



# Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Feb 18, 2018 – 02:31 am GMT

PDB ID : 5T2A  
EMDB ID: : EMD-8343  
Title : CryoEM structure of the Leishmania donovani 80S ribosome at 2.9 Angstrom resolution  
Authors : Zhang, X.; Lai, M.; Zhou, Z.H.  
Deposited on : 2016-08-23  
Resolution : 2.90 Å(reported)

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report  
for a publicly released PDB/EMDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto: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.

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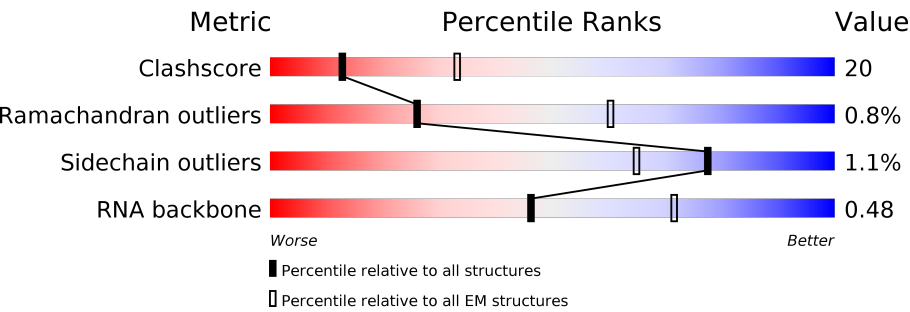
MolProbity : 4.02b-467  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk30686

# 1 Overall quality at a glance i

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

The reported resolution of this entry is 2.90 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	136279	1886
Ramachandran outliers	132675	1663
Sidechain outliers	132484	1531
RNA backbone	3744	458

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

Mol	Chain	Length	Quality of chain
1	A	1781	<div><div>53%31%6%10%</div></div>
2	B	1465	<div><div>49%20%•27%</div></div>
3	C	262	<div><div>31%25%5%•38%</div></div>
4	D	120	<div><div>65%33%••</div></div>
5	E	213	<div><div>57%22%21%</div></div>
6	F	73	<div><div>38%48%10%••</div></div>
7	G	183	<div><div>72%23%••</div></div>
8	H	127	<div><div>49%22%•27%</div></div>















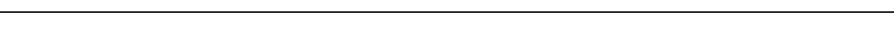

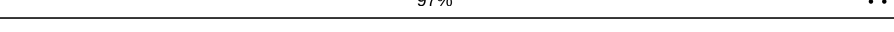

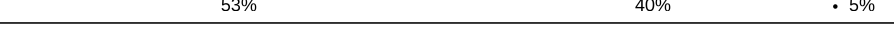





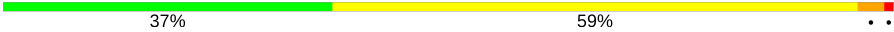
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Mol	Chain	Length	Quality of chain
9	I	198	
10	J	213	
11	K	188	
12	L	220	
13	M	222	
14	N	175	
15	O	204	
16	P	166	
17	Q	179	
18	R	245	
19	S	159	
20	T	129	
21	U	139	
22	V	145	
23	W	124	
24	X	143	
25	Y	134	
26	Z	145	
27	a	147	
28	b	70	
29	c	260	
30	d	419	
31	e	104	
32	f	183	
33	g	133	


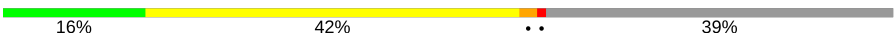



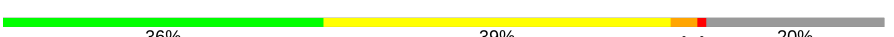

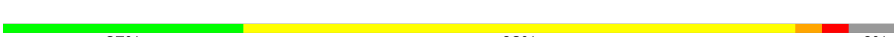
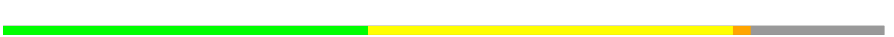

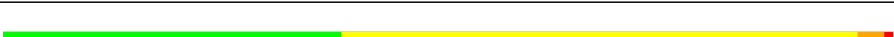


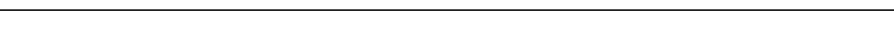








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Mol	Chain	Length	Quality of chain
34	h	168	
35	i	127	
36	j	144	
37	k	105	
38	l	83	
39	m	92	
40	n	83	
41	o	51	
42	p	373	
43	q	128	
44	r	106	
45	s	305	
46	t	195	
47	u	252	
48	v	348	
49	w	190	
50	0	264	
51	1	273	
52	2	2205	
53	3	249	
54	4	200	
55	5	220	
56	6	190	
57	7	312	
58	8	57	

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Mol	Chain	Length	Quality of chain
59	AC	246	
60	AD	153	
61	AE	173	
62	AG	151	
63	AH	144	
64	AI	152	
65	AJ	130	
66	AK	149	
67	AL	143	
68	AM	153	
69	AN	190	
70	AO	179	
71	AP	265	
72	AQ	116	
73	AR	164	
74	AS	143	
75	AT	137	
76	AV	112	
77	AW	86	
78	AX	219	
79	AY	66	
80	AZ	87	

## 2 Entry composition

There are 80 unique types of molecules in this entry. The entry contains 200172 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 LSU-alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1603	Total	C	N	O	P	0	0
			34365	15347	6297	11118	1603		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	761	U	A	conflict	GB 322500086
A	1393	G	A	conflict	GB 322500086
A	?	-	A	deletion	GB 322500086

- Molecule 2 is a RNA chain called LSU-beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	1064	Total	C	N	O	P	0	0
			22723	10152	4100	7407	1064		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	162	Total	C	N	O	P	0	0
			3449	1542	615	1130	162		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	141	C	U	conflict	GB 79677111
C	182	G	A	conflict	GB 79677111
C	185	C	G	conflict	GB 79677111
C	226	A	U	conflict	GB 79677111
C	228	C	U	conflict	GB 79677111
C	246	C	U	conflict	GB 79677111

- Molecule 4 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	119	Total	C	N	O	P	0	0
			2531	1132	452	828	119		

- Molecule 5 is a RNA chain called srRNA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	169	Total	C	N	O	P	0	0
			3589	1604	626	1190	169		

- Molecule 6 is a RNA chain called srRNA3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	71	Total	C	N	O	P	0	0
			1508	676	273	488	71		

- Molecule 7 is a RNA chain called srRNA2.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	183	Total	C	N	O	P	0	0
			3911	1744	704	1280	183		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	169	U	A	conflict	GB 5019758
G	171	U	A	conflict	GB 5019758

- Molecule 8 is a RNA chain called srRNA4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	93	Total	C	N	O	P	0	0
			1996	889	369	645	93		

- Molecule 9 is a protein called eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	197	Total	C	N	O	S	0	0
			1539	968	307	258	6		

- Molecule 10 is a protein called uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	211	Total	C	N	O	S	0	0
			1704	1071	338	279	16		

- Molecule 11 is a protein called uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	167	Total	C	N	O	S	0	0
			1339	844	249	238	8		

- Molecule 12 is a protein called eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	179	Total	C	N	O	S	0	0
			1435	901	296	230	8		

- Molecule 13 is a protein called uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	221	Total	C	N	O	S	0	0
			1780	1126	354	293	7		

- Molecule 14 is a protein called eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	168	Total	C	N	O	S	0	0
			1336	832	265	231	8		

- Molecule 15 is a protein called eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	203	Total	C	N	O	S	0	0
			1714	1080	362	264	8		

- Molecule 16 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	155	Total	C	N	O	S	0	1
			1245	776	246	212	11		

- Molecule 17 is a protein called eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	178	Total	C	N	O	S	0	0
			1456	927	280	244	5		

- Molecule 18 is a protein called eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	196	Total	C	N	O	S	0	0
			1646	1010	360	271	5		

- Molecule 19 is a protein called eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	158	Total	C	N	O	S	0	0
			1261	803	245	208	5		

- Molecule 20 is a protein called eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	123	Total	C	N	O	S	0	1
			997	642	179	173	3		

- Molecule 21 is a protein called uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	137	Total	C	N	O	S	0	0
			1035	653	195	181	6		

- Molecule 22 is a protein called uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	120	Total	C	N	O	S	0	0
			963	611	182	169	1		

- Molecule 23 is a protein called eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	65	Total	C	N	O	S	0	0
			563	368	110	81	4		

- Molecule 24 is a protein called uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	120	Total	C	N	O	S	0	0
			965	601	201	159	4		

- Molecule 25 is a protein called eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	133	Total	C	N	O	S	0	0
			1079	688	215	173	3		

- Molecule 26 is a protein called uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	144	Total	C	N	O	S	0	0
			1126	708	226	186	6		

- Molecule 27 is a protein called eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	146	Total	C	N	O	S	0	0
			1140	698	243	194	5		

- Molecule 28 is a protein called eL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	b	69	Total	C	N	O	0	0
			554	339	127	88		

- Molecule 29 is a protein called uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	253	Total	C	N	O	S	0	1
			1921	1193	392	326	10		

- Molecule 30 is a protein called uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	399	Total	C	N	O	S	0	0
			3183	2003	629	538	13		

- Molecule 31 is a protein called eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e	94	Total	C	N	O	S	0	0
			720	448	131	136	5		

- Molecule 32 is a protein called eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	110	Total	C	N	O	S	0	0
			878	561	166	149	2		

- Molecule 33 is a protein called eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	129	Total	C	N	O	S	0	0
			1050	664	209	174	3		

- Molecule 34 is a protein called eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	124	Total	C	N	O	S	0	0
			1014	624	221	163	6		

- Molecule 35 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	126	Total	C	N	O	S	0	0
			1056	658	218	176	4		

- Molecule 36 is a protein called eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	132	Total	C	N	O	S	0	0
			1060	663	221	171	5		

- Molecule 37 is a protein called eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	k	99	Total	C	N	O	S	0	0
			787	497	160	128	2		

- Molecule 38 is a protein called eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	81	Total	C	N	O	S	0	0
			674	410	154	104	6		

- Molecule 39 is a protein called eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	m	91	Total	C	N	O	S	0	0
			712	443	146	117	6		

- Molecule 40 is a protein called eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	75	Total	C	N	O	S	0	0
			605	383	118	101	3		

- Molecule 41 is a protein called eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o	50	Total	C	N	O	S	0	0
			450	291	95	63	1		

- Molecule 42 is a protein called uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	365	Total	C	N	O	S	0	1
			2825	1761	563	486	15		

- Molecule 43 is a protein called eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	52	Total	C	N	O	S	0	0
			425	266	88	64	7		

- Molecule 44 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	r	96	Total	C	N	O	S	0	0
			779	493	157	124	5		

- Molecule 45 is a protein called uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	s	266	Total	C	N	O	S	0	0
			2094	1334	397	357	6		

- Molecule 46 is a protein called eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	t	137	Total	C	N	O	S	0	0
			1054	668	197	187	2		

- Molecule 47 is a protein called uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	u	228	Total	C	N	O	S	0	0
			1857	1180	358	308	11		

- Molecule 48 is a protein called eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	v	230	Total	C	N	O	S	0	0
			1850	1160	368	315	7		

- Molecule 49 is a protein called uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	w	187	Total	C	N	O	S	0	0
			1484	938	273	267	6		

- Molecule 50 is a protein called eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	0	221	Total	C	N	O	S	0	0
			1786	1121	338	316	11		

- Molecule 51 is a protein called eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	1	258	Total	C	N	O	S	0	0
			2037	1291	387	350	9		

- Molecule 52 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	2	1814	Total	C	N	O	P	0	0
			38724	17307	6969	12635	1813		

- Molecule 53 is a protein called eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	3	249	Total	C	N	O	S	0	0
			1994	1243	409	339	3		

- Molecule 54 is a protein called eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	4	200	Total	C	N	O	S	0	0
			1667	1059	324	276	8		

- Molecule 55 is a protein called eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	5	183	Total	C	N	O	S	0	1
			1473	921	308	242	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
5	220	ARG	LYS	conflict	UNP E9BH78

- Molecule 56 is a protein called uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	6	164	Total	C	N	O	S	0	0
			1362	862	265	227	8		

- Molecule 57 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	7	308	Total	C	N	O	S	0	0
			2394	1500	426	456	12		

- Molecule 58 is a protein called uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	8	38	Total	C	N	O	S	0	0
			314	194	63	52	5		

- Molecule 59 is a protein called uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AC	203	Total	C	N	O	S	0	0
			1622	1033	294	283	12		

- Molecule 60 is a protein called eS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AD	93	Total	C	N	O	S	0	0
			767	491	136	133	7		

- Molecule 61 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AE	140	Total	C	N	O	S	0	0
			1148	725	229	189	5		

- Molecule 62 is a protein called uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AG	141	Total	C	N	O	S	0	0
			1157	730	229	190	8		

- Molecule 63 is a protein called uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AH	136	Total	C	N	O	S	0	0
			1023	631	200	184	8		

- Molecule 64 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AI	121	Total	C	N	O	S	0	0
			984	626	188	166	4		

- Molecule 65 is a protein called uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AJ	129	Total	C	N	O	S	0	0
			1020	646	188	178	8		

- Molecule 66 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AK	140	Total	C	N	O	S	0	0
			1108	710	206	189	3		

- Molecule 67 is a protein called eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	AL	121	Total	C	N	O	S	0	0
			983	613	192	173	5		

- Molecule 68 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	AM	148	Total	C	N	O	S	0	0
			1186	743	237	202	4		

- Molecule 69 is a protein called uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	AN	190	Total	C	N	O	S	0	0
			1493	927	287	271	8		

- Molecule 70 is a protein called eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	AO	145	Total	C	N	O	S	0	0
			1150	729	224	193	4		

- Molecule 71 is a protein called uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	AP	224	Total	C	N	O	S	0	1
			1722	1096	304	312	10		

- Molecule 72 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	AQ	102	Total	C	N	O	S	0	0
			807	504	148	153	2		

- Molecule 73 is a protein called eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AR	83	Total	C	N	O	S	0	0
			630	388	116	122	4		

- Molecule 74 is a protein called uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AS	142	Total	C	N	O	S	0	0
			1114	703	222	187	2		

- Molecule 75 is a protein called eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AT	126	Total	C	N	O	S	0	0
			1033	661	198	172	2		

- Molecule 76 is a protein called eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AV	104	Total	C	N	O	S	0	0
			828	515	175	130	8		

- Molecule 77 is a protein called eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AW	82	Total	C	N	O	S	0	0
			646	396	128	114	8		

- Molecule 78 is a protein called uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	AX	203	Total	C	N	O	S	0	0
			1595	1003	295	284	13		

- Molecule 79 is a protein called eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	AY	56	Total	C	N	O	S	0	0
			452	285	94	72	1		

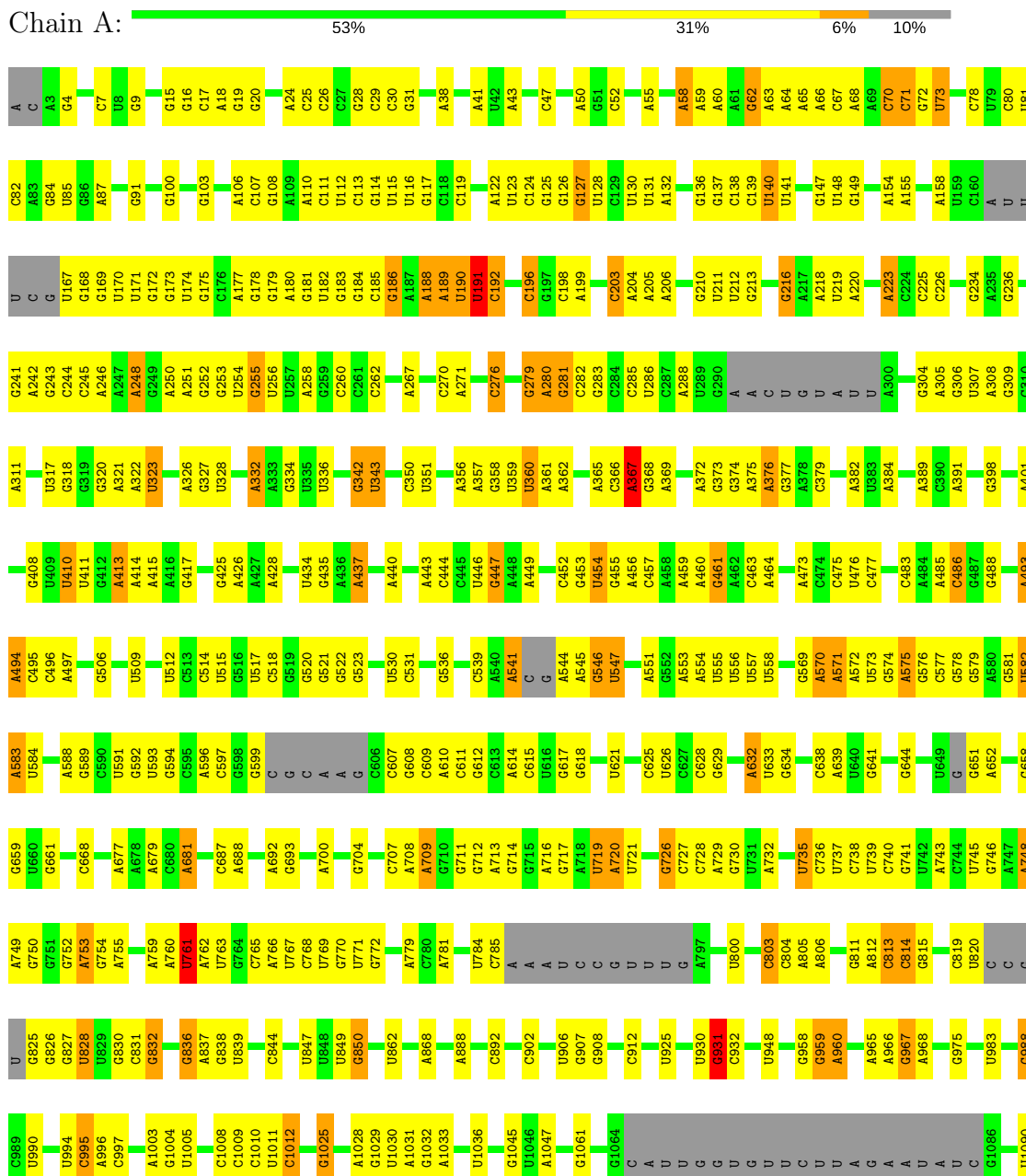
- Molecule 80 is a protein called eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	AZ	68	Total	C	N	O	S	0	0
			526	319	106	97	4		

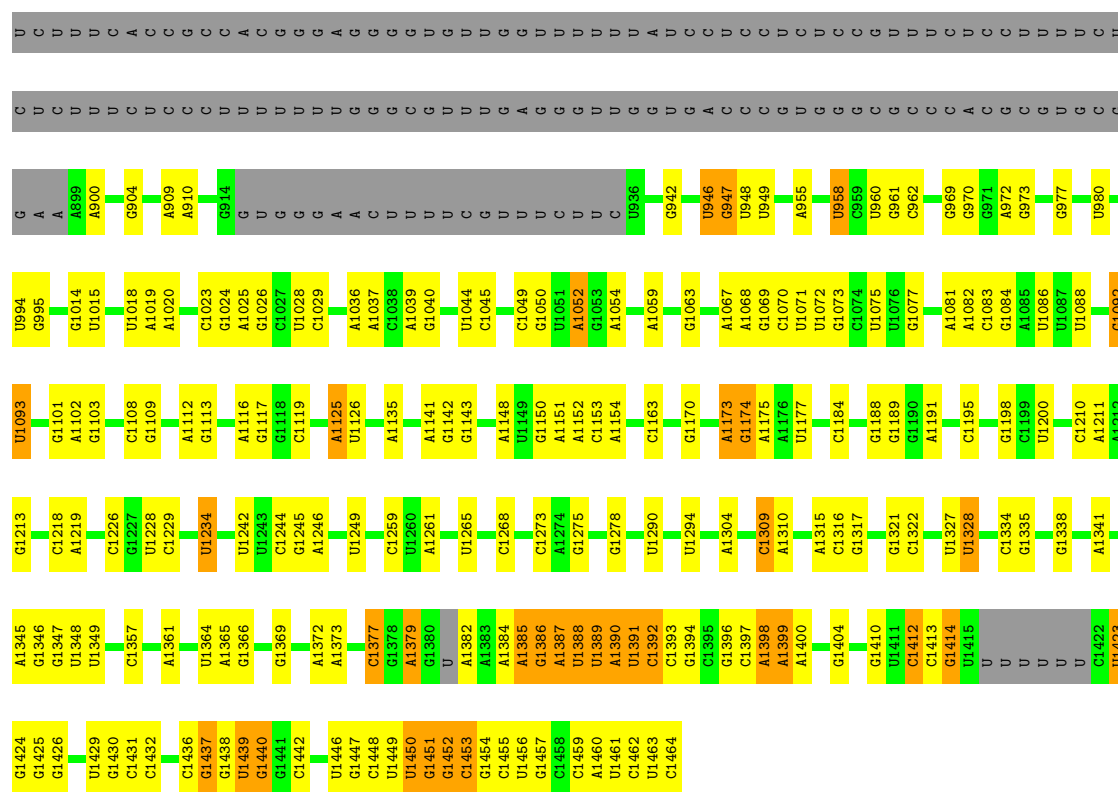
### 3 Residue-property plots

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

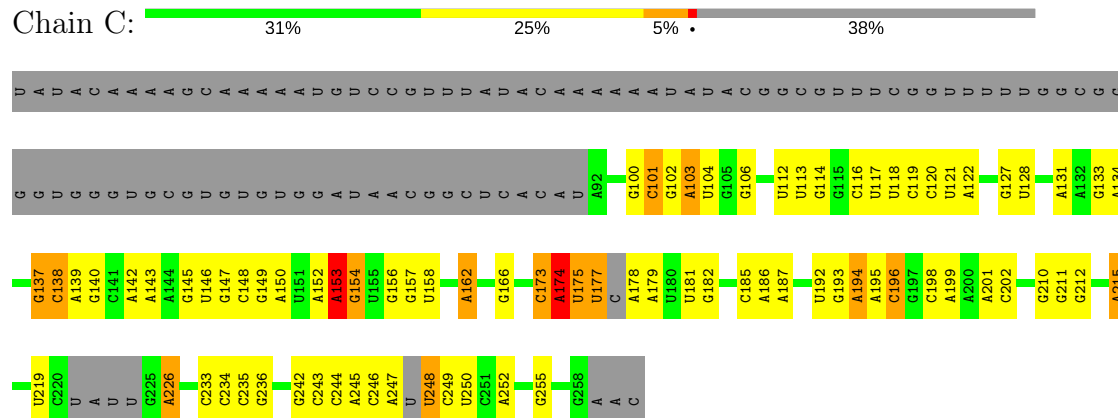
#### • Molecule 1: LSU-alpha



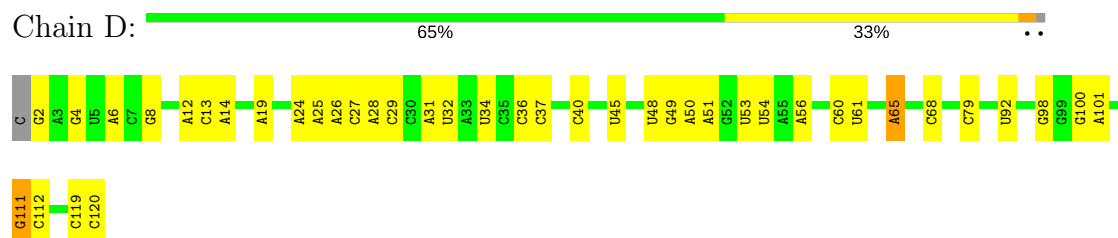




### • Molecule 3: 5.8S rRNA

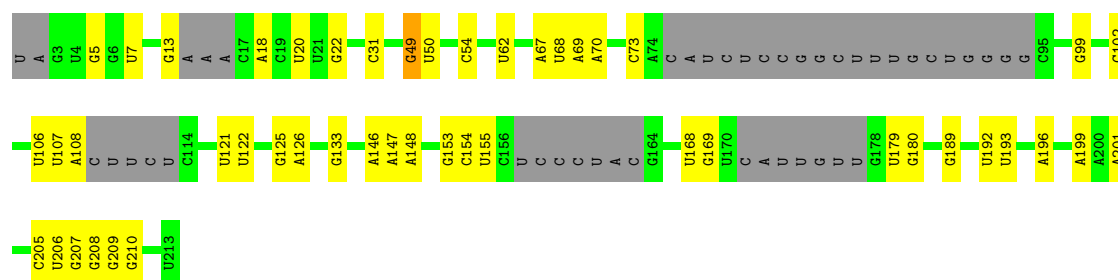


### • Molecule 4: 5S rRNA



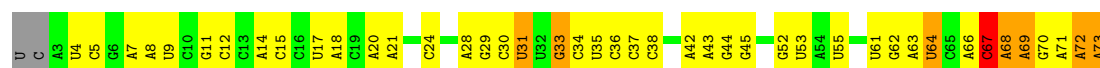
### • Molecule 5: srRNA1





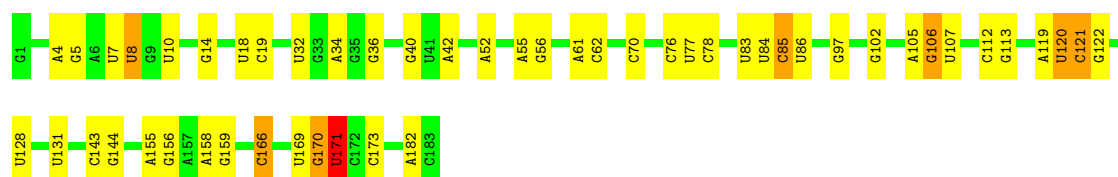
• Molecule 6: srRNA3

Chain F: 38% 48% 10% ..



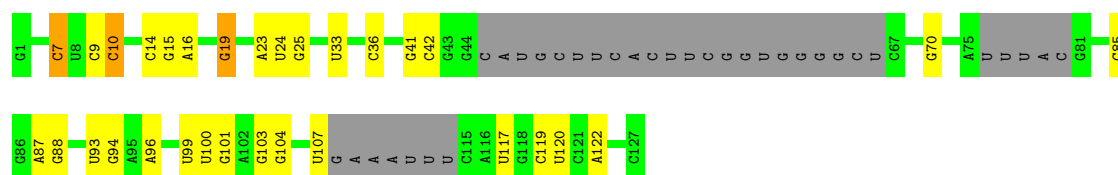
• Molecule 7: srRNA2

Chain G: 72% 23% ..



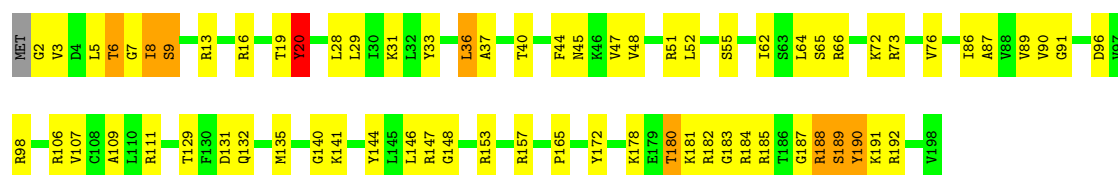
• Molecule 8: srRNA4

Chain H: 49% 22% 27% .



• Molecule 9: eL18

Chain I: 64% 31% ..



• Molecule 10: uL16

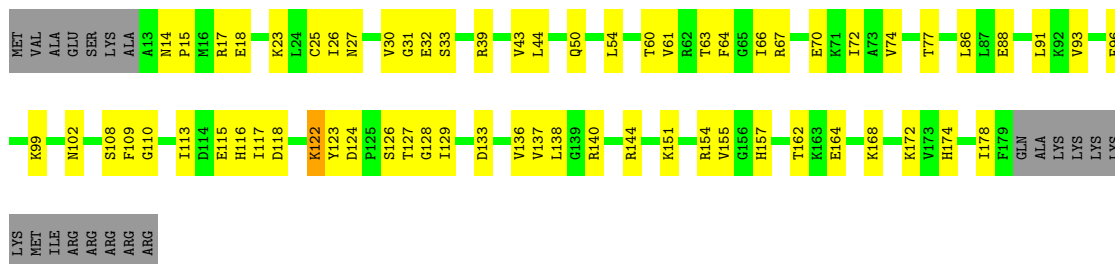
Chain J: 70% 27% ..





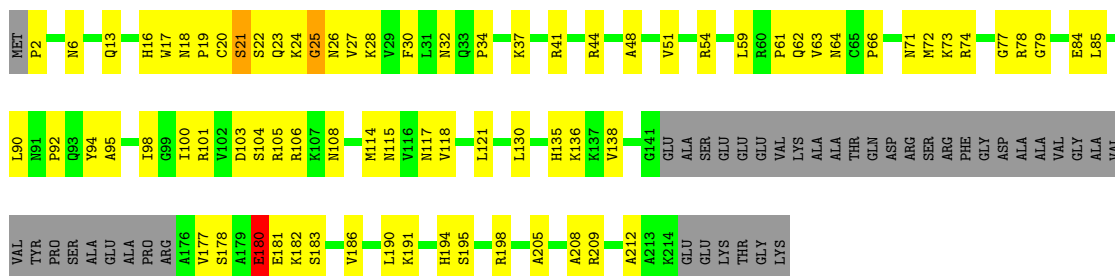
• Molecule 11: uL5

Chain K: 54% 34% 11%



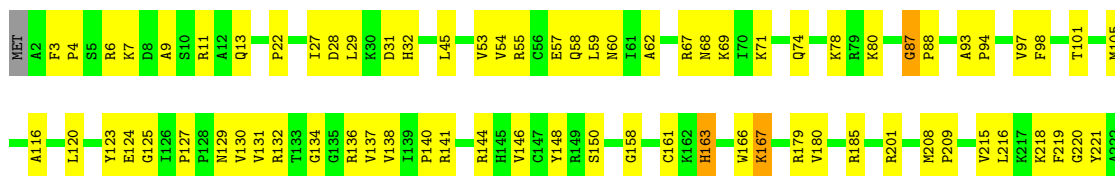
• Molecule 12: eL13

Chain L: 46% 34% 19%



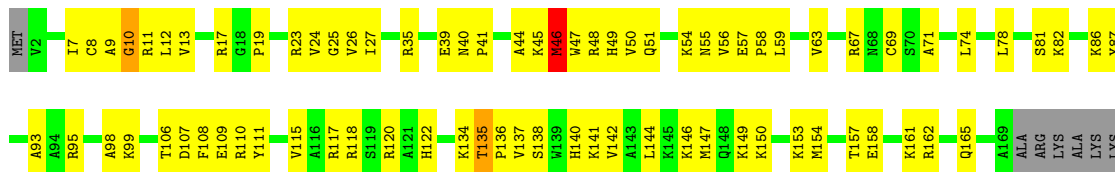
• Molecule 13: uL13

Chain M: 66% 32% 2%



• Molecule 14: eL14

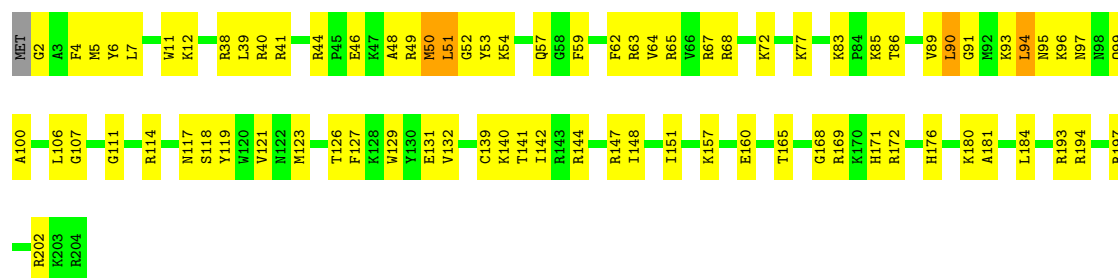
Chain N: 52% 42% 6%



• Molecule 15: eL15

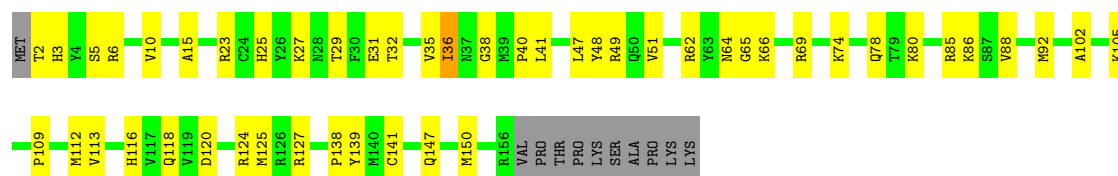
Chain O: 60% 37% 3%





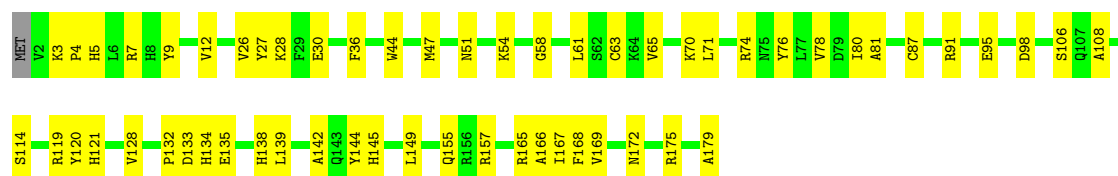
• Molecule 16: uL22

Chain P: 64% 29% 7%



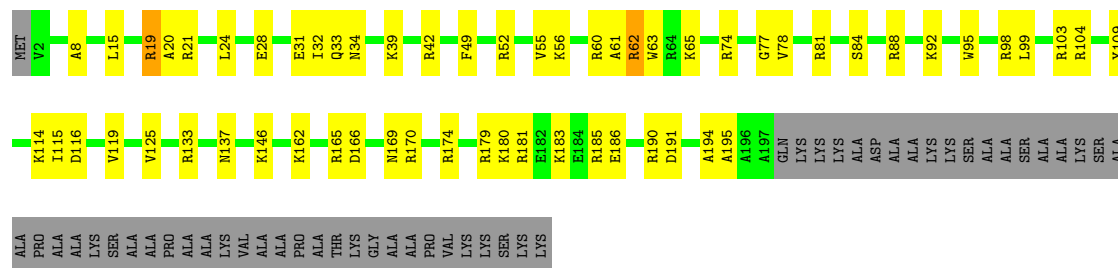
• Molecule 17: eL20

Chain Q: 68% 32%



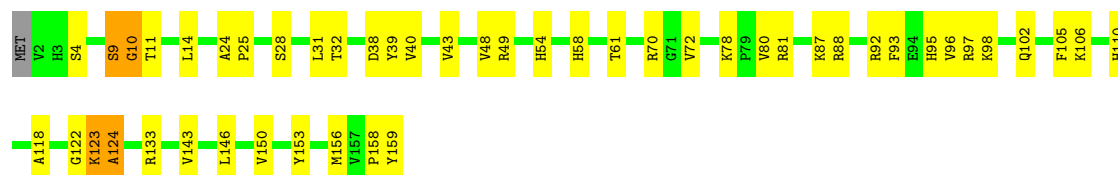
• Molecule 18: eL19

Chain R: 56% 23% 20%

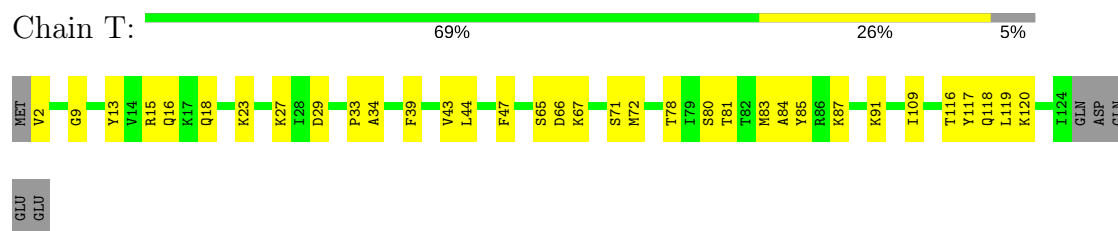


• Molecule 19: eL21

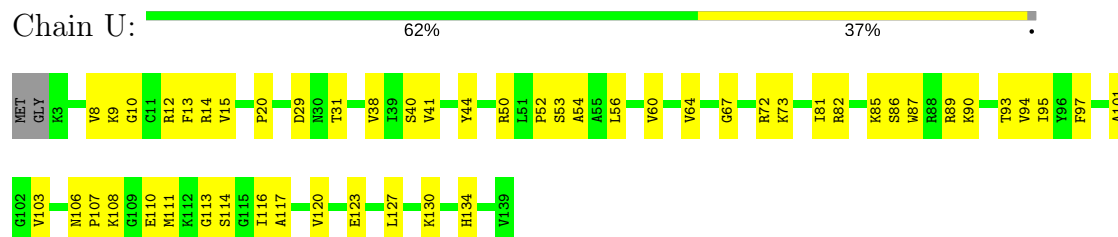
Chain S: 69% 28%



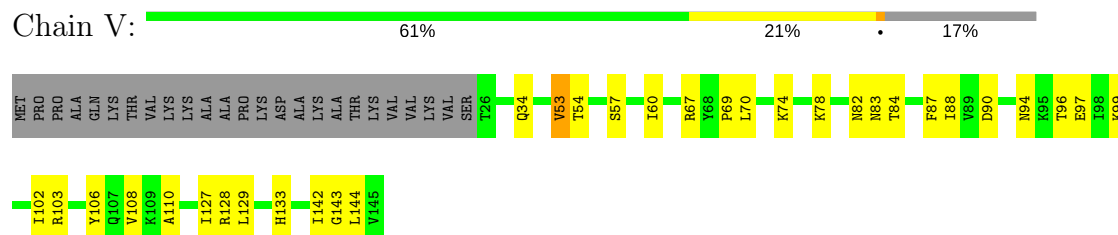
- Molecule 20: eL22



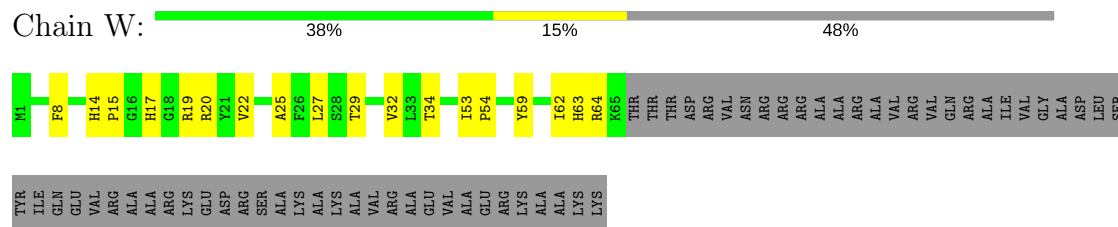
- Molecule 21: uL14



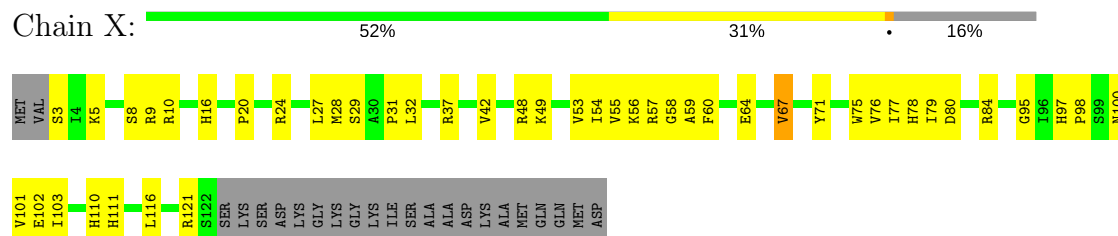
- Molecule 22: uL23



- Molecule 23: eL24



- Molecule 24: uL24



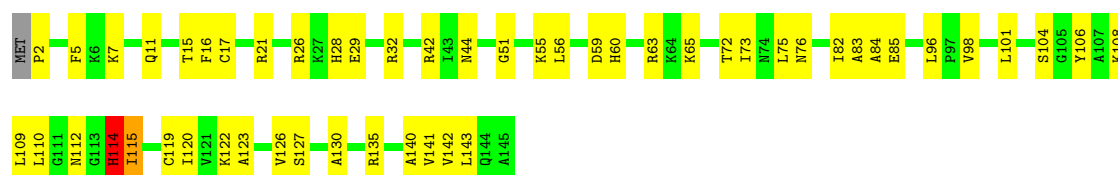
- Molecule 25: eL27





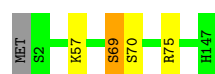
- Molecule 26: uL15

Chain Z: 63% 34% ...



- Molecule 27: eL28

Chain a: 97% ...



- Molecule 28: eL29

Chain b: 96% ..



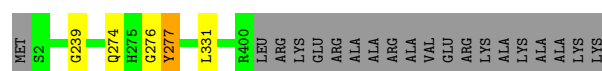
- Molecule 29: uL2

Chain c: 94% ...



- Molecule 30: uL3

Chain d: 94% • 5%



- Molecule 31: eL30

Chain e: 84% 5% • 10%



- Molecule 32: eL31

Chain f:  60% 40%

MET LYS GLY LYS VAL LEU GLY LYS GLU LYS LYS LYS ALA ALA TLE ASP ASP ARG LYS ASP ASP ASP ASP LYS ARG TRP LYS ARG VAL LEU ALA ASN MET ASP ASP GLU LYS ARG LYS PHE HIS GLY VAL GLY ASN THR ALA LYS ASN SER ARG VAL

ARG GLY ALA THR ARG ALA SER LEU ARG LYS ARG THR GLY R74 Q183

- Molecule 33: eL32

Chain g:  95%

MET V2 G102 K129 L130 GLU SER ASN

- Molecule 34: eL34

Chain h:  73% 26%

MET S2 I63 K125 LYS SER LYS GLN SER LYS LYS GLU ALA ILE ALA LYS LYS ILE SER SER THR LYS THR VAL SER LYS LYS LYS ALA PRO ALA LYS LYS THR THR THR ARG GLN PRO VAL GLY SER LYS LEU VAL LYS LYS

- Molecule 35: uL29

Chain i:  98%

MET S2 G39 E42 I127

- Molecule 36: eL33

Chain j:  90% 8%

MET THR THR LYS VAL HIS SER GLN ARG SER LYS K43 L44 V126 I144

- Molecule 37: eL36

Chain k:  93% 6%

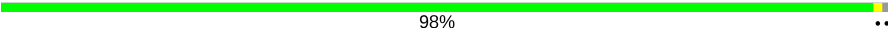
MET SER A3 A12 T101 LYS LYS HIS HIS

- Molecule 38: eL37

Chain l:  93%


MET T2 K3 G4 R65 Y66 R62 ALA

- Molecule 39: eL43

Chain m:  98% ..



- Molecule 40: eL38

Chain n:  89% • 10%



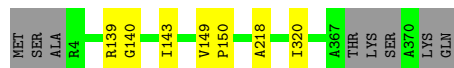
- Molecule 41: eL39

Chain o:  98% •



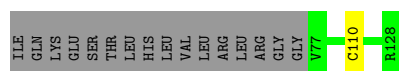
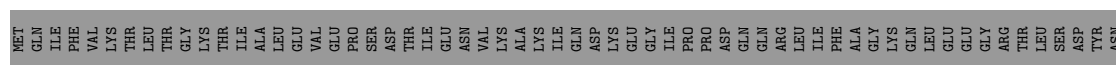
- Molecule 42: uL4

Chain p:  96% • •




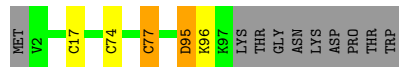
- Molecule 43: eL40

Chain q:  40% • 59%




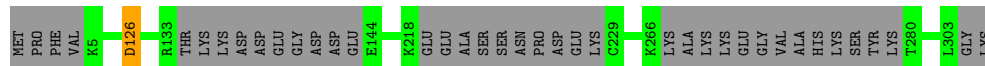
- Molecule 44: eL42

Chain r:  86% • • 9%



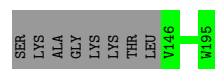
- Molecule 45: uL18

Chain s:  87% 13%



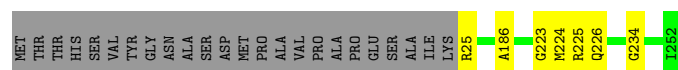
- Molecule 46: eL6

Chain t:  67% .. 30%



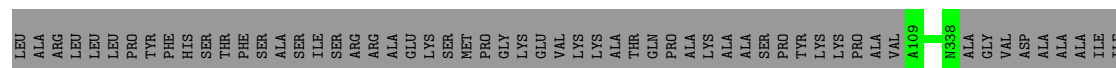
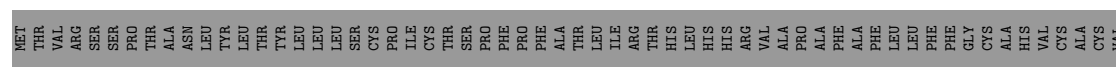
- Molecule 47: uL30

Chain u:  88% • 10%



- Molecule 48: eL8

Chain v:  66% 34%



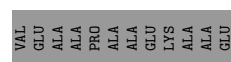
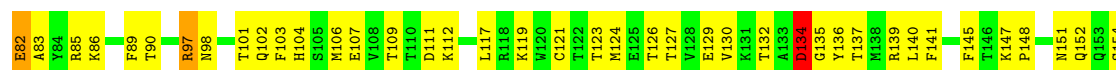
- Molecule 49: uL6

Chain w:  97%



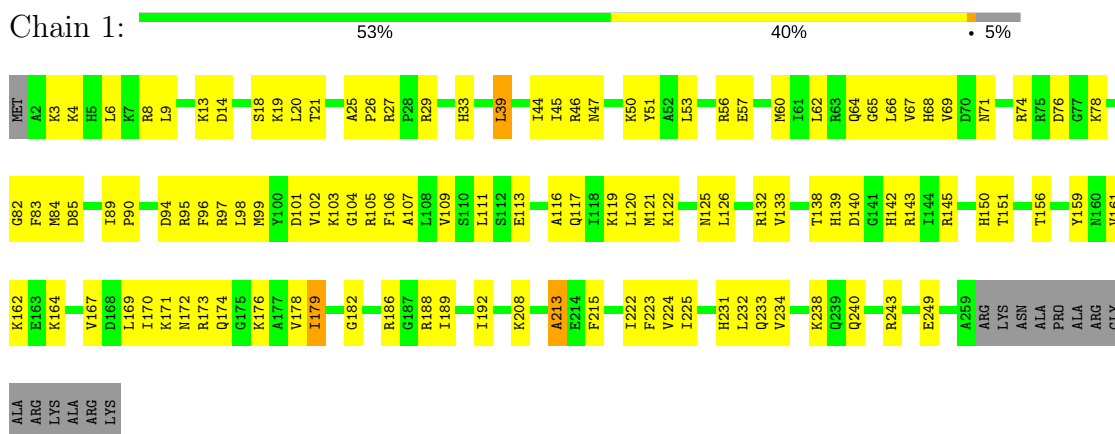
- Molecule 50: eS1

Chain 0:  47% 34% .. 16%



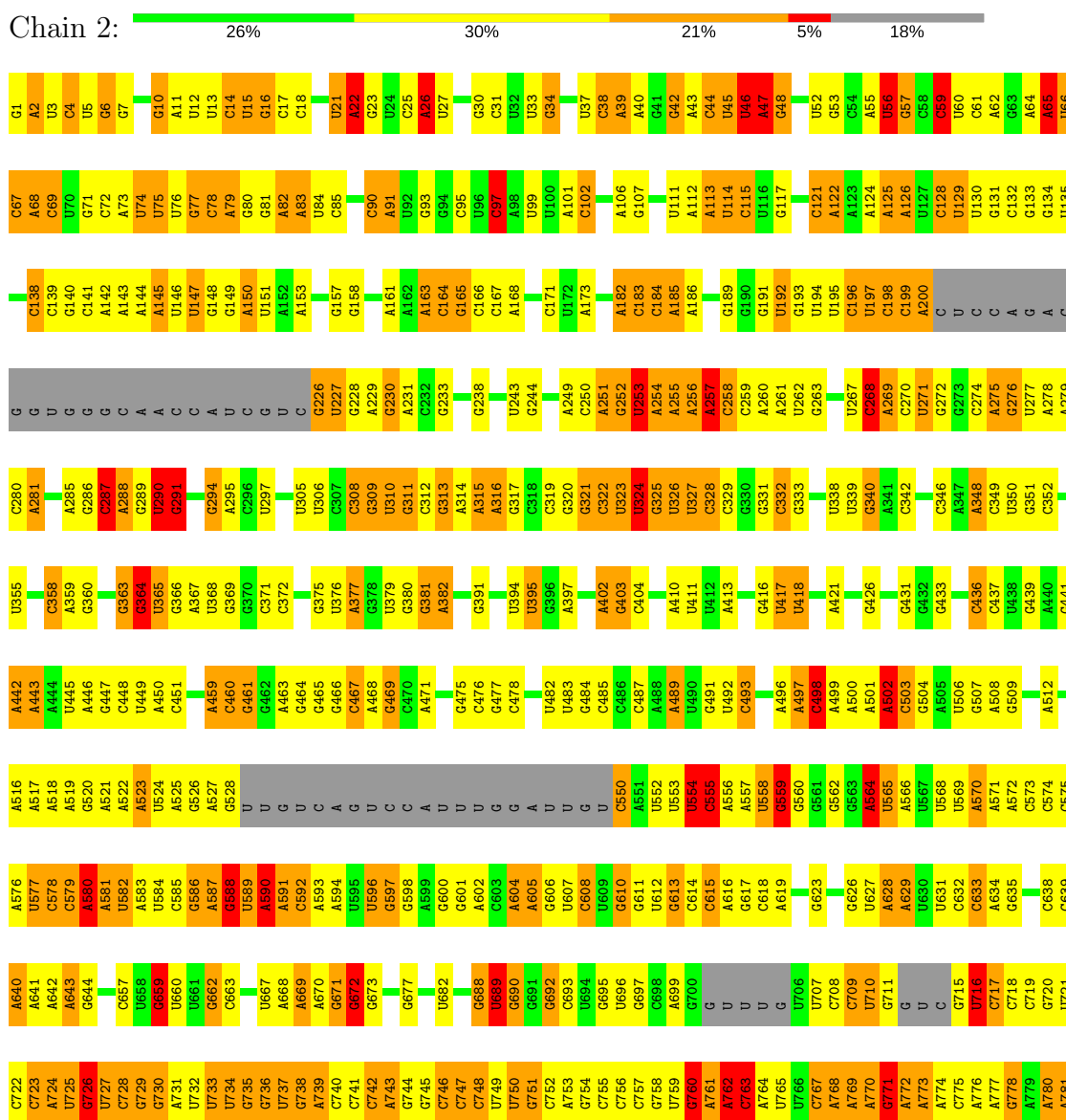
- Molecule 51: eS4

Chain 1:

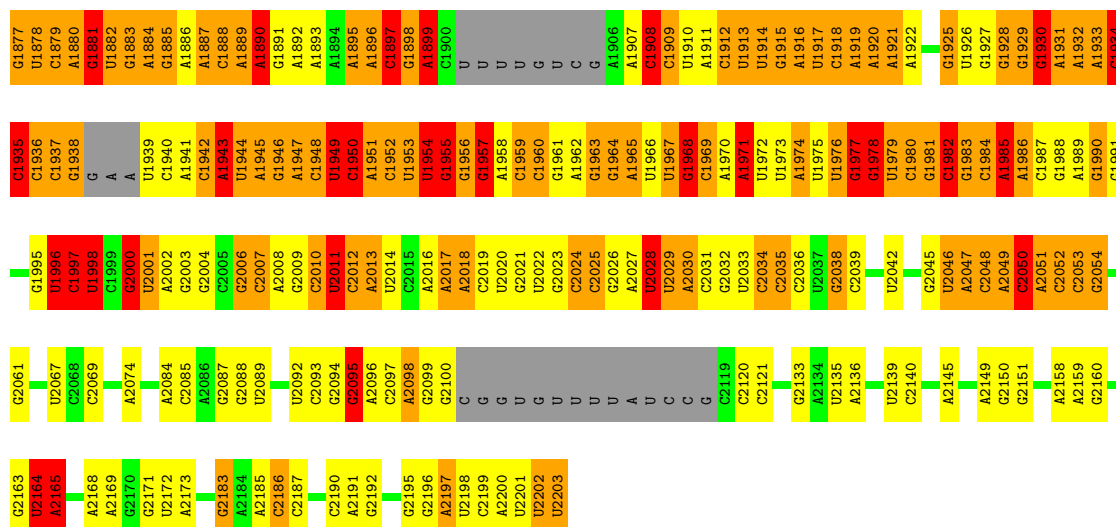


• Molecule 52: 18S rRNA

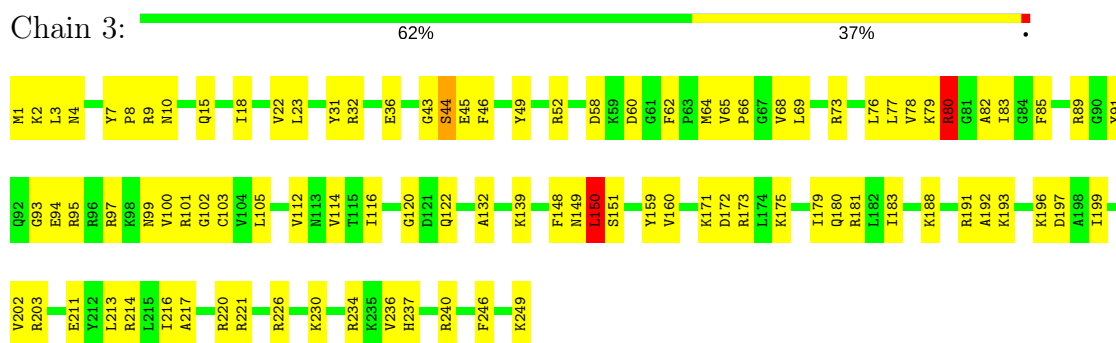
Chain 2:



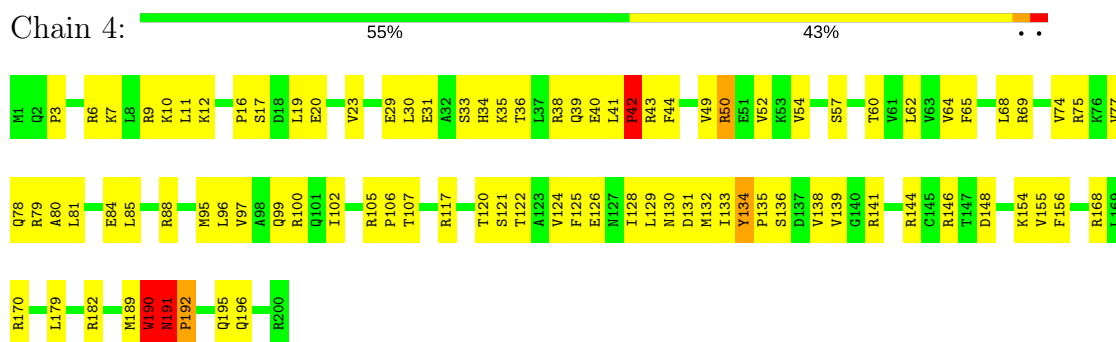
A1814	C1688	C1613	A1550	G1476	C1400	A1273	G1189	G1115	A	U	U835	C848	C782
A1815	A1689	G1617	C1551	G1476	G1401	A1274	C1190	U1119	G	C	U936	U849	A783
U1817	G1692	A1618	G1552	A1479	G1402	C1275	U1191	U1120	C	C	C937	G785	C784
U1818	U1693	A1619	G1554	G1480	A1404	U1278	U1193	C1121	U	A	G938	U851	G786
G1821	G1694	U1690	G1555	A1481	G1441	U1279	C1194	G1122	C	U	G940	G852	G787
G1822	G1697	G1621	A1556	U1489	U1411	A1280	A1280	G1123	C	C	U941	A788	G788
G1826	A1698	G1622	C1557	U1490	C1412	C1281	C1197	G1124	G	C	U942	C854	G789
A1827	G1699	U1623	C1558	A1413	A1413	A1282	A1198	U1129	U	C	U943	U855	U790
G1828	U1700	G1624	U1559	G1491	G1414	C1283	A1199	A1130	C	A	U944	A856	G791
C1829	A1701	G1625	U1560	A1492	C1415	U1286	G1200	G1131	C	A	G945	G792	G792
G1830	G1702	U1626	U1561	A1496	A1416	U1287	G1201	G1132	G	C	U947	U793	U793
G1831	A1703	G1627	A1562	A1497	C1417	A1288	A1204	U1133	C	U	G948	G866	U794
G1832	U1704	C1628	C1563	A1497	G	G1288	A1205	U1133	C	U	G949	A867	U797
U1833	U1705	U1629	C1564	U1500	U	A1289	C1206	G1137	C	C	U950	A870	U
U1834	U1706	G1631	A1565	G1500	U	U1290	C1206	G1138	G	C	U951	A871	U
U1835	C1707	G1632	G1566	A1501	U	U1291	U1207	G1139	C	U	U952	A872	C
U1836	A1708	C1633	U1567	G1504	U	U1292	U1208	G1140	C	U	U953	C	C
U1837	G1709	C1634	C1568	U1504	U	G1293	A1213	C1141	C	C	A954	A875	U
G1838	U1710	G1635	C1569	G1508	G	C1299	A1214	G1142	G	G	A955	G876	G
A1839	A1711	C1636	G1571	G1509	U	U	U1215	U1143	A	G	A956	U877	A
U1840	U1712	U1637	G1572	U1516	U	U	C1216	G1144	A	U	G957	U878	U
G1841	U	U1638	A1573	U1517	U	A	A1217	A1145	C	G	G958	A879	U
A1842	G	U1639	C1574	G1518	U	U	C1223	G1148	C	G	U959	U880	U
C1843	C	U1640	A1575	A1514	U	G	A1224	G1149	C	U	C960	U881	A
U1844	C	G1641	G1576	C1515	C	G	U1225	U1158	C	C	U961	U882	C
C1845	C	G1644	G1577	U1516	C	G	A1226	A1152	C	U	U962	G883	G
U1846	U	U1645	G1580	G1518	U	U	A1233	A1153	C	C	U963	A884	C
C1847	A	G1645	A1581	C1434	U	C	G1234	U1159	C	G	U964	C885	A
A1848	G	G1651	G1582	G1435	U	U	U1238	U1160	C	C	G965	U886	U
A1849	G	U1655	U1583	C1436	U	G	A1238	A1161	C	C	A966	U887	G
U1850	U	U1655	A1584	G1437	U	C	G1238	G1162	C	U	U967	G888	U
G1851	A	U1660	U1585	A1438	U	C	A1240	A1163	C	U	U968	A889	C
U1852	G	U1661	G1586	U1524	U	C	G1241	G1163	C	U	U970	A890	A
U1853	C	G1662	G1587	A1525	U	G	A1242	A1164	C	A	U971	A896	G
C1854	A	G1663	A1588	G1526	U	G	U1243	G1165	C	A	A972	G903	C
U1855	A	U1664	C1589	C1527	U	C	G1244	C1166	C	G	U973	G904	U
G1856	C	U1665	A1590	G1528	U	C	A1245	A1167	C	G	G974	A905	U
U1857	G	U1666	U1591	U1529	U	A	U1246	C1168	C	G	G975	U906	G
G1858	C	G1666	G1595	G1530	G	G	U1247	C1169	C	U	A976	C	C
C1859	U	A1667	G1596	C1531	U	G	A1248	A1170	C	U	G977	A912	A
A1860	A	U1668	A1596	G1532	C	U	G1248	A1171	C	U	C978	G913	G
C1861	C	U1669	G1597	U1533	C	U	U1249	A1173	C	A	U	G914	U
U1862	U	C1670	U1598	U1534	U	U	A1250	G1174	C	A	G	A915	G
A1863	C	C1671	G1599	U1535	U	U	G1251	G1175	C	A	U	G916	U
C1864	G	G1672	U1600	U1536	U	A	A1252	A1176	C	U	G	C917	U
U1865	U	U1673	U1601	A1537	A	C	C1253	G1177	C	C	G	A918	U
C1866	C	U1674	C1602	A1538	C	C	U1259	C1178	C	C	A	G919	C
G1867	G	A1675	U1603	U1539	U	C	U1259	C1179	C	C	A	C920	C
C1868	G	U1676	U1604	U1540	U	U	C1264	U1179	C	C	A	G927	U
A1869	U	G1677	A1605	A1543	U	G	U1264	A1180	C	A	A	A930	U
U1870	U	G1678	C1606	G1461	C	U	G1268	C1181	C	A	G	C931	U
C1871	U	U1682	U1607	C1544	A	G	U1269	G1183	C	G	U	C932	U
U1872	U	U1682	C1609	U1545	C	C	G1270	C1184	C	U	C	U843	U
C1873	U	U1685	A1610	C1546	C	C	C	A1187	C	C	C	U844	U
A1874	A	U1686	U1611	A1547	C	A	C1271	G1188	C	G	U	U845	U
U1875	C	C1687	U1612	C1549	U	G	A1272	G1188	C	G	U	U845	U



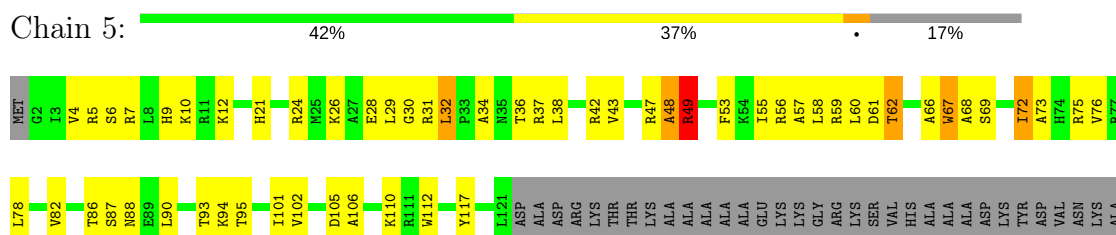
• Molecule 53: eS6



• Molecule 54: eS7



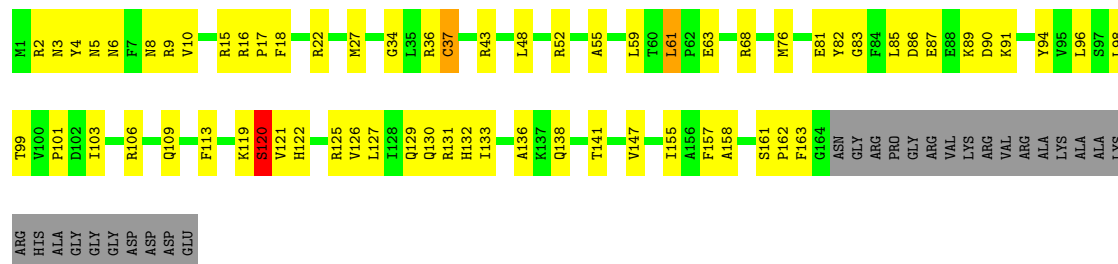
• Molecule 55: eS8





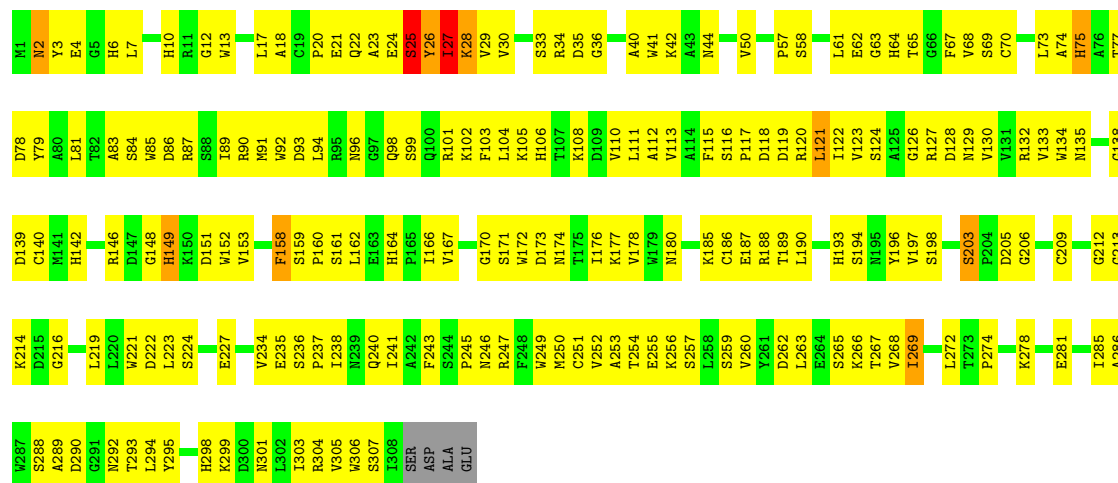
• Molecule 56: uS4

Chain 6: 52% 33% 14%



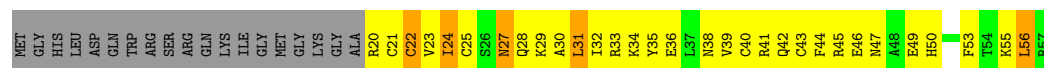
• Molecule 57: RACK1

Chain 7: 37% 59% 4%



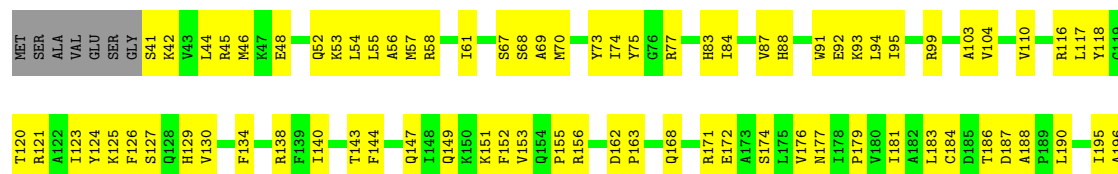
• Molecule 58: uS14

Chain 8: 12% 46% 9% 33%



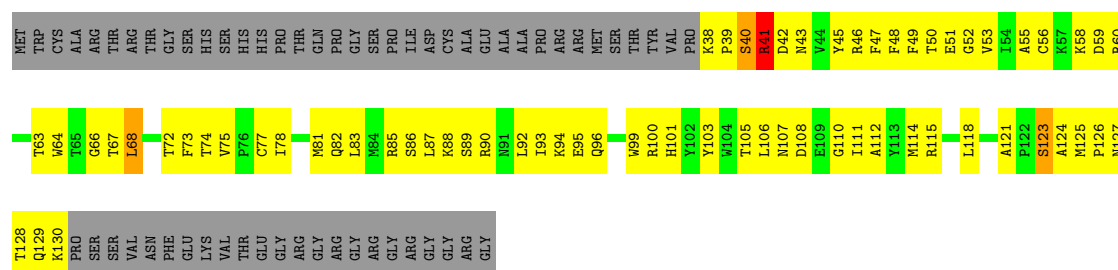
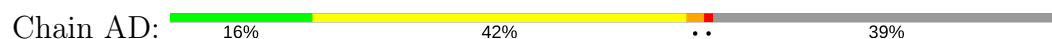
• Molecule 59: uS2

Chain AC: 40% 42% 17%

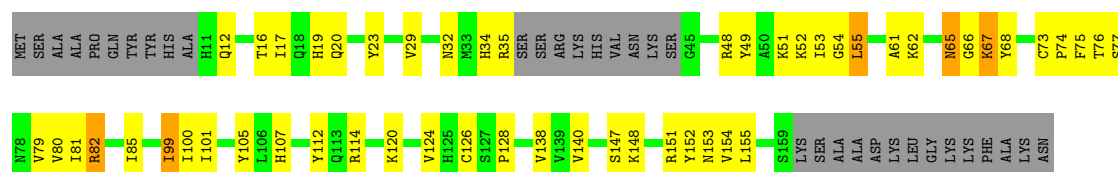




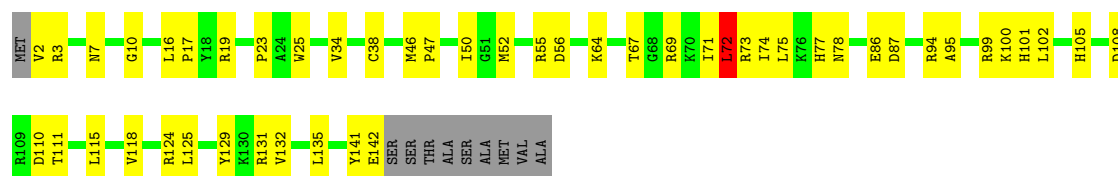
- Molecule 60: eS10



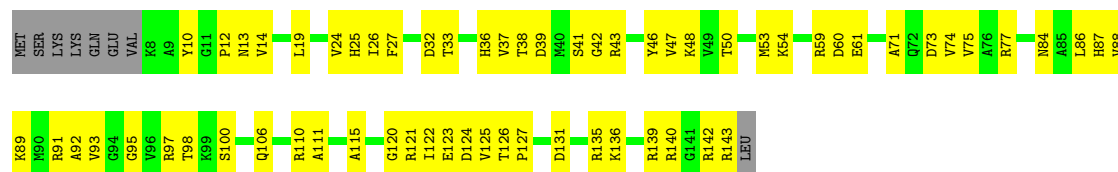
- Molecule 61: uS17



- Molecule 62: uS15

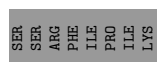
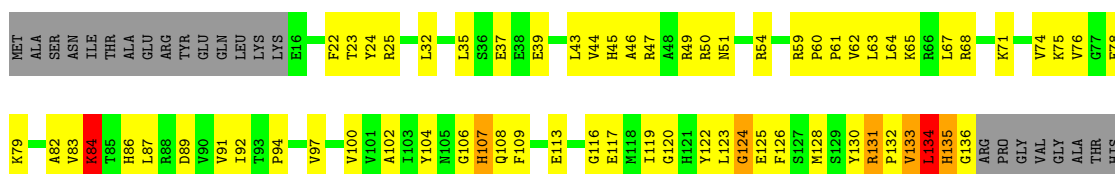


- Molecule 63: uS11



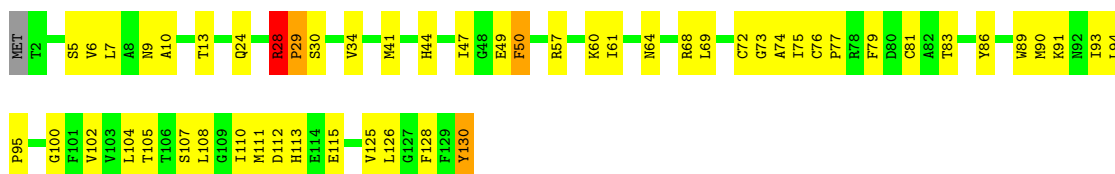
- Molecule 64: uS19





• Molecule 65: uS8

Chain AJ: 58% 38% ...



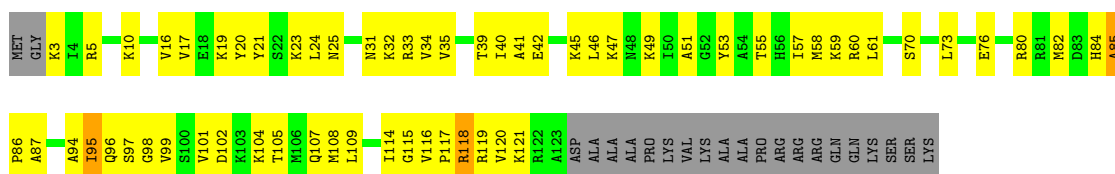
• Molecule 66: uS9

Chain AK: 27% 62% 6%



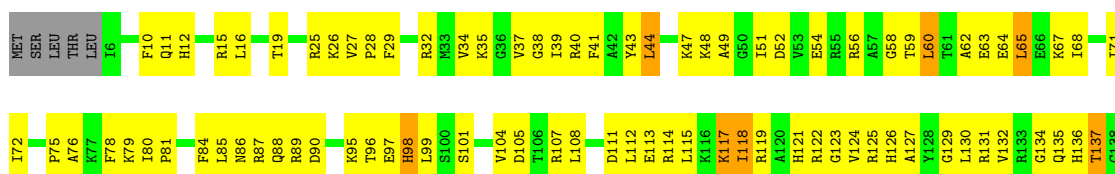
• Molecule 67: eS17

Chain AL: 41% 41% 15%



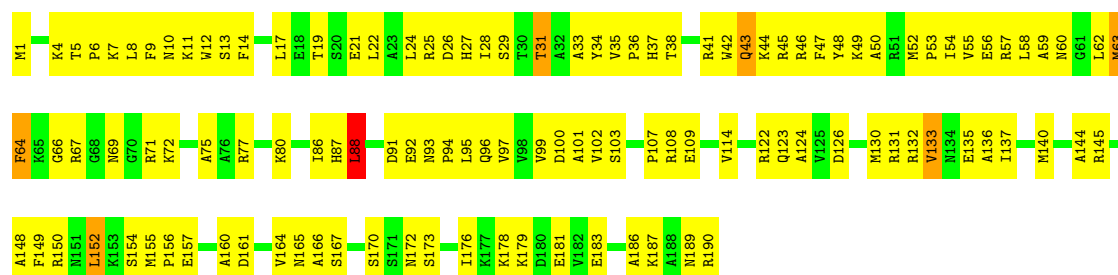
• Molecule 68: uS13

Chain AM: 31% 59% 6%

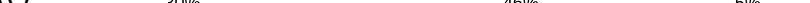


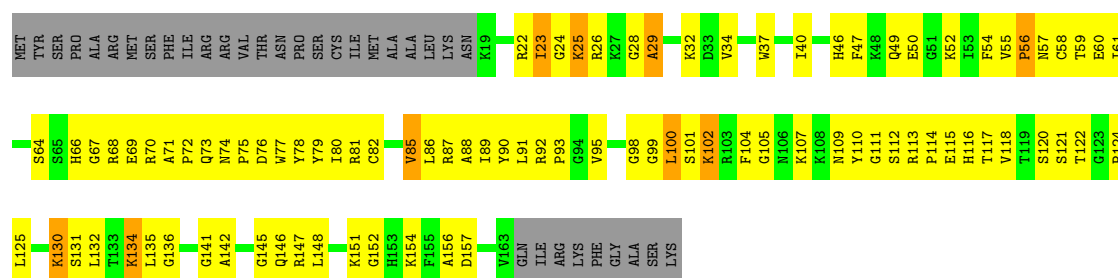
- Molecule 69: uS7

Chain AN:  38% 58% .



