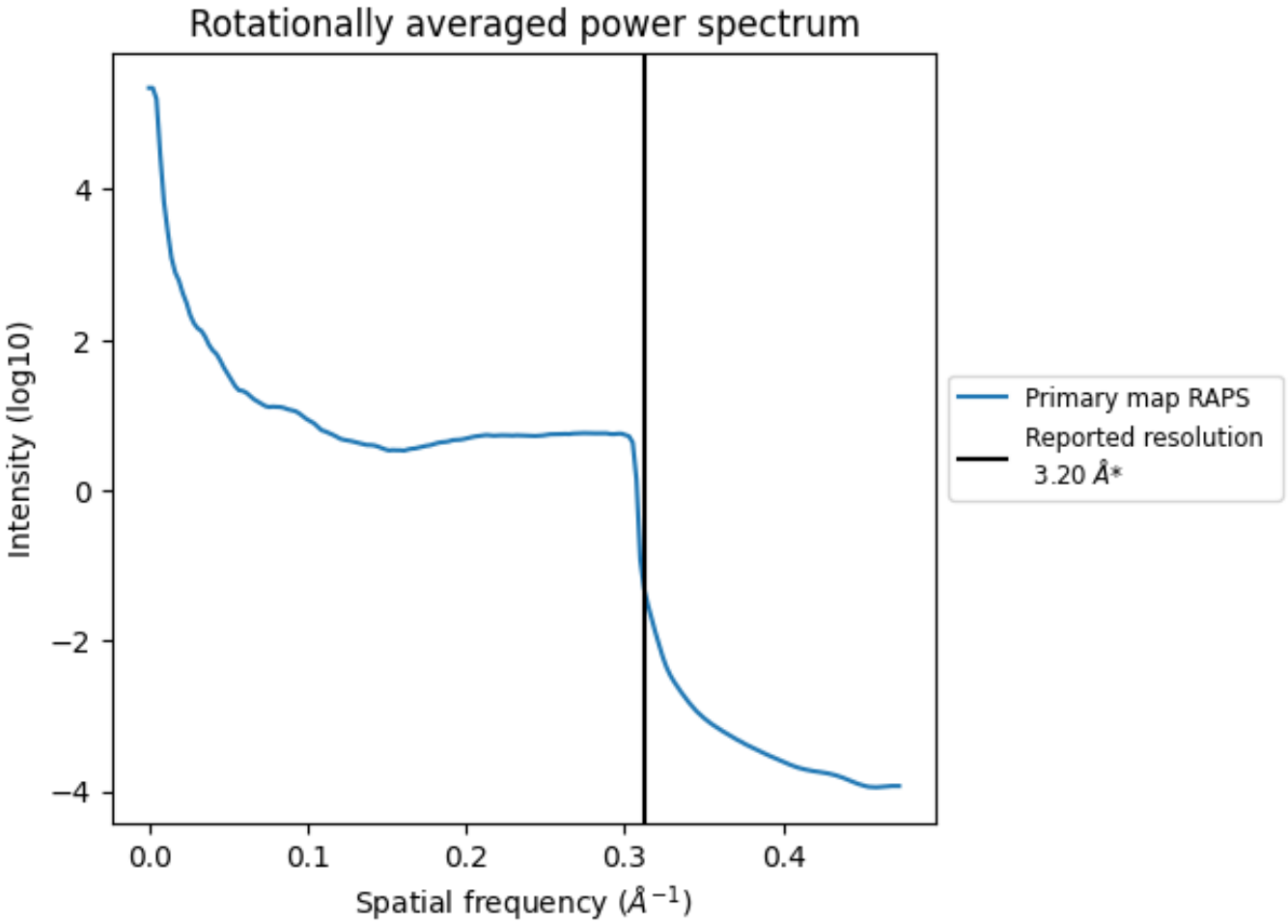
7.2 Volume estimate



The volume at the recommended contour level is 950 nm^3; this corresponds to an approximate mass of 858 kDa.

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

7.3 Rotationally averaged power spectrum (i)



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

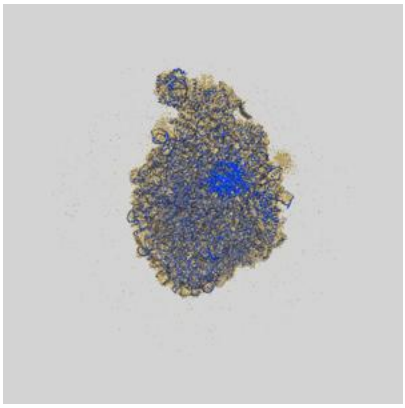
8 Fourier-Shell correlation

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

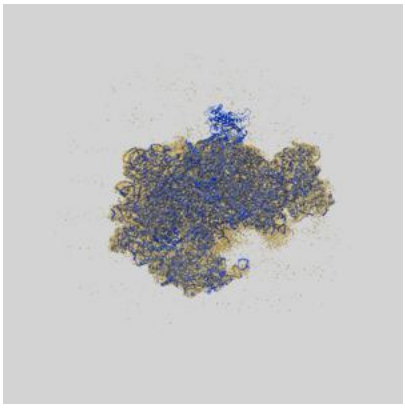
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-30108 and PDB model 6M62. Per-residue inclusion information can be found in section 3 on page 16.

