



Full wwPDB EM Validation Report ⓘ

Mar 28, 2026 – 02:45 AM UTC

PDB ID : 5T2A / pdb_00005t2a
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 EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

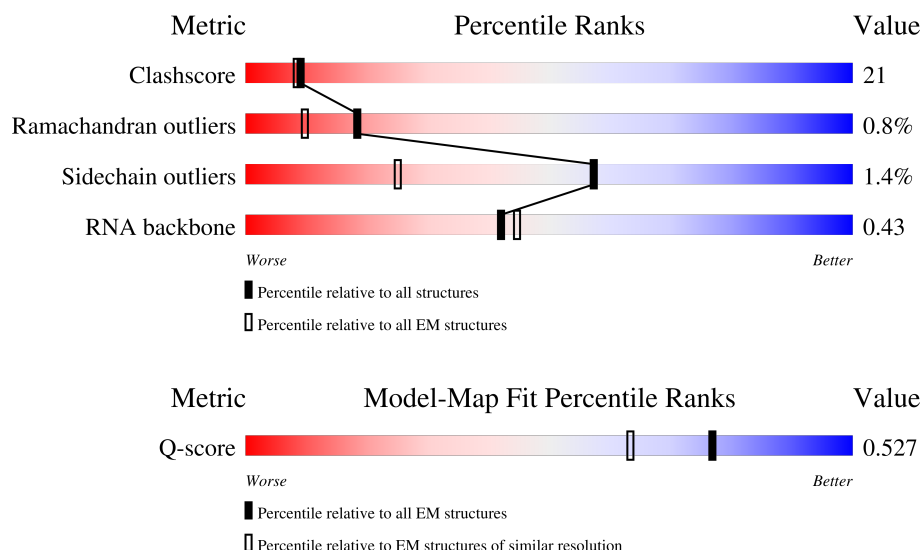
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13054 (2.40 - 3.40)

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

Mol	Chain	Length	Quality of chain
1	A	1781	
2	B	1465	
3	C	262	

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Mol	Chain	Length	Quality of chain
4	D	120	
5	E	213	
6	F	73	
7	G	183	
8	H	127	
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	

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Mol	Chain	Length	Quality of chain
29	c	260	
30	d	419	
31	e	104	
32	f	183	
33	g	133	
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	

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Mol	Chain	Length	Quality of chain
54	4	200	
55	5	220	
56	6	190	
57	7	312	
58	8	57	
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	

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Mol	Chain	Length	Quality of chain
79	AY	66	61% 55% 29% • 15%
80	AZ	87	76% 28% 45% 5% • 22%

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.

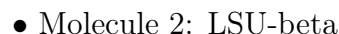
Mol	Chain	Residues	Atoms					AltConf	Trace
80	AZ	68	Total	C	N	O	S	0	0
			526	319	106	97	4		

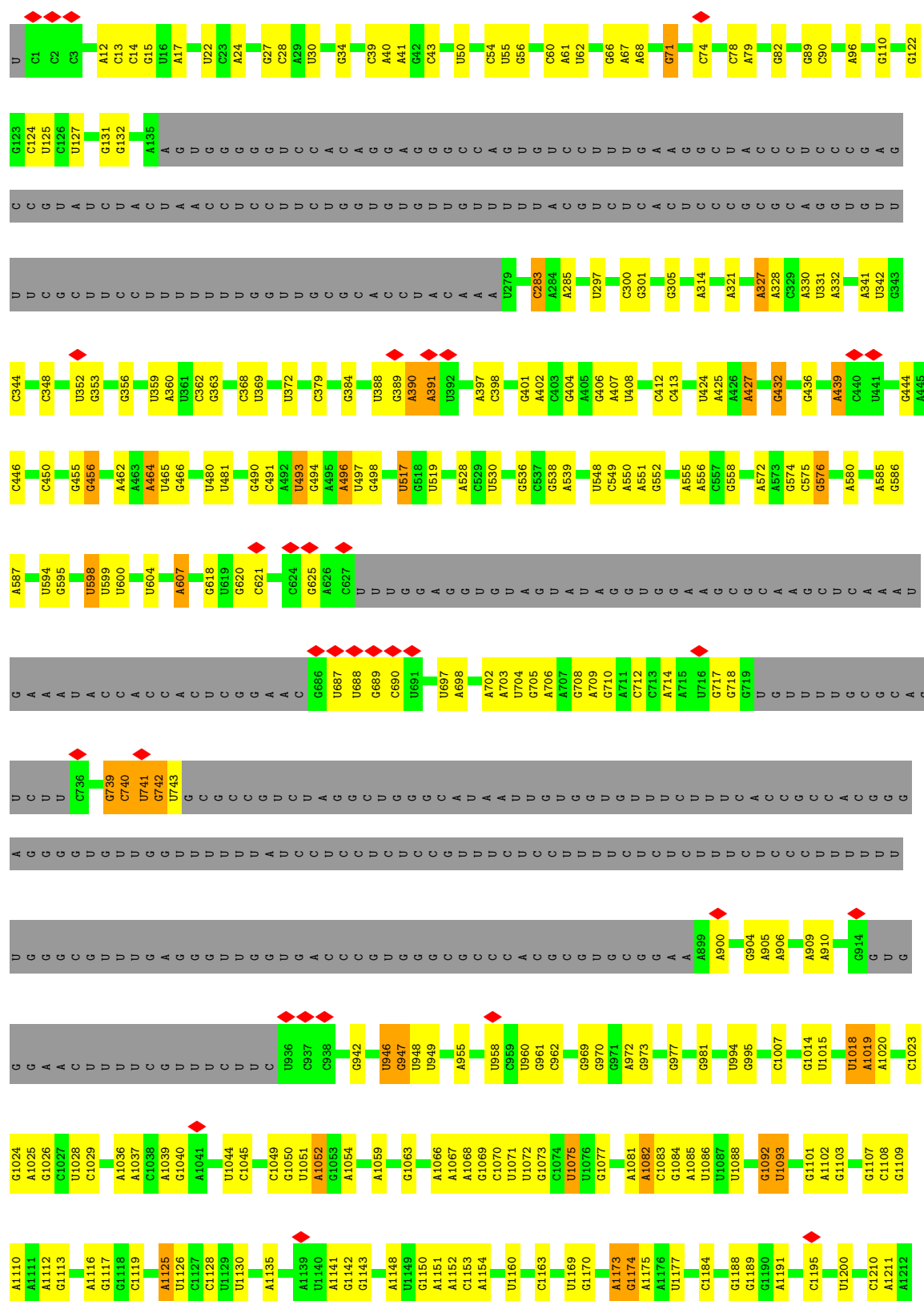
3 Residue-property plots

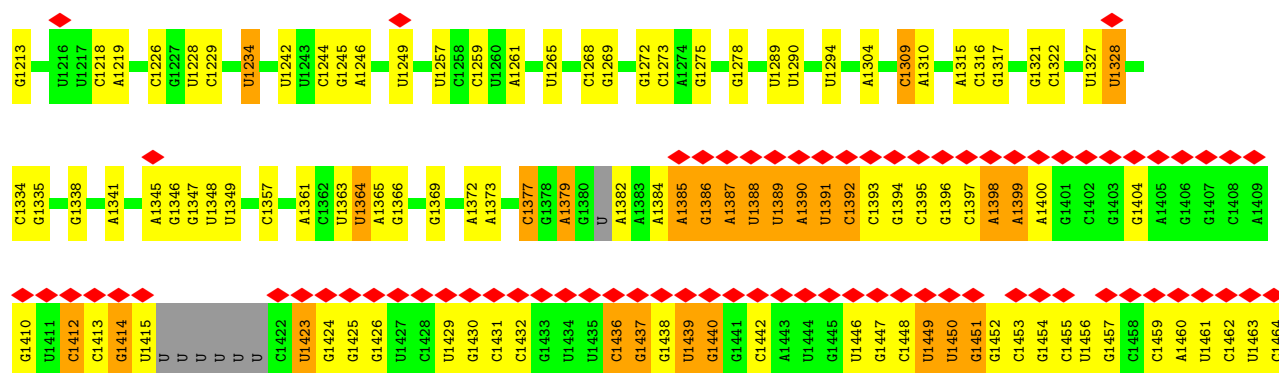
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: LSU-alpha