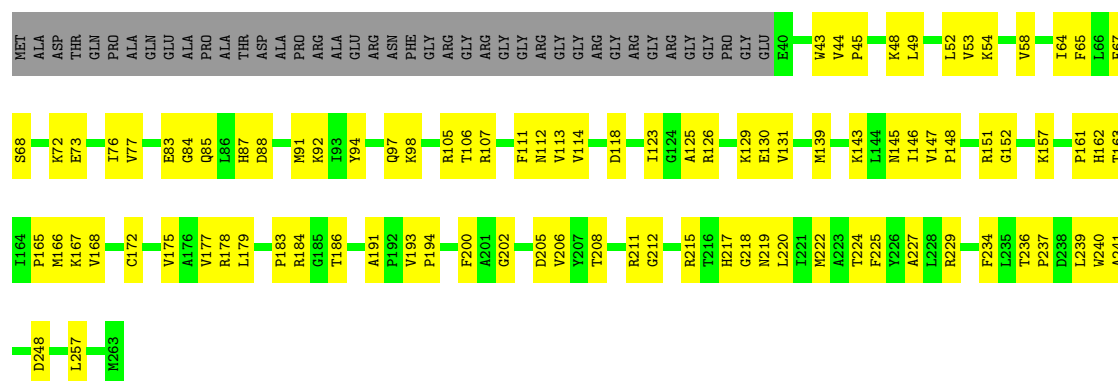
- Molecule 70: eS19

Chain AO: 



- Molecule 71: uS5

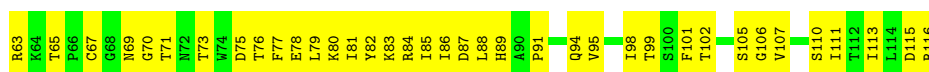
Chain AP: 



- Molecule 72: uS10

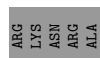
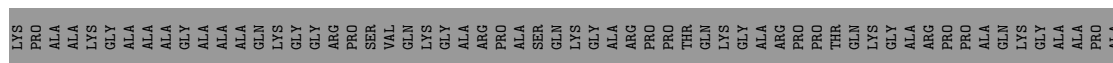
Chain AQ: 





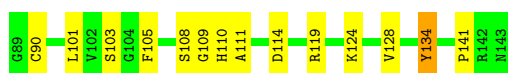
### • Molecule 73: eS21

Chain AR: 34% 16% 49%



### • Molecule 74: uS12

Chain AS: 62% 32% 6%



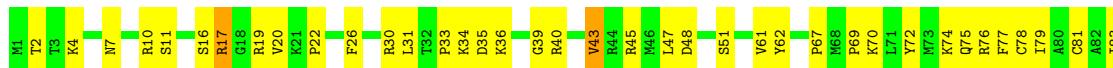
### • Molecule 75: eS24

Chain AT: 46% 45% 8%



### • Molecule 76: eS26

Chain AV: 52% 39% 7%



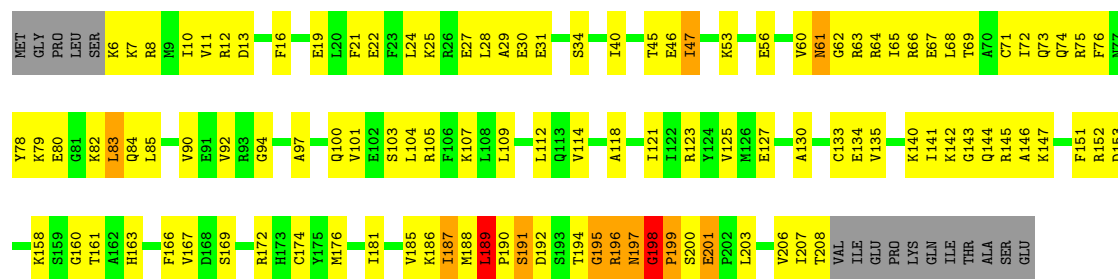
### • Molecule 77: eS27

Chain AW: 64% 28% 5%



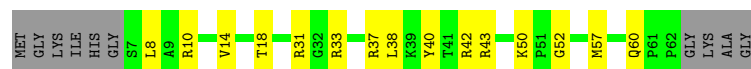
- Molecule 78: uS3

Chain AX: 



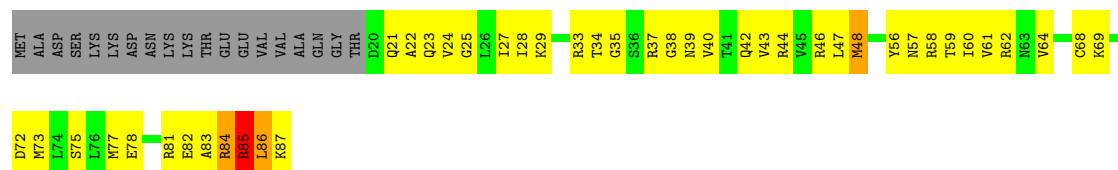
- Molecule 79: eS30

Chain AY: 



- Molecule 80: eS28

Chain AZ: 



## 4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of particles used	213108	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	20	Depositor
Minimum defocus (nm)	Not provided	Depositor
Maximum defocus (nm)	Not provided	Depositor
Magnification	Not provided	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 2$	RMSZ	$\# Z  > 2$
1	A	1.03	0/38479	0.88	24/59984 (0.0%)
10	J	0.53	0/1737	0.62	0/2324
11	K	0.42	0/1362	0.56	0/1821
12	L	0.52	0/1463	0.60	2/1952 (0.1%)
13	M	0.59	0/1815	0.67	3/2436 (0.1%)
14	N	0.51	0/1355	0.66	3/1814 (0.2%)
15	O	0.65	2/1754 (0.1%)	0.71	5/2342 (0.2%)
16	P	0.61	0/1269	0.62	0/1700
17	Q	0.61	0/1490	0.60	0/2007
18	R	0.50	0/1665	0.54	0/2206
19	S	0.58	0/1290	0.71	2/1734 (0.1%)
2	B	1.05	0/25421	0.84	8/39614 (0.0%)
20	T	0.52	0/1013	0.61	1/1350 (0.1%)
21	U	0.64	0/1052	0.64	0/1417
22	V	0.50	0/978	0.58	0/1318
23	W	0.65	0/584	0.53	0/785
24	X	0.54	0/980	0.67	0/1308
25	Y	0.56	0/1100	0.57	0/1470
26	Z	0.57	0/1153	0.72	2/1541 (0.1%)
27	a	0.47	0/1157	0.65	2/1548 (0.1%)
28	b	0.41	0/565	0.62	1/754 (0.1%)
29	c	0.69	2/1961 (0.1%)	0.72	1/2630 (0.0%)
3	C	0.98	1/3855 (0.0%)	0.89	2/6002 (0.0%)
30	d	0.64	0/3250	0.69	4/4368 (0.1%)
31	e	0.57	0/730	0.77	3/988 (0.3%)
32	f	0.55	0/893	0.61	0/1196
33	g	0.57	0/1071	0.71	1/1432 (0.1%)
34	h	0.57	0/1030	0.62	0/1369
35	i	0.45	0/1067	0.59	1/1416 (0.1%)
36	j	0.63	0/1082	0.68	1/1454 (0.1%)
37	k	0.42	0/802	0.50	0/1073
38	l	0.64	1/688 (0.1%)	0.87	2/918 (0.2%)
39	m	0.63	0/724	0.66	0/964
4	D	0.93	0/2829	0.79	0/4405

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >2	RMSZ	# Z  >2
40	n	0.54	0/614	0.58	1/818 (0.1%)
41	o	0.58	0/463	0.65	0/617
42	p	0.53	0/2874	0.67	3/3865 (0.1%)
43	q	0.61	0/431	0.66	1/572 (0.2%)
44	r	0.59	1/792 (0.1%)	0.69	2/1046 (0.2%)
45	s	0.49	0/2129	0.58	1/2846 (0.0%)
46	t	0.57	0/1074	0.78	5/1454 (0.3%)
47	u	0.57	0/1891	0.61	2/2531 (0.1%)
48	v	0.48	0/1878	0.57	0/2524
49	w	0.56	0/1504	0.64	0/2024
5	E	1.01	0/4004	0.83	1/6223 (0.0%)
50	0	0.70	0/1811	0.76	4/2438 (0.2%)
51	1	0.80	0/2076	0.78	1/2799 (0.0%)
52	2	1.66	86/43318 (0.2%)	1.27	315/67487 (0.5%)
53	3	0.66	1/2019 (0.0%)	0.77	3/2694 (0.1%)
54	4	0.76	0/1697	0.88	4/2276 (0.2%)
55	5	0.89	2/1494 (0.1%)	1.01	7/2000 (0.3%)
56	6	0.75	1/1389 (0.1%)	0.73	1/1866 (0.1%)
57	7	0.46	1/2454 (0.0%)	0.75	6/3337 (0.2%)
58	8	0.73	0/317	1.00	3/421 (0.7%)
59	AC	0.68	0/1656	0.69	0/2238
6	F	0.84	0/1686	0.86	1/2623 (0.0%)
60	AD	0.47	0/788	0.91	3/1064 (0.3%)
61	AE	0.98	0/1171	0.75	1/1570 (0.1%)
62	AG	0.83	0/1180	0.80	1/1581 (0.1%)
63	AH	0.78	0/1038	0.80	1/1392 (0.1%)
64	AI	1.11	1/1006 (0.1%)	0.94	8/1351 (0.6%)
65	AJ	0.94	2/1037 (0.2%)	0.89	1/1391 (0.1%)
66	AK	0.54	0/1128	0.82	3/1515 (0.2%)
67	AL	0.52	0/993	0.69	0/1322
68	AM	0.50	0/1206	0.88	2/1615 (0.1%)
69	AN	0.48	0/1516	0.75	2/2034 (0.1%)
7	G	1.11	0/4373	0.88	8/6817 (0.1%)
70	AO	0.51	0/1180	0.78	1/1585 (0.1%)
71	AP	0.80	0/1758	0.76	0/2380
72	AQ	0.51	0/817	0.75	0/1107
73	AR	0.67	0/639	0.72	0/866
74	AS	0.81	0/1134	0.89	3/1517 (0.2%)
75	AT	0.68	0/1054	0.70	0/1405
76	AV	0.69	0/845	0.76	0/1130
77	AW	1.25	2/658 (0.3%)	0.80	1/883 (0.1%)
78	AX	0.56	0/1616	0.83	6/2159 (0.3%)
79	AY	0.54	0/460	0.73	0/611

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >2	RMSZ	# Z  >2
8	H	1.15	0/2230	0.88	2/3470 (0.1%)
80	AZ	0.60	1/528 (0.2%)	0.83	1/705 (0.1%)
9	I	0.60	1/1564 (0.1%)	0.75	2/2092 (0.1%)
All	All	1.06	105/215154 (0.0%)	0.92	475/315901 (0.2%)

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
13	M	0	2
16	P	0	2
20	T	0	1
23	W	0	1
24	X	0	1
28	b	0	1
29	c	0	1
31	e	0	1
37	k	0	1
38	l	0	3
39	m	0	1
47	u	0	1
50	0	0	1
53	3	0	1
54	4	0	1
55	5	0	2
57	7	0	1
58	8	0	1
59	AC	0	3
61	AE	0	1
62	AG	0	3
64	AI	0	3
66	AK	0	1
67	AL	0	1
68	AM	0	7
69	AN	0	4
70	AO	0	6
72	AQ	0	1
75	AT	0	2
77	AW	0	1
78	AX	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
9	I	0	1
All	All	0	58

All (105) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	2	1864	C	N3-C4	80.83	1.90	1.33
52	2	1864	C	C2-N3	72.70	1.94	1.35
52	2	1864	C	N1-C6	69.47	1.78	1.37
52	2	1864	C	N1-C2	48.39	1.88	1.40
52	2	1864	C	C4-C5	48.22	1.81	1.43
52	2	1864	C	C5-C6	44.65	1.70	1.34
52	2	1954	U	O3'-P	38.92	2.07	1.61
64	AI	135	HIS	CB-CG	30.36	2.04	1.50
77	AW	80	TYR	C-N	-20.26	0.87	1.34
52	2	1954	U	C3'-O3'	19.37	1.69	1.42
77	AW	79	GLY	C-N	15.09	1.68	1.34
29	c	246	ILE	C-N	-14.26	1.01	1.34
15	O	51	LEU	C-N	9.04	1.49	1.33
52	2	1956	G	N7-C5	-9.04	1.33	1.39
15	O	50	MET	C-N	-8.01	1.15	1.34
9	I	20	TYR	C-N	7.84	1.52	1.34
52	2	969	A	N9-C4	-7.78	1.33	1.37
29	c	247	ARG	C-N	7.74	1.47	1.33
80	AZ	85	ARG	C-N	7.69	1.51	1.34
52	2	1899	A	C1'-N9	-7.08	1.36	1.46
52	2	1956	G	N9-C8	-7.07	1.32	1.37
52	2	913	G	N9-C4	-6.80	1.32	1.38
52	2	1645	G	N3-C4	-6.62	1.30	1.35
38	1	66	TYR	C-N	-6.58	1.19	1.34
55	5	49	ARG	C-N	-6.48	1.21	1.33
52	2	1525	A	N7-C5	-6.41	1.35	1.39
52	2	1977	G	C1'-N9	-6.39	1.38	1.46
52	2	640	A	N9-C4	-6.38	1.34	1.37
52	2	590	A	N9-C4	-6.33	1.34	1.37
52	2	1971	A	C1'-N9	-6.31	1.38	1.46
52	2	969	A	N3-C4	-6.29	1.31	1.34
52	2	1934	C	C1'-N1	6.27	1.58	1.48
52	2	97	C	N1-C6	-6.25	1.33	1.37
52	2	2168	A	N9-C4	-6.19	1.34	1.37
3	C	153	A	N9-C4	-6.11	1.34	1.37
52	2	153	A	N9-C4	-6.07	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	2	1678	G	N3-C4	-6.01	1.31	1.35
52	2	1480	G	C5-C4	-5.99	1.34	1.38
44	r	77	CYS	CB-SG	-5.97	1.72	1.81
52	2	315	A	N9-C4	-5.93	1.34	1.37
52	2	1864	C	P-O5'	5.92	1.65	1.59
52	2	1459	C	N3-C4	-5.90	1.29	1.33
52	2	1935	C	C1'-N1	5.88	1.57	1.48
52	2	381	G	C5-C4	-5.87	1.34	1.38
52	2	1459	C	N1-C6	-5.81	1.33	1.37
52	2	726	G	C1'-N9	-5.80	1.38	1.46
65	AJ	72	CYS	CB-SG	-5.80	1.72	1.81
52	2	1438	A	N3-C4	-5.74	1.31	1.34
52	2	771	G	N9-C4	-5.72	1.33	1.38
52	2	2049	A	N9-C4	-5.71	1.34	1.37
52	2	1645	G	N9-C4	-5.71	1.33	1.38
56	6	37	CYS	CB-SG	-5.67	1.72	1.81
52	2	1864	C	C5'-C4'	5.64	1.58	1.51
52	2	2173	A	N9-C4	-5.62	1.34	1.37
52	2	1955	G	N7-C5	-5.60	1.35	1.39
52	2	1413	A	N9-C4	-5.58	1.34	1.37
52	2	1182	A	N9-C4	-5.58	1.34	1.37
52	2	969	A	N7-C5	-5.57	1.35	1.39
52	2	1223	C	N1-C6	-5.56	1.33	1.37
52	2	348	A	N9-C4	-5.54	1.34	1.37
52	2	124	A	N9-C4	-5.54	1.34	1.37
52	2	1239	A	N3-C4	-5.53	1.31	1.34
52	2	1282	A	N9-C4	-5.52	1.34	1.37
52	2	1872	A	N9-C4	-5.49	1.34	1.37
52	2	1132	G	N3-C4	-5.42	1.31	1.35
52	2	1438	A	C6-N1	-5.42	1.31	1.35
52	2	22	A	N9-C4	-5.41	1.34	1.37
52	2	1678	G	N9-C4	-5.41	1.33	1.38
52	2	597	G	N9-C4	-5.41	1.33	1.38
52	2	670	A	N9-C4	-5.40	1.34	1.37
52	2	489	A	N9-C4	-5.39	1.34	1.37
52	2	1112	A	N9-C4	-5.38	1.34	1.37
52	2	1651	G	C5-C4	-5.37	1.34	1.38
52	2	1458	U	N1-C2	-5.37	1.33	1.38
52	2	969	A	C5-C6	-5.36	1.36	1.41
52	2	517	A	N9-C4	-5.35	1.34	1.37
52	2	377	A	N9-C4	-5.34	1.34	1.37
57	7	203	SER	C-N	-5.32	1.24	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	2	682	U	N1-C2	-5.29	1.33	1.38
65	AJ	81	CYS	CB-SG	-5.26	1.73	1.81
52	2	2190	C	N1-C6	-5.25	1.34	1.37
52	2	359	A	N3-C4	-5.24	1.31	1.34
52	2	1275	C	N1-C6	-5.24	1.34	1.37
52	2	436	C	N3-C4	-5.24	1.30	1.33
52	2	379	U	C2-N3	-5.21	1.34	1.37
52	2	771	G	N3-C4	-5.16	1.31	1.35
52	2	1215	U	N1-C2	-5.14	1.33	1.38
52	2	1497	A	N9-C4	-5.12	1.34	1.37
52	2	26	A	C5-C4	-5.12	1.35	1.38
52	2	16	G	C5-C4	-5.09	1.34	1.38
52	2	40	A	C5-C4	-5.06	1.35	1.38
52	2	2191	A	N9-C4	-5.06	1.34	1.37
52	2	121	C	N1-C6	-5.06	1.34	1.37
52	2	358	C	N1-C6	-5.05	1.34	1.37
52	2	2190	C	C4-C5	-5.05	1.39	1.43
52	2	1123	G	N9-C8	-5.04	1.34	1.37
53	3	80	ARG	CB-CG	-5.04	1.39	1.52
55	5	48	ALA	C-N	-5.04	1.22	1.34
52	2	1264	C	N1-C6	-5.02	1.34	1.37
52	2	1965	A	N9-C4	-5.02	1.34	1.37
52	2	670	A	N3-C4	-5.02	1.31	1.34
52	2	1481	A	N9-C4	-5.02	1.34	1.37
52	2	16	G	N3-C4	-5.01	1.31	1.35
52	2	397	A	N3-C4	-5.01	1.31	1.34
52	2	1108	A	N9-C4	-5.01	1.34	1.37

All (475) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	971	U	O5'-P-OP2	-31.09	73.39	110.70
52	2	1954	U	P-O3'-C3'	28.04	153.35	119.70
52	2	1818	U	O5'-P-OP2	-26.60	78.78	110.70
52	2	1818	U	O5'-P-OP1	-22.31	83.92	110.70
52	2	971	U	O5'-P-OP1	-21.05	85.44	110.70
55	5	49	ARG	O-C-N	-20.08	89.07	123.20
52	2	1577	G	N7-C8-N9	16.50	121.35	113.10
52	2	1818	U	OP1-P-OP2	16.10	143.75	119.60
52	2	1577	G	C8-N9-C4	-15.47	100.21	106.40
52	2	1577	G	C4-N9-C1'	13.33	143.83	126.50
52	2	1955	G	O5'-P-OP2	-13.07	93.94	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	108	ARG	C-N-CD	-13.04	91.91	120.60
52	2	970	U	OP2-P-O3'	-12.83	76.97	105.20
52	2	1817	U	OP2-P-O3'	-12.81	77.02	105.20
52	2	971	U	OP1-P-OP2	12.71	138.67	119.60
52	2	1875	A	C8-N9-C4	-12.64	100.74	105.80
64	AI	131	ARG	N-CA-C	-12.64	76.87	111.00
54	4	191	ASN	C-N-CD	-12.33	93.47	120.60
38	1	66	TYR	O-C-N	-12.25	103.11	122.70
52	2	1817	U	OP1-P-O3'	-11.89	79.05	105.20
52	2	970	U	OP1-P-O3'	-11.84	79.16	105.20
30	d	239	GLY	C-N-CA	-11.63	92.62	121.70
52	2	550	C	N1-C2-O2	11.61	125.86	118.90
52	2	771	G	N3-C4-N9	-11.47	119.12	126.00
60	AD	40	SER	N-CA-C	-11.42	80.16	111.00
52	2	1605	U	OP1-P-O3'	-11.31	80.31	105.20
52	2	1796	U	OP1-P-O3'	-11.21	80.53	105.20
52	2	2028	U	OP1-P-O3'	-11.15	80.67	105.20
52	2	1955	G	N7-C8-N9	11.05	118.63	113.10
52	2	1788	G	OP1-P-O3'	-10.98	81.05	105.20
52	2	2028	U	OP2-P-O3'	-10.80	81.43	105.20
52	2	56	U	C2-N1-C1'	10.64	130.47	117.70
31	e	83	CYS	N-CA-C	-10.32	83.13	111.00
52	2	1796	U	OP2-P-O3'	-10.32	82.49	105.20
52	2	1875	A	N7-C8-N9	10.32	118.96	113.80
52	2	1605	U	OP2-P-O3'	-10.27	82.61	105.20
52	2	1955	G	C8-N9-C4	-10.11	102.35	106.40
52	2	1864	C	C4-C5-C6	10.06	122.43	117.40
38	1	65	ARG	C-N-CA	-9.98	96.75	121.70
52	2	1577	G	C5-N7-C8	-9.96	99.32	104.30
52	2	2050	C	N1-C2-O2	9.90	124.84	118.90
52	2	1955	G	OP1-P-OP2	-9.79	104.91	119.60
64	AI	135	HIS	CA-CB-CG	9.53	129.79	113.60
52	2	1955	G	O5'-P-OP1	-9.50	97.15	105.70
52	2	1577	G	C6-C5-N7	-9.36	124.78	130.40
52	2	1956	G	C4-N9-C1'	9.17	138.42	126.50
52	2	550	C	N3-C2-O2	-9.14	115.50	121.90
26	Z	114	HIS	O-C-N	-9.00	108.30	122.70
52	2	1788	G	OP2-P-O3'	-8.95	85.51	105.20
60	AD	68	LEU	N-CA-C	8.95	135.16	111.00
63	AH	91	ARG	NE-CZ-NH1	-8.91	115.85	120.30
52	2	1956	G	C4-C5-C6	8.88	124.13	118.80
52	2	364	G	O4'-C1'-N9	8.87	115.29	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	AK	122	LEU	C-N-CA	-8.86	99.54	121.70
15	O	51	LEU	N-CA-C	-8.86	87.08	111.00
52	2	1863	A	P-O3'-C3'	8.81	130.27	119.70
52	2	56	U	C6-N1-C1'	-8.79	108.89	121.20
52	2	1960	C	O5'-P-OP1	-8.78	97.80	105.70
29	c	214	GLY	N-CA-C	8.74	134.94	113.10
52	2	1864	C	O4'-C1'-N1	8.72	115.18	108.20
52	2	1843	U	N3-C2-O2	-8.70	116.11	122.20
52	2	1955	G	C6-C5-N7	-8.67	125.20	130.40
52	2	1206	C	C2-N1-C1'	8.64	128.31	118.80
52	2	1954	U	OP2-P-O3'	8.63	124.19	105.20
52	2	2029	U	N3-C2-O2	-8.59	116.19	122.20
52	2	1864	C	N3-C4-C5	-8.59	118.46	121.90
52	2	1577	G	C8-N9-C1'	-8.55	115.89	127.00
52	2	2050	C	C2-N1-C1'	8.54	128.19	118.80
52	2	550	C	C2-N1-C1'	8.53	128.19	118.80
52	2	1816	U	C2-N1-C1'	8.49	127.89	117.70
52	2	913	G	N3-C4-C5	8.46	132.83	128.60
52	2	1843	U	N1-C2-O2	8.42	128.69	122.80
52	2	1645	G	C2-N3-C4	-8.33	107.74	111.90
45	s	126	ASP	N-CA-C	-8.31	88.55	111.00
52	2	364	G	O5'-P-OP1	-8.31	98.22	105.70
52	2	2029	U	N1-C2-O2	8.31	128.62	122.80
52	2	771	G	N3-C2-N2	-8.29	114.10	119.90
52	2	1678	G	N3-C4-N9	-8.27	121.04	126.00
52	2	913	G	N3-C4-N9	-8.23	121.06	126.00
52	2	1956	G	C6-C5-N7	-8.13	125.52	130.40
70	AO	100	LEU	CA-CB-CG	8.11	133.96	115.30
52	2	1864	C	N1-C2-N3	-8.08	113.54	119.20
52	2	56	U	C5-C6-N1	8.06	126.73	122.70
52	2	771	G	N3-C4-C5	8.03	132.62	128.60
74	AS	28	LYS	N-CA-C	-7.99	89.42	111.00
52	2	1875	A	C5'-C4'-O4'	-7.99	99.51	109.10
52	2	1997	C	C2-N1-C1'	7.97	127.57	118.80
46	t	67	GLY	N-CA-C	-7.94	93.24	113.10
52	2	1956	G	C8-N9-C1'	-7.94	116.67	127.00
52	2	969	A	C2-N3-C4	-7.94	106.63	110.60
52	2	2029	U	C2-N1-C1'	7.89	127.17	117.70
52	2	1997	C	N1-C2-O2	7.86	123.61	118.90
53	3	150	LEU	N-CA-C	7.83	132.15	111.00
52	2	1967	U	N1-C2-O2	7.79	128.25	122.80
52	2	1930	G	C4-C5-N7	7.78	113.91	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	761	U	C2-N1-C1'	7.68	126.91	117.70
51	1	120	LEU	CA-CB-CG	7.67	132.93	115.30
52	2	1789	A	OP1-P-OP2	7.63	131.05	119.60
44	r	17	CYS	CA-CB-SG	7.62	127.72	114.00
52	2	1525	A	C4-C5-C6	7.62	120.81	117.00
52	2	1955	G	C4-N9-C1'	7.61	136.39	126.50
52	2	46	U	C2-N1-C1'	7.60	126.82	117.70
52	2	1443	U	N3-C2-O2	-7.57	116.90	122.20
52	2	760	G	C5-C6-N1	7.57	115.28	111.50
7	G	85	C	N3-C2-O2	-7.55	116.61	121.90
52	2	1997	C	O5'-P-OP1	-7.54	98.92	105.70
7	G	85	C	N1-C2-O2	7.47	123.38	118.90
77	AW	79	GLY	O-C-N	-7.46	110.77	122.70
52	2	1955	G	N3-C4-C5	-7.44	124.88	128.60
52	2	1518	G	O4'-C1'-N9	7.44	114.15	108.20
52	2	1577	G	N1-C6-O6	7.42	124.36	119.90
33	g	102	GLY	N-CA-C	7.38	131.55	113.10
1	A	461	G	N3-C4-N9	-7.37	121.58	126.00
52	2	1678	G	N3-C2-N2	-7.36	114.75	119.90
52	2	2050	C	N3-C2-O2	-7.35	116.75	121.90
57	7	27	ILE	N-CA-C	7.35	130.85	111.00
52	2	2046	U	C5-C6-N1	7.35	126.37	122.70
15	O	51	LEU	O-C-N	7.32	135.65	123.20
52	2	502	A	N1-C2-N3	7.30	132.95	129.30
52	2	904	G	C6-C5-N7	-7.28	126.03	130.40
52	2	1950	C	C5-C6-N1	7.26	124.63	121.00
52	2	771	G	C4-N9-C1'	-7.25	117.08	126.50
69	AN	88	LEU	CA-CB-CG	7.24	131.94	115.30
64	AI	133	VAL	N-CA-C	7.23	130.53	111.00
13	M	220	GLY	N-CA-C	7.23	131.18	113.10
19	S	123	LYS	N-CA-C	-7.23	91.48	111.00
55	5	49	ARG	CA-C-N	7.22	130.65	116.20
52	2	1956	G	N3-C4-C5	-7.19	125.00	128.60
55	5	67	TRP	CA-CB-CG	7.19	127.36	113.70
52	2	1797	G	OP1-P-OP2	7.18	130.37	119.60
52	2	771	G	N9-C4-C5	7.17	108.27	105.40
52	2	1606	C	OP1-P-OP2	7.15	130.32	119.60
52	2	771	G	C8-N9-C1'	7.13	136.28	127.00
7	G	85	C	C2-N1-C1'	7.12	126.63	118.80
52	2	38	C	C5-C6-N1	-7.12	117.44	121.00
52	2	1850	U	N3-C2-O2	-7.10	117.23	122.20
52	2	1955	G	N3-C4-N9	7.10	130.26	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1874	A	O4'-C1'-N9	7.08	113.86	108.20
52	2	1956	G	N3-C4-N9	7.08	130.25	126.00
52	2	1930	G	C5-C6-O6	-7.07	124.36	128.60
52	2	2050	C	C6-N1-C1'	-7.04	112.35	120.80
52	2	59	C	O4'-C1'-N1	6.97	113.78	108.20
52	2	1968	G	O4'-C1'-N9	6.96	113.77	108.20
52	2	1967	U	N3-C2-O2	-6.96	117.33	122.20
62	AG	72	LEU	CA-CB-CG	6.95	131.29	115.30
1	A	461	G	N3-C4-C5	6.95	132.07	128.60
52	2	1930	G	N1-C6-O6	6.91	124.04	119.90
52	2	1206	C	N3-C2-O2	-6.88	117.08	121.90
19	S	10	GLY	C-N-CA	-6.85	104.57	121.70
52	2	728	C	C2-N1-C1'	6.85	126.33	118.80
52	2	1529	U	O4'-C1'-N1	6.84	113.67	108.20
52	2	1206	C	N1-C2-O2	6.83	123.00	118.90
42	p	140	GLY	C-N-CA	-6.80	104.70	121.70
31	e	100	SER	N-CA-C	-6.80	92.65	111.00
52	2	763	C	N3-C2-O2	-6.79	117.15	121.90
52	2	1239	A	C2-N3-C4	-6.72	107.24	110.60
52	2	1860	G	N3-C4-N9	-6.71	121.97	126.00
52	2	324	U	N1-C2-O2	6.71	127.50	122.80
2	B	980	U	N3-C2-O2	-6.69	117.51	122.20
58	8	31	LEU	CA-CB-CG	6.69	130.69	115.30
52	2	2164	U	P-O3'-C3'	6.68	127.72	119.70
52	2	1955	G	O4'-C1'-N9	6.66	113.53	108.20
30	d	276	GLY	N-CA-C	6.66	129.75	113.10
58	8	24	ILE	CG1-CB-CG2	-6.66	96.76	111.40
9	I	36	LEU	CA-CB-CG	6.62	130.51	115.30
52	2	1864	C	C6-N1-C2	6.61	122.94	120.30
52	2	1816	U	C6-N1-C1'	-6.60	111.96	121.20
52	2	2029	U	OP1-P-OP2	6.60	129.50	119.60
1	A	814	C	N3-C2-O2	-6.57	117.30	121.90
78	AX	198	GLY	C-N-CD	-6.57	106.14	120.60
50	0	134	ASP	N-CA-C	-6.56	93.28	111.00
52	2	1577	G	N3-C4-C5	-6.55	125.32	128.60
52	2	1930	G	C6-C5-N7	-6.55	126.47	130.40
52	2	1954	U	O3'-P-O5'	6.53	116.40	104.00
52	2	559	G	O4'-C1'-N9	6.51	113.41	108.20
52	2	1791	U	P-O3'-C3'	6.51	127.51	119.70
52	2	42	G	P-O3'-C3'	6.51	127.51	119.70
1	A	186	G	N3-C4-C5	6.50	131.85	128.60
52	2	1997	C	C6-N1-C1'	-6.50	113.00	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1434	C	C2-N1-C1'	6.49	125.94	118.80
52	2	1872	A	C2-N3-C4	-6.49	107.36	110.60
52	2	1985	A	N1-C6-N6	-6.47	114.72	118.60
52	2	1930	G	N9-C4-C5	-6.46	102.82	105.40
7	G	85	C	C6-N1-C2	-6.45	117.72	120.30
2	B	1453	C	C5-C6-N1	6.42	124.21	121.00
52	2	904	G	C4-N9-C1'	6.41	134.83	126.50
1	A	186	G	N3-C4-N9	-6.38	122.17	126.00
52	2	1978	G	C8-N9-C1'	6.36	135.27	127.00
43	q	110	CYS	CA-CB-SG	6.34	125.41	114.00
78	AX	199	PRO	N-CA-C	6.33	128.54	112.10
30	d	277	TYR	CA-CB-CG	6.32	125.41	113.40
52	2	1964	G	C2-N3-C4	-6.32	108.74	111.90
1	A	761	U	N1-C2-O2	6.30	127.21	122.80
52	2	1183	G	N3-C4-N9	-6.29	122.23	126.00
52	2	1525	A	C6-C5-N7	-6.28	127.91	132.30
52	2	290	U	N3-C2-O2	-6.27	117.81	122.20
52	2	1908	C	C2-N1-C1'	6.26	125.69	118.80
52	2	38	C	C4-C5-C6	6.26	120.53	117.40
52	2	963	U	OP1-P-O3'	6.26	118.98	105.20
52	2	1239	A	N1-C2-N3	6.26	132.43	129.30
52	2	56	U	C4-C5-C6	-6.25	115.95	119.70
52	2	56	U	O5'-P-OP2	6.25	118.20	110.70
52	2	1949	U	P-O3'-C3'	6.25	127.20	119.70
52	2	1416	A	O5'-P-OP1	-6.24	100.08	105.70
52	2	1860	G	N3-C4-C5	6.23	131.71	128.60
52	2	1181	C	C2-N1-C1'	6.22	125.64	118.80
52	2	1104	A	N7-C8-N9	6.21	116.91	113.80
52	2	716	U	C2'-C3'-O3'	6.16	123.56	113.70
52	2	1876	U	P-O5'-C5'	6.16	130.75	120.90
52	2	1869	A	C5-C6-N1	6.16	120.78	117.70
54	4	190	TRP	N-CA-C	6.15	127.61	111.00
52	2	1850	U	N1-C2-O2	6.15	127.10	122.80
52	2	762	A	OP1-P-OP2	-6.14	110.38	119.60
52	2	1881	G	N3-C4-N9	6.14	129.68	126.00
52	2	493	C	C6-N1-C2	6.13	122.75	120.30
52	2	1678	G	N9-C4-C5	6.13	107.85	105.40
52	2	1106	U	C3'-C2'-C1'	6.13	106.40	101.50
80	AZ	85	ARG	C-N-CA	6.12	137.01	121.70
52	2	1400	C	C5-C6-N1	-6.12	117.94	121.00
52	2	1967	U	C2-N1-C1'	6.12	125.04	117.70
31	e	80	GLY	C-N-CA	-6.11	106.42	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	0	78	ALA	N-CA-C	6.10	127.48	111.00
52	2	1843	U	C2-N1-C1'	6.10	125.02	117.70
26	Z	114	HIS	CA-C-N	6.10	130.62	117.20
52	2	10	G	C4-N9-C1'	6.09	134.42	126.50
52	2	1864	C	C5'-C4'-O4'	6.08	116.40	109.10
52	2	2030	A	N1-C2-N3	6.08	132.34	129.30
52	2	1548	A	O4'-C1'-N9	6.08	113.06	108.20
30	d	331	LEU	CA-CB-CG	6.07	129.27	115.30
1	A	367	A	C2-N3-C4	-6.07	107.57	110.60
52	2	550	C	C6-N1-C1'	-6.06	113.53	120.80
52	2	10	G	C8-N9-C1'	-6.06	119.13	127.00
52	2	1955	G	C5-C6-O6	-6.04	124.98	128.60
2	B	1452	G	C4-N9-C1'	6.02	134.33	126.50
52	2	153	A	O5'-P-OP1	-6.02	100.28	105.70
52	2	416	G	C8-N9-C1'	-6.02	119.17	127.00
15	O	91	GLY	C-N-CA	-6.02	106.65	121.70
60	AD	41	ARG	C-N-CA	-6.02	106.66	121.70
52	2	1527	C	C6-N1-C2	-6.01	117.90	120.30
64	AI	134	LEU	N-CA-C	6.00	127.20	111.00
52	2	363	G	OP1-P-O3'	6.00	118.40	105.20
52	2	38	C	N1-C2-O2	-5.99	115.30	118.90
52	2	1576	G	P-O3'-C3'	5.97	126.86	119.70
54	4	50	ARG	NE-CZ-NH1	-5.96	117.32	120.30
47	u	223	GLY	N-CA-C	5.95	127.96	113.10
9	I	20	TYR	O-C-N	5.94	132.21	122.70
52	2	1525	A	C8-N9-C4	-5.94	103.42	105.80
52	2	1206	C	C6-N1-C1'	-5.93	113.68	120.80
52	2	2011	U	P-O3'-C3'	5.93	126.81	119.70
52	2	1955	G	C5-N7-C8	-5.92	101.34	104.30
52	2	319	C	N3-C2-O2	5.92	126.04	121.90
53	3	80	ARG	CG-CD-NE	-5.91	99.38	111.80
52	2	1570	C	C6-N1-C2	5.89	122.66	120.30
7	G	166	C	C2-N1-C1'	5.89	125.28	118.80
61	AE	55	LEU	CA-CB-CG	-5.88	101.77	115.30
52	2	969	A	C5-N7-C8	-5.88	100.96	103.90
78	AX	189	LEU	N-CA-C	-5.87	95.15	111.00
15	O	94	LEU	CA-CB-CG	5.87	128.79	115.30
8	H	7	C	C2-N1-C1'	5.86	125.25	118.80
52	2	1627	G	P-O3'-C3'	5.86	126.74	119.70
1	A	761	U	N3-C2-O2	-5.85	118.10	122.20
46	t	107	GLN	N-CA-C	5.85	126.80	111.00
52	2	1239	A	O4'-C1'-N9	5.84	112.88	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1875	A	N9-C4-C5	5.84	108.14	105.80
52	2	1577	G	C5-C6-O6	-5.84	125.10	128.60
40	n	75	ALA	N-CA-C	-5.82	95.30	111.00
52	2	1796	U	C5-C6-N1	5.82	125.61	122.70
52	2	1930	G	O4'-C1'-N9	-5.79	103.57	108.20
52	2	771	G	C6-C5-N7	5.79	133.87	130.40
7	G	171	U	C2-N1-C1'	5.79	124.64	117.70
1	A	360	U	C2-N1-C1'	5.78	124.64	117.70
74	AS	61	GLN	C-N-CD	5.78	140.54	128.40
12	L	25	GLY	N-CA-C	5.78	127.54	113.10
52	2	1104	A	C8-N9-C4	-5.77	103.49	105.80
57	7	25	SER	N-CA-C	5.77	126.57	111.00
74	AS	26	GLY	N-CA-C	-5.76	98.70	113.10
52	2	253	U	OP1-P-O3'	5.76	117.86	105.20
52	2	1378	U	P-O3'-C3'	5.76	126.61	119.70
52	2	1525	A	N7-C8-N9	5.76	116.68	113.80
52	2	1584	A	N9-C1'-C2'	-5.76	105.67	112.00
52	2	1996	U	C5-C6-N1	-5.75	119.82	122.70
52	2	257	A	OP1-P-O3'	5.75	117.85	105.20
52	2	1955	G	N1-C6-O6	5.75	123.35	119.90
52	2	1645	G	N1-C2-N3	5.75	127.35	123.90
52	2	1577	G	C4-C5-C6	5.74	122.24	118.80
52	2	790	U	P-O3'-C3'	5.73	126.57	119.70
52	2	1206	C	C6-N1-C2	-5.72	118.01	120.30
52	2	659	G	O4'-C1'-N9	5.71	112.77	108.20
52	2	672	G	N3-C4-C5	5.71	131.46	128.60
55	5	58	LEU	CA-CB-CG	5.71	128.44	115.30
52	2	689	U	N1-C2-O2	5.70	126.79	122.80
57	7	27	ILE	C-N-CA	5.70	135.96	121.70
52	2	1982	C	C5-C6-N1	5.70	123.85	121.00
52	2	597	G	N3-C4-C5	5.69	131.45	128.60
52	2	1400	C	OP1-P-OP2	-5.69	111.07	119.60
44	r	74	CYS	CA-CB-SG	5.68	124.23	114.00
52	2	771	G	C4-C5-N7	-5.68	108.53	110.80
65	AJ	28	ARG	C-N-CD	5.68	140.33	128.40
1	A	461	G	C2-N3-C4	-5.68	109.06	111.90
52	2	1434	C	O4'-C1'-N1	5.68	112.74	108.20
1	A	447	G	O4'-C1'-N9	5.65	112.72	108.20
52	2	1148	G	O4'-C1'-N9	5.64	112.72	108.20
52	2	1964	G	N1-C2-N3	5.64	127.29	123.90
52	2	46	U	C6-N1-C1'	-5.64	113.30	121.20
53	3	203	ARG	NE-CZ-NH1	-5.63	117.48	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	191	U	O4'-C1'-N1	5.63	112.71	108.20
52	2	416	G	C4-N9-C1'	5.62	133.81	126.50
52	2	689	U	C2-N1-C1'	5.62	124.45	117.70
52	2	1685	A	C2-N3-C4	5.62	113.41	110.60
56	6	61	LEU	CA-CB-CG	5.62	128.23	115.30
52	2	1983	G	N3-C4-C5	5.62	131.41	128.60
12	L	130	LEU	C-N-CA	-5.61	107.67	121.70
52	2	1943	A	C8-N9-C4	-5.61	103.56	105.80
52	2	1998	U	C2-N1-C1'	-5.61	110.97	117.70
52	2	1580	G	C4-N9-C1'	-5.60	119.22	126.50
52	2	1791	U	OP2-P-O3'	5.59	117.50	105.20
52	2	1556	A	P-O3'-C3'	5.59	126.41	119.70
52	2	313	G	C4-N9-C1'	5.58	133.75	126.50
52	2	2029	U	C6-N1-C1'	-5.57	113.40	121.20
57	7	121	LEU	CA-CB-CG	5.57	128.11	115.30
52	2	913	G	C2-N3-C4	-5.57	109.12	111.90
52	2	1982	C	C2-N1-C1'	5.56	124.92	118.80
52	2	555	C	C6-N1-C2	-5.56	118.08	120.30
52	2	1645	G	N3-C4-N9	-5.55	122.67	126.00
52	2	692	G	N3-C4-C5	5.54	131.37	128.60
47	u	234	GLY	N-CA-C	-5.54	99.25	113.10
57	7	158	PHE	N-CA-C	-5.53	96.07	111.00
36	j	14	LEU	CA-CB-CG	5.52	128.00	115.30
42	p	150	PRO	N-CA-C	-5.52	97.74	112.10
50	0	166	TRP	CA-CB-CG	5.52	124.19	113.70
1	A	367	A	N1-C2-N3	5.52	132.06	129.30
52	2	618	C	O5'-P-OP1	-5.52	100.73	105.70
52	2	1996	U	C6-N1-C2	5.52	124.31	121.00
52	2	1645	G	N3-C4-C5	5.52	131.36	128.60
52	2	2048	C	C2-N1-C1'	5.51	124.87	118.80
52	2	47	A	P-O3'-C3'	5.51	126.31	119.70
68	AM	44	LEU	CA-CB-CG	5.51	127.97	115.30
52	2	1525	A	N1-C6-N6	5.50	121.90	118.60
52	2	1876	U	C6-N1-C2	-5.50	117.70	121.00
52	2	316	A	O5'-P-OP2	-5.50	100.75	105.70
14	N	46	MET	N-CA-C	-5.49	96.18	111.00
52	2	1572	G	O4'-C1'-N9	-5.48	103.81	108.20
2	B	958	U	N1-C2-O2	5.47	126.63	122.80
52	2	573	C	C6-N1-C2	-5.46	118.11	120.30
78	AX	83	LEU	CB-CG-CD2	-5.46	101.73	111.00
52	2	1897	C	P-O3'-C3'	5.44	126.23	119.70
64	AI	131	ARG	C-N-CD	5.44	139.82	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1955	G	C4-C5-C6	5.43	122.06	118.80
14	N	10	GLY	C-N-CA	-5.43	108.13	121.70
27	a	70	SER	N-CA-C	-5.43	96.34	111.00
52	2	728	C	N1-C2-O2	5.43	122.16	118.90
52	2	2165	A	O5'-P-OP1	-5.42	100.82	105.70
52	2	1577	G	C4-C5-N7	5.42	112.97	110.80
52	2	667	U	OP2-P-O3'	5.41	117.10	105.20
27	a	69	SER	N-CA-C	5.41	125.61	111.00
66	AK	46	LEU	C-N-CD	5.41	139.76	128.40
1	A	203	C	N3-C2-O2	-5.40	118.12	121.90
52	2	1103	G	P-O3'-C3'	5.40	126.18	119.70
52	2	38	C	C2-N3-C4	-5.39	117.20	119.90
6	F	67	C	N1-C2-O2	5.39	122.14	118.90
58	8	56	LEU	CA-CB-CG	-5.39	102.90	115.30
68	AM	149	VAL	CA-CB-CG2	5.39	118.99	110.90
52	2	1104	A	P-O3'-C3'	5.39	126.16	119.70
52	2	771	G	N1-C2-N2	5.38	121.04	116.20
13	M	124	GLU	C-N-CA	-5.37	111.02	122.30
52	2	1864	C	N1-C2-O2	5.37	122.12	118.90
64	AI	84	LYS	C-N-CA	5.37	135.12	121.70
1	A	761	U	C6-N1-C1'	-5.36	113.69	121.20
52	2	1863	A	N1-C6-N6	-5.36	115.38	118.60
52	2	1576	G	N3-C4-C5	-5.36	125.92	128.60
52	2	1881	G	C6-C5-N7	-5.36	127.19	130.40
52	2	2000	G	P-O3'-C3'	5.35	126.12	119.70
52	2	1950	C	C4-C5-C6	-5.35	114.73	117.40
52	2	1576	G	C4-C5-C6	5.34	122.01	118.80
64	AI	84	LYS	N-CA-C	5.34	125.41	111.00
52	2	596	U	N1-C2-O2	-5.33	119.07	122.80
52	2	46	U	N1-C2-O2	5.33	126.53	122.80
5	E	73	C	C2-N1-C1'	5.32	124.66	118.80
2	B	283	C	N3-C2-O2	-5.32	118.17	121.90
52	2	1606	C	N1-C2-O2	5.31	122.09	118.90
52	2	896	A	O4'-C1'-N9	5.31	112.45	108.20
52	2	876	G	C4-N9-C1'	5.30	133.39	126.50
78	AX	61	ASN	N-CA-C	-5.30	96.69	111.00
52	2	268	C	OP1-P-O3'	5.30	116.86	105.20
1	A	203	C	C6-N1-C2	-5.29	118.18	120.30
1	A	814	C	C2-N1-C1'	5.29	124.62	118.80
52	2	937	C	P-O3'-C3'	5.29	126.05	119.70
52	2	2046	U	C6-N1-C2	-5.29	117.83	121.00
52	2	1580	G	OP1-P-O3'	5.29	116.83	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	67	GLY	C-N-CD	5.28	139.49	128.40
2	B	320	U	C2-N1-C1'	5.28	124.03	117.70
52	2	65	A	C2-N3-C4	-5.28	107.96	110.60
52	2	38	C	C2-N1-C1'	-5.28	113.00	118.80
55	5	72	ILE	CG1-CB-CG2	-5.27	99.80	111.40
52	2	21	U	C5-C6-N1	5.27	125.34	122.70
52	2	1577	G	N9-C1'-C2'	5.27	120.85	114.00
52	2	1789	A	P-O3'-C3'	5.27	126.02	119.70
52	2	1881	G	C4-N9-C1'	5.26	133.34	126.50
52	2	1982	C	C6-N1-C2	-5.26	118.20	120.30
52	2	287	C	P-O3'-C3'	5.25	126.00	119.70
1	A	967	G	C4-C5-N7	5.25	112.90	110.80
52	2	416	G	C6-C5-N7	-5.25	127.25	130.40
64	AI	135	HIS	ND1-CG-CD2	-5.24	98.66	106.00
52	2	56	U	N1-C2-O2	5.24	126.47	122.80
52	2	340	G	O5'-P-OP1	-5.24	100.99	105.70
52	2	588	G	O4'-C1'-N9	5.24	112.39	108.20
52	2	935	U	OP1-P-O3'	5.23	116.71	105.20
52	2	1606	C	N3-C2-O2	-5.22	118.24	121.90
52	2	324	U	N3-C2-O2	-5.21	118.55	122.20
52	2	1581	A	O4'-C1'-N9	-5.21	104.03	108.20
52	2	2095	G	P-O3'-C3'	5.21	125.95	119.70
52	2	124	A	C8-N9-C4	5.21	107.88	105.80
52	2	1978	G	C4-N9-C1'	-5.20	119.74	126.50
52	2	257	A	P-O3'-C3'	5.20	125.94	119.70
3	C	101	C	C5-C6-N1	5.18	123.59	121.00
52	2	2047	A	C4-N9-C1'	-5.18	116.98	126.30
55	5	48	ALA	C-N-CA	5.18	134.65	121.70
7	G	171	U	C5-C6-N1	5.17	125.29	122.70
52	2	1576	G	N3-C4-N9	5.17	129.10	126.00
52	2	550	C	C6-N1-C2	-5.16	118.24	120.30
52	2	253	U	P-O3'-C3'	5.15	125.88	119.70
69	AN	43	GLN	C-N-CA	-5.15	108.82	121.70
42	p	149	VAL	C-N-CD	5.15	139.21	128.40
2	B	714	A	N1-C6-N6	-5.15	115.51	118.60
1	A	437	A	C2-N3-C4	-5.14	108.03	110.60
3	C	174	A	C2-N3-C4	-5.14	108.03	110.60
1	A	813	C	C2-N1-C1'	5.13	124.44	118.80
52	2	1854	C	OP2-P-O3'	5.13	116.48	105.20
7	G	166	C	N3-C2-O2	-5.13	118.31	121.90
52	2	1925	G	N3-C4-N9	-5.13	122.92	126.00
52	2	1830	A	P-O3'-C3'	5.12	125.84	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	564	A	OP1-P-O3'	5.12	116.46	105.20
52	2	950	U	N3-C2-O2	-5.12	118.62	122.20
8	H	7	C	N3-C2-O2	-5.12	118.32	121.90
52	2	904	G	C8-N9-C1'	-5.10	120.37	127.00
50	0	80	GLU	N-CA-C	5.10	124.77	111.00
52	2	1816	U	N1-C2-O2	5.10	126.37	122.80
52	2	1957	G	C8-N9-C4	-5.10	104.36	106.40
1	A	276	C	C2-N1-C1'	5.09	124.40	118.80
52	2	1251	G	N3-C4-C5	5.09	131.15	128.60
54	4	134	TYR	C-N-CD	-5.09	109.40	120.60
52	2	1148	G	N7-C8-N9	5.08	115.64	113.10
52	2	1239	A	C5-N7-C8	-5.08	101.36	103.90
66	AK	69	LEU	CA-CB-CG	-5.08	103.61	115.30
2	B	958	U	N3-C2-O2	-5.08	118.64	122.20
20	T	65	SER	C-N-CA	-5.08	109.00	121.70
52	2	1699	G	P-O3'-C3'	5.08	125.79	119.70
46	t	23	SER	C-N-CD	5.07	139.05	128.40
52	2	1606	C	P-O3'-C3'	5.07	125.78	119.70
78	AX	195	GLY	N-CA-C	-5.07	100.43	113.10
52	2	2164	U	OP2-P-O3'	5.07	116.34	105.20
52	2	1890	A	N1-C6-N6	-5.06	115.56	118.60
1	A	813	C	N3-C2-O2	-5.06	118.36	121.90
15	O	52	GLY	C-N-CA	-5.06	109.06	121.70
28	b	36	SER	N-CA-C	-5.06	97.35	111.00
52	2	291	G	O5'-P-OP1	-5.06	101.15	105.70
52	2	1875	A	C2-N3-C4	5.05	113.13	110.60
52	2	689	U	N3-C2-O2	-5.05	118.66	122.20
1	A	931	G	C4-N9-C1'	5.05	133.06	126.50
35	i	39	GLY	N-CA-C	5.05	125.72	113.10
52	2	1661	U	N3-C2-O2	-5.04	118.67	122.20
52	2	1854	C	P-O3'-C3'	5.04	125.75	119.70
13	M	87	GLY	C-N-CD	5.04	138.99	128.40
52	2	580	A	P-O3'-C3'	5.04	125.75	119.70
52	2	1132	G	N3-C4-N9	-5.04	122.98	126.00
55	5	62	THR	C-N-CA	-5.03	111.74	122.30
14	N	135	THR	C-N-CD	5.02	138.95	128.40
52	2	672	G	C2-N3-C4	-5.02	109.39	111.90
52	2	1576	G	C4-N9-C1'	5.02	133.03	126.50
52	2	1678	G	N3-C4-C5	5.01	131.11	128.60
57	7	27	ILE	CA-C-N	-5.01	106.17	117.20
52	2	498	C	C6-N1-C2	-5.01	118.30	120.30
52	2	554	U	P-O3'-C3'	5.01	125.71	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	672	G	C4-C5-N7	5.01	112.80	110.80
52	2	1400	C	C4-C5-C6	5.00	119.90	117.40

There are no chirality outliers.

All (58) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
50	0	82	GLU	Peptide
53	3	149	ASN	Mainchain
54	4	42	PRO	Peptide
55	5	49	ARG	Mainchain,Peptide
57	7	2	ASN	Peptide
58	8	22	CYS	Peptide
59	AC	199	CYS	Peptide
59	AC	241	ARG	Peptide
59	AC	41	SER	Peptide
61	AE	82	ARG	Peptide
62	AG	131	ARG	Peptide
62	AG	7	ASN	Peptide
62	AG	72	LEU	Peptide
64	AI	107	HIS	Peptide
64	AI	124	GLY	Peptide
64	AI	43	LEU	Peptide
66	AK	32	GLN	Peptide
67	AL	85	ALA	Peptide
68	AM	117	LYS	Peptide
68	AM	118	ILE	Peptide
68	AM	12	HIS	Peptide
68	AM	137	THR	Peptide
68	AM	145	LYS	Peptide
68	AM	148	GLY	Peptide
68	AM	98	HIS	Peptide
69	AN	152	LEU	Peptide
69	AN	26	ASP	Peptide
69	AN	31	THR	Peptide
69	AN	88	LEU	Peptide
70	AO	101	SER	Peptide
70	AO	102	LYS	Peptide
70	AO	130	LYS	Peptide
70	AO	154	LYS	Peptide
70	AO	25	LYS	Peptide
70	AO	56	PRO	Peptide

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Mol	Chain	Res	Type	Group
72	AQ	24	ARG	Peptide
75	AT	104	GLY	Peptide
75	AT	84	ASP	Peptide
77	AW	68	THR	Peptide
78	AX	198	GLY	Peptide
9	I	180	THR	Peptide
13	M	132	ARG	Peptide
13	M	163	HIS	Peptide
16	P	36	ILE	Peptide
16	P	64	ASN	Peptide
20	T	66	ASP	Peptide
23	W	25	ALA	Peptide
24	X	56	LYS	Mainchain
28	b	35	GLY	Peptide
29	c	195	CYS	Peptide
31	e	78	ASP	Mainchain
37	k	12	ALA	Peptide
38	l	3	LYS	Peptide
38	l	4	GLY	Peptide
38	l	66	TYR	Mainchain
39	m	16	THR	Peptide
47	u	186	ALA	Peptide

## 5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	34365	0	17292	454	0
2	B	22723	0	11462	217	0
3	C	3449	0	1745	81	0
4	D	2531	0	1283	26	0
5	E	3589	0	1818	22	0
6	F	1508	0	768	45	0
7	G	3911	0	1975	29	0
8	H	1996	0	1013	18	0
9	I	1539	0	1648	108	0
10	J	1704	0	1776	51	0
11	K	1339	0	1369	71	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	L	1435	0	1525	97	0
13	M	1780	0	1894	83	0
14	N	1336	0	1409	76	0
15	O	1714	0	1792	106	0
16	P	1245	0	1289	38	0
17	Q	1456	0	1498	57	0
18	R	1646	0	1749	85	0
19	S	1261	0	1317	53	0
20	T	997	0	1051	29	0
21	U	1035	0	1092	55	0
22	V	963	0	1032	26	0
23	W	563	0	577	10	0
24	X	965	0	1033	69	0
25	Y	1079	0	1148	28	0
26	Z	1126	0	1153	80	0
27	a	1140	0	1186	0	0
28	b	554	0	581	0	0
29	c	1921	0	1978	0	0
30	d	3183	0	3308	0	0
31	e	720	0	734	0	0
32	f	878	0	951	0	0
33	g	1050	0	1115	0	0
34	h	1014	0	1078	0	0
35	i	1056	0	1156	0	0
36	j	1060	0	1108	0	0
37	k	787	0	846	0	0
38	l	674	0	689	0	0
39	m	712	0	746	0	0
40	n	605	0	663	0	0
41	o	450	0	483	0	0
42	p	2825	0	2941	0	0
43	q	425	0	463	0	0
44	r	779	0	839	0	0
45	s	2094	0	2198	0	0
46	t	1054	0	1098	0	0
47	u	1857	0	1952	0	0
48	v	1850	0	1972	0	0
49	w	1484	0	1568	0	0
50	0	1786	0	1868	131	0
51	1	2037	0	2124	102	0
52	2	38724	0	19533	1772	0
53	3	1994	0	2134	103	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	4	1667	0	1782	111	0
55	5	1473	0	1559	131	0
56	6	1362	0	1416	74	0
57	7	2394	0	2312	226	0
58	8	314	0	323	75	0
59	AC	1622	0	1663	106	0
60	AD	767	0	758	105	0
61	AE	1148	0	1194	60	0
62	AG	1157	0	1230	46	0
63	AH	1023	0	1054	62	0
64	AI	984	0	1011	195	0
65	AJ	1020	0	1050	44	0
66	AK	1108	0	1167	178	0
67	AL	983	0	1054	87	0
68	AM	1186	0	1241	252	0
69	AN	1493	0	1538	159	0
70	AO	1150	0	1173	141	0
71	AP	1722	0	1768	81	0
72	AQ	807	0	851	106	0
73	AR	630	0	620	30	0
74	AS	1114	0	1170	77	0
75	AT	1033	0	1095	54	0
76	AV	828	0	874	49	0
77	AW	646	0	656	25	0
78	AX	1595	0	1662	171	0
79	AY	452	0	505	19	0
80	AZ	526	0	548	63	0
All	All	200172	0	148294	5673	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 20.

All (5673) 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)
52:2:1864:C:C5	52:2:1864:C:C4	1.81	1.66
74:AS:27:TRP:CE3	74:AS:30:ALA:HB3	1.21	1.65
52:2:1863:A:H4'	64:AI:134:LEU:CD2	1.20	1.61
69:AN:62:LEU:HD22	69:AN:75:ALA:CB	1.23	1.60
52:2:1864:C:C2	64:AI:135:HIS:CG	1.90	1.57
24:X:57:ARG:HD3	24:X:100:ASN:CG	1.24	1.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1864:C:N3	64:AI:135:HIS:CG	1.74	1.54
12:L:177:VAL:CG2	26:Z:98:VAL:CG2	1.86	1.52
9:I:5:LEU:HD12	9:I:8:ILE:CG2	1.38	1.49
24:X:57:ARG:HG3	24:X:100:ASN:CB	1.37	1.48
52:2:1864:C:N1	52:2:1864:C:C6	1.78	1.48
14:N:135:THR:HB	14:N:140:HIS:CD2	1.49	1.48
69:AN:62:LEU:CD2	69:AN:75:ALA:CB	1.91	1.47
24:X:57:ARG:HG3	24:X:100:ASN:CA	1.41	1.45
52:2:1864:C:C4	64:AI:135:HIS:CG	2.03	1.45
9:I:7:GLY:CA	9:I:8:ILE:HB	1.43	1.45
9:I:5:LEU:CD1	9:I:8:ILE:CG2	1.98	1.42
52:2:1864:C:N1	52:2:1864:C:C2	1.88	1.42
52:2:1863:A:C4'	64:AI:134:LEU:HD23	0.95	1.41
77:AW:79:GLY:C	77:AW:80:TYR:N	1.68	1.41
52:2:1954:U:C3'	52:2:1954:U:O3'	1.69	1.41
57:7:149:HIS:CD2	57:7:153:VAL:HG22	1.55	1.40
9:I:7:GLY:HA2	9:I:8:ILE:CB	1.31	1.40
52:2:1535:U:C4'	64:AI:133:VAL:HG11	1.49	1.40
55:5:28:GLU:C	55:5:29:LEU:HD12	1.42	1.40
52:2:1864:C:C2	64:AI:135:HIS:CB	2.04	1.39
64:AI:135:HIS:CB	64:AI:135:HIS:CG	2.04	1.38
11:K:118:ASP:N	68:AM:15:ARG:HH22	0.91	1.38
52:2:1864:C:N3	52:2:1864:C:C4	1.90	1.38
78:AX:166:PHE:HA	78:AX:189:LEU:CD1	1.52	1.38
12:L:177:VAL:CG2	26:Z:98:VAL:HG23	0.90	1.36
11:K:122:LYS:HD3	68:AM:10:PHE:CD1	1.59	1.36
52:2:1864:C:C2	52:2:1864:C:N3	1.93	1.36
78:AX:63:ARG:HG2	78:AX:67:GLU:CD	1.47	1.34
63:AH:121:ARG:N	76:AV:62:TYR:HE2	1.22	1.34
67:AL:109:LEU:CD1	67:AL:116:VAL:HG13	1.58	1.33
52:2:1822:G:OP1	66:AK:135:TRP:NE1	1.60	1.33
52:2:1536:U:C5'	64:AI:131:ARG:HG2	1.58	1.32
78:AX:166:PHE:CA	78:AX:189:LEU:HD11	1.59	1.32
24:X:57:ARG:CD	24:X:100:ASN:OD1	1.76	1.32
74:AS:27:TRP:CE3	74:AS:30:ALA:CB	2.13	1.32
11:K:118:ASP:N	68:AM:15:ARG:NH2	1.74	1.31
52:2:711:G:H1'	52:2:715:G:N7	1.42	1.31
24:X:57:ARG:CG	24:X:100:ASN:HB3	1.58	1.31
78:AX:190:PRO:O	78:AX:192:ASP:N	1.57	1.31
74:AS:32:THR:CG2	74:AS:34:ALA:HB3	1.58	1.31
52:2:1864:C:N3	64:AI:135:HIS:CD2	1.98	1.30