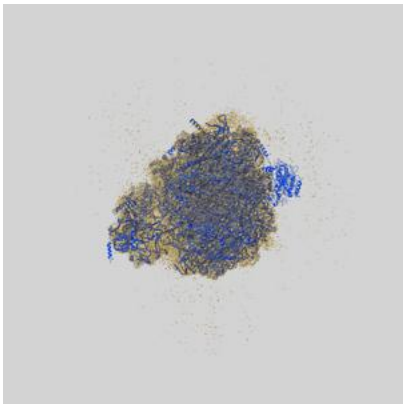
9.1 Map-model overlay



X



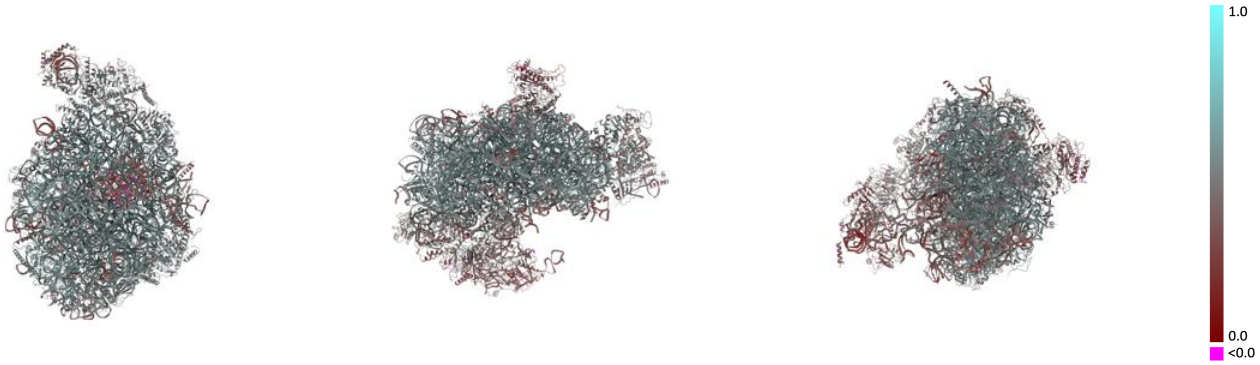
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02 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.

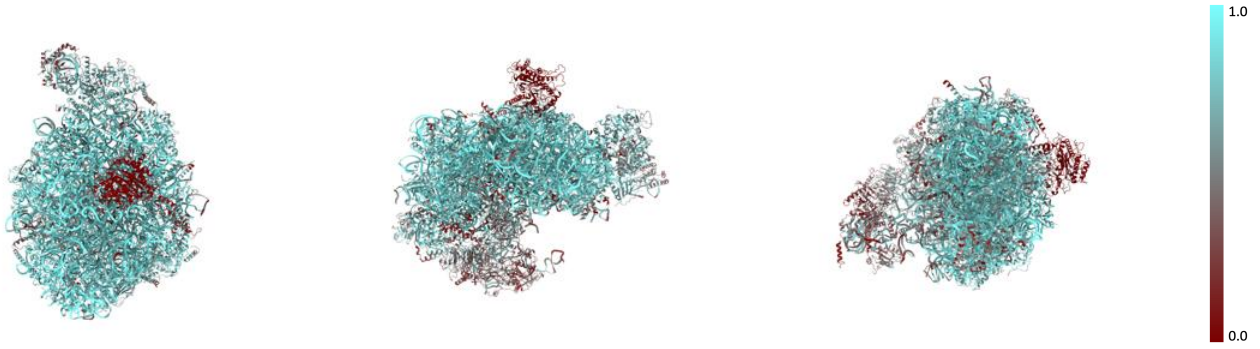
9.2 Q-score mapped to coordinate model (i)



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.