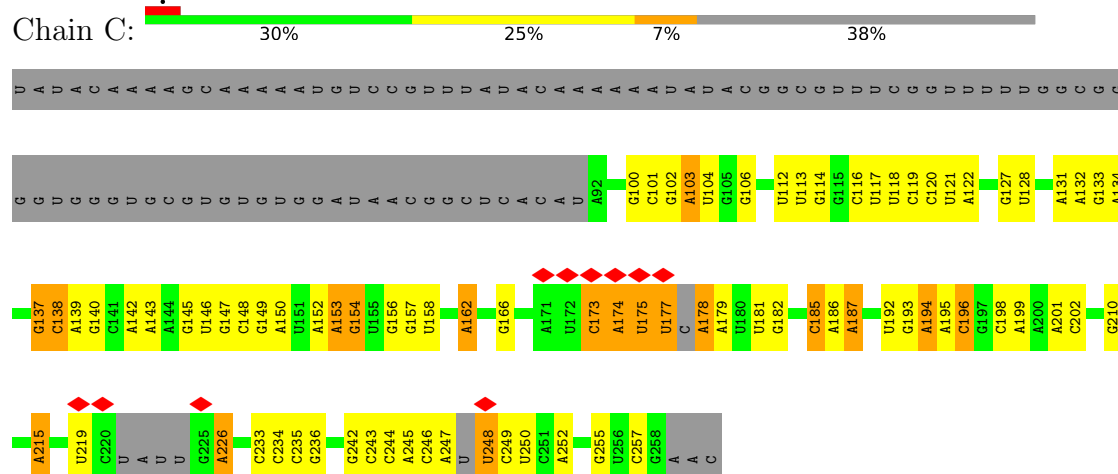




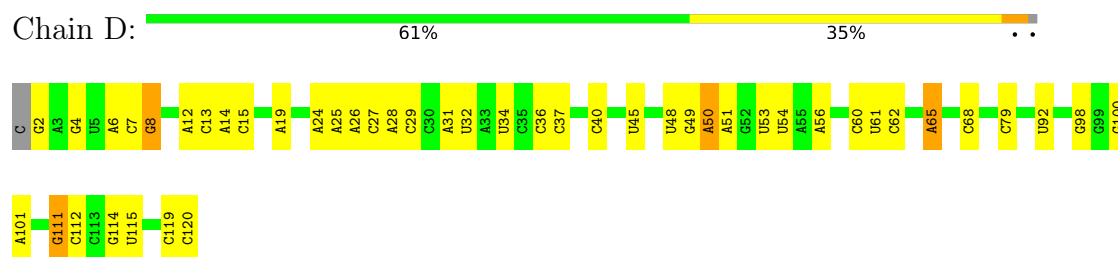




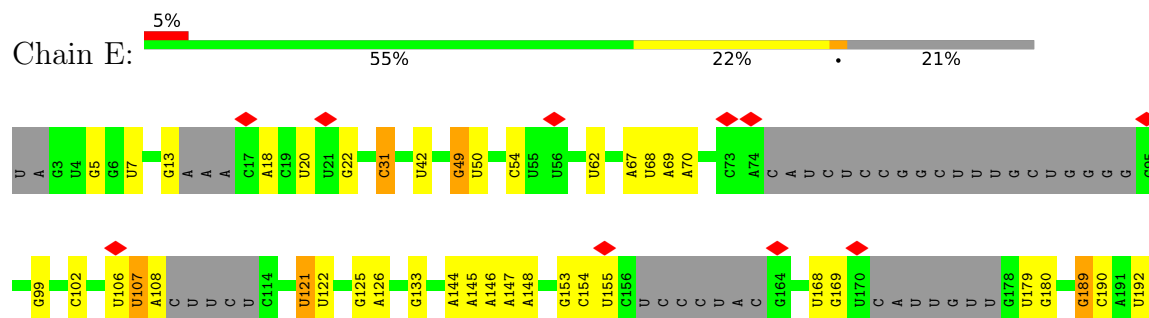
• Molecule 3: 5.8S rRNA

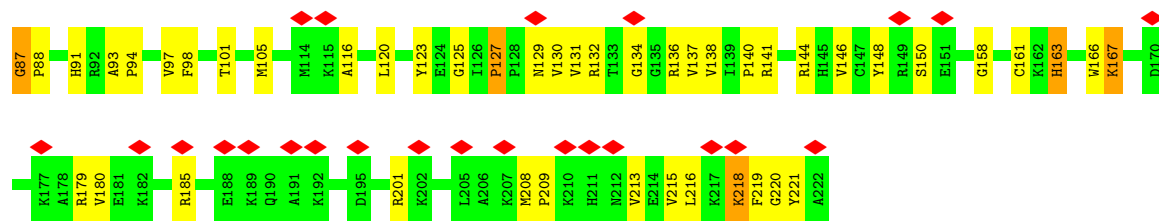


• Molecule 4: 5S rRNA

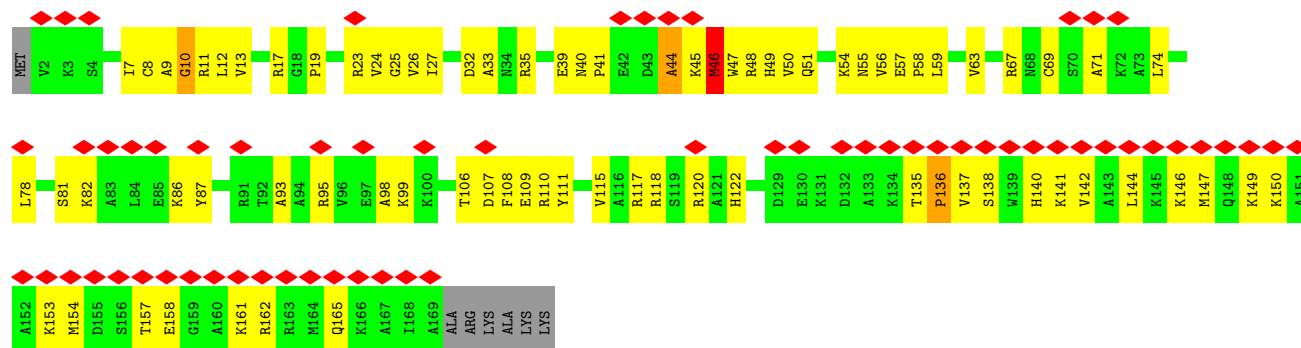


• Molecule 5: srRNA1

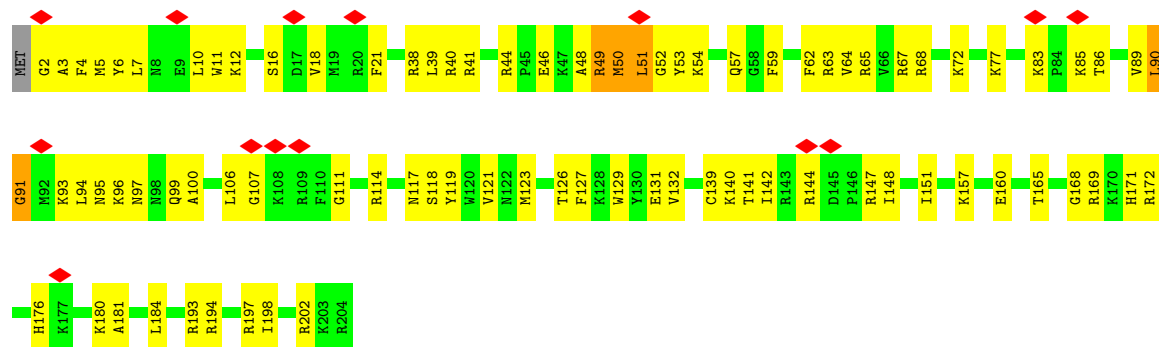




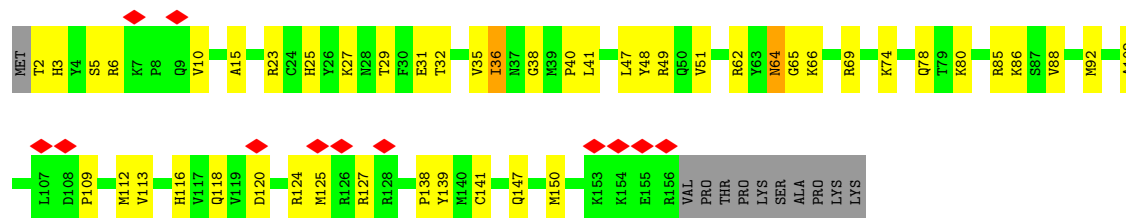
• Molecule 14: eL14



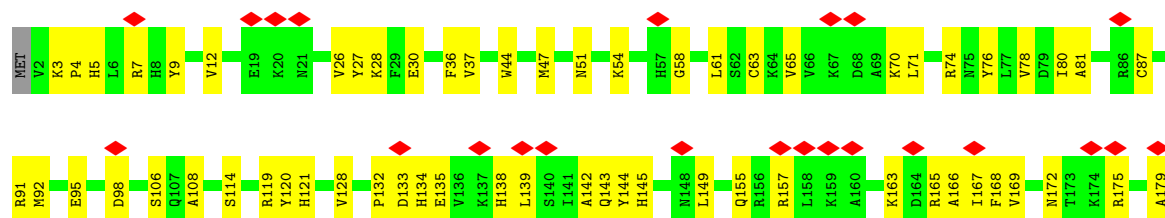
• Molecule 15: eL15



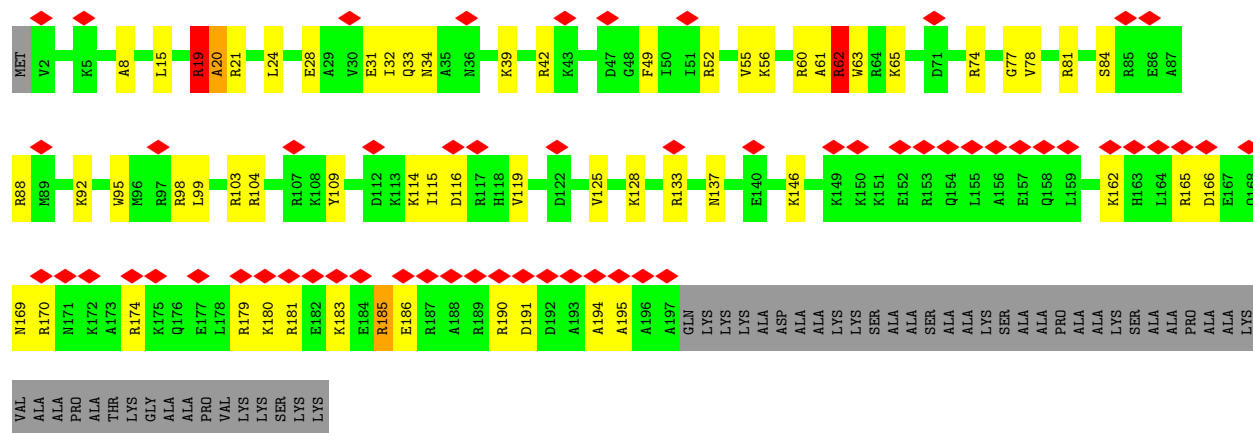
• Molecule 16: uL22



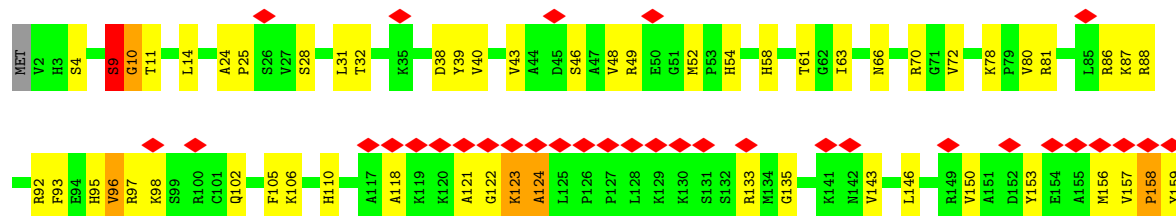
• Molecule 17: eL20



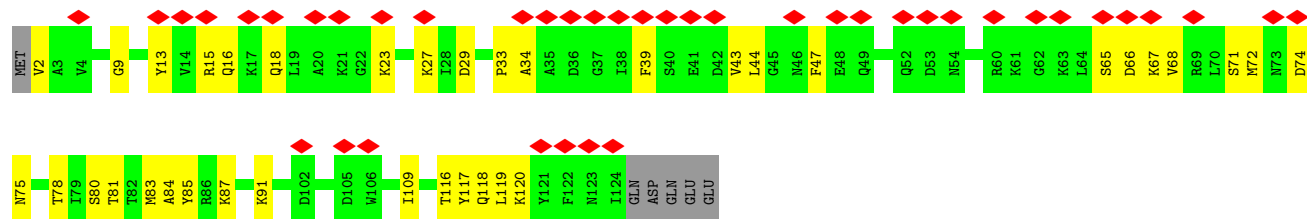
• Molecule 18: eL19