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AS:27:TRP:HE3	74:AS:30:ALA:CB	1.44	1.30
50:0:78:ALA:CB	50:0:82:GLU:CG	2.09	1.29
24:X:57:ARG:CG	24:X:100:ASN:CB	2.06	1.29
52:2:750:U:H2'	52:2:751:G:C8	1.65	1.29
24:X:58:GLY:O	24:X:60:PHE:N	1.66	1.29
66:AK:37:VAL:CG2	66:AK:40:VAL:O	1.82	1.27
52:2:1863:A:C3'	64:AI:134:LEU:HD23	1.62	1.27
52:2:2028:U:P	69:AN:42:TRP:HZ3	1.57	1.26
50:0:134:ASP:OD1	50:0:183:GLN:CB	1.82	1.26
18:R:170:ARG:NH2	52:2:918:A:H1'	1.48	1.26
52:2:1535:U:H4'	64:AI:133:VAL:CG1	1.66	1.26
52:2:1864:C:N3	64:AI:135:HIS:CB	1.98	1.26
55:5:28:GLU:O	55:5:29:LEU:HD12	1.14	1.26
66:AK:37:VAL:HG22	66:AK:40:VAL:C	1.46	1.24
9:I:5:LEU:CD1	9:I:8:ILE:HG21	1.60	1.24
52:2:1864:C:C4	64:AI:135:HIS:CB	2.19	1.24
50:0:134:ASP:OD1	50:0:183:GLN:HG2	1.37	1.23
52:2:1535:U:C4'	64:AI:133:VAL:CG1	2.16	1.23
50:0:134:ASP:OD1	50:0:183:GLN:CG	1.87	1.23
57:7:123:VAL:HB	57:7:158:PHE:CZ	1.75	1.22
52:2:719:C:N3	52:2:735:G:N1	1.88	1.22
52:2:1878:U:N3	69:AN:63:MET:CE	2.02	1.22
78:AX:167:VAL:CG2	78:AX:186:LYS:HE3	1.70	1.21
78:AX:63:ARG:CG	78:AX:67:GLU:OE2	1.88	1.21
78:AX:63:ARG:HG2	78:AX:67:GLU:OE2	1.37	1.21
78:AX:97:ALA:HB2	78:AX:187:ILE:CD1	1.71	1.21
56:6:113:PHE:CG	56:6:120:SER:O	1.91	1.21
1:A:753:A:O2'	26:Z:112:ASN:OD1	1.58	1.21
52:2:1864:C:C5	64:AI:135:HIS:CG	2.29	1.21
6:F:11:G:H4'	6:F:73:A:N6	1.57	1.20
52:2:1878:U:H3	69:AN:63:MET:CE	1.54	1.20
50:0:40:GLU:HG3	50:0:76:GLN:OE1	1.40	1.19
80:AZ:57:ASN:ND2	80:AZ:60:ILE:HD12	1.57	1.19
50:0:78:ALA:CB	50:0:82:GLU:HG2	1.71	1.19
66:AK:89:GLN:HA	66:AK:122:LEU:CD2	1.72	1.19
6:F:11:G:C4'	6:F:73:A:H61	1.55	1.19
64:AI:84:LYS:HG3	64:AI:102:ALA:CB	1.73	1.18
52:2:1864:C:C5	64:AI:135:HIS:HB2	1.78	1.18
52:2:1863:A:C4'	64:AI:134:LEU:CD2	1.89	1.18
66:AK:37:VAL:HG22	66:AK:40:VAL:O	1.00	1.18
12:L:177:VAL:HG21	26:Z:98:VAL:CG2	1.55	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:135:GLY:O	50:0:224:PRO:HD3	1.40	1.17
64:AI:84:LYS:HD3	64:AI:109:PHE:HA	1.20	1.17
69:AN:62:LEU:CD2	69:AN:75:ALA:HB1	1.65	1.17
52:2:1864:C:C4	64:AI:135:HIS:CD2	2.32	1.16
52:2:1864:C:C2	64:AI:135:HIS:HB3	1.80	1.16
14:N:135:THR:CB	14:N:140:HIS:CD2	2.27	1.16
24:X:57:ARG:CD	24:X:100:ASN:CG	2.11	1.16
52:2:715:G:N2	52:2:740:C:O2	1.79	1.16
9:I:5:LEU:HD12	9:I:8:ILE:CB	1.75	1.16
52:2:719:C:O2	52:2:735:G:N2	1.80	1.15
66:AK:89:GLN:CA	66:AK:122:LEU:CD2	2.25	1.15
52:2:1863:A:H4'	64:AI:134:LEU:CG	1.77	1.15
74:AS:32:THR:HG21	74:AS:34:ALA:HB3	1.27	1.14
78:AX:198:GLY:N	78:AX:199:PRO:CD	2.09	1.14
52:2:1864:C:C6	64:AI:135:HIS:CB	2.30	1.14
52:2:1864:C:C6	64:AI:135:HIS:CG	2.36	1.14
9:I:5:LEU:HD12	9:I:8:ILE:CG1	1.78	1.14
9:I:5:LEU:HB2	9:I:8:ILE:HG12	1.28	1.14
9:I:5:LEU:CD1	9:I:8:ILE:CG1	2.26	1.14
78:AX:198:GLY:N	78:AX:199:PRO:HD3	1.18	1.14
13:M:215:VAL:O	13:M:218:LYS:O	1.64	1.14
66:AK:37:VAL:N	66:AK:40:VAL:O	1.80	1.14
52:2:1864:C:N1	64:AI:135:HIS:CB	2.10	1.13
74:AS:32:THR:CG2	74:AS:34:ALA:CB	2.26	1.13
57:7:123:VAL:HG12	57:7:158:PHE:CE2	1.82	1.13
78:AX:167:VAL:HG22	78:AX:186:LYS:HE3	1.29	1.13
52:2:1864:C:N1	64:AI:135:HIS:HB3	1.61	1.13
2:B:607:A:C5'	15:O:90:LEU:HD11	1.77	1.13
24:X:57:ARG:CG	24:X:100:ASN:CA	2.25	1.13
11:K:117:ILE:C	68:AM:15:ARG:NH2	2.01	1.12
24:X:57:ARG:CB	24:X:100:ASN:HB3	1.78	1.12
74:AS:32:THR:HG22	74:AS:34:ALA:CB	1.77	1.12
52:2:1864:C:N1	64:AI:135:HIS:CG	2.16	1.11
50:0:78:ALA:HB2	50:0:82:GLU:CG	1.80	1.11
52:2:1954:U:O3'	52:2:1955:G:P	2.07	1.11
56:6:113:PHE:CD1	56:6:120:SER:O	2.03	1.11
69:AN:42:TRP:O	69:AN:48:TYR:CD2	2.04	1.11
50:0:78:ALA:HB1	50:0:82:GLU:HG2	1.28	1.11
2:B:607:A:H5''	15:O:90:LEU:HD11	1.32	1.10
52:2:711:G:N3	52:2:715:G:O6	1.84	1.10
52:2:734:U:H2'	52:2:735:G:H4'	1.13	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:122:LYS:HD3	68:AM:10:PHE:CE1	1.86	1.10
13:M:29:LEU:HD22	13:M:59:LEU:CD2	1.82	1.10
13:M:127:PRO:HG2	13:M:129:ASN:HD21	1.13	1.10
2:B:607:A:OP1	15:O:90:LEU:HD12	1.52	1.09
18:R:170:ARG:HH22	52:2:919:G:H5'	1.10	1.09
12:L:177:VAL:HG22	26:Z:98:VAL:CG2	1.58	1.09
67:AL:109:LEU:HD13	67:AL:116:VAL:HG13	1.14	1.09
53:3:148:PHE:HB2	53:3:150:LEU:HD12	1.11	1.09
50:0:78:ALA:CB	50:0:82:GLU:HG3	1.79	1.09
53:3:80:ARG:NH2	53:3:91:TYR:O	1.86	1.09
53:3:148:PHE:HB2	53:3:150:LEU:CD1	1.82	1.09
57:7:123:VAL:CG1	57:7:158:PHE:CE2	2.35	1.09
64:AI:84:LYS:HD3	64:AI:109:PHE:CA	1.82	1.09
52:2:1957:G:H5'	70:AO:105:GLY:H	1.16	1.09
52:2:1864:C:C5	64:AI:135:HIS:CB	2.35	1.08
52:2:1964:G:N2	52:2:1978:G:N1	2.01	1.08
56:6:113:PHE:CE1	56:6:120:SER:HA	1.88	1.08
52:2:1878:U:H3	69:AN:63:MET:HE2	0.91	1.08
69:AN:62:LEU:CD2	69:AN:75:ALA:HB2	1.79	1.08
78:AX:187:ILE:HG22	78:AX:188:MET:H	0.94	1.08
52:2:2028:U:P	69:AN:42:TRP:CZ3	2.46	1.08
24:X:57:ARG:HG3	24:X:100:ASN:HB3	1.13	1.07
52:2:734:U:C2'	52:2:735:G:H4'	1.82	1.07
13:M:29:LEU:HD22	13:M:59:LEU:HD21	1.09	1.07
52:2:1964:G:N2	52:2:1978:G:H1	1.50	1.07
65:AJ:6:VAL:CG2	65:AJ:29:PRO:HG2	1.84	1.07
12:L:177:VAL:HG12	26:Z:120:ILE:HD12	1.13	1.07
60:AD:68:LEU:O	60:AD:72:THR:HG22	1.54	1.07
52:2:1864:C:C6	64:AI:135:HIS:HB2	1.88	1.06
24:X:57:ARG:HD3	24:X:100:ASN:OD1	0.89	1.06
78:AX:97:ALA:CB	78:AX:187:ILE:HD13	1.86	1.06
78:AX:195:GLY:O	78:AX:196:ARG:NE	1.88	1.06
64:AI:84:LYS:HG3	64:AI:102:ALA:HB3	1.37	1.05
69:AN:62:LEU:CD2	69:AN:75:ALA:CA	2.32	1.05
68:AM:58:GLY:O	68:AM:63:GLU:N	1.88	1.05
69:AN:62:LEU:HD23	69:AN:75:ALA:HB2	1.39	1.05
64:AI:84:LYS:CD	64:AI:109:PHE:HA	1.85	1.04
52:2:734:U:H2'	52:2:735:G:C4'	1.86	1.04
52:2:1536:U:H5''	64:AI:131:ARG:HG2	1.05	1.04
64:AI:84:LYS:NZ	64:AI:109:PHE:HA	1.73	1.04
18:R:179:ARG:NH2	52:2:963:U:OP1	1.91	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:134:ASP:OD1	50:0:183:GLN:CA	2.06	1.03
13:M:29:LEU:CD2	13:M:59:LEU:HD21	1.86	1.03
78:AX:97:ALA:HB2	78:AX:187:ILE:HD13	1.04	1.03
52:2:1630:U:OP1	78:AX:146:ALA:HB2	1.55	1.03
74:AS:32:THR:HG22	74:AS:34:ALA:HB3	1.33	1.03
57:7:149:HIS:CD2	57:7:153:VAL:CG2	2.40	1.03
69:AN:42:TRP:O	69:AN:48:TYR:HD2	1.37	1.03
9:I:5:LEU:HD12	9:I:8:ILE:HG21	1.04	1.03
52:2:711:G:C2	52:2:715:G:O6	2.10	1.02
74:AS:27:TRP:CZ3	74:AS:30:ALA:HB3	1.94	1.02
78:AX:187:ILE:HG22	78:AX:188:MET:N	1.71	1.02
55:5:28:GLU:O	55:5:29:LEU:CD1	2.06	1.02
2:B:607:A:OP1	15:O:90:LEU:CD1	2.06	1.02
66:AK:93:LYS:HG3	66:AK:122:LEU:HG	1.41	1.02
52:2:740:C:H2'	52:2:741:C:C6	1.95	1.02
24:X:57:ARG:CG	24:X:100:ASN:HA	1.90	1.01
52:2:1863:A:O2'	68:AM:149:VAL:O	1.78	1.01
69:AN:62:LEU:HD21	69:AN:75:ALA:HA	1.36	1.01
9:I:5:LEU:CD1	9:I:8:ILE:HG23	1.85	1.01
13:M:28:ASP:O	13:M:54:VAL:O	1.75	1.01
15:O:68:ARG:HH22	15:O:123:MET:HG3	1.26	1.01
52:2:750:U:O2'	52:2:751:G:O4'	1.77	1.01
14:N:135:THR:CG2	14:N:140:HIS:NE2	2.24	1.01
52:2:711:G:O2'	52:2:715:G:C8	2.15	1.00
69:AN:14:PHE:HD1	69:AN:31:THR:HG1	1.07	1.00
55:5:28:GLU:C	55:5:29:LEU:CD1	2.29	1.00
52:2:628:A:H61	78:AX:144:GLN:HG2	1.23	1.00
52:2:750:U:C6	52:2:751:G:N7	2.28	1.00
55:5:204:GLU:O	55:5:208:LEU:CB	2.10	1.00
52:2:1864:C:C6	64:AI:135:HIS:ND1	2.29	1.00
9:I:5:LEU:HD13	9:I:8:ILE:HG13	1.43	1.00
52:2:750:U:H2'	52:2:751:G:H8	1.03	0.99
9:I:5:LEU:CB	9:I:8:ILE:HG12	1.93	0.99
21:U:116:ILE:CD1	21:U:134:HIS:HB2	1.92	0.99
52:2:750:U:C6	52:2:751:G:C8	2.50	0.99
52:2:1864:C:N1	64:AI:135:HIS:ND1	2.09	0.99
66:AK:89:GLN:C	66:AK:122:LEU:HD21	1.83	0.99
11:K:117:ILE:C	68:AM:15:ARG:HH22	1.63	0.98
78:AX:187:ILE:CG2	78:AX:188:MET:H	1.73	0.98
6:F:11:G:C4'	6:F:73:A:N6	2.20	0.98
12:L:177:VAL:CB	26:Z:98:VAL:HG23	1.93	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:750:U:C2'	52:2:751:G:C8	2.46	0.98
66:AK:93:LYS:HG3	66:AK:122:LEU:CG	1.94	0.98
55:5:204:GLU:O	55:5:208:LEU:HB2	1.64	0.98
55:5:26:LYS:HD2	55:5:29:LEU:HD21	1.43	0.98
55:5:204:GLU:HB2	61:AE:32:ASN:ND2	1.79	0.97
52:2:1977:G:N3	52:2:1977:G:H3'	1.76	0.97
57:7:149:HIS:HD2	57:7:153:VAL:CG2	1.73	0.97
62:AG:38:CYS:SG	62:AG:78:ASN:ND2	2.37	0.97
52:2:1490:U:H5	74:AS:110:HIS:CE1	1.81	0.97
52:2:1863:A:C5'	64:AI:134:LEU:HD23	1.92	0.97
52:2:1535:U:H4'	64:AI:133:VAL:HG13	1.45	0.97
52:2:760:G:O6	52:2:771:G:N2	1.98	0.97
67:AL:109:LEU:HD13	67:AL:116:VAL:CG1	1.94	0.97
15:O:89:VAL:C	15:O:90:LEU:HG	1.81	0.97
72:AQ:38:THR:HA	72:AQ:41:ARG:HB3	1.45	0.97
11:K:122:LYS:CD	68:AM:10:PHE:CD1	2.47	0.97
50:0:78:ALA:HB1	50:0:82:GLU:CG	1.85	0.97
52:2:711:G:N2	52:2:715:G:O6	1.97	0.97
66:AK:89:GLN:O	66:AK:122:LEU:HD21	1.63	0.97
52:2:719:C:C2	52:2:735:G:N1	2.28	0.96
50:0:134:ASP:OD1	50:0:183:GLN:HA	1.64	0.96
2:B:1450:U:H1'	8:H:107:U:H3'	1.42	0.96
10:J:144:TYR:C	10:J:146:PRO:HD2	1.86	0.96
52:2:734:U:H6	52:2:735:G:C4'	1.77	0.96
69:AN:62:LEU:CD2	69:AN:75:ALA:HA	1.93	0.96
52:2:1536:U:H5''	64:AI:131:ARG:CG	1.96	0.96
52:2:1863:A:C5'	64:AI:134:LEU:CD2	2.42	0.96
15:O:106:LEU:HD12	15:O:132:VAL:HG11	1.47	0.95
24:X:57:ARG:HG3	24:X:100:ASN:HA	1.43	0.95
64:AI:107:HIS:HB3	64:AI:108:GLN:HG3	1.47	0.95
52:2:1535:U:C1'	64:AI:133:VAL:HG11	1.78	0.95
74:AS:27:TRP:CZ3	74:AS:30:ALA:CB	2.50	0.95
13:M:29:LEU:HD12	13:M:53:VAL:HG13	1.48	0.95
15:O:64:VAL:CG2	15:O:106:LEU:HD21	1.96	0.95
80:AZ:57:ASN:CG	80:AZ:60:ILE:CD1	2.35	0.95
14:N:135:THR:HG21	14:N:140:HIS:NE2	1.82	0.95
9:I:5:LEU:HD11	9:I:8:ILE:CG2	1.97	0.95
67:AL:109:LEU:HD12	67:AL:116:VAL:HG13	1.49	0.95
64:AI:83:VAL:HG22	64:AI:84:LYS:H	1.29	0.95
13:M:127:PRO:CG	13:M:129:ASN:HD21	1.80	0.95
52:2:526:G:O6	52:2:527:A:N6	2.00	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:118:ASP:CA	68:AM:15:ARG:HH22	1.78	0.94
52:2:918:A:N6	52:2:1101:A:N1	2.15	0.94
52:2:734:U:C6	52:2:735:G:O4'	2.19	0.94
2:B:390:A:O2'	52:2:1160:A:N3	1.73	0.94
13:M:127:PRO:HG2	13:M:129:ASN:ND2	1.81	0.94
12:L:177:VAL:HG22	26:Z:98:VAL:HG23	0.97	0.94
57:7:123:VAL:HG12	57:7:158:PHE:HE2	1.22	0.94
66:AK:39:GLY:O	66:AK:40:VAL:HB	1.63	0.94
9:I:5:LEU:CD1	9:I:8:ILE:HG12	1.98	0.94
52:2:1878:U:N3	69:AN:63:MET:HE1	1.82	0.94
52:2:306:U:O2'	55:5:75:ARG:NH2	2.01	0.94
24:X:57:ARG:HB2	24:X:100:ASN:HB3	1.48	0.94
52:2:526:G:C6	52:2:527:A:C6	2.56	0.94
15:O:49:ARG:C	15:O:51:LEU:O	2.06	0.94
52:2:734:U:C6	52:2:735:G:C4'	2.51	0.94
70:AO:58:CYS:HB2	70:AO:100:LEU:HD23	1.49	0.94
65:AJ:6:VAL:HG22	65:AJ:29:PRO:HG2	1.49	0.93
52:2:1595:G:H4'	64:AI:84:LYS:O	1.66	0.93
52:2:1132:G:N2	63:AH:131:ASP:OD2	2.01	0.93
68:AM:95:LYS:HE2	68:AM:97:GLU:HG2	1.48	0.93
52:2:1863:A:C3'	64:AI:134:LEU:CD2	2.36	0.93
15:O:64:VAL:HG21	15:O:106:LEU:HD21	1.49	0.93
52:2:577:U:OP1	56:6:131:ARG:NH2	2.02	0.93
78:AX:167:VAL:HG21	78:AX:186:LYS:HE3	1.50	0.93
52:2:628:A:N6	78:AX:144:GLN:HG2	1.84	0.93
52:2:628:A:N1	78:AX:144:GLN:NE2	2.16	0.93
53:3:148:PHE:CB	53:3:150:LEU:HD12	1.99	0.93
78:AX:97:ALA:CB	78:AX:187:ILE:CD1	2.43	0.93
57:7:148:GLY:C	57:7:177:LYS:HZ1	1.73	0.93
18:R:174:ARG:NH2	52:2:1101:A:C4	2.37	0.93
52:2:1864:C:N3	64:AI:135:HIS:CA	2.32	0.93
52:2:1490:U:H5	74:AS:110:HIS:HE1	1.16	0.93
18:R:179:ARG:NH2	52:2:963:U:P	2.42	0.92
14:N:135:THR:CB	14:N:140:HIS:HD2	1.70	0.92
14:N:153:LYS:HD2	14:N:158:GLU:HG3	1.51	0.92
66:AK:89:GLN:CA	66:AK:122:LEU:HD21	1.99	0.92
6:F:17:U:H1'	13:M:134:GLY:O	1.68	0.92
2:B:391:A:C5'	52:2:1160:A:N7	2.30	0.92
52:2:711:G:C1'	52:2:715:G:N7	2.32	0.92
2:B:1125:A:O2'	9:I:189:SER:OG	1.87	0.92
60:AD:68:LEU:O	60:AD:72:THR:CG2	2.17	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:182:ARG:H	26:Z:51:GLY:HA2	1.34	0.92
9:I:5:LEU:HB2	9:I:8:ILE:CG1	2.00	0.92
51:1:179:ILE:HG13	51:1:189:ILE:HG12	1.51	0.91
52:2:2028:U:OP1	69:AN:42:TRP:CZ3	2.22	0.91
52:2:1878:U:N3	69:AN:63:MET:HE2	1.68	0.91
52:2:731:A:C5	52:2:732:U:C4	2.59	0.91
72:AQ:39:ARG:HD2	72:AQ:101:PHE:HB2	1.51	0.91
52:2:1964:G:H21	52:2:1978:G:H1	1.05	0.91
68:AM:27:VAL:HG21	68:AM:54:GLU:OE1	1.69	0.91
73:AR:23:HIS:HD2	73:AR:58:CYS:H	1.13	0.91
12:L:178:SER:O	26:Z:120:ILE:CD1	2.18	0.91
52:2:715:G:C2	52:2:740:C:O2	2.24	0.91
57:7:158:PHE:HA	57:7:167:VAL:HG12	1.52	0.91
12:L:177:VAL:CG1	26:Z:120:ILE:HD12	2.01	0.91
53:3:80:ARG:HH22	53:3:94:GLU:H	1.14	0.90
78:AX:197:ASN:N	78:AX:199:PRO:HG3	1.86	0.90
10:J:144:TYR:O	10:J:146:PRO:CD	2.19	0.90
13:M:29:LEU:CD1	13:M:53:VAL:HG13	2.01	0.90
70:AO:22:ARG:NH1	70:AO:82:CYS:SG	2.44	0.90
10:J:144:TYR:O	10:J:146:PRO:N	2.04	0.90
14:N:13:VAL:HG21	14:N:56:VAL:HG13	1.53	0.90
52:2:1869:A:N6	68:AM:139:THR:OG1	2.05	0.90
59:AC:125:LYS:HE2	59:AC:237:LEU:HD21	1.52	0.90
80:AZ:33:ARG:NH1	80:AZ:40:VAL:O	2.04	0.90
7:G:76:C:H5	7:G:119:A:H62	1.18	0.90
14:N:135:THR:CG2	14:N:140:HIS:CD2	2.53	0.90
52:2:711:G:HO2'	52:2:715:G:H8	1.18	0.90
53:3:65:VAL:CG2	53:3:100:VAL:HG11	2.00	0.90
55:5:162:TRP:HB3	55:5:166:ARG:HH12	1.35	0.90
52:2:1535:U:O4'	64:AI:133:VAL:HG11	1.70	0.90
18:R:170:ARG:NH2	52:2:919:G:H5'	1.86	0.90
11:K:118:ASP:HB2	68:AM:15:ARG:HH12	1.37	0.90
52:2:734:U:H6	52:2:735:G:H4'	1.33	0.90
11:K:118:ASP:H	68:AM:15:ARG:HH22	1.18	0.90
52:2:1896:A:O2'	52:2:1907:A:N6	2.05	0.89
72:AQ:22:THR:HG22	72:AQ:83:LYS:HG2	1.55	0.89
67:AL:21:TYR:HH	67:AL:70:SER:HG	1.18	0.89
68:AM:27:VAL:HG23	68:AM:54:GLU:HB3	1.54	0.89
12:L:178:SER:O	26:Z:120:ILE:HD11	1.72	0.89
64:AI:84:LYS:CG	64:AI:102:ALA:HB3	2.03	0.89
50:0:40:GLU:CG	50:0:76:GLN:OE1	2.21	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1896:A:OP2	78:AX:8:ARG:NH1	2.04	0.89
53:3:65:VAL:CG2	53:3:100:VAL:CG1	2.51	0.89
11:K:117:ILE:HG22	68:AM:15:ARG:HH21	1.36	0.89
12:L:177:VAL:HG12	26:Z:120:ILE:CD1	2.01	0.89
53:3:150:LEU:HD22	53:3:151:SER:N	1.88	0.88
59:AC:177:ASN:ND2	71:AP:68:SER:O	2.06	0.88
68:AM:60:LEU:CA	68:AM:65:LEU:H	1.86	0.88
52:2:1200:G:OP1	62:AG:94:ARG:NH2	2.06	0.88
52:2:1874:A:H2'	52:2:1875:A:C5	2.08	0.88
52:2:1877:G:N2	52:2:1949:U:O2	2.06	0.88
74:AS:26:GLY:O	74:AS:27:TRP:CB	2.21	0.88
66:AK:93:LYS:HG3	66:AK:122:LEU:CD1	2.03	0.88
70:AO:61:ILE:H	70:AO:102:LYS:HE3	1.36	0.88
57:7:149:HIS:HD2	57:7:153:VAL:HG22	1.09	0.88
57:7:149:HIS:NE2	57:7:153:VAL:HG13	1.89	0.88
57:7:180:ASN:HB2	57:7:185:LYS:HB2	1.56	0.88
80:AZ:84:ARG:O	80:AZ:85:ARG:C	2.12	0.88
74:AS:61:GLN:HG3	74:AS:62:PRO:HD3	1.55	0.88
24:X:57:ARG:CD	24:X:100:ASN:CB	2.50	0.88
21:U:116:ILE:HD12	21:U:134:HIS:CB	2.03	0.88
1:A:768:C:C5	26:Z:114:HIS:CE1	2.62	0.88
66:AK:45:ILE:O	66:AK:51:ARG:NE	2.06	0.87
1:A:1217:U:OP1	9:I:2:GLY:N	2.08	0.87
60:AD:38:LYS:HB2	60:AD:41:ARG:HH11	1.37	0.87
72:AQ:19:LEU:HA	72:AQ:111:ILE:HG21	1.55	0.87
60:AD:88:LYS:HE2	60:AD:95:GLU:HG3	1.54	0.87
24:X:28:MET:HB2	24:X:98:PRO:HG3	1.57	0.87
52:2:734:U:C5	52:2:735:G:O4'	2.27	0.87
70:AO:37:TRP:CZ2	70:AO:75:PRO:HD2	2.10	0.87
78:AX:196:ARG:O	78:AX:199:PRO:HD3	1.73	0.87
52:2:719:C:O2	52:2:735:G:C2	2.27	0.87
66:AK:38:ASN:HD21	66:AK:75:VAL:H	1.23	0.87
78:AX:166:PHE:CZ	78:AX:199:PRO:HB2	2.09	0.87
80:AZ:57:ASN:HB2	80:AZ:58:ARG:C	1.94	0.87
3:C:133:G:O6	3:C:193:G:N2	2.08	0.87
13:M:29:LEU:HD12	13:M:53:VAL:CG1	2.03	0.87
66:AK:89:GLN:O	66:AK:122:LEU:CD2	2.22	0.86
80:AZ:42:GLN:HE21	80:AZ:84:ARG:HB2	1.37	0.86
15:O:48:ALA:O	15:O:51:LEU:O	1.93	0.86
66:AK:89:GLN:HA	66:AK:122:LEU:HD23	1.52	0.86
70:AO:81:ARG:NH1	70:AO:135:LEU:O	2.07	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:177:VAL:HG11	26:Z:120:ILE:HB	1.55	0.86
74:AS:32:THR:HG22	74:AS:34:ALA:H	1.40	0.86
52:2:1535:U:C1'	64:AI:133:VAL:CG1	2.53	0.86
52:2:1822:G:OP1	66:AK:135:TRP:CE2	2.29	0.86
55:5:204:GLU:HG3	61:AE:32:ASN:HB3	1.57	0.86
1:A:768:C:C5	26:Z:114:HIS:HE1	1.94	0.86
52:2:1980:C:H5''	68:AM:84:PHE:HA	1.57	0.86
73:AR:35:ALA:HB3	73:AR:61:GLY:HA2	1.58	0.86
78:AX:166:PHE:HZ	78:AX:199:PRO:HB2	1.40	0.86
2:B:1045:C:HO2'	11:K:25:CYS:HG	1.12	0.86
74:AS:26:GLY:O	74:AS:27:TRP:HB2	1.74	0.86
12:L:20:CYS:O	12:L:22:SER:N	2.09	0.86
56:6:17:PRO:O	56:6:22:ARG:NH2	2.08	0.86
15:O:89:VAL:O	15:O:90:LEU:HG	1.74	0.86
50:0:78:ALA:HB2	50:0:82:GLU:OE2	1.73	0.86
52:2:750:U:C2'	52:2:751:G:O4'	2.23	0.86
80:AZ:57:ASN:ND2	80:AZ:60:ILE:CD1	2.38	0.86
6:F:17:U:C1'	13:M:134:GLY:O	2.24	0.86
66:AK:14:THR:HG21	66:AK:93:LYS:HB3	1.56	0.86
55:5:67:TRP:HH2	55:5:175:ILE:HD13	1.40	0.85
66:AK:36:LYS:HD2	66:AK:72:ASP:OD1	1.76	0.85
52:2:1863:A:H1'	68:AM:150:SER:HB3	1.56	0.85
52:2:1889:A:O2'	52:2:1890:A:O5'	1.94	0.85
64:AI:125:GLU:HB3	68:AM:118:ILE:HG22	1.56	0.85
66:AK:88:ARG:HE	66:AK:121:PHE:HE1	1.24	0.85
78:AX:167:VAL:CG2	78:AX:186:LYS:CE	2.54	0.85
1:A:175:G:N2	1:A:285:C:N3	2.24	0.85
60:AD:96:GLN:HB2	60:AD:103:TYR:HB2	1.57	0.85
63:AH:36:HIS:HD2	63:AH:48:LYS:HD3	1.39	0.85
72:AQ:91:PRO:HB2	72:AQ:94:GLN:HB2	1.58	0.85
9:I:5:LEU:HD12	9:I:8:ILE:HG12	1.55	0.85
18:R:180:LYS:NZ	52:2:966:G:O6	2.09	0.85
2:B:1398:A:H2'	2:B:1399:A:C8	2.12	0.85
50:0:135:GLY:O	50:0:224:PRO:CD	2.24	0.85
50:0:134:ASP:CG	50:0:183:GLN:CA	2.44	0.85
18:R:170:ARG:HH22	52:2:918:A:H1'	1.37	0.85
66:AK:93:LYS:HE3	66:AK:122:LEU:HD11	1.57	0.84
68:AM:60:LEU:HA	68:AM:65:LEU:H	1.40	0.84
52:2:1529:U:OP2	68:AM:136:HIS:N	2.09	0.84
52:2:1783:U:H5'	72:AQ:54:PRO:HA	1.58	0.84
70:AO:68:ARG:HB3	70:AO:71:ALA:HB3	1.58	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:125:U:OP2	18:R:74:ARG:NH1	2.09	0.84
52:2:750:U:C5	52:2:751:G:N7	2.45	0.84
54:4:31:GLU:HA	54:4:42:PRO:HB3	1.57	0.84
56:6:113:PHE:CB	56:6:120:SER:O	2.26	0.84
74:AS:32:THR:HG22	74:AS:34:ALA:N	1.92	0.84
10:J:16:PRO:O	10:J:95:HIS:ND1	2.08	0.84
50:0:134:ASP:OD1	50:0:183:GLN:HB3	1.78	0.84
52:2:1863:A:H5'	64:AI:134:LEU:HD21	1.60	0.84
61:AE:48:ARG:NH2	61:AE:68:TYR:O	2.10	0.84
4:D:2:G:O6	4:D:119:C:N4	2.10	0.84
18:R:170:ARG:HH22	52:2:919:G:C5'	1.90	0.84
66:AK:124:ILE:HG23	66:AK:126:ASP:H	1.40	0.84
52:2:256:A:O2'	52:2:944:U:O2	1.94	0.84
52:2:371:C:O2'	61:AE:20:GLN:NE2	2.10	0.84
55:5:204:GLU:O	55:5:208:LEU:N	2.11	0.84
59:AC:46:MET:HG3	67:AL:114:ILE:HD11	1.60	0.84
52:2:1956:G:N2	52:2:1987:C:N3	2.26	0.84
53:3:150:LEU:HD22	53:3:151:SER:HB3	1.59	0.84
71:AP:113:VAL:HG22	71:AP:123:ILE:HG12	1.58	0.84
52:2:1957:G:H22	52:2:1982:C:H42	1.19	0.84
52:2:719:C:O2	52:2:735:G:N1	2.10	0.84
64:AI:84:LYS:HD3	64:AI:109:PHE:O	1.78	0.84
18:R:8:ALA:CB	18:R:19:ARG:HH21	1.90	0.84
52:2:1245:A:N6	52:2:1251:G:OP2	2.10	0.84
72:AQ:52:ARG:HB3	72:AQ:84:ARG:HG2	1.60	0.84
52:2:726:G:H1	67:AL:96:GLN:CG	1.90	0.83
12:L:177:VAL:HG21	26:Z:98:VAL:CB	2.08	0.83
50:0:134:ASP:CG	50:0:183:GLN:HA	1.98	0.83
52:2:1520:C:N4	52:2:1521:G:O6	2.11	0.83
78:AX:196:ARG:C	78:AX:199:PRO:HD3	1.98	0.83
66:AK:89:GLN:HA	66:AK:122:LEU:HD22	1.59	0.83
80:AZ:57:ASN:CG	80:AZ:60:ILE:HD12	1.97	0.83
54:4:9:ARG:HH12	54:4:11:LEU:HD12	1.44	0.83
9:I:36:LEU:O	9:I:45:ASN:ND2	2.11	0.83
15:O:106:LEU:CD1	15:O:132:VAL:HB	2.07	0.83
52:2:1963:G:N2	52:2:1980:C:N3	2.25	0.83
52:2:717:C:H2'	52:2:718:C:C6	2.14	0.83
53:3:65:VAL:HG11	53:3:68:VAL:HG23	1.60	0.83
70:AO:32:LYS:NZ	70:AO:79:TYR:OH	2.11	0.83
80:AZ:25:GLY:HA2	80:AZ:48:MET:N	1.93	0.83
52:2:1913:U:O2	52:2:1925:G:N2	2.11	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:87:ARG:HH11	70:AO:92:ARG:HA	1.44	0.83
52:2:1645:G:OP1	71:AP:107:ARG:NH2	2.11	0.83
57:7:123:VAL:HB	57:7:158:PHE:HZ	1.38	0.83
26:Z:114:HIS:O	26:Z:115:ILE:C	2.14	0.83
52:2:375:G:O2'	55:5:30:GLY:HA2	1.79	0.83
57:7:92:TRP:HA	57:7:99:SER:HA	1.59	0.83
52:2:628:A:C2	78:AX:144:GLN:NE2	2.46	0.82
52:2:1527:C:H3'	68:AM:131:ARG:HH11	1.44	0.82
52:2:750:U:H2'	52:2:751:G:O4'	1.80	0.82
57:7:90:ARG:HG2	57:7:102:LYS:HG2	1.61	0.82
66:AK:36:LYS:HA	66:AK:41:PRO:HA	1.61	0.82
59:AC:52:GLN:HG3	67:AL:117:PRO:HB2	1.62	0.82
12:L:177:VAL:HG21	26:Z:98:VAL:HG23	0.84	0.82
52:2:1879:C:N4	52:2:1941:A:OP2	2.12	0.82
52:2:718:C:H42	52:2:736:G:H22	1.28	0.82
73:AR:43:ASN:H	73:AR:53:THR:HB	1.42	0.82
69:AN:35:VAL:HG12	69:AN:37:HIS:H	1.41	0.82
72:AQ:94:GLN:O	72:AQ:98:ILE:N	2.11	0.82
9:I:189:SER:O	9:I:190:TYR:HB3	1.78	0.82
52:2:1783:U:H5''	72:AQ:55:THR:HG23	1.62	0.82
78:AX:63:ARG:HG3	78:AX:67:GLU:OE2	1.79	0.82
15:O:106:LEU:HD11	15:O:132:VAL:HB	1.62	0.82
52:2:1527:C:O5'	68:AM:131:ARG:NH1	2.13	0.82
5:E:155:U:OP1	20:T:120:LYS:NZ	2.12	0.82
24:X:57:ARG:HG3	24:X:100:ASN:C	1.99	0.82
52:2:1536:U:C4'	64:AI:131:ARG:HG2	2.10	0.82
64:AI:84:LYS:HG3	64:AI:102:ALA:HB1	1.62	0.82
69:AN:62:LEU:HD22	69:AN:75:ALA:CA	2.00	0.82
52:2:74:U:OP2	53:3:171:LYS:NZ	2.13	0.82
64:AI:84:LYS:HE3	64:AI:104:TYR:HD1	1.44	0.82
66:AK:37:VAL:CG2	66:AK:40:VAL:C	2.40	0.82
2:B:739:G:H4'	2:B:740:C:H5'	1.60	0.82
21:U:116:ILE:HD11	21:U:134:HIS:HB2	1.61	0.82
50:O:112:LYS:HE3	50:O:214:ARG:HH12	1.42	0.81
78:AX:167:VAL:HG22	78:AX:186:LYS:CE	2.10	0.81
1:A:25:C:H42	1:A:55:A:H61	1.24	0.81
63:AH:121:ARG:HA	76:AV:62:TYR:OH	1.80	0.81
80:AZ:61:VAL:O	80:AZ:83:ALA:HB2	1.78	0.81
14:N:45:LYS:HA	14:N:47:TRP:CZ3	2.14	0.81
15:O:106:LEU:HD12	15:O:132:VAL:CG1	2.10	0.81
52:2:331:G:O2'	52:2:332:C:O5'	1.96	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:5:LEU:HD11	9:I:8:ILE:HG21	1.60	0.81
58:8:27:ASN:HB2	58:8:42:GLN:NE2	1.96	0.81
69:AN:36:PRO:HB3	69:AN:55:VAL:HG12	1.61	0.81
18:R:174:ARG:NH2	52:2:1101:A:N3	2.28	0.81
66:AK:38:ASN:ND2	66:AK:75:VAL:H	1.77	0.81
52:2:526:G:C6	52:2:527:A:C5	2.68	0.81
58:8:33:ARG:NH1	58:8:40:CYS:SG	2.53	0.81
52:2:1965:A:C2	52:2:1978:G:N2	2.48	0.81
72:AQ:29:VAL:HG21	72:AQ:82:TYR:HB2	1.63	0.81
2:B:1036:A:H4'	11:K:110:GLY:HA3	1.62	0.81
53:3:80:ARG:HH22	53:3:94:GLU:N	1.78	0.81
66:AK:135:TRP:HZ3	72:AQ:73:THR:HB	1.44	0.81
52:2:1698:A:C6	52:2:1701:A:C2	2.69	0.81
60:AD:60:ARG:HD3	60:AD:78:ILE:HG12	1.61	0.81
51:1:66:LEU:HD23	75:AT:22:LEU:HD12	1.63	0.81
64:AI:84:LYS:CD	64:AI:109:PHE:O	2.28	0.81
52:2:719:C:N3	52:2:735:G:C6	2.49	0.81
52:2:1645:G:N2	52:2:1678:G:H22	1.79	0.80
52:2:1863:A:O3'	68:AM:150:SER:HA	1.81	0.80
80:AZ:56:TYR:HB3	80:AZ:58:ARG:HA	1.63	0.80
66:AK:60:VAL:HG21	66:AK:118:TYR:OH	1.81	0.80
18:R:170:ARG:NH2	52:2:918:A:C1'	2.40	0.80
52:2:66:U:OP1	53:3:139:LYS:NZ	2.15	0.80
64:AI:84:LYS:HD3	64:AI:109:PHE:C	2.01	0.80
12:L:177:VAL:HG21	26:Z:98:VAL:N	1.95	0.80
24:X:57:ARG:HD3	24:X:100:ASN:CB	2.10	0.80
52:2:1876:U:C2	52:2:1880:A:H4'	2.17	0.80
52:2:65:A:H2	52:2:82:A:H62	1.29	0.80
52:2:71:G:O6	52:2:78:C:N4	2.13	0.80
57:7:161:SER:OG	57:7:164:HIS:O	1.99	0.80
64:AI:84:LYS:CE	64:AI:109:PHE:HA	2.12	0.80
4:D:56:A:O2'	11:K:155:VAL:O	2.00	0.80
52:2:1536:U:H4'	64:AI:131:ARG:CB	2.10	0.80
1:A:596:A:H61	1:A:609:C:H42	1.29	0.80
61:AE:17:ILE:HD11	61:AE:67:LYS:HB3	1.60	0.80
66:AK:89:GLN:CB	66:AK:122:LEU:CD2	2.60	0.80
68:AM:130:LEU:HD11	68:AM:148:GLY:HA3	1.61	0.80
68:AM:60:LEU:N	68:AM:65:LEU:H	1.80	0.80
50:0:152:GLN:NE2	50:0:154:SER:OG	2.15	0.80
52:2:133:G:H1	52:2:139:C:H42	1.28	0.80
66:AK:39:GLY:O	66:AK:40:VAL:CB	2.30	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:AT:62:VAL:HG22	75:AT:82:ILE:HG12	1.62	0.80
52:2:1796:U:H5''	52:2:1797:G:H5'	1.63	0.80
66:AK:89:GLN:CB	66:AK:122:LEU:HD22	2.12	0.80
52:2:1864:C:H5''	68:AM:149:VAL:HG22	1.63	0.80
52:2:229:A:HO2'	52:2:230:G:H8	1.28	0.80
52:2:82:A:O2'	52:2:83:A:O5'	2.00	0.80
12:L:177:VAL:CG1	26:Z:98:VAL:CG2	2.59	0.80
1:A:434:U:O3'	24:X:84:ARG:NH2	2.15	0.80
52:2:1585:U:N3	52:2:1608:C:O2	2.12	0.80
52:2:740:C:O2'	52:2:741:C:O4'	2.00	0.80
13:M:29:LEU:CD1	13:M:53:VAL:CG1	2.60	0.80
15:O:40:ARG:HH21	15:O:41:ARG:HH12	1.28	0.80
72:AQ:36:LEU:O	72:AQ:39:ARG:NH1	2.16	0.79
2:B:995:G:OP2	19:S:9:SER:O	1.99	0.79
52:2:1524:G:N1	52:2:1990:G:N3	2.30	0.79
69:AN:43:GLN:O	69:AN:44:LYS:C	2.16	0.79
78:AX:166:PHE:HZ	78:AX:199:PRO:CB	1.95	0.79
80:AZ:57:ASN:CG	80:AZ:60:ILE:HD11	2.02	0.79
52:2:734:U:C6	52:2:735:G:H4'	2.13	0.79
1:A:191:U:O2'	1:A:192:C:O4'	1.99	0.79
62:AG:47:PRO:HD2	62:AG:86:GLU:OE2	1.83	0.79
18:R:8:ALA:HB1	18:R:19:ARG:HH21	1.47	0.79
57:7:123:VAL:CB	57:7:158:PHE:CZ	2.62	0.79
58:8:55:LYS:NZ	72:AQ:75:ASP:OD1	2.15	0.79
4:D:100:G:N7	17:Q:54:LYS:NZ	2.30	0.79
14:N:135:THR:HB	14:N:140:HIS:HD2	0.89	0.79
52:2:2053:C:HO2'	52:2:2054:G:P	2.06	0.79
66:AK:61:VAL:HG12	66:AK:62:GLY:H	1.48	0.79
80:AZ:57:ASN:HD21	80:AZ:60:ILE:HD12	1.45	0.79
52:2:1148:G:N2	63:AH:61:GLU:OE2	2.13	0.79
64:AI:74:VAL:HG12	64:AI:75:LYS:H	1.48	0.79
53:3:43:GLY:O	53:3:44:SER:HB2	1.80	0.79
80:AZ:42:GLN:HE21	80:AZ:84:ARG:CB	1.95	0.79
7:G:36:G:H1	7:G:166:C:H5	1.31	0.79
59:AC:46:MET:HG3	67:AL:114:ILE:CD1	2.12	0.79
75:AT:95:ASN:HD21	75:AT:105:LYS:HB2	1.46	0.79
78:AX:63:ARG:O	78:AX:67:GLU:CB	2.31	0.79
80:AZ:57:ASN:N	80:AZ:58:ARG:HA	1.97	0.79
12:L:63:VAL:HG22	12:L:106:ARG:HH22	1.47	0.79
52:2:1575:A:N1	52:2:1617:G:N2	2.31	0.79
52:2:765:U:OP1	54:4:12:LYS:NZ	2.13	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1864:C:C4	64:AI:135:HIS:HA	2.18	0.79
55:5:162:TRP:HB3	55:5:166:ARG:NH1	1.98	0.78
68:AM:131:ARG:HH21	68:AM:147:VAL:HG11	1.48	0.78
52:2:1865:G:O2'	68:AM:147:VAL:N	2.14	0.78
75:AT:116:GLU:HB3	75:AT:120:ARG:HH12	1.47	0.78
52:2:1299:C:OP1	52:2:1378:U:O2'	2.01	0.78
68:AM:27:VAL:CG2	68:AM:54:GLU:HB3	2.13	0.78
52:2:1490:U:C5	74:AS:110:HIS:CE1	2.71	0.78
80:AZ:57:ASN:OD1	80:AZ:60:ILE:HD11	1.84	0.78
52:2:1687:C:N4	52:2:1821:G:O6	2.16	0.78
52:2:1895:A:N6	52:2:1929:G:O6	2.15	0.78
69:AN:10:ASN:OD1	69:AN:11:LYS:N	2.16	0.78
1:A:376:A:H2	3:C:118:U:H3	1.31	0.78
9:I:178:LYS:O	9:I:181:LYS:NZ	2.16	0.78
52:2:977:G:N2	52:2:1097:C:N3	2.30	0.78
1:A:1028:A:OP2	9:I:147:ARG:NH2	2.16	0.78
52:2:1560:U:H5'	52:2:1561:U:H2'	1.66	0.78
52:2:1800:A:O2'	52:2:1802:U:OP2	2.01	0.78
52:2:1863:A:H5'	64:AI:134:LEU:CD2	2.13	0.78
57:7:180:ASN:ND2	57:7:187:GLU:OE2	2.17	0.78
71:AP:87:HIS:HD1	71:AP:200:PHE:HE1	1.31	0.78
5:E:13:G:N2	5:E:18:A:OP1	2.15	0.78
52:2:1965:A:C4	52:2:1978:G:N2	2.51	0.78
1:A:1096:C:OP1	10:J:133:GLN:NE2	2.16	0.78
52:2:1793:C:H42	52:2:1809:G:H1	1.29	0.78
64:AI:135:HIS:HB3	68:AM:150:SER:O	1.82	0.78
71:AP:97:GLN:HG2	71:AP:106:THR:HG22	1.65	0.78
19:S:118:ALA:O	19:S:122:GLY:O	2.00	0.78
50:0:151:ASN:HD21	52:2:1380:U:H1'	1.49	0.78
50:0:78:ALA:HB2	50:0:82:GLU:CD	2.02	0.78
74:AS:61:GLN:HB3	74:AS:62:PRO:HD2	1.63	0.78
52:2:1812:G:N2	52:2:1815:A:OP2	2.16	0.78
52:2:1920:A:H5''	70:AO:115:GLU:OE1	1.84	0.78
74:AS:32:THR:HG21	74:AS:34:ALA:CB	2.02	0.78
1:A:453:G:OP1	16:P:62:ARG:NH1	2.17	0.78
50:0:78:ALA:HB3	50:0:82:GLU:HG3	1.64	0.77
52:2:4:C:O2'	56:6:16:ARG:NH2	2.17	0.77
12:L:177:VAL:HB	26:Z:96:LEU:O	1.82	0.77
50:0:126:THR:HG22	50:0:168:ARG:HG2	1.65	0.77
54:4:23:VAL:H	54:4:50:ARG:HH12	1.30	0.77
66:AK:37:VAL:CB	66:AK:40:VAL:O	2.33	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:155:MET:HB2	69:AN:156:PRO:HD3	1.65	0.77
78:AX:134:GLU:OE2	78:AX:158:LYS:NZ	2.17	0.77
71:AP:162:HIS:CD2	71:AP:163:THR:HG23	2.19	0.77
1:A:768:C:C6	26:Z:114:HIS:CE1	2.72	0.77
50:0:78:ALA:HB2	50:0:82:GLU:HG2	1.53	0.77
52:2:1709:G:H2'	52:2:1710:A:C8	2.19	0.77
63:AH:32:ASP:OD1	63:AH:33:THR:N	2.17	0.77
52:2:1864:C:O5'	68:AM:151:ARG:N	2.17	0.77
15:O:181:ALA:HB1	15:O:184:LEU:HG	1.65	0.77
53:3:80:ARG:NH2	53:3:94:GLU:H	1.82	0.77
60:AD:63:THR:OG1	60:AD:77:CYS:SG	2.40	0.77
72:AQ:32:VAL:O	72:AQ:36:LEU:N	2.17	0.77
66:AK:120:LYS:HG2	66:AK:123:LEU:HB2	1.65	0.77
2:B:1437:G:N2	2:B:1462:C:N3	2.31	0.77
52:2:1936:C:N3	70:AO:87:ARG:NH2	2.33	0.77
52:2:526:G:C6	52:2:527:A:N6	2.52	0.77
52:2:717:C:H2'	52:2:718:C:H6	1.49	0.77
53:3:65:VAL:HG23	53:3:100:VAL:CG1	2.14	0.77
54:4:189:MET:HE1	54:4:195:GLN:HG2	1.66	0.77
68:AM:113:GLU:HB3	68:AM:117:LYS:HE3	1.65	0.77
11:K:115:GLU:OE1	68:AM:15:ARG:CD	2.31	0.77
14:N:35:ARG:NH1	17:Q:98:ASP:OD1	2.16	0.77
12:L:177:VAL:CG1	26:Z:98:VAL:HG22	2.15	0.77
51:1:182:GLY:H	51:1:186:ARG:HG2	1.50	0.77
52:2:1950:C:N4	69:AN:152:LEU:O	2.16	0.77
52:2:613:G:N2	52:2:626:G:OP1	2.18	0.77
57:7:7:LEU:HB2	57:7:303:ILE:HB	1.64	0.77
72:AQ:29:VAL:HG12	72:AQ:84:ARG:HE	1.49	0.77
2:B:1429:U:H2'	2:B:1430:G:H8	1.50	0.77
21:U:116:ILE:CD1	21:U:134:HIS:CB	2.62	0.77
57:7:252:VAL:N	57:7:259:SER:O	2.17	0.77
19:S:80:VAL:HG12	19:S:81:ARG:H	1.49	0.77
52:2:1964:G:OP1	64:AI:49:ARG:NH2	2.18	0.77
52:2:322:C:H3'	52:2:323:U:H5''	1.67	0.77
52:2:93:G:HO2'	52:2:508:A:HO2'	1.28	0.77
70:AO:77:TRP:HH2	70:AO:117:THR:HG22	1.50	0.77
52:2:1957:G:H5'	70:AO:105:GLY:N	1.99	0.76
16:P:32:THR:O	16:P:48:TYR:OH	2.01	0.76
57:7:286:ALA:HB3	57:7:295:TYR:HB2	1.66	0.76
67:AL:109:LEU:O	67:AL:115:GLY:HA2	1.85	0.76
1:A:326:A:OP1	15:O:97:ASN:ND2	2.17	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1496:A:H5''	76:AV:2:THR:HG22	1.68	0.76
60:AD:99:TRP:HE1	78:AX:22:GLU:HG2	1.50	0.76
72:AQ:41:ARG:HA	72:AQ:47:ILE:HD13	1.67	0.76
53:3:150:LEU:HD22	53:3:151:SER:CB	2.14	0.76
52:2:1525:A:C4	68:AM:143:HIS:HB2	2.20	0.76
66:AK:12:VAL:HG11	66:AK:97:ALA:HB1	1.64	0.76
66:AK:37:VAL:HG23	66:AK:40:VAL:N	1.99	0.76
14:N:45:LYS:HA	14:N:47:TRP:CE3	2.21	0.76
51:1:178:VAL:HG11	51:1:222:ILE:HG23	1.68	0.76
52:2:2053:C:O2'	52:2:2054:G:OP1	2.04	0.76
57:7:122:ILE:HB	57:7:134:TRP:HB2	1.66	0.76
62:AG:2:VAL:HG22	62:AG:3:ARG:H	1.51	0.76
14:N:10:GLY:HA2	14:N:27:ILE:O	1.84	0.76
50:0:97:ARG:HD3	50:0:243:GLU:HB3	1.68	0.76
52:2:1530:G:O2'	52:2:1551:C:N4	2.17	0.76
52:2:2192:G:OP1	76:AV:19:ARG:NH1	2.19	0.76
66:AK:137:ARG:HD2	66:AK:141:ARG:H	1.51	0.76
69:AN:42:TRP:O	69:AN:48:TYR:CE2	2.39	0.76
63:AH:121:ARG:N	76:AV:62:TYR:CE2	2.11	0.76
5:E:20:U:O2'	5:E:22:G:OP1	2.03	0.76
12:L:177:VAL:HG11	26:Z:98:VAL:HG22	1.68	0.76
20:T:91:LYS:HG3	20:T:109:ILE:HD11	1.68	0.76
59:AC:52:GLN:CG	67:AL:117:PRO:HB2	2.15	0.76
64:AI:134:LEU:HB2	68:AM:151:ARG:N	2.01	0.76
66:AK:62:GLY:HA3	66:AK:66:TYR:HD2	1.49	0.76
2:B:436:G:O6	2:B:446:C:N4	2.19	0.76
66:AK:132:PRO:O	66:AK:134:LYS:NZ	2.19	0.76
13:M:161:CYS:O	13:M:166:TRP:HB3	1.86	0.76
15:O:89:VAL:O	15:O:90:LEU:CG	2.34	0.76
51:1:27:ARG:NH2	52:2:342:C:O2'	2.18	0.76
52:2:1694:G:O6	52:2:1785:C:N4	2.16	0.76
52:2:1671:C:HO2'	52:2:1803:G:HO2'	1.33	0.76
58:8:49:GLU:HG3	58:8:50:HIS:H	1.50	0.76
60:AD:38:LYS:HD2	60:AD:41:ARG:HH12	1.51	0.76
50:0:129:GLU:OE2	50:0:139:ARG:NE	2.16	0.75
52:2:308:C:H4'	52:2:309:G:C8	2.20	0.75
1:A:579:G:N2	1:A:628:C:O2	2.19	0.75
2:B:1304:A:O2'	21:U:40:SER:OG	2.04	0.75
5:E:62:U:H5''	18:R:61:ALA:HB2	1.69	0.75
20:T:109:ILE:HG22	20:T:119:LEU:HD23	1.68	0.75
52:2:1931:A:H3'	72:AQ:56:ARG:NH2	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1558:C:N3	52:2:1969:C:N4	2.34	0.75
52:2:2000:G:N2	52:2:2026:G:N7	2.33	0.75
52:2:2006:G:O2'	52:2:2007:C:O5'	2.04	0.75
53:3:65:VAL:CG1	53:3:68:VAL:HG23	2.16	0.75
66:AK:12:VAL:HG12	66:AK:13:GLN:H	1.49	0.75
52:2:1529:U:P	68:AM:135:GLN:H	2.09	0.75
59:AC:45:ARG:HE	73:AR:84:ARG:HH22	1.34	0.75
52:2:1:G:O5'	56:6:15:ARG:NH2	2.20	0.75
52:2:734:U:H2'	52:2:735:G:C3'	2.15	0.75
60:AD:38:LYS:O	60:AD:40:SER:O	2.04	0.75
69:AN:49:LYS:O	69:AN:57:ARG:NH2	2.20	0.75
13:M:129:ASN:OD1	13:M:130:VAL:HG13	1.85	0.75
52:2:1930:G:H4'	52:2:1931:A:O5'	1.83	0.75
53:3:65:VAL:HG11	53:3:68:VAL:CG2	2.16	0.75
64:AI:84:LYS:HE3	64:AI:104:TYR:CD1	2.21	0.75
56:6:113:PHE:HB2	56:6:120:SER:O	1.86	0.75
57:7:123:VAL:CB	57:7:158:PHE:CE2	2.70	0.75
1:A:704:G:H5''	9:I:20:TYR:O	1.86	0.75
64:AI:84:LYS:HZ3	64:AI:109:PHE:HA	1.47	0.75
52:2:1523:G:OP1	68:AM:142:ARG:NE	2.19	0.75
78:AX:63:ARG:HG2	78:AX:67:GLU:OE1	1.86	0.75
54:4:19:LEU:O	54:4:50:ARG:NH1	2.19	0.75
6:F:72:A:H5'	6:F:72:A:H8	1.51	0.75
25:Y:18:TYR:HA	25:Y:21:HIS:HD2	1.51	0.75
52:2:382:A:H5''	55:5:10:LYS:HD2	1.67	0.75
1:A:990:U:OP2	26:Z:26:ARG:NH2	2.19	0.75
66:AK:36:LYS:HD2	66:AK:72:ASP:CG	2.06	0.75
69:AN:126:ASP:OD2	80:AZ:62:ARG:HD2	1.87	0.75
52:2:780:A:O2'	52:2:781:A:OP2	2.04	0.75
57:7:123:VAL:HB	57:7:158:PHE:CE2	2.21	0.75
68:AM:60:LEU:HA	68:AM:65:LEU:N	2.00	0.75
52:2:376:U:P	55:5:56:ARG:HH22	2.10	0.75
69:AN:9:PHE:HB3	69:AN:12:TRP:CD1	2.21	0.75
52:2:1698:A:C2	52:2:1701:A:C4	2.75	0.74
24:X:48:ARG:HG2	24:X:49:LYS:H	1.49	0.74
52:2:1793:C:OP2	67:AL:59:LYS:NZ	2.17	0.74
52:2:82:A:O2'	52:2:83:A:O4'	2.05	0.74
64:AI:84:LYS:NZ	64:AI:109:PHE:CA	2.50	0.74
78:AX:166:PHE:CZ	78:AX:199:PRO:CB	2.69	0.74
51:1:33:HIS:CD2	51:1:82:GLY:H	2.04	0.74
52:2:1671:C:O2'	52:2:1803:G:O2'	2.05	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1239:A:H2	52:2:1259:U:H3	1.33	0.74
52:2:1562:A:O2'	52:2:1624:G:OP1	2.05	0.74
52:2:1836:G:N2	58:8:43:CYS:SG	2.60	0.74
52:2:1536:U:H4'	64:AI:131:ARG:CG	2.17	0.74
59:AC:118:TYR:HD1	59:AC:204:ILE:HG12	1.52	0.74
64:AI:84:LYS:CB	64:AI:102:ALA:HB3	2.17	0.74
78:AX:167:VAL:HG21	78:AX:186:LYS:CE	2.17	0.74
80:AZ:33:ARG:NH2	80:AZ:38:GLY:H	1.85	0.74
52:2:973:U:H3	54:4:43:ARG:HB3	1.50	0.74
57:7:111:LEU:H	57:7:126:GLY:HA2	1.52	0.74
66:AK:128:ARG:NH2	69:AN:41:ARG:HB2	2.01	0.74
67:AL:25:ASN:O	67:AL:31:ASN:ND2	2.20	0.74
11:K:118:ASP:HB2	68:AM:15:ARG:NH1	2.02	0.74
68:AM:37:VAL:O	68:AM:40:ARG:N	2.20	0.74
74:AS:73:GLN:NE2	74:AS:78:ASP:OD1	2.20	0.74
80:AZ:27:ILE:HG12	80:AZ:43:VAL:HG11	1.69	0.74
2:B:1438:G:H22	2:B:1461:U:H3	1.35	0.74
15:O:121:VAL:HG21	15:O:131:GLU:HG3	1.67	0.74
1:A:62:G:OP1	15:O:169:ARG:NH2	2.20	0.74
54:4:190:TRP:HE1	54:4:196:GLN:CB	2.00	0.74
52:2:1874:A:O5'	69:AN:67:ARG:NH2	2.21	0.74
71:AP:43:TRP:CH2	71:AP:73:GLU:HG2	2.23	0.74
1:A:226:C:N4	7:G:14:G:O6	2.17	0.74
1:A:597:C:H42	1:A:608:G:H1	1.32	0.74
2:B:439:A:N7	52:2:2061:G:N2	2.36	0.74
1:A:1752:G:O4'	18:R:42:ARG:NH1	2.19	0.74
24:X:24:ARG:O	24:X:28:MET:HG2	1.88	0.74
24:X:54:ILE:HG12	24:X:64:GLU:HG2	1.68	0.74
69:AN:56:GLU:O	69:AN:60:ASN:N	2.15	0.74
74:AS:73:GLN:NE2	74:AS:78:ASP:O	2.20	0.74
80:AZ:25:GLY:HA2	80:AZ:48:MET:H	1.51	0.74
2:B:391:A:H5'	52:2:1160:A:N7	2.01	0.74
52:2:164:C:H3'	52:2:164:C:OP2	1.87	0.74
52:2:1864:C:C4	64:AI:135:HIS:HB2	2.22	0.74
52:2:1526:G:H4'	52:2:1985:A:C2	2.23	0.74
63:AH:139:ARG:HG3	76:AV:31:LEU:HD12	1.69	0.74
12:L:177:VAL:HG22	26:Z:98:VAL:HG21	1.62	0.74
52:2:1292:U:H2'	52:2:1293:G:H5''	1.68	0.73
57:7:148:GLY:C	57:7:177:LYS:NZ	2.41	0.73
58:8:41:ARG:HH11	58:8:44:PHE:HD1	1.33	0.73
69:AN:124:ALA:HB2	69:AN:190:ARG:HA	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:62:ILE:HD11	9:I:89:VAL:HG21	1.70	0.73
13:M:127:PRO:CG	13:M:129:ASN:ND2	2.45	0.73
21:U:111:MET:HE2	21:U:113:GLY:O	1.87	0.73
50:0:97:ARG:HG2	50:0:243:GLU:HG3	1.68	0.73
50:0:107:GLU:OE2	50:0:217:LYS:NZ	2.21	0.73
52:2:1252:A:O2'	52:2:2187:C:O2'	2.05	0.73
52:2:716:U:C4	52:2:739:A:N1	2.56	0.73
68:AM:60:LEU:H	68:AM:65:LEU:H	1.35	0.73
78:AX:63:ARG:O	78:AX:67:GLU:CG	2.36	0.73
52:2:526:G:C5	52:2:527:A:N7	2.57	0.73
66:AK:16:GLY:N	66:AK:23:ALA:O	2.21	0.73
72:AQ:52:ARG:HE	72:AQ:84:ARG:CZ	2.02	0.73
78:AX:196:ARG:C	78:AX:199:PRO:CD	2.57	0.73
50:0:134:ASP:CG	50:0:183:GLN:CB	2.56	0.73
74:AS:32:THR:HG22	74:AS:34:ALA:CA	2.19	0.73
74:AS:61:GLN:HG3	74:AS:62:PRO:CD	2.17	0.73
2:B:390:A:N3	52:2:1160:A:O2'	2.09	0.73
52:2:1871:U:H2'	52:2:1872:A:H8	1.54	0.73
59:AC:124:TYR:O	59:AC:127:SER:OG	2.07	0.73
52:2:1574:C:H5''	60:AD:90:ARG:HH12	1.54	0.73
52:2:1793:C:N4	52:2:1809:G:H1	1.87	0.73
52:2:731:A:C6	52:2:732:U:C4	2.77	0.73
52:2:750:U:N1	52:2:751:G:C8	2.56	0.73
69:AN:154:SER:OG	69:AN:157:GLU:HB2	1.89	0.73
15:O:94:LEU:HG	15:O:95:ASN:H	1.52	0.73
58:8:21:CYS:HA	58:8:28:GLN:CG	2.18	0.73
52:2:1804:C:OP2	67:AL:60:ARG:NH2	2.20	0.73
2:B:607:A:OP1	15:O:90:LEU:HD11	1.88	0.73
52:2:1558:C:OP1	52:2:1859:C:N4	2.19	0.73
54:4:35:LYS:HG2	54:4:38:ARG:HE	1.53	0.73
63:AH:24:VAL:HG22	63:AH:37:VAL:HG22	1.70	0.73
51:1:46:ARG:HH22	52:2:491:G:P	2.12	0.73
57:7:148:GLY:O	57:7:177:LYS:NZ	2.18	0.73
77:AW:35:ASP:N	77:AW:81:ARG:O	2.16	0.73
57:7:116:SER:OG	57:7:118:ASP:O	2.03	0.72
1:A:995:C:O2	1:A:1467:G:N2	2.18	0.72
74:AS:24:ASP:O	74:AS:28:LYS:HB2	1.89	0.72
52:2:1110:G:OP2	77:AW:27:GLN:NE2	2.20	0.72
52:2:1536:U:H4'	64:AI:131:ARG:HB2	1.70	0.72
65:AJ:76:CYS:SG	65:AJ:77:PRO:HD3	2.30	0.72
9:I:182:ARG:HG3	9:I:189:SER:HB2	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:5:LEU:HD11	9:I:8:ILE:HG23	1.63	0.72
13:M:127:PRO:HB2	13:M:129:ASN:HD22	1.52	0.72
52:2:1535:U:C3'	64:AI:133:VAL:HG11	1.78	0.72
78:AX:63:ARG:O	78:AX:67:GLU:HB2	1.89	0.72
8:H:85:C:H1'	20:T:9:GLY:HA2	1.69	0.72
10:J:144:TYR:O	10:J:146:PRO:HD2	1.83	0.72
52:2:1526:G:P	68:AM:147:VAL:HG22	2.28	0.72
52:2:1853:U:O2'	52:2:1855:U:O5'	2.06	0.72
52:2:1864:C:C2	64:AI:135:HIS:ND1	2.57	0.72
55:5:31:ARG:O	55:5:32:LEU:C	2.28	0.72
68:AM:141:GLY:HA3	68:AM:147:VAL:HG21	1.71	0.72
69:AN:8:LEU:HB3	69:AN:11:LYS:HA	1.71	0.72
54:4:196:GLN:HE22	77:AW:13:VAL:HA	1.53	0.72
65:AJ:86:TYR:HE1	65:AJ:104:LEU:HD11	1.55	0.72
18:R:179:ARG:HH22	52:2:963:U:P	2.12	0.72
52:2:226:G:O2'	52:2:227:U:OP1	2.07	0.72
52:2:376:U:OP1	55:5:31:ARG:HB2	1.89	0.72
59:AC:147:GLN:NE2	71:AP:72:LYS:O	2.22	0.72
11:K:118:ASP:CA	68:AM:15:ARG:NH2	2.46	0.72
78:AX:176:MET:HG3	78:AX:181:ILE:HD12	1.72	0.72
13:M:80:LYS:HB2	13:M:87:GLY:HA2	1.71	0.72
52:2:1573:A:O2'	60:AD:85:ARG:O	2.07	0.72
55:5:31:ARG:O	55:5:32:LEU:O	2.07	0.72
68:AM:43:TYR:O	68:AM:47:LYS:N	2.21	0.72
70:AO:100:LEU:HB2	70:AO:109:ASN:O	1.90	0.72
71:AP:53:VAL:HG21	71:AP:76:ILE:HG23	1.71	0.72
21:U:111:MET:CE	21:U:113:GLY:O	2.37	0.72
50:0:97:ARG:HD3	50:0:243:GLU:CB	2.19	0.72
52:2:711:G:N3	52:2:715:G:C6	2.57	0.72
53:3:160:VAL:HG21	53:3:179:ILE:HD11	1.70	0.72
64:AI:83:VAL:HG22	64:AI:84:LYS:N	2.04	0.72
2:B:1036:A:OP1	11:K:102:ASN:ND2	2.21	0.72
24:X:57:ARG:CD	24:X:100:ASN:HA	2.19	0.72
52:2:1707:C:H2'	52:2:1708:A:C8	2.25	0.72
52:2:844:U:O2'	52:2:845:U:O4'	2.08	0.72
52:2:1115:G:H21	62:AG:52:MET:CE	2.03	0.72
50:0:166:TRP:CH2	52:2:1400:C:H2'	2.25	0.71
66:AK:89:GLN:HB3	66:AK:122:LEU:CD2	2.20	0.71
12:L:177:VAL:HG21	26:Z:98:VAL:CA	2.20	0.71
53:3:150:LEU:CD2	53:3:151:SER:HB3	2.19	0.71
57:7:209:CYS:HB2	57:7:223:LEU:HD11	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:204:GLU:HB2	61:AE:32:ASN:HD22	1.54	0.71
9:I:62:ILE:HG23	9:I:148:GLY:HA2	1.71	0.71
52:2:2012:C:O2'	52:2:2013:A:O5'	2.04	0.71
8:H:7:C:H5	8:H:19:G:H1	1.36	0.71
51:1:13:LYS:HE2	52:2:857:A:H5''	1.72	0.71
52:2:522:A:O2'	52:2:523:A:O5'	2.08	0.71
2:B:1265:U:O2'	7:G:42:A:OP1	2.08	0.71
52:2:1644:C:H2'	52:2:1645:G:C8	2.26	0.71
52:2:1913:U:O2'	52:2:1914:U:O4'	2.03	0.71
52:2:2006:G:OP1	70:AO:110:TYR:OH	2.08	0.71
52:2:64:A:H5'	53:3:180:GLN:HE22	1.55	0.71
57:7:24:GLU:HG3	57:7:25:SER:OG	1.90	0.71
14:N:81:SER:O	14:N:86:LYS:NZ	2.22	0.71
25:Y:58:SER:O	25:Y:61:THR:HB	1.89	0.71
52:2:65:A:O2'	52:2:67:C:OP2	2.09	0.71
57:7:26:TYR:HD1	57:7:27:ILE:HG12	1.55	0.71
58:8:25:CYS:O	58:8:42:GLN:NE2	2.23	0.71
1:A:711:G:N3	1:A:839:U:O2'	2.23	0.71
65:AJ:6:VAL:HG23	65:AJ:29:PRO:HG2	1.70	0.71
2:B:607:A:H5'	15:O:90:LEU:HD11	1.70	0.71
21:U:81:ILE:CD1	21:U:116:ILE:HG23	2.20	0.71
68:AM:131:ARG:NH2	68:AM:147:VAL:HG11	2.05	0.71
52:2:1864:C:C5'	68:AM:149:VAL:HG22	2.21	0.71
70:AO:87:ARG:NH1	70:AO:92:ARG:HA	2.06	0.71
73:AR:23:HIS:CD2	73:AR:58:CYS:H	2.04	0.71
2:B:1142:G:O2'	12:L:198:ARG:NH2	2.24	0.71
52:2:1123:G:H1'	52:2:1191:A:O4'	1.91	0.71
52:2:1864:C:C4	64:AI:135:HIS:CA	2.73	0.71
52:2:711:G:O2'	52:2:715:G:H8	1.61	0.71
69:AN:148:ALA:HA	69:AN:152:LEU:HD21	1.73	0.71
60:AD:127:ASN:HD21	78:AX:63:ARG:HH12	1.37	0.71
52:2:526:G:C4	52:2:527:A:N7	2.59	0.71
52:2:671:G:N3	52:2:672:G:N2	2.39	0.71
1:A:1562:U:O4'	16:P:49:ARG:NH1	2.23	0.71
66:AK:128:ARG:HE	69:AN:41:ARG:CZ	2.04	0.71
52:2:1872:A:H4'	70:AO:107:LYS:HD2	1.72	0.71
52:2:1889:A:H5''	66:AK:77:GLY:H	1.55	0.71
68:AM:60:LEU:H	68:AM:65:LEU:CB	2.04	0.71
2:B:1226:C:N3	10:J:158:LYS:NZ	2.38	0.71
52:2:134:G:N2	52:2:138:C:O2	2.19	0.70
52:2:199:C:O2'	52:2:200:A:O5'	2.09	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:64:GLN:NE2	52:2:497:A:N1	2.39	0.70
1:A:1112:A:O2'	19:S:102:GLN:OE1	2.09	0.70
66:AK:93:LYS:HG3	66:AK:122:LEU:HD11	1.74	0.70
78:AX:100:GLN:O	78:AX:103:SER:OG	2.08	0.70
2:B:285:A:N7	20:T:2:VAL:N	2.39	0.70
52:2:1537:A:N3	52:2:1564:C:O2'	2.24	0.70
52:2:1871:U:H2'	52:2:1872:A:C8	2.26	0.70
61:AE:48:ARG:NH2	61:AE:66:GLY:O	2.24	0.70
70:AO:93:PRO:HB2	70:AO:112:SER:HB2	1.71	0.70
50:0:47:THR:HG21	50:0:67:PHE:CE1	2.26	0.70
52:2:716:U:N3	52:2:739:A:C2	2.59	0.70
52:2:750:U:C2'	52:2:751:G:H8	1.89	0.70
60:AD:115:ARG:HE	60:AD:121:ALA:HB1	1.56	0.70
66:AK:37:VAL:H	66:AK:40:VAL:C	1.93	0.70
52:2:1977:G:C3'	52:2:1977:G:N3	2.52	0.70
52:2:762:A:O2'	54:4:179:LEU:O	2.08	0.70
72:AQ:37:LEU:HD11	72:AQ:86:ILE:HD13	1.73	0.70
10:J:49:CYS:SG	10:J:172:GLY:HA2	2.30	0.70
15:O:106:LEU:CD1	15:O:132:VAL:CB	2.68	0.70
52:2:526:G:O6	52:2:527:A:C6	2.44	0.70
52:2:930:A:O2'	52:2:931:C:O5'	2.09	0.70
52:2:286:G:H1'	53:3:217:ALA:HB1	1.72	0.70
1:A:1003:A:N3	1:A:1171:U:O2'	2.24	0.70
69:AN:178:LYS:HA	69:AN:181:GLU:HG2	1.72	0.70
19:S:133:ARG:HH11	21:U:90:LYS:HG3	118.75	0.70
56:6:113:PHE:CE1	56:6:120:SER:CA	2.71	0.70
60:AD:67:THR:OG1	60:AD:73:PHE:O	2.10	0.70
55:5:175:ILE:O	55:5:178:GLN:N	2.24	0.70
2:B:741:U:O2'	2:B:742:G:O5'	2.09	0.70
52:2:1529:U:O4	68:AM:139:THR:OG1	2.08	0.70
52:2:1534:U:H1'	64:AI:135:HIS:HA	1.72	0.70
72:AQ:36:LEU:HD22	72:AQ:102:THR:HB	1.74	0.70
78:AX:197:ASN:N	78:AX:199:PRO:CG	2.55	0.70
4:D:45:U:OP2	11:K:144:ARG:NH2	2.25	0.70
65:AJ:6:VAL:CG2	65:AJ:29:PRO:CG	2.66	0.69
64:AI:136:GLY:CA	68:AM:153:LYS:HG3	2.22	0.69
2:B:1211:A:H5''	10:J:154:ARG:NH1	2.06	0.69
10:J:30:LYS:HG3	10:J:63:GLU:HG3	1.74	0.69
69:AN:161:ASP:O	69:AN:165:ASN:ND2	2.24	0.69
69:AN:47:PHE:CE2	80:AZ:69:LYS:HB2	2.28	0.69
78:AX:46:GLU:OE1	78:AX:46:GLU:N	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:51:VAL:HG22	12:L:54:ARG:HB3	1.72	0.69
52:2:1103:G:O2'	52:2:1104:A:O5'	2.10	0.69
53:3:65:VAL:HG22	53:3:100:VAL:HG11	1.74	0.69
52:2:1110:G:H1	65:AJ:60:LYS:HZ2	1.39	0.69
52:2:1489:U:OP2	74:AS:119:ARG:NH2	2.24	0.69
52:2:1709:G:H2'	52:2:1710:A:H8	1.55	0.69
58:8:27:ASN:HD22	58:8:42:GLN:HA	1.57	0.69
52:2:726:G:H1	67:AL:96:GLN:HG2	1.56	0.69
52:2:134:G:N1	52:2:138:C:N3	2.32	0.69
52:2:102:C:OP1	55:5:12:LYS:NZ	2.26	0.69
57:7:69:SER:N	57:7:83:ALA:O	2.26	0.69
57:7:65:THR:OG1	57:7:86:ASP:OD2	2.10	0.69
63:AH:36:HIS:CD2	63:AH:48:LYS:HD3	2.27	0.69
69:AN:22:LEU:HD23	69:AN:25:ARG:HD2	1.74	0.69
66:AK:89:GLN:C	66:AK:122:LEU:CD2	2.52	0.69
2:B:1151:A:N6	26:Z:60:HIS:HA	2.08	0.69
51:1:121:MET:SD	51:1:142:HIS:HD2	2.16	0.69
52:2:1952:C:O2'	52:2:1953:U:OP2	2.10	0.69
74:AS:24:ASP:O	74:AS:28:LYS:HG3	1.92	0.69
21:U:81:ILE:HD11	21:U:116:ILE:HG23	1.75	0.69
53:3:66:PRO:HD3	53:3:83:ILE:HD12	1.73	0.69
59:AC:45:ARG:NE	73:AR:84:ARG:HH22	1.89	0.69
11:K:117:ILE:C	68:AM:15:ARG:HH21	1.90	0.69
51:1:27:ARG:O	51:1:78:LYS:NZ	2.19	0.69
52:2:1864:C:N3	64:AI:135:HIS:HD2	1.86	0.69
53:3:211:GLU:OE1	53:3:214:ARG:NH2	2.25	0.69
65:AJ:90:MET:SD	65:AJ:113:HIS:NE2	2.66	0.69
11:K:39:ARG:HD3	11:K:127:THR:HA	1.74	0.69
54:4:23:VAL:HB	54:4:50:ARG:NH2	2.08	0.69
57:7:29:VAL:HG11	57:7:295:TYR:HE2	1.57	0.69
69:AN:62:LEU:HD22	69:AN:75:ALA:HB1	0.69	0.69
71:AP:92:LYS:HD2	71:AP:217:HIS:HB2	1.73	0.69
2:B:607:A:H5''	15:O:90:LEU:CD1	2.19	0.69
52:2:267:U:H2'	52:2:268:C:H2'	1.75	0.69
75:AT:108:LEU:HB3	75:AT:109:PRO:HD2	1.74	0.69
21:U:116:ILE:HD12	21:U:134:HIS:HB3	1.73	0.69
52:2:1536:U:C5'	64:AI:131:ARG:CG	2.54	0.68
66:AK:33:CYS:SG	66:AK:70:ARG:NE	2.66	0.68
11:K:122:LYS:CD	68:AM:10:PHE:CE1	2.72	0.68
52:2:1912:C:H5''	70:AO:88:ALA:HB2	1.73	0.68
52:2:1998:U:N3	52:2:2030:A:N7	2.41	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:86:THR:OG1	55:5:87:SER:N	2.26	0.68
59:AC:56:ALA:HA	67:AL:99:VAL:HG11	1.73	0.68
66:AK:57:ALA:HA	66:AK:121:PHE:HE2	1.58	0.68
70:AO:34:VAL:HA	70:AO:37:TRP:HD1	1.59	0.68
63:AH:19:LEU:HA	63:AH:84:ASN:HD22	1.58	0.68
69:AN:64:PHE:HD2	69:AN:145:ARG:HH22	1.38	0.68
69:AN:1:MET:HB2	69:AN:6:PRO:HD3	1.73	0.68
70:AO:37:TRP:CH2	70:AO:75:PRO:HD2	2.27	0.68
14:N:107:ASP:HB3	14:N:110:ARG:HH21	1.58	0.68
57:7:68:VAL:HA	57:7:84:SER:HA	1.74	0.68
64:AI:84:LYS:CG	64:AI:102:ALA:CB	2.59	0.68
66:AK:135:TRP:CZ3	72:AQ:73:THR:HB	2.28	0.68
15:O:68:ARG:NH2	15:O:123:MET:HG3	2.04	0.68
19:S:10:GLY:O	19:S:11:THR:CG2	2.41	0.68
52:2:1975:U:H5	52:2:2014:U:O2'	1.75	0.68
60:AD:82:GLN:HA	60:AD:85:ARG:HH21	1.58	0.68
66:AK:36:LYS:CD	66:AK:72:ASP:OD1	2.41	0.68
70:AO:99:GLY:HA2	70:AO:110:TYR:CE1	2.28	0.68
70:AO:115:GLU:HG3	70:AO:116:HIS:H	1.57	0.68
56:6:122:HIS:HE1	79:AY:37:ARG:HD3	1.58	0.68
22:V:82:ASN:O	22:V:128:ARG:NH1	2.27	0.68
52:2:783:A:O2'	52:2:784:C:O5'	2.12	0.68
69:AN:36:PRO:O	69:AN:56:GLU:HG2	1.92	0.68
78:AX:197:ASN:C	78:AX:199:PRO:HD3	2.08	0.68
1:A:149:G:OP1	15:O:147:ARG:NH2	2.26	0.68
52:2:717:C:N3	52:2:739:A:C2	2.61	0.68
1:A:196:C:O2'	1:A:198:C:OP2	2.12	0.68
1:A:746:G:N2	1:A:749:A:OP2	2.26	0.68
52:2:1573:A:N3	60:AD:89:SER:OG	2.27	0.68
66:AK:126:ASP:HB3	66:AK:128:ARG:HH12	1.56	0.68
66:AK:35:ILE:HG22	66:AK:36:LYS:O	1.93	0.68
68:AM:68:ILE:HA	68:AM:71:ILE:HD12	1.74	0.68
78:AX:190:PRO:C	78:AX:192:ASP:N	2.46	0.68
52:2:2092:U:OP1	55:5:42:ARG:NH1	2.26	0.68
52:2:44:C:O2'	52:2:45:U:OP1	2.11	0.68
1:A:1539:G:O6	16:P:25:HIS:ND1	2.27	0.68
64:AI:132:PRO:O	64:AI:134:LEU:CD1	2.41	0.68
67:AL:109:LEU:CB	67:AL:116:VAL:HG22	2.24	0.68
6:F:73:A:H3'	6:F:73:A:OP1	1.93	0.68
52:2:507:G:OP2	75:AT:111:ARG:NH2	2.27	0.68
52:2:65:A:OP2	53:3:180:GLN:NE2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:12:GLY:O	57:7:301:ASN:ND2	2.26	0.68
66:AK:47:PRO:O	66:AK:48:ASP:C	2.30	0.68
52:2:1973:U:OP1	68:AM:122:ARG:NH1	2.27	0.68
68:AM:60:LEU:N	68:AM:65:LEU:CB	2.57	0.68
78:AX:64:ARG:O	78:AX:68:LEU:HG	1.92	0.68
52:2:1707:C:N4	52:2:1773:A:N1	2.36	0.68
52:2:1937:C:O2	52:2:2006:G:O2'	2.11	0.68
57:7:13:TRP:O	57:7:34:ARG:N	2.22	0.68
57:7:288:SER:OG	57:7:290:ASP:OD1	2.05	0.68
1:A:704:G:C5'	9:I:20:TYR:O	2.42	0.68
63:AH:106:GLN:OE1	80:AZ:85:ARG:NH1	2.27	0.68
54:4:20:GLU:HA	54:4:50:ARG:CZ	2.24	0.67
70:AO:22:ARG:HH21	70:AO:141:GLY:H	1.43	0.67
25:Y:60:GLN:HG3	25:Y:61:THR:N	2.06	0.67
51:1:125:ASN:OD1	51:1:126:LEU:N	2.27	0.67
65:AJ:30:SER:HB3	65:AJ:61:ILE:HG13	1.75	0.67
70:AO:78:TYR:CE1	70:AO:124:PRO:HB3	2.29	0.67
12:L:208:ALA:O	12:L:212:ALA:N	2.26	0.67
53:3:2:LYS:HD2	53:3:15:GLN:NE2	2.09	0.67
61:AE:73:CYS:SG	61:AE:76:THR:OG1	2.50	0.67
70:AO:75:PRO:HA	70:AO:78:TYR:HD2	1.59	0.67
52:2:1566:G:N3	52:2:1856:G:N2	2.42	0.67
18:R:170:ARG:HH21	52:2:918:A:H1'	1.54	0.67
58:8:21:CYS:HA	58:8:28:GLN:HG3	1.77	0.67
1:A:728:C:O2	1:A:730:G:N1	2.27	0.67
57:7:214:LYS:HE2	67:AL:24:LEU:HD13	1.77	0.67
9:I:7:GLY:CA	9:I:8:ILE:CB	2.23	0.67
52:2:740:C:H2'	52:2:741:C:N1	2.09	0.67
57:7:29:VAL:HG11	57:7:295:TYR:CE2	2.30	0.67
1:A:1366:A:N6	2:B:1234:U:OP1	2.28	0.67
71:AP:157:LYS:O	73:AR:9:GLU:HG2	1.95	0.67
78:AX:29:ALA:O	78:AX:30:GLU:HG2	1.93	0.67
9:I:40:THR:HG21	9:I:45:ASN:HD22	1.60	0.67
52:2:290:U:O2'	52:2:291:G:OP1	2.11	0.67
52:2:1627:G:O2'	52:2:1833:U:OP2	2.06	0.67
52:2:1974:A:C4	52:2:1975:U:O4	2.47	0.67
57:7:260:VAL:H	57:7:268:VAL:HG13	1.59	0.67
69:AN:131:ARG:NH2	69:AN:135:GLU:OE2	2.24	0.67
10:J:144:TYR:C	10:J:146:PRO:CD	2.60	0.67
1:A:512:U:N3	17:Q:30:GLU:OE2	2.26	0.67
52:2:1529:U:OP2	68:AM:135:GLN:N	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:913:G:O2'	52:2:914:G:OP2	2.11	0.67
55:5:4:VAL:HG21	55:5:24:ARG:HD2	1.75	0.67
56:6:113:PHE:CD1	56:6:120:SER:CA	2.77	0.67
52:2:39:A:H5'	56:6:3:ASN:HD22	1.58	0.67
1:A:367:A:H2	12:L:27:VAL:H	1.41	0.67
52:2:1869:A:N7	68:AM:139:THR:HG21	2.09	0.67
18:R:62:ARG:HH11	18:R:62:ARG:HG2	1.60	0.67
2:B:12:A:O2'	22:V:94:ASN:OD1	2.11	0.67
52:2:1917:U:H4'	52:2:1918:C:O5'	1.94	0.67
52:2:2026:G:O2'	52:2:2027:A:O4'	2.12	0.67
60:AD:115:ARG:HD2	60:AD:123:SER:HA	1.76	0.67
71:AP:43:TRP:CH2	71:AP:45:PRO:HA	2.30	0.67
7:G:32:U:H3	7:G:169:U:H5	1.43	0.67
53:3:36:GLU:HG2	53:3:52:ARG:HD2	1.76	0.67
1:A:1245:G:N3	17:Q:114:SER:OG	2.21	0.67
1:A:30:C:P	15:O:95:ASN:HD22	2.18	0.67
1:A:398:G:N2	1:A:401:A:OP2	2.25	0.67
1:A:813:C:H5	1:A:832:G:H1	1.42	0.67
63:AH:92:ALA:H	63:AH:126:THR:HB	1.60	0.67
65:AJ:28:ARG:HG2	65:AJ:28:ARG:HH11	1.60	0.67
70:AO:130:LYS:H	70:AO:136:GLY:HA2	1.59	0.67
76:AV:7:ASN:ND2	76:AV:10:ARG:O	2.26	0.67
18:R:42:ARG:HH12	26:Z:55:LYS:HZ1	112.43	0.67
52:2:1415:C:O2'	76:AV:16:SER:OG	2.13	0.66
52:2:1965:A:C5	52:2:1978:G:N2	2.63	0.66
1:A:169:G:N2	1:A:172:G:N7	2.42	0.66
77:AW:85:ASP:OD1	77:AW:86:HIS:N	2.28	0.66
78:AX:107:LYS:HB3	78:AX:112:LEU:HD12	1.76	0.66
52:2:1115:G:H21	62:AG:52:MET:HE2	1.60	0.66
58:8:41:ARG:HD2	58:8:44:PHE:CD1	2.30	0.66
1:A:1749:U:H2'	1:A:1750:G:H8	1.60	0.66
60:AD:38:LYS:HB2	60:AD:41:ARG:NH1	2.10	0.66
69:AN:66:GLY:HA3	69:AN:71:ARG:NH2	2.10	0.66
70:AO:142:ALA:O	70:AO:146:GLN:N	2.28	0.66
9:I:51:ARG:HH12	9:I:147:ARG:HG2	1.60	0.66
12:L:63:VAL:HG21	12:L:77:GLY:HA3	1.77	0.66
1:A:304:G:O3'	15:O:50:MET:HE1	1.94	0.66
52:2:167:C:H5''	53:3:83:ILE:HG23	1.76	0.66
64:AI:83:VAL:CG2	64:AI:84:LYS:H	2.06	0.66
70:AO:130:LYS:HG2	70:AO:131:SER:H	1.60	0.66
12:L:84:GLU:OE2	12:L:108:ASN:ND2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:68:GLU:OE2	50:0:86:LYS:HD2	1.96	0.66
51:1:101:ASP:HB2	51:1:107:ALA:HB2	1.77	0.66
2:B:127:U:H4'	55:5:88:ASN:ND2	2.10	0.66
1:A:1763:A:H2'	22:V:128:ARG:HH21	1.60	0.66
1:A:599:G:N2	1:A:607:C:O2	2.28	0.66
60:AD:39:PRO:O	60:AD:42:ASP:N	2.25	0.66
70:AO:147:ARG:O	70:AO:151:LYS:N	2.24	0.66
50:0:170:ARG:HD2	50:0:207:ILE:HD11	1.77	0.66
52:2:696:U:O2	52:2:754:G:N2	2.28	0.66
66:AK:37:VAL:CG2	66:AK:40:VAL:N	2.58	0.66
72:AQ:30:GLU:OE1	72:AQ:84:ARG:NH2	2.29	0.66
15:O:193:ARG:O	15:O:197:ARG:HG3	1.95	0.66
52:2:1863:A:O3'	64:AI:134:LEU:CD2	2.43	0.66
52:2:562:G:O6	52:2:579:C:N4	2.28	0.66
54:4:12:LYS:NZ	54:4:49:VAL:HG22	2.10	0.66
74:AS:27:TRP:C	74:AS:29:ARG:N	2.42	0.66
20:T:13:TYR:HE2	20:T:15:ARG:HE	1.42	0.66
50:0:134:ASP:CG	50:0:183:GLN:HB3	2.15	0.66
52:2:1627:G:H4'	52:2:1628:C:H3'	1.76	0.66
52:2:1839:A:H2'	52:2:1840:U:H6	1.60	0.66
52:2:2034:C:O2'	52:2:2035:C:OP2	2.14	0.66
68:AM:75:PRO:HD3	68:AM:98:HIS:CD2	2.31	0.66
71:AP:98:LYS:HD2	71:AP:105:ARG:HH21	1.60	0.66
78:AX:63:ARG:O	78:AX:67:GLU:N	2.23	0.66
15:O:106:LEU:HD11	15:O:132:VAL:CB	2.25	0.66
52:2:257:A:H4'	52:2:258:C:OP1	1.96	0.66
54:4:30:LEU:HD13	54:4:38:ARG:HH22	1.60	0.66
1:A:994:U:OP1	26:Z:15:THR:HG22	1.96	0.66
71:AP:98:LYS:HD3	71:AP:105:ARG:HE	1.59	0.66
59:AC:103:ALA:HB2	73:AR:42:ALA:HB2	1.77	0.66
78:AX:63:ARG:CG	78:AX:67:GLU:CD	2.39	0.66
1:A:1389:A:H5'	14:N:19:PRO:HD3	1.76	0.66
52:2:21:U:HO2'	52:2:22:A:H8	1.41	0.66
52:2:2028:U:O5'	69:AN:42:TRP:HZ3	1.77	0.66
72:AQ:37:LEU:O	72:AQ:41:ARG:N	2.20	0.66
14:N:95:ARG:O	14:N:99:LYS:N	2.29	0.66
50:0:242:VAL:HG11	63:AH:13:ASN:ND2	2.11	0.66
1:A:374:G:N1	3:C:120:C:N3	2.44	0.66
61:AE:81:ILE:HD13	61:AE:155:LEU:HD21	1.77	0.66
52:2:1536:U:H4'	64:AI:131:ARG:HG2	1.78	0.66
59:AC:52:GLN:NE2	67:AL:118:ARG:O	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:64:PHE:HD2	69:AN:145:ARG:NH2	1.93	0.66
52:2:364:G:O2'	52:2:364:G:N3	2.24	0.65
57:7:135:ASN:ND2	57:7:139:ASP:HB3	2.11	0.65
1:A:106:A:O2'	1:A:362:A:N3	2.28	0.65
60:AD:66:GLY:HA2	60:AD:68:LEU:HD13	1.78	0.65
66:AK:126:ASP:HB3	66:AK:128:ARG:NH1	2.11	0.65
73:AR:23:HIS:HD2	73:AR:58:CYS:N	1.92	0.65
78:AX:73:GLN:HE21	78:AX:80:GLU:HA	1.61	0.65
10:J:206:ILE:HA	10:J:209:ARG:HH12	1.59	0.65
12:L:63:VAL:HG22	12:L:106:ARG:NH2	2.11	0.65
50:0:212:GLU:OE2	50:0:214:ARG:NH2	2.29	0.65
52:2:1888:C:N4	52:2:1936:C:O3'	2.29	0.65
52:2:1889:A:C6	52:2:1937:C:C4	2.84	0.65
56:6:36:ARG:HA	79:AY:33:ARG:HB3	1.78	0.65
57:7:240:GLN:H	57:7:253:ALA:HB3	1.61	0.65
57:7:26:TYR:O	57:7:27:ILE:HG23	1.96	0.65
1:A:70:C:O2'	12:L:71:ASN:ND2	2.22	0.65
78:AX:63:ARG:O	78:AX:67:GLU:HG3	1.95	0.65
54:4:54:VAL:HG22	54:4:60:THR:HG22	1.78	0.65