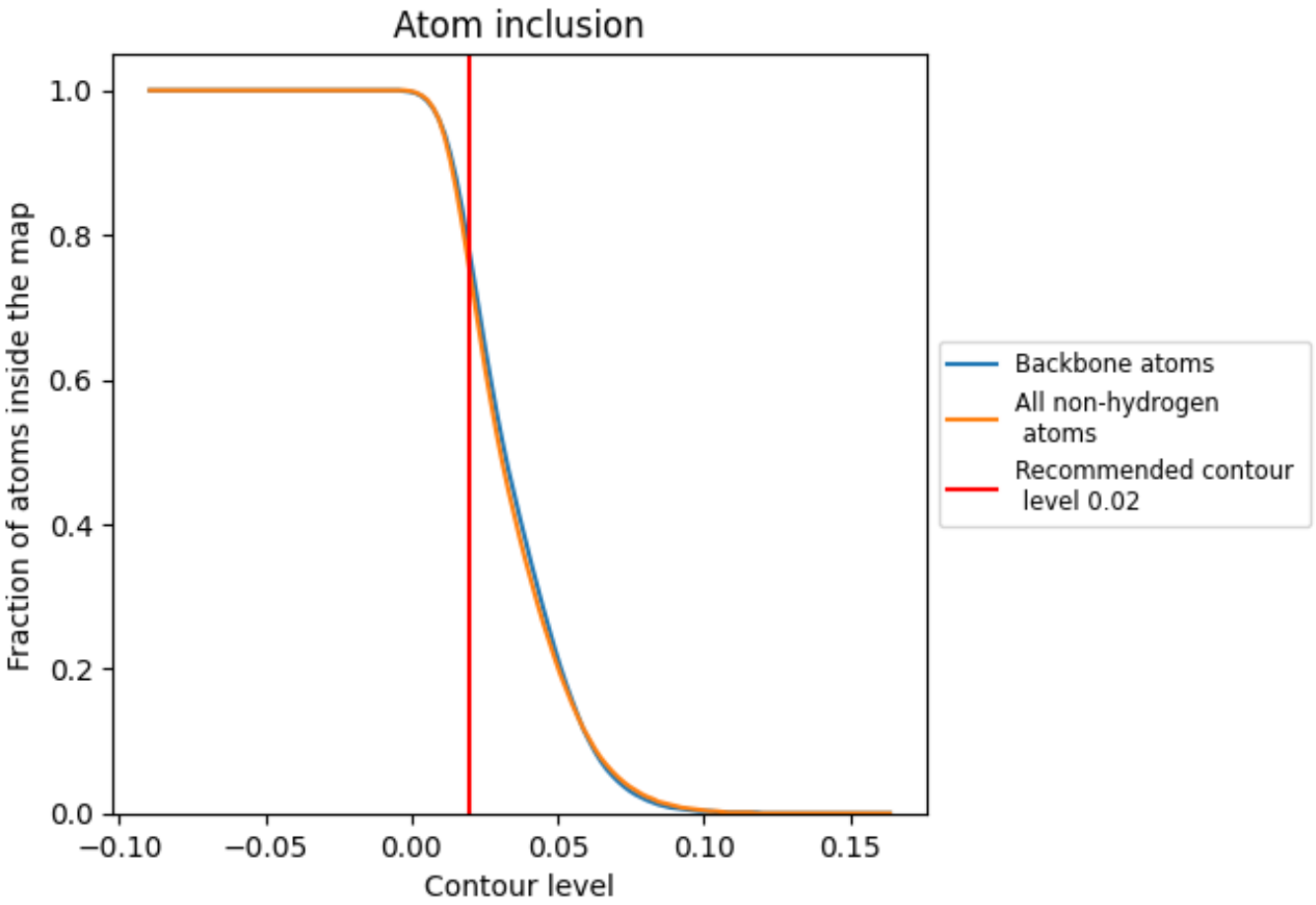
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 77% of all backbone atoms, 75% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7480	0.4890
1	0.8740	0.5000
2	0.9570	0.5640
3	0.5200	0.2580
4	0.0370	0.3610
5	0.1160	0.3560
6	0.7430	0.3920
A	0.7900	0.5510
B	0.8520	0.5600
C	0.8660	0.5630
D	0.2650	0.3260
E	0.8130	0.5210
F	0.8640	0.5550
G	0.7970	0.5310
H	0.8320	0.5470
I	0.5330	0.4990
J	0.2780	0.3250
K	0.4980	0.4020
L	0.7680	0.5200
M	0.8540	0.5470
N	0.8150	0.5530
O	0.9110	0.5790
P	0.8200	0.5550
Q	0.8460	0.5460
R	0.8090	0.5400
S	0.8260	0.5300
T	0.6140	0.4590
U	0.6510	0.4460
V	0.8360	0.5670
W	0.5800	0.4320
X	0.8560	0.5630
Y	0.8390	0.5520
Z	0.8210	0.5340
a	0.7670	0.4900
b	0.5660	0.4620



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Chain	Atom inclusion	Q-score
c	0.7250	0.5110
d	0.8150	0.5580
e	0.8780	0.5810
f	0.9160	0.5930
g	0.8300	0.5600
h	0.8430	0.5580
i	0.6900	0.4810
j	0.9050	0.5940
k	0.7280	0.5070
l	0.8410	0.5840
m	0.4920	0.4490
n	0.7120	0.5030
o	0.5790	0.4420
p	0.8070	0.5450
q	0.5500	0.4670
r	0.7400	0.5170
s	0.5360	0.5010
t	0.6300	0.4750
u	0.7460	0.5000
v	0.2510	0.3450
w	0.4100	0.4000
x	0.4720	0.3840
y	0.7390	0.5050
z	0.7350	0.5190