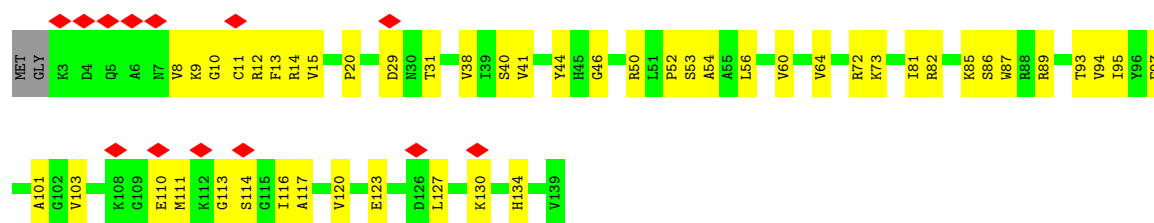
• Molecule 19: eL21



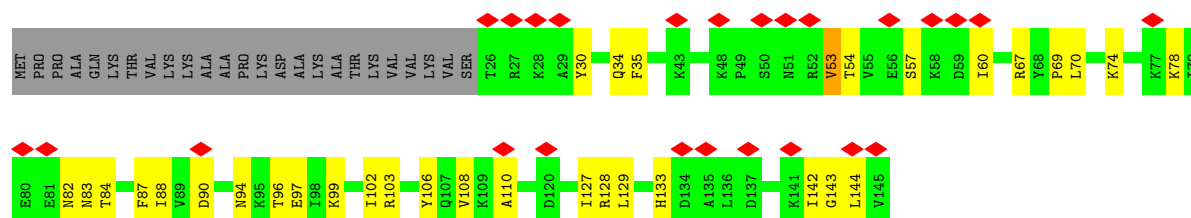
• Molecule 20: eL22



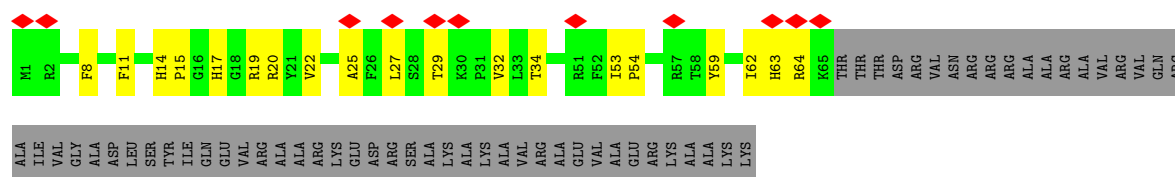
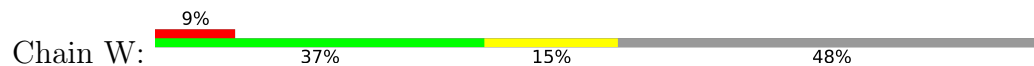
• Molecule 21: uL14



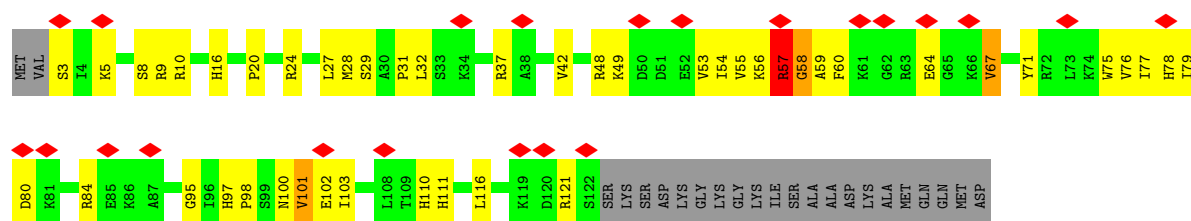
• Molecule 22: uL23



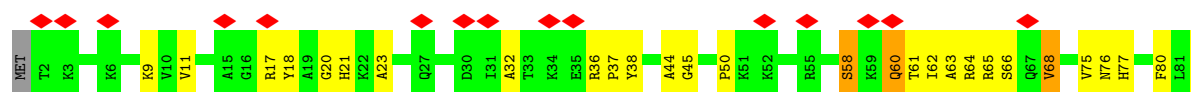
• Molecule 23: eL24

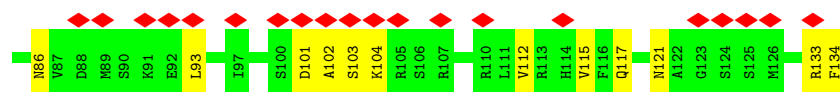


• Molecule 24: uL24

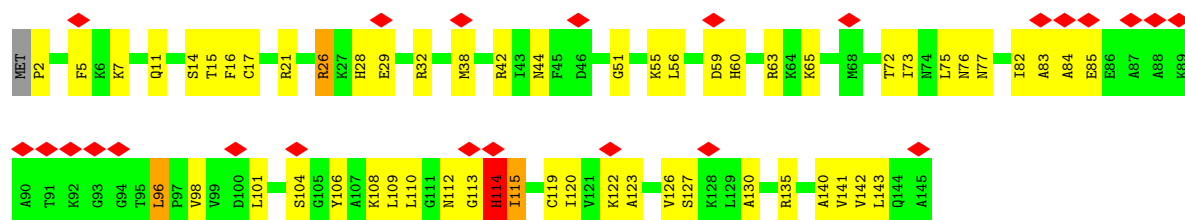


• Molecule 25: eL27

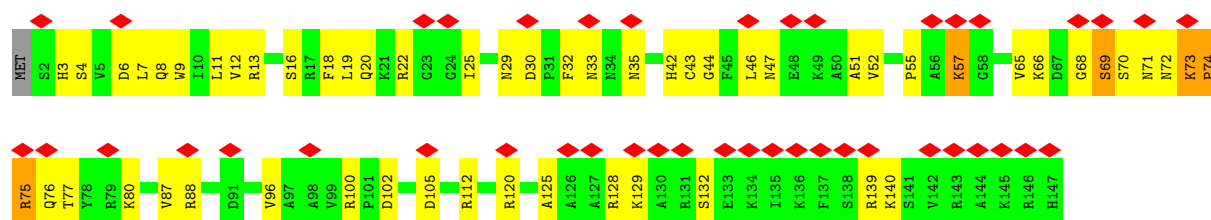




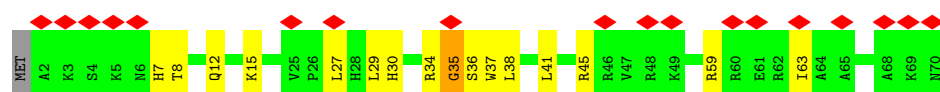
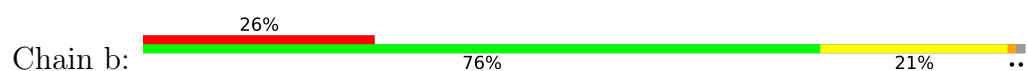
• Molecule 26: uL15