65:AJ:28:ARG:NH1	65:AJ:28:ARG:HG2	2.09	0.65
13:M:127:PRO:HB2	13:M:129:ASN:ND2	2.12	0.65
52:2:1882:U:H4'	52:2:1883:G:OP1	1.96	0.65
52:2:1948:C:H5'	68:AM:26:LYS:HZ2	1.61	0.65
52:2:376:U:OP1	55:5:56:ARG:NH2	2.30	0.65
60:AD:38:LYS:HD2	60:AD:41:ARG:NH1	2.10	0.65
64:AI:136:GLY:HA2	68:AM:153:LYS:HG3	1.78	0.65
1:A:328:U:OP1	15:O:68:ARG:HB2	1.96	0.65
52:2:1859:C:OP1	68:AM:121:HIS:NE2	2.25	0.65
55:5:204:GLU:CB	61:AE:32:ASN:ND2	2.56	0.65
66:AK:93:LYS:CE	66:AK:122:LEU:HD11	2.27	0.65
71:AP:172:CYS:SG	71:AP:222:MET:HB2	2.36	0.65
71:AP:83:GLU:HG3	71:AP:84:GLY:H	1.62	0.65
58:8:33:ARG:HH21	72:AQ:62:THR:HG21	1.62	0.65
52:2:1959:C:OP2	68:AM:132:VAL:HG22	1.96	0.65
1:A:745:U:O2'	1:A:815:G:N3	2.30	0.65
66:AK:135:TRP:HZ3	72:AQ:73:THR:CB	2.10	0.65
69:AN:58:LEU:HD23	69:AN:137:ILE:HG23	1.78	0.65
70:AO:26:ARG:NH2	70:AO:146:GLN:HA	2.12	0.65
72:AQ:95:VAL:HA	72:AQ:98:ILE:HB	1.78	0.65
13:M:45:LEU:HD21	13:M:120:LEU:HB2	1.78	0.65
14:N:135:THR:HG22	14:N:140:HIS:NE2	2.09	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:50:VAL:HG23	17:Q:71:LEU:HD13	1.78	0.65
2:B:1174:G:O6	26:Z:42:ARG:NH2	2.29	0.65
1:A:147:G:OP1	15:O:49:ARG:NH2	2.29	0.65
64:AI:133:VAL:O	68:AM:152:GLY:HA3	1.96	0.65
74:AS:25:LYS:HA	74:AS:28:LYS:HB2	1.77	0.65
75:AT:58:ASP:HB3	75:AT:61:GLN:HG3	1.77	0.65
2:B:1036:A:O2'	11:K:133:ASP:OD1	2.14	0.65
18:R:116:ASP:HB2	18:R:119:VAL:HG12	1.77	0.65
18:R:181:ARG:NH1	52:2:972:A:H3'	2.11	0.65
50:0:49:CYS:HB2	50:0:62:LEU:HD21	1.79	0.65
52:2:255:A:O2'	52:2:256:A:O5'	2.12	0.65
56:6:96:LEU:HG	71:AP:184:ARG:O	1.97	0.65
57:7:146:ARG:HD2	57:7:186:CYS:SG	2.37	0.65
13:M:7:LYS:O	13:M:11:ARG:N	2.26	0.65
21:U:29:ASP:HB3	21:U:31:THR:HG23	1.79	0.65
52:2:1529:U:O2'	52:2:1530:G:O5'	2.07	0.65
55:5:117:TYR:O	55:5:166:ARG:NH1	2.30	0.65
1:A:1611:A:N1	1:A:1622:A:O2'	2.26	0.65
54:4:196:GLN:HE22	77:AW:13:VAL:CA	2.10	0.65
2:B:1424:G:H2'	2:B:1425:G:H8	1.62	0.65
52:2:1957:G:H22	52:2:1982:C:N4	1.93	0.65
52:2:351:G:OP1	61:AE:105:TYR:OH	2.10	0.65
55:5:34:ALA:HB2	55:5:56:ARG:HD3	1.79	0.65
57:7:203:SER:HB3	57:7:243:PHE:CG	2.32	0.65
57:7:61:LEU:HB3	57:7:92:TRP:CZ3	2.32	0.65
59:AC:53:LYS:O	59:AC:57:MET:N	2.28	0.65
80:AZ:42:GLN:NE2	80:AZ:84:ARG:CB	2.59	0.65
5:E:69:A:H2'	5:E:70:A:H8	1.60	0.65
51:1:20:LEU:O	51:1:21:THR:OG1	2.15	0.64
52:2:752:C:H4'	54:4:148:ASP:HB3	1.79	0.64
57:7:178:VAL:HB	57:7:187:GLU:HB2	1.78	0.64
1:A:1562:U:N3	1:A:1571:U:O2'	2.30	0.64
64:AI:32:LEU:HD13	64:AI:94:PRO:HB3	1.78	0.64
55:5:106:ALA:HB2	55:5:184:VAL:HG23	1.80	0.64
57:7:135:ASN:HD21	57:7:139:ASP:HB3	1.63	0.64
57:7:298:HIS:CE1	57:7:304:ARG:HE	2.15	0.64
1:A:1566:C:O2'	8:H:122:A:N6	2.30	0.64
67:AL:5:ARG:HB2	67:AL:10:LYS:HE2	1.77	0.64
10:J:156:LYS:HD2	10:J:163:GLN:HB2	1.79	0.64
52:2:52:U:H2'	52:2:53:G:C8	2.32	0.64
52:2:734:U:C3'	52:2:735:G:H4'	2.25	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:772:A:H2'	52:2:773:A:C8	2.32	0.64
66:AK:93:LYS:HE3	66:AK:122:LEU:CD1	2.28	0.64
2:B:342:U:O2	2:B:958:U:N3	2.31	0.64
52:2:1635:G:H4'	72:AQ:71:THR:H	1.63	0.64
52:2:586:G:O2'	52:2:587:A:OP1	2.14	0.64
54:4:190:TRP:O	54:4:192:PRO:HD2	1.96	0.64
54:4:68:LEU:HD11	54:4:100:ARG:HG2	1.79	0.64
57:7:172:TRP:HA	57:7:196:TYR:HB2	1.77	0.64
52:2:1124:G:N2	62:AG:110:ASP:OD2	2.26	0.64
52:2:1783:U:O2'	72:AQ:52:ARG:HD2	1.97	0.64
2:B:131:G:H1	2:B:283:C:H5	1.44	0.64
13:M:93:ALA:HA	13:M:166:TRP:CD1	2.32	0.64
20:T:71:SER:OG	20:T:78:THR:OG1	2.16	0.64
52:2:1931:A:OP1	78:AX:6:LYS:N	2.30	0.64
59:AC:219:LEU:HB3	59:AC:225:ILE:HD12	1.79	0.64
72:AQ:52:ARG:HH21	72:AQ:84:ARG:HH12	1.46	0.64
14:N:9:ALA:O	14:N:27:ILE:O	2.15	0.64
22:V:99:LYS:NZ	22:V:110:ALA:O	2.30	0.64
52:2:1920:A:H2'	52:2:1921:A:C8	2.33	0.64
52:2:1948:C:H4'	52:2:1954:U:C4	2.32	0.64
52:2:1967:U:H3	52:2:1974:A:H61	1.43	0.64
52:2:2000:G:P	69:AN:41:ARG:HH12	2.21	0.64
52:2:759:U:O2'	52:2:761:A:O5'	2.14	0.64
57:7:122:ILE:O	57:7:134:TRP:N	2.24	0.64
68:AM:60:LEU:H	68:AM:65:LEU:HB2	1.63	0.64
74:AS:27:TRP:CZ3	74:AS:30:ALA:HB1	2.31	0.64
78:AX:71:CYS:O	78:AX:75:ARG:N	2.28	0.64
80:AZ:33:ARG:HH12	80:AZ:40:VAL:N	1.95	0.64
52:2:288:A:O2'	52:2:290:U:OP2	2.16	0.64
52:2:75:U:H2'	52:2:76:U:H6	1.63	0.64
52:2:917:C:O2'	52:2:918:A:H2'	1.97	0.64
52:2:1864:C:OP2	68:AM:149:VAL:HG13	1.98	0.64
52:2:1950:C:N4	69:AN:150:ARG:O	2.14	0.64
52:2:2031:C:C5	69:AN:46:ARG:HA	2.32	0.64
2:B:1092:G:N7	19:S:87:LYS:NZ	2.45	0.64
57:7:30:VAL:HG22	57:7:40:ALA:HA	1.80	0.64
69:AN:19:THR:O	69:AN:25:ARG:NH2	2.30	0.64
78:AX:160:GLY:O	78:AX:163:HIS:ND1	2.27	0.64
52:2:1527:C:H2'	52:2:1528:G:C8	2.33	0.64
52:2:761:A:H5''	52:2:762:A:OP1	1.98	0.64
62:AG:108:ASP:OD2	62:AG:111:THR:OG1	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1968:G:O2'	64:AI:54:ARG:NH1	2.31	0.64
67:AL:98:GLY:HA3	67:AL:121:LYS:HG2	1.78	0.64
24:X:57:ARG:CD	24:X:100:ASN:CA	2.75	0.64
24:X:58:GLY:C	24:X:60:PHE:H	1.95	0.64
50:0:89:PHE:HB3	50:0:101:THR:HB	1.80	0.63
50:0:170:ARG:NH2	52:2:1401:G:O6	2.31	0.63
52:2:1159:U:OP1	52:2:1160:A:O2'	2.16	0.63
52:2:21:U:O2'	52:2:22:A:H8	1.79	0.63
57:7:26:TYR:C	57:7:27:ILE:HG12	2.17	0.63
57:7:27:ILE:HB	57:7:28:LYS:HG2	1.80	0.63
57:7:67:PHE:O	57:7:85:TRP:N	2.27	0.63
1:A:460:A:H2'	1:A:461:G:H5''	1.80	0.63
66:AK:14:THR:O	66:AK:25:ALA:N	2.28	0.63
71:AP:163:THR:HG22	71:AP:205:ASP:O	1.99	0.63
78:AX:62:GLY:O	78:AX:66:ARG:HD3	1.97	0.63
21:U:81:ILE:HD11	21:U:120:VAL:HG12	1.80	0.63
50:0:27:ARG:NH2	52:2:1143:U:OP1	2.28	0.63
52:2:1544:C:O2	52:2:1548:A:N6	2.31	0.63
52:2:1570:C:N4	52:2:1847:C:H1'	2.13	0.63
52:2:91:A:O2'	52:2:441:G:N2	2.31	0.63
54:4:33:SER:HB2	54:4:39:GLN:NE2	2.14	0.63
1:A:180:A:H2'	1:A:181:G:C8	2.33	0.63
54:4:139:VAL:HG22	62:AG:19:ARG:HD3	1.80	0.63
67:AL:102:ASP:N	67:AL:105:THR:OG1	2.31	0.63
67:AL:42:GLU:OE2	78:AX:197:ASN:ND2	2.31	0.63
69:AN:54:ILE:HD13	69:AN:102:VAL:HG21	1.80	0.63
69:AN:66:GLY:HA2	69:AN:69:ASN:ND2	2.14	0.63
75:AT:121:ASN:HB3	75:AT:129:LYS:HD2	1.81	0.63
75:AT:99:THR:HG22	75:AT:104:GLY:HA2	1.80	0.63
2:B:1398:A:H2'	2:B:1399:A:H8	1.62	0.63
52:2:1878:U:O2'	52:2:1880:A:OP1	2.14	0.63
52:2:1981:G:N3	52:2:1981:G:H2'	2.13	0.63
57:7:146:ARG:NH1	57:7:177:LYS:HD3	2.13	0.63
59:AC:153:VAL:HG12	59:AC:155:PRO:HD3	1.81	0.63
64:AI:84:LYS:HZ3	64:AI:109:PHE:CA	2.10	0.63
7:G:182:A:C4	13:M:6:ARG:NH2	2.67	0.63
55:5:67:TRP:CH2	55:5:175:ILE:HD13	2.28	0.63
57:7:149:HIS:CE1	57:7:170:GLY:O	2.51	0.63
57:7:96:ASN:HB3	57:7:98:GLN:OE1	1.97	0.63
65:AJ:44:HIS:NE2	65:AJ:112:ASP:OD2	2.31	0.63
52:2:1490:U:C5	74:AS:110:HIS:HE1	2.07	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AS:24:ASP:O	74:AS:28:LYS:CG	2.47	0.63
2:B:1210:C:H5	2:B:1226:C:H42	1.44	0.63
52:2:1445:U:O2'	52:2:1446:G:OP1	2.13	0.63
52:2:1877:G:H4'	52:2:1878:U:O5'	1.99	0.63
52:2:496:A:H2'	52:2:497:A:H5''	1.78	0.63
52:2:773:A:H2'	52:2:774:A:C8	2.34	0.63
52:2:463:A:OP1	53:3:99:ASN:ND2	2.30	0.63
66:AK:48:ASP:O	66:AK:51:ARG:N	2.32	0.63
68:AM:131:ARG:CZ	68:AM:140:THR:HB	2.29	0.63
18:R:81:ARG:HG2	18:R:88:ARG:NH1	2.13	0.63
52:2:1537:A:N6	52:2:1538:A:N1	2.47	0.63
52:2:1706:U:O4	52:2:1707:C:N4	2.31	0.63
52:2:276:G:P	53:3:240:ARG:HH21	2.21	0.63
57:7:152:TRP:HB2	57:7:172:TRP:CD1	2.34	0.63
52:2:1535:U:C3'	64:AI:133:VAL:CG1	2.62	0.63
52:2:1528:G:N7	68:AM:140:THR:HG22	2.13	0.63
52:2:1815:A:OP1	69:AN:44:LYS:NZ	2.32	0.63
75:AT:50:LEU:HD12	75:AT:64:ILE:HD11	1.81	0.63
15:O:40:ARG:HH21	15:O:41:ARG:NH1	1.95	0.63
16:P:2:THR:OG1	16:P:3:HIS:N	2.32	0.63
50:0:166:TRP:CZ3	52:2:1400:C:H2'	2.34	0.63
67:AL:31:ASN:HD22	67:AL:55:THR:HG22	1.63	0.63
2:B:1442:C:H42	2:B:1457:G:H1	1.47	0.63
1:A:1184:G:O3'	10:J:100:ASN:ND2	2.32	0.63
52:2:1094:G:H2'	52:2:1095:G:C8	2.34	0.63
52:2:1106:U:O2'	52:2:1107:G:O5'	2.17	0.63
52:2:731:A:C5	52:2:732:U:O4	2.52	0.63
56:6:113:PHE:CD1	56:6:120:SER:C	2.72	0.63
78:AX:196:ARG:C	78:AX:199:PRO:CG	2.67	0.63
51:1:71:ASN:HD21	51:1:162:LYS:HA	1.64	0.63
1:A:26:C:H4'	1:A:59:A:C2	2.33	0.63
74:AS:32:THR:CG2	74:AS:34:ALA:HB2	2.25	0.63
18:R:181:ARG:HH11	52:2:972:A:H3'	1.63	0.63
51:1:68:HIS:HD2	51:1:90:PRO:HD3	1.64	0.62
51:1:3:LYS:NZ	52:2:426:G:OP1	2.32	0.62
52:2:564:A:H4'	52:2:565:U:OP1	1.99	0.62
53:3:58:ASP:OD1	53:3:101:ARG:HD2	1.99	0.62
57:7:158:PHE:CD1	57:7:167:VAL:CG1	2.82	0.62
59:AC:52:GLN:HG3	67:AL:117:PRO:CB	2.28	0.62
52:2:1864:C:N3	64:AI:135:HIS:O	2.32	0.62
75:AT:49:LYS:O	75:AT:52:THR:OG1	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:28:ASP:OD1	13:M:55:ARG:HD2	1.99	0.62
25:Y:76:ASN:OD1	25:Y:77:HIS:N	2.31	0.62
25:Y:11:VAL:HG23	25:Y:82:PRO:HA	1.80	0.62
52:2:1890:A:H62	52:2:1937:C:N4	1.97	0.62
55:5:189:THR:N	55:5:199:ASP:O	2.32	0.62
56:6:10:VAL:HG12	56:6:43:ARG:HG3	1.81	0.62
58:8:20:ARG:NH2	58:8:34:LYS:HE2	2.14	0.62
52:2:1677:C:O2'	59:AC:149:GLN:NE2	2.30	0.62
64:AI:116:GLY:O	64:AI:117:GLU:HG2	1.99	0.62
66:AK:122:LEU:O	66:AK:123:LEU:C	2.31	0.62
11:K:117:ILE:CG2	68:AM:15:ARG:HH21	2.11	0.62
74:AS:61:GLN:HB3	74:AS:62:PRO:CD	2.28	0.62
78:AX:46:GLU:HA	78:AX:84:GLN:H	1.64	0.62
80:AZ:61:VAL:O	80:AZ:83:ALA:CB	2.47	0.62
50:0:70:ASN:HD22	63:AH:121:ARG:HD2	1.64	0.62
52:2:1580:G:H5'	52:2:1581:A:OP1	1.98	0.62
52:2:717:C:O2	52:2:739:A:N3	2.33	0.62
52:2:734:U:H2'	52:2:735:G:O3'	1.99	0.62
60:AD:41:ARG:HG2	60:AD:83:LEU:HD11	1.80	0.62
67:AL:117:PRO:HG2	67:AL:120:VAL:HG21	1.80	0.62
52:2:1864:C:H1'	68:AM:151:ARG:HH21	1.65	0.62
68:AM:65:LEU:HD22	68:AM:68:ILE:HB	1.80	0.62
70:AO:68:ARG:HB3	70:AO:71:ALA:CB	2.29	0.62
2:B:1093:U:H3	2:B:1173:A:H62	1.45	0.62
52:2:1525:A:OP2	68:AM:142:ARG:HA	1.99	0.62
52:2:1957:G:N2	52:2:1982:C:H42	1.93	0.62
52:2:258:C:H2'	52:2:259:C:H6	1.64	0.62
52:2:734:U:C5	52:2:735:G:C1'	2.82	0.62
52:2:740:C:C2'	52:2:741:C:O4'	2.48	0.62
57:7:117:PRO:CG	57:7:160:PRO:O	2.47	0.62
17:Q:12:VAL:HG22	17:Q:28:LYS:HG2	1.82	0.62
2:B:55:U:H5'	18:R:55:VAL:HG13	1.81	0.62
52:2:1528:G:OP2	68:AM:131:ARG:HD2	1.98	0.62
52:2:1529:U:H3	52:2:1869:A:N6	1.96	0.62
54:4:190:TRP:HD1	54:4:190:TRP:H	1.47	0.62
54:4:19:LEU:HB3	54:4:50:ARG:HD2	1.81	0.62
66:AK:137:ARG:HD3	66:AK:141:ARG:HA	1.81	0.62
69:AN:166:ALA:HA	69:AN:176:ILE:HD11	1.81	0.62
70:AO:152:GLY:HA3	70:AO:156:ALA:HB3	1.82	0.62
1:A:753:A:C2'	26:Z:112:ASN:OD1	2.47	0.62
52:2:1673:U:P	59:AC:138:ARG:HH12	2.22	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1832:G:O4'	72:AQ:69:ASN:ND2	2.32	0.62
52:2:368:U:OP1	61:AE:148:LYS:NZ	2.24	0.62
52:2:733:U:N3	52:2:735:G:H8	1.96	0.62
59:AC:74:ILE:HD11	59:AC:186:THR:HB	1.81	0.62
64:AI:134:LEU:CA	68:AM:150:SER:HB2	2.30	0.62
69:AN:132:ARG:NH2	80:AZ:75:SER:OG	2.28	0.62
25:Y:11:VAL:HG21	25:Y:80:PHE:CD1	2.35	0.62
26:Z:75:LEU:HD21	26:Z:109:LEU:HD21	1.82	0.62
50:0:121:CYS:HA	50:0:157:CYS:HB2	1.82	0.62
52:2:1141:C:O2	52:2:1165:G:N2	2.32	0.62
52:2:1554:G:H3'	52:2:1554:G:OP1	1.99	0.62
52:2:1554:G:O2'	52:2:1555:G:OP2	2.14	0.62
52:2:1635:G:H4'	72:AQ:71:THR:N	2.15	0.62
52:2:256:A:N6	52:2:952:U:H3	1.96	0.62
54:4:190:TRP:HE1	54:4:196:GLN:HB2	1.64	0.62
52:2:1283:C:O2'	65:AJ:9:ASN:OD1	2.11	0.62
70:AO:75:PRO:HA	70:AO:78:TYR:CD2	2.35	0.62
73:AR:68:GLU:OE1	73:AR:68:GLU:N	2.33	0.62
76:AV:11:SER:H	76:AV:35:ASP:HB3	1.64	0.62
10:J:143:ALA:O	10:J:146:PRO:HD2	2.00	0.62
11:K:162:THR:HG22	11:K:164:GLU:H	1.64	0.62
52:2:1791:U:H3'	67:AL:5:ARG:NH2	2.14	0.62
52:2:1879:C:H4'	52:2:1880:A:H2'	1.81	0.62
52:2:1950:C:H4'	52:2:1951:A:OP1	1.98	0.62
52:2:1967:U:N3	52:2:1968:G:N7	2.48	0.62
52:2:759:U:H2'	52:2:761:A:C8	2.34	0.62
56:6:59:LEU:HD12	56:6:68:ARG:HH12	1.63	0.62
1:A:73:U:H5'	12:L:63:VAL:HG13	1.82	0.62
60:AD:67:THR:OG1	60:AD:73:PHE:N	2.33	0.62
63:AH:121:ARG:CA	76:AV:62:TYR:OH	2.47	0.62
52:2:1863:A:C5'	64:AI:134:LEU:HD21	2.17	0.62
80:AZ:28:ILE:HD13	80:AZ:46:ARG:HH21	1.64	0.62
52:2:1575:A:H4'	52:2:1576:G:OP1	1.99	0.62
52:2:497:A:O2'	52:2:498:C:O5'	2.18	0.62
51:1:103:LYS:NZ	52:2:889:A:OP2	2.31	0.62
1:A:719:U:OP2	12:L:41:ARG:NH2	2.33	0.62
52:2:1611:U:H3	60:AD:38:LYS:N	1.97	0.62
61:AE:148:LYS:O	61:AE:151:ARG:NH2	2.29	0.62
63:AH:38:THR:HB	63:AH:42:GLY:HA2	1.81	0.62
66:AK:38:ASN:ND2	66:AK:75:VAL:N	2.48	0.62
70:AO:81:ARG:NH1	70:AO:130:LYS:O	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:32:LYS:HG3	70:AO:79:TYR:CZ	2.35	0.62
2:B:1393:C:H2'	2:B:1394:G:H8	1.65	0.62
5:E:62:U:C5'	18:R:61:ALA:HB2	2.29	0.62
6:F:72:A:H8	6:F:72:A:C5'	2.13	0.62
1:A:1355:C:HO2'	17:Q:87:CYS:HG	1.47	0.62
52:2:1092:A:O2'	52:2:1093:C:O5'	2.16	0.62
52:2:198:C:O2'	52:2:199:C:OP1	2.18	0.62
52:2:377:A:O4'	55:5:49:ARG:HB3	1.99	0.62
54:4:30:LEU:HD22	54:4:38:ARG:HH22	1.65	0.62
57:7:146:ARG:HH11	57:7:177:LYS:HD3	1.65	0.62
57:7:42:LYS:HG3	57:7:58:SER:HB2	1.81	0.62
59:AC:42:LYS:O	59:AC:42:LYS:HG3	2.00	0.62
67:AL:73:LEU:HA	67:AL:76:GLU:HB2	1.81	0.62
15:O:64:VAL:HG22	15:O:106:LEU:HD21	1.80	0.62
1:A:113:C:OP1	15:O:147:ARG:NH1	2.33	0.62
18:R:181:ARG:HH11	52:2:972:A:C3'	2.13	0.62
26:Z:109:LEU:HD23	26:Z:130:ALA:HB1	1.82	0.62
52:2:1239:A:H2	52:2:1259:U:N3	1.96	0.61
54:4:190:TRP:CD1	54:4:196:GLN:O	2.52	0.61
58:8:32:ILE:HG21	58:8:39:VAL:HG13	1.82	0.61
1:A:1618:U:H5''	1:A:1619:C:H5	1.65	0.61
52:2:295:A:O2'	61:AE:52:LYS:O	2.16	0.61
65:AJ:6:VAL:HG23	65:AJ:29:PRO:CG	2.29	0.61
52:2:1529:U:C5	68:AM:136:HIS:ND1	2.69	0.61
1:A:1147:A:O2'	1:A:1150:A:N1	2.33	0.61
59:AC:84:ILE:HD13	67:AL:105:THR:HG23	1.81	0.61
66:AK:60:VAL:HG21	66:AK:118:TYR:CZ	2.36	0.61
2:B:1390:A:O2'	2:B:1391:U:OP1	2.18	0.61
10:J:144:TYR:O	10:J:147:GLN:N	2.29	0.61
52:2:1571:G:H5'	60:AD:85:ARG:NH2	2.15	0.61
52:2:1864:C:C1'	52:2:1864:C:C6	2.82	0.61
52:2:1865:G:P	68:AM:149:VAL:HG23	2.40	0.61
52:2:2001:U:H2'	52:2:2002:A:H8	1.65	0.61
52:2:376:U:OP1	55:5:31:ARG:HD3	2.00	0.61
52:2:39:A:P	56:6:3:ASN:HD21	2.23	0.61
52:2:733:U:N3	52:2:735:G:C8	2.68	0.61
59:AC:58:ARG:O	59:AC:200:ASN:ND2	2.33	0.61
70:AO:26:ARG:HD2	70:AO:148:LEU:HD12	1.82	0.61
6:F:12:C:H1'	6:F:73:A:C2	2.35	0.61
14:N:63:VAL:HG21	14:N:78:LEU:HD23	1.82	0.61
18:R:19:ARG:HG2	18:R:19:ARG:HH11	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:57:ASN:HA	70:AO:113:ARG:HG3	1.82	0.61
70:AO:37:TRP:HH2	70:AO:74:ASN:H	1.48	0.61
60:AD:127:ASN:ND2	78:AX:63:ARG:HH12	1.97	0.61
51:1:172:ASN:HB3	51:1:224:VAL:HG21	1.81	0.61
52:2:149:G:H1'	52:2:150:A:H5'	1.80	0.61
52:2:1875:A:C8	52:2:1875:A:P	2.94	0.61
52:2:1892:A:N3	52:2:2008:A:O2'	2.34	0.61
52:2:254:A:H61	52:2:954:A:H2	1.49	0.61
53:3:80:ARG:HA	53:3:85:PHE:CD2	2.34	0.61
57:7:148:GLY:HA3	57:7:177:LYS:HE3	1.82	0.61
1:A:327:G:H1'	15:O:93:LYS:HD2	1.83	0.61
64:AI:134:LEU:CB	68:AM:151:ARG:N	2.63	0.61
70:AO:113:ARG:NH1	70:AO:115:GLU:OE2	2.32	0.61
75:AT:15:SER:OG	75:AT:29:VAL:HB	2.01	0.61
75:AT:60:ASN:O	75:AT:89:LEU:HD11	2.00	0.61
58:8:27:ASN:HB2	58:8:42:GLN:HE22	1.63	0.61
1:A:493:A:H2'	1:A:494:A:H8	1.64	0.61
61:AE:53:ILE:HD11	61:AE:74:PRO:HB2	1.80	0.61
66:AK:37:VAL:CA	66:AK:40:VAL:O	2.47	0.61
74:AS:27:TRP:C	74:AS:29:ARG:H	1.86	0.61
52:2:165:G:H5'	53:3:89:ARG:NH1	2.16	0.61
52:2:1813:A:O2'	52:2:1814:A:OP1	2.19	0.61
52:2:1947:A:O3'	68:AM:26:LYS:NZ	2.21	0.61
52:2:1974:A:N3	52:2:1975:U:C5	2.68	0.61
56:6:34:GLY:O	56:6:109:GLN:NE2	2.32	0.61
57:7:216:GLY:HA2	57:7:236:SER:O	2.00	0.61
1:A:597:C:N3	1:A:608:G:N2	2.45	0.61
1:A:768:C:C4	26:Z:114:HIS:CE1	2.88	0.61
9:I:51:ARG:NH1	9:I:147:ARG:HG2	2.14	0.61
13:M:144:ARG:HG3	13:M:148:TYR:CD2	2.36	0.61
21:U:12:ARG:HD2	21:U:127:LEU:HD11	1.81	0.61
52:2:258:C:H2'	52:2:259:C:C6	2.36	0.61
52:2:439:G:N2	52:2:442:A:OP2	2.31	0.61
52:2:709:C:H2'	52:2:710:U:O5'	2.00	0.61
55:5:43:VAL:HG13	55:5:55:ILE:HG23	1.82	0.61
1:A:1495:G:N2	1:A:1498:A:OP2	2.27	0.61
1:A:454:U:H2'	1:A:455:G:H8	1.66	0.61
68:AM:75:PRO:HD2	68:AM:97:GLU:HB2	1.83	0.61
69:AN:4:LYS:NZ	69:AN:5:THR:HG23	2.16	0.61
26:Z:82:ILE:HD11	26:Z:119:CYS:SG	2.40	0.61
50:0:40:GLU:HG2	50:0:75:ASN:HD22	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1540:U:OP1	52:2:1860:G:O2'	2.11	0.61
52:2:1864:C:C2	64:AI:135:HIS:CD2	2.80	0.61
52:2:1998:U:OP1	66:AK:141:ARG:HD3	2.01	0.61
57:7:13:TRP:CE3	57:7:34:ARG:HD2	2.36	0.61
58:8:49:GLU:CG	58:8:50:HIS:H	2.14	0.61
60:AD:43:ASN:O	60:AD:47:PHE:N	2.34	0.61
71:AP:191:ALA:HB3	71:AP:194:PRO:HD2	1.83	0.61
74:AS:24:ASP:O	74:AS:28:LYS:CB	2.48	0.61
1:A:326:A:O2'	15:O:93:LYS:O	2.18	0.61
19:S:10:GLY:O	19:S:11:THR:HG22	2.00	0.61
50:0:30:TRP:CB	50:0:243:GLU:OE1	2.48	0.61
50:0:97:ARG:HB3	50:0:241:SER:OG	2.01	0.61
52:2:677:G:N1	52:2:1217:A:OP2	2.32	0.61
52:2:1528:G:H3'	68:AM:136:HIS:CD2	2.35	0.61
52:2:1976:U:O2'	52:2:1978:G:OP1	2.15	0.61
1:A:1375:G:O2'	1:A:1380:A:N1	2.30	0.61
1:A:452:C:H2'	1:A:453:G:H8	1.65	0.61
61:AE:51:LYS:NZ	61:AE:79:VAL:O	2.34	0.61
64:AI:89:ASP:HA	64:AI:122:TYR:CZ	2.36	0.61
10:J:142:GLU:OE2	10:J:142:GLU:HA	2.01	0.61
52:2:1529:U:C2	52:2:1530:G:C8	2.88	0.60
52:2:1584:A:C4	52:2:1585:U:H5'	2.36	0.60
52:2:1881:G:O2'	52:2:1955:G:OP1	2.18	0.60
52:2:315:A:N6	52:2:333:G:O2'	2.34	0.60
52:2:772:A:H2'	52:2:773:A:H8	1.64	0.60
55:5:36:THR:O	55:5:95:THR:HA	2.00	0.60
1:A:892:C:H5'	18:R:125:VAL:HG12	1.82	0.60
59:AC:236:ASP:HA	59:AC:239:PHE:CE2	2.36	0.60
67:AL:109:LEU:HB2	67:AL:116:VAL:HG22	1.83	0.60
52:2:1525:A:O5'	68:AM:144:GLY:N	2.34	0.60
70:AO:47:PHE:HE2	70:AO:49:GLN:HG2	1.66	0.60
51:1:188:ARG:HD3	51:1:215:PHE:CE2	2.36	0.60
52:2:1981:G:P	68:AM:37:VAL:HB	2.41	0.60
55:5:82:VAL:HG11	55:5:215:LEU:HD11	1.83	0.60
67:AL:84:HIS:HB3	67:AL:87:ALA:HB2	1.82	0.60
68:AM:40:ARG:HG3	68:AM:43:TYR:CE2	2.36	0.60
52:2:1878:U:N3	69:AN:63:MET:HG3	2.13	0.60
71:AP:179:LEU:HD23	71:AP:208:THR:HG22	1.81	0.60
2:B:1438:G:N2	2:B:1461:U:H3	1.97	0.60
11:K:88:GLU:OE1	11:K:174:HIS:NE2	2.33	0.60
12:L:84:GLU:HG2	12:L:114:MET:HG3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:93:LEU:HD11	25:Y:115:VAL:HG21	1.84	0.60
52:2:1864:C:H1'	68:AM:151:ARG:HE	1.65	0.60
52:2:1995:G:O2'	66:AK:145:THR:OG1	2.18	0.60
54:4:190:TRP:NE1	54:4:196:GLN:HB2	2.16	0.60
57:7:64:HIS:HA	57:7:90:ARG:NH2	2.16	0.60
58:8:21:CYS:CA	58:8:28:GLN:HG3	2.32	0.60
63:AH:24:VAL:HG21	63:AH:86:LEU:HD13	1.83	0.60
68:AM:76:ALA:HB2	68:AM:97:GLU:OE2	2.02	0.60
70:AO:58:CYS:HA	70:AO:113:ARG:NE	2.16	0.60
10:J:206:ILE:HA	10:J:209:ARG:NH1	2.15	0.60
14:N:158:GLU:HA	14:N:161:LYS:HB2	1.83	0.60
19:S:123:LYS:O	19:S:124:ALA:HB3	2.00	0.60
22:V:78:LYS:HB3	22:V:84:THR:OG1	2.00	0.60
52:2:1996:U:O2'	52:2:1997:C:OP1	2.18	0.60
1:A:173:G:N2	1:A:286:U:O2	2.34	0.60
1:A:814:C:H5	1:A:830:G:H1	1.47	0.60
52:2:1597:G:C5	64:AI:61:PRO:HB2	2.36	0.60
66:AK:93:LYS:CG	66:AK:122:LEU:HD11	2.31	0.60
66:AK:21:ALA:HB2	66:AK:78:GLY:HA3	1.83	0.60
70:AO:23:ILE:HG22	70:AO:24:GLY:H	1.66	0.60
2:B:1045:C:O2'	11:K:25:CYS:SG	2.43	0.60
2:B:1228:U:OP2	10:J:3:ARG:NH1	2.34	0.60
52:2:115:C:OP1	52:2:377:A:O2'	2.19	0.60
52:2:229:A:O2'	52:2:230:G:H8	1.83	0.60
52:2:22:A:OP1	56:6:17:PRO:HG3	2.01	0.60
52:2:526:G:H2'	52:2:527:A:H8	1.65	0.60
54:4:33:SER:HB2	54:4:39:GLN:HE21	1.66	0.60
55:5:76:VAL:CG1	55:5:105:ASP:HB3	2.32	0.60
57:7:159:SER:HB3	57:7:161:SER:HB3	1.83	0.60
1:A:50:A:N3	1:A:862:U:O2'	2.34	0.60
60:AD:49:PHE:HE2	60:AD:114:MET:HG3	1.66	0.60
52:2:1549:C:N4	66:AK:147:SER:OG	2.30	0.60
71:AP:118:ASP:HA	71:AP:151:ARG:NH2	2.17	0.60
2:B:348:C:OP2	15:O:77:LYS:NZ	2.34	0.60
17:Q:28:LYS:HZ2	19:S:143:VAL:HG11	1.67	0.60
25:Y:50:PRO:HD3	25:Y:68:VAL:HG22	1.83	0.60
50:0:242:VAL:CG1	63:AH:13:ASN:HD22	2.15	0.60
52:2:1103:G:O2'	52:2:1104:A:C8	2.54	0.60
55:5:67:TRP:HD1	55:5:72:ILE:HD12	1.66	0.60
64:AI:132:PRO:O	64:AI:134:LEU:HD12	2.01	0.60
18:R:179:ARG:NH2	52:2:963:U:OP2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:183:C:O2'	52:2:184:C:O5'	2.19	0.60
52:2:1529:U:H3	52:2:1869:A:H61	1.49	0.60
52:2:709:C:HO2'	52:2:710:U:P	2.24	0.60
18:R:181:ARG:NH1	52:2:972:A:C2'	2.65	0.60
1:A:1252:C:N4	1:A:1364:A:OP2	2.31	0.60
1:A:497:A:OP1	1:A:576:G:N2	2.35	0.60
64:AI:132:PRO:O	64:AI:134:LEU:HD11	2.02	0.60
69:AN:66:GLY:HA3	69:AN:71:ARG:HH21	1.66	0.60
69:AN:9:PHE:H	69:AN:12:TRP:HB2	1.65	0.60
71:AP:152:GLY:N	71:AP:163:THR:O	2.34	0.60
76:AV:101:THR:HG22	76:AV:102:LYS:H	1.65	0.60
78:AX:186:LYS:C	78:AX:187:ILE:HD12	2.21	0.60
2:B:1397:C:H1'	13:M:185:ARG:NH2	2.17	0.60
16:P:88:VAL:O	16:P:92:MET:HG2	2.02	0.60
17:Q:7:ARG:HB2	17:Q:9:TYR:CE2	2.37	0.60
18:R:115:ILE:HG12	18:R:119:VAL:HG13	1.82	0.60
50:0:47:THR:HG21	50:0:67:PHE:HE1	1.67	0.60
52:2:1864:C:H1'	68:AM:151:ARG:NH2	2.17	0.60
52:2:1933:A:H4'	52:2:1934:C:OP1	2.02	0.60
52:2:1956:G:C2	52:2:1985:A:N7	2.69	0.60
52:2:326:U:O2'	52:2:327:U:OP2	2.20	0.60
52:2:690:G:H1	52:2:759:U:H3	1.48	0.60
1:A:113:C:P	15:O:147:ARG:HD3	2.42	0.60
1:A:55:A:H5''	15:O:157:LYS:HD2	1.83	0.60
64:AI:135:HIS:CB	68:AM:150:SER:O	2.50	0.60
9:I:5:LEU:CG	9:I:8:ILE:HG12	2.32	0.60
12:L:28:LYS:HB2	15:O:197:ARG:HD3	1.84	0.60
52:2:1948:C:H5'	68:AM:26:LYS:NZ	2.17	0.60
52:2:339:U:O2'	52:2:340:G:O5'	2.19	0.60
52:2:523:A:OP1	56:6:129:GLN:HG3	2.02	0.60
52:2:744:G:O5'	52:2:744:G:H8	1.84	0.60
52:2:71:G:H1	52:2:78:C:H5	1.49	0.60
57:7:190:LEU:HB3	57:7:221:TRP:CZ2	2.36	0.60
60:AD:99:TRP:NE1	78:AX:22:GLU:HG2	2.17	0.60
2:B:1327:U:H2'	2:B:1328:U:H2'	1.83	0.60
2:B:1393:C:H2'	2:B:1394:G:C8	2.37	0.60
2:B:404:G:N1	2:B:407:A:OP2	2.33	0.60
52:2:10:G:O2'	71:AP:97:GLN:OE1	2.19	0.60
52:2:715:G:N2	52:2:740:C:H1'	2.17	0.60
54:4:190:TRP:C	54:4:192:PRO:CD	2.70	0.60
57:7:265:SER:HG	57:7:267:THR:HG1	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:449:A:N3	1:A:687:C:O2'	2.34	0.60
71:AP:43:TRP:CZ2	71:AP:73:GLU:HG2	2.37	0.60
77:AW:55:VAL:O	77:AW:64:LEU:N	2.33	0.60
9:I:89:VAL:HG22	9:I:146:LEU:HB2	1.82	0.60
13:M:127:PRO:CB	13:M:129:ASN:ND2	2.65	0.60
17:Q:119:ARG:O	17:Q:121:HIS:N	2.31	0.60
21:U:111:MET:SD	21:U:134:HIS:ND1	2.71	0.60
50:0:65:ARG:HG2	63:AH:43:ARG:HG3	1.83	0.59
52:2:1937:C:O2'	52:2:1938:G:O4'	2.19	0.59
52:2:2027:A:OP1	69:AN:72:LYS:NZ	2.34	0.59
52:2:308:C:H4'	52:2:309:G:N7	2.17	0.59
54:4:117:ARG:O	54:4:120:THR:HG22	2.02	0.59
57:7:262:ASP:OD1	57:7:263:LEU:N	2.33	0.59
52:2:1103:G:O4'	62:AG:69:ARG:NH2	2.34	0.59
69:AN:149:PHE:CD2	69:AN:150:ARG:HG3	2.37	0.59
70:AO:47:PHE:CE2	70:AO:49:GLN:HG2	2.37	0.59
72:AQ:35:GLN:HG2	72:AQ:36:LEU:HD23	1.84	0.59
77:AW:39:PRO:HD3	77:AW:78:CYS:HB3	1.83	0.59
13:M:28:ASP:O	13:M:29:LEU:HB2	2.01	0.59
1:A:1242:U:OP1	14:N:17:ARG:NH1	2.34	0.59
50:0:102:GLN:HE21	50:0:103:PHE:H	1.50	0.59
52:2:1119:U:H4'	52:2:1120:U:OP2	2.01	0.59
52:2:1974:A:H2	52:2:2014:U:H1'	1.67	0.59
57:7:255:GLU:HG3	57:7:256:LYS:HG3	1.85	0.59
1:A:127:G:N2	1:A:139:C:O2	2.35	0.59
52:2:1611:U:C4	60:AD:41:ARG:HD3	2.36	0.59
63:AH:41:SER:OG	63:AH:42:GLY:N	2.36	0.59
70:AO:32:LYS:HE2	70:AO:145:GLY:HA3	1.84	0.59
52:2:133:G:H2'	52:2:134:G:O4'	2.02	0.59
52:2:1521:G:O2'	52:2:1522:U:O5'	2.20	0.59
52:2:1590:A:H2'	52:2:1591:G:C8	2.36	0.59
64:AI:94:PRO:HA	64:AI:119:ILE:HD13	1.84	0.59
1:A:19:G:H21	3:C:127:G:N2	2.00	0.59
2:B:1377:C:N3	6:F:7:A:N6	2.50	0.59
7:G:34:A:H2	7:G:171:U:H5'	1.67	0.59
9:I:8:ILE:N	9:I:8:ILE:HD12	2.17	0.59
52:2:1513:C:N4	52:2:1639:U:H5''	2.16	0.59
52:2:1803:G:H5''	67:AL:60:ARG:NH1	2.18	0.59
54:4:74:VAL:O	54:4:78:GLN:N	2.36	0.59
1:A:1599:G:O6	15:O:2:GLY:N	89.23	0.59
1:A:720:A:N6	1:A:732:A:N1	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:AQ:30:GLU:O	72:AQ:34:SER:OG	2.11	0.59
80:AZ:24:VAL:HG12	80:AZ:48:MET:HG3	1.83	0.59
10:J:184:LEU:HB3	10:J:190:LEU:HD13	1.83	0.59
11:K:115:GLU:OE1	68:AM:15:ARG:HD3	1.94	0.59
13:M:29:LEU:HB2	13:M:54:VAL:O	2.02	0.59
52:2:1849:A:H4'	52:2:1850:U:OP1	2.03	0.59
52:2:554:U:O2'	52:2:555:C:OP1	2.17	0.59
57:7:6:HIS:CD2	57:7:304:ARG:HG2	2.37	0.59
1:A:1184:G:N2	1:A:1187:A:OP2	2.29	0.59
1:A:318:G:H21	1:A:320:G:H22	1.51	0.59
1:A:712:G:H2'	1:A:713:A:O4'	2.02	0.59
1:A:745:U:OP1	1:A:831:C:O2'	2.20	0.59
52:2:1513:C:H2'	66:AK:149:ARG:HH22	1.67	0.59
11:K:117:ILE:CB	68:AM:15:ARG:NH2	2.65	0.59
60:AD:96:GLN:CD	78:AX:27:GLU:HG3	2.22	0.59
5:E:69:A:H2'	5:E:70:A:C8	2.37	0.59
1:A:367:A:H2	12:L:27:VAL:N	2.00	0.59
52:2:2164:U:O2'	52:2:2165:A:OP2	2.17	0.59
52:2:230:G:OP1	52:2:281:A:O2'	2.19	0.59
52:2:500:A:C6	52:2:502:A:C2	2.90	0.59
52:2:78:C:O2'	52:2:79:A:O5'	2.10	0.59
54:4:35:LYS:HG2	54:4:38:ARG:NE	2.17	0.59
62:AG:141:TYR:C	62:AG:142:GLU:HG2	2.23	0.59
66:AK:60:VAL:HG11	66:AK:118:TYR:CE1	2.37	0.59
73:AR:43:ASN:H	73:AR:53:THR:CB	2.12	0.59
11:K:26:ILE:HD11	11:K:86:LEU:HD21	1.85	0.59
19:S:92:ARG:O	19:S:92:ARG:HG2	2.03	0.59
52:2:1288:G:H2'	52:2:1289:A:C8	2.38	0.59
52:2:315:A:H3'	52:2:316:A:C5'	2.32	0.59
54:4:126:GLU:HG2	54:4:141:ARG:HH22	1.68	0.59
55:5:72:ILE:HD11	55:5:112:TRP:CH2	2.38	0.59
57:7:135:ASN:OD1	57:7:139:ASP:N	2.31	0.59
58:8:32:ILE:HG23	58:8:41:ARG:HB3	1.84	0.59
1:A:811:G:H2'	1:A:812:A:H8	1.67	0.59
67:AL:109:LEU:HB3	67:AL:116:VAL:HG22	1.85	0.59
67:AL:109:LEU:HD13	67:AL:116:VAL:HA	1.85	0.59
15:O:85:LYS:HG3	15:O:86:THR:HG23	1.83	0.59
52:2:569:U:N3	52:2:572:A:OP2	2.21	0.59
57:7:3:TYR:HB2	57:7:306:TRP:CE3	2.37	0.59
52:2:1804:C:P	67:AL:60:ARG:HH22	2.25	0.59
70:AO:117:THR:O	70:AO:120:SER:OG	2.13	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AP:112:ASN:ND2	71:AP:139:MET:HA	2.18	0.59
3:C:219:U:H3	3:C:226:A:H61	1.51	0.59
2:B:536:G:H5'	16:P:86:LYS:HB2	1.84	0.59
52:2:1876:U:N3	52:2:1880:A:H4'	2.18	0.59
52:2:39:A:H5'	56:6:3:ASN:ND2	2.17	0.59
52:2:526:G:N1	52:2:527:A:C5	2.70	0.59
18:R:181:ARG:HH11	52:2:972:A:C2'	2.14	0.59
58:8:21:CYS:CA	58:8:28:GLN:CG	2.81	0.59
52:2:1688:C:H4'	58:8:56:LEU:HD13	1.85	0.59
1:A:306:G:OP2	15:O:44:ARG:NH2	2.33	0.59
1:A:571:A:N6	1:A:634:G:O2'	2.36	0.59
66:AK:89:GLN:HB3	66:AK:122:LEU:HD21	1.83	0.59
65:AJ:68:ARG:HD2	71:AP:240:TRP:CD2	2.38	0.59
10:J:45:GLU:O	10:J:141:LYS:NZ	2.33	0.59
12:L:28:LYS:HE2	12:L:30:PHE:HE1	1.67	0.59
24:X:58:GLY:C	24:X:60:PHE:N	2.45	0.59
52:2:1101:A:H2'	52:2:1102:G:O4'	2.02	0.59
52:2:1663:G:N2	52:2:1671:C:O2	2.35	0.59
52:2:2145:A:OP1	74:AS:37:LYS:CE	2.50	0.59
52:2:114:U:O2'	52:2:377:A:O2'	2.20	0.59
52:2:750:U:C1'	52:2:751:G:C8	2.86	0.59
58:8:21:CYS:HA	58:8:28:GLN:HG2	1.84	0.59
69:AN:56:GLU:HB3	69:AN:60:ASN:HD21	1.68	0.59
51:1:143:ARG:NH2	52:2:339:U:C2	2.71	0.58
18:R:181:ARG:NH1	52:2:972:A:H2'	2.18	0.58
56:6:158:ALA:HB3	56:6:161:SER:HB2	1.83	0.58
1:A:115:U:H4'	15:O:4:PHE:CD2	2.38	0.58
61:AE:68:TYR:CD1	61:AE:128:PRO:HG2	2.38	0.58
52:2:1863:A:O3'	64:AI:134:LEU:HD22	2.02	0.58
65:AJ:68:ARG:HD2	71:AP:240:TRP:CE3	2.38	0.58
68:AM:125:ARG:NH1	68:AM:134:GLY:O	2.36	0.58
68:AM:25:ARG:O	68:AM:54:GLU:O	2.20	0.58
68:AM:60:LEU:H	68:AM:65:LEU:N	2.00	0.58
69:AN:108:ARG:HH22	80:AZ:22:ALA:HB2	1.68	0.58
69:AN:53:PRO:HG2	69:AN:56:GLU:HG3	1.85	0.58
75:AT:17:PHE:HZ	75:AT:26:LYS:HD3	1.68	0.58
3:C:174:A:C2	24:X:110:HIS:HB3	2.38	0.58
52:2:1525:A:C8	52:2:1526:G:C8	2.91	0.58
52:2:1586:U:H2'	52:2:1587:G:C8	2.38	0.58
52:2:643:A:OP1	56:6:36:ARG:NH1	2.34	0.58
52:2:719:C:C2	52:2:735:G:N2	2.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:23:VAL:HB	54:4:50:ARG:CZ	2.32	0.58
71:AP:65:PHE:CD2	71:AP:148:PRO:HG3	2.38	0.58
8:H:9:C:O2'	8:H:10:C:OP2	2.21	0.58
13:M:57:GLU:HG3	13:M:58:GLN:HG3	1.84	0.58
51:1:4:LYS:O	51:1:27:ARG:HD3	2.02	0.58
52:2:1963:G:H4'	68:AM:89:ARG:HG2	1.85	0.58
72:AQ:32:VAL:HG22	72:AQ:36:LEU:HD12	1.86	0.58
52:2:2201:U:H2'	76:AV:40:ARG:HH11	1.68	0.58
3:C:128:U:O4	3:C:196:C:N4	2.32	0.58
2:B:1275:G:O2'	7:G:52:A:N1	2.36	0.58
20:T:34:ALA:HA	20:T:39:PHE:HB2	1.84	0.58
51:1:174:GLN:O	51:1:192:ILE:HB	2.02	0.58
52:2:1557:A:H5''	52:2:1558:C:C5	2.39	0.58
52:2:2203:U:H3'	76:AV:102:LYS:HB2	1.84	0.58
54:4:75:ARG:NH2	54:4:131:ASP:OD1	2.37	0.58
55:5:72:ILE:HG22	55:5:73:ALA:H	1.67	0.58
60:AD:64:TRP:HB2	60:AD:75:VAL:O	2.03	0.58
78:AX:134:GLU:HG2	78:AX:152:ARG:HG2	1.85	0.58
2:B:1101:G:O6	2:B:1102:A:N6	2.37	0.58
10:J:142:GLU:O	10:J:145:VAL:HG23	2.03	0.58
12:L:16:HIS:ND1	12:L:23:GLN:OE1	2.36	0.58
50:0:97:ARG:HG2	50:0:243:GLU:CG	2.34	0.58
52:2:2024:C:O2'	52:2:2025:C:OP1	2.18	0.58
52:2:935:U:H3	61:AE:12:GLN:HB2	1.69	0.58
57:7:158:PHE:CD1	57:7:167:VAL:HG11	2.38	0.58
1:A:210:G:H4'	1:A:211:U:H5''	1.86	0.58
66:AK:12:VAL:O	66:AK:27:VAL:HB	2.04	0.58
54:4:196:GLN:OE1	77:AW:13:VAL:HG22	2.04	0.58
2:B:1400:A:OP1	14:N:141:LYS:NZ	2.29	0.58
16:P:124:ARG:HB2	16:P:141:CYS:O	2.03	0.58
26:Z:72:THR:HG22	26:Z:108:LYS:HB3	1.84	0.58
51:1:71:ASN:ND2	51:1:162:LYS:HA	2.17	0.58
52:2:558:U:H1'	56:6:130:GLN:HE22	1.68	0.58
52:2:64:A:H5'	53:3:180:GLN:NE2	2.17	0.58
55:5:26:LYS:O	55:5:29:LEU:CD1	2.52	0.58
61:AE:16:THR:O	61:AE:19:HIS:NE2	2.36	0.58
66:AK:93:LYS:CG	66:AK:122:LEU:CD1	2.80	0.58
76:AV:33:PRO:HG2	76:AV:36:LYS:HB2	1.84	0.58
78:AX:29:ALA:C	78:AX:31:GLU:H	2.05	0.58
69:AN:190:ARG:NH2	80:AZ:78:GLU:HG2	2.19	0.58
52:2:1569:C:N3	52:2:1570:C:N4	2.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:AM:60:LEU:N	68:AM:65:LEU:HB2	2.19	0.58
63:AH:121:ARG:CA	76:AV:62:TYR:CE2	2.86	0.58
2:B:994:U:OP2	19:S:9:SER:OG	2.20	0.58
52:2:1556:A:O2'	52:2:1557:A:O5'	2.20	0.58
52:2:1956:G:C4	52:2:1985:A:N6	2.64	0.58
52:2:591:A:H4'	52:2:592:C:O5'	2.02	0.58
54:4:12:LYS:HZ2	54:4:49:VAL:HG22	1.68	0.58
1:A:1242:U:H5'	14:N:54:LYS:HB2	1.84	0.58
1:A:1768:G:H2'	1:A:1769:A:H8	1.68	0.58
69:AN:54:ILE:HA	69:AN:57:ARG:HB3	1.86	0.58
52:2:2018:A:OP1	70:AO:107:LYS:NZ	2.36	0.58
70:AO:49:GLN:HB2	70:AO:70:ARG:NH2	2.18	0.58
52:2:1645:G:H5'	71:AP:129:LYS:HE3	1.85	0.58
9:I:5:LEU:O	9:I:8:ILE:HG12	2.03	0.58
24:X:8:SER:O	24:X:10:ARG:N	2.35	0.58
52:2:1575:A:H1'	52:2:1576:G:C8	2.39	0.58
1:A:178:G:C4	1:A:281:G:N2	2.72	0.58
60:AD:43:ASN:OD1	60:AD:46:ARG:NH1	2.37	0.58
66:AK:89:GLN:CB	66:AK:122:LEU:HD21	2.29	0.58
68:AM:123:GLY:O	68:AM:127:ALA:N	2.35	0.58
58:8:45:ARG:HH12	72:AQ:77:PHE:HB2	1.69	0.58
72:AQ:58:LEU:HD12	72:AQ:79:LEU:HD12	1.86	0.58
2:B:1023:C:O2'	2:B:1108:C:O2	2.19	0.58
9:I:5:LEU:O	9:I:6:THR:C	2.41	0.58
9:I:65:SER:OG	9:I:96:ASP:OD2	2.21	0.58
24:X:57:ARG:HG3	24:X:100:ASN:O	2.04	0.58
52:2:1558:C:H3'	52:2:1559:U:H5''	1.84	0.58
52:2:1864:C:H1'	68:AM:151:ARG:NE	2.19	0.58
52:2:1526:G:N1	52:2:1872:A:C2	2.72	0.58
52:2:1974:A:C5	52:2:1975:U:O4	2.56	0.58
52:2:1977:G:O2'	52:2:1979:U:OP1	2.22	0.58
52:2:1974:A:C2	52:2:2014:U:H1'	2.38	0.58
52:2:2035:C:H2'	52:2:2036:C:H6	1.68	0.58
52:2:38:C:O2'	52:2:39:A:OP2	2.17	0.58
52:2:717:C:N3	52:2:739:A:H2	2.01	0.58
55:5:211:TYR:O	55:5:215:LEU:HB2	2.04	0.58
56:6:126:VAL:O	56:6:130:GLN:HG2	2.04	0.58
57:7:41:TRP:CZ3	57:7:57:PRO:HG3	2.39	0.58
59:AC:77:ARG:O	67:AL:104:LYS:HG3	2.04	0.58
69:AN:107:PRO:HA	69:AN:179:LYS:HG3	1.85	0.58
69:AN:56:GLU:HB3	69:AN:60:ASN:ND2	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:805:A:H1'	9:I:147:ARG:HD2	1.86	0.58
18:R:8:ALA:HB2	18:R:24:LEU:HD11	1.86	0.58
18:R:62:ARG:CG	18:R:62:ARG:HH11	2.16	0.58
51:1:97:ARG:HG3	51:1:99:MET:HG3	1.85	0.57
52:2:1165:G:O2'	52:2:1166:C:O4'	2.21	0.57
52:2:1524:G:H3'	68:AM:143:HIS:N	2.18	0.57
52:2:1535:U:O4'	64:AI:133:VAL:CG1	2.39	0.57
52:2:1568:U:H5'	52:2:1600:U:H1'	1.86	0.57
52:2:1875:A:C8	52:2:1875:A:OP2	2.56	0.57
1:A:1261:U:H4'	1:A:1262:G:H5''	1.86	0.57
52:2:1863:A:H4'	64:AI:134:LEU:HD23	0.60	0.57
52:2:1864:C:N3	64:AI:135:HIS:HA	2.16	0.57
52:2:1864:C:H5''	68:AM:149:VAL:C	2.24	0.57
59:AC:92:GLU:OE2	73:AR:84:ARG:HB3	2.05	0.57
6:F:17:U:O3'	13:M:136:ARG:NH1	2.37	0.57
51:1:142:HIS:ND1	52:2:121:C:H4'	2.19	0.57
57:7:190:LEU:HB3	57:7:221:TRP:CE2	2.39	0.57
58:8:40:CYS:SG	58:8:45:ARG:HD3	2.44	0.57
64:AI:102:ALA:HB1	64:AI:109:PHE:O	2.04	0.57
59:AC:237:LEU:HD12	67:AL:82:MET:HG3	1.86	0.57
71:AP:237:PRO:HG3	71:AP:240:TRP:CH2	2.39	0.57
80:AZ:42:GLN:NE2	80:AZ:84:ARG:HB2	2.14	0.57
5:E:125:G:H5''	5:E:126:A:H3'	1.86	0.57
52:2:1123:G:H3'	52:2:1183:G:H22	1.68	0.57
52:2:628:A:N1	78:AX:144:GLN:CD	2.58	0.57
52:2:707:U:H3	52:2:744:G:H22	1.51	0.57
57:7:159:SER:CB	57:7:166:ILE:HG13	2.35	0.57
57:7:293:THR:HG23	57:7:305:VAL:HG13	1.86	0.57
1:A:136:G:H2'	1:A:137:G:H8	1.69	0.57
1:A:382:A:N6	1:A:408:G:N3	2.52	0.57
64:AI:113:GLU:OE2	64:AI:126:PHE:HB3	2.04	0.57
65:AJ:41:MET:HE1	65:AJ:69:LEU:HD11	1.86	0.57
66:AK:99:PHE:HA	66:AK:103:HIS:HB2	1.84	0.57
60:AD:126:PRO:HA	78:AX:66:ARG:CZ	2.34	0.57
2:B:1093:U:H3	2:B:1173:A:N6	2.02	0.57
2:B:1425:G:H2'	2:B:1426:G:H8	1.68	0.57
52:2:46:U:HO2'	52:2:47:A:P	2.26	0.57
52:2:724:A:H4'	52:2:725:U:OP1	2.04	0.57
55:5:174:ALA:O	55:5:178:GLN:HG3	2.03	0.57
1:A:350:C:H2'	1:A:351:U:H6	1.69	0.57
67:AL:16:VAL:O	67:AL:20:TYR:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:4:LYS:HZ2	69:AN:5:THR:HG23	1.68	0.57
52:2:1634:C:O2'	72:AQ:65:THR:HG22	2.04	0.57
21:U:89:ARG:NE	21:U:123:GLU:OE2	2.35	0.57
52:2:199:C:O2'	52:2:200:A:N3	2.33	0.57
1:A:126:G:N2	1:A:140:U:O2	2.37	0.57
1:A:1269:G:O2'	1:A:1271:G:OP1	2.13	0.57
1:A:1590:G:O2'	1:A:1592:G:OP2	2.22	0.57
68:AM:99:LEU:HB3	68:AM:104:VAL:HG22	1.87	0.57
69:AN:38:THR:OG1	69:AN:56:GLU:OE2	2.11	0.57
74:AS:70:VAL:HG12	74:AS:71:ARG:O	2.05	0.57
51:1:9:LEU:HD11	56:6:4:TYR:CE2	2.40	0.57
52:2:1382:C:N4	52:2:1383:G:O6	2.37	0.57
52:2:1874:A:H2'	52:2:1875:A:C4	2.40	0.57
52:2:1952:C:H4'	52:2:1953:U:O5'	2.05	0.57
52:2:2031:C:P	69:AN:46:ARG:HH12	2.27	0.57
57:7:298:HIS:HE1	57:7:304:ARG:HE	1.52	0.57
52:2:1553:G:H3'	58:8:31:LEU:HG	1.85	0.57
1:A:1119:C:H2'	1:A:1120:C:H6	1.70	0.57
52:2:1673:U:OP1	59:AC:138:ARG:NH2	2.37	0.57
66:AK:137:ARG:HG3	66:AK:143:ARG:HD3	1.86	0.57
68:AM:151:ARG:HD3	68:AM:153:LYS:H	1.69	0.57
1:A:1025:G:OP1	9:I:16:ARG:NE	2.36	0.57
10:J:53:VAL:HG12	10:J:134:ILE:HG13	1.87	0.57
12:L:177:VAL:CG2	26:Z:98:VAL:CB	2.74	0.57
13:M:140:PRO:HD3	17:Q:169:VAL:HG12	1.87	0.57
50:0:23:GLU:OE1	50:0:23:GLU:N	2.38	0.57
52:2:1954:U:O4	68:AM:26:LYS:HG3	2.05	0.57
53:3:44:SER:O	53:3:45:GLU:HB3	2.05	0.57
54:4:190:TRP:HE1	54:4:196:GLN:HB3	1.69	0.57
55:5:9:HIS:O	55:5:9:HIS:CG	2.57	0.57
57:7:105:LYS:O	57:7:106:HIS:ND1	2.38	0.57
60:AD:68:LEU:C	60:AD:72:THR:HG22	2.23	0.57
62:AG:67:THR:HG22	62:AG:69:ARG:HG2	1.86	0.57
64:AI:64:LEU:HA	64:AI:67:LEU:HD12	1.85	0.57
52:2:1877:G:O2'	69:AN:155:MET:SD	2.52	0.57
74:AS:61:GLN:CB	74:AS:62:PRO:CD	2.83	0.57
78:AX:135:VAL:HG22	78:AX:185:VAL:HG13	1.87	0.57
2:B:1116:A:H2'	2:B:1116:A:N3	2.19	0.57
6:F:72:A:H5'	6:F:72:A:C8	2.38	0.57
9:I:188:ARG:CG	9:I:188:ARG:HH11	2.18	0.57
15:O:59:PHE:HZ	15:O:148:ILE:HD12	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:A:OP1	24:X:121:ARG:NH1	2.38	0.57
52:2:1524:G:OP2	68:AM:142:ARG:HB2	2.04	0.57
52:2:1595:G:H1'	64:AI:86:HIS:CD2	2.39	0.57
52:2:1789:A:N6	52:2:1815:A:N7	2.53	0.57
52:2:1957:G:N2	52:2:1983:G:H22	2.02	0.57
52:2:68:A:O2'	52:2:69:C:OP2	2.23	0.57
54:4:106:PRO:O	54:4:107:THR:OG1	2.18	0.57
54:4:79:ARG:HH21	54:4:135:PRO:HG3	1.70	0.57
52:2:1113:G:OP1	62:AG:3:ARG:NH1	2.36	0.57
69:AN:41:ARG:HD2	69:AN:44:LYS:HE3	1.87	0.57
78:AX:73:GLN:HG2	78:AX:83:LEU:HD12	1.87	0.57
4:D:13:C:OP2	4:D:68:C:O2'	2.22	0.57
13:M:137:VAL:HG21	17:Q:168:PHE:HB3	1.86	0.57
51:1:159:TYR:OH	51:1:164:LYS:HG3	2.04	0.57
52:2:1286:A:H62	52:2:1433:A:N6	2.03	0.57
52:2:1931:A:H3'	72:AQ:56:ARG:HH21	1.70	0.57
52:2:1961:G:O6	52:2:1981:G:N1	2.37	0.57
55:5:61:ASP:OD1	55:5:62:THR:N	2.38	0.57
57:7:7:LEU:N	57:7:303:ILE:O	2.38	0.57
1:A:425:G:C8	1:A:1557:A:H1'	2.40	0.57
70:AO:85:VAL:HA	70:AO:135:LEU:HD11	1.87	0.57
74:AS:27:TRP:HA	74:AS:30:ALA:H	1.70	0.57
2:B:909:A:HO2'	2:B:910:A:H8	1.53	0.57
2:B:972:A:H2'	2:B:973:G:H8	1.70	0.57
13:M:146:VAL:HG13	17:Q:157:ARG:HG3	1.86	0.57
14:N:150:LYS:HA	14:N:153:LYS:HB3	1.87	0.57
1:A:1579:U:H5''	18:R:24:LEU:HD12	1.86	0.57
52:2:1123:G:H3'	52:2:1183:G:N2	2.20	0.57
52:2:1413:A:H4'	62:AG:10:GLY:HA2	1.86	0.57
52:2:1589:C:H2'	52:2:1590:A:C8	2.39	0.57
52:2:1698:A:N1	52:2:1701:A:C2	2.73	0.57
52:2:1864:C:O4'	68:AM:150:SER:C	2.43	0.57
55:5:47:ARG:O	55:5:47:ARG:HG3	2.02	0.57
1:A:593:U:O4	1:A:594:G:N1	2.38	0.57
64:AI:84:LYS:HZ2	64:AI:109:PHE:HA	1.68	0.57
68:AM:60:LEU:N	68:AM:65:LEU:HB3	2.20	0.57
74:AS:18:ARG:HA	74:AS:21:ARG:HH21	1.69	0.57
75:AT:116:GLU:HB3	75:AT:120:ARG:NH1	2.19	0.57
52:2:83:A:H5'	75:AT:129:LYS:HE3	1.86	0.57
6:F:11:G:C5'	6:F:73:A:N6	2.68	0.57
10:J:144:TYR:O	10:J:145:VAL:C	2.41	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:48:ALA:O	15:O:53:TYR:N	2.37	0.57
19:S:106:LYS:O	19:S:110:HIS:ND1	2.29	0.57
21:U:81:ILE:HD11	21:U:116:ILE:CG2	2.35	0.57
24:X:67:VAL:HA	24:X:79:ILE:HA	1.86	0.57
52:2:1145:A:N1	52:2:1158:U:O2'	2.29	0.56
52:2:1936:C:H42	70:AO:87:ARG:NE	2.03	0.56
52:2:1922:A:O2'	52:2:1966:U:H5'	2.05	0.56
52:2:1974:A:C2	52:2:1975:U:O4	2.58	0.56
52:2:954:A:H2'	52:2:955:A:C8	2.40	0.56
1:A:1502:U:H2'	1:A:1503:A:H8	1.70	0.56
1:A:181:G:H22	1:A:276:C:H6	1.50	0.56
67:AL:94:ALA:HB3	67:AL:97:SER:HB3	1.86	0.56
68:AM:40:ARG:O	68:AM:43:TYR:HB2	2.05	0.56
69:AN:24:LEU:HD23	69:AN:132:ARG:HD2	1.87	0.56
80:AZ:57:ASN:OD1	80:AZ:60:ILE:CD1	2.47	0.56
2:B:1388:U:O2'	2:B:1389:U:OP1	2.18	0.56
9:I:62:ILE:HG23	9:I:148:GLY:CA	2.35	0.56
15:O:2:GLY:N	15:O:5:MET:CE	2.67	0.56
1:A:514:C:O3'	17:Q:70:LYS:NZ	2.37	0.56
58:8:22:CYS:HB2	58:8:42:GLN:CD	2.26	0.56
52:2:1595:G:N3	64:AI:86:HIS:HD2	2.03	0.56
72:AQ:53:LEU:HB3	72:AQ:54:PRO:HD2	1.87	0.56
2:B:456:G:O2'	2:B:494:G:O6	2.17	0.56
1:A:531:C:H1'	17:Q:132:PRO:HB3	1.87	0.56
19:S:43:VAL:HG21	19:S:97:ARG:HH21	1.69	0.56
52:2:113:A:OP1	61:AE:82:ARG:NH1	2.38	0.56
52:2:1855:U:H2'	52:2:1856:G:C8	2.39	0.56
52:2:1949:U:OP2	52:2:1949:U:H6	1.88	0.56
55:5:26:LYS:CD	55:5:29:LEU:HD21	2.27	0.56
57:7:234:VAL:HG21	57:7:238:ILE:HD11	1.87	0.56
1:A:1726:C:O2'	1:A:1727:U:O5'	2.23	0.56
1:A:192:C:H42	1:A:241:G:H1	1.54	0.56
59:AC:200:ASN:HB2	59:AC:206:SER:HB2	1.87	0.56
60:AD:42:ASP:O	60:AD:45:TYR:HB2	2.05	0.56
61:AE:55:LEU:HD13	61:AE:85:ILE:HD11	1.86	0.56
63:AH:98:THR:HG22	63:AH:100:SER:H	1.70	0.56
68:AM:125:ARG:HH22	68:AM:135:GLN:HA	1.70	0.56
68:AM:88:GLN:O	68:AM:95:LYS:HB3	2.05	0.56
70:AO:56:PRO:HD3	70:AO:64:SER:CB	2.35	0.56
72:AQ:21:ILE:HG13	72:AQ:111:ILE:HD11	1.86	0.56
58:8:33:ARG:NH2	72:AQ:62:THR:HG21	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:AQ:52:ARG:HA	72:AQ:84:ARG:HA	1.87	0.56
2:B:994:U:H5	19:S:4:SER:OG	1.88	0.56
9:I:89:VAL:HG12	9:I:91:GLY:H	1.69	0.56
1:A:70:C:H1'	12:L:66:PRO:O	2.05	0.56
25:Y:61:THR:O	25:Y:65:ARG:HG2	2.06	0.56
51:1:95:ARG:CZ	51:1:113:GLU:HG2	2.36	0.56
53:3:8:PRO:O	53:3:9:ARG:HG2	2.06	0.56
57:7:22:GLN:HB3	57:7:75:HIS:CD2	2.40	0.56
57:7:260:VAL:O	57:7:268:VAL:HA	2.05	0.56
59:AC:73:TYR:OH	59:AC:93:LYS:NZ	2.34	0.56
61:AE:81:ILE:CD1	61:AE:155:LEU:HD21	2.36	0.56
66:AK:14:THR:HG22	66:AK:15:PHE:H	1.69	0.56
66:AK:60:VAL:HG11	66:AK:118:TYR:CZ	2.41	0.56
78:AX:114:VAL:HG21	78:AX:141:ILE:HD12	1.87	0.56
3:C:166:G:OP2	24:X:71:TYR:OH	2.24	0.56
1:A:781:A:OP1	9:I:141:LYS:HG3	2.06	0.56
15:O:119:TYR:OH	15:O:131:GLU:OE1	2.13	0.56
23:W:63:HIS:HB3	23:W:64:ARG:NH1	2.20	0.56
51:1:69:VAL:HG12	51:1:74:ARG:HG3	1.88	0.56
52:2:1184:C:N4	76:AV:17:ARG:HA	2.19	0.56
52:2:1891:G:H1	52:2:2008:A:H1'	1.70	0.56
52:2:1897:C:H1'	52:2:1898:G:O5'	2.05	0.56
52:2:68:A:OP2	53:3:175:LYS:NZ	2.38	0.56
1:A:1484:A:N3	1:A:1511:C:O2'	2.36	0.56
52:2:2000:G:O3'	66:AK:130:CYS:HA	2.05	0.56
78:AX:21:PHE:CE2	78:AX:25:LYS:HD2	2.41	0.56
79:AY:50:LYS:O	79:AY:52:GLY:HA3	2.04	0.56
2:B:1081:A:O2'	2:B:1102:A:N1	2.33	0.56
9:I:7:GLY:N	9:I:8:ILE:HB	2.17	0.56
12:L:20:CYS:C	12:L:22:SER:N	2.58	0.56
14:N:26:VAL:HG21	14:N:78:LEU:HD21	1.87	0.56
52:2:1975:U:C5	52:2:2014:U:O2'	2.57	0.56
52:2:471:A:N3	52:2:483:U:O2'	2.33	0.56
51:1:238:LYS:HD3	52:2:886:U:H2'	1.86	0.56
54:4:191:ASN:N	54:4:192:PRO:CD	2.67	0.56
55:5:162:TRP:O	55:5:166:ARG:HG2	2.06	0.56
1:A:218:A:N6	1:A:1482:C:O2	2.39	0.56
61:AE:147:SER:OG	61:AE:148:LYS:N	2.38	0.56
52:2:1536:U:H5'	64:AI:133:VAL:CG2	2.35	0.56
72:AQ:20:THR:N	72:AQ:111:ILE:HD13	2.21	0.56
75:AT:12:ILE:HD12	75:AT:49:LYS:HB2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:182:ARG:HG2	9:I:183:GLY:N	2.20	0.56
13:M:32:HIS:CE1	13:M:138:VAL:HG13	2.40	0.56
13:M:80:LYS:H	13:M:87:GLY:HA3	1.69	0.56
14:N:45:LYS:HA	14:N:47:TRP:HZ3	1.64	0.56
1:A:530:U:O2	17:Q:133:ASP:HB2	2.04	0.56
51:1:178:VAL:CG1	51:1:222:ILE:HG23	2.36	0.56
52:2:147:U:C2	52:2:316:A:N6	2.74	0.56
52:2:1879:C:O3'	52:2:1880:A:H3'	2.05	0.56
52:2:1875:A:O5'	52:2:1955:G:O2'	2.22	0.56
52:2:1501:A:O2'	52:2:2052:C:OP2	2.22	0.56
52:2:459:A:H5''	52:2:460:C:H5	1.71	0.56
52:2:742:C:N4	52:2:743:A:C5	2.73	0.56
1:A:594:G:N2	1:A:615:C:N3	2.54	0.56
63:AH:27:PHE:HE1	63:AH:93:VAL:HA	1.69	0.56
64:AI:84:LYS:HD2	64:AI:104:TYR:HA	1.87	0.56
68:AM:108:LEU:O	68:AM:112:LEU:N	2.28	0.56
3:C:174:A:H4'	3:C:175:U:OP1	2.05	0.56
9:I:5:LEU:CD1	9:I:8:ILE:CB	2.57	0.56
14:N:39:GLU:HG3	14:N:48:ARG:HA	1.87	0.56
20:T:29:ASP:OD2	20:T:118:GLN:NE2	2.38	0.56
50:0:135:GLY:HA3	50:0:224:PRO:HB3	1.87	0.56
52:2:130:U:O2	52:2:143:A:H2	1.88	0.56
52:2:1817:U:OP1	67:AL:3:LYS:NZ	2.39	0.56
52:2:1572:G:C6	52:2:1847:C:C5	2.94	0.56
52:2:1879:C:N4	52:2:1940:C:H3'	2.20	0.56
53:3:46:PHE:O	53:3:49:TYR:HD2	1.87	0.56
1:A:717:G:OP1	12:L:44:ARG:NH2	2.30	0.56
64:AI:89:ASP:HA	64:AI:122:TYR:OH	2.05	0.56
66:AK:137:ARG:HD3	66:AK:143:ARG:NH1	2.20	0.56
12:L:20:CYS:O	12:L:23:GLN:N	2.35	0.56
50:0:66:VAL:HG22	50:0:90:THR:HG22	1.87	0.56
52:2:1153:A:H2	52:2:1245:A:HO2'	1.52	0.56
52:2:1528:G:N2	52:2:1871:U:C2	2.73	0.56
52:2:1689:A:OP1	72:AQ:80:LYS:NZ	2.35	0.56
52:2:1804:C:P	67:AL:60:ARG:HH12	2.28	0.56
52:2:1956:G:H5'	52:2:1957:G:OP2	2.06	0.56
52:2:730:G:C6	52:2:731:A:C6	2.93	0.56
54:4:139:VAL:HG11	54:4:192:PRO:HB3	1.88	0.56
57:7:236:SER:HB2	57:7:254:THR:HB	1.88	0.56
58:8:22:CYS:HB2	58:8:42:GLN:OE1	2.05	0.56
58:8:29:LYS:HG3	58:8:30:ALA:H	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:107:ASN:OD1	60:AD:108:ASP:N	2.39	0.56
64:AI:84:LYS:HD2	64:AI:109:PHE:O	2.05	0.56
67:AL:39:THR:HG22	78:AX:206:VAL:HG22	1.87	0.56
64:AI:134:LEU:HA	68:AM:150:SER:HB2	1.87	0.56
72:AQ:61:THR:HG22	72:AQ:76:THR:HG22	1.87	0.56
78:AX:24:LEU:HB3	78:AX:28:LEU:HD12	1.87	0.56
22:V:108:VAL:HG23	22:V:133:HIS:CG	2.41	0.56
50:0:72:ALA:HB2	50:0:82:GLU:O	2.06	0.56
52:2:2001:U:H2'	52:2:2002:A:C8	2.41	0.56
52:2:2201:U:H2'	76:AV:40:ARG:NH1	2.21	0.56
52:2:519:A:O2'	56:6:8:ASN:O	2.18	0.56
57:7:26:TYR:CD1	57:7:27:ILE:HG12	2.40	0.56
58:8:25:CYS:C	58:8:42:GLN:HE21	2.09	0.56
1:A:379:C:OP1	1:A:1472:G:O2'	2.24	0.56
1:A:181:G:N2	1:A:276:C:H6	2.03	0.56
1:A:435:G:P	24:X:84:ARG:HH22	2.29	0.56
59:AC:221:LEU:HB3	73:AR:50:ILE:CD1	2.36	0.56
52:2:2197:A:OP2	76:AV:4:LYS:NZ	2.37	0.56
80:AZ:84:ARG:O	80:AZ:85:ARG:O	2.22	0.56
1:A:377:G:N2	3:C:117:U:O2	2.38	0.56
9:I:33:TYR:O	9:I:37:ALA:N	2.27	0.56
52:2:1274:A:OP1	52:2:2192:G:O2'	2.19	0.56
52:2:1446:G:C8	52:2:1448:G:C8	2.94	0.56
52:2:1863:A:N6	68:AM:137:THR:OG1	2.38	0.56
52:2:1975:U:O2'	52:2:1975:U:O2	2.23	0.56
52:2:1983:G:H5''	52:2:1984:C:H2'	1.87	0.56
52:2:717:C:O2	52:2:739:A:C2	2.59	0.56
52:2:875:A:H62	52:2:887:U:H3	1.54	0.56
53:3:32:ARG:HB2	53:3:103:CYS:SG	2.46	0.56
53:3:148:PHE:CE2	53:3:159:TYR:HB3	2.41	0.56
70:AO:152:GLY:HA3	70:AO:156:ALA:CB	2.35	0.56
70:AO:57:ASN:ND2	70:AO:60:GLU:OE2	2.37	0.56
56:6:122:HIS:HE1	79:AY:37:ARG:CD	2.18	0.56
6:F:36:C:H2'	6:F:37:C:H6	1.71	0.56
12:L:61:PRO:HG3	12:L:79:GLY:O	2.06	0.56
13:M:218:LYS:O	13:M:219:PHE:HB2	2.06	0.56
52:2:1286:A:H2	52:2:1287:U:C2	2.23	0.55
52:2:1645:G:H22	52:2:1678:G:H1	1.54	0.55
52:2:2052:C:H4'	52:2:2053:C:O5'	2.06	0.55
52:2:2200:A:N6	76:AV:88:VAL:HG13	2.21	0.55
53:3:148:PHE:C	53:3:150:LEU:H	2.09	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:190:TRP:CD1	54:4:190:TRP:N	2.73	0.55
54:4:30:LEU:HD13	54:4:38:ARG:NH2	2.21	0.55
1:A:1535:U:H2'	1:A:1536:G:C8	2.41	0.55
1:A:827:G:C6	1:A:828:U:C2	2.93	0.55
65:AJ:28:ARG:CG	65:AJ:28:ARG:HH11	2.18	0.55
69:AN:60:ASN:HA	69:AN:72:LYS:HE2	1.87	0.55
52:2:1183:G:O6	76:AV:17:ARG:HG2	2.07	0.55
7:G:18:U:H2'	7:G:19:C:C6	2.41	0.55
50:0:32:ASP:N	50:0:32:ASP:OD1	2.38	0.55
52:2:1611:U:H4'	52:2:1612:U:OP2	2.06	0.55
52:2:1877:G:H1'	69:AN:155:MET:HE1	1.88	0.55
52:2:1926:U:H2'	52:2:1927:G:H8	1.72	0.55
52:2:2097:C:O2'	52:2:2098:A:O5'	2.23	0.55
52:2:615:C:H4'	79:AY:10:ARG:NH1	2.22	0.55
52:2:709:C:O2'	52:2:710:U:OP1	2.23	0.55
57:7:67:PHE:HB2	57:7:85:TRP:HB2	1.88	0.55
1:A:1559:A:OP2	1:A:1575:A:N6	2.40	0.55
1:A:752:G:HO2'	1:A:814:C:HO2'	1.54	0.55
60:AD:48:PHE:CE1	60:AD:106:LEU:HG	2.41	0.55
64:AI:92:ILE:HG22	64:AI:119:ILE:HG12	1.89	0.55
52:2:1697:C:O4'	72:AQ:51:VAL:HG23	2.06	0.55
52:2:915:A:H4'	52:2:916:G:O5'	2.06	0.55
57:7:174:ASN:ND2	57:7:194:SER:O	2.39	0.55
57:7:83:ALA:HB2	57:7:113:VAL:HG22	1.87	0.55
58:8:45:ARG:HH21	72:AQ:62:THR:HG23	1.71	0.55
59:AC:183:LEU:HD22	59:AC:199:CYS:SG	2.46	0.55
60:AD:41:ARG:HG2	60:AD:83:LEU:HD21	1.88	0.55
67:AL:58:MET:HA	67:AL:61:LEU:HD12	1.89	0.55
69:AN:87:HIS:HB2	69:AN:92:GLU:O	2.07	0.55
76:AV:86:ARG:HD3	76:AV:89:ARG:HH21	1.71	0.55
52:2:1113:G:P	62:AG:3:ARG:HH11	2.30	0.55
52:2:1965:A:N3	52:2:1978:G:N2	2.54	0.55
52:2:2006:G:N2	52:2:2007:C:C2	2.74	0.55
1:A:454:U:H2'	1:A:455:G:C8	2.41	0.55
59:AC:116:ARG:NH1	59:AC:201:ASN:O	2.39	0.55
60:AD:66:GLY:O	60:AD:67:THR:OG1	2.23	0.55
68:AM:111:ASP:OD1	68:AM:114:ARG:NH1	2.40	0.55
6:F:11:G:C5'	6:F:73:A:H61	2.17	0.55
9:I:36:LEU:CD1	9:I:45:ASN:HD21	2.20	0.55
12:L:183:SER:HB2	26:Z:135:ARG:HE	1.70	0.55
50:0:175:ILE:HG23	50:0:179:LEU:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:101:ASP:OD1	51:1:102:VAL:N	2.40	0.55
52:2:1184:C:H42	76:AV:17:ARG:HA	1.72	0.55
52:2:1938:G:H4'	70:AO:110:TYR:CE1	2.42	0.55
52:2:1954:U:HO3'	52:2:1955:G:P	2.25	0.55
52:2:528:G:H8	52:2:528:G:O5'	1.89	0.55
57:7:28:LYS:NZ	57:7:94:LEU:HB3	2.22	0.55
1:A:1133:A:O2'	1:A:1134:C:O5'	2.19	0.55
1:A:804:C:H5	9:I:147:ARG:HE	1.54	0.55
1:A:825:G:C2	1:A:826:G:C8	2.95	0.55
59:AC:168:GLN:NE2	59:AC:172:GLU:OE2	2.39	0.55
62:AG:19:ARG:NH2	77:AW:85:ASP:OD2	2.37	0.55
63:AH:25:HIS:NE2	63:AH:38:THR:OG1	2.34	0.55
66:AK:53:LYS:HB3	66:AK:88:ARG:NH1	2.22	0.55
69:AN:87:HIS:O	69:AN:91:ASP:N	2.39	0.55
70:AO:114:PRO:O	70:AO:117:THR:OG1	2.22	0.55
71:AP:193:VAL:HB	71:AP:194:PRO:HD3	1.88	0.55
2:B:389:G:H3'	2:B:391:A:C8	2.42	0.55
1:A:737:U:H5'	12:L:73:LYS:HE2	1.88	0.55
18:R:190:ARG:O	18:R:194:ALA:N	2.32	0.55
20:T:91:LYS:HG3	20:T:109:ILE:CD1	2.36	0.55
52:2:1559:U:H3'	52:2:1560:U:H5''	1.89	0.55
62:AG:95:ALA:O	62:AG:99:ARG:HG2	2.05	0.55
69:AN:59:ALA:HA	69:AN:62:LEU:HB2	1.89	0.55
70:AO:58:CYS:SG	70:AO:98:GLY:HA3	2.47	0.55
14:N:8:CYS:SG	14:N:9:ALA:N	2.79	0.55
24:X:48:ARG:HG2	24:X:49:LYS:N	2.19	0.55
52:2:1694:G:H4'	57:7:65:THR:HG21	1.89	0.55
52:2:1956:G:H5'	52:2:1957:G:P	2.46	0.55
52:2:251:A:O2'	52:2:252:G:OP1	2.21	0.55
57:7:251:CYS:SG	57:7:260:VAL:HG22	2.47	0.55
52:2:1553:G:N7	58:8:41:ARG:NH2	2.55	0.55
59:AC:225:ILE:HD13	59:AC:231:TRP:NE1	2.21	0.55
61:AE:61:ALA:O	61:AE:65:ASN:ND2	2.40	0.55
52:2:1454:A:O2'	65:AJ:74:ALA:O	2.24	0.55
66:AK:33:CYS:H	66:AK:68:ARG:HB3	1.72	0.55
68:AM:114:ARG:HA	68:AM:117:LYS:HD2	1.89	0.55
71:AP:237:PRO:HA	71:AP:240:TRP:CD2	2.42	0.55
73:AR:21:LYS:HG2	73:AR:28:LEU:HD23	1.86	0.55
74:AS:39:ASN:O	74:AS:42:GLY:N	2.27	0.55
80:AZ:57:ASN:HB2	80:AZ:59:THR:N	2.21	0.55
13:M:29:LEU:HD11	13:M:53:VAL:CG1	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:182:A:N3	13:M:6:ARG:NH2	2.55	0.55
50:0:86:LYS:NZ	50:0:109:THR:HA	2.21	0.55
52:2:1378:U:H1'	52:2:1379:A:OP2	2.07	0.55
52:2:1524:G:H3'	68:AM:143:HIS:H	1.70	0.55
52:2:780:A:H4'	52:2:781:A:O5'	2.07	0.55
54:4:31:GLU:HG3	54:4:42:PRO:HB2	1.88	0.55
1:A:320:G:O6	1:A:342:G:H1'	2.06	0.55
60:AD:56:CYS:N	78:AX:75:ARG:HH22	2.04	0.55
52:2:2028:U:OP1	69:AN:60:ASN:HB3	2.07	0.55
52:2:14:C:OP1	71:AP:219:ASN:ND2	2.39	0.55
2:B:705:G:H1'	22:V:34:GLN:NE2	2.22	0.55
3:C:219:U:H3	3:C:226:A:N6	2.05	0.55
52:2:1791:U:O2'	52:2:1792:C:OP2	2.16	0.55
52:2:695:G:OP2	52:2:747:C:O2	2.25	0.55
53:3:43:GLY:O	53:3:44:SER:CB	2.54	0.55
52:2:244:G:H5''	55:5:201:ILE:HD11	1.89	0.55
57:7:63:GLY:N	57:7:92:TRP:HH2	2.05	0.55
1:A:1467:G:O2'	1:A:1468:C:OP2	2.21	0.55
1:A:148:U:H5''	15:O:54:LYS:HB3	1.88	0.55
1:A:755:A:H4'	1:A:772:G:H5'	1.89	0.55
59:AC:58:ARG:HG3	59:AC:61:ILE:HD12	1.89	0.55
58:8:24:ILE:HG13	60:AD:99:TRP:CE3	2.42	0.55
66:AK:137:ARG:CD	66:AK:141:ARG:H	2.20	0.55
66:AK:133:LYS:HG3	66:AK:139:SER:O	2.05	0.55
66:AK:30:ALA:O	66:AK:69:LEU:HA	2.07	0.55
69:AN:97:VAL:O	69:AN:101:ALA:N	2.39	0.55
75:AT:58:ASP:OD1	75:AT:59:GLU:N	2.39	0.55
78:AX:97:ALA:CA	78:AX:187:ILE:HD13	2.37	0.55
16:P:29:THR:HA	16:P:32:THR:HG22	1.88	0.55
17:Q:91:ARG:NE	19:S:150:VAL:HG12	2.21	0.55
50:0:80:GLU:OE1	50:0:81:GLU:HG2	2.06	0.55
52:2:1627:G:H4'	52:2:1628:C:O5'	2.06	0.55
52:2:1863:A:H4'	64:AI:134:LEU:CB	2.36	0.55
52:2:2097:C:HO2'	52:2:2098:A:P	2.30	0.55
52:2:903:G:N3	65:AJ:107:SER:OG	2.37	0.55
54:4:64:VAL:HB	54:4:96:LEU:HD23	1.89	0.55
55:5:110:LYS:HE3	55:5:179:LEU:O	2.07	0.55
1:A:1169:A:O2'	1:A:1461:G:O3'	2.26	0.55
68:AM:58:GLY:HA2	68:AM:62:ALA:HB3	1.89	0.55
68:AM:60:LEU:O	68:AM:64:GLU:HA	2.07	0.55
73:AR:35:ALA:HB1	73:AR:64:ARG:HH11	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:55:ALA:HB2	78:AX:71:CYS:SG	2.47	0.55
3:C:233:C:HO2'	22:V:96:THR:HG1	1.53	0.55
6:F:72:A:C5'	6:F:72:A:C8	2.90	0.55
13:M:123:TYR:CD1	13:M:127:PRO:HG3	2.42	0.55
24:X:28:MET:HB2	24:X:98:PRO:CG	2.34	0.55
52:2:56:U:HO2'	52:2:57:G:P	2.30	0.54
52:2:750:U:HO2'	52:2:751:G:C1'	2.14	0.54
52:2:773:A:H2'	52:2:774:A:H8	1.71	0.54
55:5:204:GLU:HG3	61:AE:32:ASN:CB	2.35	0.54
58:8:33:ARG:NH1	58:8:45:ARG:HB2	2.22	0.54
59:AC:205:LYS:HG2	59:AC:239:PHE:HE1	1.73	0.54
52:2:1597:G:P	64:AI:62:VAL:HG21	2.47	0.54
66:AK:12:VAL:HG12	66:AK:13:GLN:N	2.21	0.54
68:AM:86:ASN:HD22	68:AM:99:LEU:HB2	1.71	0.54
66:AK:128:ARG:CZ	69:AN:41:ARG:HB2	2.36	0.54
71:AP:88:ASP:OD1	71:AP:114:VAL:HG22	2.07	0.54
72:AQ:19:LEU:O	72:AQ:85:ILE:HA	2.07	0.54
18:R:15:LEU:HD13	18:R:52:ARG:HB3	1.89	0.54
52:2:1891:G:N2	52:2:2021:G:H21	2.04	0.54
52:2:1958:A:O2'	52:2:1959:C:O4'	2.25	0.54
52:2:1981:G:OP2	68:AM:39:ILE:HB	2.06	0.54
52:2:2024:C:H2'	52:2:2025:C:H6	1.70	0.54
52:2:707:U:C5	52:2:708:C:C4	2.95	0.54
52:2:461:G:O2'	53:3:60:ASP:OD2	2.19	0.54
56:6:55:ALA:O	56:6:59:LEU:HB2	2.06	0.54
1:A:59:A:N6	1:A:60:A:N1	2.55	0.54
63:AH:19:LEU:HA	63:AH:84:ASN:ND2	2.21	0.54
64:AI:35:LEU:HD22	64:AI:39:GLU:HB3	1.89	0.54
52:2:1822:G:P	66:AK:135:TRP:HE1	2.22	0.54
70:AO:120:SER:O	70:AO:124:PRO:HD2	2.07	0.54
70:AO:22:ARG:HH21	70:AO:141:GLY:N	2.06	0.54
52:2:1833:U:H1'	72:AQ:67:CYS:SG	2.48	0.54
2:B:1088:U:H4'	19:S:54:HIS:CD2	2.43	0.54
19:S:122:GLY:C	19:S:124:ALA:N	2.52	0.54
51:1:45:ILE:HD11	51:1:67:VAL:HG21	1.89	0.54
52:2:1570:C:O2	52:2:1571:G:O2'	2.25	0.54
52:2:1937:C:H4'	52:2:1938:G:OP1	2.06	0.54
52:2:1945:A:H3'	52:2:1946:G:H5'	1.89	0.54
1:A:1463:U:OP2	26:Z:7:LYS:NZ	2.36	0.54
60:AD:124:ALA:O	60:AD:128:THR:HG23	2.07	0.54
71:AP:98:LYS:CD	71:AP:105:ARG:HH21	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AX:8:ARG:O	78:AX:12:ARG:HG3	2.06	0.54
2:B:1454:G:H2'	2:B:1455:C:C6	2.41	0.54
50:0:136:TYR:CD2	50:0:184:ILE:HD12	2.43	0.54
52:2:1225:A:H2'	52:2:1226:A:O4'	2.06	0.54
52:2:1566:G:C2	52:2:1856:G:C2	2.96	0.54
52:2:1645:G:N2	52:2:1678:G:N2	2.52	0.54
52:2:1960:C:P	68:AM:126:HIS:HB3	2.48	0.54