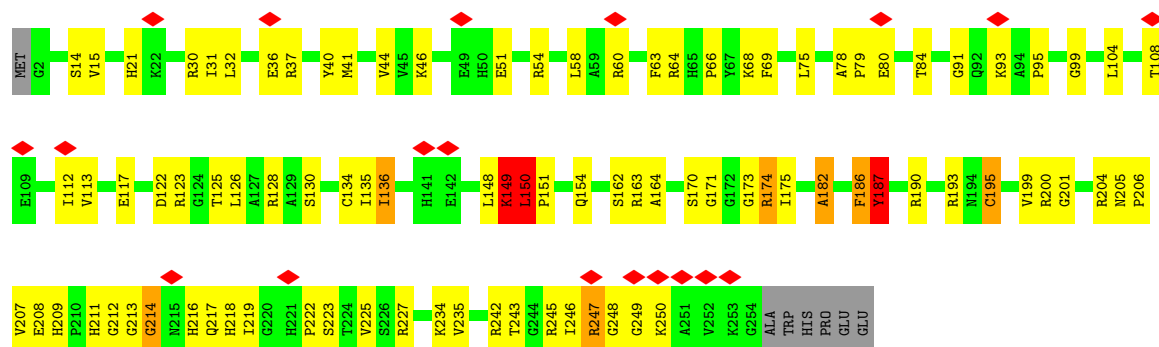
• Molecule 27: eL28



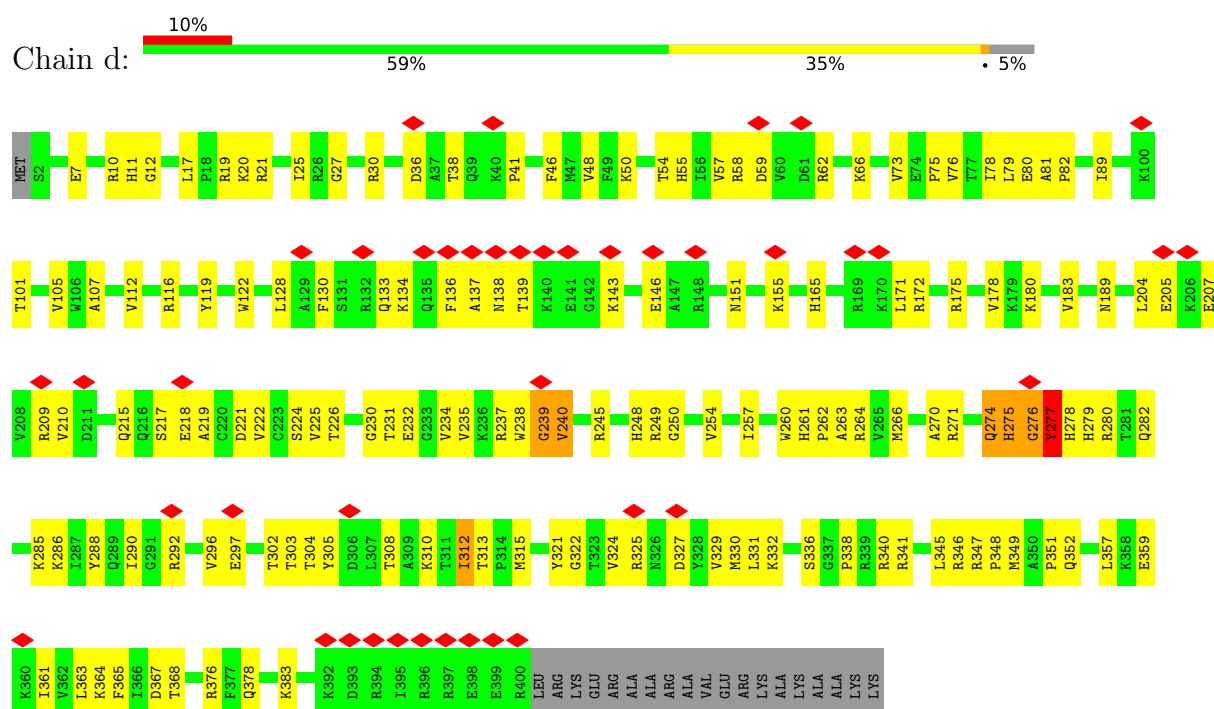
• Molecule 28: eL29



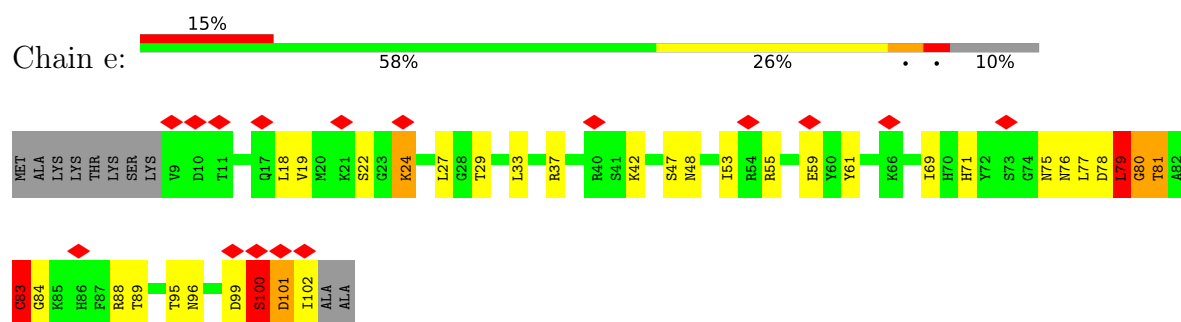
• Molecule 29: uL2



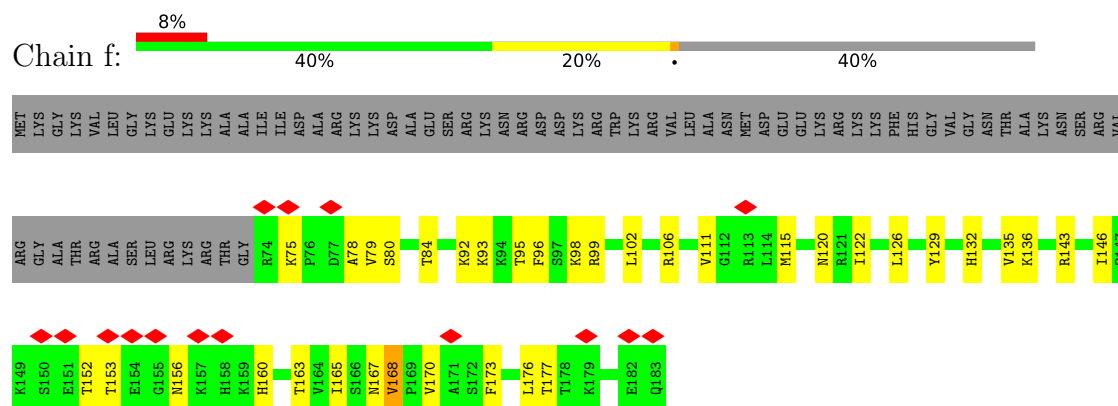
• Molecule 30: uL3



- Molecule 31: eL30

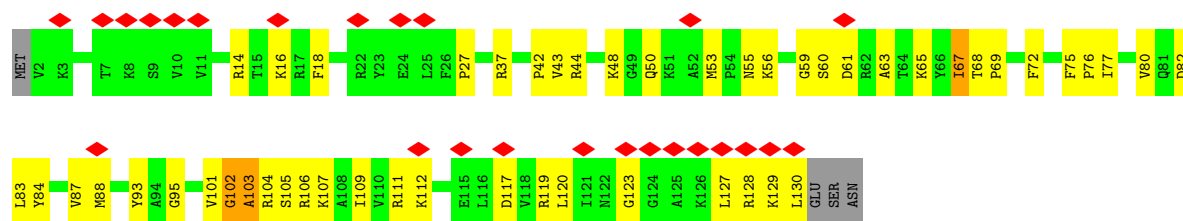


- Molecule 32: eL31

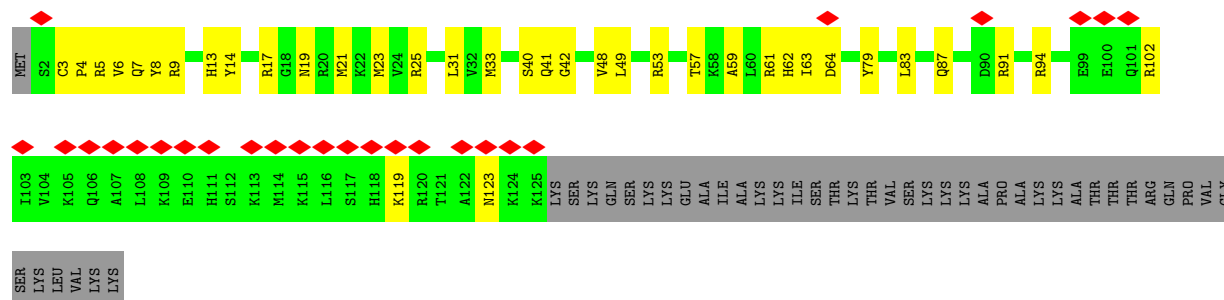


- Molecule 33: eL32

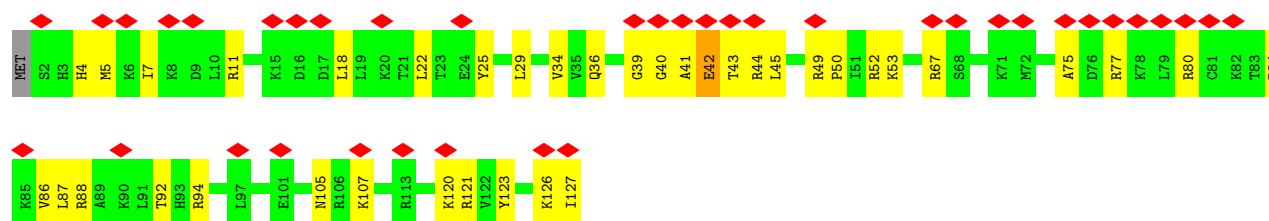




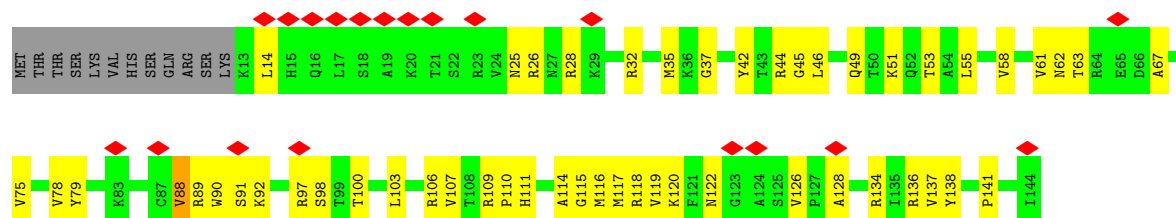
• Molecule 34: eL34



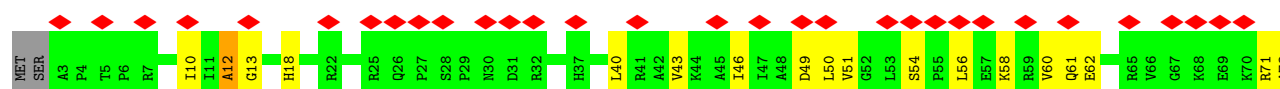
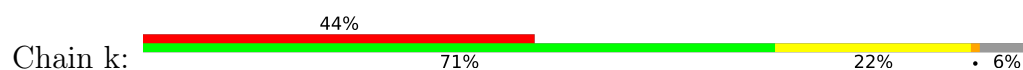
• Molecule 35: uL29