55:5:207:GLU:HB3	61:AE:23:TYR:CE2	2.42	0.54
52:2:376:U:P	55:5:56:ARG:NH2	2.79	0.54
1:A:1726:C:O2'	1:A:1727:U:O4'	2.26	0.54
68:AM:125:ARG:O	68:AM:129:GLY:N	2.40	0.54
68:AM:71:ILE:HG12	68:AM:78:PHE:CZ	2.42	0.54
72:AQ:37:LEU:CD1	72:AQ:86:ILE:HD13	2.37	0.54
2:B:1049:C:H5''	11:K:154:ARG:HH12	1.72	0.54
18:R:19:ARG:CG	18:R:19:ARG:HH11	2.19	0.54
12:L:2:PRO:O	26:Z:44:ASN:ND2	2.41	0.54
52:2:1571:G:H5'	60:AD:85:ARG:HH22	1.70	0.54
52:2:1701:A:N6	52:2:1702:G:O6	2.40	0.54
52:2:1810:G:H2'	52:2:1811:U:C6	2.42	0.54
52:2:2030:A:H2	52:2:2031:C:C6	2.26	0.54
52:2:309:G:N2	52:2:311:G:H5'	2.23	0.54
52:2:740:C:H2'	52:2:741:C:C1'	2.37	0.54
52:2:763:C:H2'	52:2:764:A:O4'	2.08	0.54
52:2:2028:U:O5'	69:AN:42:TRP:CZ3	2.58	0.54
74:AS:49:GLY:HA3	74:AS:72:VAL:CG1	2.37	0.54
52:2:1539:U:H4'	52:2:1540:U:C5'	2.37	0.54
52:2:1637:U:H3'	52:2:1638:U:H5''	1.89	0.54
52:2:37:U:C4	52:2:38:C:H5	2.26	0.54
57:7:159:SER:HB2	57:7:166:ILE:HG13	1.90	0.54
1:A:350:C:H2'	1:A:351:U:C6	2.43	0.54
68:AM:71:ILE:HG12	68:AM:78:PHE:CE2	2.42	0.54
69:AN:114:VAL:HG21	69:AN:123:GLN:OE1	2.07	0.54
78:AX:105:ARG:O	78:AX:109:LEU:HG	2.08	0.54
19:S:10:GLY:C	19:S:11:THR:HG23	2.28	0.54
50:0:40:GLU:CB	50:0:76:GLN:OE1	2.55	0.54
52:2:1525:A:C5	68:AM:143:HIS:HB2	2.43	0.54
52:2:1914:U:H2'	52:2:1915:G:H5''	1.90	0.54
52:2:262:U:H2'	52:2:263:G:H8	1.72	0.54
52:2:752:C:H2'	52:2:753:A:H8	1.73	0.54
57:7:87:ARG:O	57:7:104:LEU:HD13	2.08	0.54
1:A:1635:G:N2	1:A:1636:G:N3	2.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:117:ILE:HB	68:AM:15:ARG:NH2	2.23	0.54
69:AN:87:HIS:CE1	69:AN:88:LEU:HD23	2.43	0.54
69:AN:9:PHE:HE2	69:AN:80:LYS:HD3	1.73	0.54
70:AO:87:ARG:HD2	70:AO:92:ARG:HG2	1.90	0.54
80:AZ:28:ILE:HG23	80:AZ:29:LYS:HG2	1.89	0.54
9:I:40:THR:HG21	9:I:45:ASN:HB3	1.89	0.54
12:L:72:MET:HG3	12:L:73:LYS:HG2	1.88	0.54
19:S:158:PRO:HA	19:S:159:TYR:HB2	1.88	0.54
21:U:44:TYR:CG	21:U:52:PRO:HB3	2.42	0.54
52:2:1881:G:N2	52:2:1882:U:O2	2.41	0.54
52:2:883:G:HO2'	52:2:884:A:H8	1.56	0.54
52:2:956:A:H2'	52:2:957:G:O4'	2.08	0.54
1:A:452:C:H2'	1:A:453:G:C8	2.42	0.54
59:AC:116:ARG:NH2	59:AC:162:ASP:OD2	2.40	0.54
66:AK:93:LYS:CD	66:AK:122:LEU:HD11	2.38	0.54
52:2:1528:G:P	68:AM:131:ARG:HB3	2.47	0.54
52:2:1977:G:H1'	70:AO:113:ARG:HH21	1.71	0.54
70:AO:76:ASP:O	70:AO:80:ILE:N	2.28	0.54
78:AX:200:SER:O	78:AX:201:GLU:C	2.45	0.54
78:AX:201:GLU:O	78:AX:203:LEU:N	2.40	0.54
78:AX:79:LYS:HB2	78:AX:82:LYS:NZ	2.22	0.54
80:AZ:27:ILE:HD12	80:AZ:72:ASP:HB2	1.89	0.54
2:B:1126:U:H5''	9:I:188:ARG:HB3	1.90	0.54
2:B:432:G:N2	2:B:450:C:O2	2.30	0.54
12:L:95:ALA:HA	12:L:98:ILE:HG12	1.90	0.54
13:M:150:SER:HB2	17:Q:155:GLN:HE21	1.72	0.54
50:0:242:VAL:HG11	63:AH:13:ASN:HD22	1.72	0.54
52:2:1271:C:O2'	52:2:1272:A:OP1	2.21	0.54
52:2:1566:G:C2	52:2:1567:A:C4	2.96	0.54
52:2:1865:G:H5''	52:2:1866:C:H5'	1.90	0.54
52:2:1887:A:C6	52:2:1888:C:N3	2.76	0.54
52:2:1938:G:H21	52:2:2006:G:H1'	1.73	0.54
52:2:2100:G:N2	52:2:2120:C:H1'	2.23	0.54
52:2:695:G:H2'	52:2:696:U:O4'	2.08	0.54
1:A:178:G:N3	1:A:281:G:N2	2.55	0.54
66:AK:11:GLN:N	66:AK:102:TYR:OH	2.24	0.54
70:AO:89:ILE:HG23	70:AO:117:THR:OG1	2.08	0.54
63:AH:121:ARG:HA	76:AV:62:TYR:CZ	2.42	0.54
21:U:116:ILE:O	21:U:117:ALA:C	2.46	0.54
50:0:241:SER:O	50:0:242:VAL:C	2.45	0.54
50:0:70:ASN:ND2	63:AH:121:ARG:HD2	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1103:G:O2'	52:2:1104:A:P	2.65	0.54
52:2:1439:A:H8	52:2:1439:A:O5'	1.91	0.54
52:2:1556:A:O2'	52:2:1557:A:O4'	2.26	0.54
52:2:1964:G:O5'	52:2:1964:G:H8	1.91	0.54
52:2:709:C:C2'	52:2:710:U:O5'	2.56	0.54
54:4:128:ILE:O	54:4:132:MET:HG2	2.08	0.54
2:B:127:U:H4'	55:5:88:ASN:HD22	1.72	0.54
57:7:274:PRO:HG3	57:7:306:TRP:CZ2	2.43	0.54
1:A:708:A:N7	9:I:111:ARG:NH2	2.55	0.54
52:2:1529:U:O5'	68:AM:136:HIS:HD2	1.90	0.54
68:AM:58:GLY:HA2	68:AM:62:ALA:N	2.23	0.54
70:AO:99:GLY:HA2	70:AO:110:TYR:HE1	1.69	0.54
70:AO:122:THR:HA	70:AO:125:LEU:HD12	1.90	0.54
72:AQ:17:VAL:HG12	72:AQ:18:ARG:H	1.72	0.54
1:A:71:C:O2'	12:L:64:ASN:ND2	2.41	0.54
14:N:13:VAL:HG21	14:N:56:VAL:CG1	2.34	0.54
15:O:48:ALA:C	15:O:51:LEU:O	2.47	0.54
15:O:97:ASN:HB2	15:O:100:ALA:H	1.72	0.54
24:X:53:VAL:HG12	24:X:101:VAL:HG12	1.90	0.54
52:2:918:A:N6	52:2:1101:A:C6	2.76	0.53
52:2:1521:G:C2	52:2:1995:G:C2	2.96	0.53
52:2:1533:G:H21	52:2:1864:C:H5	1.55	0.53
52:2:56:U:O2'	52:2:57:G:O5'	2.25	0.53
52:2:616:A:H5'	79:AY:10:ARG:HB3	1.91	0.53
55:5:204:GLU:O	55:5:208:LEU:CA	2.55	0.53
55:5:66:ALA:HA	55:5:73:ALA:HA	1.90	0.53
1:A:189:A:C4	1:A:248:A:C2	2.95	0.53
67:AL:41:ALA:H	67:AL:47:LYS:NZ	2.07	0.53
52:2:1863:A:C1'	68:AM:150:SER:HB3	2.35	0.53
73:AR:35:ALA:HB1	73:AR:64:ARG:HD3	1.90	0.53
78:AX:101:VAL:HG11	78:AX:172:ARG:HB2	1.90	0.53
2:B:1029:C:OP2	2:B:1050:G:N1	2.30	0.53
2:B:390:A:O4'	52:2:1160:A:C5'	2.54	0.53
1:A:19:G:C4	3:C:128:U:O4	2.62	0.53
7:G:78:C:H4'	23:W:17:HIS:HB3	1.89	0.53
9:I:132:GLN:O	9:I:135:MET:N	2.31	0.53
52:2:1096:C:N3	52:2:1097:C:N4	2.56	0.53
52:2:47:A:H4'	52:2:48:G:O5'	2.06	0.53
52:2:604:A:N3	52:2:639:C:O2'	2.36	0.53
52:2:693:C:H42	52:2:756:C:H42	1.56	0.53
51:1:9:LEU:O	52:2:857:A:H1'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:254:THR:OG1	57:7:257:SER:N	2.39	0.53
57:7:36:GLY:HA2	57:7:68:VAL:HG23	1.89	0.53
1:A:1165:A:H2'	1:A:1166:C:C6	2.43	0.53
1:A:700:A:H4'	9:I:172:TYR:CE1	2.43	0.53
1:A:748:A:N3	2:B:1148:A:O2'	2.36	0.53
60:AD:127:ASN:HD21	78:AX:63:ARG:NH1	2.06	0.53
72:AQ:50:PRO:HD2	72:AQ:86:ILE:HA	1.88	0.53
62:AG:55:ARG:O	77:AW:48:TYR:HB2	2.08	0.53
19:S:10:GLY:C	19:S:11:THR:CG2	2.77	0.53
52:2:1557:A:N3	52:2:1557:A:H2'	2.23	0.53
52:2:1864:C:N3	64:AI:135:HIS:C	2.62	0.53
52:2:1874:A:H2'	52:2:1875:A:C6	2.42	0.53
52:2:1932:A:P	72:AQ:56:ARG:HH21	2.31	0.53
52:2:1968:G:C6	52:2:1974:A:N6	2.76	0.53
52:2:731:A:N7	52:2:732:U:O4	2.41	0.53
52:2:740:C:C2'	52:2:741:C:C6	2.83	0.53
52:2:76:U:O2'	52:2:77:G:OP2	2.25	0.53
52:2:955:A:H2'	52:2:956:A:H5'	1.90	0.53
57:7:108:LYS:N	57:7:128:ASP:OD1	2.41	0.53
1:A:172:G:H2'	1:A:173:G:C8	2.44	0.53
62:AG:72:LEU:HD23	62:AG:75:LEU:HD12	1.90	0.53
68:AM:123:GLY:HA2	68:AM:126:HIS:CD2	2.43	0.53
70:AO:130:LYS:HD2	70:AO:134:LYS:HB2	1.91	0.53
72:AQ:110:SER:C	72:AQ:111:ILE:HG13	2.28	0.53
58:8:45:ARG:HH22	72:AQ:77:PHE:HD2	1.55	0.53
6:F:14:A:N3	14:N:138:SER:HB2	2.22	0.53
52:2:1864:C:C4'	68:AM:151:ARG:HB2	2.38	0.53
52:2:523:A:OP2	56:6:125:ARG:NH1	2.32	0.53
52:2:688:G:OP2	54:4:122:THR:HG23	2.08	0.53
52:2:737:U:O5'	52:2:737:U:H6	1.92	0.53
52:2:1527:C:C4	68:AM:140:THR:HA	2.44	0.53
68:AM:142:ARG:HG3	68:AM:143:HIS:CD2	2.44	0.53
69:AN:172:ASN:OD1	69:AN:173:SER:N	2.41	0.53
72:AQ:56:ARG:NH1	78:AX:7:LYS:HD2	2.24	0.53
60:AD:108:ASP:OD1	78:AX:63:ARG:NH2	2.41	0.53
19:S:122:GLY:C	19:S:124:ALA:H	2.01	0.53
52:2:316:A:O2'	53:3:191:ARG:CZ	2.56	0.53
52:2:526:G:H2'	52:2:527:A:C8	2.44	0.53
58:8:24:ILE:HB	58:8:42:GLN:HB2	1.91	0.53
1:A:67:C:HO2'	1:A:100:G:HO2'	1.55	0.53
1:A:959:G:H4'	1:A:960:A:O5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:58:LYS:HG3	60:AD:81:MET:HE1	1.90	0.53
26:Z:26:ARG:HB2	26:Z:29:GLU:OE2	2.07	0.53
50:0:98:ASN:OD1	50:0:241:SER:HB3	2.07	0.53
51:1:188:ARG:HH21	51:1:243:ARG:HD2	1.73	0.53
52:2:1645:G:H22	52:2:1678:G:N2	2.07	0.53
52:2:1705:U:H2'	52:2:1706:U:C6	2.43	0.53
52:2:1969:C:H2'	52:2:1970:A:H8	1.73	0.53
52:2:1974:A:C4	52:2:1975:U:C4	2.97	0.53
52:2:254:A:H2	52:2:255:A:C5	2.26	0.53
52:2:30:G:OP1	74:AS:124:LYS:NZ	2.41	0.53
55:5:4:VAL:HG12	55:5:6:SER:H	1.74	0.53
58:8:30:ALA:O	58:8:41:ARG:HG2	2.09	0.53
64:AI:32:LEU:HB3	64:AI:94:PRO:HB3	1.89	0.53
71:AP:151:ARG:HH21	71:AP:202:GLY:HA3	1.74	0.53
80:AZ:33:ARG:NH2	80:AZ:38:GLY:N	2.56	0.53
6:F:45:G:H4'	13:M:201:ARG:HH21	1.74	0.53
14:N:106:THR:O	14:N:109:GLU:N	2.41	0.53
15:O:38:ARG:HD2	15:O:62:PHE:HE1	1.72	0.53
50:0:132:THR:C	50:0:134:ASP:O	2.46	0.53
50:0:207:ILE:O	52:2:1404:A:O2'	2.19	0.53
52:2:1114:G:H1	52:2:1207:U:H3	1.56	0.53
52:2:1863:A:H1'	68:AM:150:SER:CB	2.32	0.53
52:2:1864:C:H2'	64:AI:135:HIS:HD1	1.73	0.53
52:2:719:C:C2	52:2:735:G:C2	2.91	0.53
57:7:77:THR:OG1	57:7:119:ASP:OD2	2.19	0.53
1:A:446:U:O2'	1:A:1486:G:N2	2.40	0.53
1:A:307:U:H2'	1:A:308:A:H8	1.74	0.53
1:A:727:C:C2	1:A:728:C:H5	2.27	0.53
70:AO:121:SER:O	70:AO:125:LEU:HG	2.08	0.53
15:O:106:LEU:HD11	15:O:132:VAL:CG2	2.38	0.53
18:R:166:ASP:O	18:R:170:ARG:HG2	2.08	0.53
52:2:1557:A:H5'	52:2:1559:U:H5	1.73	0.53
52:2:1915:G:H3'	52:2:1916:A:H8	1.73	0.53
52:2:1917:U:O2'	52:2:1918:C:OP2	2.22	0.53
52:2:2022:U:H2'	52:2:2023:G:C8	2.44	0.53
52:2:2025:C:H2'	52:2:2026:G:C8	2.44	0.53
52:2:718:C:H2'	52:2:719:C:H6	1.74	0.53
52:2:717:C:C2	52:2:739:A:C2	2.97	0.53
55:5:26:LYS:C	55:5:29:LEU:HD11	2.29	0.53
57:7:10:HIS:CG	57:7:33:SER:HB2	2.44	0.53
66:AK:61:VAL:HG13	66:AK:114:LYS:HD2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:93:LYS:CG	66:AK:122:LEU:HG	2.28	0.53
66:AK:128:ARG:HH21	69:AN:41:ARG:HE	1.57	0.53
76:AV:19:ARG:HH12	76:AV:22:PRO:HD3	1.73	0.53
2:B:1379:A:H62	6:F:9:U:H3	1.56	0.53
17:Q:44:TRP:CH2	17:Q:58:GLY:HA3	2.44	0.53
18:R:28:GLU:HG3	18:R:49:PHE:CE1	2.44	0.53
50:0:140:LEU:HD21	50:0:218:VAL:HG13	1.90	0.53
50:0:30:TRP:HB2	50:0:243:GLU:OE1	2.07	0.53
51:1:102:VAL:O	51:1:103:LYS:HB2	2.09	0.53
52:2:1095:G:N7	52:2:1096:C:N4	2.57	0.53
52:2:1399:A:H5'	52:2:1401:G:C6	2.44	0.53
52:2:1576:G:O2'	52:2:1577:G:OP1	2.23	0.53
52:2:1527:C:O2'	52:2:2017:A:N1	2.34	0.53
52:2:580:A:OP2	52:2:584:U:H5	1.92	0.53
55:5:57:ALA:HB2	55:5:196:GLY:HA2	1.89	0.53
61:AE:62:LYS:O	61:AE:66:GLY:N	2.42	0.53
63:AH:12:PRO:HB2	63:AH:14:VAL:HG23	1.91	0.53
65:AJ:24:GLN:NE2	65:AJ:64:ASN:OD1	2.35	0.53
75:AT:16:GLN:O	75:AT:28:PHE:HA	2.09	0.53
60:AD:111:ILE:CD1	78:AX:63:ARG:HH22	2.21	0.53
1:A:1036:U:H4'	21:U:108:LYS:HG3	104.62	0.53
26:Z:16:PHE:HE2	26:Z:21:ARG:CZ	2.22	0.53
52:2:1524:G:N1	52:2:1990:G:O2'	2.41	0.53
52:2:157:G:H21	53:3:4:ASN:HD22	1.56	0.53
52:2:1692:C:C2	52:2:1813:A:C6	2.97	0.53
52:2:1956:G:N1	52:2:1985:A:N7	2.56	0.53
52:2:2033:U:O2	52:2:2035:C:N4	2.34	0.53
52:2:71:G:N7	53:3:173:ARG:NH2	2.57	0.53
55:5:57:ALA:HB1	55:5:60:LEU:HD23	1.90	0.53
57:7:158:PHE:CE1	57:7:167:VAL:HG11	2.44	0.53
63:AH:97:ARG:NH2	63:AH:136:LYS:HB2	2.23	0.53
67:AL:32:LYS:HZ2	67:AL:33:ARG:HE	1.57	0.53
75:AT:34:HIS:O	75:AT:34:HIS:ND1	2.41	0.53
3:C:234:C:H4'	22:V:97:GLU:OE2	2.08	0.53
14:N:107:ASP:HA	14:N:110:ARG:HE	1.74	0.53
50:0:40:GLU:HG2	50:0:75:ASN:ND2	2.25	0.52
52:2:1584:A:N6	52:2:1610:A:C6	2.77	0.52
52:2:1959:C:C5	52:2:1960:C:C4	2.96	0.52
52:2:230:G:H2'	52:2:231:A:C8	2.44	0.52
52:2:522:A:HO2'	52:2:523:A:P	2.32	0.52
52:2:717:C:C6	52:2:718:C:C5	2.96	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:742:C:C4	52:2:743:A:N7	2.76	0.52
52:2:7:G:N7	71:AP:215:ARG:NH1	2.57	0.52
55:5:6:SER:HB3	55:5:28:GLU:CD	2.30	0.52
55:5:26:LYS:O	55:5:29:LEU:HD11	2.08	0.52
56:6:86:ASP:OD1	56:6:87:GLU:N	2.42	0.52
57:7:123:VAL:HG11	57:7:158:PHE:CE2	2.40	0.52
57:7:20:PRO:HB2	57:7:23:ALA:HB3	1.90	0.52
1:A:1365:A:N3	2:B:1259:C:O2'	2.35	0.52
1:A:321:A:O3'	1:A:322:A:H8	1.92	0.52
1:A:80:C:O2'	1:A:714:G:N3	2.41	0.52
1:A:752:G:O2'	1:A:814:C:O2'	2.26	0.52
64:AI:133:VAL:C	64:AI:134:LEU:HD12	2.30	0.52
74:AS:68:LYS:HE3	79:AY:8:LEU:HD13	1.90	0.52
2:B:1453:C:H6	2:B:1453:C:O5'	1.91	0.52
3:C:139:A:C4	3:C:142:A:N7	2.77	0.52
3:C:181:U:H2'	3:C:182:G:C8	2.44	0.52
4:D:53:U:H4'	11:K:15:PRO:HB2	1.90	0.52
15:O:168:GLY:HA2	15:O:171:HIS:CE1	2.43	0.52
15:O:49:ARG:HA	15:O:53:TYR:H	1.74	0.52
20:T:18:GLN:NE2	20:T:83:MET:SD	2.81	0.52
21:U:29:ASP:OD1	21:U:103:VAL:HG23	2.09	0.52
52:2:1599:G:H2'	52:2:1599:G:N3	2.23	0.52
52:2:2023:G:C2	52:2:2024:C:C4	2.98	0.52
52:2:257:A:HO2'	52:2:258:C:H5	1.56	0.52
52:2:913:G:HO2'	52:2:914:G:P	2.32	0.52
52:2:99:U:O2	55:5:21:HIS:HB2	2.08	0.52
57:7:90:ARG:HE	57:7:102:LYS:HE2	1.73	0.52
1:A:112:U:O2'	1:A:113:C:H5''	2.08	0.52
1:A:547:U:OP2	17:Q:7:ARG:NE	2.43	0.52
1:A:739:U:H2'	1:A:740:C:C6	2.45	0.52
59:AC:241:ARG:NH1	67:AL:80:ARG:HG2	2.24	0.52
59:AC:70:MET:SD	59:AC:73:TYR:HD2	2.33	0.52
59:AC:91:TRP:CE2	59:AC:95:ILE:HD11	2.45	0.52
72:AQ:51:VAL:HG13	72:AQ:52:ARG:HG2	1.91	0.52
80:AZ:33:ARG:HH21	80:AZ:38:GLY:H	1.56	0.52
2:B:466:G:OP2	2:B:1346:G:N2	2.31	0.52
14:N:153:LYS:HE3	14:N:162:ARG:HD2	1.91	0.52
15:O:165:THR:O	15:O:169:ARG:HG3	2.10	0.52
52:2:64:A:O2'	52:2:173:A:N3	2.36	0.52
52:2:1533:G:N2	52:2:1866:C:H42	2.07	0.52
52:2:1960:C:OP1	68:AM:126:HIS:HB3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:26:A:O2'	52:2:27:U:O5'	2.27	0.52
52:2:309:G:H21	52:2:311:G:H5'	1.73	0.52
52:2:55:A:H1'	52:2:469:G:N2	2.24	0.52
58:8:41:ARG:HH22	72:AQ:62:THR:HB	1.74	0.52
64:AI:60:PRO:HB2	64:AI:63:LEU:HB2	1.91	0.52
65:AJ:112:ASP:HB2	65:AJ:115:GLU:HG3	1.92	0.52
66:AK:33:CYS:N	66:AK:68:ARG:HB3	2.23	0.52
71:AP:147:VAL:HG11	71:AP:229:ARG:HG2	1.91	0.52
77:AW:57:CYS:HB3	77:AW:60:CYS:O	2.10	0.52
78:AX:123:ARG:O	78:AX:127:GLU:N	2.36	0.52
9:I:5:LEU:HD12	9:I:5:LEU:O	2.10	0.52
50:0:30:TRP:HB3	50:0:243:GLU:OE1	2.09	0.52
52:2:2000:G:N2	52:2:2026:G:C8	2.78	0.52
52:2:2201:U:O2'	52:2:2202:U:OP2	2.26	0.52
52:2:56:U:H5'	52:2:446:A:N1	2.25	0.52
52:2:699:A:N1	52:2:750:U:O2	2.41	0.52
52:2:753:A:C6	52:2:754:G:C6	2.97	0.52
54:4:195:GLN:OE1	77:AW:25:LEU:HD23	2.09	0.52
60:AD:68:LEU:CA	60:AD:72:THR:HG22	2.40	0.52
60:AD:68:LEU:HA	60:AD:72:THR:HG22	1.91	0.52
65:AJ:57:ARG:NH1	77:AW:27:GLN:OE1	2.41	0.52
64:AI:134:LEU:O	68:AM:151:ARG:HA	2.09	0.52
2:B:1396:G:O2'	2:B:1398:A:N7	2.28	0.52
2:B:368:C:O2'	2:B:497:U:OP2	2.28	0.52
14:N:39:GLU:OE2	14:N:48:ARG:HG3	2.09	0.52
17:Q:132:PRO:HG2	17:Q:135:GLU:OE1	2.08	0.52
19:S:40:VAL:CG2	19:S:96:VAL:HG13	2.39	0.52
25:Y:18:TYR:CA	25:Y:21:HIS:HD2	2.22	0.52
51:1:132:ARG:HB3	52:2:288:A:H62	1.73	0.52
52:2:1589:C:C2	52:2:1590:A:C8	2.97	0.52
52:2:506:U:OP1	75:AT:115:LYS:HE2	2.08	0.52
52:2:726:G:O2'	52:2:727:U:OP1	2.25	0.52
57:7:285:ILE:HB	57:7:294:LEU:HD11	1.92	0.52
57:7:40:ALA:O	57:7:58:SER:N	2.40	0.52
1:A:25:C:N4	1:A:55:A:H61	2.02	0.52
59:AC:57:MET:HG3	59:AC:209:MET:HG3	1.91	0.52
66:AK:61:VAL:HG12	66:AK:62:GLY:N	2.20	0.52
67:AL:40:ILE:HD11	78:AX:207:ILE:HD11	1.90	0.52
52:2:1528:G:OP1	68:AM:131:ARG:HB3	2.10	0.52
72:AQ:91:PRO:HG2	72:AQ:95:VAL:HG23	1.90	0.52
1:A:1161:A:C6	9:I:13:ARG:NH2	2.78	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:59:ALA:O	50:0:62:LEU:N	2.39	0.52
52:2:1520:C:OP1	69:AN:64:PHE:HB3	2.10	0.52
52:2:1536:U:O2'	52:2:1537:A:OP1	2.24	0.52
52:2:1947:A:H2'	52:2:1948:C:O4'	2.08	0.52
52:2:1966:U:H2'	52:2:1967:U:C5	2.45	0.52
52:2:746:C:H2'	52:2:748:C:C5	2.44	0.52
54:4:41:LEU:N	54:4:42:PRO:HD3	2.25	0.52
1:A:803:C:OP1	9:I:73:ARG:NE	2.41	0.52
55:5:210:PHE:CD2	61:AE:23:TYR:HB2	2.45	0.52
65:AJ:10:ALA:O	65:AJ:13:THR:OG1	2.26	0.52
70:AO:58:CYS:HA	70:AO:113:ARG:CZ	2.39	0.52
78:AX:46:GLU:HB2	78:AX:84:GLN:HB3	1.91	0.52
14:N:118:ARG:O	14:N:122:HIS:N	2.36	0.52
16:P:109:PRO:HA	16:P:112:MET:HG2	1.91	0.52
20:T:81:THR:HG21	20:T:85:TYR:CD2	2.45	0.52
25:Y:32:ALA:HB1	25:Y:37:PRO:HA	1.91	0.52
52:2:1517:A:O2'	52:2:1518:G:H2'	2.10	0.52
52:2:1836:G:C4	58:8:44:PHE:CE2	2.98	0.52
52:2:2024:C:H2'	52:2:2025:C:C6	2.44	0.52
52:2:377:A:C5	55:5:49:ARG:HD3	2.44	0.52
52:2:114:U:HO2'	52:2:377:A:HO2'	1.56	0.52
52:2:467:C:O2'	52:2:469:G:OP1	2.24	0.52
52:2:731:A:C4	52:2:732:U:C5	2.97	0.52
52:2:768:A:H3'	52:2:769:A:C5'	2.39	0.52
1:A:304:G:H1'	15:O:50:MET:CE	2.40	0.52
63:AH:71:ALA:HB3	63:AH:111:ALA:HB3	1.92	0.52
68:AM:87:ARG:HE	68:AM:99:LEU:HD21	1.74	0.52
72:AQ:39:ARG:NE	72:AQ:98:ILE:O	2.42	0.52
2:B:1385:A:O2'	2:B:1386:G:OP1	2.27	0.52
12:L:205:ALA:O	12:L:209:ARG:HG2	2.10	0.52
18:R:181:ARG:NH1	52:2:972:A:C3'	2.71	0.52
20:T:81:THR:HG22	20:T:83:MET:N	2.24	0.52
52:2:1561:U:H3	52:2:1860:G:H1	1.57	0.52
52:2:500:A:C6	52:2:502:A:H2	2.28	0.52
53:3:31:TYR:HB2	53:3:105:LEU:HD12	1.91	0.52
55:5:29:LEU:CD1	55:5:29:LEU:N	2.72	0.52
56:6:129:GLN:OE1	56:6:141:THR:HG22	2.09	0.52
57:7:28:LYS:HZ3	57:7:94:LEU:HB3	1.75	0.52
1:A:1113:A:H4'	19:S:105:PHE:CD1	2.45	0.52
1:A:1751:G:N2	1:A:1762:C:O2	2.41	0.52
1:A:188:A:O2'	1:A:189:A:O5'	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:A:N6	1:A:190:U:O4	2.43	0.52
64:AI:87:LEU:HD12	64:AI:87:LEU:O	2.10	0.52
67:AL:41:ALA:H	67:AL:47:LYS:HZ1	1.57	0.52
67:AL:95:ILE:O	67:AL:96:GLN:HB2	2.10	0.52
74:AS:61:GLN:CG	74:AS:62:PRO:CD	2.88	0.52
9:I:144:TYR:CE2	9:I:146:LEU:HD21	2.45	0.52
13:M:221:TYR:CE2	14:N:117:ARG:HD2	2.45	0.52
15:O:50:MET:N	15:O:51:LEU:O	2.43	0.52
17:Q:142:ALA:HA	17:Q:145:HIS:CE1	2.44	0.52
52:2:1557:A:H2	52:2:1970:A:N1	2.08	0.52
52:2:1836:G:O2'	58:8:27:ASN:ND2	2.43	0.52
52:2:1869:A:N6	68:AM:139:THR:HG1	2.07	0.52
52:2:52:U:H2'	52:2:53:G:H8	1.74	0.52
52:2:581:A:H4'	52:2:582:U:OP2	2.09	0.52
52:2:688:G:P	54:4:121:SER:HG	2.32	0.52
1:A:81:U:HO2'	1:A:738:C:HO2'	1.57	0.52
60:AD:101:HIS:HB3	78:AX:75:ARG:NH2	2.25	0.52
52:2:1206:C:H4'	62:AG:16:LEU:HD23	1.91	0.52
2:B:688:U:H2'	2:B:689:G:H8	1.74	0.52
16:P:5:SER:H	16:P:147:GLN:HE22	1.58	0.52
52:2:1941:A:C6	52:2:1942:C:N3	2.78	0.52
52:2:1951:A:C5	52:2:1953:U:C2	2.98	0.52
52:2:1980:C:OP2	68:AM:39:ILE:HD13	2.10	0.52
54:4:9:ARG:NH1	54:4:11:LEU:HD12	2.19	0.52
57:7:70:CYS:SG	57:7:112:ALA:HA	2.50	0.52
60:AD:59:ASP:OD1	60:AD:100:ARG:NH2	2.43	0.52
64:AI:65:LYS:O	64:AI:68:ARG:N	2.39	0.52
67:AL:23:LYS:HE3	67:AL:34:VAL:HB	1.90	0.52
76:AV:30:ARG:HG2	76:AV:78:CYS:SG	2.49	0.52
78:AX:114:VAL:CG2	78:AX:141:ILE:HD12	2.39	0.52
56:6:122:HIS:CE1	79:AY:37:ARG:HD3	2.44	0.52
9:I:3:VAL:HG13	9:I:5:LEU:HD23	1.92	0.52
17:Q:28:LYS:NZ	19:S:143:VAL:HG11	2.24	0.52
18:R:8:ALA:HB1	18:R:19:ARG:NH2	2.20	0.52
26:Z:72:THR:O	26:Z:106:TYR:HD1	1.93	0.52
50:0:124:MET:SD	50:0:164:VAL:HG22	2.50	0.51
52:2:1240:A:C6	52:2:1259:U:C2	2.98	0.51
52:2:133:G:O6	52:2:139:C:N4	2.42	0.51
52:2:1629:A:O2'	78:AX:140:LYS:NZ	2.43	0.51
52:2:1948:C:H5''	52:2:1949:U:OP2	2.08	0.51
52:2:229:A:O2'	52:2:230:G:O5'	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:526:G:C4	52:2:527:A:C8	2.97	0.51
52:2:913:G:H4'	52:2:914:G:O5'	2.10	0.51
52:2:91:A:H5'	52:2:91:A:N3	2.24	0.51
53:3:49:TYR:CD2	53:3:120:GLY:HA3	2.44	0.51
57:7:2:ASN:OD1	57:7:6:HIS:NE2	2.43	0.51
1:A:446:U:H4'	1:A:1508:G:H4'	1.92	0.51
1:A:578:G:C2	1:A:629:G:N7	2.78	0.51
52:2:1208:U:H5''	62:AG:71:ILE:HD12	1.93	0.51
63:AH:106:GLN:HG2	76:AV:47:LEU:HD13	1.92	0.51
64:AI:84:LYS:HG3	64:AI:102:ALA:C	2.30	0.51
64:AI:24:TYR:CZ	64:AI:119:ILE:HB	2.45	0.51
68:AM:95:LYS:HE2	68:AM:97:GLU:CG	2.33	0.51
69:AN:183:GLU:HA	69:AN:186:ALA:HB3	1.92	0.51
76:AV:26:PHE:HB3	76:AV:77:PHE:CE1	2.45	0.51
2:B:1399:A:H2'	2:B:1400:A:O4'	2.11	0.51
1:A:323:U:O2'	15:O:180:LYS:O	2.28	0.51
52:2:740:C:H6	52:2:740:C:O5'	1.93	0.51
55:5:60:LEU:HD12	55:5:60:LEU:C	2.31	0.51
1:A:1134:C:H4'	1:A:1135:U:H4'	1.93	0.51
1:A:1603:U:C2	1:A:1628:G:N2	2.78	0.51
59:AC:52:GLN:O	59:AC:56:ALA:N	2.42	0.51
60:AD:49:PHE:O	60:AD:50:THR:OG1	2.24	0.51
70:AO:157:ASP:OD1	70:AO:157:ASP:N	2.37	0.51
71:AP:177:VAL:HG11	71:AP:224:THR:HG22	1.93	0.51
58:8:36:GLU:OE2	72:AQ:58:LEU:HD22	2.09	0.51
2:B:446:C:OP1	52:2:2183:G:C8	2.63	0.51
2:B:972:A:H2'	2:B:973:G:C8	2.45	0.51
3:C:181:U:H2'	3:C:182:G:H8	1.74	0.51
19:S:28:SER:O	19:S:32:THR:HG23	2.11	0.51
52:2:1233:A:H2'	52:2:1234:G:O4'	2.10	0.51
52:2:1444:U:H5''	52:2:1445:U:H5''	1.92	0.51
52:2:1537:A:N6	52:2:1538:A:C6	2.78	0.51
52:2:1698:A:C6	52:2:1701:A:N1	2.79	0.51
51:1:143:ARG:NH2	52:2:338:U:O2	2.40	0.51
55:5:211:TYR:O	55:5:215:LEU:N	2.42	0.51
1:A:1465:U:O2'	1:A:1467:G:OP1	2.25	0.51
1:A:178:G:C2	1:A:179:G:C5	2.97	0.51
1:A:767:U:O4	1:A:768:C:N4	2.44	0.51
60:AD:87:LEU:HG	60:AD:90:ARG:HH11	1.75	0.51
66:AK:38:ASN:HA	66:AK:73:VAL:HG23	1.92	0.51
72:AQ:43:GLU:N	72:AQ:43:GLU:OE1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AX:53:LYS:HG2	78:AX:56:GLU:OE1	2.10	0.51
2:B:1391:U:O2'	2:B:1392:C:H3'	2.10	0.51
7:G:105:A:H5''	7:G:106:G:H5''	1.92	0.51
50:0:29:GLU:O	50:0:48:ILE:HA	2.10	0.51
51:1:18:SER:HG	51:1:21:THR:HG1	1.50	0.51
52:2:1545:U:H2'	52:2:1546:C:C6	2.45	0.51
52:2:740:C:H2'	52:2:741:C:O4'	2.08	0.51
54:4:40:GLU:C	54:4:42:PRO:HD3	2.30	0.51
52:2:380:G:O6	55:5:5:ARG:HD2	2.09	0.51
56:6:113:PHE:CD1	56:6:120:SER:HA	2.33	0.51
69:AN:96:GLN:O	69:AN:100:ASP:N	2.31	0.51
74:AS:27:TRP:HZ3	74:AS:30:ALA:HB1	1.74	0.51
78:AX:94:GLY:HA2	78:AX:100:GLN:NE2	2.25	0.51
2:B:1447:G:C6	2:B:1448:C:C2	2.98	0.51
2:B:717:G:H2'	2:B:718:G:C8	2.45	0.51
20:T:16:GLN:NE2	20:T:84:ALA:O	2.41	0.51
21:U:12:ARG:NH2	21:U:15:VAL:HB	2.26	0.51
50:0:218:VAL:HG12	50:0:218:VAL:O	2.09	0.51
51:1:122:LYS:HB2	51:1:223:PHE:CE1	2.46	0.51
52:2:1921:A:C6	52:2:1922:A:C8	2.99	0.51
52:2:555:C:H2'	52:2:556:A:O4'	2.10	0.51
52:2:689:U:OP2	54:4:182:ARG:NH1	2.38	0.51
52:2:872:A:H4'	56:6:6:ASN:O	2.10	0.51
57:7:67:PHE:HB2	57:7:85:TRP:CD1	2.46	0.51
57:7:69:SER:H	57:7:84:SER:HA	1.75	0.51
66:AK:44:GLN:HE22	70:AO:25:LYS:C	2.14	0.51
67:AL:101:VAL:HB	67:AL:121:LYS:O	2.10	0.51
68:AM:28:PRO:HG2	68:AM:29:PHE:CD2	2.45	0.51
68:AM:35:LYS:HG3	68:AM:101:SER:H	1.75	0.51
68:AM:27:VAL:CG2	68:AM:54:GLU:CB	2.86	0.51
59:AC:45:ARG:HD3	73:AR:84:ARG:HH12	1.76	0.51
14:N:23:ARG:O	14:N:46:MET:HE3	2.10	0.51
15:O:176:HIS:HB3	15:O:180:LYS:HB2	1.92	0.51
18:R:28:GLU:HG3	18:R:49:PHE:CD1	2.45	0.51
20:T:81:THR:HG22	20:T:83:MET:H	1.75	0.51
12:L:190:LEU:HD12	26:Z:143:LEU:HD22	1.92	0.51
52:2:1608:C:H4'	52:2:1609:G:N7	2.25	0.51
52:2:1817:U:H4'	52:2:1817:U:OP2	2.11	0.51
52:2:1875:A:H4'	52:2:1955:G:N3	2.26	0.51
52:2:1975:U:H5	52:2:2014:U:HO2'	1.51	0.51
52:2:716:U:H2'	52:2:717:C:C2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:750:U:H6	52:2:750:U:H3'	1.76	0.51
52:2:448:C:O2'	53:3:95:ARG:O	2.28	0.51
55:5:57:ALA:CB	55:5:60:LEU:HD23	2.41	0.51
1:A:357:A:C2	1:A:358:G:C4	2.98	0.51
65:AJ:94:LEU:HD11	65:AJ:102:VAL:HG23	1.93	0.51
66:AK:138:HIS:N	66:AK:142:THR:O	2.39	0.51
66:AK:62:GLY:HA3	66:AK:66:TYR:CD2	2.38	0.51
66:AK:89:GLN:O	66:AK:122:LEU:HD23	2.09	0.51
1:A:1743:A:O2'	5:E:201:A:N1	2.39	0.51
7:G:36:G:N1	7:G:166:C:H5	2.03	0.51
21:U:81:ILE:HD12	21:U:116:ILE:HG23	1.92	0.51
23:W:8:PHE:HZ	23:W:53:ILE:HD13	1.76	0.51
51:1:171:LYS:HG3	51:1:173:ARG:HH12	1.76	0.51
52:2:1963:G:H1	52:2:1980:C:H42	1.57	0.51
52:2:588:G:O2'	52:2:589:U:H3'	2.11	0.51
52:2:883:G:O2'	52:2:884:A:H8	1.94	0.51
54:4:30:LEU:HD22	54:4:38:ARG:NH2	2.24	0.51
57:7:236:SER:CB	57:7:254:THR:HB	2.41	0.51
57:7:286:ALA:O	57:7:294:LEU:HD12	2.11	0.51
1:A:1110:G:H21	19:S:61:THR:HG21	1.75	0.51
1:A:130:U:C4	1:A:132:A:C8	2.99	0.51
60:AD:129:GLN:HG3	60:AD:130:LYS:H	1.76	0.51
61:AE:73:CYS:O	61:AE:77:SER:OG	2.26	0.51
63:AH:106:GLN:NE2	76:AV:47:LEU:HA	2.26	0.51
66:AK:96:ILE:HD11	66:AK:115:PHE:CD2	2.46	0.51
67:AL:104:LYS:O	67:AL:107:GLN:N	2.43	0.51
64:AI:134:LEU:O	68:AM:151:ARG:CA	2.59	0.51
68:AM:58:GLY:CA	68:AM:62:ALA:HB3	2.41	0.51
70:AO:23:ILE:O	70:AO:25:LYS:N	2.40	0.51
72:AQ:63:ARG:HH21	72:AQ:70:GLY:HA3	1.76	0.51
72:AQ:98:ILE:HA	72:AQ:101:PHE:CD2	2.45	0.51
75:AT:98:LYS:HB3	75:AT:103:PHE:O	2.10	0.51
58:8:50:HIS:HE1	78:AX:21:PHE:CE2	2.29	0.51
1:A:389:A:N6	3:C:112:U:H3	2.08	0.51
7:G:34:A:OP2	13:M:167:LYS:NZ	2.44	0.51
51:1:117:GLN:O	51:1:161:VAL:HG12	2.11	0.51
52:2:729:G:N7	52:2:730:G:H1'	2.26	0.51
52:2:937:C:O2'	52:2:938:G:OP2	2.25	0.51
53:3:112:VAL:HG12	53:3:114:VAL:HG23	1.91	0.51
53:3:3:LEU:O	53:3:15:GLN:HG3	2.11	0.51
53:3:62:PHE:CD2	53:3:73:ARG:NH1	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:8:53:PHE:CE1	72:AQ:79:LEU:HG	2.46	0.51
59:AC:44:LEU:HD21	59:AC:221:LEU:HD21	1.93	0.51
61:AE:48:ARG:CZ	61:AE:66:GLY:O	2.58	0.51
65:AJ:105:THR:HG22	65:AJ:110:ILE:HG13	1.93	0.51
72:AQ:36:LEU:O	72:AQ:39:ARG:HG2	2.10	0.51
75:AT:93:GLU:HG2	75:AT:94:PRO:HD2	1.92	0.51
78:AX:73:GLN:OE1	78:AX:78:TYR:HB2	2.11	0.51
80:AZ:33:ARG:HH12	80:AZ:39:ASN:C	2.13	0.51
3:C:147:G:C2	3:C:148:C:C2	2.98	0.51
1:A:805:A:C1'	9:I:147:ARG:HD2	2.40	0.51
23:W:22:VAL:HG22	23:W:32:VAL:HG22	1.93	0.51
52:2:1698:A:C5	52:2:1701:A:C6	2.98	0.51
52:2:1964:G:H21	52:2:1978:G:N2	2.06	0.51
52:2:598:G:N2	52:2:639:C:O2	2.44	0.51
52:2:733:U:H6	52:2:733:U:H3'	1.76	0.51
68:AM:65:LEU:O	68:AM:68:ILE:N	2.43	0.51
69:AN:19:THR:O	69:AN:25:ARG:NE	2.42	0.51
69:AN:8:LEU:O	69:AN:34:TYR:HA	2.11	0.51
78:AX:133:CYS:HB2	78:AX:153:ASP:OD2	2.11	0.51
2:B:1450:U:HO2'	2:B:1451:G:P	2.33	0.51
6:F:73:A:H8	6:F:73:A:O5'	1.93	0.51
9:I:129:THR:HG23	9:I:131:ASP:OD1	2.11	0.51
13:M:80:LYS:CB	13:M:87:GLY:HA2	2.39	0.51
14:N:150:LYS:O	14:N:154:MET:N	2.37	0.51
52:2:1292:U:C2'	52:2:1293:G:H5''	2.41	0.51
52:2:1516:A:O2'	52:2:1517:A:OP1	2.29	0.51
52:2:1958:A:C5	52:2:1959:C:N3	2.78	0.51
52:2:2006:G:H5''	70:AO:110:TYR:CZ	2.46	0.51
52:2:38:C:O3'	56:6:5:ASN:ND2	2.37	0.51
52:2:44:C:HO2'	52:2:45:U:P	2.33	0.51
52:2:527:A:H2'	52:2:528:G:C8	2.46	0.51
52:2:597:G:H1	52:2:640:A:N6	2.09	0.51
55:5:76:VAL:HG12	55:5:105:ASP:HB3	1.93	0.51
55:5:204:GLU:O	55:5:208:LEU:HB3	2.03	0.51
52:2:310:U:H1'	55:5:55:ILE:HD11	1.93	0.51
1:A:1752:G:H5''	1:A:1753:A:N7	2.26	0.51
59:AC:171:ARG:O	59:AC:174:SER:OG	2.13	0.51
62:AG:46:MET:HB3	62:AG:86:GLU:OE1	2.10	0.51
69:AN:136:ALA:O	69:AN:140:MET:HB2	2.10	0.51
70:AO:56:PRO:HD3	70:AO:64:SER:HB2	1.92	0.51
15:O:106:LEU:HD12	15:O:132:VAL:CB	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:36:PHE:HB2	17:Q:63:CYS:SG	2.51	0.51
22:V:53:VAL:HG12	22:V:54:THR:N	2.26	0.51
52:2:1519:A:N6	52:2:1996:U:O4	2.39	0.50
52:2:2006:G:H5''	70:AO:110:TYR:CE2	2.45	0.50
52:2:489:A:N6	52:2:509:G:H21	2.08	0.50
52:2:957:G:H2'	52:2:958:G:O4'	2.10	0.50
53:3:192:ALA:O	53:3:196:LYS:HG2	2.11	0.50
57:7:281:GLU:HB3	57:7:299:LYS:HB2	1.91	0.50
1:A:30:C:OP2	15:O:95:ASN:ND2	2.41	0.50
1:A:476:U:H1'	1:A:658:G:N2	2.25	0.50
66:AK:118:TYR:O	66:AK:119:ASP:HB2	2.10	0.50
66:AK:25:ALA:HB2	66:AK:90:ALA:HB1	1.92	0.50
69:AN:27:HIS:O	69:AN:28:ILE:HG13	2.11	0.50
70:AO:40:ILE:HG23	70:AO:46:HIS:CD2	2.46	0.50
5:E:49:G:H2'	5:E:50:U:H6	1.75	0.50
10:J:51:HIS:HB3	10:J:137:SER:HA	1.92	0.50
10:J:211:VAL:HG22	10:J:212:MET:HG3	1.92	0.50
13:M:68:ASN:HD22	13:M:71:LYS:HD2	1.76	0.50
14:N:10:GLY:O	14:N:11:ARG:C	2.46	0.50
18:R:62:ARG:HB2	18:R:62:ARG:CZ	2.41	0.50
25:Y:101:ASP:OD1	25:Y:102:ALA:N	2.44	0.50
50:0:40:GLU:HG3	50:0:76:GLN:CD	2.26	0.50
52:2:1164:C:H2'	52:2:1165:G:H5'	1.94	0.50
52:2:1851:G:C6	52:2:1852:U:C4	2.99	0.50
52:2:38:C:O2'	52:2:39:A:P	2.69	0.50
52:2:75:U:O2	52:2:77:G:H1'	2.11	0.50
56:6:125:ARG:HD3	79:AY:33:ARG:HD3	1.93	0.50
57:7:255:GLU:HG3	57:7:256:LYS:N	2.26	0.50
58:8:29:LYS:CG	58:8:30:ALA:H	2.24	0.50
1:A:712:G:N2	1:A:739:U:O2	2.44	0.50
69:AN:58:LEU:O	69:AN:62:LEU:N	2.44	0.50
3:C:139:A:C6	3:C:153:A:C5	2.99	0.50
6:F:37:C:H2'	6:F:38:C:C6	2.47	0.50
6:F:18:A:P	13:M:136:ARG:HH12	2.34	0.50
2:B:994:U:P	19:S:9:SER:HG	2.34	0.50
21:U:82:ARG:HG2	21:U:101:ALA:HB3	1.93	0.50
51:1:18:SER:OG	51:1:20:LEU:O	2.29	0.50
52:2:1557:A:H5'	52:2:1559:U:C5	2.46	0.50
52:2:271:U:H2'	52:2:272:G:C8	2.45	0.50
52:2:936:U:HO2'	52:2:937:C:H6	1.59	0.50
57:7:17:LEU:HB3	57:7:286:ALA:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:826:G:N2	1:A:827:G:C4	2.80	0.50
60:AD:49:PHE:CE2	60:AD:114:MET:HG3	2.46	0.50
64:AI:136:GLY:HA2	68:AM:153:LYS:HE3	1.94	0.50
68:AM:48:LYS:HB2	68:AM:67:LYS:NZ	2.26	0.50
52:2:1918:C:H42	70:AO:50:GLU:HG3	1.77	0.50
71:AP:43:TRP:O	71:AP:54:LYS:NZ	2.32	0.50
78:AX:187:ILE:HG22	78:AX:188:MET:O	2.12	0.50
2:B:1229:C:H5''	10:J:10:ARG:NH2	2.26	0.50
14:N:51:GLN:NE2	14:N:55:ASN:HD22	2.09	0.50
18:R:42:ARG:HH12	26:Z:55:LYS:NZ	113.13	0.50
26:Z:114:HIS:O	26:Z:115:ILE:O	2.28	0.50
26:Z:63:ARG:HH12	26:Z:65:LYS:CE	2.23	0.50
51:1:84:MET:HE1	51:1:234:VAL:HG11	1.93	0.50
52:2:166:C:O2'	52:2:167:C:H5'	2.10	0.50
52:2:1845:C:N4	52:2:1846:U:O4	2.45	0.50
52:2:25:C:OP1	56:6:9:ARG:NH2	2.44	0.50
57:7:117:PRO:HG3	57:7:160:PRO:C	2.31	0.50
57:7:265:SER:O	57:7:267:THR:HG23	2.12	0.50
58:8:21:CYS:N	58:8:28:GLN:HG2	2.26	0.50
1:A:71:C:O2	12:L:74:ARG:NH2	2.45	0.50
1:A:753:A:H2	1:A:832:G:N3	2.08	0.50
52:2:1534:U:O2'	64:AI:135:HIS:O	2.27	0.50
52:2:1863:A:OP1	68:AM:124:VAL:HG12	2.11	0.50
75:AT:25:ARG:HH11	75:AT:81:LEU:HD22	1.77	0.50
78:AX:47:ILE:HD12	78:AX:83:LEU:HD21	1.92	0.50
4:D:27:C:H2'	4:D:28:A:O4'	2.12	0.50
13:M:141:ARG:HH12	17:Q:167:ILE:HG12	1.76	0.50
50:0:97:ARG:HD3	50:0:243:GLU:HB2	1.91	0.50
52:2:164:C:H3'	52:2:164:C:P	2.52	0.50
52:2:375:G:H4'	55:5:31:ARG:O	2.12	0.50
51:1:26:PRO:HD3	52:2:491:G:OP1	2.11	0.50
52:2:597:G:C2	52:2:640:A:N1	2.79	0.50
57:7:3:TYR:HD2	57:7:306:TRP:HE3	1.59	0.50
1:A:225:C:H2'	1:A:226:C:C6	2.47	0.50
60:AD:87:LEU:HG	60:AD:90:ARG:HD2	1.94	0.50
67:AL:94:ALA:CB	67:AL:97:SER:HB3	2.41	0.50
52:2:1864:C:O4'	68:AM:151:ARG:HB2	2.12	0.50
69:AN:149:PHE:HE2	69:AN:150:ARG:HE	1.60	0.50
70:AO:80:ILE:HD11	70:AO:95:VAL:HG11	1.94	0.50
74:AS:18:ARG:HA	74:AS:21:ARG:NH2	2.26	0.50
2:B:1338:G:N2	2:B:1341:A:OP2	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1425:G:H2'	2:B:1426:G:C8	2.45	0.50
1:A:16:G:N2	3:C:244:C:O2	2.44	0.50
15:O:57:GLN:HB2	15:O:141:THR:HG21	1.93	0.50
15:O:39:LEU:HD21	15:O:63:ARG:NH2	2.27	0.50
7:G:70:C:OP1	21:U:50:ARG:NH1	2.43	0.50
50:O:66:VAL:HA	50:O:89:PHE:O	2.11	0.50
52:2:1836:G:H22	58:8:47:ASN:HD22	1.59	0.50
52:2:503:C:N4	75:AT:108:LEU:HG	2.27	0.50
52:2:588:G:OP2	52:2:588:G:N3	2.45	0.50
1:A:607:C:H2'	1:A:608:G:C8	2.47	0.50
60:AD:93:ILE:HG12	60:AD:106:LEU:HD22	1.93	0.50
60:AD:49:PHE:CE1	60:AD:124:ALA:HA	2.47	0.50
61:AE:99:ILE:HD13	61:AE:126:CYS:SG	2.52	0.50
68:AM:49:ALA:HB2	68:AM:68:ILE:HD11	1.94	0.50
70:AO:37:TRP:CZ3	70:AO:71:ALA:HA	2.47	0.50
52:2:594:A:P	79:AY:31:ARG:HH11	2.34	0.50
6:F:20:A:N6	17:Q:172:ASN:OD1	2.44	0.50
3:C:119:C:H5''	12:L:32:ASN:HB3	1.93	0.50
20:T:18:GLN:HE22	20:T:67:LYS:HE2	1.76	0.50
52:2:1530:G:C6	52:2:1531:C:N3	2.80	0.50
52:2:1533:G:N2	52:2:1864:C:H41	2.09	0.50
52:2:1793:C:N4	52:2:1809:G:H22	2.09	0.50
52:2:1529:U:C4	52:2:1869:A:N6	2.78	0.50
52:2:1912:C:H5''	70:AO:88:ALA:CB	2.40	0.50
52:2:587:A:OP1	52:2:587:A:H4'	2.12	0.50
54:4:189:MET:HE1	54:4:195:GLN:HA	1.93	0.50
54:4:49:VAL:HG12	54:4:50:ARG:N	2.26	0.50
58:8:20:ARG:O	58:8:28:GLN:HG2	2.12	0.50
1:A:435:G:H2'	1:A:437:A:H2	1.75	0.50
59:AC:214:LEU:O	59:AC:218:VAL:HG23	2.11	0.50
59:AC:205:LYS:HA	59:AC:239:PHE:CE1	2.47	0.50
66:AK:14:THR:HG22	66:AK:15:PHE:N	2.26	0.50
75:AT:10:VAL:HG13	75:AT:34:HIS:HB3	1.93	0.50
5:E:102:C:C2	5:E:133:G:N2	2.80	0.50
9:I:188:ARG:NH1	9:I:188:ARG:HG3	2.27	0.50
19:S:48:VAL:HG23	19:S:95:HIS:HE1	1.77	0.50
25:Y:66:SER:O	25:Y:68:VAL:HG23	2.12	0.50
52:2:1411:U:H2'	52:2:1412:C:C6	2.47	0.50
52:2:1893:A:H61	52:2:1934:C:P	2.34	0.50
52:2:1941:A:H2'	52:2:1942:C:H5'	1.94	0.50
52:2:1971:A:C4	52:2:1974:A:N7	2.79	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:793:U:C2	53:3:226:ARG:NH2	2.79	0.50
52:2:95:C:OP1	56:6:2:ARG:NH1	2.33	0.50
57:7:148:GLY:C	57:7:177:LYS:CE	2.80	0.50
1:A:741:G:HO2'	1:A:838:G:HO2'	1.59	0.50
59:AC:202:ARG:O	59:AC:206:SER:OG	2.27	0.50
64:AI:135:HIS:O	68:AM:153:LYS:HE3	2.12	0.50
52:2:1942:C:OP2	69:AN:77:ARG:HD3	2.11	0.50
72:AQ:37:LEU:HD13	72:AQ:86:ILE:HG21	1.93	0.50
60:AD:111:ILE:HD11	78:AX:63:ARG:NH2	2.27	0.50
2:B:1387:A:H5'	2:B:1391:U:C5	2.46	0.50
13:M:29:LEU:HD11	13:M:53:VAL:HG13	1.90	0.50
1:A:262:C:H4'	24:X:29:SER:O	2.11	0.50
51:1:8:ARG:NH1	51:1:18:SER:O	2.45	0.50
52:2:1981:G:H2'	52:2:1982:C:C6	2.47	0.50
52:2:1996:U:H1'	52:2:1997:C:P	2.52	0.50
52:2:757:C:C2	52:2:758:G:N1	2.80	0.50
52:2:760:G:C6	52:2:771:G:N2	2.76	0.50
52:2:969:A:OP2	54:4:69:ARG:HB2	2.11	0.50
55:5:169:HIS:HE1	55:5:171:VAL:HG23	1.77	0.50
57:7:151:ASP:OD1	57:7:152:TRP:N	2.40	0.50
1:A:509:U:H3	1:A:545:A:H61	1.60	0.50
1:A:553:A:N6	1:A:556:U:O2'	2.45	0.50
64:AI:44:VAL:HG12	64:AI:45:HIS:CD2	2.47	0.50
64:AI:136:GLY:HA3	68:AM:153:LYS:HG3	1.94	0.50
69:AN:8:LEU:HD22	69:AN:11:LYS:HA	1.94	0.50
2:B:390:A:H5'	52:2:1160:A:O4'	2.12	0.50
6:F:37:C:H2'	6:F:38:C:H6	1.76	0.50
9:I:180:THR:O	9:I:184:ARG:HB3	2.12	0.50
10:J:48:VAL:O	10:J:139:ARG:HA	2.12	0.50
50:0:97:ARG:HG2	50:0:243:GLU:CB	2.42	0.49
51:1:170:ILE:HD11	51:1:233:GLN:OE1	2.11	0.49
51:1:19:LYS:HG3	51:1:20:LEU:N	2.27	0.49
52:2:1092:A:H4'	52:2:1093:C:OP1	2.12	0.49
52:2:125:A:H4'	52:2:126:A:OP2	2.12	0.49
52:2:1517:A:OP1	80:AZ:39:ASN:ND2	2.45	0.49
52:2:1536:U:H5'	64:AI:133:VAL:HG21	1.93	0.49
52:2:1807:A:H2'	52:2:1808:A:C8	2.46	0.49
52:2:256:A:H4'	52:2:257:A:OP1	2.12	0.49
52:2:68:A:O2'	52:2:69:C:P	2.69	0.49
52:2:752:C:H2'	52:2:753:A:C8	2.46	0.49
52:2:2010:C:H5''	58:8:35:TYR:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:199:A:OP1	1:A:216:G:N2	2.43	0.49
1:A:765:C:H2'	1:A:766:A:C8	2.47	0.49
60:AD:124:ALA:HB1	60:AD:126:PRO:HD2	1.94	0.49
55:5:7:ARG:HH12	61:AE:151:ARG:HH21	1.59	0.49
69:AN:148:ALA:HA	69:AN:152:LEU:CD2	2.41	0.49
70:AO:26:ARG:HH12	70:AO:145:GLY:HA3	1.76	0.49
70:AO:34:VAL:HA	70:AO:37:TRP:CD1	2.41	0.49
70:AO:92:ARG:N	70:AO:93:PRO:HD2	2.26	0.49
80:AZ:57:ASN:N	80:AZ:58:ARG:CA	2.74	0.49
2:B:620:G:H2'	2:B:621:C:C6	2.47	0.49
1:A:373:G:N2	3:C:121:U:C2	2.80	0.49
1:A:1238:C:OP1	17:Q:165:ARG:NH1	2.45	0.49
18:R:32:ILE:HD11	18:R:49:PHE:HB3	1.94	0.49
52:2:121:C:H2'	52:2:122:A:O4'	2.12	0.49
50:0:151:ASN:ND2	52:2:1380:U:H1'	2.23	0.49
52:2:1890:A:N6	52:2:1937:C:N4	2.60	0.49
52:2:290:U:O2'	52:2:789:G:C2	2.61	0.49
52:2:939:G:C6	52:2:940:C:C2	3.00	0.49
57:7:246:ASN:OD1	57:7:247:ARG:N	2.39	0.49
1:A:1472:G:N2	1:A:1519:U:H1'	2.26	0.49
1:A:169:G:C6	1:A:288:A:N1	2.80	0.49
1:A:413:A:H2'	1:A:414:A:C8	2.48	0.49
60:AD:85:ARG:HA	60:AD:88:LYS:HB3	1.93	0.49
63:AH:140:ARG:HB2	63:AH:143:ARG:NH1	2.26	0.49
64:AI:134:LEU:HB3	68:AM:150:SER:CA	2.41	0.49
68:AM:122:ARG:O	68:AM:126:HIS:N	2.29	0.49
68:AM:11:GLN:HG2	68:AM:56:ARG:HB2	1.94	0.49
68:AM:85:LEU:HD22	68:AM:97:GLU:HB3	1.93	0.49
70:AO:28:GLY:HA2	70:AO:32:LYS:H	1.76	0.49
72:AQ:33:THR:HG21	72:AQ:84:ARG:HD2	1.95	0.49
9:I:185:ARG:HG3	9:I:187:GLY:H	1.76	0.49
9:I:8:ILE:N	9:I:8:ILE:CD1	2.75	0.49
1:A:1184:G:P	10:J:98:ARG:HH12	2.35	0.49
12:L:177:VAL:HG13	26:Z:98:VAL:CG2	2.41	0.49
21:U:111:MET:HE1	21:U:113:GLY:O	2.11	0.49
2:B:904:G:N2	25:Y:133:ARG:O	2.43	0.49
52:2:1884:A:N1	52:2:1885:G:C2	2.80	0.49
52:2:1895:A:H62	52:2:1908:C:N4	2.10	0.49
52:2:954:A:H2'	52:2:955:A:H8	1.77	0.49
53:3:10:ASN:O	53:3:132:ALA:N	2.37	0.49
54:4:190:TRP:C	54:4:192:PRO:HD2	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:155:SER:O	55:5:159:GLN:HG3	2.13	0.49
57:7:148:GLY:C	57:7:177:LYS:HE3	2.32	0.49
57:7:28:LYS:HD2	57:7:40:ALA:HB1	1.93	0.49
1:A:906:U:H4'	18:R:95:TRP:CZ3	2.47	0.49
59:AC:123:ILE:CG2	59:AC:134:PHE:HB2	2.42	0.49
1:A:343:U:O2	2:B:1150:G:N2	2.45	0.49
2:B:1365:A:N3	16:P:69:ARG:NH2	2.60	0.49
3:C:174:A:C6	3:C:175:U:H5	2.30	0.49
7:G:85:C:O2	7:G:85:C:H2'	2.11	0.49
13:M:57:GLU:O	13:M:158:GLY:N	2.44	0.49
15:O:139:CYS:HB3	15:O:142:ILE:HD12	1.94	0.49
25:Y:102:ALA:O	25:Y:103:SER:OG	2.22	0.49
52:2:1589:C:H2'	52:2:1590:A:H8	1.77	0.49
52:2:275:A:H2'	52:2:276:G:H8	1.78	0.49
57:7:148:GLY:CA	57:7:177:LYS:HE3	2.43	0.49
1:A:189:A:H5''	24:X:121:ARG:HH11	1.77	0.49
60:AD:83:LEU:O	60:AD:86:SER:OG	2.20	0.49
63:AH:110:ARG:HE	76:AV:51:SER:CB	2.26	0.49
52:2:1954:U:O4	68:AM:26:LYS:NZ	2.45	0.49
71:AP:183:PRO:HD2	71:AP:186:THR:HG21	1.94	0.49
80:AZ:27:ILE:HG23	80:AZ:43:VAL:HG13	1.93	0.49
5:E:205:C:H2'	5:E:206:U:C6	2.47	0.49
6:F:12:C:H1'	6:F:73:A:H2	1.76	0.49
12:L:59:LEU:HD23	12:L:100:ILE:HG12	1.93	0.49
16:P:41:LEU:HD12	16:P:150:MET:SD	2.53	0.49
1:A:907:G:OP1	18:R:92:LYS:HE3	2.12	0.49
19:S:80:VAL:HG12	19:S:81:ARG:N	2.24	0.49
52:2:1550:A:H4'	52:2:1551:C:O5'	2.11	0.49
52:2:1566:G:C2	52:2:1856:G:N1	2.80	0.49
52:2:1810:G:H2'	52:2:1811:U:H6	1.76	0.49
52:2:1948:C:H4'	52:2:1954:U:C5	2.47	0.49
52:2:733:U:C2	52:2:735:G:H8	2.29	0.49
52:2:750:U:HO2'	52:2:751:G:C4'	2.17	0.49
52:2:915:A:C2	62:AG:77:HIS:HB3	2.47	0.49
54:4:95:MET:SD	54:4:168:ARG:NH2	2.86	0.49
1:A:483:C:OP1	1:A:486:C:O2'	2.30	0.49
59:AC:99:ARG:HD3	73:AR:42:ALA:O	2.12	0.49
60:AD:48:PHE:O	60:AD:52:GLY:N	2.31	0.49
52:2:1970:A:OP2	64:AI:54:ARG:NH1	2.46	0.49
66:AK:37:VAL:HG23	66:AK:39:GLY:C	2.32	0.49
66:AK:41:PRO:HD3	70:AO:24:GLY:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:AV:78:CYS:HB3	76:AV:81:CYS:SG	2.52	0.49
2:B:82:G:O2'	2:B:517:U:O4	2.28	0.49
21:U:82:ARG:HB2	21:U:97:PHE:CD2	2.46	0.49
52:2:1532:G:H5'	52:2:1544:C:H42	1.78	0.49
52:2:1621:G:O2'	52:2:1851:G:O2'	2.30	0.49
52:2:708:C:H2'	52:2:709:C:C6	2.47	0.49
51:1:105:ARG:NH2	52:2:889:A:N7	2.61	0.49
1:A:931:G:O2'	1:A:932:C:H3'	2.12	0.49
63:AH:135:ARG:HG2	63:AH:136:LYS:N	2.27	0.49
68:AM:87:ARG:HB3	68:AM:90:ASP:OD1	2.13	0.49
80:AZ:23:GLN:NE2	80:AZ:47:LEU:HD13	2.27	0.49
2:B:556:A:N3	2:B:1198:G:O2'	2.42	0.49
4:D:6:A:OP1	11:K:151:LYS:NZ	2.28	0.49
8:H:119:C:N4	8:H:120:U:O4	2.46	0.49
12:L:20:CYS:O	12:L:21:SER:C	2.51	0.49
14:N:107:ASP:CB	14:N:110:ARG:HH21	2.26	0.49
14:N:39:GLU:N	14:N:39:GLU:OE1	2.46	0.49
14:N:13:VAL:CG2	14:N:56:VAL:HG13	2.36	0.49
17:Q:135:GLU:OE1	17:Q:135:GLU:N	2.46	0.49
19:S:38:ASP:OD2	19:S:98:LYS:HE3	2.12	0.49
23:W:54:PRO:HA	23:W:59:TYR:CD2	2.48	0.49
52:2:1093:C:N4	52:2:1094:G:O6	2.46	0.49
52:2:134:G:N2	52:2:135:U:H1'	2.27	0.49
52:2:1299:C:H5	52:2:1378:U:H3	1.61	0.49
52:2:1575:A:N3	52:2:1576:G:N7	2.61	0.49
52:2:2006:G:H2'	52:2:2007:C:C6	2.48	0.49
52:2:2088:G:H2'	52:2:2089:U:C6	2.47	0.49
52:2:255:A:N1	52:2:256:A:N6	2.61	0.49
52:2:309:G:N2	52:2:312:C:OP2	2.46	0.49
52:2:436:C:H2'	52:2:437:C:C6	2.48	0.49
52:2:593:A:O3'	79:AY:31:ARG:NH1	2.45	0.49
52:2:753:A:H2'	52:2:754:G:C8	2.48	0.49
56:6:89:LYS:HB3	56:6:94:TYR:CD2	2.48	0.49
59:AC:176:VAL:HG12	59:AC:176:VAL:O	2.13	0.49
52:2:1595:G:C4	64:AI:86:HIS:HD2	2.30	0.49
66:AK:89:GLN:HB3	66:AK:122:LEU:HD22	1.83	0.49
52:2:1865:G:H4'	68:AM:148:GLY:O	2.12	0.49
70:AO:85:VAL:HG22	70:AO:86:LEU:H	1.77	0.49
52:2:526:G:H5'	79:AY:33:ARG:HH22	1.76	0.49
2:B:412:C:H2'	2:B:413:C:C6	2.48	0.49
9:I:36:LEU:HD12	9:I:45:ASN:HD21	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:34:PRO:HD3	15:O:202:ARG:NH1	2.27	0.49
6:F:18:A:H5'	13:M:136:ARG:HH12	1.78	0.49
50:O:170:ARG:NH2	50:O:203:ARG:HH21	2.11	0.49
52:2:1516:A:H4'	80:AZ:37:ARG:HH11	1.77	0.49
52:2:1525:A:C8	68:AM:142:ARG:O	2.65	0.49
52:2:1909:C:C4	52:2:1910:U:N3	2.81	0.49
52:2:1947:A:O2'	52:2:1954:U:O4	2.25	0.49
52:2:2028:U:H1'	69:AN:64:PHE:HE1	1.76	0.49
52:2:394:U:H4'	52:2:395:U:H5''	1.94	0.49
52:2:586:G:H2'	52:2:587:A:H5''	1.94	0.49
52:2:588:G:C8	52:2:590:A:H5''	2.48	0.49
52:2:750:U:H2'	52:2:751:G:C1'	2.42	0.49
52:2:951:U:H2'	52:2:952:U:C6	2.48	0.49
54:4:189:MET:CE	54:4:195:GLN:HA	2.43	0.49
57:7:12:GLY:N	57:7:35:ASP:HB3	2.28	0.49
57:7:146:ARG:HD3	57:7:177:LYS:CD	2.42	0.49
57:7:214:LYS:NZ	57:7:237:PRO:HG3	2.28	0.49
58:8:33:ARG:HH12	58:8:45:ARG:HB2	1.77	0.49
66:AK:27:VAL:HG21	66:AK:98:PHE:HE1	1.78	0.49
66:AK:35:ILE:HG12	66:AK:71:ILE:HB	1.95	0.49
71:AP:125:ALA:O	71:AP:126:ARG:HD2	2.13	0.49
2:B:1460:A:H2'	2:B:1461:U:C6	2.47	0.49
12:L:90:LEU:HD23	12:L:95:ALA:HB2	1.94	0.49
17:Q:166:ALA:HA	17:Q:179:ALA:HA	1.94	0.49
17:Q:27:TYR:HB3	19:S:146:LEU:HG	1.95	0.49
17:Q:9:TYR:CE1	17:Q:65:VAL:HG12	2.47	0.49
22:V:67:ARG:HH12	22:V:90:ASP:HA	1.76	0.49
52:2:1113:G:OP1	62:AG:3:ARG:HD2	2.12	0.49
52:2:1517:A:H3'	52:2:1517:A:OP2	2.12	0.49
52:2:1968:G:H2'	52:2:1968:G:OP2	2.12	0.49
52:2:760:G:N2	52:2:776:A:H1'	2.27	0.49
54:4:146:ARG:HA	65:AJ:49:GLU:OE1	2.13	0.49
52:2:974:G:H5'	54:4:44:PHE:CE2	2.47	0.49
54:4:81:LEU:O	54:4:85:LEU:N	2.38	0.49
57:7:124:SER:OG	57:7:132:ARG:HB2	2.12	0.49
57:7:18:ALA:HB1	57:7:73:LEU:HG	1.95	0.49
57:7:81:LEU:HD13	57:7:91:MET:SD	2.53	0.49
1:A:811:G:H2'	1:A:812:A:C8	2.46	0.49
60:AD:88:LYS:NZ	60:AD:93:ILE:O	2.46	0.49
61:AE:138:VAL:HG11	61:AE:154:VAL:HG22	1.94	0.49
52:2:1528:G:H3'	68:AM:136:HIS:HD2	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:AM:43:TYR:HB3	68:AM:47:LYS:HG3	1.94	0.49
76:AV:48:ASP:HB3	80:AZ:85:ARG:HH22	1.78	0.49
52:2:1686:U:H1'	78:AX:201:GLU:OE2	2.13	0.49
2:B:599:U:H2'	2:B:600:U:C6	2.48	0.49
50:0:203:ARG:NH2	52:2:1399:A:H5''	2.28	0.49
51:1:56:ARG:O	51:1:60:MET:HG2	2.13	0.49
52:2:1138:G:N2	52:2:1169:C:C2	2.81	0.49
52:2:1912:C:OP2	70:AO:90:TYR:HB2	2.13	0.49
52:2:1919:A:H1'	70:AO:54:PHE:CE1	2.48	0.49
52:2:2050:C:HO2'	52:2:2051:A:P	2.36	0.49
52:2:21:U:O2'	52:2:22:A:P	2.71	0.49
52:2:498:C:H2'	52:2:499:A:O4'	2.13	0.49
52:2:507:G:P	75:AT:111:ARG:HH22	2.36	0.49
52:2:671:G:H4'	52:2:672:G:H5''	1.95	0.49
52:2:731:A:C5	52:2:732:U:C5	3.01	0.49
58:8:44:PHE:HB3	58:8:46:GLU:OE1	2.13	0.49
1:A:307:U:H2'	1:A:308:A:C8	2.48	0.49
63:AH:47:VAL:HG22	63:AH:77:ARG:HG2	1.93	0.49
66:AK:138:HIS:HB2	66:AK:144:PHE:CD1	2.48	0.49
77:AW:35:ASP:HB3	77:AW:81:ARG:HB3	1.93	0.49
4:D:31:A:H2'	4:D:32:U:O4'	2.13	0.49
14:N:153:LYS:O	14:N:158:GLU:HB2	2.13	0.49
1:A:326:A:H5''	15:O:97:ASN:ND2	2.28	0.49
20:T:33:PRO:HB2	20:T:39:PHE:HD2	1.77	0.49
50:0:130:VAL:O	50:0:137:THR:HA	2.13	0.48
50:0:66:VAL:O	63:AH:41:SER:HB3	2.13	0.48
52:2:1995:G:C4	52:2:1996:U:H5	2.31	0.48
1:A:110:A:N1	1:A:111:C:C2	2.81	0.48
1:A:1602:U:H5	2:B:17:A:N1	2.11	0.48
66:AK:89:GLN:CA	66:AK:122:LEU:HD22	2.13	0.48
69:AN:93:ASN:O	69:AN:96:GLN:N	2.45	0.48
70:AO:37:TRP:CE2	70:AO:71:ALA:O	2.66	0.48
72:AQ:98:ILE:HA	72:AQ:101:PHE:CE2	2.48	0.48
75:AT:95:ASN:O	75:AT:99:THR:HG23	2.12	0.48
80:AZ:33:ARG:NH2	80:AZ:35:GLY:O	2.46	0.48
3:C:192:U:O4	3:C:193:G:N1	2.45	0.48
3:C:245:A:H2'	3:C:246:C:O4'	2.13	0.48
10:J:48:VAL:HG12	10:J:178:ARG:NH1	2.28	0.48
12:L:20:CYS:C	12:L:22:SER:H	2.14	0.48
1:A:1540:U:H5''	16:P:66:LYS:HB2	1.94	0.48
16:P:6:ARG:HD3	16:P:116:HIS:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:142:ALA:HA	17:Q:145:HIS:HE1	1.78	0.48
50:0:132:THR:O	50:0:134:ASP:O	2.31	0.48
50:0:97:ARG:CD	50:0:243:GLU:HB2	2.42	0.48
52:2:2001:U:OP2	52:2:2026:G:N1	2.46	0.48
55:5:47:ARG:HB3	55:5:53:PHE:CE1	2.48	0.48
57:7:117:PRO:HG3	57:7:159:SER:O	2.14	0.48
57:7:78:ASP:C	57:7:94:LEU:HD12	2.34	0.48
1:A:1527:A:H3'	1:A:1528:U:C5'	2.43	0.48
1:A:279:G:C4	12:L:136:LYS:HE2	2.47	0.48
52:2:1152:A:H5''	63:AH:59:ARG:HG3	1.95	0.48
64:AI:84:LYS:HE3	64:AI:104:TYR:HB2	1.95	0.48
52:2:1536:U:C4'	64:AI:131:ARG:CB	2.87	0.48
67:AL:86:PRO:N	67:AL:87:ALA:HA	2.28	0.48
52:2:1525:A:H5''	68:AM:141:GLY:C	2.34	0.48
59:AC:93:LYS:NZ	73:AR:70:ASP:OD1	2.37	0.48
74:AS:63:ASN:HB2	74:AS:114:ASP:OD1	2.12	0.48
2:B:1459:C:H2'	2:B:1460:A:H8	1.78	0.48
3:C:242:G:C2	3:C:243:C:C2	3.01	0.48
17:Q:134:HIS:NE2	17:Q:135:GLU:OE2	2.47	0.48
17:Q:80:ILE:HD11	17:Q:108:ALA:HB1	1.94	0.48
21:U:114:SER:HB3	21:U:134:HIS:CE1	2.47	0.48
24:X:3:SER:OG	24:X:27:LEU:HD21	2.12	0.48
52:2:1527:C:H5'	52:2:1958:A:H4'	1.95	0.48
52:2:1530:G:C6	52:2:1531:C:C4	3.01	0.48
52:2:1816:U:H1'	52:2:1817:U:OP2	2.13	0.48
52:2:1915:G:N2	52:2:1922:A:N7	2.61	0.48
52:2:1964:G:H2'	52:2:1965:A:C8	2.49	0.48
52:2:1981:G:H2'	52:2:1982:C:H6	1.78	0.48
52:2:558:U:H2'	52:2:559:G:C8	2.48	0.48
52:2:738:G:H8	52:2:738:G:O5'	1.96	0.48
52:2:750:U:O2'	52:2:751:G:C1'	2.59	0.48
52:2:947:U:H2'	52:2:948:G:H8	1.77	0.48
53:3:77:LEU:HD22	53:3:95:ARG:HB3	1.95	0.48
54:4:156:PHE:HB3	54:4:189:MET:HG2	1.96	0.48
54:4:23:VAL:HG23	54:4:50:ARG:NH1	2.29	0.48
56:6:63:GLU:HA	56:6:68:ARG:HD3	1.94	0.48
57:7:119:ASP:OD1	57:7:119:ASP:N	2.44	0.48
1:A:182:U:C4	1:A:183:G:N1	2.80	0.48
1:A:211:U:H4'	1:A:212:U:OP2	2.12	0.48
1:A:253:G:C5	1:A:254:U:C4	3.01	0.48
1:A:29:C:H4'	15:O:96:LYS:HG3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:638:C:H2'	1:A:639:A:H8	1.78	0.48
1:A:78:C:OP1	15:O:194:ARG:HD3	2.13	0.48
60:AD:92:LEU:O	60:AD:107:ASN:N	2.44	0.48
61:AE:74:PRO:HD3	61:AE:153:ASN:ND2	2.27	0.48
63:AH:60:ASP:N	63:AH:60:ASP:OD1	2.44	0.48
68:AM:47:LYS:HA	68:AM:71:ILE:HG21	1.94	0.48
74:AS:128:VAL:HG21	74:AS:141:PRO:HD3	1.94	0.48
74:AS:90:CYS:SG	74:AS:134:TYR:HB2	2.52	0.48
3:C:139:A:N6	3:C:153:A:C6	2.81	0.48
10:J:97:LEU:HD11	10:J:126:CYS:SG	2.54	0.48
52:2:1106:U:H2'	52:2:1107:G:C8	2.47	0.48
52:2:1865:G:H5''	52:2:1866:C:C5'	2.44	0.48
52:2:1884:A:H2	52:2:1944:U:H3	1.60	0.48
52:2:1952:C:H1'	52:2:1955:G:O6	2.12	0.48
52:2:1972:U:C2	64:AI:122:TYR:CZ	3.01	0.48
52:2:1974:A:C6	52:2:1975:U:O4	2.67	0.48
52:2:376:U:P	55:5:31:ARG:HB2	2.52	0.48
52:2:772:A:O2'	52:2:773:A:OP1	2.27	0.48
53:3:199:ILE:O	53:3:202:VAL:N	2.45	0.48
53:3:2:LYS:HD2	53:3:15:GLN:HE21	1.78	0.48
54:4:190:TRP:O	54:4:192:PRO:CD	2.61	0.48
1:A:306:G:N2	1:A:332:A:OP2	2.42	0.48
1:A:597:C:N4	1:A:608:G:H1	2.07	0.48
67:AL:21:TYR:OH	67:AL:70:SER:OG	2.04	0.48
64:AI:134:LEU:HB3	68:AM:150:SER:HB2	1.96	0.48
69:AN:4:LYS:N	69:AN:6:PRO:HD2	2.28	0.48
69:AN:87:HIS:HB3	69:AN:94:PRO:HD3	1.96	0.48
70:AO:78:TYR:CZ	70:AO:124:PRO:HB3	2.49	0.48
70:AO:69:GLU:O	70:AO:72:PRO:HD2	2.13	0.48
3:C:137:G:N3	3:C:149:G:N2	2.61	0.48
11:K:66:ILE:HD13	11:K:72:ILE:HG12	1.94	0.48
18:R:186:GLU:HA	18:R:186:GLU:OE1	2.13	0.48
21:U:86:SER:HA	21:U:95:ILE:O	2.12	0.48
24:X:97:HIS:ND1	24:X:98:PRO:HD2	2.29	0.48
51:1:117:GLN:HG3	51:1:162:LYS:HB2	1.95	0.48
52:2:1790:U:OP1	67:AL:45:LYS:HG2	2.14	0.48
52:2:1248:A:N6	52:2:2164:U:OP1	2.43	0.48
52:2:255:A:H5''	52:2:943:U:H1'	1.95	0.48
58:8:41:ARG:HD2	58:8:44:PHE:CE1	2.48	0.48
1:A:1676:A:C2	1:A:1729:A:H1'	2.48	0.48
1:A:681:A:OP2	2:B:1242:U:O2'	2.30	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1537:A:C1'	64:AI:107:HIS:HE2	2.27	0.48
64:AI:78:GLU:O	64:AI:79:LYS:HD3	2.13	0.48
66:AK:10:LYS:O	66:AK:11:GLN:HG3	2.14	0.48
70:AO:59:THR:H	70:AO:113:ARG:HH21	1.61	0.48
72:AQ:105:SER:OG	72:AQ:106:GLY:N	2.47	0.48
7:G:112:C:O2'	8:H:36:C:OP1	2.21	0.48
9:I:5:LEU:CD1	9:I:8:ILE:HG13	2.04	0.48
4:D:40:C:C2	11:K:77:THR:HG22	2.49	0.48
12:L:115:ASN:O	12:L:118:VAL:N	2.46	0.48
16:P:78:GLN:OE1	16:P:78:GLN:N	2.47	0.48
52:2:133:G:C6	52:2:134:G:C5	3.01	0.48
52:2:1595:G:C4	64:AI:86:HIS:CD2	3.01	0.48
52:2:851:U:H2'	52:2:852:G:O4'	2.13	0.48
52:2:970:U:H4'	52:2:971:U:OP2	2.13	0.48
54:4:57:SER:HB3	54:4:170:ARG:CZ	2.43	0.48
54:4:77:VAL:HG12	54:4:81:LEU:HG	1.95	0.48
55:5:201:ILE:HG22	55:5:202:LEU:O	2.14	0.48
57:7:241:ILE:HD11	57:7:250:MET:SD	2.54	0.48
1:A:1611:A:H5''	16:P:23:ARG:NH1	2.29	0.48
1:A:26:C:H4'	1:A:59:A:N3	2.29	0.48
1:A:373:G:H2'	1:A:374:G:H8	1.78	0.48
1:A:52:C:O2'	1:A:1655:U:H1'	2.13	0.48
60:AD:99:TRP:HE1	78:AX:22:GLU:CG	2.23	0.48
69:AN:87:HIS:CB	69:AN:94:PRO:HD3	2.44	0.48
72:AQ:51:VAL:HG12	72:AQ:52:ARG:O	2.14	0.48
74:AS:24:ASP:OD1	74:AS:25:LYS:N	2.46	0.48
75:AT:6:LYS:HG3	75:AT:7:LYS:O	2.13	0.48
2:B:13:C:H2'	2:B:14:C:H6	1.78	0.48
9:I:48:VAL:O	9:I:52:LEU:HB2	2.14	0.48
18:R:77:GLY:O	18:R:81:ARG:HG3	2.14	0.48
21:U:41:VAL:HG22	21:U:54:ALA:HB2	1.94	0.48
25:Y:18:TYR:HA	25:Y:21:HIS:CD2	2.41	0.48
26:Z:28:HIS:CD2	26:Z:32:ARG:HG2	2.49	0.48
26:Z:63:ARG:HH12	26:Z:65:LYS:HE3	1.79	0.48
52:2:1590:A:H2'	52:2:1591:G:H8	1.77	0.48
52:2:1846:U:O2'	52:2:1847:C:OP2	2.30	0.48
52:2:1529:U:N3	52:2:1869:A:N6	2.61	0.48
52:2:2145:A:OP1	74:AS:37:LYS:HE2	2.14	0.48
52:2:410:A:H2'	52:2:411:U:O4'	2.12	0.48
52:2:717:C:H3'	52:2:717:C:H6	1.78	0.48
52:2:147:U:O4	53:3:181:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:6:63:GLU:OE1	56:6:68:ARG:NE	2.28	0.48
63:AH:87:HIS:HA	63:AH:120:GLY:O	2.14	0.48
67:AL:41:ALA:HB3	67:AL:47:LYS:HZ2	1.78	0.48
68:AM:58:GLY:HA2	68:AM:62:ALA:H	1.77	0.48
70:AO:81:ARG:HD3	70:AO:135:LEU:HA	1.96	0.48
78:AX:166:PHE:CZ	78:AX:199:PRO:HB3	2.49	0.48
2:B:1348:U:H2'	2:B:1349:U:C6	2.49	0.48
6:F:20:A:H2'	6:F:21:A:C8	2.48	0.48
11:K:116:HIS:HE1	11:K:129:ILE:HA	1.78	0.48
1:A:70:C:HO2'	12:L:71:ASN:HD21	1.52	0.48
14:N:45:LYS:CA	14:N:47:TRP:CE3	2.95	0.48
16:P:40:PRO:HA	16:P:113:VAL:HA	1.96	0.48
16:P:65:GLY:O	16:P:66:LYS:HD3	2.13	0.48
19:S:48:VAL:HG23	19:S:95:HIS:CE1	2.48	0.48
50:0:90:THR:HG23	50:0:104:HIS:HB2	1.95	0.48
52:2:279:A:H2'	52:2:280:C:O4'	2.13	0.48
52:2:325:G:N3	52:2:326:U:H5'	2.28	0.48
55:5:169:HIS:CE1	55:5:171:VAL:HG23	2.49	0.48
58:8:21:CYS:CA	58:8:28:GLN:HG2	2.42	0.48
1:A:761:U:O2	1:A:761:U:H2'	2.12	0.48
52:2:295:A:H2	61:AE:80:VAL:HG13	1.79	0.48
52:2:1919:A:H1'	70:AO:54:PHE:CZ	2.49	0.48
71:AP:123:ILE:HD12	71:AP:225:PHE:HB2	1.95	0.48
71:AP:241:ALA:O	73:AR:21:LYS:NZ	2.41	0.48
2:B:1423:U:H2'	2:B:1424:G:C8	2.48	0.48
12:L:17:TRP:HA	12:L:25:GLY:O	2.14	0.48
13:M:28:ASP:O	13:M:55:ARG:HB2	2.13	0.48
13:M:216:LEU:HD13	14:N:120:ARG:HD2	1.95	0.48
15:O:89:VAL:O	15:O:90:LEU:CD1	2.61	0.48
19:S:43:VAL:HG13	19:S:58:HIS:CE1	2.49	0.48
52:2:1096:C:H2'	52:2:1097:C:C6	2.49	0.48
52:2:1572:G:O6	52:2:1846:U:O2'	2.32	0.48
52:2:1698:A:N1	52:2:1701:A:N3	2.61	0.48
52:2:1912:C:O2'	52:2:1913:U:H5'	2.14	0.48
52:2:1920:A:C6	52:2:1921:A:C6	3.02	0.48
52:2:262:U:H2'	52:2:263:G:C8	2.48	0.48
52:2:34:G:O6	52:2:522:A:H2	1.97	0.48
52:2:719:C:N3	52:2:735:G:O6	2.47	0.48
52:2:885:C:O2'	52:2:886:U:OP1	2.30	0.48
57:7:41:TRP:HA	57:7:57:PRO:HA	1.96	0.48
1:A:124:C:H2'	1:A:125:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AG:64:LYS:HG2	62:AG:64:LYS:O	2.13	0.48
65:AJ:57:ARG:CZ	77:AW:27:GLN:OE1	2.61	0.48
66:AK:22:ILE:O	66:AK:75:VAL:HA	2.14	0.48
52:2:1876:U:H5'	69:AN:149:PHE:CZ	2.49	0.48
78:AX:187:ILE:CG2	78:AX:188:MET:N	2.45	0.48
2:B:549:C:H2'	2:B:550:A:H8	1.78	0.48
11:K:61:VAL:HG12	11:K:63:THR:H	1.79	0.48
21:U:82:ARG:HB2	21:U:97:PHE:CG	2.48	0.48
51:1:122:LYS:O	51:1:138:THR:HA	2.14	0.48
51:1:188:ARG:HD3	51:1:215:PHE:CZ	2.48	0.48
52:2:1115:G:H21	62:AG:52:MET:HE1	1.78	0.48
52:2:1555:G:N7	52:2:2016:A:C5	2.82	0.48
52:2:1880:A:N3	52:2:1881:G:N7	2.62	0.48
52:2:442:A:OP1	55:5:49:ARG:NH2	2.42	0.48
52:2:604:A:O2'	52:2:605:A:OP1	2.26	0.48
52:2:959:U:H2'	52:2:960:C:C6	2.49	0.48
54:4:23:VAL:HB	54:4:50:ARG:HH22	1.79	0.48
1:A:177:A:H2	1:A:283:G:C6	2.31	0.48
1:A:188:A:HO2'	1:A:189:A:P	2.36	0.48
1:A:735:U:H2'	1:A:736:C:C5	2.49	0.48
58:8:53:PHE:CD1	72:AQ:79:LEU:HG	2.49	0.48
52:2:1685:A:N3	78:AX:201:GLU:OE1	2.47	0.48
3:C:174:A:N1	24:X:111:HIS:CD2	2.81	0.48
51:1:151:THR:HG22	51:1:169:LEU:HD22	1.96	0.47
52:2:1512:C:H42	52:2:1517:A:H61	1.61	0.47
52:2:936:U:H1'	52:2:937:C:H5	1.78	0.47
54:4:38:ARG:O	54:4:42:PRO:HG3	2.13	0.47
57:7:21:GLU:HG3	57:7:289:ALA:HA	1.95	0.47
1:A:1628:G:N1	1:A:1629:U:O4	2.47	0.47
59:AC:130:VAL:HG13	59:AC:222:ARG:HH21	1.79	0.47
61:AE:29:VAL:CG2	61:AE:49:TYR:HB2	2.44	0.47
66:AK:47:PRO:HG2	66:AK:50:LEU:HD12	1.95	0.47
67:AL:117:PRO:O	67:AL:120:VAL:HG23	2.14	0.47
68:AM:51:ILE:HG22	68:AM:52:ASP:H	1.78	0.47
68:AM:72:ILE:O	68:AM:98:HIS:CD2	2.67	0.47
69:AN:8:LEU:HD13	69:AN:11:LYS:HG2	1.96	0.47
71:AP:94:TYR:HE2	71:AP:111:PHE:HE2	1.62	0.47
72:AQ:17:VAL:HG12	72:AQ:18:ARG:N	2.29	0.47
52:2:659:G:H21	74:AS:17:ARG:HH12	1.61	0.47
58:8:38:ASN:HB3	78:AX:11:VAL:CG1	2.44	0.47
2:B:1439:U:N3	2:B:1440:G:N7	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1462:C:H2'	2:B:1463:U:C6	2.49	0.47
1:A:461:G:H22	7:G:170:G:N2	2.12	0.47
18:R:39:LYS:HA	18:R:42:ARG:HH21	1.78	0.47
18:R:99:LEU:HD13	18:R:103:ARG:NH2	2.29	0.47
51:1:170:ILE:HD13	51:1:225:ILE:O	2.14	0.47
52:2:918:A:C6	52:2:1101:A:N1	2.80	0.47
52:2:1586:U:H2'	52:2:1587:G:H8	1.78	0.47
52:2:1606:C:C2	52:2:1607:U:H5	2.31	0.47
52:2:1588:A:C2	52:2:1606:C:H5	2.31	0.47
52:2:1632:G:H2'	52:2:1633:C:O4'	2.13	0.47
52:2:1832:G:N2	72:AQ:67:CYS:SG	2.87	0.47
52:2:1936:C:N3	70:AO:87:ARG:CZ	2.76	0.47
52:2:2031:C:P	69:AN:46:ARG:NH1	2.86	0.47
52:2:497:A:O2'	52:2:498:C:O4'	2.32	0.47
52:2:629:A:C6	52:2:632:C:N3	2.83	0.47
52:2:881:U:O2	75:AT:14:THR:OG1	2.33	0.47
52:2:960:C:N4	52:2:961:U:O4	2.47	0.47
57:7:105:LYS:O	57:7:106:HIS:CG	2.67	0.47
1:A:1444:G:N7	1:A:1466:G:N1	2.62	0.47
1:A:174:U:C4	1:A:175:G:N1	2.82	0.47
59:AC:176:VAL:O	59:AC:177:ASN:HB2	2.13	0.47
60:AD:46:ARG:HG2	60:AD:118:LEU:HD13	1.95	0.47
63:AH:39:ASP:OD2	63:AH:46:TYR:OH	2.27	0.47
70:AO:142:ALA:O	70:AO:146:GLN:HG3	2.13	0.47
70:AO:87:ARG:HB3	70:AO:88:ALA:H	1.55	0.47
77:AW:52:THR:O	77:AW:52:THR:HG22	2.13	0.47
78:AX:197:ASN:CA	78:AX:199:PRO:HG3	2.44	0.47
13:M:74:GLN:O	13:M:78:LYS:NZ	2.44	0.47
1:A:1752:G:C4'	18:R:42:ARG:HH12	2.26	0.47
22:V:53:VAL:HG12	22:V:54:THR:H	1.79	0.47
9:I:181:LYS:HG2	26:Z:56:LEU:HB2	1.96	0.47
50:0:28:LYS:HB3	50:0:48:ILE:HG23	1.95	0.47
51:1:29:ARG:NH1	51:1:76:ASP:OD1	2.48	0.47
52:2:125:A:N6	52:2:186:A:N3	2.62	0.47
52:2:1590:A:C6	52:2:1591:G:C6	3.02	0.47
52:2:1850:U:O2	52:2:1850:U:H2'	2.13	0.47
52:2:73:A:N6	53:3:172:ASP:O	2.45	0.47
52:2:287:C:O2'	53:3:213:LEU:HD13	2.14	0.47
54:4:30:LEU:HB3	54:4:38:ARG:HH12	1.78	0.47
1:A:541:A:H4'	1:A:544:A:O5'	2.15	0.47
62:AG:87:ASP:OD2	62:AG:129:TYR:OH	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:15:PHE:HA	66:AK:24:VAL:HA	1.96	0.47
68:AM:40:ARG:O	68:AM:40:ARG:HG2	2.13	0.47
78:AX:145:ARG:HB3	78:AX:147:LYS:HB2	1.96	0.47
3:C:244:C:OP1	15:O:38:ARG:HD2	2.13	0.47
9:I:89:VAL:O	9:I:109:ALA:HA	2.14	0.47
11:K:122:LYS:HD3	68:AM:10:PHE:HD1	1.58	0.47
3:C:215:A:C6	22:V:103:ARG:HD2	2.50	0.47
52:2:1108:A:H4'	52:2:1109:A:O5'	2.14	0.47
52:2:1569:C:O2	52:2:1851:G:N2	2.47	0.47
52:2:157:G:H21	53:3:4:ASN:ND2	2.13	0.47
52:2:1627:G:H5''	52:2:1628:C:H3'	1.94	0.47
52:2:1864:C:H1'	68:AM:151:ARG:CZ	2.45	0.47
52:2:715:G:H22	52:2:740:C:C1'	2.27	0.47
52:2:715:G:H22	52:2:740:C:H1'	1.79	0.47
52:2:750:U:C2'	52:2:751:G:C1'	2.92	0.47
53:3:7:TYR:HD2	53:3:10:ASN:HB2	1.79	0.47
55:5:159:GLN:O	55:5:162:TRP:HB2	2.14	0.47
57:7:89:ILE:N	57:7:103:PHE:O	2.47	0.47
66:AK:50:LEU:O	66:AK:53:LYS:HB2	2.14	0.47
52:2:1864:C:P	68:AM:149:VAL:O	2.72	0.47
69:AN:13:SER:O	69:AN:95:LEU:HD12	2.13	0.47
52:2:1958:A:P	70:AO:104:PHE:HB3	2.54	0.47
76:AV:48:ASP:O	76:AV:51:SER:OG	2.22	0.47
78:AX:16:PHE:HE1	78:AX:76:PHE:CD2	2.32	0.47
5:E:208:G:H2'	5:E:209:G:O4'	2.14	0.47
10:J:49:CYS:HB2	10:J:168:SER:HB3	1.97	0.47
24:X:76:VAL:HG11	24:X:95:GLY:HA3	1.95	0.47
50:0:90:THR:O	50:0:101:THR:HA	2.13	0.47
52:2:1148:G:C6	52:2:1149:G:C6	3.02	0.47
52:2:1137:G:C2	52:2:1170:A:C2	3.02	0.47
52:2:1524:G:C3'	68:AM:144:GLY:H	2.27	0.47
52:2:163:A:O2'	52:2:164:C:OP2	2.26	0.47
52:2:1938:G:C5	52:2:1939:U:C5	3.03	0.47
52:2:1965:A:N1	52:2:1978:G:N2	2.60	0.47
52:2:787:G:O2'	52:2:788:A:H5'	2.15	0.47
53:3:49:TYR:CE2	53:3:120:GLY:HA3	2.49	0.47
54:4:3:PRO:O	54:4:6:ARG:NH1	2.47	0.47
58:8:20:ARG:C	58:8:28:GLN:HG2	2.35	0.47
1:A:304:G:H2'	1:A:356:A:N7	2.29	0.47
1:A:374:G:H21	1:A:375:A:H1'	1.79	0.47
1:A:752:G:N7	26:Z:108:LYS:HE2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AC:125:LYS:HB2	59:AC:238:PHE:CE1	2.49	0.47
50:0:30:TRP:CZ3	63:AH:12:PRO:HG3	2.49	0.47
52:2:1972:U:C2	64:AI:122:TYR:CE2	3.02	0.47
68:AM:131:ARG:HG3	68:AM:137:THR:HA	1.96	0.47
69:AN:152:LEU:HD22	69:AN:154:SER:O	2.14	0.47
74:AS:40:PRO:CB	74:AS:81:ILE:HD11	2.44	0.47
75:AT:25:ARG:NH1	75:AT:27:GLN:HE21	2.12	0.47
4:D:19:A:OP1	11:K:157:HIS:HD2	1.98	0.47
5:E:168:U:H2'	5:E:169:G:H8	1.79	0.47
2:B:538:G:OP1	16:P:141:CYS:HB3	2.14	0.47
51:1:119:LYS:O	51:1:159:TYR:N	2.31	0.47
51:1:104:GLY:HA2	51:1:186:ARG:HB2	1.97	0.47
52:2:1451:U:C4	71:AP:211:ARG:HD3	2.48	0.47
52:2:1812:G:N2	52:2:1814:A:O5'	2.47	0.47
52:2:1863:A:C8	68:AM:130:LEU:HG	2.49	0.47
52:2:1972:U:H1'	64:AI:122:TYR:CD2	2.49	0.47
52:2:2021:G:H2'	52:2:2022:U:C6	2.50	0.47
52:2:521:A:H2'	52:2:522:A:H5'	1.96	0.47
56:6:99:THR:HG22	56:6:101:PRO:HD2	1.96	0.47
58:8:27:ASN:HB2	58:8:42:GLN:CD	2.34	0.47
60:AD:125:MET:N	60:AD:126:PRO:HD2	2.29	0.47
68:AM:124:VAL:HA	68:AM:127:ALA:HB3	1.96	0.47
69:AN:126:ASP:O	80:AZ:64:VAL:HA	2.15	0.47
69:AN:165:ASN:HB3	69:AN:170:SER:OG	2.15	0.47
71:AP:237:PRO:HB3	71:AP:240:TRP:CZ2	2.50	0.47
73:AR:78:ILE:HG21	73:AR:85:ILE:HD11	1.96	0.47
2:B:1052:A:N3	2:B:1052:A:H2'	2.30	0.47
9:I:64:LEU:O	9:I:65:SER:OG	2.14	0.47
13:M:167:LYS:CD	13:M:167:LYS:H	2.28	0.47
1:A:1628:G:H5''	22:V:74:LYS:HD3	1.97	0.47
22:V:70:LEU:HD11	22:V:88:ILE:HG12	1.97	0.47
23:W:54:PRO:HA	23:W:59:TYR:CG	2.50	0.47
50:0:106:MET:CE	50:0:192:THR:HG22	2.44	0.47
52:2:1521:G:O2'	52:2:1522:U:H6	1.98	0.47
52:2:1525:A:C8	52:2:1526:G:H8	2.32	0.47
52:2:1529:U:O5'	68:AM:136:HIS:CD2	2.67	0.47
52:2:2149:A:H2'	52:2:2150:G:O4'	2.15	0.47
51:1:78:LYS:NZ	52:2:492:U:OP1	2.27	0.47
52:2:695:G:N2	52:2:755:C:C2	2.83	0.47
52:2:760:G:O6	52:2:775:C:N3	2.48	0.47
52:2:936:U:H1'	52:2:937:C:C5	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:144:ARG:HB2	54:4:154:LYS:HE3	1.96	0.47
55:5:67:TRP:CH2	55:5:175:ILE:HG21	2.50	0.47
55:5:78:LEU:HG	55:5:102:VAL:HG11	1.95	0.47
57:7:212:GLY:HA3	57:7:238:ILE:HG21	1.96	0.47
57:7:85:TRP:HZ3	57:7:127:ARG:HH22	1.62	0.47
58:8:21:CYS:HB2	58:8:28:GLN:HG3	1.97	0.47
64:AI:51:ASN:HD22	64:AI:91:VAL:HG23	1.79	0.47
65:AJ:75:ILE:HD12	65:AJ:125:VAL:HG11	1.97	0.47
66:AK:133:LYS:HE2	66:AK:139:SER:HA	1.97	0.47
52:2:1549:C:H42	66:AK:148:TYR:HD2	1.62	0.47
68:AM:136:HIS:HB3	68:AM:140:THR:CG2	2.45	0.47
52:2:1524:G:C6	68:AM:143:HIS:ND1	2.82	0.47
72:AQ:39:ARG:NH2	72:AQ:99:THR:HA	2.29	0.47
5:E:49:G:C4	5:E:50:U:C5	3.02	0.47
9:I:188:ARG:NH1	9:I:188:ARG:CG	2.76	0.47
9:I:189:SER:O	9:I:190:TYR:CB	2.49	0.47
15:O:140:LYS:HE3	15:O:144:ARG:NH2	2.30	0.47
18:R:133:ARG:HB3	18:R:137:ASN:HD22	1.78	0.47
18:R:95:TRP:HD1	18:R:98:ARG:NH2	2.12	0.47
24:X:57:ARG:CG	24:X:100:ASN:O	2.63	0.47
52:2:1943:A:H4'	52:2:1944:U:OP1	2.14	0.47
52:2:2034:C:HO2'	52:2:2035:C:P	2.38	0.47
52:2:229:A:H4'	52:2:281:A:C2	2.50	0.47
53:3:3:LEU:HD11	53:3:18:ILE:HD11	1.96	0.47
54:4:17:SER:OG	54:4:20:GLU:HG3	2.15	0.47
55:5:191:ARG:HD2	55:5:194:GLN:CG	2.45	0.47
57:7:105:LYS:HB3	57:7:134:TRP:CH2	2.49	0.47
57:7:188:ARG:NH2	57:7:224:SER:O	2.48	0.47
57:7:27:ILE:O	57:7:28:LYS:O	2.33	0.47
57:7:93:ASP:CG	57:7:94:LEU:H	2.18	0.47
1:A:253:G:H4'	24:X:16:HIS:NE2	2.29	0.47
1:A:651:G:H2'	1:A:652:A:O4'	2.14	0.47
61:AE:66:GLY:O	61:AE:68:TYR:N	2.48	0.47
66:AK:112:LYS:O	66:AK:116:LEU:HG	2.14	0.47
66:AK:92:ALA:HB3	66:AK:122:LEU:HD23	1.96	0.47
76:AV:43:VAL:HG22	76:AV:72:TYR:CD1	2.50	0.47
80:AZ:46:ARG:O	80:AZ:47:LEU:C	2.52	0.47
2:B:13:C:H2'	2:B:14:C:C6	2.50	0.47
2:B:390:A:OP2	2:B:391:A:H2'	2.15	0.47
2:B:43:C:OP1	18:R:60:ARG:NH2	2.38	0.47
3:C:162:A:O2'	3:C:173:C:N4	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:45:G:N7	17:Q:175:ARG:NH2	2.56	0.47
9:I:189:SER:HB3	9:I:190:TYR:HD2	1.80	0.47
12:L:85:LEU:HD23	12:L:121:LEU:HD11	1.96	0.47
21:U:89:ARG:HB2	21:U:93:THR:HB	1.95	0.47
22:V:83:ASN:ND2	22:V:129:LEU:O	2.48	0.47
5:E:7:U:H4'	25:Y:75:VAL:HA	1.96	0.47
52:2:1785:C:H2'	52:2:1786:G:O4'	2.15	0.47
52:2:1835:U:HO2'	52:2:1836:G:C5'	2.28	0.47
52:2:1868:C:O2'	52:2:1869:A:H5'	2.15	0.47
52:2:1951:A:H2'	52:2:1953:U:C6	2.50	0.47
52:2:1967:U:H3	52:2:1974:A:N6	2.10	0.47
52:2:1975:U:C2'	52:2:1975:U:O2	2.62	0.47
52:2:78:C:O2'	52:2:79:A:H8	1.98	0.47
53:3:193:LYS:HE2	53:3:197:ASP:OD2	2.15	0.47
53:3:66:PRO:CD	53:3:83:ILE:HD12	2.44	0.47
54:4:52:VAL:HG22	54:4:62:LEU:HD23	1.97	0.47
57:7:74:ALA:N	57:7:79:TYR:O	2.24	0.47
1:A:19:G:OP2	3:C:127:G:N1	2.38	0.47
1:A:311:A:N6	1:A:327:G:O6	2.47	0.47
1:A:359:U:C5	1:A:360:U:H5	2.33	0.47
64:AI:50:ARG:HH21	64:AI:54:ARG:NH2	2.12	0.47
52:2:2020:U:OP1	66:AK:135:TRP:O	2.33	0.47
67:AL:101:VAL:HG13	67:AL:105:THR:OG1	2.15	0.47
52:2:1525:A:C4	68:AM:143:HIS:CB	2.94	0.47
68:AM:34:VAL:O	68:AM:34:VAL:HG12	2.14	0.47
69:AN:152:LEU:HD22	69:AN:154:SER:HB3	1.97	0.47
60:AD:55:ALA:HB3	78:AX:74:GLN:HG2	1.95	0.47
3:C:212:G:C2	3:C:234:C:O2	2.67	0.47
7:G:55:A:H2'	7:G:56:G:O4'	2.15	0.47
12:L:48:ALA:HA	12:L:51:VAL:HG12	1.97	0.47
19:S:72:VAL:HG21	19:S:96:VAL:HG21	1.97	0.47
52:2:1699:G:O2'	52:2:1700:U:P	2.73	0.47
52:2:2145:A:OP1	74:AS:37:LYS:HE3	2.13	0.47
52:2:377:A:P	55:5:48:ALA:HB1	2.55	0.47
52:2:718:C:H1'	52:2:738:G:N2	2.30	0.47
52:2:793:U:O2'	53:3:226:ARG:NH1	2.38	0.47
51:1:9:LEU:HD11	56:6:4:TYR:CZ	2.50	0.47
57:7:105:LYS:HB3	57:7:134:TRP:HH2	1.80	0.47
57:7:254:THR:HG1	57:7:257:SER:H	1.62	0.47
1:A:570:A:N6	1:A:639:A:H2'	2.30	0.47
64:AI:122:TYR:CD2	64:AI:124:GLY:N	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:61:VAL:HG13	66:AK:114:LYS:CD	2.45	0.47
66:AK:46:LEU:HG	66:AK:46:LEU:H	1.51	0.47
11:K:117:ILE:CA	68:AM:15:ARG:NH2	2.76	0.47
71:AP:236:THR:O	71:AP:239:LEU:N	2.45	0.47
76:AV:61:VAL:HG23	76:AV:62:TYR:N	2.29	0.47
13:M:146:VAL:HG12	17:Q:157:ARG:NH1	2.29	0.47
18:R:19:ARG:O	18:R:20:ALA:HB3	2.15	0.47
21:U:72:ARG:HG2	21:U:73:LYS:HG3	1.97	0.47
51:1:143:ARG:CZ	52:2:121:C:H5	2.28	0.47
52:2:1517:A:O2'	52:2:1518:G:O5'	2.26	0.47
52:2:196:C:HO2'	52:2:197:U:H6	1.62	0.47
52:2:1986:A:H3'	52:2:1987:C:C6	2.50	0.47
52:2:1938:G:H22	52:2:2023:G:H21	1.61	0.47
52:2:257:A:H3'	52:2:257:A:OP2	2.15	0.47
52:2:596:U:O2	52:2:641:A:H2	1.98	0.47
52:2:707:U:C4	52:2:708:C:C4	3.03	0.47
54:4:121:SER:HB2	54:4:125:PHE:CE2	2.50	0.47
54:4:65:PHE:HA	54:4:97:VAL:O	2.15	0.47
52:2:443:A:H5''	55:5:24:ARG:O	2.14	0.47
52:2:527:A:H4'	56:6:119:LYS:HG3	1.96	0.47
66:AK:18:LYS:NZ	66:AK:126:ASP:HB2	2.29	0.47
68:AM:35:LYS:HG3	68:AM:101:SER:N	2.30	0.47
68:AM:43:TYR:CE1	68:AM:80:ILE:HD13	2.50	0.47
69:AN:17:LEU:HD21	69:AN:99:VAL:HG21	1.96	0.47
73:AR:46:PRO:O	73:AR:47:ASN:HB2	2.15	0.47
2:B:1397:C:N4	2:B:1398:A:C6	2.83	0.47
2:B:330:A:H2'	2:B:331:U:O4'	2.14	0.47
3:C:102:G:N2	3:C:103:A:N3	2.63	0.47
2:B:1229:C:H5''	10:J:10:ARG:HH22	1.79	0.47
11:K:54:LEU:O	11:K:54:LEU:HD12	2.15	0.47
22:V:57:SER:CB	22:V:60:ILE:HD12	2.45	0.47
51:1:133:VAL:HG11	51:1:145:ARG:HD3	1.96	0.46
50:0:162:ARG:HD3	52:2:1121:C:OP1	2.15	0.46
52:2:1812:G:H21	52:2:1814:A:H3'	1.80	0.46
53:3:64:MET:SD	53:3:101:ARG:HD3	2.55	0.46
54:4:29:GLU:O	54:4:34:HIS:HD2	1.97	0.46
54:4:35:LYS:HG3	54:4:36:THR:O	2.15	0.46
55:5:101:ILE:HD11	55:5:211:TYR:CZ	2.51	0.46
55:5:31:ARG:C	55:5:32:LEU:O	2.53	0.46
1:A:116:U:H2'	1:A:117:G:H8	1.79	0.46
59:AC:140:ILE:O	59:AC:143:THR:HG23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:369:G:P	61:AE:147:SER:HG	2.37	0.46
52:2:1597:G:OP1	64:AI:62:VAL:HG21	2.15	0.46
66:AK:30:ALA:O	66:AK:69:LEU:HD23	2.15	0.46
67:AL:98:GLY:HA2	67:AL:119:ARG:O	2.16	0.46
68:AM:48:LYS:HB2	68:AM:67:LYS:HZ3	1.79	0.46
66:AK:128:ARG:HE	69:AN:41:ARG:NE	2.12	0.46
69:AN:49:LYS:HB3	69:AN:57:ARG:NH2	2.29	0.46
70:AO:61:ILE:H	70:AO:102:LYS:CE	2.17	0.46
52:2:1912:C:OP1	70:AO:88:ALA:HB3	2.15	0.46
78:AX:163:HIS:O	78:AX:167:VAL:HB	2.15	0.46
80:AZ:28:ILE:HG22	80:AZ:44:ARG:O	2.15	0.46
2:B:1063:G:N3	19:S:49:ARG:NH2	2.63	0.46
2:B:960:U:H2'	2:B:961:G:C8	2.50	0.46
14:N:82:LYS:O	14:N:86:LYS:HG3	2.15	0.46
16:P:125:MET:HG2	16:P:141:CYS:SG	2.55	0.46
1:A:768:C:C6	26:Z:114:HIS:HE1	2.20	0.46
50:0:112:LYS:CE	50:0:214:ARG:HH12	2.22	0.46
51:1:39:LEU:HD22	51:1:44:ILE:HG13	1.98	0.46
52:2:1193:U:H2'	52:2:1194:C:C6	2.50	0.46
52:2:2025:C:H2'	52:2:2026:G:H8	1.81	0.46
52:2:22:A:P	56:6:17:PRO:HG3	2.56	0.46
52:2:39:A:OP1	56:6:3:ASN:ND2	2.42	0.46
52:2:762:A:C2'	52:2:763:C:H5'	2.44	0.46
54:4:130:ASN:O	54:4:134:TYR:HB2	2.15	0.46
55:5:205:GLY:O	55:5:209:GLN:HG2	2.15	0.46
55:5:204:GLU:C	55:5:208:LEU:HB2	2.34	0.46
57:7:120:ARG:NH2	57:7:121:LEU:HG	2.30	0.46
59:AC:147:GLN:CD	71:AP:72:LYS:HG2	2.36	0.46
64:AI:134:LEU:CB	68:AM:150:SER:C	2.84	0.46
69:AN:164:VAL:O	69:AN:167:SER:OG	2.31	0.46
77:AW:35:ASP:HB2	77:AW:83:LYS:HE3	1.97	0.46
2:B:1413:C:H2'	2:B:1414:G:C8	2.51	0.46
2:B:1431:C:H2'	2:B:1432:C:C6	2.50	0.46
3:C:116:C:C4	3:C:117:U:C4	3.04	0.46
6:F:18:A:OP2	13:M:136:ARG:NH2	2.43	0.46
11:K:168:LYS:O	11:K:172:LYS:N	2.49	0.46
11:K:33:SER:HB3	11:K:70:GLU:O	2.15	0.46
12:L:51:VAL:HG23	12:L:54:ARG:NH2	2.29	0.46
13:M:54:VAL:HG22	13:M:125:GLY:O	2.15	0.46
14:N:67:ARG:HH12	17:Q:145:HIS:HA	1.79	0.46
51:1:18:SER:OG	51:1:21:THR:OG1	2.25	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1813:A:HO2'	52:2:1814:A:P	2.37	0.46
52:2:1881:G:N2	52:2:1882:U:O2'	2.39	0.46
52:2:1917:U:H4'	52:2:1918:C:H6	1.80	0.46
52:2:1966:U:H2'	52:2:1967:U:C6	2.49	0.46
52:2:720:G:C4	52:2:735:G:O6	2.69	0.46
53:3:234:ARG:O	53:3:237:HIS:N	2.47	0.46
57:7:149:HIS:CD2	57:7:153:VAL:HG13	2.50	0.46
57:7:196:TYR:CZ	57:7:214:LYS:HB2	2.51	0.46
57:7:190:LEU:HD22	57:7:221:TRP:CE3	2.50	0.46
58:8:29:LYS:HG3	58:8:30:ALA:N	2.30	0.46
59:AC:231:TRP:CG	59:AC:232:GLU:N	2.83	0.46
60:AD:68:LEU:HA	60:AD:72:THR:HA	1.97	0.46
52:2:1213:A:OP2	62:AG:124:ARG:HD3	2.14	0.46
68:AM:79:LYS:C	68:AM:80:ILE:HG13	2.35	0.46
69:AN:122:ARG:HD2	69:AN:189:ASN:HB3	1.97	0.46
69:AN:144:ALA:O	69:AN:148:ALA:N	2.46	0.46
75:AT:32:VAL:HG12	75:AT:34:HIS:HD2	1.80	0.46
3:C:138:C:C4	3:C:153:A:N6	2.84	0.46
13:M:137:VAL:HG22	13:M:138:VAL:H	1.80	0.46
14:N:111:TYR:O	14:N:115:VAL:HG23	2.15	0.46
22:V:143:GLY:HA3	22:V:144:LEU:HA	1.59	0.46
26:Z:101:LEU:O	26:Z:104:SER:N	2.46	0.46
51:1:47:ASN:O	51:1:50:LYS:HE3	2.15	0.46
52:2:1554:G:P	52:2:1554:G:H3'	2.55	0.46
52:2:1566:G:N2	52:2:1567:A:N3	2.64	0.46
52:2:15:U:H2'	52:2:16:G:O4'	2.14	0.46
52:2:1606:C:O2'	52:2:1607:U:H6	1.98	0.46
52:2:322:C:C2	52:2:324:U:N3	2.83	0.46
52:2:613:G:H21	52:2:626:G:P	2.39	0.46
58:8:49:GLU:HG3	58:8:50:HIS:N	2.25	0.46
1:A:1351:C:H2'	1:A:1352:C:C6	2.51	0.46
1:A:1605:G:C2	1:A:1626:G:C2	3.03	0.46
1:A:447:G:H1'	3:C:106:G:N2	2.29	0.46
1:A:784:U:H2'	1:A:785:C:C6	2.51	0.46
59:AC:121:ARG:NH2	67:AL:80:ARG:HE	2.14	0.46
59:AC:118:TYR:CD1	59:AC:204:ILE:HG12	2.41	0.46
52:2:1996:U:H4'	66:AK:143:ARG:HB2	1.96	0.46
74:AS:22:TRP:O	74:AS:28:LYS:CG	2.63	0.46
74:AS:80:LYS:C	74:AS:81:ILE:HD12	2.35	0.46
79:AY:43:ARG:HD3	79:AY:57:MET:HE3	1.97	0.46
69:AN:190:ARG:O	80:AZ:81:ARG:NH2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:689:G:H2'	2:B:690:C:O4'	2.15	0.46
3:C:137:G:N3	3:C:149:G:C2	2.83	0.46
9:I:8:ILE:HG22	9:I:8:ILE:O	2.15	0.46
15:O:51:LEU:HD13	15:O:117:ASN:HB3	1.96	0.46
18:R:195:ALA:HB3	54:4:3:PRO:HG3	1.97	0.46
51:1:82:GLY:N	51:1:85:ASP:OD2	2.49	0.46
52:2:597:G:C2	52:2:640:A:C2	3.03	0.46
52:2:736:G:H2'	52:2:738:G:N7	2.30	0.46
53:3:150:LEU:HD22	53:3:150:LEU:C	2.35	0.46
52:2:764:A:C1'	54:4:99:GLN:HE22	2.28	0.46
66:AK:61:VAL:HG22	66:AK:114:LYS:HB3	1.98	0.46
67:AL:84:HIS:HB3	67:AL:87:ALA:CB	2.45	0.46
58:8:45:ARG:NH2	72:AQ:77:PHE:HD2	2.14	0.46
73:AR:77:THR:OG1	73:AR:83:MET:HG3	2.15	0.46
52:2:628:A:C6	78:AX:144:GLN:HG2	2.50	0.46
78:AX:190:PRO:O	78:AX:191:SER:C	2.39	0.46
79:AY:38:LEU:O	79:AY:42:ARG:HG2	2.15	0.46
2:B:444:G:O2'	2:B:446:C:N4	2.48	0.46
6:F:63:A:H4'	6:F:64:U:OP2	2.16	0.46
9:I:7:GLY:HA3	9:I:8:ILE:O	2.16	0.46
10:J:87:MET:HE3	10:J:136:LEU:HD13	1.98	0.46
12:L:183:SER:HB2	26:Z:135:ARG:NE	2.31	0.46
1:A:983:U:H5''	12:L:22:SER:HB2	1.97	0.46
13:M:31:ASP:HA	13:M:60:ASN:OD1	2.15	0.46
14:N:69:CYS:SG	14:N:74:LEU:HB2	2.55	0.46
14:N:87:TYR:CZ	14:N:93:ALA:HB2	2.50	0.46
18:R:84:SER:O	18:R:88:ARG:HG3	2.16	0.46
20:T:81:THR:HG21	20:T:85:TYR:HD2	1.81	0.46
50:0:97:ARG:CD	50:0:243:GLU:CB	2.93	0.46
51:1:188:ARG:NH2	51:1:243:ARG:HD2	2.31	0.46
52:2:1206:C:C5	62:AG:17:PRO:HG3	2.51	0.46
52:2:1806:C:OP1	67:AL:3:LYS:HB2	2.16	0.46
52:2:1557:A:C2	52:2:1970:A:N1	2.84	0.46
52:2:1974:A:N3	52:2:1975:U:C4	2.83	0.46
52:2:475:G:H2'	52:2:476:C:O4'	2.15	0.46
52:2:772:A:HO2'	52:2:773:A:P	2.36	0.46
52:2:780:A:HO2'	52:2:781:A:P	2.35	0.46
55:5:31:ARG:CB	55:5:56:ARG:HH21	2.28	0.46
1:A:26:C:H4'	1:A:59:A:H2	1.77	0.46
1:A:743:A:C6	1:A:753:A:N7	2.83	0.46
59:AC:205:LYS:HA	59:AC:239:PHE:HE1	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AC:75:TYR:N	59:AC:84:ILE:O	2.38	0.46
65:AJ:77:PRO:HG2	65:AJ:79:PHE:CE2	2.51	0.46
70:AO:88:ALA:O	70:AO:92:ARG:HG3	2.15	0.46
78:AX:192:ASP:O	78:AX:196:ARG:HB2	2.16	0.46
9:I:51:ARG:HB3	9:I:90:VAL:HG11	1.97	0.46
11:K:61:VAL:HG11	11:K:64:PHE:CD2	2.50	0.46
21:U:64:VAL:O	21:U:72:ARG:HG3	2.15	0.46
23:W:20:ARG:HG2	23:W:34:THR:HG22	1.98	0.46
52:2:1123:G:N7	52:2:1183:G:N1	2.64	0.46
52:2:1521:G:N2	52:2:1522:U:C2	2.83	0.46
52:2:1645:G:H8	52:2:1645:G:O5'	1.99	0.46
52:2:129:U:C4	52:2:182:A:C8	3.04	0.46
52:2:1856:G:H2'	52:2:1857:G:C8	2.50	0.46
52:2:1921:A:C5	52:2:1922:A:C8	3.04	0.46
52:2:1956:G:N2	52:2:1987:C:C4	2.84	0.46
52:2:377:A:OP1	55:5:48:ALA:HB1	2.16	0.46
52:2:619:A:H8	52:2:619:A:O5'	1.99	0.46
56:6:90:ASP:N	56:6:90:ASP:OD1	2.47	0.46
57:7:103:PHE:CE1	57:7:138:GLY:HA2	2.50	0.46
1:A:245:C:C2	1:A:246:A:C8	3.03	0.46
64:AI:84:LYS:CE	64:AI:104:TYR:HD1	2.23	0.46
64:AI:67:LEU:O	64:AI:71:LYS:HB2	2.16	0.46
66:AK:96:ILE:HD11	66:AK:115:PHE:HD2	1.81	0.46
72:AQ:25:ASN:OD1	72:AQ:28:ALA:HB2	2.16	0.46
7:G:7:U:H5''	7:G:8:U:C6	2.50	0.46
9:I:44:PHE:CD2	9:I:140:GLY:HA3	2.50	0.46
10:J:38:ARG:NE	10:J:83:ASP:OD1	2.48	0.46
13:M:69:LYS:HZ2	13:M:163:HIS:HB2	1.81	0.46
15:O:194:ARG:HA	15:O:197:ARG:NH1	2.31	0.46
14:N:67:ARG:NH1	17:Q:144:TYR:O	2.45	0.46
24:X:79:ILE:HG22	24:X:80:ASP:O	2.15	0.46
50:0:198:ASP:O	50:0:202:ARG:HG3	2.16	0.46
52:2:1164:C:C2'	52:2:1165:G:H5'	2.45	0.46
52:2:1123:G:C8	52:2:1183:G:N2	2.83	0.46
52:2:1547:A:HO2'	52:2:1548:A:P	2.39	0.46
52:2:1863:A:N3	68:AM:150:SER:HB3	2.31	0.46
52:2:1881:G:H4'	52:2:1955:G:H4'	1.98	0.46
52:2:1886:A:C4	52:2:1941:A:C2	3.03	0.46
52:2:1978:G:H2'	52:2:1979:U:H5''	1.97	0.46
52:2:1524:G:C6	52:2:1990:G:N3	2.84	0.46
52:2:2000:G:H1'	52:2:2001:U:OP2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:290:U:C5	53:3:220:ARG:NH1	2.84	0.46
52:2:716:U:C2	52:2:739:A:C2	3.03	0.46
54:4:74:VAL:HG12	54:4:78:GLN:HB2	1.98	0.46
57:7:146:ARG:HD3	57:7:177:LYS:HD3	1.98	0.46
1:A:198:C:H5''	1:A:1482:C:N4	2.31	0.46
1:A:25:C:H42	1:A:55:A:N6	2.03	0.46
1:A:456:A:H2'	1:A:457:C:O4'	2.16	0.46
61:AE:114:ARG:HD3	74:AS:6:GLY:O	2.15	0.46
52:2:350:U:OP1	61:AE:120:LYS:HG3	2.16	0.46
62:AG:55:ARG:HG3	62:AG:56:ASP:N	2.31	0.46
70:AO:52:LYS:NZ	70:AO:70:ARG:HH11	2.14	0.46
78:AX:166:PHE:CD1	78:AX:189:LEU:HD12	2.51	0.46
3:C:131:A:C5	3:C:194:A:C2	3.03	0.46
3:C:175:U:H4'	3:C:177:U:H5	1.81	0.46
3:C:235:C:H2'	3:C:236:G:H8	1.80	0.46
17:Q:80:ILE:HG22	17:Q:81:ALA:O	2.15	0.46
18:R:33:GLN:O	18:R:34:ASN:HB2	2.16	0.46
2:B:122:G:OP1	18:R:77:GLY:HA3	2.15	0.46
23:W:14:HIS:HB3	23:W:15:PRO:HD2	1.97	0.46
23:W:27:LEU:HG	23:W:29:THR:O	2.14	0.46
52:2:1610:A:H4'	52:2:1611:U:H2'	1.98	0.46
52:2:1895:A:H4'	52:2:1896:A:OP1	2.16	0.46
52:2:1916:A:H4'	52:2:1917:U:C5'	2.46	0.46
53:3:22:VAL:HG13	53:3:43:GLY:HA3	1.98	0.46
54:4:138:VAL:HG13	54:4:155:VAL:HG13	1.97	0.46
55:5:38:LEU:HD12	55:5:94:LYS:HD3	1.98	0.46
1:A:1502:U:C2	1:A:1503:A:C8	3.04	0.46
1:A:582:U:O2'	1:A:583:A:N7	2.47	0.46
62:AG:125:LEU:HD22	62:AG:129:TYR:HE2	1.81	0.46
64:AI:74:VAL:CG1	64:AI:75:LYS:H	2.24	0.46
66:AK:124:ILE:HG13	66:AK:125:ALA:H	1.81	0.46
68:AM:15:ARG:HA	68:AM:19:THR:O	2.16	0.46
70:AO:61:ILE:HD12	70:AO:102:LYS:HG3	1.98	0.46
70:AO:85:VAL:HG22	70:AO:86:LEU:N	2.31	0.46
71:AP:43:TRP:CG	71:AP:44:VAL:N	2.84	0.46
76:AV:101:THR:HG22	76:AV:102:LYS:N	2.28	0.46
5:E:168:U:H2'	5:E:169:G:C8	2.51	0.46
9:I:29:LEU:HB3	9:I:52:LEU:HD21	1.97	0.46
15:O:99:GLN:NE2	15:O:118:SER:OG	2.37	0.46
19:S:40:VAL:HG21	19:S:96:VAL:HG13	1.97	0.46
3:C:112:U:OP1	24:X:9:ARG:NH2	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:106:MET:HE1	50:0:192:THR:HG22	1.98	0.46
52:2:1092:A:O2'	52:2:1093:C:O4'	2.32	0.46
52:2:1200:G:H2'	52:2:1201:G:C8	2.51	0.46
52:2:1527:C:H2'	52:2:1528:G:H8	1.81	0.46
52:2:1813:A:H2'	52:2:1814:A:O4'	2.15	0.46
52:2:1884:A:C6	52:2:1885:G:N1	2.84	0.46
52:2:1911:A:N1	52:2:1927:G:C4	2.84	0.46
52:2:372:C:O2	55:5:86:THR:HG22	2.16	0.46
52:2:375:G:O2'	55:5:30:GLY:CA	2.57	0.46
52:2:848:C:H2'	52:2:849:U:O4'	2.16	0.46
53:3:246:PHE:HA	53:3:249:LYS:HB3	1.97	0.46
54:4:133:ILE:HG22	54:4:136:SER:OG	2.16	0.46
57:7:91:MET:CG	57:7:101:ARG:HB3	2.46	0.46
1:A:1120:C:O2'	1:A:1121:G:H5'	2.16	0.46
1:A:1768:G:H2'	1:A:1769:A:C8	2.49	0.46
59:AC:126:PHE:HD1	59:AC:215:ALA:HB2	1.81	0.46
60:AD:64:TRP:HD1	60:AD:74:THR:HA	1.81	0.46
64:AI:74:VAL:HG12	64:AI:75:LYS:N	2.26	0.46
52:2:1524:G:C5	68:AM:143:HIS:ND1	2.84	0.46
70:AO:85:VAL:HG23	70:AO:135:LEU:HD11	1.97	0.46
70:AO:85:VAL:HG13	70:AO:86:LEU:H	1.81	0.46
71:AP:166:MET:SD	71:AP:234:PHE:CG	3.09	0.46
52:2:1699:G:N2	72:AQ:116:ARG:HE	2.14	0.46
74:AS:67:ARG:NH2	74:AS:114:ASP:OD2	2.49	0.46
76:AV:97:LYS:O	76:AV:98:ILE:HG13	2.16	0.46
2:B:1072:U:H2'	2:B:1073:G:C8	2.51	0.46
8:H:96:A:H8	8:H:96:A:O5'	1.98	0.46
11:K:60:THR:HG22	11:K:67:ARG:HA	1.97	0.46
11:K:99:LYS:HG2	11:K:178:ILE:HG23	1.98	0.46
12:L:92:PRO:C	12:L:94:TYR:H	2.19	0.46
14:N:41:PRO:HD2	14:N:78:LEU:CD1	2.46	0.46
2:B:539:A:H4'	16:P:138:PRO:O	2.16	0.46
22:V:57:SER:OG	22:V:60:ILE:HB	2.16	0.46
52:2:1095:G:C5	52:2:1096:C:N3	2.84	0.45
52:2:1948:C:H3'	52:2:1949:U:C6	2.51	0.45
52:2:550:C:H2'	52:2:550:C:O2	2.17	0.45
52:2:610:G:O6	52:2:633:C:N4	2.49	0.45
52:2:243:U:O3'	55:5:189:THR:HG21	2.17	0.45
56:6:61:LEU:HD23	56:6:68:ARG:HB2	1.98	0.45
56:6:82:TYR:O	56:6:106:ARG:HG2	2.16	0.45
57:7:171:SER:O	57:7:197:VAL:HB	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:G:OP1	24:X:100:ASN:ND2	2.48	0.45
1:A:578:G:H2'	1:A:579:G:C8	2.52	0.45
59:AC:117:LEU:HD23	59:AC:117:LEU:HA	1.79	0.45
59:AC:204:ILE:HG21	59:AC:240:TYR:H	1.81	0.45
59:AC:87:VAL:H	67:AL:108:MET:HE1	1.81	0.45
68:AM:117:LYS:HB2	68:AM:118:ILE:HG13	1.98	0.45
68:AM:122:ARG:O	68:AM:125:ARG:HB2	2.16	0.45
78:AX:105:ARG:HA	78:AX:174:CYS:SG	2.56	0.45
2:B:1113:G:H5'	19:S:70:ARG:NH2	2.31	0.45
1:A:805:A:P	9:I:66:ARG:HH21	2.39	0.45
14:N:135:THR:HG22	14:N:140:HIS:CD2	2.46	0.45
15:O:49:ARG:CA	15:O:51:LEU:O	2.64	0.45
20:T:18:GLN:NE2	20:T:67:LYS:HE2	2.31	0.45
20:T:44:LEU:HD22	20:T:72:MET:HE1	1.97	0.45
24:X:24:ARG:HG2	24:X:75:TRP:CH2	2.51	0.45
26:Z:82:ILE:HG22	26:Z:83:ALA:O	2.16	0.45
50:O:27:ARG:O	50:O:51:LYS:HG2	2.17	0.45
52:2:1693:U:H2'	52:2:1694:G:H8	1.81	0.45
52:2:1881:G:C2	52:2:1882:U:C2	3.04	0.45
52:2:1995:G:C5	52:2:1996:U:C5	3.03	0.45
52:2:783:A:C2	52:2:784:C:C2	3.04	0.45
55:5:82:VAL:CG1	55:5:215:LEU:HD11	2.47	0.45
55:5:67:TRP:CD1	55:5:72:ILE:HD12	2.50	0.45
57:7:245:PRO:HG3	57:7:288:SER:O	2.16	0.45
1:A:1491:U:H2'	1:A:1492:G:C8	2.51	0.45
1:A:182:U:C4	1:A:183:G:C6	3.04	0.45
1:A:827:G:O6	1:A:828:U:N3	2.50	0.45
59:AC:219:LEU:CB	59:AC:225:ILE:HD12	2.46	0.45
52:2:1611:U:N3	60:AD:41:ARG:HD3	2.31	0.45
64:AI:37:GLU:OE1	64:AI:59:ARG:NH2	2.41	0.45
64:AI:84:LYS:HE2	64:AI:84:LYS:HB3	1.72	0.45
69:AN:187:LYS:HA	69:AN:190:ARG:HG3	1.97	0.45
71:AP:237:PRO:HA	71:AP:240:TRP:CE3	2.51	0.45
72:AQ:94:GLN:O	72:AQ:98:ILE:HG13	2.16	0.45
2:B:1070:C:H2'	2:B:1071:U:H6	1.81	0.45
2:B:412:C:H2'	2:B:413:C:H6	1.81	0.45
2:B:66:G:H2'	2:B:67:A:H5''	1.98	0.45
3:C:173:C:H1'	3:C:174:A:C8	2.52	0.45
6:F:12:C:C1'	6:F:73:A:C2	2.99	0.45
9:I:7:GLY:CA	9:I:8:ILE:O	2.64	0.45
10:J:29:PRO:HB3	10:J:125:VAL:HG21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:52:VAL:HG23	10:J:164:ILE:O	2.16	0.45
4:D:65:A:H1'	10:J:205:LYS:HE3	1.98	0.45
11:K:116:HIS:CE1	11:K:129:ILE:HA	2.51	0.45
17:Q:74:ARG:HD2	17:Q:76:TYR:OH	2.16	0.45
52:2:1435:G:H2'	52:2:1436:C:O4'	2.16	0.45
52:2:1513:C:H41	52:2:1639:U:H5''	1.79	0.45
52:2:1863:A:C3'	64:AI:134:LEU:HD22	2.41	0.45
52:2:1876:U:H5	52:2:1877:G:N7	2.14	0.45
52:2:1981:G:O2'	52:2:1982:C:P	2.74	0.45
52:2:1521:G:C6	52:2:1995:G:N1	2.84	0.45
52:2:2030:A:H2	52:2:2031:C:N1	2.14	0.45
52:2:465:G:O2'	52:2:466:G:H5'	2.17	0.45
52:2:723:C:H5'	52:2:724:A:O5'	2.15	0.45
52:2:761:A:H3'	52:2:761:A:P	2.56	0.45
53:3:236:VAL:O	53:3:240:ARG:HG2	2.15	0.45
52:2:762:A:N6	54:4:102:ILE:H	2.14	0.45
54:4:79:ARG:HH21	54:4:135:PRO:CG	2.28	0.45
55:5:37:ARG:O	55:5:59:ARG:HA	2.17	0.45
57:7:139:ASP:OD1	57:7:140:CYS:N	2.49	0.45
57:7:203:SER:HB3	57:7:243:PHE:CD1	2.51	0.45
57:7:214:LYS:O	57:7:216:GLY:N	2.49	0.45
57:7:90:ARG:HB2	57:7:92:TRP:NE1	2.31	0.45
60:AD:41:ARG:CG	60:AD:83:LEU:HD11	2.47	0.45
63:AH:24:VAL:CG2	63:AH:86:LEU:HD13	2.45	0.45
63:AH:54:LYS:HE3	63:AH:73:ASP:OD2	2.16	0.45
59:AC:121:ARG:HH21	67:AL:80:ARG:HH21	1.62	0.45
70:AO:37:TRP:CZ2	70:AO:72:PRO:C	2.90	0.45
71:AP:49:LEU:HD11	71:AP:64:ILE:HG12	1.97	0.45
78:AX:60:VAL:HG23	78:AX:61:ASN:H	1.82	0.45
2:B:1315:A:OP2	2:B:1315:A:H8	1.99	0.45
2:B:388:U:H2'	2:B:389:G:H2'	1.98	0.45
2:B:41:A:C2	2:B:54:C:N4	2.84	0.45
3:C:156:G:H1'	3:C:186:A:C2	2.51	0.45
18:R:109:TYR:CD1	18:R:114:LYS:HD2	2.51	0.45
20:T:23:LYS:HD3	20:T:80:SER:HB2	1.97	0.45
52:2:1527:C:H3'	68:AM:131:ARG:NH1	2.22	0.45
52:2:1606:C:O2'	52:2:1607:U:O5'	2.24	0.45
52:2:760:G:H5''	52:2:761:A:C8	2.52	0.45
52:2:760:G:O3'	52:2:761:A:H3'	2.17	0.45
55:5:60:LEU:HD11	55:5:198:ALA:HB2	1.99	0.45
56:6:90:ASP:O	56:6:91:LYS:HD2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:317:U:O2	1:A:323:U:N3	2.50	0.45
61:AE:53:ILE:HD12	61:AE:75:PHE:CE1	2.51	0.45
52:2:1536:U:H5'	64:AI:131:ARG:HG2	1.80	0.45
1:A:1188:G:N2	2:B:555:A:OP2	2.42	0.45
7:G:131:U:H4'	13:M:163:HIS:CD2	2.51	0.45
9:I:87:ALA:HB3	9:I:107:VAL:HG22	1.99	0.45
10:J:72:ALA:HB2	10:J:155:ALA:HB2	1.99	0.45
7:G:120:U:O2	21:U:14:ARG:NH1	2.50	0.45
52:2:1789:A:C6	52:2:1815:A:N7	2.85	0.45
52:2:1822:G:OP1	66:AK:135:TRP:CZ2	2.68	0.45
52:2:1889:A:H5''	66:AK:77:GLY:N	2.29	0.45
52:2:1528:G:H1'	52:2:2017:A:C4	2.52	0.45
52:2:2201:U:HO2'	52:2:2202:U:P	2.38	0.45
52:2:576:A:H2'	52:2:577:U:H5'	1.99	0.45
52:2:967:A:OP2	54:4:10:LYS:HB2	2.16	0.45
55:5:159:GLN:O	55:5:163:ILE:HD12	2.16	0.45
57:7:117:PRO:HG2	57:7:160:PRO:O	2.17	0.45
1:A:609:C:C2	1:A:610:A:C8	3.04	0.45
1:A:813:C:H5	1:A:832:G:N1	2.12	0.45
62:AG:129:TYR:O	62:AG:135:LEU:N	2.50	0.45
64:AI:84:LYS:HZ2	64:AI:109:PHE:CA	2.26	0.45
66:AK:27:VAL:HG11	66:AK:98:PHE:CE1	2.52	0.45
67:AL:32:LYS:NZ	67:AL:33:ARG:HE	2.14	0.45
68:AM:126:HIS:HE1	68:AM:132:VAL:O	1.99	0.45
70:AO:32:LYS:HG3	70:AO:79:TYR:OH	2.16	0.45
2:B:551:A:H2'	2:B:552:G:H8	1.82	0.45
16:P:36:ILE:HG21	16:P:36:ILE:HD13	1.79	0.45
2:B:1151:A:N6	26:Z:59:ASP:O	2.49	0.45
50:0:191:LEU:HD13	50:0:218:VAL:HG11	1.99	0.45
50:0:242:VAL:O	50:0:243:GLU:HB2	2.17	0.45
51:1:14:ASP:OD2	51:1:186:ARG:NH1	2.45	0.45
52:2:1249:G:H2'	52:2:1250:A:H5'	1.98	0.45
52:2:1278:U:H4'	52:2:1279:G:OP2	2.17	0.45
52:2:1533:G:H2'	52:2:1534:U:C6	2.50	0.45
52:2:1791:U:H3'	67:AL:5:ARG:HH22	1.82	0.45
52:2:261:A:H2'	52:2:262:U:C6	2.52	0.45
52:2:322:C:O2	52:2:324:U:N3	2.49	0.45
52:2:56:U:H2'	52:2:57:G:O4'	2.15	0.45
52:2:580:A:O2'	52:2:581:A:H3'	2.16	0.45
52:2:720:G:N2	52:2:721:U:C2	2.84	0.45
52:2:758:G:C8	52:2:759:U:C5	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:770:A:H1'	52:2:771:G:P	2.57	0.45
52:2:97:C:OP2	52:2:421:A:O2'	2.30	0.45
53:3:150:LEU:CD1	53:3:150:LEU:H	2.30	0.45
55:5:26:LYS:O	55:5:29:LEU:HD13	2.17	0.45
56:6:136:ALA:C	56:6:138:GLN:H	2.20	0.45
57:7:193:HIS:CD2	57:7:197:VAL:HG22	2.52	0.45
57:7:3:TYR:CD2	57:7:306:TRP:HE3	2.34	0.45
1:A:581:G:N2	1:A:626:U:C2	2.84	0.45
59:AC:104:VAL:HG11	59:AC:110:VAL:HG23	1.98	0.45
62:AG:47:PRO:HD2	62:AG:86:GLU:CD	2.35	0.45
63:AH:39:ASP:O	63:AH:41:SER:N	2.49	0.45
64:AI:24:TYR:HE1	64:AI:117:GLU:HA	1.82	0.45
65:AJ:108:LEU:HB2	65:AJ:111:MET:HE3	1.98	0.45
64:AI:134:LEU:HB3	68:AM:150:SER:C	2.37	0.45
52:2:1947:A:H1'	70:AO:66:HIS:CE1	2.52	0.45
56:6:27:MET:HG3	79:AY:43:ARG:NH2	2.31	0.45
7:G:83:U:O2'	7:G:113:G:N1	2.39	0.45
12:L:62:GLN:H	12:L:117:ASN:ND2	2.14	0.45
18:R:114:LYS:O	18:R:146:LYS:NZ	2.49	0.45
18:R:78:VAL:HA	18:R:81:ARG:HH11	1.82	0.45
51:1:122:LYS:HB3	51:1:139:HIS:HB3	1.98	0.45
51:1:249:GLU:OE1	52:2:890:A:O2'	2.31	0.45
52:2:1521:G:N3	52:2:1522:U:C6	2.85	0.45
52:2:1548:A:O2'	52:2:1549:C:P	2.75	0.45
52:2:1843:U:O2'	52:2:1844:C:OP2	2.27	0.45
52:2:1845:C:C4	52:2:1846:U:O4	2.70	0.45
52:2:1966:U:C2	52:2:1967:U:H5	2.34	0.45
52:2:2165:A:H1'	52:2:2186:C:H5'	1.99	0.45
52:2:881:U:OP1	52:2:881:U:H4'	2.17	0.45
54:4:134:TYR:CD1	54:4:135:PRO:HA	2.52	0.45
57:7:74:ALA:HB1	57:7:119:ASP:OD2	2.17	0.45
1:A:181:G:C5	1:A:182:U:C4	3.04	0.45
1:A:376:A:N6	1:A:377:G:O6	2.50	0.45
1:A:473:A:C2	1:A:661:G:C2	3.05	0.45
1:A:814:C:H5	1:A:830:G:H22	1.64	0.45
61:AE:34:HIS:O	61:AE:35:ARG:HB2	2.16	0.45
69:AN:187:LYS:HG2	69:AN:190:ARG:HH21	1.82	0.45
52:2:6:G:C6	71:AP:215:ARG:NH2	2.84	0.45
72:AQ:52:ARG:HE	72:AQ:84:ARG:NH2	2.15	0.45
74:AS:22:TRP:O	74:AS:28:LYS:HG3	2.17	0.45
2:B:1028:U:O2	2:B:1069:G:N2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1189:G:N7	2:B:1244:C:O2'	2.48	0.45
2:B:1334:C:H2'	2:B:1335:G:C8	2.52	0.45
2:B:465:U:OP1	2:B:1347:G:O2'	2.29	0.45
10:J:55:ARG:HH21	10:J:164:ILE:HD11	1.82	0.45
11:K:32:GLU:HG2	11:K:33:SER:O	2.17	0.45
52:2:1092:A:H2'	52:2:1093:C:C6	2.52	0.45
52:2:1836:G:C8	58:8:44:PHE:HE2	2.35	0.45
52:2:1853:U:O2'	52:2:1855:U:H6	2.00	0.45
52:2:1869:A:H62	68:AM:139:THR:CG2	2.30	0.45
52:2:1957:G:OP2	52:2:1957:G:H8	2.00	0.45
52:2:2003:G:H2'	52:2:2004:G:H8	1.82	0.45
52:2:2018:A:H2'	52:2:2019:C:C6	2.52	0.45
52:2:571:A:H2'	52:2:572:A:O4'	2.17	0.45
52:2:5:U:H2'	52:2:6:G:H8	1.81	0.45
52:2:722:C:H2'	52:2:723:C:O4'	2.16	0.45
52:2:771:G:N2	52:2:774:A:N6	2.65	0.45
52:2:790:U:H5'	52:2:790:U:H6	1.81	0.45
54:4:30:LEU:CD1	54:4:38:ARG:HH22	2.28	0.45
55:5:68:ALA:O	55:5:69:SER:HB3	2.16	0.45
57:7:20:PRO:CD	57:7:29:VAL:HG12	2.45	0.45
58:8:41:ARG:HD2	58:8:44:PHE:HD1	1.78	0.45
1:A:1576:C:O2'	1:A:1617:C:O2'	2.27	0.45
1:A:250:A:N3	24:X:5:LYS:HE3	2.31	0.45
59:AC:151:LYS:O	59:AC:153:VAL:HG23	2.17	0.45
63:AH:19:LEU:HD12	63:AH:19:LEU:O	2.16	0.45
68:AM:16:LEU:HD23	68:AM:16:LEU:HA	1.66	0.45
71:AP:165:PRO:HG2	71:AP:166:MET:CE	2.47	0.45
80:AZ:34:THR:O	80:AZ:40:VAL:HG23	2.16	0.45
2:B:1093:U:OP2	9:I:165:PRO:HD2	2.17	0.45
3:C:153:A:H5''	3:C:154:G:O4'	2.17	0.45
6:F:61:U:H5''	6:F:62:G:H3'	1.97	0.45
9:I:47:VAL:HG12	9:I:51:ARG:HE	1.82	0.45
3:C:119:C:H5''	12:L:32:ASN:CB	2.47	0.45
52:2:1108:A:H5''	65:AJ:57:ARG:HH21	1.81	0.45
52:2:125:A:N6	52:2:186:A:C2	2.85	0.45
52:2:1543:A:C2	52:2:1548:A:H8	2.35	0.45
52:2:1841:G:C6	52:2:1842:C:N3	2.85	0.45
52:2:1864:C:C2	64:AI:135:HIS:CA	2.96	0.45
52:2:1908:C:H2'	52:2:1909:C:O4'	2.17	0.45
52:2:576:A:C2'	52:2:577:U:H5'	2.47	0.45
52:2:671:G:H21	52:2:672:G:H1	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:784:C:H2'	52:2:785:G:C8	2.51	0.45
53:3:150:LEU:HD22	53:3:151:SER:CA	2.47	0.45
56:6:98:LEU:HA	56:6:98:LEU:HD23	1.66	0.45
59:AC:225:ILE:HD13	59:AC:231:TRP:HE1	1.81	0.45
62:AG:46:MET:SD	62:AG:86:GLU:OE2	2.74	0.45
68:AM:40:ARG:HG3	68:AM:43:TYR:CD2	2.52	0.45
68:AM:67:LYS:HG2	68:AM:71:ILE:HD11	1.97	0.45
78:AX:118:ALA:O	78:AX:121:ILE:N	2.49	0.45
6:F:45:G:H4'	13:M:201:ARG:NH2	2.32	0.45
9:I:29:LEU:HD23	9:I:29:LEU:HA	1.69	0.45
10:J:137:SER:HG	10:J:173:PHE:HE1	1.63	0.45
1:A:279:G:C5	12:L:136:LYS:HE2	2.52	0.45
18:R:19:ARG:CG	18:R:19:ARG:NH1	2.77	0.45
17:Q:47:MET:SD	19:S:146:LEU:HD11	2.56	0.45
21:U:127:LEU:HD23	21:U:127:LEU:HA	1.81	0.45
50:0:205:ASN:N	50:0:206:PRO:HD2	2.32	0.45
52:2:1895:A:C4	52:2:1930:G:O6	2.70	0.45
52:2:1956:G:H1'	52:2:1986:A:N6	2.32	0.45
52:2:315:A:H3'	52:2:316:A:H5'	1.99	0.45
52:2:497:A:O2'	52:2:498:C:C6	2.68	0.45
57:7:133:VAL:HG12	57:7:142:HIS:O	2.17	0.45
57:7:180:ASN:N	57:7:185:LYS:O	2.44	0.45
59:AC:91:TRP:NE1	59:AC:95:ILE:HD11	2.31	0.45
55:5:210:PHE:CE2	61:AE:23:TYR:HB2	2.52	0.45
63:AH:88:VAL:HB	63:AH:122:ILE:HG13	1.99	0.45
66:AK:18:LYS:HZ2	66:AK:126:ASP:HB2	1.82	0.45
52:2:1888:C:O2'	66:AK:78:GLY:O	2.35	0.45
52:2:1791:U:OP1	67:AL:49:LYS:HG3	2.16	0.45
68:AM:122:ARG:O	68:AM:126:HIS:CG	2.70	0.45
68:AM:81:PRO:HG2	68:AM:84:PHE:HD2	1.81	0.45
69:AN:131:ARG:HA	69:AN:131:ARG:HD2	1.82	0.45
69:AN:22:LEU:HA	69:AN:25:ARG:HB3	1.98	0.45
70:AO:118:VAL:O	70:AO:122:THR:HG23	2.17	0.45
71:AP:172:CYS:SG	71:AP:172:CYS:O	2.75	0.45
52:2:83:A:O2'	75:AT:126:GLY:O	2.34	0.45
52:2:583:A:OP2	75:AT:4:GLN:NE2	2.51	0.45
4:D:28:A:H2'	4:D:29:C:C6	2.52	0.45
7:G:4:A:H2'	7:G:5:G:O4'	2.16	0.45
12:L:13:GLN:HB3	12:L:17:TRP:HE1	1.82	0.45
15:O:139:CYS:SG	15:O:141:THR:HG22	2.57	0.45
24:X:3:SER:HB2	24:X:16:HIS:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:36:ARG:HG3	25:Y:38:TYR:CZ	2.51	0.45
12:L:177:VAL:CB	26:Z:98:VAL:CG2	2.70	0.45
52:2:1584:A:H2'	52:2:1613:C:H1'	1.99	0.44
52:2:1880:A:H1'	52:2:1881:G:C8	2.52	0.44
52:2:1931:A:H8	52:2:1931:A:H2'	1.67	0.44
52:2:37:U:C4	52:2:38:C:C5	3.05	0.44
52:2:750:U:C5	52:2:750:U:OP2	2.70	0.44
52:2:756:C:H2'	52:2:757:C:O4'	2.16	0.44
52:2:761:A:H4'	52:2:762:A:O5'	2.17	0.44
52:2:316:A:O2'	53:3:191:ARG:NH1	2.50	0.44
57:7:174:ASN:O	57:7:193:HIS:HB2	2.17	0.44
58:8:53:PHE:HA	72:AQ:78:GLU:O	2.16	0.44
1:A:308:A:H2'	1:A:309:G:O4'	2.16	0.44
1:A:80:C:H2'	1:A:81:U:O4'	2.17	0.44
1:A:836:G:N2	1:A:837:A:H62	2.15	0.44
1:A:983:U:H5''	12:L:22:SER:CB	2.47	0.44
59:AC:205:LYS:HG2	59:AC:239:PHE:CE1	2.51	0.44
60:AD:56:CYS:SG	60:AD:64:TRP:HZ3	2.40	0.44
64:AI:24:TYR:CE2	64:AI:119:ILE:HB	2.51	0.44
65:AJ:50:PHE:N	65:AJ:50:PHE:CD1	2.85	0.44
67:AL:19:LYS:HD3	78:AX:208:THR:HG21	1.99	0.44
70:AO:73:GLN:O	70:AO:76:ASP:HB2	2.16	0.44
71:AP:67:PHE:CE2	71:AP:248:ASP:HA	2.53	0.44
72:AQ:48:HIS:N	72:AQ:87:ASP:O	2.36	0.44
74:AS:40:PRO:HB2	74:AS:81:ILE:HD11	1.99	0.44
75:AT:80:GLY:O	75:AT:81:LEU:HD23	2.17	0.44
78:AX:84:GLN:HG2	78:AX:85:LEU:N	2.32	0.44
2:B:1450:U:H1'	8:H:107:U:C3'	2.30	0.44
8:H:41:G:H2'	8:H:42:C:O4'	2.16	0.44
10:J:10:ARG:HG3	10:J:11:PHE:N	2.32	0.44
10:J:48:VAL:HG22	10:J:140:THR:O	2.16	0.44
13:M:53:VAL:HG21	13:M:98:PHE:CE2	2.52	0.44
1:A:1652:U:H5'	15:O:67:ARG:HD2	1.98	0.44
17:Q:95:GLU:OE1	17:Q:138:HIS:ND1	2.50	0.44
19:S:38:ASP:OD1	19:S:39:TYR:N	2.50	0.44
50:0:85:ARG:HD2	50:0:106:MET:SD	2.57	0.44
50:0:70:ASN:ND2	50:0:83:ALA:O	2.42	0.44
50:0:97:ARG:HB3	50:0:241:SER:HG	1.80	0.44
51:1:64:GLN:HG2	52:2:497:A:N6	2.33	0.44
52:2:1445:U:HO2'	52:2:1446:G:P	2.38	0.44
52:2:1886:A:H2'	52:2:1887:A:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1956:G:N2	52:2:1986:A:C8	2.85	0.44
52:2:260:A:H2'	52:2:261:A:H8	1.82	0.44
52:2:716:U:O4	52:2:739:A:N1	2.49	0.44
52:2:762:A:O2'	52:2:763:C:OP1	2.35	0.44
52:2:836:C:H2'	52:2:837:G:H8	1.81	0.44
56:6:157:PHE:CD1	56:6:163:PHE:HD2	2.35	0.44
1:A:632:A:H5''	1:A:633:U:H3'	1.99	0.44
59:AC:129:HIS:CE1	59:AC:233:GLU:HG3	2.52	0.44
59:AC:46:MET:HB3	59:AC:91:TRP:CE2	2.52	0.44
60:AD:64:TRP:CB	60:AD:75:VAL:H	2.30	0.44
60:AD:82:GLN:HG2	60:AD:85:ARG:NH2	2.32	0.44
64:AI:84:LYS:CA	64:AI:102:ALA:HB3	2.47	0.44
76:AV:39:GLY:O	76:AV:40:ARG:HD3	2.17	0.44
2:B:946:U:HO2'	2:B:947:G:P	2.40	0.44
1:A:16:G:N2	3:C:244:C:C2	2.85	0.44
9:I:189:SER:HB3	9:I:190:TYR:CD2	2.53	0.44
14:N:157:THR:OG1	14:N:158:GLU:N	2.49	0.44
15:O:7:LEU:HD22	15:O:46:GLU:HB3	1.99	0.44
16:P:47:LEU:O	16:P:51:VAL:HG23	2.16	0.44
52:2:1381:U:H2'	52:2:1382:C:H6	1.82	0.44
52:2:1529:U:C2	68:AM:136:HIS:CE1	3.06	0.44
52:2:1793:C:N4	52:2:1810:G:C2	2.86	0.44
52:2:1890:A:N7	52:2:1937:C:N4	2.65	0.44
52:2:1911:A:C6	52:2:1912:C:C5	3.04	0.44
52:2:723:C:N3	52:2:729:G:O6	2.50	0.44
52:2:737:U:H3'	52:2:737:U:P	2.57	0.44
54:4:7:LYS:HA	54:4:7:LYS:HD3	1.67	0.44
56:6:131:ARG:NH2	75:AT:72:GLY:HA2	2.32	0.44
57:7:203:SER:O	57:7:205:ASP:N	2.49	0.44
58:8:33:ARG:HD3	72:AQ:60:ILE:HD13	1.99	0.44
1:A:123:U:H2'	1:A:124:C:C6	2.53	0.44
1:A:1613:G:OP1	16:P:127:ARG:HD2	2.17	0.44
1:A:1618:U:H5''	1:A:1619:C:C5	2.50	0.44
1:A:382:A:H4'	1:A:384:A:N7	2.32	0.44
1:A:59:A:N7	1:A:60:A:C5	2.85	0.44
63:AH:47:VAL:HG11	63:AH:74:VAL:HA	1.99	0.44
66:AK:115:PHE:O	66:AK:118:TYR:N	2.50	0.44
52:2:1525:A:O3'	68:AM:147:VAL:HG22	2.17	0.44
68:AM:47:LYS:HG2	68:AM:71:ILE:CG2	2.48	0.44
69:AN:21:GLU:HG3	69:AN:103:SER:OG	2.16	0.44
52:2:2028:U:OP2	69:AN:42:TRP:CZ3	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AP:49:LEU:HD22	71:AP:76:ILE:HD13	1.99	0.44
52:2:881:U:H3	75:AT:14:THR:H	1.65	0.44
1:A:1632:U:H5'	2:B:12:A:OP2	2.18	0.44
6:F:28:A:H2'	6:F:29:G:H8	1.82	0.44
11:K:124:ASP:O	11:K:126:SER:N	2.46	0.44
11:K:30:VAL:HG12	11:K:32:GLU:H	1.82	0.44
15:O:118:SER:HB3	15:O:132:VAL:HG22	1.98	0.44
19:S:92:ARG:O	19:S:93:PHE:CD2	2.70	0.44
50:0:141:PHE:CD2	50:0:217:LYS:HB3	2.52	0.44
52:2:1107:G:C6	52:2:1108:A:N1	2.86	0.44
52:2:1702:G:O2'	52:2:1703:A:OP2	2.27	0.44
52:2:1869:A:H62	68:AM:139:THR:CB	2.31	0.44
52:2:1967:U:C2	52:2:1968:G:C8	3.06	0.44
52:2:883:G:O2'	52:2:884:A:P	2.76	0.44
53:3:7:TYR:HD1	53:3:116:ILE:HB	1.82	0.44
55:5:93:THR:O	55:5:94:LYS:HB2	2.17	0.44
1:A:1369:G:C4	13:M:78:LYS:HD3	2.52	0.44
1:A:15:G:C4	3:C:245:A:H2	2.36	0.44
59:AC:201:ASN:O	59:AC:207:ILE:HD11	2.17	0.44
64:AI:24:TYR:CE1	64:AI:117:GLU:HA	2.52	0.44
67:AL:101:VAL:HG21	67:AL:120:VAL:HG13	2.00	0.44
70:AO:100:LEU:HG	70:AO:111:GLY:H	1.83	0.44
70:AO:130:LYS:H	70:AO:136:GLY:CA	2.30	0.44
52:2:1931:A:H5''	72:AQ:83:LYS:NZ	2.33	0.44
3:C:193:G:C6	3:C:195:A:C6	3.06	0.44
6:F:35:U:H2'	6:F:36:C:C6	2.53	0.44
11:K:27:ASN:HB3	11:K:133:ASP:HB3	2.00	0.44
12:L:180:GLU:HB3	12:L:181:GLU:H	1.48	0.44
25:Y:63:ALA:O	25:Y:64:ARG:HB3	2.17	0.44
50:0:32:ASP:OD2	50:0:241:SER:HB2	2.17	0.44
52:2:1526:G:C5	52:2:1527:C:C5	3.06	0.44
52:2:1525:A:N7	52:2:1526:G:C8	2.86	0.44
52:2:1958:A:C8	52:2:1959:C:C4	3.05	0.44
52:2:2000:G:C8	66:AK:128:ARG:HD3	2.53	0.44
52:2:364:G:O2'	52:2:365:U:H2'	2.18	0.44
51:1:4:LYS:HD3	52:2:493:C:H5'	2.00	0.44
52:2:718:C:H6	52:2:718:C:O5'	2.00	0.44
57:7:272:LEU:HA	57:7:272:LEU:HD13	1.48	0.44
1:A:1250:U:OP2	13:M:67:ARG:HD2	2.17	0.44
1:A:1584:A:H2'	1:A:1585:C:C6	2.53	0.44
1:A:495:C:H2'	1:A:496:C:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:693:G:N2	26:Z:17:CYS:HG	2.15	0.44
61:AE:155:LEU:HA	61:AE:155:LEU:HD23	1.72	0.44
62:AG:46:MET:O	62:AG:50:ILE:HG13	2.17	0.44
65:AJ:105:THR:HG23	65:AJ:126:LEU:CD1	2.48	0.44
52:2:2020:U:OP1	66:AK:136:GLY:HA2	2.17	0.44
69:AN:24:LEU:HD13	69:AN:28:ILE:CD1	2.47	0.44
70:AO:40:ILE:HA	70:AO:46:HIS:CD2	2.53	0.44
70:AO:55:VAL:HG21	70:AO:60:GLU:O	2.17	0.44
68:AM:39:ILE:HD11	70:AO:61:ILE:HG23	2.00	0.44
75:AT:23:LEU:HA	75:AT:23:LEU:HD23	1.77	0.44
76:AV:4:LYS:O	76:AV:4:LYS:HG2	2.17	0.44
78:AX:97:ALA:CA	78:AX:187:ILE:CD1	2.95	0.44
2:B:379:C:H2'	2:B:425:A:H61	1.83	0.44
5:E:67:A:N6	5:E:68:U:O4	2.51	0.44
2:B:1163:C:OP1	9:I:185:ARG:HD2	2.17	0.44
9:I:20:TYR:HA	9:I:20:TYR:HD1	1.69	0.44
14:N:147:MET:C	14:N:149:LYS:H	2.21	0.44
2:B:538:G:H4'	16:P:139:TYR:CE1	2.52	0.44
21:U:116:ILE:HG21	21:U:120:VAL:CG1	2.47	0.44
51:1:69:VAL:CG1	51:1:74:ARG:HG3	2.47	0.44
52:2:1165:G:H4'	63:AH:25:HIS:CD2	2.53	0.44
52:2:1378:U:H1'	52:2:1379:A:P	2.58	0.44
52:2:1517:A:C2	52:2:1518:G:C4	3.04	0.44
52:2:1672:G:H2'	52:2:1673:U:O4'	2.17	0.44
52:2:46:U:O2'	52:2:47:A:O5'	2.31	0.44
52:2:59:C:O2'	52:2:60:U:C6	2.68	0.44
52:2:610:G:N3	52:2:610:G:H2'	2.33	0.44
52:2:629:A:N6	52:2:632:C:C2	2.86	0.44
52:2:692:G:N1	52:2:758:G:C2	2.76	0.44
52:2:791:G:O2'	52:2:794:U:H5''	2.17	0.44
52:2:879:A:H5'	52:2:880:U:OP2	2.17	0.44
53:3:183:ILE:HG22	53:3:188:LYS:HG3	1.98	0.44
56:6:120:SER:HB3	56:6:121:VAL:H	1.63	0.44
57:7:83:ALA:HB1	57:7:110:VAL:HG12	2.00	0.44
58:8:30:ALA:O	58:8:31:LEU:C	2.56	0.44
1:A:106:A:H2'	1:A:107:C:O4'	2.17	0.44
1:A:907:G:C6	1:A:908:G:N1	2.85	0.44
60:AD:49:PHE:C	60:AD:51:GLU:H	2.20	0.44
63:AH:50:THR:OG1	63:AH:53:MET:HG3	2.17	0.44
65:AJ:95:PRO:HD3	65:AJ:130:TYR:CD1	2.52	0.44
66:AK:10:LYS:O	66:AK:29:LYS:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:AM:75:PRO:CD	68:AM:97:GLU:HB2	2.47	0.44
72:AQ:18:ARG:HB3	72:AQ:113:ILE:HG21	1.99	0.44
73:AR:38:GLN:HA	73:AR:57:LEU:O	2.17	0.44
80:AZ:56:TYR:HB3	80:AZ:58:ARG:CA	2.42	0.44
3:C:145:G:C6	3:C:146:U:N3	2.86	0.44
6:F:70:G:O6	6:F:71:A:N6	2.50	0.44
7:G:61:A:H2'	7:G:62:C:C6	2.52	0.44
11:K:91:LEU:HG	11:K:96:PHE:CD1	2.53	0.44
22:V:84:THR:HG22	22:V:128:ARG:HA	1.98	0.44
12:L:186:VAL:HG21	26:Z:141:VAL:HB	1.99	0.44
52:2:1500:G:C6	52:2:1501:A:C6	3.05	0.44
52:2:1547:A:O2'	52:2:1548:A:OP2	2.33	0.44
52:2:1612:U:C6	52:2:1613:C:C5	3.06	0.44
52:2:163:A:N6	52:2:165:G:N3	2.65	0.44
52:2:1816:U:H4'	52:2:1817:U:O5'	2.16	0.44
52:2:1954:U:C3'	52:2:1954:U:HO3'	2.12	0.44
52:2:2050:C:H2'	52:2:2050:C:O2	2.18	0.44
52:2:497:A:O2'	52:2:498:C:H6	2.01	0.44
52:2:568:U:O2'	52:2:574:C:N4	2.51	0.44
52:2:31:C:O2'	52:2:596:U:OP1	2.32	0.44
52:2:726:G:O2'	52:2:727:U:P	2.76	0.44
52:2:720:G:H22	52:2:732:U:H3	1.66	0.44
52:2:768:A:C5	52:2:769:A:H5''	2.52	0.44
52:2:290:U:H1'	52:2:789:G:C4	2.52	0.44
52:2:790:U:O2'	52:2:791:G:P	2.76	0.44
53:3:69:LEU:HA	53:3:69:LEU:HD23	1.71	0.44
54:4:105:ARG:HD2	54:4:105:ARG:HA	1.83	0.44
54:4:121:SER:OG	54:4:122:THR:N	2.51	0.44
57:7:10:HIS:O	57:7:301:ASN:HB3	2.17	0.44
58:8:25:CYS:HB2	58:8:42:GLN:HB3	2.00	0.44
1:A:127:G:C6	1:A:128:U:N3	2.86	0.44
1:A:1393:G:N2	1:A:1394:U:O2	2.38	0.44
1:A:460:A:C2'	1:A:461:G:H5''	2.46	0.44
1:A:687:C:H2'	1:A:688:A:C8	2.52	0.44
1:A:73:U:H5'	12:L:63:VAL:CG1	2.48	0.44
1:A:988:G:N2	1:A:1012:C:OP1	2.51	0.44
59:AC:236:ASP:HA	59:AC:239:PHE:CD2	2.52	0.44
60:AD:87:LEU:O	60:AD:90:ARG:HB2	2.17	0.44
62:AG:101:HIS:CE1	62:AG:105:HIS:ND1	2.86	0.44
52:2:726:G:N1	67:AL:96:GLN:CG	2.71	0.44
68:AM:58:GLY:O	68:AM:63:GLU:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:60:ASN:C	69:AN:62:LEU:H	2.21	0.44
71:AP:167:LYS:HD3	71:AP:178:ARG:HH21	1.81	0.44
71:AP:163:THR:HG22	71:AP:205:ASP:HB2	1.99	0.44
74:AS:55:ILE:HD12	74:AS:71:ARG:HG3	1.99	0.44
2:B:688:U:H2'	2:B:689:G:C8	2.52	0.44
2:B:946:U:O2'	2:B:947:G:OP2	2.34	0.44
3:C:175:U:H4'	3:C:177:U:C5	2.53	0.44
1:A:18:A:H1'	15:O:111:GLY:HA3	1.99	0.44
17:Q:5:HIS:CE1	17:Q:106:SER:HB2	2.52	0.44
17:Q:167:ILE:HG22	17:Q:168:PHE:CD1	2.52	0.44
18:R:191:ASP:HA	18:R:194:ALA:HB3	2.00	0.44
17:Q:51:ASN:ND2	19:S:146:LEU:HD21	2.33	0.44
20:T:27:LYS:HB2	20:T:116:THR:CB	2.47	0.44
20:T:87:LYS:HG2	20:T:117:TYR:HE2	1.81	0.44
24:X:55:VAL:HA	24:X:101:VAL:HG13	1.99	0.44
26:Z:101:LEU:HD12	26:Z:123:ALA:HB2	2.00	0.44
51:1:132:ARG:O	52:2:288:A:N6	2.51	0.44
51:1:151:THR:HG22	51:1:169:LEU:CD2	2.48	0.44
52:2:1527:C:N4	68:AM:141:GLY:H	2.16	0.44
52:2:1562:A:H62	52:2:1860:G:H21	1.65	0.44
52:2:1625:G:C5	52:2:1626:U:C4	3.06	0.44
52:2:1968:G:N2	52:2:1970:A:H3'	2.33	0.44
52:2:1964:G:H22	52:2:1978:G:H1	1.56	0.44
52:2:287:C:O2'	52:2:288:A:P	2.76	0.44
52:2:634:A:N6	52:2:635:G:O6	2.50	0.44
52:2:711:G:C8	52:2:711:G:OP2	2.70	0.44
52:2:720:G:H1	52:2:732:U:H3	1.65	0.44
54:4:77:VAL:O	54:4:80:ALA:N	2.47	0.44
1:A:1061:G:N2	1:A:1092:U:O2	2.50	0.44
1:A:1626:G:N1	1:A:1627:A:C4	2.85	0.44
1:A:358:G:H2'	1:A:359:U:H6	1.82	0.44
1:A:693:G:N2	1:A:693:G:OP2	2.33	0.44
60:AD:111:ILE:HG23	60:AD:124:ALA:HB2	2.00	0.44
61:AE:140:VAL:CG1	61:AE:152:TYR:HB3	2.47	0.44
52:2:913:G:C2	62:AG:132:VAL:HG22	2.53	0.44
63:AH:110:ARG:HE	76:AV:51:SER:HB3	1.81	0.44
63:AH:89:LYS:HB3	63:AH:125:VAL:HG21	2.00	0.44
64:AI:25:ARG:HH22	64:AI:120:GLY:HA2	1.82	0.44
66:AK:124:ILE:HG23	66:AK:126:ASP:N	2.20	0.44
66:AK:135:TRP:HB3	66:AK:136:GLY:H	1.63	0.44
68:AM:38:GLY:HA2	68:AM:41:PHE:HD2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:70:ARG:HA	70:AO:73:GLN:CD	2.38	0.44
71:AP:205:ASP:O	71:AP:206:VAL:HG23	2.17	0.44
72:AQ:50:PRO:HG2	72:AQ:85:ILE:O	2.18	0.44
9:I:153:ARG:O	9:I:157:ARG:HG2	2.18	0.44
14:N:25:GLY:HA2	14:N:40:ASN:HB2	2.00	0.44
18:R:28:GLU:O	18:R:31:GLU:N	2.46	0.44
9:I:182:ARG:O	26:Z:51:GLY:N	2.50	0.44
50:0:24:THR:O	50:0:28:LYS:HG2	2.18	0.44
51:1:89:ILE:HB	51:1:94:ASP:OD1	2.18	0.44
52:2:1529:U:C4	68:AM:136:HIS:CE1	3.06	0.44
52:2:1574:C:H5''	60:AD:90:ARG:NH1	2.28	0.44
52:2:1975:U:O2'	52:2:1976:U:C5	2.71	0.44
52:2:1519:A:N1	52:2:1996:U:O4	2.51	0.44
52:2:1995:G:C6	52:2:1996:U:O4	2.71	0.44
52:2:2006:G:C2	52:2:2007:C:N3	2.86	0.44
52:2:275:A:H2'	52:2:276:G:C8	2.53	0.44
52:2:523:A:H4'	52:2:523:A:OP1	2.18	0.44
57:7:22:GLN:HB3	57:7:75:HIS:HD2	1.80	0.44
1:A:1154:G:C6	19:S:133:ARG:NH2	2.86	0.44
1:A:1393:G:H1'	1:A:1394:U:H2'	1.99	0.44
62:AG:34:VAL:HG13	62:AG:74:ILE:HG23	1.99	0.44
64:AI:92:ILE:HD11	64:AI:123:LEU:HD23	2.00	0.44
68:AM:136:HIS:HB3	68:AM:140:THR:HG21	2.00	0.44
70:AO:57:ASN:HB3	70:AO:60:GLU:CD	2.38	0.44
70:AO:87:ARG:HB2	70:AO:92:ARG:HE	1.82	0.44
74:AS:101:LEU:HB3	74:AS:124:LYS:HB2	1.99	0.44
78:AX:121:ILE:O	78:AX:125:VAL:HG23	2.18	0.44
79:AY:37:ARG:NH1	79:AY:40:TYR:HD2	2.16	0.44
2:B:574:G:O6	2:B:1361:A:N6	2.50	0.44
2:B:1442:C:N4	2:B:1457:G:H1	2.13	0.44
4:D:68:C:O5'	4:D:68:C:H6	2.01	0.44
2:B:372:U:H4'	13:M:22:PRO:HD3	120.66	0.44
13:M:9:ALA:O	13:M:13:GLN:HG2	2.17	0.44
14:N:12:LEU:HB3	14:N:59:LEU:HD11	2.00	0.44
14:N:13:VAL:HG23	14:N:58:PRO:HA	2.00	0.44
15:O:181:ALA:HB1	15:O:184:LEU:CG	2.41	0.44
17:Q:3:LYS:HB3	17:Q:4:PRO:HD2	1.99	0.44
21:U:106:ASN:HB3	21:U:107:PRO:HD2	4.09	0.44
25:Y:9:LYS:HG3	25:Y:86:ASN:OD1	2.17	0.44
50:0:170:ARG:CD	50:0:207:ILE:HD11	2.47	0.43
51:1:53:LEU:N	51:1:57:GLU:OE1	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1291:U:H2'	52:2:1292:U:C6	2.52	0.43
52:2:1525:A:C2	52:2:1987:C:H4'	2.52	0.43
52:2:145:A:C2	52:2:316:A:N3	2.86	0.43
52:2:185:A:H62	53:3:199:ILE:HD11	1.82	0.43
1:A:1663:U:H3'	1:A:1664:G:H5''	1.98	0.43
1:A:172:G:C2	1:A:173:G:C5	3.06	0.43
1:A:844:C:OP1	26:Z:2:PRO:HG2	2.17	0.43
60:AD:49:PHE:CD1	60:AD:124:ALA:HA	2.53	0.43
65:AJ:73:GLY:HA3	65:AJ:128:PHE:CE2	2.52	0.43
69:AN:133:VAL:O	69:AN:137:ILE:HD12	2.18	0.43
72:AQ:98:ILE:O	72:AQ:101:PHE:HD2	2.01	0.43
74:AS:46:HIS:CE1	74:AS:103:SER:HG	2.33	0.43
75:AT:51:ALA:O	75:AT:56:VAL:N	2.47	0.43
78:AX:104:LEU:HD23	78:AX:104:LEU:HA	1.78	0.43
78:AX:24:LEU:O	78:AX:28:LEU:N	2.37	0.43
60:AD:96:GLN:HG2	78:AX:27:GLU:CD	2.38	0.43
78:AX:40:ILE:HG22	78:AX:45:THR:HA	2.00	0.43
2:B:1092:G:O6	19:S:78:LYS:NZ	2.33	0.43
3:C:102:G:C2	3:C:103:A:C4	3.06	0.43
3:C:121:U:O4	3:C:122:A:N6	2.48	0.43
4:D:12:A:H4'	4:D:14:A:C8	2.53	0.43
1:A:1231:G:N2	13:M:105:MET:SD	2.91	0.43
13:M:216:LEU:O	13:M:221:TYR:N	2.51	0.43
15:O:114:ARG:NH1	15:O:151:ILE:O	2.42	0.43
51:1:179:ILE:HD12	51:1:225:ILE:HD13	2.00	0.43
51:1:62:LEU:O	51:1:65:GLY:N	2.31	0.43
52:2:12:U:H2'	52:2:13:U:C6	2.53	0.43
52:2:1518:G:N2	52:2:1519:A:C4	2.86	0.43
52:2:1677:C:H2'	52:2:1678:G:O4'	2.18	0.43
52:2:1958:A:OP2	70:AO:104:PHE:HB3	2.18	0.43
52:2:2002:A:H61	52:2:2026:G:H1'	1.82	0.43
52:2:2034:C:H4'	52:2:2035:C:O5'	2.18	0.43
52:2:315:A:H5''	52:2:333:G:N2	2.33	0.43
52:2:351:G:H5''	61:AE:107:HIS:CE1	2.53	0.43
52:2:554:U:H1'	52:2:555:C:OP1	2.18	0.43
52:2:56:U:C5'	52:2:446:A:H61	2.31	0.43
52:2:780:A:C2	52:2:839:G:C6	3.06	0.43
52:2:886:U:H4'	52:2:887:U:H4'	1.99	0.43
55:5:31:ARG:HB3	55:5:56:ARG:HH21	1.83	0.43
57:7:117:PRO:HG2	57:7:161:SER:O	2.18	0.43
57:7:42:LYS:HB3	57:7:44:ASN:HD21	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1444:G:C8	1:A:1466:G:C2	3.06	0.43
1:A:1635:G:C2	1:A:1636:G:C4	3.06	0.43
1:A:243:G:H2'	1:A:244:C:C6	2.53	0.43
1:A:252:G:C6	1:A:253:G:N7	2.86	0.43
1:A:360:U:HO2'	1:A:361:A:H8	1.66	0.43
1:A:374:G:O6	3:C:120:C:N4	2.45	0.43
1:A:805:A:H1'	9:I:147:ARG:CD	2.46	0.43
60:AD:41:ARG:HG2	60:AD:83:LEU:CD1	2.48	0.43
66:AK:51:ARG:O	66:AK:54:ILE:N	2.51	0.43
70:AO:81:ARG:NH2	70:AO:130:LYS:O	2.51	0.43
71:AP:94:TYR:CE2	71:AP:111:PHE:HE2	2.36	0.43
59:AC:147:GLN:NE2	71:AP:72:LYS:HG2	2.34	0.43
72:AQ:56:ARG:NH2	72:AQ:83:LYS:HZ2	2.16	0.43
74:AS:110:HIS:CD2	74:AS:111:ALA:N	2.86	0.43
78:AX:105:ARG:HG2	78:AX:174:CYS:SG	2.58	0.43
1:A:377:G:N2	3:C:117:U:H1'	2.33	0.43
4:D:4:G:O2'	4:D:26:A:N3	2.49	0.43
4:D:60:C:H2'	4:D:61:U:C6	2.53	0.43
10:J:50:ILE:HG22	10:J:50:ILE:O	2.17	0.43
11:K:31:GLY:HA2	11:K:66:ILE:HD11	1.99	0.43
11:K:61:VAL:HG11	11:K:64:PHE:CG	2.53	0.43
15:O:107:GLY:HA2	15:O:160:GLU:OE2	2.18	0.43
15:O:40:ARG:NH2	15:O:41:ARG:HH22	2.16	0.43
18:R:170:ARG:HH21	52:2:918:A:C1'	2.22	0.43
2:B:1086:U:O2'	19:S:88:ARG:O	2.24	0.43
24:X:31:PRO:HD2	24:X:101:VAL:O	2.18	0.43
24:X:77:ILE:HD11	24:X:98:PRO:HB3	1.99	0.43
51:1:139:HIS:CG	51:1:140:ASP:N	2.86	0.43
51:1:156:THR:OG1	51:1:170:ILE:HD12	2.17	0.43
52:2:1575:A:H1'	52:2:1576:G:N7	2.33	0.43
52:2:1687:C:H1'	78:AX:161:THR:OG1	2.18	0.43
52:2:1961:G:H5''	68:AM:115:LEU:HD12	2.00	0.43
52:2:2084:A:H2'	52:2:2085:C:O4'	2.17	0.43
52:2:526:G:N3	52:2:527:A:C8	2.87	0.43
52:2:557:A:H2'	52:2:558:U:C6	2.52	0.43
52:2:56:U:O4	52:2:90:C:H4'	2.18	0.43
52:2:642:A:P	56:6:37:CYS:SG	3.15	0.43
60:AD:60:ARG:HD3	60:AD:78:ILE:CG1	2.40	0.43
63:AH:24:VAL:HG12	63:AH:26:ILE:HG13	1.99	0.43
66:AK:98:PHE:O	66:AK:101:LYS:N	2.51	0.43
66:AK:124:ILE:HG13	66:AK:125:ALA:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:AM:28:PRO:O	68:AM:32:ARG:HG3	2.18	0.43
70:AO:61:ILE:HB	70:AO:102:LYS:HE3	2.00	0.43
70:AO:130:LYS:HG2	70:AO:131:SER:N	2.31	0.43
71:AP:65:PHE:HZ	71:AP:146:ILE:HG22	1.82	0.43
71:AP:175:VAL:HA	71:AP:212:GLY:HA3	2.00	0.43
71:AP:48:LYS:HD3	71:AP:257:LEU:HD13	1.99	0.43
78:AX:135:VAL:O	78:AX:151:PHE:N	2.48	0.43
78:AX:56:GLU:N	78:AX:56:GLU:OE1	2.51	0.43
60:AD:111:ILE:CD1	78:AX:63:ARG:NH2	2.81	0.43
2:B:1424:G:H2'	2:B:1425:G:C8	2.48	0.43
2:B:1459:C:H2'	2:B:1460:A:C8	2.53	0.43
12:L:78:ARG:HH11	12:L:103:ASP:HB3	1.83	0.43
12:L:26:ASN:HB3	15:O:197:ARG:HA	1.99	0.43
18:R:62:ARG:CZ	18:R:62:ARG:CB	2.95	0.43
21:U:20:PRO:HA	21:U:53:SER:HA	2.00	0.43
24:X:8:SER:C	24:X:10:ARG:H	2.18	0.43
50:O:161:GLN:HG3	52:2:1123:G:OP1	2.17	0.43
52:2:1095:G:H8	52:2:1095:G:O5'	2.01	0.43
52:2:1588:A:OP1	52:2:1599:G:H5'	2.18	0.43
52:2:1876:U:H2'	52:2:1877:G:O5'	2.17	0.43
52:2:1967:U:O2	52:2:1967:U:H2'	2.17	0.43
52:2:2006:G:H22	52:2:2022:U:H3	1.66	0.43
52:2:251:A:N3	52:2:251:A:H2'	2.33	0.43
52:2:251:A:HO2'	52:2:252:G:P	2.37	0.43
52:2:439:G:N2	52:2:441:G:H3'	2.33	0.43
52:2:460:C:H4'	52:2:461:G:O5'	2.19	0.43
52:2:731:A:C6	52:2:732:U:N3	2.86	0.43
52:2:762:A:N3	52:2:762:A:H2'	2.34	0.43
54:4:134:TYR:CG	54:4:135:PRO:HA	2.54	0.43
55:5:155:SER:N	55:5:156:PRO:HD3	2.34	0.43
56:6:81:GLU:C	56:6:83:GLY:H	2.21	0.43
1:A:1047:A:N3	4:D:79:C:O2'	2.52	0.43
1:A:1161:A:H2'	1:A:1162:G:C8	2.53	0.43
59:AC:67:SER:OG	59:AC:187:ASP:O	2.26	0.43
52:2:1864:C:C2'	64:AI:135:HIS:HD1	2.31	0.43
67:AL:86:PRO:CG	67:AL:87:ALA:HA	2.48	0.43
69:AN:14:PHE:CD1	69:AN:95:LEU:HD13	2.54	0.43
71:AP:87:HIS:ND1	71:AP:200:PHE:HE1	2.07	0.43
73:AR:43:ASN:H	73:AR:53:THR:CG2	2.31	0.43
78:AX:60:VAL:HG23	78:AX:61:ASN:N	2.32	0.43
2:B:1398:A:O2'	2:B:1399:A:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:390:A:O4'	52:2:1160:A:OP1	2.36	0.43
4:D:25:A:H2'	4:D:26:A:O4'	2.19	0.43
6:F:66:A:O2'	6:F:67:C:OP1	2.35	0.43
11:K:17:ARG:HB2	11:K:140:ARG:HD3	2.01	0.43
13:M:140:PRO:HD2	17:Q:167:ILE:O	2.18	0.43
14:N:67:ARG:NH2	17:Q:144:TYR:O	2.49	0.43
26:Z:126:VAL:HG12	26:Z:127:SER:N	2.34	0.43
52:2:1215:U:H4'	52:2:1280:A:N3	2.34	0.43
52:2:132:C:H2'	52:2:133:G:C8	2.53	0.43
52:2:1401:G:O2'	52:2:1403:G:O4'	2.36	0.43