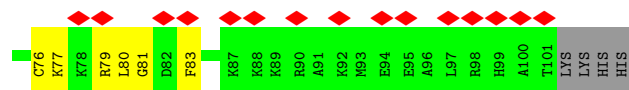


• Molecule 36: eL33

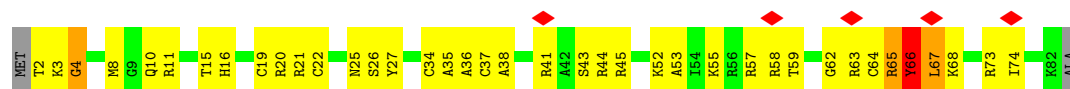


• Molecule 37: eL36

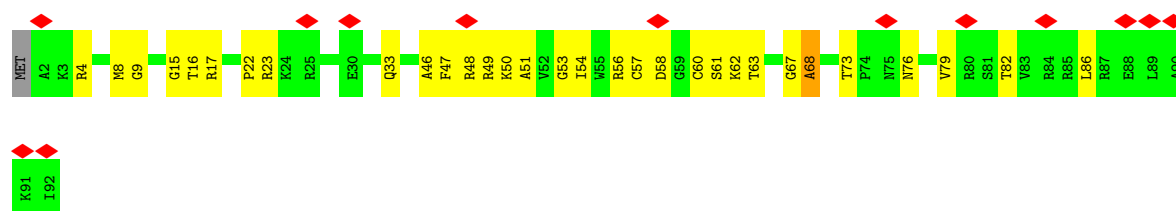




• Molecule 38: eL37



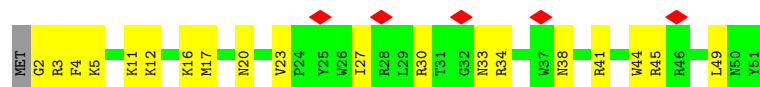
• Molecule 39: eL43



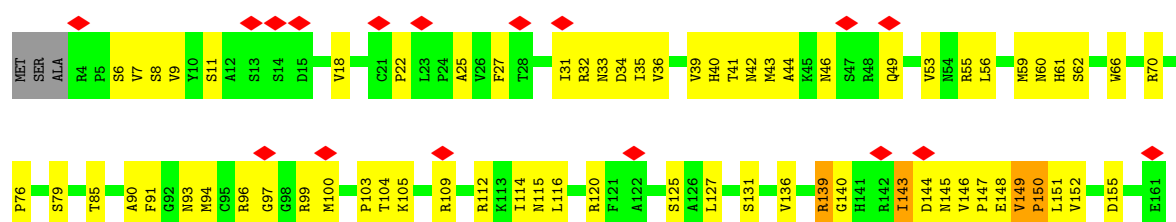
• Molecule 40: eL38

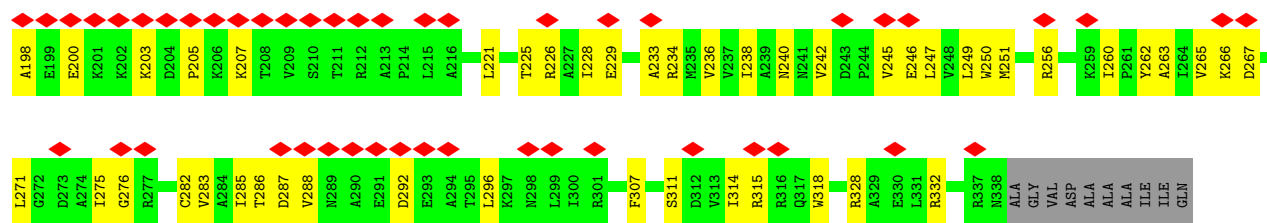


• Molecule 41: eL39

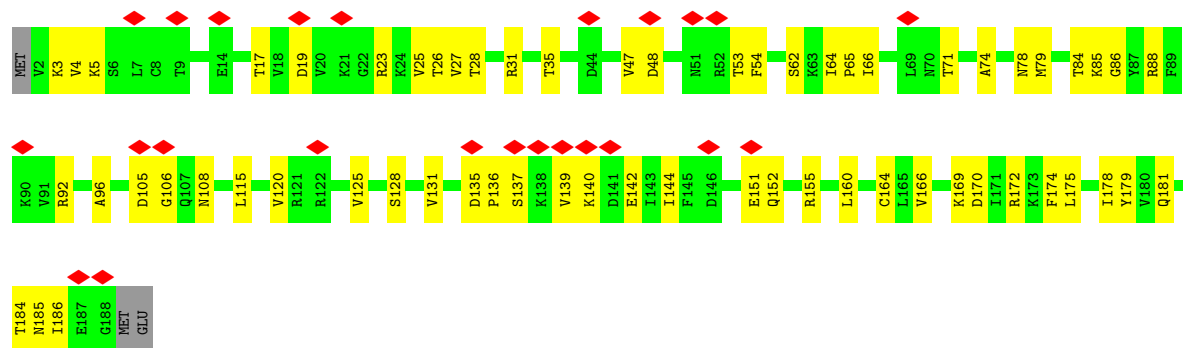


• Molecule 42: uL4

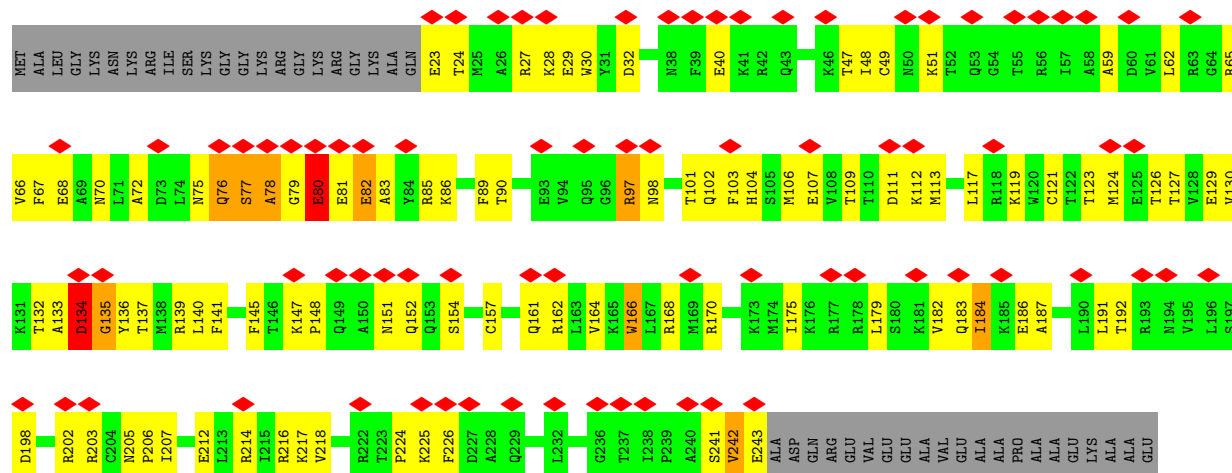




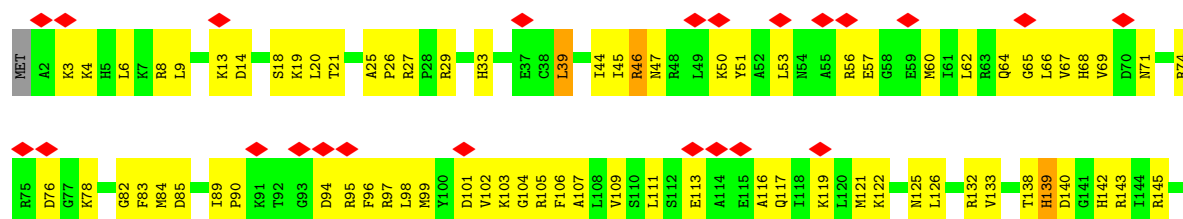
• Molecule 49: uL6

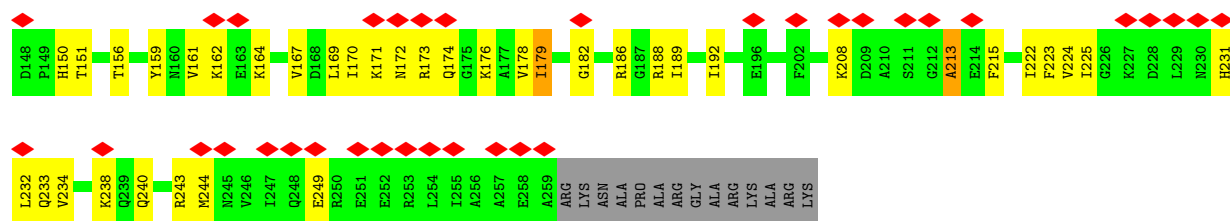


• Molecule 50: eS1

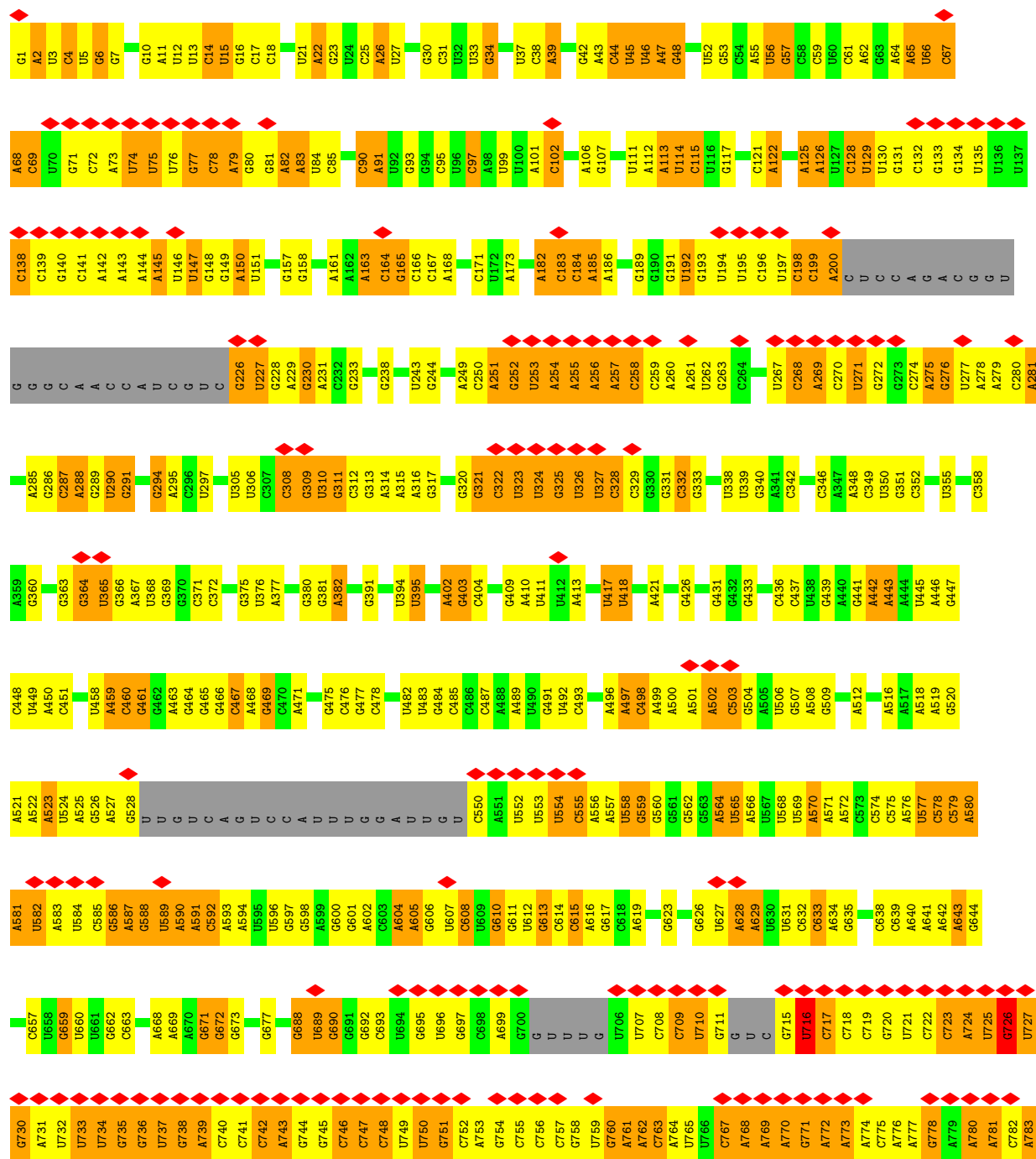
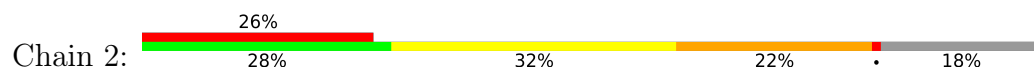


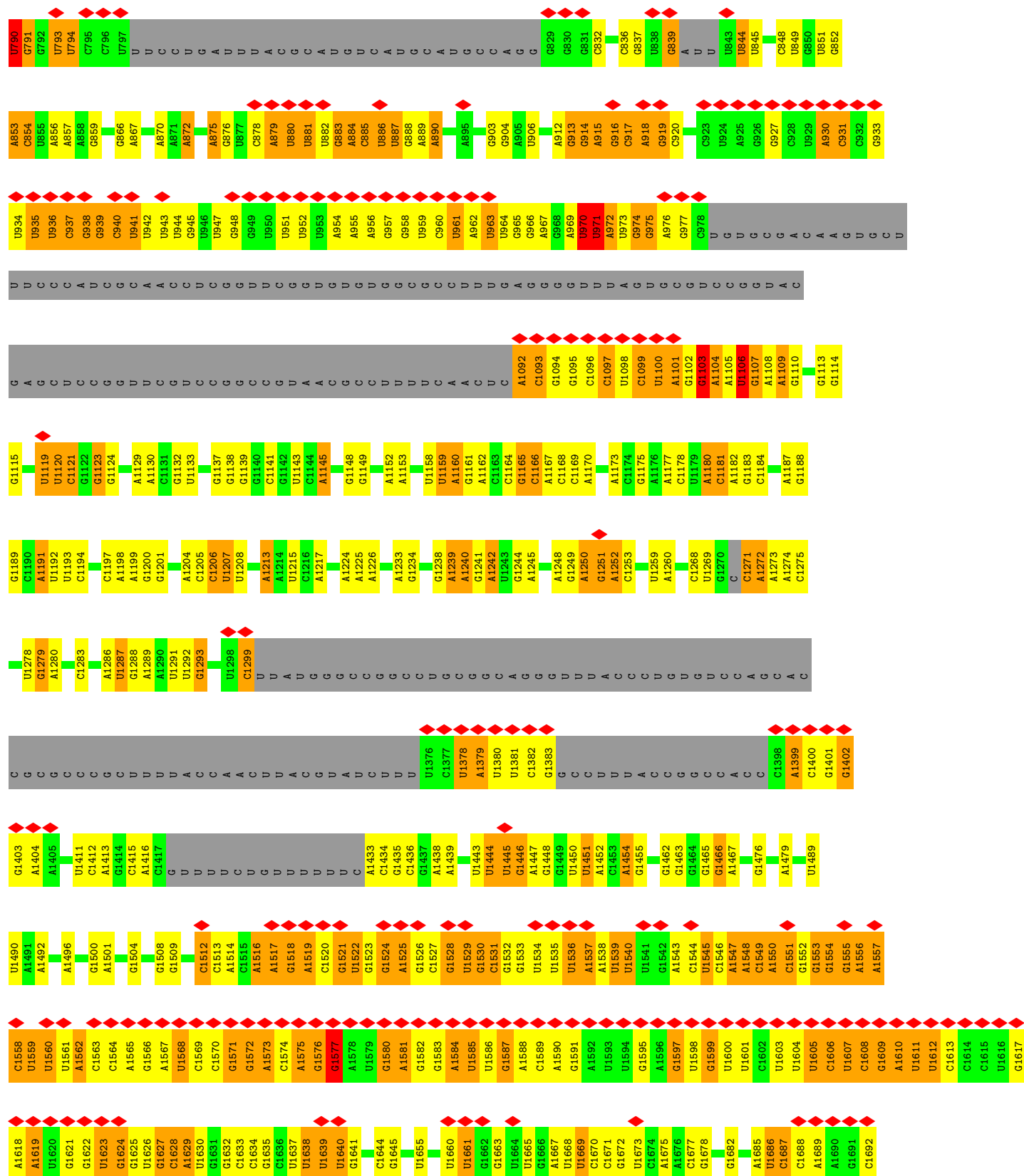
• Molecule 51: eS4

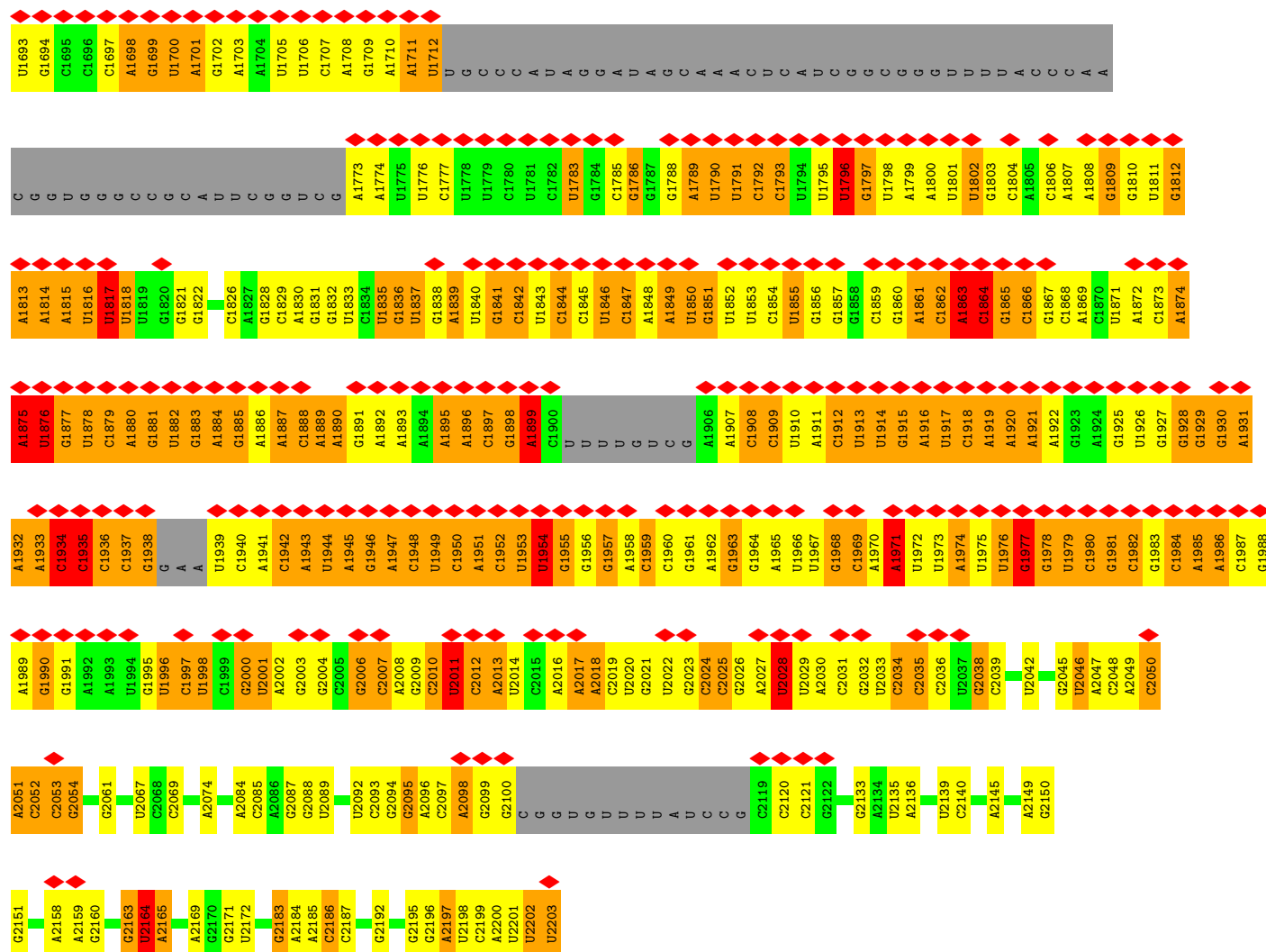




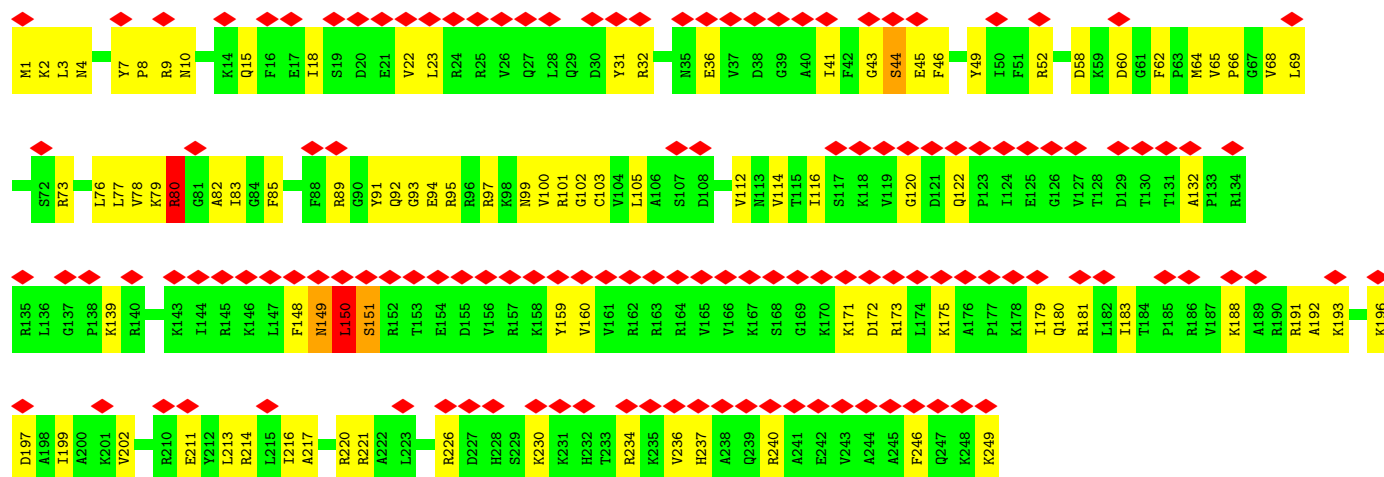
• Molecule 52: 18S rRNA



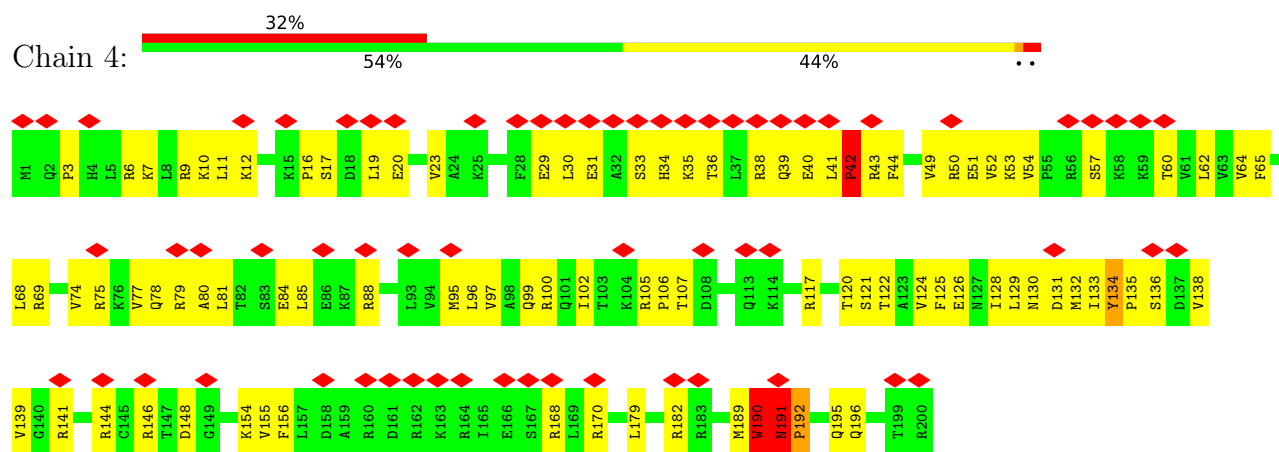




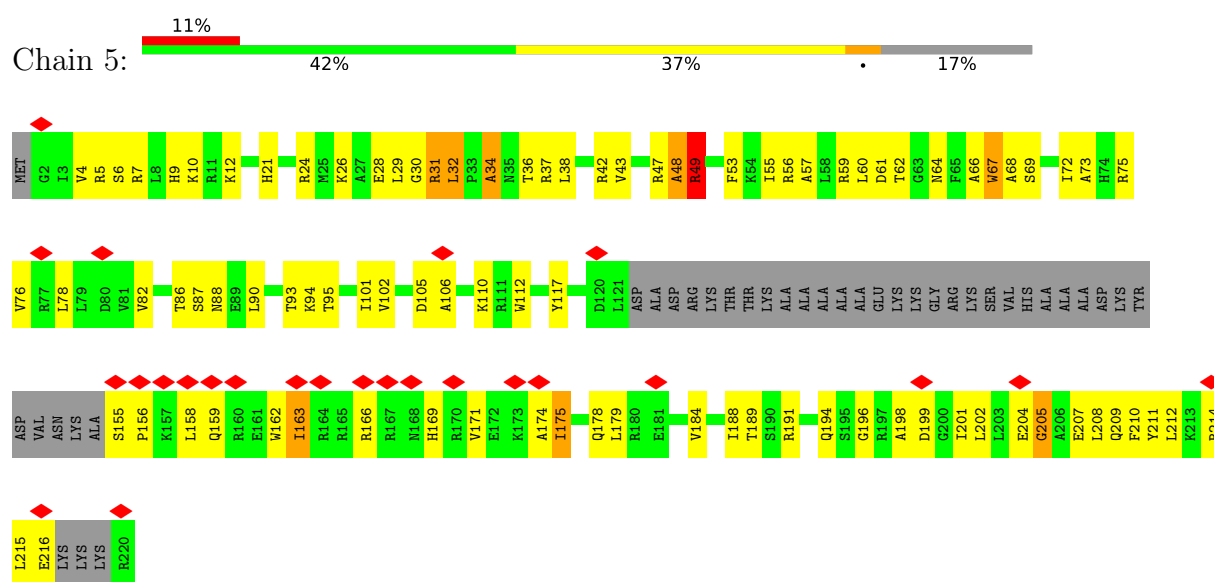
• Molecule 53: eS6



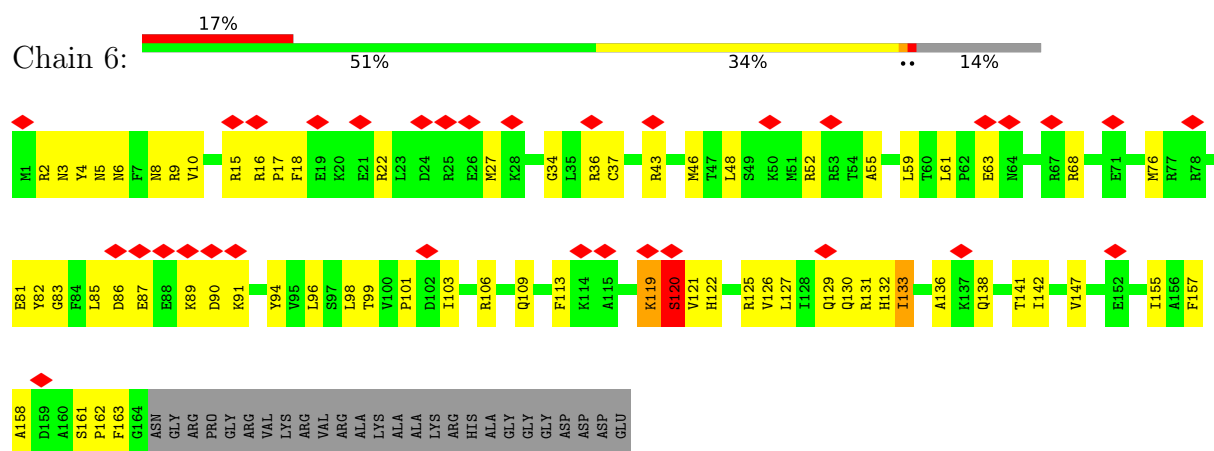
• Molecule 54: eS7



• Molecule 55: eS8