52:2:1539:U:H4'	52:2:1540:U:O5'	2.18	0.43
52:2:1686:U:H3'	52:2:1687:C:H5''	2.00	0.43
52:2:526:G:C5	52:2:527:A:C5	3.04	0.43
52:2:629:A:C6	52:2:632:C:C2	3.07	0.43
52:2:783:A:O5'	52:2:783:A:H8	2.02	0.43
52:2:286:G:C8	53:3:221:ARG:HB3	2.53	0.43
53:3:78:VAL:HG12	53:3:79:LYS:O	2.17	0.43
54:4:195:GLN:HG3	77:AW:26:VAL:CG2	2.48	0.43
55:5:28:GLU:N	55:5:29:LEU:CD1	2.81	0.43
57:7:64:HIS:ND1	57:7:90:ARG:NH1	2.66	0.43
1:A:365:A:C2	1:A:366:C:C2	3.06	0.43
1:A:614:A:OP1	21:U:67:GLY:HA3	143.32	0.43
61:AE:48:ARG:NH1	61:AE:76:THR:HG21	2.32	0.43
62:AG:115:LEU:O	62:AG:118:VAL:N	2.52	0.43
63:AH:92:ALA:HB3	63:AH:126:THR:OG1	2.18	0.43
64:AI:76:VAL:HG12	64:AI:78:GLU:H	1.83	0.43
66:AK:80:GLN:HG3	66:AK:81:VAL:HG23	2.01	0.43
67:AL:17:VAL:HG13	67:AL:58:MET:SD	2.59	0.43
68:AM:43:TYR:HB3	68:AM:47:LYS:HE2	2.01	0.43
70:AO:115:GLU:HG3	70:AO:116:HIS:N	2.31	0.43
71:AP:145:ASN:O	71:AP:147:VAL:HG23	2.18	0.43
71:AP:168:VAL:HG11	71:AP:227:ALA:O	2.18	0.43
71:AP:77:VAL:HG21	71:AP:143:LYS:O	2.18	0.43
80:AZ:27:ILE:HG12	80:AZ:43:VAL:CG1	2.45	0.43
2:B:1023:C:H2'	2:B:1024:G:C8	2.54	0.43
2:B:1390:A:O2'	2:B:1391:U:P	2.77	0.43
7:G:155:A:H2'	7:G:156:G:O4'	2.17	0.43
8:H:7:C:H5	8:H:19:G:N1	2.11	0.43
15:O:89:VAL:O	15:O:90:LEU:HD12	2.18	0.43
16:P:31:GLU:O	16:P:35:VAL:HG23	2.19	0.43
19:S:24:ALA:HB1	19:S:25:PRO:HD2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:106:TYR:CE1	22:V:142:ILE:HD11	2.54	0.43
24:X:37:ARG:HG2	24:X:42:VAL:O	2.18	0.43
50:0:75:ASN:HB3	50:0:77:SER:H	1.83	0.43
50:0:117:LEU:HD21	52:2:1177:A:N3	2.33	0.43
52:2:1401:G:O2'	52:2:1402:G:H5''	2.19	0.43
52:2:1521:G:N3	52:2:1995:G:N2	2.66	0.43
52:2:182:A:HO2'	52:2:183:C:P	2.41	0.43
52:2:1967:U:C2	52:2:1974:A:N1	2.87	0.43
52:2:784:C:H2'	52:2:785:G:H8	1.83	0.43
52:2:974:G:O5'	52:2:974:G:H8	2.02	0.43
52:2:975:G:C6	52:2:976:A:C5	3.06	0.43
53:3:216:ILE:CG2	53:3:220:ARG:HE	2.31	0.43
57:7:74:ALA:HB2	57:7:115:PHE:CZ	2.54	0.43
1:A:1134:C:H5'	1:A:1136:G:C8	2.54	0.43
1:A:1224:A:H2'	1:A:1225:U:O4'	2.17	0.43
1:A:186:G:N2	1:A:270:C:C2	2.86	0.43
59:AC:68:SER:OG	59:AC:69:ALA:N	2.51	0.43
52:2:1597:G:C4	64:AI:61:PRO:HB2	2.54	0.43
64:AI:82:ALA:HB3	64:AI:100:VAL:O	2.19	0.43
66:AK:137:ARG:HD3	66:AK:141:ARG:CA	2.46	0.43
66:AK:18:LYS:O	66:AK:21:ALA:N	2.51	0.43
70:AO:22:ARG:HH21	70:AO:141:GLY:HA3	1.83	0.43
72:AQ:16:THR:HG22	72:AQ:89:HIS:HA	1.99	0.43
72:AQ:37:LEU:HB2	72:AQ:41:ARG:NH1	2.33	0.43
75:AT:25:ARG:HB3	75:AT:83:TYR:CD1	2.53	0.43
78:AX:84:GLN:HG2	78:AX:85:LEU:H	1.83	0.43
2:B:1109:G:N2	2:B:1112:A:OP2	2.48	0.43
2:B:1141:A:O2'	2:B:1142:G:OP2	2.31	0.43
2:B:480:U:O2	2:B:1294:U:H5'	2.18	0.43
14:N:153:LYS:NZ	14:N:158:GLU:OE1	2.52	0.43
15:O:53:TYR:CE1	15:O:59:PHE:HB3	2.53	0.43
21:U:9:LYS:HA	21:U:9:LYS:HD3	1.74	0.43
52:2:915:A:H61	52:2:1102:G:H2'	1.84	0.43
52:2:131:G:C6	52:2:132:C:C4	3.07	0.43
52:2:1623:U:H6	52:2:1623:U:H5''	1.84	0.43
52:2:1882:U:O4	52:2:1947:A:H2	2.02	0.43
52:2:1936:C:C2	70:AO:87:ARG:NH2	2.85	0.43
52:2:254:A:C2	52:2:255:A:C5	3.06	0.43
52:2:321:G:N2	52:2:329:C:H1'	2.34	0.43
52:2:403:G:H4'	52:2:403:G:OP1	2.18	0.43
52:2:557:A:H2'	52:2:558:U:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:72:ILE:HD13	55:5:72:ILE:HG21	1.71	0.43
57:7:171:SER:OG	57:7:172:TRP:N	2.52	0.43
58:8:24:ILE:HB	58:8:43:CYS:H	1.83	0.43
1:A:1378:U:O2'	17:Q:157:ARG:NH1	2.51	0.43
52:2:294:G:O2'	61:AE:54:GLY:O	2.36	0.43
63:AH:123:GLU:HG2	63:AH:124:ASP:N	2.34	0.43
66:AK:95:LEU:HD11	66:AK:99:PHE:HE2	1.84	0.43
68:AM:113:GLU:O	68:AM:117:LYS:HG3	2.19	0.43
52:2:1981:G:OP1	68:AM:40:ARG:HB2	2.19	0.43
69:AN:24:LEU:HG	69:AN:24:LEU:H	1.69	0.43
70:AO:22:ARG:HH21	70:AO:141:GLY:CA	2.32	0.43
70:AO:37:TRP:CH2	70:AO:70:ARG:O	2.72	0.43
70:AO:77:TRP:CH2	70:AO:117:THR:HA	2.54	0.43
74:AS:27:TRP:CA	74:AS:29:ARG:H	2.32	0.43
74:AS:49:GLY:HA3	74:AS:72:VAL:HG13	2.01	0.43
78:AX:166:PHE:O	78:AX:189:LEU:HD21	2.19	0.43
78:AX:201:GLU:H	78:AX:201:GLU:HG3	1.37	0.43
78:AX:46:GLU:O	78:AX:85:LEU:HD23	2.18	0.43
9:I:51:ARG:HH22	9:I:147:ARG:CZ	2.31	0.43
18:R:162:LYS:O	18:R:165:ARG:N	2.51	0.43
21:U:12:ARG:HG2	21:U:13:PHE:O	2.18	0.43
24:X:20:PRO:O	24:X:24:ARG:HG3	2.18	0.43
52:2:1711:A:H2'	52:2:1712:U:H5''	2.00	0.43
52:2:1864:C:C2	52:2:1864:C:C1'	2.94	0.43
52:2:2050:C:O2'	52:2:2051:A:P	2.77	0.43
52:2:290:U:O2'	52:2:291:G:P	2.76	0.43
52:2:581:A:N6	75:AT:37:TRP:CE2	2.87	0.43
57:7:26:TYR:C	57:7:27:ILE:CG1	2.86	0.43
1:A:1527:A:HO2'	1:A:1528:U:P	2.42	0.43
1:A:1605:G:N2	1:A:1626:G:N3	2.67	0.43
69:AN:29:SER:OG	69:AN:54:ILE:N	2.50	0.43
74:AS:88:ASP:HB2	74:AS:134:TYR:HE1	1.83	0.43
74:AS:67:ARG:HD3	74:AS:67:ARG:HA	1.82	0.43
58:8:38:ASN:HB3	78:AX:11:VAL:HG11	2.00	0.43
78:AX:166:PHE:HA	78:AX:189:LEU:HD11	0.63	0.43
52:2:608:C:H1'	79:AY:60:GLN:OE1	2.19	0.43
2:B:465:U:O2	2:B:493:U:H4'	2.19	0.43
12:L:18:ASN:OD1	16:P:105:LYS:NZ	73.45	0.43
19:S:93:PHE:HA	19:S:96:VAL:HB	2.00	0.43
50:0:127:THR:HG22	50:0:141:PHE:CD1	2.53	0.43
52:2:1251:G:H3'	52:2:1251:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1706:U:C4	52:2:1707:C:N4	2.86	0.43
52:2:1797:G:C2	52:2:1807:A:C2	3.06	0.43
52:2:1927:G:N2	52:2:1928:G:C5	2.86	0.43
52:2:193:G:P	55:5:158:LEU:HD13	2.59	0.43
52:2:268:C:HO2'	52:2:269:A:H8	1.57	0.43
52:2:730:G:N1	52:2:731:A:C6	2.87	0.43
52:2:750:U:H2'	52:2:751:G:N9	2.22	0.43
57:7:206:GLY:O	57:7:223:LEU:HB2	2.19	0.43
1:A:553:A:H1'	1:A:575:A:H62	1.84	0.43
1:A:591:U:H2'	1:A:592:G:C4	2.54	0.43
1:A:7:C:O2	3:C:255:G:C2	2.72	0.43
60:AD:112:ALA:HA	60:AD:115:ARG:HD3	2.00	0.43
52:2:1536:U:C4'	64:AI:131:ARG:CG	2.79	0.43
66:AK:128:ARG:HE	69:AN:41:ARG:NH2	2.16	0.43
52:2:1524:G:H2'	68:AM:144:GLY:N	2.34	0.43
72:AQ:88:LEU:HB3	72:AQ:89:HIS:O	2.19	0.43
78:AX:196:ARG:CA	78:AX:199:PRO:HG2	2.49	0.43
2:B:1081:A:H1'	2:B:1103:G:C6	2.54	0.43
4:D:24:A:N6	4:D:25:A:N1	2.67	0.43
9:I:192:ARG:O	9:I:192:ARG:HG3	2.18	0.43
11:K:109:PHE:CZ	11:K:138:LEU:HD11	2.54	0.43
11:K:44:LEU:HD12	11:K:74:VAL:HG12	2.01	0.43
16:P:36:ILE:O	16:P:38:GLY:N	2.52	0.43
8:H:15:G:H1'	16:P:69:ARG:HD3	2.00	0.43
20:T:109:ILE:HG21	20:T:109:ILE:HD13	1.80	0.43
24:X:31:PRO:HG2	24:X:102:GLU:OE1	2.19	0.43
26:Z:122:LYS:HA	26:Z:142:VAL:O	2.18	0.43
50:O:119:LYS:NZ	52:2:1180:A:OP1	2.52	0.43
52:2:1399:A:H2'	52:2:1399:A:N3	2.34	0.43
52:2:1455:G:H5''	65:AJ:76:CYS:HB3	2.01	0.43
52:2:1476:G:N2	52:2:1479:A:OP2	2.51	0.43
52:2:1669:U:C4	52:2:1670:C:N3	2.87	0.43
52:2:1881:G:H21	52:2:1882:U:C2'	2.30	0.43
52:2:1960:C:H2'	52:2:1961:G:C8	2.54	0.43
52:2:1967:U:N3	52:2:1974:A:N1	2.67	0.43
2:B:446:C:OP1	52:2:2183:G:N9	2.52	0.43
52:2:597:G:N1	52:2:640:A:C6	2.74	0.43
53:3:68:VAL:HB	53:3:102:GLY:HA2	2.00	0.43
55:5:106:ALA:CB	55:5:184:VAL:HG23	2.47	0.43
57:7:128:ASP:HB2	57:7:130:VAL:HG22	1.99	0.43
57:7:174:ASN:HB3	57:7:193:HIS:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:8:21:CYS:CB	58:8:28:GLN:HG3	2.49	0.43
1:A:107:C:H4'	1:A:361:A:C2	2.54	0.43
60:AD:92:LEU:HD22	60:AD:110:GLY:HA2	1.99	0.43
52:2:1206:C:C6	62:AG:17:PRO:HG3	2.53	0.43
63:AH:75:VAL:HG21	63:AH:115:ALA:HB3	2.01	0.43
68:AM:137:THR:O	68:AM:140:THR:OG1	2.36	0.43
52:2:1864:C:P	68:AM:150:SER:HA	2.59	0.43
75:AT:61:GLN:NE2	75:AT:85:ASP:HA	2.33	0.43
2:B:39:C:N4	2:B:40:A:N6	2.67	0.43
11:K:18:GLU:OE1	11:K:18:GLU:N	2.50	0.43
51:1:64:GLN:HE21	52:2:497:A:N6	2.17	0.42
52:2:128:C:H4'	52:2:129:U:O5'	2.19	0.42
52:2:1269:U:O2'	52:2:1479:A:N1	2.46	0.42
52:2:1898:G:O2'	52:2:1899:A:OP1	2.30	0.42
52:2:1953:U:C4	52:2:1955:G:C6	3.07	0.42
52:2:2069:C:C2	52:2:2151:G:N2	2.87	0.42
52:2:37:U:N3	52:2:520:G:C6	2.87	0.42
52:2:642:A:P	56:6:37:CYS:HG	2.42	0.42
56:6:106:ARG:HD2	56:6:147:VAL:O	2.19	0.42
57:7:203:SER:HB3	57:7:243:PHE:CD2	2.53	0.42
57:7:190:LEU:HD13	57:7:221:TRP:CG	2.54	0.42
1:A:1090:U:H2'	1:A:1091:A:C8	2.54	0.42
1:A:107:C:H4'	1:A:361:A:H2	1.83	0.42
59:AC:117:LEU:HA	59:AC:120:THR:HG23	2.01	0.42
59:AC:61:ILE:H	59:AC:200:ASN:HD21	1.67	0.42
61:AE:62:LYS:O	61:AE:66:GLY:HA3	2.19	0.42
64:AI:46:ALA:O	64:AI:49:ARG:HB2	2.19	0.42
52:2:1941:A:H4'	66:AK:47:PRO:HB3	2.00	0.42
67:AL:5:ARG:NE	67:AL:53:TYR:HB2	2.34	0.42
52:2:1918:C:N3	70:AO:50:GLU:HB2	2.34	0.42
73:AR:58:CYS:O	73:AR:59:ILE:HD13	2.19	0.42
78:AX:45:THR:HG21	78:AX:78:TYR:CE1	2.55	0.42
78:AX:79:LYS:HB2	78:AX:82:LYS:HZ1	1.83	0.42
2:B:1379:A:N6	6:F:9:U:H3	2.17	0.42
5:E:54:C:O2'	7:G:97:G:O6	2.31	0.42
9:I:72:LYS:O	9:I:76:VAL:HG23	2.19	0.42
9:I:7:GLY:CA	9:I:8:ILE:C	2.85	0.42
12:L:191:LYS:O	12:L:194:HIS:N	2.52	0.42
17:Q:51:ASN:HD21	19:S:146:LEU:HD21	1.84	0.42
21:U:81:ILE:CD1	21:U:120:VAL:HG12	2.48	0.42
52:2:1524:G:P	52:2:1524:G:H8	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1566:G:N1	52:2:1567:A:C4	2.87	0.42
52:2:1661:U:H3	52:2:1672:G:N2	2.17	0.42
52:2:1645:G:H1	52:2:1678:G:H1	1.65	0.42
52:2:1875:A:OP1	52:2:1955:G:O2'	2.29	0.42
52:2:1920:A:C5	52:2:1921:A:C6	3.07	0.42
53:3:45:GLU:O	53:3:46:PHE:CD1	2.71	0.42
54:4:129:LEU:HD22	54:4:133:ILE:HD11	2.01	0.42
57:7:132:ARG:HB3	57:7:140:CYS:SG	2.59	0.42
1:A:1765:A:O2'	1:A:1768:G:OP2	2.27	0.42
1:A:633:U:H4'	1:A:634:G:H5''	2.01	0.42
1:A:745:U:O3'	1:A:815:G:N2	2.40	0.42
1:A:805:A:H2'	1:A:806:A:O4'	2.19	0.42
1:A:996:A:H2'	1:A:997:C:C6	2.54	0.42
61:AE:66:GLY:O	61:AE:67:LYS:C	2.58	0.42
65:AJ:91:LYS:O	71:AP:167:LYS:NZ	2.39	0.42
52:2:726:G:O6	67:AL:96:GLN:HG3	2.18	0.42
69:AN:8:LEU:HB3	69:AN:11:LYS:CA	2.44	0.42
70:AO:59:THR:OG1	70:AO:100:LEU:HA	2.19	0.42
71:AP:52:LEU:HB3	71:AP:58:VAL:HG23	2.00	0.42
80:AZ:86:LEU:HA	80:AZ:86:LEU:HD23	1.88	0.42
3:C:175:U:C4	24:X:111:HIS:HD2	2.37	0.42
50:0:184:ILE:HA	50:0:187:ALA:HB3	2.01	0.42
51:1:208:LYS:HA	51:1:213:ALA:O	2.20	0.42
52:2:133:G:H1	52:2:139:C:N4	2.05	0.42
52:2:1875:A:P	52:2:1955:G:O2'	2.77	0.42
52:2:1890:A:H2	52:2:1891:G:C6	2.38	0.42
52:2:1918:C:N4	70:AO:50:GLU:HG3	2.34	0.42
52:2:1958:A:N7	52:2:1959:C:N3	2.67	0.42
52:2:1980:C:O5'	68:AM:39:ILE:HG21	2.19	0.42
52:2:2100:G:H22	52:2:2120:C:H1'	1.81	0.42
52:2:260:A:H2'	52:2:261:A:C8	2.54	0.42
52:2:598:G:N2	52:2:639:C:C2	2.87	0.42
58:8:46:GLU:N	58:8:46:GLU:OE1	2.49	0.42
1:A:1135:U:O2'	1:A:1136:G:OP2	2.37	0.42
1:A:1201:U:H6	1:A:1201:U:O5'	2.01	0.42
1:A:726:G:C5	1:A:727:C:C5	3.07	0.42
59:AC:184:CYS:SG	59:AC:196:ALA:HB1	2.59	0.42
59:AC:70:MET:SD	59:AC:73:TYR:CD2	3.12	0.42
61:AE:101:ILE:HD13	61:AE:124:VAL:HG21	1.99	0.42
66:AK:36:LYS:HG2	66:AK:36:LYS:H	1.54	0.42
67:AL:117:PRO:HG2	67:AL:120:VAL:CG2	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:AL:86:PRO:HG2	67:AL:87:ALA:O	2.19	0.42
72:AQ:37:LEU:HB2	72:AQ:41:ARG:NH2	2.34	0.42
52:2:578:C:H1'	75:AT:39:GLY:HA2	2.01	0.42
78:AX:125:VAL:HG12	78:AX:130:ALA:CB	2.49	0.42
79:AY:14:VAL:O	79:AY:18:THR:HG23	2.19	0.42
69:AN:108:ARG:NH1	80:AZ:21:GLN:O	2.46	0.42
2:B:397:A:H2'	2:B:398:C:O4'	2.18	0.42
4:D:60:C:H2'	4:D:61:U:H6	1.83	0.42
7:G:121:C:O4'	21:U:85:LYS:HE2	2.19	0.42
1:A:779:A:H2	9:I:144:TYR:CD1	2.38	0.42
14:N:24:VAL:O	14:N:46:MET:SD	2.78	0.42
2:B:607:A:P	15:O:90:LEU:HD11	2.58	0.42
20:T:72:MET:O	20:T:72:MET:HG3	2.20	0.42
26:Z:84:ALA:O	26:Z:85:GLU:HB2	2.20	0.42
50:0:62:LEU:HA	50:0:65:ARG:HD2	2.02	0.42
50:0:82:GLU:HG3	50:0:82:GLU:O	2.19	0.42
52:2:1247:U:O2'	52:2:1249:G:N7	2.39	0.42
52:2:1883:G:C6	52:2:1884:A:C6	3.07	0.42
52:2:1912:C:OP1	70:AO:91:LEU:HG	2.19	0.42
52:2:1997:C:OP2	66:AK:142:THR:HA	2.19	0.42
52:2:2000:G:H3'	66:AK:129:ARG:O	2.18	0.42
52:2:601:G:C6	52:2:602:A:C6	3.07	0.42
52:2:731:A:C6	52:2:732:U:O4	2.72	0.42
52:2:738:G:O5'	52:2:738:G:C8	2.72	0.42
53:3:62:PHE:CB	53:3:73:ARG:HH12	2.32	0.42
52:2:762:A:H61	54:4:102:ILE:H	1.66	0.42
54:4:190:TRP:HD1	54:4:196:GLN:O	1.98	0.42
55:5:6:SER:HB3	55:5:28:GLU:OE2	2.19	0.42
1:A:1729:A:H2'	1:A:1730:A:O4'	2.19	0.42
1:A:334:G:O6	15:O:12:LYS:NZ	2.26	0.42
1:A:819:C:H2'	1:A:820:U:O4'	2.19	0.42
66:AK:136:GLY:O	66:AK:144:PHE:CE1	2.72	0.42
52:2:1524:G:O6	68:AM:143:HIS:CE1	2.72	0.42
69:AN:155:MET:HB2	69:AN:156:PRO:CD	2.44	0.42
69:AN:86:ILE:HD11	69:AN:160:ALA:HA	2.01	0.42
69:AN:31:THR:HG22	69:AN:53:PRO:HB3	2.01	0.42
72:AQ:46:THR:OG1	72:AQ:89:HIS:HD2	2.02	0.42
2:B:1153:C:N4	2:B:1154:A:H62	2.18	0.42
3:C:137:G:H1'	3:C:149:G:H22	1.84	0.42
5:E:153:G:H2'	5:E:154:C:O4'	2.19	0.42
10:J:10:ARG:O	10:J:59:GLN:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:184:LEU:HB3	10:J:190:LEU:CD1	2.49	0.42
13:M:45:LEU:HB3	13:M:116:ALA:HB1	2.01	0.42
14:N:71:ALA:HA	14:N:74:LEU:HB3	2.02	0.42
14:N:7:ILE:HG23	14:N:27:ILE:HD13	2.00	0.42
15:O:2:GLY:N	15:O:5:MET:HE2	2.34	0.42
15:O:2:GLY:N	15:O:5:MET:HE3	2.34	0.42
20:T:33:PRO:HB2	20:T:39:PHE:CD2	2.53	0.42
24:X:71:TYR:HB2	24:X:78:HIS:NE2	2.33	0.42
25:Y:58:SER:O	25:Y:62:ILE:HD12	2.19	0.42
50:O:225:LYS:HG2	50:O:226:PHE:H	1.85	0.42
52:2:1095:G:H2'	52:2:1096:C:C6	2.54	0.42
52:2:1123:G:C8	52:2:1183:G:C2	3.07	0.42
52:2:1606:C:C6	52:2:1607:U:C5	3.08	0.42
52:2:1841:G:C5	52:2:1842:C:C4	3.07	0.42
52:2:1885:G:N2	52:2:1942:C:C2	2.87	0.42
52:2:1909:C:C4	52:2:1910:U:C4	3.08	0.42
52:2:1939:U:OP2	52:2:1940:C:N4	2.38	0.42
52:2:1958:A:N3	52:2:1985:A:C4	2.87	0.42
52:2:669:A:N3	52:2:1461:G:O2'	2.48	0.42
56:6:122:HIS:O	56:6:126:VAL:HG12	2.20	0.42
1:A:167:U:H2'	1:A:168:G:O4'	2.19	0.42
1:A:707:C:O2'	1:A:711:G:H5''	2.19	0.42
59:AC:181:ILE:HA	59:AC:195:ILE:O	2.20	0.42
52:2:729:G:O2'	59:AC:228:SER:HB2	2.18	0.42
59:AC:46:MET:HB3	59:AC:91:TRP:CD2	2.55	0.42
60:AD:99:TRP:CD2	78:AX:19:GLU:OE1	2.73	0.42
61:AE:114:ARG:HB2	74:AS:10:ALA:HB2	2.01	0.42
62:AG:23:PRO:HB3	62:AG:25:TRP:CZ3	2.54	0.42
62:AG:73:ARG:HB3	62:AG:77:HIS:NE2	2.34	0.42
50:O:23:GLU:OE2	63:AH:10:TYR:HE2	2.02	0.42
67:AL:57:ILE:O	67:AL:61:LEU:HG	2.19	0.42
66:AK:53:LYS:NZ	69:AN:38:THR:HG22	2.34	0.42
69:AN:19:THR:HG22	69:AN:99:VAL:HG13	2.01	0.42
71:AP:151:ARG:HB3	71:AP:161:PRO:HB2	2.02	0.42
71:AP:52:LEU:HG	71:AP:257:LEU:HD21	2.01	0.42
77:AW:55:VAL:HB	77:AW:65:CYS:SG	2.58	0.42
80:AZ:42:GLN:HE21	80:AZ:84:ARG:CG	2.31	0.42
3:C:147:G:N1	3:C:153:A:C6	2.88	0.42
21:U:86:SER:HB3	21:U:94:VAL:CG1	2.49	0.42
26:Z:101:LEU:HD23	26:Z:101:LEU:HA	1.74	0.42
12:L:177:VAL:CG2	26:Z:98:VAL:N	2.76	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:106:A:N6	52:2:107:G:O6	2.52	0.42
52:2:1836:G:C6	52:2:1837:U:C4	3.08	0.42
52:2:1565:A:N1	52:2:1857:G:C6	2.87	0.42
52:2:1881:G:N2	52:2:1882:U:C2	2.88	0.42
52:2:1886:A:C5	52:2:1941:A:C2	3.08	0.42
56:6:76:MET:HE3	56:6:90:ASP:HA	2.00	0.42
57:7:146:ARG:NH2	57:7:189:THR:OG1	2.52	0.42
57:7:20:PRO:HD2	57:7:29:VAL:HG12	2.01	0.42
57:7:198:SER:H	57:7:213:GLY:HA2	1.84	0.42
58:8:45:ARG:HH12	72:AQ:77:PHE:CB	2.32	0.42
1:A:15:G:N1	1:A:16:G:C4	2.87	0.42
1:A:358:G:H2'	1:A:359:U:C6	2.54	0.42
59:AC:126:PHE:CE1	59:AC:130:VAL:HG21	2.55	0.42
61:AE:55:LEU:HA	61:AE:55:LEU:HD23	1.60	0.42
62:AG:102:LEU:HD21	62:AG:111:THR:OG1	2.20	0.42
62:AG:56:ASP:OD2	77:AW:53:THR:OG1	2.27	0.42
52:2:1528:G:H5'	68:AM:134:GLY:HA3	2.00	0.42
70:AO:59:THR:HG23	70:AO:100:LEU:HD22	2.01	0.42
72:AQ:85:ILE:C	72:AQ:86:ILE:HG13	2.39	0.42
76:AV:48:ASP:HB2	80:AZ:85:ARG:HH12	1.85	0.42
78:AX:72:ILE:HG22	78:AX:83:LEU:HD11	2.02	0.42
2:B:1229:C:OP1	10:J:10:ARG:NH2	2.52	0.42
2:B:1328:U:O2	2:B:1328:U:H5'	2.20	0.42
2:B:132:G:OP1	18:R:104:ARG:NH1	2.44	0.42
2:B:1463:U:H2'	2:B:1464:C:C6	2.54	0.42
3:C:117:U:N3	3:C:118:U:C4	2.88	0.42
5:E:49:G:H2'	5:E:50:U:C6	2.54	0.42
9:I:8:ILE:O	9:I:9:SER:HB2	2.18	0.42
13:M:62:ALA:HB2	13:M:148:TYR:CE1	2.54	0.42
13:M:179:ARG:HG3	13:M:180:VAL:N	2.34	0.42
18:R:62:ARG:NH1	18:R:62:ARG:CG	2.75	0.42
24:X:116:LEU:HD23	24:X:116:LEU:HA	1.85	0.42
24:X:58:GLY:O	24:X:60:PHE:CA	2.59	0.42
50:0:139:ARG:NH1	52:2:1132:G:OP1	2.52	0.42
52:2:677:G:N2	52:2:1217:A:OP2	2.50	0.42
52:2:1501:A:O5'	52:2:1501:A:H8	2.03	0.42
52:2:1536:U:O2	52:2:1538:A:C8	2.73	0.42
52:2:1609:G:H2'	52:2:1609:G:N3	2.35	0.42
52:2:1618:A:H2'	52:2:1619:A:O4'	2.19	0.42
52:2:1876:U:C2'	52:2:1877:G:O5'	2.68	0.42
52:2:1884:A:O2'	52:2:1885:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1930:G:H4'	52:2:1931:A:C5'	2.49	0.42
52:2:252:G:OP1	52:2:785:G:N2	2.53	0.42
52:2:255:A:HO2'	52:2:256:A:P	2.38	0.42
52:2:275:A:OP2	52:2:275:A:H8	2.02	0.42
52:2:491:G:C2	52:2:508:A:C2	3.07	0.42
52:2:611:G:C2	52:2:612:U:C2	3.08	0.42
52:2:734:U:O2'	52:2:736:G:OP2	2.23	0.42
52:2:937:C:H1'	52:2:938:G:O5'	2.20	0.42
54:4:191:ASN:HA	54:4:192:PRO:HD2	1.83	0.42
57:7:27:ILE:HG22	57:7:28:LYS:H	1.84	0.42
57:7:4:GLU:OE1	57:7:50:VAL:HG12	2.19	0.42
1:A:137:G:C2	1:A:138:C:C2	3.08	0.42
1:A:446:U:H2'	1:A:447:G:H5'	2.02	0.42
59:AC:94:LEU:HD11	59:AC:210:MET:HE3	2.02	0.42
66:AK:18:LYS:HA	66:AK:18:LYS:HD2	1.85	0.42
66:AK:90:ALA:O	66:AK:94:GLY:N	2.48	0.42
52:2:1527:C:C3'	68:AM:131:ARG:HH11	2.25	0.42
69:AN:109:GLU:OE1	80:AZ:78:GLU:HG3	2.20	0.42
70:AO:131:SER:OG	70:AO:132:LEU:N	2.52	0.42
75:AT:98:LYS:O	75:AT:101:MET:N	2.50	0.42
72:AQ:81:ILE:HG23	78:AX:10:ILE:HD12	2.02	0.42
1:A:1008:C:H5''	2:B:1173:A:C2	2.54	0.42
2:B:1365:A:O2'	8:H:15:G:N7	2.51	0.42
18:R:183:LYS:NZ	52:2:963:U:O5'	2.53	0.42
20:T:43:VAL:O	20:T:47:PHE:N	2.51	0.42
21:U:86:SER:OG	23:W:19:ARG:NH2	2.41	0.42
22:V:87:PHE:HD2	22:V:127:ILE:HD13	1.84	0.42
25:Y:20:GLY:HA3	25:Y:134:PHE:CZ	2.55	0.42
25:Y:11:VAL:HG12	25:Y:23:ALA:O	2.20	0.42
50:0:136:TYR:CE1	50:0:224:PRO:HD2	2.55	0.42
51:1:82:GLY:O	51:1:106:PHE:HE1	2.02	0.42
51:1:231:HIS:C	51:1:232:LEU:HD12	2.40	0.42
52:2:1102:G:O2'	52:2:1103:G:H3'	2.19	0.42
52:2:139:C:C4	52:2:140:G:N7	2.87	0.42
52:2:183:C:O2'	52:2:184:C:C6	2.72	0.42
52:2:1876:U:C5	52:2:1877:G:N7	2.88	0.42
52:2:1956:G:H2'	52:2:1985:A:H61	1.85	0.42
52:2:21:U:O2'	52:2:22:A:O5'	2.38	0.42
52:2:450:A:H2'	52:2:451:C:C6	2.55	0.42
52:2:708:C:H2'	52:2:709:C:H6	1.85	0.42
52:2:735:G:H2'	52:2:736:G:C5	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:933:G:C2	52:2:934:U:N3	2.88	0.42
53:3:36:GLU:HG2	53:3:52:ARG:CD	2.47	0.42
57:7:94:LEU:HA	57:7:94:LEU:HD23	1.77	0.42
1:A:185:C:C4	1:A:186:G:N1	2.88	0.42
1:A:304:G:H1'	15:O:50:MET:HE1	2.01	0.42
59:AC:156:ARG:O	59:AC:179:PRO:HD2	2.19	0.42
60:AD:45:TYR:HB3	60:AD:114:MET:SD	2.60	0.42
63:AH:95:GLY:HA2	63:AH:127:PRO:O	2.20	0.42
64:AI:84:LYS:HG3	64:AI:102:ALA:CA	2.44	0.42
57:7:62:GLU:OE2	66:AK:108:LYS:NZ	2.52	0.42
68:AM:37:VAL:O	68:AM:39:ILE:N	2.53	0.42
70:AO:87:ARG:CD	70:AO:92:ARG:HG2	2.48	0.42
52:2:1489:U:P	74:AS:119:ARG:HH22	2.43	0.42
78:AX:143:GLY:O	78:AX:144:GLN:HB2	2.20	0.42
80:AZ:48:MET:SD	80:AZ:73:MET:HE1	2.60	0.42
3:C:247:A:O2'	3:C:248:U:H4'	2.20	0.42
11:K:14:ASN:OD1	11:K:14:ASN:N	2.53	0.42
14:N:49:HIS:HE1	14:N:51:GLN:OE1	2.03	0.42
14:N:13:VAL:HG23	14:N:57:GLU:C	2.40	0.42
18:R:60:ARG:O	18:R:63:TRP:HB3	2.20	0.42
21:U:15:VAL:HG13	21:U:87:TRP:HB2	2.02	0.42
51:1:179:ILE:HD12	51:1:225:ILE:CD1	2.50	0.42
52:2:1299:C:H5	52:2:1378:U:N3	2.17	0.42
52:2:1698:A:C4	52:2:1701:A:C6	3.07	0.42
52:2:1856:G:H2'	52:2:1857:G:H8	1.84	0.42
52:2:1878:U:H3	69:AN:63:MET:HG3	1.79	0.42
52:2:2135:U:H2'	52:2:2136:A:C8	2.55	0.42
52:2:466:G:H4'	52:2:467:C:OP1	2.19	0.42
52:2:777:A:H2'	52:2:778:G:O4'	2.20	0.42
53:3:49:TYR:OH	53:3:122:GLN:O	2.27	0.42
55:5:201:ILE:HG21	55:5:201:ILE:HD13	1.75	0.42
56:6:76:MET:CE	56:6:90:ASP:HA	2.50	0.42
57:7:146:ARG:C	57:7:148:GLY:H	2.23	0.42
57:7:129:ASN:OD1	57:7:152:TRP:HA	2.20	0.42
57:7:278:LYS:HD2	57:7:278:LYS:HA	1.85	0.42
1:A:184:G:N7	1:A:271:A:N1	2.68	0.42
1:A:18:A:N7	1:A:19:G:C6	2.88	0.42
1:A:177:A:C2	1:A:283:G:C6	3.08	0.42
1:A:553:A:C5	1:A:556:U:C4	3.08	0.42
1:A:574:G:H5'	1:A:575:A:OP1	2.19	0.42
1:A:58:A:N6	1:A:59:A:N1	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AC:69:ALA:O	59:AC:70:MET:HB2	2.20	0.42
59:AC:93:LYS:HD3	59:AC:93:LYS:HA	1.79	0.42
60:AD:94:LYS:HB3	60:AD:105:THR:OG1	2.20	0.42
61:AE:147:SER:HG	61:AE:148:LYS:H	1.67	0.42
66:AK:40:VAL:CG2	66:AK:41:PRO:HD2	2.50	0.42
67:AL:86:PRO:HG2	67:AL:87:ALA:HA	2.01	0.42
11:K:122:LYS:CE	68:AM:10:PHE:CD1	3.02	0.42
68:AM:151:ARG:HD2	68:AM:153:LYS:HB2	2.01	0.42
68:AM:58:GLY:HA2	68:AM:62:ALA:CB	2.50	0.42
70:AO:22:ARG:NH2	70:AO:141:GLY:H	2.12	0.42
74:AS:108:SER:OG	74:AS:109:GLY:N	2.53	0.42
78:AX:103:SER:O	78:AX:107:LYS:HG3	2.20	0.42
60:AD:55:ALA:HB1	78:AX:75:ARG:CZ	2.49	0.42
3:C:103:A:H2'	3:C:104:U:C6	2.55	0.42
3:C:114:G:N7	24:X:10:ARG:NE	2.67	0.42
3:C:211:G:H2'	3:C:212:G:H8	1.84	0.42
13:M:208:MET:HG3	13:M:209:PRO:HD2	2.02	0.42
13:M:97:VAL:O	13:M:101:THR:HG23	2.20	0.42
14:N:67:ARG:HH21	17:Q:149:LEU:HB3	1.84	0.42
20:T:87:LYS:HG2	20:T:117:TYR:CE2	2.55	0.42
52:2:1287:U:H2'	52:2:1288:G:C8	2.55	0.42
50:0:203:ARG:HH21	52:2:1399:A:H5''	1.84	0.42
52:2:131:G:C2	52:2:142:A:N3	2.88	0.42
52:2:1574:C:H5'	60:AD:86:SER:O	2.20	0.42
52:2:1876:U:O3'	69:AN:149:PHE:O	2.37	0.42
52:2:1949:U:OP2	68:AM:25:ARG:HD2	2.20	0.42
52:2:371:C:H2'	52:2:372:C:C6	2.55	0.42
52:2:853:A:C2'	52:2:854:C:H5'	2.49	0.42
52:2:960:C:C4	52:2:961:U:C4	3.08	0.42
55:5:34:ALA:CB	55:5:56:ARG:HD3	2.49	0.42
55:5:9:HIS:CD2	55:5:9:HIS:O	2.72	0.42
57:7:117:PRO:HG3	57:7:160:PRO:CA	2.50	0.42
57:7:170:GLY:HA2	57:7:176:ILE:HG12	2.00	0.42
58:8:25:CYS:N	58:8:42:GLN:HB3	2.35	0.42
58:8:23:VAL:N	58:8:42:GLN:HG3	2.35	0.42
1:A:126:G:H8	1:A:126:G:O5'	2.03	0.42
1:A:169:G:N2	1:A:172:G:C5	2.88	0.42
1:A:204:A:H1'	1:A:213:G:H22	1.84	0.42
1:A:279:G:H4'	1:A:280:A:O5'	2.20	0.42
1:A:320:G:H1	1:A:342:G:H8	1.67	0.42
1:A:610:A:H2'	1:A:610:A:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:53:VAL:HG21	78:AX:71:CYS:HB2	2.02	0.42
66:AK:120:LYS:HG3	66:AK:123:LEU:HD12	2.02	0.42
68:AM:29:PHE:O	68:AM:32:ARG:HB2	2.20	0.42
69:AN:43:GLN:O	69:AN:45:ARG:N	2.51	0.42
72:AQ:17:VAL:HG13	72:AQ:113:ILE:O	2.19	0.42
78:AX:167:VAL:HG21	78:AX:186:LYS:NZ	2.33	0.42
78:AX:66:ARG:HG3	78:AX:66:ARG:HH11	1.84	0.42
4:D:92:U:H5'	10:J:57:LEU:HD12	2.02	0.42
11:K:108:SER:HB2	11:K:136:VAL:O	2.20	0.42
11:K:91:LEU:HG	11:K:96:PHE:HD1	1.84	0.42
12:L:182:LYS:HG3	12:L:183:SER:N	2.34	0.42
16:P:116:HIS:ND1	16:P:116:HIS:O	2.53	0.42
16:P:85:ARG:HG3	16:P:86:LYS:N	2.35	0.42
21:U:110:GLU:HG2	21:U:130:LYS:HE3	2.02	0.42
50:0:147:LYS:HG2	50:0:148:PRO:O	2.20	0.41
51:1:97:ARG:CG	51:1:99:MET:HG3	2.50	0.41
52:2:1553:G:O6	72:AQ:62:THR:HG22	2.20	0.41
52:2:2023:G:H2'	52:2:2024:C:C6	2.54	0.41
52:2:2094:G:C6	52:2:2095:G:C6	3.08	0.41
52:2:31:C:O5'	52:2:31:C:H6	2.03	0.41
52:2:68:A:HO2'	52:2:69:C:P	2.42	0.41
52:2:733:U:C3'	52:2:733:U:C6	3.03	0.41
52:2:878:C:N4	75:AT:15:SER:HB2	2.35	0.41
54:4:35:LYS:HD3	54:4:84:GLU:OE1	2.20	0.41
56:6:52:ARG:HD2	56:6:52:ARG:HH11	1.72	0.41
57:7:219:LEU:HA	57:7:219:LEU:HD23	1.89	0.41
57:7:237:PRO:HD2	57:7:255:GLU:HG2	2.02	0.41
1:A:1388:U:H4'	1:A:1389:A:O5'	2.20	0.41
1:A:1527:A:H2'	1:A:1529:C:O4'	2.20	0.41
52:2:1575:A:P	60:AD:90:ARG:HH22	2.42	0.41
66:AK:10:LYS:HB3	66:AK:29:LYS:HG3	2.01	0.41
69:AN:28:ILE:HD13	69:AN:28:ILE:HG21	1.87	0.41
73:AR:44:VAL:HG12	73:AR:45:GLY:N	2.34	0.41
75:AT:12:ILE:HD12	75:AT:49:LYS:CB	2.50	0.41
77:AW:26:VAL:O	77:AW:27:GLN:HB2	2.20	0.41
2:B:1211:A:H5''	10:J:154:ARG:HH11	1.78	0.41
2:B:575:C:C4	2:B:576:G:C6	3.08	0.41
2:B:961:G:H2'	2:B:962:C:C6	2.55	0.41
3:C:193:G:N7	3:C:195:A:C5	2.88	0.41
4:D:40:C:O2'	11:K:50:GLN:HB3	2.20	0.41
6:F:4:U:C4	6:F:5:C:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:3:ARG:O	10:J:4:ARG:HB3	2.20	0.41
12:L:180:GLU:O	12:L:181:GLU:C	2.57	0.41
25:Y:20:GLY:HA3	25:Y:134:PHE:HZ	1.85	0.41
25:Y:44:ALA:HB1	25:Y:112:VAL:HG11	2.01	0.41
26:Z:101:LEU:HD22	26:Z:106:TYR:HB2	2.02	0.41
26:Z:2:PRO:HB2	26:Z:5:PHE:HD2	1.85	0.41
51:1:156:THR:HG21	51:1:224:VAL:O	2.19	0.41
52:2:1669:U:N3	52:2:1670:C:N3	2.68	0.41
55:5:212:LEU:O	55:5:216:GLU:HG2	2.19	0.41
56:6:121:VAL:HG23	56:6:122:HIS:CD2	2.54	0.41
57:7:117:PRO:HG3	57:7:160:PRO:O	2.19	0.41
59:AC:75:TYR:CE2	67:AL:108:MET:HG2	2.55	0.41
67:AL:51:ALA:O	67:AL:55:THR:HG23	2.20	0.41
72:AQ:115:ASP:O	72:AQ:116:ARG:HG2	2.20	0.41
75:AT:25:ARG:CZ	75:AT:27:GLN:HE21	2.32	0.41
76:AV:39:GLY:HA2	76:AV:75:GLN:O	2.21	0.41
67:AL:20:TYR:OH	78:AX:208:THR:HA	2.19	0.41
78:AX:29:ALA:C	78:AX:31:GLU:N	2.72	0.41
2:B:1070:C:H2'	2:B:1071:U:C6	2.54	0.41
2:B:1431:C:H2'	2:B:1432:C:H6	1.85	0.41
2:B:1463:U:C4	2:B:1464:C:C4	3.08	0.41
12:L:85:LEU:HD12	12:L:92:PRO:HG3	2.02	0.41
13:M:3:PHE:HB3	13:M:4:PRO:HD3	2.01	0.41
18:R:166:ASP:HA	18:R:169:ASN:HD22	1.85	0.41
19:S:11:THR:HG21	19:S:14:LEU:HD22	2.02	0.41
21:U:8:VAL:HG11	21:U:127:LEU:HD22	2.01	0.41
51:1:121:MET:HB3	51:1:138:THR:HB	2.02	0.41
52:2:1584:A:C8	52:2:1584:A:H3'	2.56	0.41
52:2:1881:G:H2'	52:2:1881:G:N3	2.35	0.41
52:2:1889:A:C6	52:2:1937:C:N3	2.89	0.41
52:2:2028:U:C4	52:2:2029:U:C5	3.09	0.41
52:2:229:A:O2'	52:2:230:G:P	2.79	0.41
52:2:734:U:H3'	52:2:735:G:H4'	2.01	0.41
52:2:787:G:HO2'	52:2:788:A:P	2.42	0.41
57:7:151:ASP:HB2	57:7:173:ASP:HB3	2.02	0.41
57:7:158:PHE:CD1	57:7:167:VAL:HG12	2.55	0.41
1:A:112:U:C4	1:A:358:G:N1	2.88	0.41
1:A:317:U:O2	1:A:323:U:C2	2.73	0.41
59:AC:163:PRO:HG2	59:AC:188:ALA:HB1	2.02	0.41
61:AE:55:LEU:CD1	61:AE:85:ILE:HD11	2.51	0.41
64:AI:104:TYR:CE2	64:AI:106:GLY:HA2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:50:ALA:HB2	69:AN:130:MET:SD	2.61	0.41
69:AN:64:PHE:CD2	69:AN:145:ARG:NH2	2.81	0.41
71:AP:240:TRP:O	71:AP:240:TRP:CD1	2.73	0.41
72:AQ:39:ARG:CD	72:AQ:101:PHE:HB2	2.37	0.41
75:AT:96:TYR:CE1	75:AT:97:ARG:HG3	2.55	0.41
78:AX:166:PHE:CA	78:AX:189:LEU:CD1	2.47	0.41
4:D:36:C:H2'	4:D:37:C:O4'	2.20	0.41
8:H:16:A:OP1	16:P:74:LYS:HE3	2.20	0.41
2:B:124:C:H4'	8:H:87:A:O4'	2.19	0.41
9:I:86:ILE:HG23	9:I:106:ARG:O	2.20	0.41
2:B:1424:G:OP1	14:N:165:GLN:NE2	2.53	0.41
51:1:83:PHE:C	51:1:85:ASP:H	2.23	0.41
52:2:1584:A:H2'	52:2:1585:U:H5'	2.03	0.41
52:2:1863:A:H4'	64:AI:134:LEU:HG	1.88	0.41
52:2:1890:A:H2'	52:2:1890:A:OP2	2.20	0.41
52:2:1897:C:H1'	52:2:1898:G:P	2.61	0.41
52:2:1943:A:O4'	52:2:1943:A:P	2.79	0.41
52:2:326:U:HO2'	52:2:327:U:P	2.43	0.41
52:2:391:G:H5''	61:AE:100:ILE:HD12	2.03	0.41
52:2:498:C:N4	52:2:499:A:N1	2.68	0.41
52:2:750:U:C3'	52:2:750:U:C6	3.04	0.41
53:3:65:VAL:HG21	53:3:100:VAL:HG11	1.95	0.41
53:3:80:ARG:O	53:3:82:ALA:N	2.54	0.41
54:4:122:THR:O	54:4:126:GLU:HG3	2.21	0.41
55:5:72:ILE:HG22	55:5:73:ALA:N	2.33	0.41
56:6:59:LEU:HA	56:6:59:LEU:HD12	1.90	0.41
57:7:69:SER:N	57:7:84:SER:HA	2.36	0.41
1:A:408:G:C4	1:A:410:U:H5	2.38	0.41
64:AI:84:LYS:CG	64:AI:102:ALA:HB1	2.40	0.41
52:2:1565:A:H1'	64:AI:106:GLY:O	2.21	0.41
65:AJ:83:THR:HA	65:AJ:86:TYR:CE2	2.55	0.41
65:AJ:94:LEU:HD22	65:AJ:100:GLY:HA3	2.01	0.41
66:AK:61:VAL:HG21	66:AK:115:PHE:CE1	2.56	0.41
59:AC:55:LEU:HD21	67:AL:109:LEU:HD21	2.01	0.41
64:AI:128:MET:HE1	68:AM:119:ARG:HE	1.85	0.41
68:AM:67:LYS:O	68:AM:71:ILE:HG13	2.20	0.41
68:AM:75:PRO:HG2	68:AM:97:GLU:OE1	2.20	0.41
52:2:1878:U:OP2	69:AN:155:MET:HB3	2.20	0.41
74:AS:40:PRO:O	74:AS:77:ASN:ND2	2.54	0.41
78:AX:63:ARG:CD	78:AX:67:GLU:OE2	2.64	0.41
3:C:157:G:H2'	3:C:158:U:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:30:C:O2'	6:F:31:U:H2'	2.19	0.41
6:F:70:G:C6	6:F:71:A:N6	2.89	0.41
12:L:105:ARG:HG3	12:L:105:ARG:O	2.20	0.41
15:O:168:GLY:O	15:O:172:ARG:HG3	2.21	0.41
17:Q:78:VAL:HG12	17:Q:80:ILE:HG13	2.02	0.41
19:S:43:VAL:HG13	19:S:58:HIS:HE1	1.85	0.41
21:U:81:ILE:HD13	21:U:81:ILE:HG21	1.72	0.41
24:X:57:ARG:CG	24:X:100:ASN:CG	2.60	0.41
26:Z:72:THR:HA	26:Z:108:LYS:O	2.21	0.41
26:Z:7:LYS:HE3	26:Z:11:GLN:NE2	2.35	0.41
52:2:1181:C:C4	76:AV:99:ARG:NH2	2.88	0.41
52:2:1527:C:H5''	52:2:1959:C:OP1	2.21	0.41
52:2:1554:G:H4'	52:2:1555:G:O5'	2.20	0.41
52:2:1797:G:C2	52:2:1807:A:N3	2.89	0.41
52:2:2022:U:H6	52:2:2022:U:O5'	2.04	0.41
52:2:575:C:H2'	52:2:576:A:O4'	2.21	0.41
52:2:594:A:P	79:AY:31:ARG:NH1	2.93	0.41
52:2:659:G:O2'	52:2:662:G:O2'	2.02	0.41
52:2:734:U:C5	52:2:735:G:H1'	2.55	0.41
52:2:783:A:N6	52:2:839:G:N1	2.68	0.41
18:R:170:ARG:NH1	52:2:919:G:O3'	2.53	0.41
52:2:442:A:P	55:5:49:ARG:HH21	2.43	0.41
57:7:29:VAL:O	57:7:41:TRP:HD1	2.04	0.41
1:A:1605:G:H5'	1:A:1755:U:O2'	2.21	0.41
1:A:553:A:N3	1:A:553:A:H2'	2.34	0.41
64:AI:97:VAL:HB	64:AI:119:ILE:HD11	2.02	0.41
65:AJ:94:LEU:HA	65:AJ:94:LEU:HD23	1.81	0.41
66:AK:89:GLN:CG	66:AK:122:LEU:HD22	2.50	0.41
67:AL:31:ASN:O	67:AL:35:VAL:HG23	2.20	0.41
70:AO:77:TRP:HA	70:AO:80:ILE:HB	2.02	0.41
71:AP:194:PRO:HG3	71:AP:220:LEU:HD21	2.03	0.41
76:AV:45:ARG:HA	76:AV:70:LYS:HG2	2.03	0.41
2:B:56:G:OP1	18:R:21:ARG:HD3	2.21	0.41
8:H:87:A:H2'	8:H:88:G:O4'	2.20	0.41
11:K:117:ILE:HG22	68:AM:15:ARG:NH2	2.18	0.41
12:L:37:LYS:HB2	12:L:37:LYS:HE3	1.87	0.41
13:M:144:ARG:HG3	13:M:148:TYR:HD2	1.82	0.41
14:N:47:TRP:O	14:N:49:HIS:HD2	2.03	0.41
1:A:305:A:C5	15:O:12:LYS:HE3	2.55	0.41
18:R:55:VAL:HG12	18:R:56:LYS:O	2.20	0.41
2:B:43:C:P	18:R:60:ARG:HH22	2.41	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:27:LYS:HD3	20:T:78:THR:HG22	2.03	0.41
51:1:51:TYR:CD1	75:AT:18:LYS:HE3	2.56	0.41
51:1:45:ILE:CD1	51:1:67:VAL:HG21	2.50	0.41
52:2:138:C:H2'	52:2:139:C:C6	2.56	0.41
52:2:1525:A:O4'	68:AM:144:GLY:HA3	2.21	0.41
52:2:1529:U:H2'	52:2:1529:U:H6	1.63	0.41
52:2:1606:C:H2'	52:2:1606:C:O2	2.21	0.41
52:2:1665:U:O2	52:2:1667:A:C8	2.74	0.41
52:2:1884:A:H2	52:2:1944:U:C2	2.39	0.41
52:2:1958:A:N7	52:2:1959:C:C4	2.88	0.41
52:2:1959:C:H5'	68:AM:129:GLY:HA2	2.03	0.41
52:2:402:A:O2'	52:2:403:G:OP1	2.32	0.41
52:2:904:G:H8	52:2:904:G:O5'	2.03	0.41
52:2:906:U:O5'	52:2:906:U:H6	2.03	0.41
54:4:30:LEU:HB3	54:4:38:ARG:NH1	2.35	0.41
54:4:30:LEU:CD2	54:4:38:ARG:HH22	2.30	0.41
55:5:7:ARG:HH12	61:AE:151:ARG:NH2	2.18	0.41
57:7:234:VAL:O	57:7:235:GLU:HG2	2.20	0.41
1:A:1121:G:C2	1:A:1123:G:C8	3.09	0.41
1:A:170:U:C4	1:A:282:C:H5	2.38	0.41
1:A:453:G:H21	16:P:118:GLN:HE22	1.69	0.41
59:AC:144:PHE:O	59:AC:152:PHE:HE1	2.02	0.41
59:AC:48:GLU:O	59:AC:52:GLN:HG3	2.20	0.41
59:AC:74:ILE:HG23	59:AC:83:HIS:HB3	2.03	0.41
60:AD:101:HIS:CD2	78:AX:75:ARG:CZ	3.03	0.41
76:AV:43:VAL:HG22	76:AV:72:TYR:CE1	2.56	0.41
77:AW:62:LYS:O	77:AW:62:LYS:HG2	2.20	0.41
78:AX:169:SER:HB3	78:AX:186:LYS:HA	2.02	0.41
78:AX:34:SER:OG	78:AX:90:VAL:HG21	2.20	0.41
69:AN:109:GLU:CD	80:AZ:77:MET:HB3	2.41	0.41
2:B:1317:G:O5'	2:B:1317:G:H8	2.03	0.41
8:H:99:U:HO2'	8:H:100:U:H5	1.68	0.41
11:K:43:VAL:HG22	15:O:6:TYR:CE1	122.47	0.41
15:O:65:ARG:HD2	15:O:127:PHE:CD1	2.56	0.41
16:P:15:ALA:HB2	16:P:102:ALA:HB2	2.02	0.41
16:P:27:LYS:O	16:P:31:GLU:HG2	2.21	0.41
22:V:102:ILE:HG21	22:V:110:ALA:HB2	2.01	0.41
22:V:67:ARG:NH1	22:V:90:ASP:HA	2.35	0.41
24:X:27:LEU:HD23	24:X:27:LEU:HA	1.89	0.41
26:Z:75:LEU:HD23	26:Z:75:LEU:HA	1.81	0.41
50:0:121:CYS:O	52:2:1178:C:O2'	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1095:G:C5	52:2:1096:C:C4	3.09	0.41
52:2:1096:C:C4	52:2:1097:C:N4	2.87	0.41
52:2:1291:U:H2'	52:2:1292:U:H6	1.86	0.41
52:2:148:G:N1	52:2:149:G:C6	2.89	0.41
52:2:1529:U:HO2'	52:2:1530:G:C5'	2.24	0.41
52:2:1871:U:C2	52:2:1872:A:N7	2.89	0.41
52:2:1880:A:O2'	52:2:1881:G:OP2	2.38	0.41
52:2:1917:U:HO2'	52:2:1918:C:P	2.39	0.41
52:2:528:G:O5'	52:2:528:G:C8	2.72	0.41
52:2:570:A:N6	52:2:571:A:N1	2.68	0.41
52:2:973:U:O2'	52:2:974:G:OP1	2.33	0.41
53:3:1:MET:HG2	53:3:23:LEU:HD11	2.03	0.41
53:3:2:LYS:HB3	53:3:15:GLN:HE21	1.85	0.41
56:6:85:LEU:HD11	56:6:98:LEU:HD21	2.02	0.41
58:8:49:GLU:CG	58:8:50:HIS:N	2.83	0.41
1:A:191:U:C5	1:A:260:C:C2	3.09	0.41
1:A:589:G:H1	1:A:618:G:H1	1.68	0.41
1:A:709:A:H8	1:A:836:G:C5	2.38	0.41
59:AC:221:LEU:HB3	73:AR:50:ILE:HD11	2.01	0.41
59:AC:88:HIS:NE2	73:AR:86:LYS:HB3	2.35	0.41
60:AD:43:ASN:HA	60:AD:46:ARG:HB2	2.02	0.41
64:AI:22:PHE:CD1	64:AI:23:THR:N	2.88	0.41
66:AK:51:ARG:O	66:AK:55:MET:N	2.52	0.41
70:AO:67:GLY:O	70:AO:68:ARG:HB2	2.20	0.41
71:AP:83:GLU:C	71:AP:85:GLN:H	2.24	0.41
76:AV:34:LYS:NZ	76:AV:76:ARG:HH12	2.19	0.41
77:AW:11:PRO:HG3	77:AW:16:GLU:OE2	2.20	0.41
60:AD:126:PRO:HA	78:AX:66:ARG:NH1	2.35	0.41
3:C:137:G:H1'	3:C:149:G:N2	2.36	0.41
4:D:48:U:H2'	4:D:49:G:H5'	2.03	0.41
11:K:124:ASP:C	11:K:126:SER:H	2.23	0.41
12:L:135:HIS:HB3	12:L:138:VAL:HG23	2.02	0.41
1:A:515:U:P	17:Q:70:LYS:HZ3	2.44	0.41
21:U:8:VAL:HG13	21:U:10:GLY:O	2.20	0.41
21:U:93:THR:HG22	21:U:95:ILE:HG13	2.03	0.41
3:C:114:G:H8	24:X:10:ARG:HH21	1.65	0.41
24:X:79:ILE:HG22	24:X:80:ASP:N	2.35	0.41
51:1:6:LEU:HD23	51:1:25:ALA:HB3	2.02	0.41
52:2:1099:C:O2'	52:2:1100:U:H5'	2.21	0.41
52:2:1238:G:O2'	52:2:1239:A:H5''	2.21	0.41
52:2:1525:A:N7	52:2:1526:G:N7	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1581:A:H2'	52:2:1581:A:N3	2.36	0.41
52:2:1875:A:H8	52:2:1875:A:P	2.41	0.41
52:2:1893:A:N6	52:2:1934:C:OP2	2.51	0.41
51:1:64:GLN:HG2	52:2:497:A:C6	2.56	0.41
52:2:580:A:O2'	52:2:581:A:O5'	2.35	0.41
52:2:707:U:C5	52:2:708:C:C5	3.09	0.41
53:3:80:ARG:HH22	53:3:93:GLY:N	2.19	0.41
53:3:80:ARG:NH2	53:3:93:GLY:N	2.69	0.41
54:4:102:ILE:HG12	54:4:124:VAL:HG21	2.02	0.41
54:4:23:VAL:N	54:4:50:ARG:HH12	2.07	0.41
54:4:52:VAL:HG22	54:4:62:LEU:CD2	2.49	0.41
55:5:214:ARG:HA	55:5:214:ARG:HD3	1.88	0.41
57:7:90:ARG:NE	57:7:102:LYS:HE2	2.34	0.41
57:7:151:ASP:CB	57:7:173:ASP:HB3	2.51	0.41
57:7:247:ARG:HH11	57:7:249:TRP:HH2	1.61	0.41
52:2:1836:G:C5	58:8:44:PHE:HE2	2.39	0.41
1:A:1133:A:HO2'	1:A:1134:C:P	2.42	0.41
1:A:16:G:C2	1:A:17:C:C2	3.08	0.41
69:AN:101:ALA:HB1	69:AN:140:MET:CE	2.50	0.41
72:AQ:46:THR:OG1	72:AQ:89:HIS:CD2	2.74	0.41
77:AW:42:ARG:O	77:AW:43:GLN:HG3	2.20	0.41
80:AZ:48:MET:HG3	80:AZ:73:MET:HE3	2.02	0.41
2:B:1290:U:H5	2:B:1309:C:HO2'	1.62	0.41
2:B:1388:U:OP1	2:B:1390:A:O2'	2.31	0.41
3:C:139:A:C5	3:C:153:A:C5	3.08	0.41
3:C:249:C:N4	3:C:250:U:O4	2.54	0.41
13:M:78:LYS:O	13:M:88:PRO:HG2	2.20	0.41
15:O:83:LYS:HE2	15:O:83:LYS:HB3	1.93	0.41
17:Q:78:VAL:HG22	17:Q:128:VAL:HG23	2.02	0.41
26:Z:120:ILE:HG12	26:Z:140:ALA:HB3	2.03	0.41
9:I:98:ARG:HD2	26:Z:76:ASN:ND2	2.36	0.41
52:2:114:U:O2'	52:2:115:C:OP1	2.36	0.41
52:2:1465:G:C2'	52:2:1466:G:H5'	2.50	0.41
52:2:1547:A:OP1	52:2:1547:A:H8	2.04	0.41
52:2:1553:G:H4'	52:2:1554:G:OP1	2.20	0.41
52:2:1589:C:N3	52:2:1590:A:C5	2.88	0.41
52:2:1603:U:H2'	52:2:1604:U:C6	2.56	0.41
52:2:1964:G:C8	52:2:1964:G:O5'	2.72	0.41
52:2:402:A:H5'	74:AS:33:PHE:HZ	1.85	0.41
52:2:441:G:H4'	55:5:49:ARG:HH22	1.86	0.41
52:2:711:G:H1'	52:2:715:G:C8	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:260:A:N6	52:2:948:G:O6	2.54	0.41
57:7:159:SER:C	57:7:161:SER:N	2.72	0.41
57:7:222:ASP:HB3	57:7:227:GLU:N	2.36	0.41
57:7:268:VAL:HG12	57:7:269:ILE:O	2.21	0.41
57:7:6:HIS:HD2	57:7:304:ARG:HG2	1.84	0.41
1:A:155:A:OP1	12:L:104:SER:OG	2.31	0.41
1:A:455:G:H2'	1:A:456:A:O4'	2.21	0.41
1:A:31:G:H1'	1:A:50:A:N6	2.36	0.41
1:A:704:G:OP2	9:I:55:SER:HB2	2.21	0.41
1:A:849:U:H2'	1:A:850:G:O4'	2.20	0.41
59:AC:95:ILE:HD12	59:AC:95:ILE:H	1.86	0.41
61:AE:112:TYR:O	61:AE:114:ARG:HG3	2.21	0.41
55:5:204:GLU:CG	61:AE:32:ASN:HB3	2.40	0.41
65:AJ:86:TYR:CE1	65:AJ:104:LEU:HD11	2.45	0.41
66:AK:21:ALA:HA	66:AK:77:GLY:C	2.41	0.41
67:AL:41:ALA:H	67:AL:47:LYS:CE	2.34	0.41
68:AM:43:TYR:CB	68:AM:47:LYS:HE2	2.51	0.41
70:AO:61:ILE:CD1	70:AO:102:LYS:HG3	2.51	0.41
52:2:1885:G:O2'	70:AO:29:ALA:O	2.38	0.41
70:AO:85:VAL:HG13	70:AO:86:LEU:N	2.35	0.41
74:AS:51:VAL:HG13	74:AS:70:VAL:CG1	2.51	0.41
50:0:111:ASP:OD2	76:AV:69:PRO:HB2	2.21	0.41
78:AX:189:LEU:O	78:AX:191:SER:N	2.52	0.41
80:AZ:82:GLU:HG2	80:AZ:82:GLU:H	1.72	0.41
2:B:1084:G:C5	2:B:1101:G:C2	3.08	0.41
2:B:327:A:H1'	2:B:464:A:N6	2.34	0.41
6:F:33:G:O2'	6:F:34:C:OP2	2.31	0.41
6:F:7:A:HO2'	6:F:8:A:H8	1.62	0.41
17:Q:139:LEU:HA	17:Q:142:ALA:HB3	2.03	0.41
12:L:183:SER:HB2	26:Z:135:ARG:HH21	1.86	0.41
52:2:1556:A:H1'	52:2:1557:A:OP1	2.21	0.41
52:2:1556:A:O2'	52:2:1557:A:P	2.79	0.41
52:2:1575:A:C4	52:2:1576:G:N7	2.89	0.41
52:2:1640:U:O2'	52:2:1641:G:H5'	2.20	0.41
52:2:1697:C:H4'	72:AQ:50:PRO:HA	2.02	0.41
52:2:1889:A:N1	52:2:1938:G:C2	2.89	0.41
52:2:191:G:H2'	52:2:192:U:O4'	2.20	0.41
52:2:1967:U:O2'	52:2:2013:A:O2'	2.20	0.41
52:2:659:G:H2'	52:2:663:C:C5	2.55	0.41
52:2:718:C:N4	52:2:736:G:H22	2.06	0.41
52:2:290:U:H5	53:3:220:ARG:NH1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:6:132:HIS:CE1	56:6:162:PRO:HD2	2.56	0.41
57:7:117:PRO:HG3	57:7:160:PRO:HA	2.03	0.41
57:7:266:LYS:HB3	57:7:266:LYS:HE2	1.80	0.41
57:7:292:ASN:O	57:7:307:SER:OG	2.25	0.41
57:7:93:ASP:OD1	57:7:94:LEU:N	2.45	0.41
1:A:1186:A:N3	2:B:1200:U:O2'	2.44	0.41
1:A:1201:U:H1'	1:A:1202:G:C8	2.56	0.41
1:A:546:G:N2	1:A:1392:G:OP2	2.52	0.41
1:A:521:G:H2'	1:A:522:G:O4'	2.20	0.41
1:A:677:A:N3	1:A:679:A:C8	2.89	0.41
59:AC:234:LYS:HD3	59:AC:234:LYS:HA	1.87	0.41
64:AI:32:LEU:HB3	64:AI:94:PRO:CB	2.50	0.41
69:AN:7:LYS:HB3	69:AN:33:ALA:O	2.20	0.41
71:AP:91:MET:HE2	71:AP:193:VAL:HG13	2.03	0.41
72:AQ:40:ALA:HB1	72:AQ:47:ILE:HD11	2.03	0.41
73:AR:53:THR:OG1	73:AR:53:THR:O	2.36	0.41
5:E:5:G:N7	25:Y:17:ARG:NE	2.69	0.41
8:H:100:U:O2	8:H:103:G:H5'	2.21	0.41
10:J:209:ARG:HG3	10:J:210:ASN:N	2.36	0.41
12:L:191:LYS:O	12:L:195:SER:N	2.43	0.41
12:L:19:PRO:HB3	12:L:24:LYS:O	2.21	0.41
14:N:142:VAL:O	14:N:146:LYS:N	2.52	0.41
15:O:11:TRP:CZ2	15:O:44:ARG:HG2	2.56	0.41
21:U:110:GLU:HA	21:U:130:LYS:HG3	2.03	0.41
50:0:182:VAL:HG13	50:0:186:GLU:HB2	2.02	0.41
51:1:111:LEU:CD1	51:1:116:ALA:HB2	2.51	0.41
52:2:1204:A:N6	52:2:1205:C:N4	2.69	0.41
52:2:1875:A:H8	52:2:1875:A:OP2	2.03	0.41
52:2:1981:G:O2'	52:2:1982:C:OP1	2.32	0.41
52:2:2038:G:H2'	52:2:2039:C:H6	1.86	0.41
52:2:2139:U:H2'	52:2:2140:C:O4'	2.21	0.41
52:2:2198:U:C4	76:AV:79:ILE:HD13	2.55	0.41
52:2:918:A:H61	52:2:1101:A:N6	2.19	0.41
53:3:150:LEU:CD1	53:3:150:LEU:N	2.83	0.41
53:3:76:LEU:O	53:3:97:ARG:HD3	2.21	0.41
55:5:61:ASP:O	55:5:78:LEU:HD13	2.20	0.41
56:6:127:LEU:HG	56:6:133:ILE:HD12	2.03	0.41
57:7:117:PRO:HB2	57:7:162:LEU:HD21	2.03	0.41
1:A:242:A:C6	1:A:243:G:C5	3.09	0.41
1:A:509:U:H3	1:A:545:A:N6	2.19	0.41
60:AD:40:SER:O	60:AD:41:ARG:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:64:TRP:HB3	60:AD:75:VAL:H	1.86	0.41
62:AG:100:LYS:HB3	62:AG:100:LYS:HE3	1.83	0.41
64:AI:124:GLY:O	64:AI:125:GLU:HB2	2.21	0.41
68:AM:85:LEU:HD13	68:AM:97:GLU:HB3	2.03	0.41
71:AP:111:PHE:CZ	71:AP:218:GLY:HA2	2.56	0.41
75:AT:83:TYR:HB3	75:AT:88:SER:OG	2.21	0.41
75:AT:96:TYR:CZ	75:AT:97:ARG:HG3	2.56	0.41
78:AX:100:GLN:HE22	78:AX:125:VAL:HG22	1.85	0.41
78:AX:13:ASP:HA	78:AX:16:PHE:HB3	2.02	0.41
2:B:1412:C:H2'	2:B:1413:C:C6	2.56	0.41
2:B:572:A:H5'	16:P:80:LYS:HE3	2.03	0.41
2:B:702:A:C2	2:B:703:A:C4	3.09	0.41
2:B:958:U:O2	2:B:958:U:H2'	2.21	0.41
3:C:138:C:H1'	3:C:152:A:H2'	2.03	0.41
3:C:198:C:H2'	3:C:199:A:O4'	2.20	0.41
9:I:8:ILE:O	9:I:9:SER:CB	2.69	0.41
11:K:23:LYS:HG2	11:K:137:VAL:HB	2.04	0.41
12:L:78:ARG:O	12:L:101:ARG:HD2	2.20	0.41
17:Q:133:ASP:OD1	17:Q:145:HIS:CG	2.73	0.41
21:U:38:VAL:HG13	21:U:60:VAL:HG21	2.02	0.41
22:V:69:PRO:HB3	22:V:87:PHE:CE1	2.56	0.41
24:X:32:LEU:HB3	24:X:103:ILE:HB	2.03	0.41
51:1:172:ASN:HA	51:1:176:LYS:HD3	2.01	0.40
50:0:66:VAL:HG21	52:2:1167:A:H4'	2.03	0.40
52:2:131:G:C6	52:2:132:C:N4	2.89	0.40
52:2:1529:U:HO2'	52:2:1530:G:P	2.36	0.40
52:2:1599:G:H2'	52:2:1600:U:H5''	2.03	0.40
52:2:1634:C:H2'	52:2:1635:G:C8	2.56	0.40
52:2:183:C:O2'	52:2:184:C:O4'	2.38	0.40
52:2:1861:A:H1'	52:2:1862:C:OP1	2.21	0.40
52:2:1911:A:H62	52:2:1912:C:H41	1.69	0.40
52:2:1967:U:C2	52:2:1968:G:N7	2.89	0.40
52:2:1971:A:C4	52:2:1974:A:C8	3.09	0.40
52:2:659:G:H21	74:AS:17:ARG:NH1	2.19	0.40
53:3:160:VAL:CG2	53:3:179:ILE:HD11	2.47	0.40
56:6:162:PRO:HB2	56:6:163:PHE:CD1	2.56	0.40
1:A:1009:C:H5'	2:B:1173:A:O2'	2.21	0.40
1:A:374:G:N2	1:A:375:A:C4	2.90	0.40
1:A:375:A:O5'	1:A:375:A:H8	2.04	0.40
1:A:517:U:H2'	1:A:518:C:C6	2.56	0.40
1:A:71:C:C5	12:L:71:ASN:HB3	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:AD:103:TYR:CD1	78:AX:71:CYS:SG	3.09	0.40
62:AG:71:ILE:HG21	62:AG:71:ILE:HD13	1.86	0.40
64:AI:130:TYR:HH	68:AM:121:HIS:CE1	2.33	0.40
52:2:1972:U:OP2	64:AI:47:ARG:NE	2.53	0.40
64:AI:76:VAL:HG11	64:AI:79:LYS:O	2.21	0.40
52:2:1889:A:H4'	66:AK:77:GLY:C	2.41	0.40
68:AM:123:GLY:HA2	68:AM:126:HIS:HD2	1.81	0.40
75:AT:45:LEU:O	75:AT:49:LYS:HG2	2.21	0.40
78:AX:65:ILE:O	78:AX:69:THR:OG1	2.21	0.40
2:B:709:A:H2'	2:B:710:G:C8	2.56	0.40
2:B:717:G:H2'	2:B:718:G:H8	1.86	0.40
3:C:133:G:C2	3:C:134:A:C8	3.09	0.40
3:C:142:A:O2'	3:C:143:A:OP2	2.34	0.40
3:C:174:A:C5	3:C:175:U:H5	2.39	0.40
4:D:111:G:H2'	4:D:112:C:O4'	2.21	0.40
1:A:223:A:N7	7:G:10:U:H5	2.18	0.40
13:M:218:LYS:O	13:M:219:PHE:CB	2.70	0.40
14:N:95:ARG:HA	14:N:98:ALA:HB3	2.03	0.40
15:O:68:ARG:HG2	15:O:126:THR:O	2.22	0.40
17:Q:61:LEU:HD23	17:Q:61:LEU:HA	1.89	0.40
18:R:19:ARG:O	18:R:20:ALA:CB	2.69	0.40
19:S:153:TYR:O	19:S:156:MET:HG2	2.20	0.40
21:U:56:LEU:HA	21:U:56:LEU:HD23	1.89	0.40
25:Y:117:GLN:NE2	25:Y:121:ASN:OD1	2.54	0.40
51:1:150:HIS:O	51:1:171:LYS:HE2	2.21	0.40
52:2:1544:C:C2	52:2:1548:A:N7	2.89	0.40
52:2:1562:A:H5''	52:2:1563:C:OP2	2.21	0.40
52:2:1589:C:H2'	52:2:1590:A:O4'	2.21	0.40
52:2:1597:G:N3	52:2:1597:G:H2'	2.36	0.40
52:2:1798:U:H2'	52:2:1799:A:O4'	2.20	0.40
52:2:1884:A:H2	52:2:1944:U:O2	2.03	0.40
52:2:1934:C:H3'	52:2:1935:C:H5'	2.02	0.40
52:2:1978:G:C8	52:2:1979:U:C5	3.09	0.40
52:2:1984:C:H5''	52:2:1985:A:H5'	2.02	0.40
52:2:638:C:O2'	52:2:639:C:H5'	2.21	0.40
52:2:671:G:H21	52:2:672:G:N2	2.19	0.40
52:2:75:U:H2'	52:2:76:U:C6	2.51	0.40
56:6:48:LEU:HD13	56:6:103:ILE:HD11	2.03	0.40
57:7:196:TYR:O	57:7:213:GLY:HA3	2.22	0.40
58:8:29:LYS:CG	58:8:30:ALA:N	2.84	0.40
1:A:170:U:H4'	1:A:171:U:H5''	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:18:A:C2	3:C:242:G:C2	3.10	0.40
1:A:574:G:H2'	1:A:577:C:C4	2.57	0.40
1:A:68:A:H8	1:A:68:A:OP2	2.04	0.40
1:A:768:C:C4	26:Z:114:HIS:ND1	2.89	0.40
1:A:9:G:C2	3:C:252:A:C2	3.10	0.40
59:AC:70:MET:HE2	59:AC:190:LEU:HD11	2.03	0.40
60:AD:48:PHE:CD1	60:AD:106:LEU:HG	2.56	0.40
63:AH:142:ARG:O	63:AH:142:ARG:HG2	2.21	0.40
68:AM:105:ASP:HA	68:AM:108:LEU:HB2	2.02	0.40
64:AI:130:TYR:OH	68:AM:121:HIS:ND1	2.44	0.40
68:AM:58:GLY:C	68:AM:62:ALA:H	2.23	0.40
68:AM:65:LEU:HD13	68:AM:65:LEU:C	2.41	0.40
68:AM:96:THR:O	68:AM:98:HIS:N	2.54	0.40
70:AO:142:ALA:C	70:AO:146:GLN:HG3	2.41	0.40
78:AX:75:ARG:HG3	78:AX:76:PHE:CE1	2.56	0.40
9:I:7:GLY:HA2	9:I:8:ILE:HB	0.50	0.40
11:K:43:VAL:HG22	15:O:6:TYR:CZ	123.54	0.40
1:A:847:U:H1'	12:L:6:ASN:HD22	1.86	0.40
15:O:65:ARG:HG2	15:O:129:TRP:NE1	2.37	0.40
18:R:185:ARG:HD3	18:R:185:ARG:HA	1.79	0.40
22:V:99:LYS:O	22:V:102:ILE:HG22	2.21	0.40
50:O:86:LYS:HZ2	50:O:109:THR:HA	1.86	0.40
51:1:39:LEU:HD22	51:1:44:ILE:CG1	2.51	0.40
52:2:1836:G:C2	52:2:1837:U:C2	3.09	0.40
52:2:1849:A:C2	52:2:1851:G:C4	3.09	0.40
52:2:1928:G:O2'	52:2:1929:G:H5''	2.20	0.40
52:2:2003:G:C5	52:2:2004:G:N7	2.89	0.40
52:2:322:C:H5'	52:2:323:U:OP2	2.21	0.40
52:2:325:G:N1	52:2:328:C:OP2	2.55	0.40
52:2:521:A:C2'	52:2:522:A:H5'	2.51	0.40
52:2:717:C:C6	52:2:717:C:C3'	3.05	0.40
52:2:742:C:C4	52:2:743:A:C8	3.10	0.40
52:2:767:C:HO2'	52:2:768:A:P	2.43	0.40
52:2:777:A:H8	52:2:777:A:O5'	2.04	0.40
52:2:965:G:H2'	52:2:966:G:O4'	2.21	0.40
53:3:230:LYS:HE2	53:3:230:LYS:HB2	1.82	0.40
54:4:95:MET:HB3	54:4:95:MET:HE2	1.99	0.40
55:5:26:LYS:HD2	55:5:29:LEU:CD2	2.32	0.40
55:5:90:LEU:HD22	55:5:95:THR:OG1	2.21	0.40
1:A:1620:G:O2'	1:A:1621:U:H5'	2.21	0.40
1:A:453:G:H1'	16:P:120:ASP:OD1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:459:A:O2'	1:A:661:G:H4'	2.21	0.40
1:A:475:C:O2	1:A:659:G:C2	2.74	0.40
60:AD:39:PRO:C	60:AD:42:ASP:H	2.18	0.40
65:AJ:7:LEU:HD23	65:AJ:34:VAL:HG22	2.04	0.40
65:AJ:89:TRP:CE3	65:AJ:93:ILE:HD13	2.57	0.40
52:2:1529:U:P	68:AM:136:HIS:HD2	2.44	0.40
69:AN:152:LEU:HB3	69:AN:154:SER:H	1.85	0.40
66:AK:61:VAL:O	69:AN:4:LYS:HG3	2.21	0.40
52:2:2:A:O2'	71:AP:208:THR:O	2.38	0.40
72:AQ:36:LEU:HD22	72:AQ:102:THR:CB	2.47	0.40
75:AT:29:VAL:HG22	75:AT:79:PHE:CE1	2.56	0.40
2:B:1210:C:H5	2:B:1226:C:N4	2.16	0.40
2:B:1446:U:H2'	2:B:1447:G:O4'	2.22	0.40
3:C:100:G:C6	3:C:101:C:N3	2.89	0.40
6:F:68:A:O2'	6:F:69:A:H5''	2.21	0.40
14:N:141:LYS:O	14:N:144:LEU:HB3	2.21	0.40
50:0:123:THR:HG22	50:0:145:PHE:CD1	2.57	0.40
52:2:1872:A:C2	52:2:1873:C:C2	3.09	0.40
52:2:2010:C:C6	52:2:2011:U:H5	2.38	0.40
52:2:2011:U:H1'	52:2:2012:C:OP1	2.22	0.40
52:2:2087:G:H2'	52:2:2088:G:O4'	2.21	0.40
52:2:2099:G:N2	52:2:2121:C:H1'	2.35	0.40
52:2:253:U:N3	52:2:941:U:N3	2.70	0.40
52:2:417:U:H2'	52:2:418:U:O4'	2.22	0.40
52:2:56:U:OP2	52:2:56:U:O4'	2.39	0.40
52:2:718:C:H42	52:2:736:G:N2	2.06	0.40
52:2:520:G:N3	52:2:870:A:H2	2.18	0.40
52:2:962:A:C6	52:2:963:U:O4	2.74	0.40
1:A:170:U:N3	1:A:282:C:H5	2.19	0.40
1:A:285:C:C5	1:A:286:U:C4	3.09	0.40
1:A:753:A:OP2	26:Z:110:LEU:HB3	2.20	0.40
63:AH:121:ARG:CA	76:AV:62:TYR:CZ	3.04	0.40
67:AL:46:LEU:HD23	67:AL:46:LEU:HA	1.90	0.40
52:2:1865:G:C4	68:AM:146:THR:HB	2.57	0.40
72:AQ:52:ARG:NH2	72:AQ:84:ARG:HH12	2.17	0.40
78:AX:142:LYS:HB2	78:AX:147:LYS:HE2	2.04	0.40
80:AZ:64:VAL:HG21	80:AZ:68:CYS:SG	2.62	0.40
9:I:184:ARG:O	9:I:191:LYS:HG3	2.21	0.40
11:K:123:TYR:HE1	11:K:128:GLY:HA2	1.85	0.40
13:M:27:ILE:HG13	13:M:137:VAL:CG1	2.51	0.40
19:S:31:LEU:HD23	19:S:31:LEU:HA	1.81	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:102:GLN:HG3	50:0:103:PHE:N	2.36	0.40
51:1:121:MET:SD	51:1:142:HIS:CD2	3.06	0.40
51:1:62:LEU:HD23	51:1:62:LEU:HA	1.86	0.40
51:1:96:PHE:HA	51:1:109:VAL:O	2.22	0.40
52:2:1241:G:C2'	52:2:1242:A:H5'	2.52	0.40
52:2:1252:A:H5'	52:2:1253:C:OP2	2.21	0.40
52:2:1513:C:O3'	66:AK:149:ARG:NH1	2.51	0.40
52:2:1641:G:N2	52:2:1682:G:O2'	2.55	0.40
52:2:1937:C:O2'	52:2:1938:G:O5'	2.39	0.40
52:2:193:G:C8	52:2:233:G:C2	3.10	0.40
52:2:1961:G:N1	52:2:1981:G:C2	2.89	0.40
52:2:287:C:H4'	52:2:288:A:H5''	2.02	0.40
52:2:723:C:H3'	52:2:724:A:O4'	2.21	0.40
52:2:729:G:C8	52:2:730:G:H1'	2.57	0.40
52:2:782:C:H2'	52:2:783:A:C8	2.55	0.40
52:2:927:G:N2	52:2:960:C:H1'	2.37	0.40
54:4:30:LEU:HD21	54:4:88:ARG:HH21	1.86	0.40
52:2:305:U:H1'	55:5:73:ALA:HB3	2.03	0.40
57:7:149:HIS:HD2	57:7:153:VAL:HG21	1.76	0.40
57:7:151:ASP:CG	57:7:152:TRP:H	2.21	0.40
1:A:1444:G:H2'	1:A:1466:G:O2'	2.22	0.40
1:A:243:G:C6	1:A:244:C:C4	3.09	0.40
1:A:546:G:N3	1:A:1393:G:N7	2.69	0.40
59:AC:54:LEU:O	59:AC:58:ARG:N	2.51	0.40
52:2:111:U:H5'	61:AE:82:ARG:HD2	2.03	0.40
64:AI:122:TYR:HD2	64:AI:124:GLY:N	2.19	0.40
57:7:57:PRO:HB2	66:AK:105:GLU:OE1	2.21	0.40
66:AK:33:CYS:O	66:AK:68:ARG:O	2.40	0.40
66:AK:31:ALA:O	66:AK:68:ARG:HB2	2.22	0.40
67:AL:117:PRO:O	67:AL:120:VAL:CG2	2.69	0.40
68:AM:87:ARG:NH2	68:AM:107:ARG:HB2	2.37	0.40
68:AM:117:LYS:CB	68:AM:118:ILE:HG13	2.51	0.40
69:AN:52:MET:HB3	69:AN:56:GLU:OE1	2.21	0.40
71:AP:130:GLU:HG2	71:AP:131:VAL:N	2.35	0.40
72:AQ:57:THR:HA	72:AQ:79:LEU:O	2.22	0.40
75:AT:25:ARG:HB3	75:AT:83:TYR:CE1	2.56	0.40
52:2:1178:C:P	76:AV:74:LYS:HD2	2.62	0.40
2:B:1025:A:H2'	2:B:1026:G:C8	2.56	0.40
6:F:30:C:H1'	6:F:31:U:C6	2.56	0.40
9:I:28:LEU:O	9:I:31:LYS:HB3	2.22	0.40
11:K:93:VAL:HG13	11:K:118:ASP:OD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:94:PRO:HD3	13:M:166:TRP:CD2	2.57	0.40
14:N:108:PHE:O	14:N:111:TYR:HB3	2.21	0.40
14:N:44:ALA:O	14:N:45:LYS:CB	2.70	0.40
15:O:72:LYS:HE3	15:O:90:LEU:HD23	2.04	0.40
18:R:174:ARG:HH11	52:2:1101:A:H5'	1.19	0.40
18:R:65:LYS:HE3	18:R:65:LYS:HB3	1.91	0.40
19:S:40:VAL:HG23	19:S:96:VAL:HG13	2.02	0.40
3:C:174:A:C2	24:X:111:HIS:CD2	3.10	0.40
25:Y:23:ALA:HA	25:Y:45:GLY:HA2	2.04	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	I	195/198 (98%)	180 (92%)	12 (6%)	3 (2%)	11	37
10	J	209/213 (98%)	193 (92%)	13 (6%)	3 (1%)	12	39
11	K	165/188 (88%)	152 (92%)	12 (7%)	1 (1%)	27	61
12	L	175/220 (80%)	159 (91%)	14 (8%)	2 (1%)	16	46
13	M	219/222 (99%)	212 (97%)	6 (3%)	1 (0%)	31	65
14	N	166/175 (95%)	153 (92%)	12 (7%)	1 (1%)	27	61
15	O	201/204 (98%)	192 (96%)	9 (4%)	0	100	100
16	P	153/166 (92%)	145 (95%)	7 (5%)	1 (1%)	24	58
17	Q	176/179 (98%)	163 (93%)	11 (6%)	2 (1%)	16	46
18	R	194/245 (79%)	193 (100%)	1 (0%)	0	100	100
19	S	156/159 (98%)	144 (92%)	11 (7%)	1 (1%)	27	61
20	T	121/129 (94%)	116 (96%)	5 (4%)	0	100	100
21	U	135/139 (97%)	126 (93%)	9 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	V	118/145 (81%)	106 (90%)	11 (9%)	1 (1%)	21	54
23	W	63/124 (51%)	61 (97%)	2 (3%)	0	100	100
24	X	118/143 (82%)	111 (94%)	5 (4%)	2 (2%)	10	34
25	Y	131/134 (98%)	124 (95%)	6 (5%)	1 (1%)	21	54
26	Z	142/145 (98%)	125 (88%)	14 (10%)	3 (2%)	8	29
27	a	144/147 (98%)	134 (93%)	9 (6%)	1 (1%)	24	58
28	b	67/70 (96%)	64 (96%)	3 (4%)	0	100	100
29	c	251/260 (96%)	229 (91%)	20 (8%)	2 (1%)	21	54
30	d	397/419 (95%)	376 (95%)	20 (5%)	1 (0%)	43	75
31	e	92/104 (88%)	88 (96%)	4 (4%)	0	100	100
32	f	108/183 (59%)	102 (94%)	6 (6%)	0	100	100
33	g	127/133 (96%)	119 (94%)	8 (6%)	0	100	100
34	h	122/168 (73%)	117 (96%)	4 (3%)	1 (1%)	21	54
35	i	124/127 (98%)	117 (94%)	6 (5%)	1 (1%)	21	54
36	j	130/144 (90%)	119 (92%)	11 (8%)	0	100	100
37	k	97/105 (92%)	94 (97%)	3 (3%)	0	100	100
38	l	79/83 (95%)	72 (91%)	7 (9%)	0	100	100
39	m	89/92 (97%)	82 (92%)	7 (8%)	0	100	100
40	n	73/83 (88%)	70 (96%)	3 (4%)	0	100	100
41	o	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
42	p	362/373 (97%)	340 (94%)	20 (6%)	2 (1%)	27	61
43	q	50/128 (39%)	47 (94%)	3 (6%)	0	100	100
44	r	94/106 (89%)	85 (90%)	8 (8%)	1 (1%)	16	46
45	s	258/305 (85%)	246 (95%)	12 (5%)	0	100	100
46	t	133/195 (68%)	123 (92%)	8 (6%)	2 (2%)	11	37
47	u	226/252 (90%)	209 (92%)	16 (7%)	1 (0%)	36	69
48	v	228/348 (66%)	218 (96%)	10 (4%)	0	100	100
49	w	185/190 (97%)	173 (94%)	11 (6%)	1 (0%)	31	65
50	0	219/264 (83%)	208 (95%)	10 (5%)	1 (0%)	31	65
51	1	256/273 (94%)	231 (90%)	22 (9%)	3 (1%)	14	43
53	3	247/249 (99%)	236 (96%)	10 (4%)	1 (0%)	36	69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	4	198/200 (99%)	183 (92%)	11 (6%)	4 (2%)	8	30
55	5	178/220 (81%)	160 (90%)	16 (9%)	2 (1%)	16	46
56	6	162/190 (85%)	151 (93%)	9 (6%)	2 (1%)	14	43
57	7	306/312 (98%)	275 (90%)	28 (9%)	3 (1%)	17	49
58	8	36/57 (63%)	30 (83%)	5 (14%)	1 (3%)	5	21
59	AC	201/246 (82%)	193 (96%)	8 (4%)	0	100	100
60	AD	91/153 (60%)	78 (86%)	11 (12%)	2 (2%)	7	27
61	AE	136/173 (79%)	131 (96%)	4 (3%)	1 (1%)	24	58
62	AG	139/151 (92%)	133 (96%)	6 (4%)	0	100	100
63	AH	134/144 (93%)	126 (94%)	8 (6%)	0	100	100
64	AI	119/152 (78%)	102 (86%)	17 (14%)	0	100	100
65	AJ	127/130 (98%)	120 (94%)	6 (5%)	1 (1%)	21	54
66	AK	138/149 (93%)	118 (86%)	16 (12%)	4 (3%)	5	20
67	AL	119/143 (83%)	108 (91%)	8 (7%)	3 (2%)	6	23
68	AM	146/153 (95%)	125 (86%)	21 (14%)	0	100	100
69	AN	188/190 (99%)	165 (88%)	21 (11%)	2 (1%)	16	46
70	AO	143/179 (80%)	114 (80%)	25 (18%)	4 (3%)	5	21
71	AP	222/265 (84%)	216 (97%)	6 (3%)	0	100	100
72	AQ	100/116 (86%)	86 (86%)	13 (13%)	1 (1%)	17	49
73	AR	81/164 (49%)	78 (96%)	3 (4%)	0	100	100
74	AS	140/143 (98%)	132 (94%)	5 (4%)	3 (2%)	8	29
75	AT	124/137 (90%)	117 (94%)	6 (5%)	1 (1%)	21	54
76	AV	102/112 (91%)	90 (88%)	8 (8%)	4 (4%)	3	13
77	AW	80/86 (93%)	76 (95%)	4 (5%)	0	100	100
78	AX	201/219 (92%)	179 (89%)	17 (8%)	5 (2%)	6	23
79	AY	54/66 (82%)	48 (89%)	6 (11%)	0	100	100
80	AZ	66/87 (76%)	60 (91%)	4 (6%)	2 (3%)	5	19
All	All	10774/12317 (88%)	9993 (93%)	696 (6%)	85 (1%)	26	54