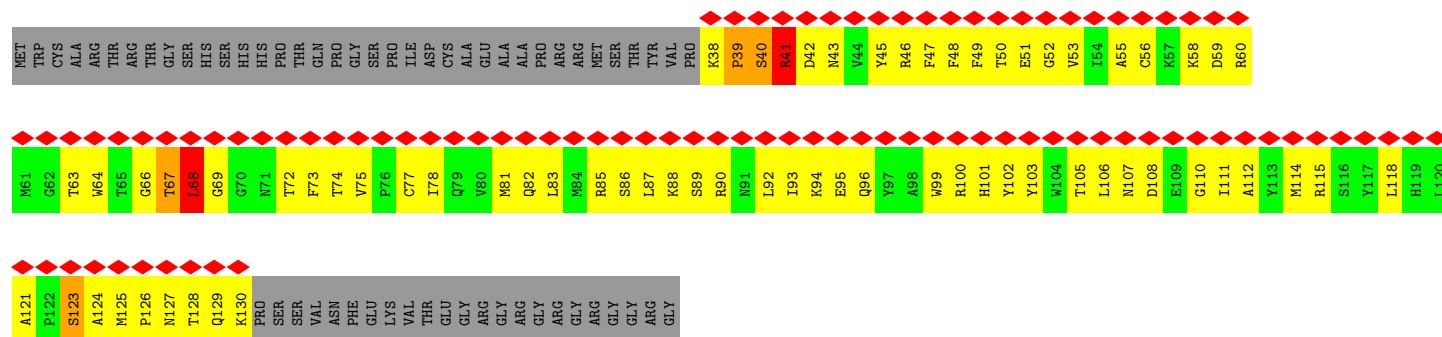


• Molecule 56: uS4

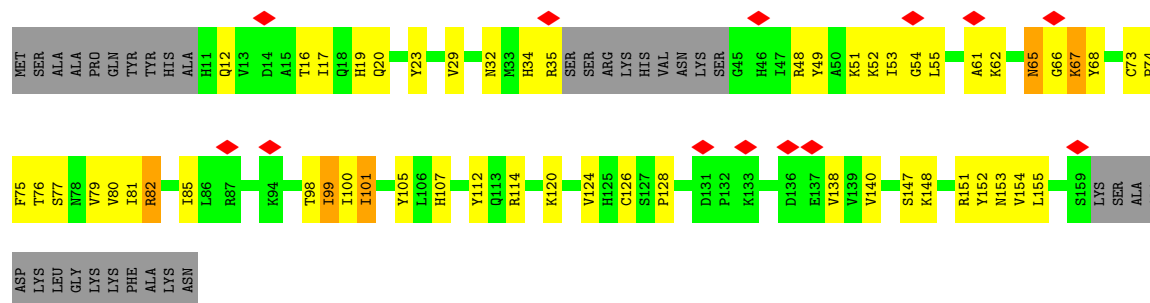


• Molecule 57: RACK1

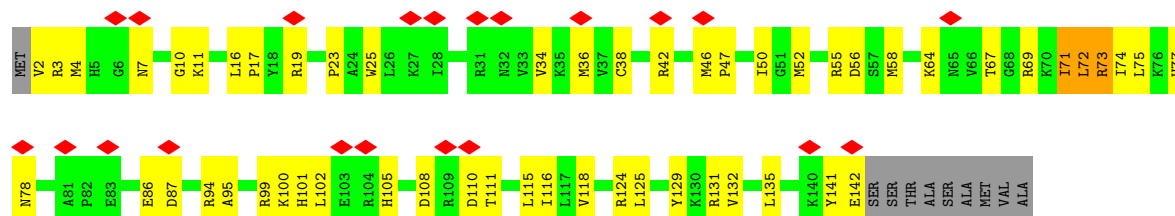




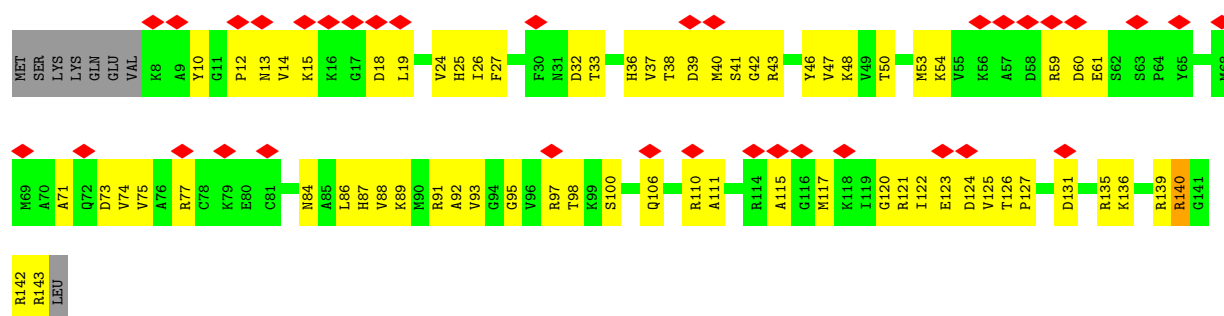
• Molecule 61: uS17



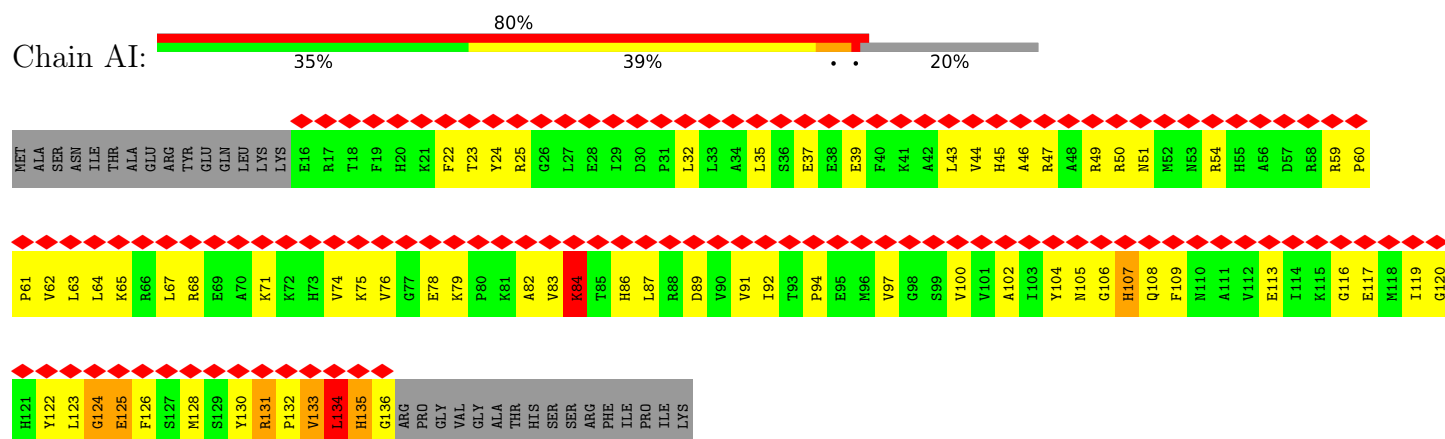
• Molecule 62: uS15



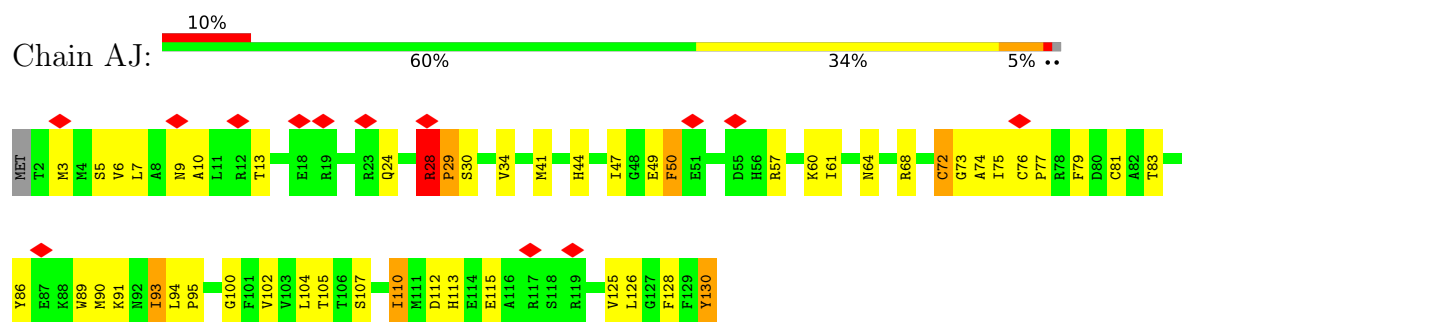
• Molecule 63: uS11



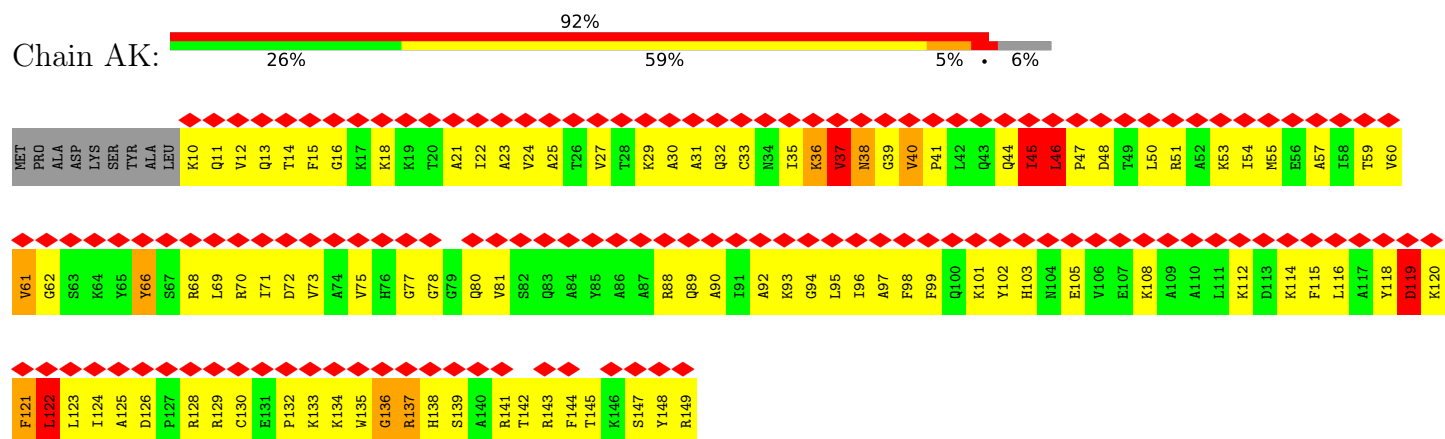