All (85) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	J	142	GLU

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Mol	Chain	Res	Type
10	J	145	VAL
12	L	21	SER
24	X	59	ALA
26	Z	114	HIS
26	Z	115	ILE
29	c	150	LEU
30	d	277	TYR
34	h	63	ILE
35	i	42	GLU
44	r	95	ASP
46	t	69	MET
47	u	226	GLN
50	0	242	VAL
54	4	192	PRO
57	7	28	LYS
58	8	27	ASN
65	AJ	29	PRO
66	AK	40	VAL
66	AK	119	ASP
72	AQ	107	VAL
74	AS	27	TRP
74	AS	61	GLN
75	AT	85	ASP
78	AX	187	ILE
78	AX	191	SER
78	AX	197	ASN
80	AZ	86	LEU
9	I	190	TYR
14	N	136	PRO
17	Q	120	TYR
26	Z	73	ILE
27	a	57	LYS
61	AE	67	LYS
66	AK	61	VAL
69	AN	64	PHE
70	AO	23	ILE
80	AZ	85	ARG
19	S	124	ALA
29	c	214	GLY
46	t	24	PRO
51	1	240	GLN
57	7	75	HIS

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Mol	Chain	Res	Type
60	AD	41	ARG
66	AK	37	VAL
70	AO	134	LYS
22	V	53	VAL
55	5	32	LEU
60	AD	123	SER
67	AL	118	ARG
70	AO	29	ALA
70	AO	85	VAL
76	AV	17	ARG
9	I	6	THR
9	I	8	ILE
12	L	180	GLU
51	1	213	ALA
53	3	80	ARG
56	6	120	SER
74	AS	134	TYR
42	p	218	ALA
56	6	155	ILE
24	X	67	VAL
54	4	42	PRO
54	4	191	ASN
57	7	269	ILE
67	AL	95	ILE
76	AV	20	VAL
76	AV	67	PRO
78	AX	47	ILE
49	w	120	VAL
54	4	16	PRO
11	K	113	ILE
25	Y	68	VAL
42	p	143	ILE
67	AL	85	ALA
76	AV	43	VAL
78	AX	92	VAL
10	J	159	PHE
13	M	131	VAL
17	Q	26	VAL
51	1	167	VAL
55	5	175	ILE
69	AN	133	VAL
16	P	10	VAL

### 5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	163/164 (99%)	158 (97%)	5 (3%)	43	77
10	J	178/179 (99%)	175 (98%)	3 (2%)	63	88
11	K	145/163 (89%)	144 (99%)	1 (1%)	85	96
12	L	152/182 (84%)	151 (99%)	1 (1%)	85	96
13	M	188/189 (100%)	187 (100%)	1 (0%)	90	97
14	N	139/144 (96%)	136 (98%)	3 (2%)	55	84
15	O	179/180 (99%)	178 (99%)	1 (1%)	87	96
16	P	133/144 (92%)	133 (100%)	0	100	100
17	Q	156/158 (99%)	156 (100%)	0	100	100
18	R	168/196 (86%)	166 (99%)	2 (1%)	74	92
19	S	132/133 (99%)	131 (99%)	1 (1%)	83	95
20	T	107/114 (94%)	107 (100%)	0	100	100
21	U	110/111 (99%)	110 (100%)	0	100	100
22	V	103/123 (84%)	103 (100%)	0	100	100
23	W	60/104 (58%)	59 (98%)	1 (2%)	63	88
24	X	103/121 (85%)	103 (100%)	0	100	100
25	Y	114/115 (99%)	113 (99%)	1 (1%)	81	94
26	Z	114/115 (99%)	114 (100%)	0	100	100
27	a	118/119 (99%)	116 (98%)	2 (2%)	63	88
28	b	57/58 (98%)	57 (100%)	0	100	100
29	c	198/204 (97%)	193 (98%)	5 (2%)	50	81
30	d	337/351 (96%)	336 (100%)	1 (0%)	93	98
31	e	82/90 (91%)	77 (94%)	5 (6%)	20	51
32	f	97/156 (62%)	97 (100%)	0	100	100
33	g	113/117 (97%)	111 (98%)	2 (2%)	62	87
34	h	107/145 (74%)	107 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	i	116/117 (99%)	116 (100%)	0	100	100
36	j	109/121 (90%)	107 (98%)	2 (2%)	62	87
37	k	81/87 (93%)	81 (100%)	0	100	100
38	l	69/70 (99%)	69 (100%)	0	100	100
39	m	73/74 (99%)	73 (100%)	0	100	100
40	n	68/74 (92%)	68 (100%)	0	100	100
41	o	46/47 (98%)	46 (100%)	0	100	100
42	p	295/302 (98%)	293 (99%)	2 (1%)	85	96
43	q	46/113 (41%)	46 (100%)	0	100	100
44	r	83/92 (90%)	80 (96%)	3 (4%)	38	73
45	s	209/242 (86%)	208 (100%)	1 (0%)	90	97
46	t	111/152 (73%)	110 (99%)	1 (1%)	81	94
47	u	190/209 (91%)	187 (98%)	3 (2%)	65	88
48	v	196/292 (67%)	196 (100%)	0	100	100
49	w	169/172 (98%)	168 (99%)	1 (1%)	87	96
50	0	194/222 (87%)	189 (97%)	5 (3%)	49	81
51	1	215/225 (96%)	212 (99%)	3 (1%)	69	90
53	3	208/208 (100%)	206 (99%)	2 (1%)	78	94
54	4	186/186 (100%)	185 (100%)	1 (0%)	90	97
55	5	149/176 (85%)	147 (99%)	2 (1%)	71	91
56	6	147/164 (90%)	145 (99%)	2 (1%)	69	90
57	7	263/266 (99%)	259 (98%)	4 (2%)	67	89
58	8	35/49 (71%)	35 (100%)	0	100	100
59	AC	177/202 (88%)	177 (100%)	0	100	100
60	AD	82/129 (64%)	81 (99%)	1 (1%)	74	92
61	AE	124/150 (83%)	122 (98%)	2 (2%)	65	88
62	AG	125/132 (95%)	125 (100%)	0	100	100
63	AH	105/113 (93%)	105 (100%)	0	100	100
64	AI	104/130 (80%)	102 (98%)	2 (2%)	60	86
65	AJ	110/111 (99%)	105 (96%)	5 (4%)	30	64
66	AK	113/120 (94%)	108 (96%)	5 (4%)	31	65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	AL	107/123 (87%)	107 (100%)	0	100	100
68	AM	125/130 (96%)	121 (97%)	4 (3%)	42	76
69	AN	159/159 (100%)	158 (99%)	1 (1%)	87	96
70	AO	118/147 (80%)	118 (100%)	0	100	100
71	AP	184/209 (88%)	184 (100%)	0	100	100
72	AQ	94/104 (90%)	94 (100%)	0	100	100
73	AR	68/119 (57%)	68 (100%)	0	100	100
74	AS	115/116 (99%)	110 (96%)	5 (4%)	32	66
75	AT	111/120 (92%)	111 (100%)	0	100	100
76	AV	87/93 (94%)	86 (99%)	1 (1%)	76	93
77	AW	72/75 (96%)	71 (99%)	1 (1%)	69	90
78	AX	171/185 (92%)	167 (98%)	4 (2%)	53	83
79	AY	49/54 (91%)	49 (100%)	0	100	100
80	AZ	57/74 (77%)	54 (95%)	3 (5%)	25	58
All	All	9268/10330 (90%)	9167 (99%)	101 (1%)	77	93

All (101) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	I	9	SER
9	I	19	THR
9	I	20	TYR
9	I	188	ARG
9	I	189	SER
10	J	141	LYS
10	J	142	GLU
10	J	203	LYS
11	K	122	LYS
12	L	180	GLU
13	M	167	LYS
14	N	46	MET
14	N	134	LYS
14	N	137	VAL
15	O	90	LEU
18	R	19	ARG
18	R	62	ARG
19	S	9	SER

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Mol	Chain	Res	Type
23	W	62	ILE
25	Y	58	SER
27	a	69	SER
27	a	75	ARG
29	c	136	ILE
29	c	149	LYS
29	c	150	LEU
29	c	174	ARG
29	c	187	TYR
30	d	274	GLN
31	e	24	LYS
31	e	79	LEU
31	e	83	CYS
31	e	100	SER
31	e	101	ASP
33	g	129	LYS
33	g	130	LEU
36	j	14	LEU
36	j	126	VAL
42	p	139	ARG
42	p	320	ILE
44	r	77	CYS
44	r	95	ASP
44	r	96	LYS
45	s	126	ASP
46	t	107	GLN
47	u	25	ARG
47	u	224	MET
47	u	225	ARG
49	w	137	SER
50	0	77	SER
50	0	80	GLU
50	0	97	ARG
50	0	134	ASP
50	0	184	ILE
51	1	39	LEU
51	1	98	LEU
51	1	179	ILE
53	3	44	SER
53	3	150	LEU
54	4	190	TRP
55	5	49	ARG

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Mol	Chain	Res	Type
55	5	163	ILE
56	6	18	PHE
56	6	120	SER
57	7	25	SER
57	7	26	TYR
57	7	27	ILE
57	7	149	HIS
60	AD	41	ARG
61	AE	65	ASN
61	AE	99	ILE
64	AI	84	LYS
64	AI	134	LEU
65	AJ	5	SER
65	AJ	28	ARG
65	AJ	47	ILE
65	AJ	50	PHE
65	AJ	130	TYR
66	AK	36	LYS
66	AK	37	VAL
66	AK	46	LEU
66	AK	119	ASP
66	AK	122	LEU
68	AM	44	LEU
68	AM	59	THR
68	AM	60	LEU
68	AM	65	LEU
69	AN	63	MET
74	AS	28	LYS
74	AS	36	LYS
74	AS	37	LYS
74	AS	81	ILE
74	AS	105	PHE
76	AV	83	ILE
77	AW	81	ARG
78	AX	189	LEU
78	AX	194	THR
78	AX	196	ARG
78	AX	201	GLU
80	AZ	48	MET
80	AZ	84	ARG
80	AZ	87	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (137) such

sidechains are listed below:

Mol	Chain	Res	Type
9	I	45	ASN
10	J	71	GLN
10	J	100	ASN
11	K	157	HIS
12	L	6	ASN
12	L	117	ASN
13	M	129	ASN
14	N	49	HIS
14	N	51	GLN
15	O	95	ASN
15	O	196	ASN
16	P	3	HIS
16	P	97	ASN
17	Q	110	HIS
17	Q	145	HIS
17	Q	155	GLN
18	R	137	ASN
18	R	169	ASN
20	T	75	ASN
21	U	49	ASN
23	W	14	HIS
24	X	111	HIS
25	Y	21	HIS
25	Y	77	HIS
25	Y	117	GLN
26	Z	11	GLN
26	Z	60	HIS
26	Z	114	HIS
27	a	33	ASN
27	a	42	HIS
28	b	6	ASN
29	c	139	HIS
29	c	215	ASN
30	d	261	HIS
30	d	274	GLN
30	d	352	GLN
30	d	378	GLN
32	f	120	ASN
33	g	28	GLN
34	h	7	GLN
34	h	13	HIS
34	h	123	ASN

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Mol	Chain	Res	Type
39	m	37	HIS
40	n	74	HIS
42	p	145	ASN
42	p	237	HIS
42	p	306	GLN
43	q	90	ASN
43	q	109	ASN
44	r	59	HIS
44	r	82	GLN
45	s	35	GLN
45	s	39	GLN
45	s	201	HIS
46	t	60	ASN
47	u	120	GLN
47	u	185	ASN
47	u	226	GLN
47	u	245	ASN
48	v	111	HIS
48	v	123	GLN
49	w	77	GLN
50	0	75	ASN
50	0	102	GLN
50	0	104	HIS
50	0	151	ASN
51	1	5	HIS
51	1	33	HIS
51	1	68	HIS
51	1	142	HIS
51	1	230	ASN
51	1	231	HIS
53	3	10	ASN
53	3	15	GLN
53	3	180	GLN
54	4	34	HIS
54	4	178	GLN
54	4	196	GLN
55	5	88	ASN
56	6	3	ASN
56	6	122	HIS
56	6	130	GLN
57	7	10	HIS
57	7	75	HIS

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Mol	Chain	Res	Type
57	7	149	HIS
57	7	195	ASN
57	7	233	ASN
57	7	298	HIS
57	7	301	ASN
58	8	27	ASN
58	8	47	ASN
58	8	50	HIS
59	AC	129	HIS
59	AC	149	GLN
59	AC	168	GLN
59	AC	200	ASN
60	AD	101	HIS
61	AE	20	GLN
61	AE	65	ASN
61	AE	107	HIS
62	AG	78	ASN
62	AG	123	HIS
63	AH	13	ASN
63	AH	36	HIS
63	AH	84	ASN
63	AH	87	HIS
64	AI	51	ASN
64	AI	55	HIS
64	AI	86	HIS
65	AJ	56	HIS
66	AK	38	ASN
66	AK	80	GLN
66	AK	100	GLN
66	AK	103	HIS
68	AM	12	HIS
68	AM	86	ASN
68	AM	126	HIS
68	AM	136	HIS
69	AN	165	ASN
70	AO	46	HIS
70	AO	66	HIS
71	AP	112	ASN
71	AP	217	HIS
72	AQ	89	HIS
73	AR	23	HIS
74	AS	73	GLN

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Mol	Chain	Res	Type
74	AS	77	ASN
74	AS	110	HIS
75	AT	4	GLN
75	AT	27	GLN
75	AT	95	ASN
77	AW	86	HIS
78	AX	111	ASN
78	AX	144	GLN
80	AZ	39	ASN
80	AZ	42	GLN
80	AZ	63	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1591/1781 (89%)	282 (17%)	1 (0%)
2	B	1058/1465 (72%)	162 (15%)	7 (0%)
3	C	160/262 (61%)	24 (15%)	1 (0%)
4	D	118/120 (98%)	10 (8%)	0
5	E	163/213 (76%)	20 (12%)	0
52	2	1801/2205 (81%)	656 (36%)	162 (8%)
6	F	70/73 (95%)	16 (22%)	1 (1%)
7	G	182/183 (99%)	18 (9%)	1 (0%)
8	H	89/127 (70%)	13 (14%)	0
All	All	5232/6429 (81%)	1201 (22%)	173 (3%)

All (1201) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	4	G
1	A	20	G
1	A	24	A
1	A	28	G
1	A	38	A
1	A	41	A
1	A	43	A
1	A	47	C
1	A	58	A
1	A	62	G
1	A	63	A
1	A	64	A

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Mol	Chain	Res	Type
1	A	65	A
1	A	66	A
1	A	70	C
1	A	71	C
1	A	72	G
1	A	73	U
1	A	82	C
1	A	84	G
1	A	85	U
1	A	87	A
1	A	91	G
1	A	103	G
1	A	108	G
1	A	114	G
1	A	119	C
1	A	122	A
1	A	127	G
1	A	131	U
1	A	140	U
1	A	141	U
1	A	154	A
1	A	158	A
1	A	188	A
1	A	189	A
1	A	190	U
1	A	191	U
1	A	192	C
1	A	196	C
1	A	203	C
1	A	205	A
1	A	206	A
1	A	216	G
1	A	219	U
1	A	220	A
1	A	223	A
1	A	234	G
1	A	236	G
1	A	248	A
1	A	251	A
1	A	255	G
1	A	256	U
1	A	258	A

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Mol	Chain	Res	Type
1	A	267	A
1	A	279	G
1	A	280	A
1	A	281	G
1	A	323	U
1	A	332	A
1	A	336	U
1	A	342	G
1	A	343	U
1	A	367	A
1	A	368	G
1	A	369	A
1	A	372	A
1	A	376	A
1	A	391	A
1	A	410	U
1	A	411	U
1	A	413	A
1	A	415	A
1	A	417	G
1	A	426	A
1	A	428	A
1	A	440	A
1	A	443	A
1	A	444	C
1	A	454	U
1	A	463	C
1	A	464	A
1	A	477	C
1	A	485	A
1	A	486	C
1	A	488	G
1	A	493	A
1	A	494	A
1	A	506	G
1	A	520	G
1	A	523	G
1	A	536	G
1	A	539	C
1	A	541	A
1	A	546	G
1	A	547	U

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Mol	Chain	Res	Type
1	A	551	A
1	A	554	A
1	A	555	U
1	A	557	U
1	A	558	U
1	A	569	G
1	A	570	A
1	A	571	A
1	A	572	A
1	A	573	U
1	A	575	A
1	A	582	U
1	A	583	A
1	A	584	U
1	A	588	A
1	A	611	C
1	A	612	G
1	A	617	G
1	A	621	U
1	A	625	C
1	A	632	A
1	A	641	G
1	A	644	G
1	A	668	C
1	A	681	A
1	A	692	A
1	A	709	A
1	A	716	A
1	A	719	U
1	A	720	A
1	A	721	U
1	A	726	G
1	A	729	A
1	A	735	U
1	A	748	A
1	A	750	G
1	A	753	A
1	A	754	G
1	A	759	A
1	A	760	A
1	A	761	U
1	A	762	A

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Mol	Chain	Res	Type
1	A	763	U
1	A	769	U
1	A	770	G
1	A	771	U
1	A	800	U
1	A	803	C
1	A	828	U
1	A	832	G
1	A	836	G
1	A	850	G
1	A	868	A
1	A	888	A
1	A	902	C
1	A	912	C
1	A	925	U
1	A	930	U
1	A	931	G
1	A	948	U
1	A	958	G
1	A	959	G
1	A	960	A
1	A	965	A
1	A	966	A
1	A	967	G
1	A	968	A
1	A	975	G
1	A	988	G
1	A	995	C
1	A	1004	G
1	A	1005	U
1	A	1011	U
1	A	1012	C
1	A	1025	G
1	A	1029	G
1	A	1030	U
1	A	1031	A
1	A	1032	G
1	A	1033	A
1	A	1045	G
1	A	1092	U
1	A	1098	A
1	A	1114	A

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Mol	Chain	Res	Type
1	A	1116	A
1	A	1122	U
1	A	1123	G
1	A	1128	A
1	A	1132	A
1	A	1133	A
1	A	1134	C
1	A	1135	U
1	A	1141	G
1	A	1148	A
1	A	1150	A
1	A	1151	A
1	A	1155	A
1	A	1156	A
1	A	1160	G
1	A	1161	A
1	A	1174	G
1	A	1188	G
1	A	1200	A
1	A	1201	U
1	A	1211	A
1	A	1217	U
1	A	1218	A
1	A	1225	U
1	A	1235	A
1	A	1238	C
1	A	1240	U
1	A	1242	U
1	A	1254	C
1	A	1257	U
1	A	1261	U
1	A	1263	A
1	A	1270	U
1	A	1271	G
1	A	1349	A
1	A	1367	U
1	A	1369	G
1	A	1371	U
1	A	1375	G
1	A	1378	U
1	A	1379	A
1	A	1389	A

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Mol	Chain	Res	Type
1	A	1390	G
1	A	1392	G
1	A	1393	G
1	A	1394	U
1	A	1401	U
1	A	1404	U
1	A	1412	G
1	A	1413	U
1	A	1420	G
1	A	1422	A
1	A	1426	A
1	A	1440	A
1	A	1445	U
1	A	1446	A
1	A	1447	G
1	A	1466	G
1	A	1467	G
1	A	1468	C
1	A	1472	G
1	A	1490	A
1	A	1492	G
1	A	1506	A
1	A	1509	G
1	A	1521	G
1	A	1523	G
1	A	1525	A
1	A	1526	G
1	A	1528	U
1	A	1529	C
1	A	1542	G
1	A	1547	G
1	A	1559	A
1	A	1571	U
1	A	1588	G
1	A	1591	C
1	A	1617	C
1	A	1618	U
1	A	1630	U
1	A	1633	U
1	A	1634	C
1	A	1647	C
1	A	1656	A

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Mol	Chain	Res	Type
1	A	1663	U
1	A	1664	G
1	A	1665	U
1	A	1668	G
1	A	1669	G
1	A	1670	A
1	A	1671	A
1	A	1679	G
1	A	1680	U
1	A	1726	C
1	A	1727	U
1	A	1741	A
1	A	1746	A
1	A	1747	C
1	A	1749	U
1	A	1764	A
1	A	1766	A
1	A	1768	G
2	B	22	U
2	B	24	A
2	B	28	C
2	B	30	U
2	B	60	C
2	B	61	A
2	B	62	U
2	B	68	A
2	B	71	G
2	B	74	C
2	B	79	A
2	B	89	G
2	B	96	A
2	B	283	C
2	B	297	U
2	B	300	C
2	B	305	G
2	B	314	A
2	B	327	A
2	B	328	A
2	B	332	A
2	B	341	A
2	B	352	U
2	B	353	G

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Mol	Chain	Res	Type
2	B	390	A
2	B	391	A
2	B	408	U
2	B	427	A
2	B	432	G
2	B	439	A
2	B	455	G
2	B	456	G
2	B	462	A
2	B	464	A
2	B	481	U
2	B	490	G
2	B	491	C
2	B	493	U
2	B	496	A
2	B	498	G
2	B	517	U
2	B	519	U
2	B	530	U
2	B	548	U
2	B	556	A
2	B	558	G
2	B	576	G
2	B	580	A
2	B	585	A
2	B	586	G
2	B	587	A
2	B	594	U
2	B	595	G
2	B	598	U
2	B	607	A
2	B	618	G
2	B	625	G
2	B	697	U
2	B	698	A
2	B	706	A
2	B	714	A
2	B	739	G
2	B	740	C
2	B	741	U
2	B	742	G
2	B	900	A

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Mol	Chain	Res	Type
2	B	942	G
2	B	946	U
2	B	947	G
2	B	948	U
2	B	949	U
2	B	955	A
2	B	969	G
2	B	970	G
2	B	977	G
2	B	1014	G
2	B	1015	U
2	B	1018	U
2	B	1019	A
2	B	1020	A
2	B	1037	A
2	B	1039	A
2	B	1040	G
2	B	1044	U
2	B	1052	A
2	B	1054	A
2	B	1059	A
2	B	1067	A
2	B	1068	A
2	B	1075	U
2	B	1077	G
2	B	1082	A
2	B	1083	C
2	B	1092	G
2	B	1093	U
2	B	1117	G
2	B	1119	C
2	B	1125	A
2	B	1135	A
2	B	1143	G
2	B	1152	A
2	B	1170	G
2	B	1173	A
2	B	1174	G
2	B	1175	A
2	B	1177	U
2	B	1184	C
2	B	1188	G

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Mol	Chain	Res	Type
2	B	1191	A
2	B	1195	C
2	B	1213	G
2	B	1218	C
2	B	1219	A
2	B	1234	U
2	B	1245	G
2	B	1246	A
2	B	1249	U
2	B	1261	A
2	B	1268	C
2	B	1273	C
2	B	1278	G
2	B	1309	C
2	B	1310	A
2	B	1316	C
2	B	1321	G
2	B	1322	C
2	B	1328	U
2	B	1345	A
2	B	1357	C
2	B	1364	U
2	B	1366	G
2	B	1369	G
2	B	1372	A
2	B	1373	A
2	B	1377	C
2	B	1379	A
2	B	1382	A
2	B	1384	A
2	B	1385	A
2	B	1386	G
2	B	1387	A
2	B	1388	U
2	B	1389	U
2	B	1390	A
2	B	1391	U
2	B	1392	C
2	B	1398	A
2	B	1399	A
2	B	1404	G
2	B	1410	G

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Mol	Chain	Res	Type
2	B	1412	C
2	B	1414	G
2	B	1423	U
2	B	1436	C
2	B	1437	G
2	B	1439	U
2	B	1440	G
2	B	1449	U
2	B	1450	U
2	B	1451	G
2	B	1452	G
2	B	1456	U
3	C	103	A
3	C	113	U
3	C	137	G
3	C	138	C
3	C	140	G
3	C	150	A
3	C	153	A
3	C	154	G
3	C	162	A
3	C	173	C
3	C	175	U
3	C	177	U
3	C	178	A
3	C	179	A
3	C	185	C
3	C	187	A
3	C	194	A
3	C	196	C
3	C	201	A
3	C	202	C
3	C	210	G
3	C	215	A
3	C	226	A
3	C	248	U
4	D	8	G
4	D	34	U
4	D	50	A
4	D	51	A
4	D	54	U
4	D	65	A

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Mol	Chain	Res	Type
4	D	98	G
4	D	101	A
4	D	111	G
4	D	120	C
5	E	31	C
5	E	49	G
5	E	99	G
5	E	106	U
5	E	107	U
5	E	108	A
5	E	121	U
5	E	122	U
5	E	146	A
5	E	147	A
5	E	148	A
5	E	179	U
5	E	180	G
5	E	189	G
5	E	192	U
5	E	193	U
5	E	196	A
5	E	199	A
5	E	207	G
5	E	210	G
6	F	15	C
6	F	24	C
6	F	31	U
6	F	33	G
6	F	42	A
6	F	43	A
6	F	44	G
6	F	52	G
6	F	53	U
6	F	55	U
6	F	64	U
6	F	67	C
6	F	68	A
6	F	69	A
6	F	72	A
6	F	73	A
7	G	8	U
7	G	40	G

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Mol	Chain	Res	Type
7	G	77	U
7	G	84	U
7	G	86	U
7	G	102	G
7	G	106	G
7	G	107	U
7	G	120	U
7	G	121	C
7	G	122	G
7	G	128	U
7	G	144	G
7	G	158	A
7	G	159	G
7	G	170	G
7	G	171	U
7	G	173	C
8	H	10	C
8	H	14	C
8	H	19	G
8	H	23	A
8	H	24	U
8	H	25	G
8	H	33	U
8	H	70	G
8	H	93	U
8	H	94	G
8	H	101	G
8	H	104	G
8	H	117	U
52	2	2	A
52	2	3	U
52	2	4	C
52	2	6	G
52	2	11	A
52	2	14	C
52	2	15	U
52	2	17	C
52	2	18	C
52	2	22	A
52	2	23	G
52	2	26	A
52	2	33	U

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Mol	Chain	Res	Type
52	2	34	G
52	2	39	A
52	2	42	G
52	2	43	A
52	2	44	C
52	2	45	U
52	2	46	U
52	2	47	A
52	2	48	G
52	2	56	U
52	2	57	G
52	2	59	C
52	2	61	C
52	2	62	A
52	2	65	A
52	2	66	U
52	2	67	C
52	2	68	A
52	2	69	C
52	2	72	C
52	2	74	U
52	2	75	U
52	2	77	G
52	2	78	C
52	2	79	A
52	2	80	G
52	2	81	G
52	2	82	A
52	2	83	A
52	2	84	U
52	2	85	C
52	2	90	C
52	2	91	A
52	2	97	C
52	2	101	A
52	2	102	C
52	2	112	A
52	2	113	A
52	2	115	C
52	2	117	G
52	2	122	A
52	2	125	A

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Mol	Chain	Res	Type
52	2	126	A
52	2	128	C
52	2	129	U
52	2	138	C
52	2	141	C
52	2	144	A
52	2	145	A
52	2	146	U
52	2	147	U
52	2	150	A
52	2	151	U
52	2	158	G
52	2	161	A
52	2	163	A
52	2	164	C
52	2	165	G
52	2	168	A
52	2	171	C
52	2	183	C
52	2	184	C
52	2	185	A
52	2	189	G
52	2	192	U
52	2	194	U
52	2	195	U
52	2	197	U
52	2	198	C
52	2	199	C
52	2	200	A
52	2	227	U
52	2	228	G
52	2	230	G
52	2	238	G
52	2	249	A
52	2	250	C
52	2	251	A
52	2	252	G
52	2	253	U
52	2	254	A
52	2	255	A
52	2	256	A
52	2	257	A

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Mol	Chain	Res	Type
52	2	258	C
52	2	268	C
52	2	269	A
52	2	270	C
52	2	271	U
52	2	275	A
52	2	277	U
52	2	278	A
52	2	281	A
52	2	285	A
52	2	287	C
52	2	288	A
52	2	290	U
52	2	291	G
52	2	294	G
52	2	308	C
52	2	309	G
52	2	310	U
52	2	311	G
52	2	313	G
52	2	314	A
52	2	317	G
52	2	320	G
52	2	321	G
52	2	322	C
52	2	323	U
52	2	324	U
52	2	326	U
52	2	327	U
52	2	328	C
52	2	332	C
52	2	346	C
52	2	348	A
52	2	349	C
52	2	352	C
52	2	355	U
52	2	358	C
52	2	360	G
52	2	363	G
52	2	364	G
52	2	365	U
52	2	366	G

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Mol	Chain	Res	Type
52	2	367	A
52	2	381	G
52	2	382	A
52	2	395	U
52	2	403	G
52	2	404	C
52	2	413	A
52	2	417	U
52	2	418	U
52	2	431	G
52	2	433	G
52	2	442	A
52	2	443	A
52	2	445	U
52	2	447	G
52	2	449	U
52	2	459	A
52	2	461	G
52	2	464	G
52	2	467	C
52	2	468	A
52	2	469	G
52	2	477	G
52	2	478	C
52	2	482	U
52	2	484	G
52	2	485	C
52	2	487	C
52	2	497	A
52	2	498	C
52	2	501	A
52	2	502	A
52	2	503	C
52	2	504	G
52	2	512	A
52	2	516	A
52	2	518	A
52	2	523	A
52	2	524	U
52	2	525	A
52	2	552	U
52	2	553	U

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Mol	Chain	Res	Type
52	2	555	C
52	2	558	U
52	2	559	G
52	2	560	G
52	2	565	U
52	2	566	A
52	2	570	A
52	2	577	U
52	2	578	C
52	2	579	C
52	2	580	A
52	2	581	A
52	2	582	U
52	2	585	C
52	2	587	A
52	2	588	G
52	2	589	U
52	2	590	A
52	2	591	A
52	2	592	C
52	2	600	G
52	2	604	A
52	2	605	A
52	2	606	G
52	2	607	U
52	2	608	C
52	2	610	G
52	2	613	G
52	2	614	C
52	2	615	C
52	2	617	G
52	2	623	G
52	2	627	U
52	2	628	A
52	2	629	A
52	2	631	U
52	2	633	C
52	2	643	A
52	2	644	G
52	2	657	C
52	2	659	G
52	2	660	U

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Mol	Chain	Res	Type
52	2	662	G
52	2	668	A
52	2	669	A
52	2	671	G
52	2	672	G
52	2	673	G
52	2	688	G
52	2	689	U
52	2	690	G
52	2	697	G
52	2	710	U
52	2	717	C
52	2	723	C
52	2	724	A
52	2	725	U
52	2	726	G
52	2	727	U
52	2	728	C
52	2	729	G
52	2	730	G
52	2	733	U
52	2	734	U
52	2	735	G
52	2	736	G
52	2	737	U
52	2	738	G
52	2	739	A
52	2	742	C
52	2	743	A
52	2	745	G
52	2	746	C
52	2	747	C
52	2	748	C
52	2	749	U
52	2	750	U
52	2	751	G
52	2	760	G
52	2	761	A
52	2	762	A
52	2	763	C
52	2	768	A
52	2	769	A

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Mol	Chain	Res	Type
52	2	770	A
52	2	771	G
52	2	772	A
52	2	773	A
52	2	778	G
52	2	780	A
52	2	781	A
52	2	784	C
52	2	788	A
52	2	790	U
52	2	791	G
52	2	793	U
52	2	794	U
52	2	832	C
52	2	839	G
52	2	844	U
52	2	853	A
52	2	854	C
52	2	856	A
52	2	866	G
52	2	867	A
52	2	872	A
52	2	875	A
52	2	876	G
52	2	879	A
52	2	881	U
52	2	882	U
52	2	883	G
52	2	884	A
52	2	886	U
52	2	887	U
52	2	888	G
52	2	890	A
52	2	912	A
52	2	913	G
52	2	914	G
52	2	915	A
52	2	916	G
52	2	917	C
52	2	918	A
52	2	919	G
52	2	920	C

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Mol	Chain	Res	Type
52	2	930	A
52	2	931	C
52	2	936	U
52	2	937	C
52	2	938	G
52	2	939	G
52	2	940	C
52	2	941	U
52	2	942	U
52	2	945	G
52	2	961	U
52	2	964	U
52	2	970	U
52	2	971	U
52	2	972	A
52	2	974	G
52	2	975	G
52	2	1093	C
52	2	1097	C
52	2	1099	C
52	2	1101	A
52	2	1103	G
52	2	1104	A
52	2	1105	A
52	2	1106	U
52	2	1107	G
52	2	1109	A
52	2	1119	U
52	2	1120	U
52	2	1121	C
52	2	1123	G
52	2	1129	A
52	2	1130	A
52	2	1133	U
52	2	1139	G
52	2	1145	A
52	2	1159	U
52	2	1160	A
52	2	1161	G
52	2	1162	A
52	2	1165	G
52	2	1166	C

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Mol	Chain	Res	Type
52	2	1168	C
52	2	1173	A
52	2	1175	G
52	2	1180	A
52	2	1181	C
52	2	1182	A
52	2	1187	A
52	2	1189	G
52	2	1191	A
52	2	1192	U
52	2	1197	C
52	2	1198	A
52	2	1199	A
52	2	1206	C
52	2	1207	U
52	2	1213	A
52	2	1239	A
52	2	1240	A
52	2	1242	A
52	2	1244	G
52	2	1250	A
52	2	1251	G
52	2	1252	A
52	2	1268	C
52	2	1272	A
52	2	1273	A
52	2	1275	C
52	2	1279	G
52	2	1287	U
52	2	1293	G
52	2	1299	C
52	2	1378	U
52	2	1379	A
52	2	1399	A
52	2	1402	G
52	2	1416	A
52	2	1434	C
52	2	1438	A
52	2	1443	U
52	2	1444	U
52	2	1445	U
52	2	1446	G

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Mol	Chain	Res	Type
52	2	1447	A
52	2	1450	U
52	2	1451	U
52	2	1452	A
52	2	1454	A
52	2	1462	G
52	2	1463	G
52	2	1466	G
52	2	1467	A
52	2	1492	A
52	2	1504	G
52	2	1508	G
52	2	1509	G
52	2	1512	C
52	2	1514	A
52	2	1516	A
52	2	1517	A
52	2	1518	G
52	2	1519	A
52	2	1522	U
52	2	1524	G
52	2	1525	A
52	2	1528	G
52	2	1529	U
52	2	1530	G
52	2	1531	C
52	2	1536	U
52	2	1537	A
52	2	1539	U
52	2	1540	U
52	2	1545	U
52	2	1547	A
52	2	1548	A
52	2	1549	C
52	2	1550	A
52	2	1551	C
52	2	1552	G
52	2	1553	G
52	2	1554	G
52	2	1555	G
52	2	1556	A
52	2	1557	A

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Mol	Chain	Res	Type
52	2	1558	C
52	2	1559	U
52	2	1560	U
52	2	1562	A
52	2	1568	U
52	2	1571	G
52	2	1573	A
52	2	1575	A
52	2	1576	G
52	2	1577	G
52	2	1580	G
52	2	1581	A
52	2	1582	G
52	2	1583	G
52	2	1584	A
52	2	1585	U
52	2	1587	G
52	2	1597	G
52	2	1598	U
52	2	1599	G
52	2	1601	U
52	2	1605	U
52	2	1607	U
52	2	1608	C
52	2	1609	G
52	2	1610	A
52	2	1611	U
52	2	1612	U
52	2	1619	A
52	2	1622	G
52	2	1623	U
52	2	1624	G
52	2	1627	G
52	2	1628	C
52	2	1629	A
52	2	1638	U
52	2	1639	U
52	2	1640	U
52	2	1655	U
52	2	1660	U
52	2	1661	U
52	2	1668	U

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Mol	Chain	Res	Type
52	2	1669	U
52	2	1675	A
52	2	1686	U
52	2	1687	C
52	2	1700	U
52	2	1701	A
52	2	1711	A
52	2	1712	U
52	2	1774	A
52	2	1776	U
52	2	1777	C
52	2	1783	U
52	2	1786	G
52	2	1790	U
52	2	1791	U
52	2	1792	C
52	2	1793	C
52	2	1795	U
52	2	1796	U
52	2	1797	G
52	2	1801	U
52	2	1802	U
52	2	1809	G
52	2	1812	G
52	2	1813	A
52	2	1814	A
52	2	1815	A
52	2	1816	U
52	2	1817	U
52	2	1818	U
52	2	1826	C
52	2	1828	G
52	2	1830	A
52	2	1831	G
52	2	1835	U
52	2	1836	G
52	2	1838	G
52	2	1839	A
52	2	1842	C
52	2	1844	C
52	2	1846	U
52	2	1847	C

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Mol	Chain	Res	Type
52	2	1848	A
52	2	1849	A
52	2	1850	U
52	2	1851	G
52	2	1854	C
52	2	1855	U
52	2	1861	A
52	2	1862	C
52	2	1863	A
52	2	1864	C
52	2	1865	G
52	2	1866	C
52	2	1867	G
52	2	1874	A
52	2	1875	A
52	2	1876	U
52	2	1877	G
52	2	1878	U
52	2	1879	C
52	2	1880	A
52	2	1881	G
52	2	1882	U
52	2	1883	G
52	2	1884	A
52	2	1885	G
52	2	1887	A
52	2	1888	C
52	2	1890	A
52	2	1895	A
52	2	1896	A
52	2	1897	C
52	2	1898	G
52	2	1899	A
52	2	1908	C
52	2	1909	C
52	2	1912	C
52	2	1913	U
52	2	1914	U
52	2	1915	G
52	2	1916	A
52	2	1917	U
52	2	1918	C

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Mol	Chain	Res	Type
52	2	1919	A
52	2	1920	A
52	2	1921	A
52	2	1929	G
52	2	1931	A
52	2	1932	A
52	2	1933	A
52	2	1934	C
52	2	1935	C
52	2	1936	C
52	2	1938	G
52	2	1942	C
52	2	1943	A
52	2	1944	U
52	2	1945	A
52	2	1946	G
52	2	1947	A
52	2	1948	C
52	2	1949	U
52	2	1950	C
52	2	1951	A
52	2	1952	C
52	2	1953	U
52	2	1954	U
52	2	1955	G
52	2	1957	G
52	2	1959	C
52	2	1962	A
52	2	1963	G
52	2	1968	G
52	2	1969	C
52	2	1971	A
52	2	1974	A
52	2	1976	U
52	2	1977	G
52	2	1978	G
52	2	1979	U
52	2	1980	C
52	2	1981	G
52	2	1982	C
52	2	1984	C
52	2	1985	A

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Mol	Chain	Res	Type
52	2	1986	A
52	2	1988	G
52	2	1989	A
52	2	1990	G
52	2	1991	G
52	2	1997	C
52	2	1998	U
52	2	2000	G
52	2	2001	U
52	2	2007	C
52	2	2010	C
52	2	2011	U
52	2	2012	C
52	2	2013	A
52	2	2017	A
52	2	2018	A
52	2	2025	C
52	2	2028	U
52	2	2032	G
52	2	2035	C
52	2	2038	G
52	2	2042	U
52	2	2045	G
52	2	2047	A
52	2	2048	C
52	2	2049	A
52	2	2050	C
52	2	2051	A
52	2	2053	C
52	2	2054	G
52	2	2067	U
52	2	2074	A
52	2	2093	C
52	2	2095	G
52	2	2096	A
52	2	2098	A
52	2	2133	G
52	2	2158	A
52	2	2159	A
52	2	2160	G
52	2	2163	G
52	2	2164	U

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Mol	Chain	Res	Type
52	2	2165	A
52	2	2169	A
52	2	2171	G
52	2	2172	U
52	2	2183	G
52	2	2185	A
52	2	2186	C
52	2	2195	G
52	2	2196	G
52	2	2197	A
52	2	2199	C
52	2	2202	U
52	2	2203	U

All (173) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	1010	C
2	B	78	C
2	B	946	U
2	B	1173	A
2	B	1385	A
2	B	1390	A
2	B	1391	U
2	B	1450	U
3	C	174	A
6	F	72	A
7	G	143	C
52	2	42	G
52	2	44	C
52	2	46	U
52	2	47	A
52	2	56	U
52	2	65	A
52	2	68	A
52	2	74	U
52	2	78	C
52	2	83	A
52	2	91	A
52	2	112	A
52	2	114	U
52	2	125	A

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Mol	Chain	Res	Type
52	2	128	C
52	2	144	A
52	2	146	U
52	2	182	A
52	2	194	U
52	2	196	C
52	2	198	C
52	2	226	G
52	2	250	C
52	2	251	A
52	2	252	G
52	2	253	U
52	2	254	A
52	2	256	A
52	2	257	A
52	2	268	C
52	2	270	C
52	2	274	C
52	2	276	G
52	2	277	U
52	2	287	C
52	2	289	G
52	2	290	U
52	2	297	U
52	2	325	G
52	2	348	A
52	2	363	G
52	2	364	G
52	2	366	G
52	2	402	A
52	2	460	C
52	2	554	U
52	2	564	A
52	2	579	C
52	2	580	A
52	2	581	A
52	2	586	G
52	2	591	A
52	2	604	A
52	2	709	C
52	2	716	U
52	2	724	A

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Mol	Chain	Res	Type
52	2	726	G
52	2	761	A
52	2	762	A
52	2	767	C
52	2	770	A
52	2	772	A
52	2	780	A
52	2	783	A
52	2	787	G
52	2	790	U
52	2	880	U
52	2	885	C
52	2	886	U
52	2	887	U
52	2	913	G
52	2	914	G
52	2	915	A
52	2	917	C
52	2	918	A
52	2	930	A
52	2	935	U
52	2	937	C
52	2	963	U
52	2	970	U
52	2	1092	A
52	2	1098	U
52	2	1100	U
52	2	1103	G
52	2	1104	A
52	2	1106	U
52	2	1165	G
52	2	1271	C
52	2	1378	U
52	2	1443	U
52	2	1445	U
52	2	1516	A
52	2	1517	A
52	2	1521	G
52	2	1529	U
52	2	1536	U
52	2	1539	U
52	2	1547	A

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Mol	Chain	Res	Type
52	2	1550	A
52	2	1553	G
52	2	1554	G
52	2	1555	G
52	2	1556	A
52	2	1572	G
52	2	1575	A
52	2	1576	G
52	2	1577	G
52	2	1580	G
52	2	1581	A
52	2	1606	C
52	2	1611	U
52	2	1623	U
52	2	1627	G
52	2	1628	C
52	2	1639	U
52	2	1699	G
52	2	1700	U
52	2	1789	A
52	2	1791	U
52	2	1792	C
52	2	1813	A
52	2	1816	U
52	2	1817	U
52	2	1829	C
52	2	1830	A
52	2	1835	U
52	2	1837	U
52	2	1841	G
52	2	1846	U
52	2	1849	A
52	2	1854	C
52	2	1861	A
52	2	1882	U
52	2	1889	A
52	2	1896	A
52	2	1897	C
52	2	1898	G
52	2	1917	U
52	2	1928	G
52	2	1930	G

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Mol	Chain	Res	Type
52	2	1931	A
52	2	1937	C
52	2	1950	C
52	2	1952	C
52	2	1968	G
52	2	1981	G
52	2	1996	U
52	2	1997	C
52	2	2000	G
52	2	2006	G
52	2	2009	G
52	2	2011	U
52	2	2012	C
52	2	2024	C
52	2	2034	C
52	2	2046	U
52	2	2047	A
52	2	2050	C
52	2	2052	C
52	2	2053	C
52	2	2095	G
52	2	2164	U

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
77	AW	2
52	2	2
38	l	1
29	c	1
15	O	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	2	1972:U	O3'	1973:U	P	6.52
1	2	1954:U	O3'	1955:G	P	2.07
1	AW	79:GLY	C	80:TYR	N	1.68
1	l	66:TYR	C	67:LEU	N	1.18
1	O	50:MET	C	51:LEU	N	1.15
1	c	246:ILE	C	247:ARG	N	1.01
1	AW	80:TYR	C	81:ARG	N	0.87