• Molecule 64: uS19



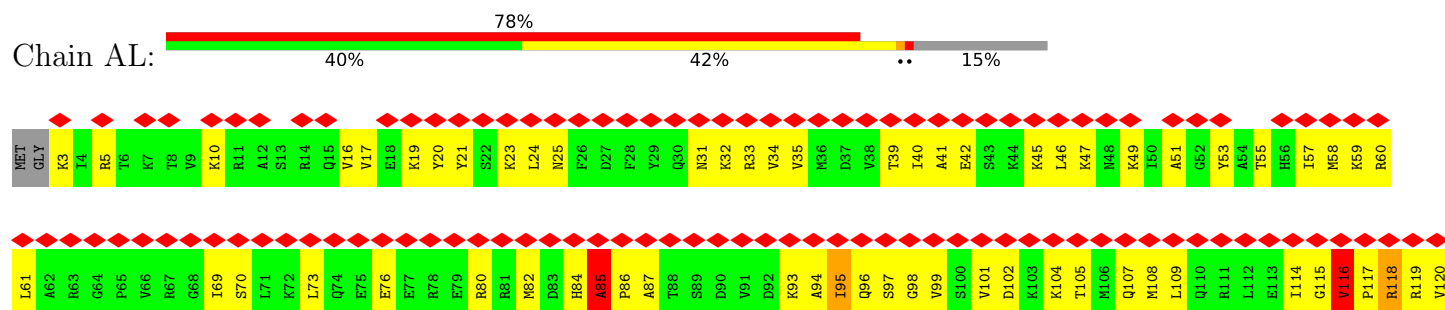
• Molecule 65: uS8

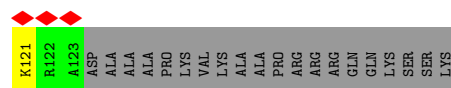


• Molecule 66: uS9

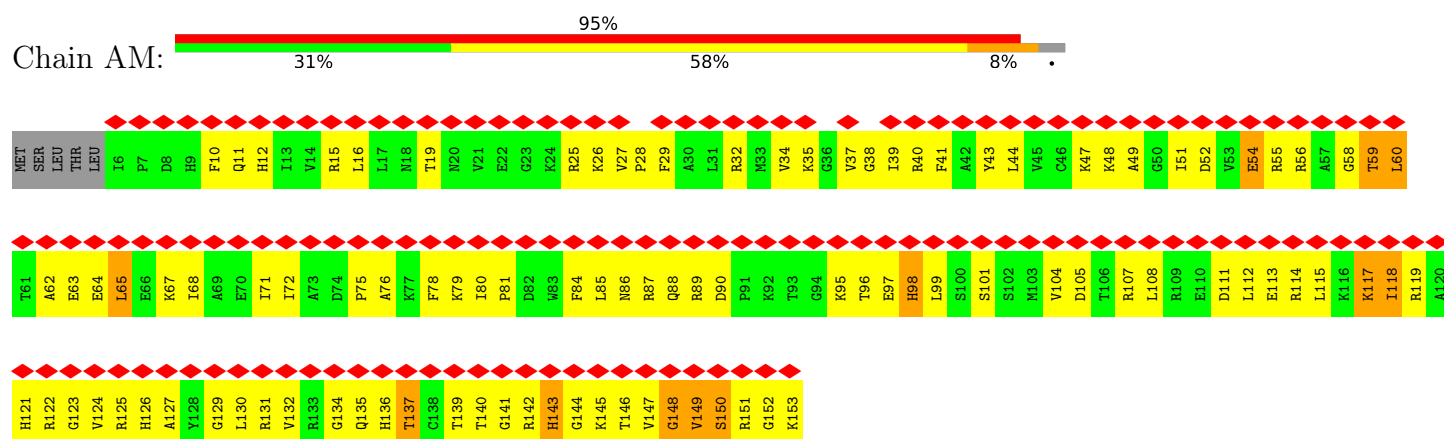


• Molecule 67: eS17

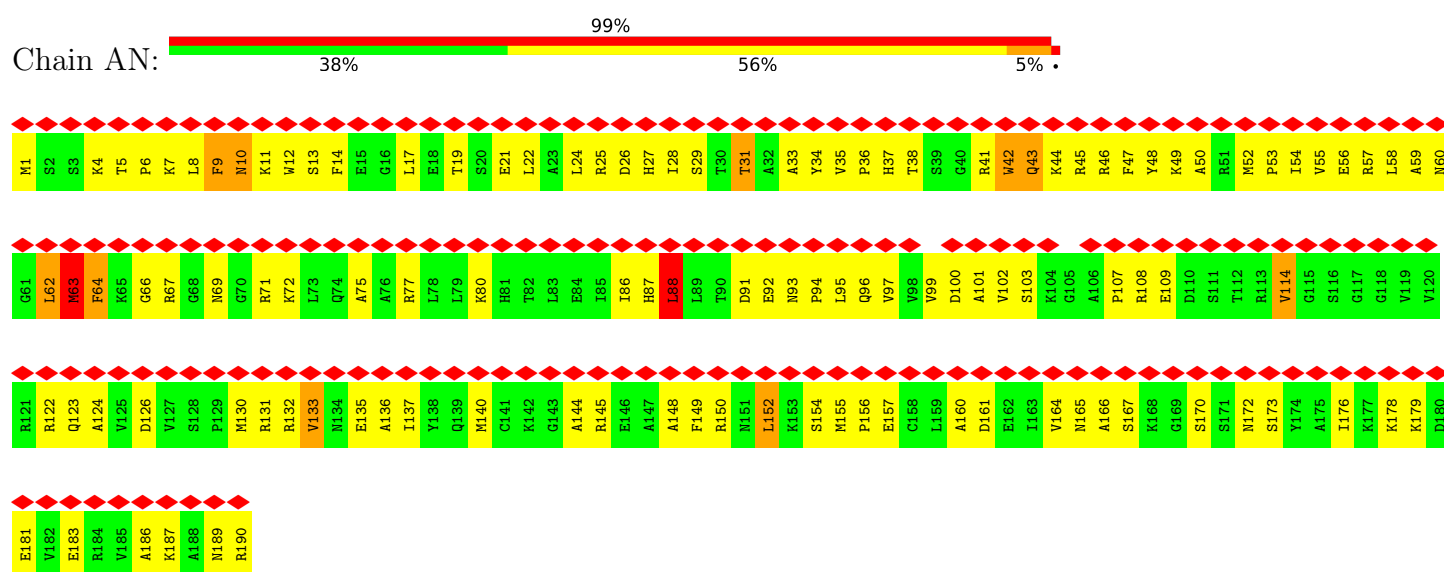




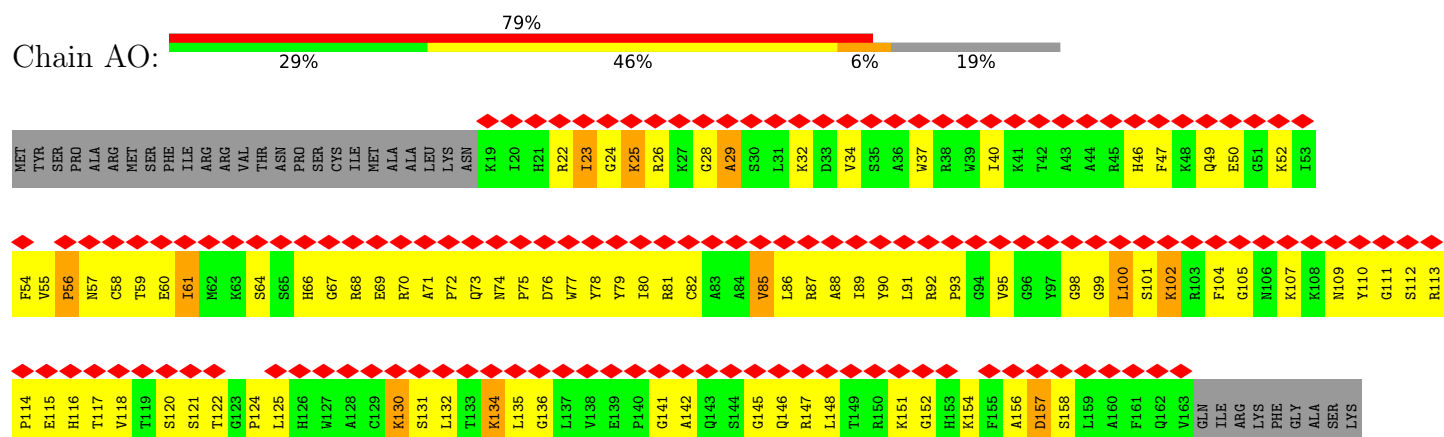
• Molecule 68: uS13

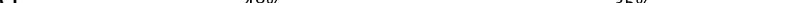


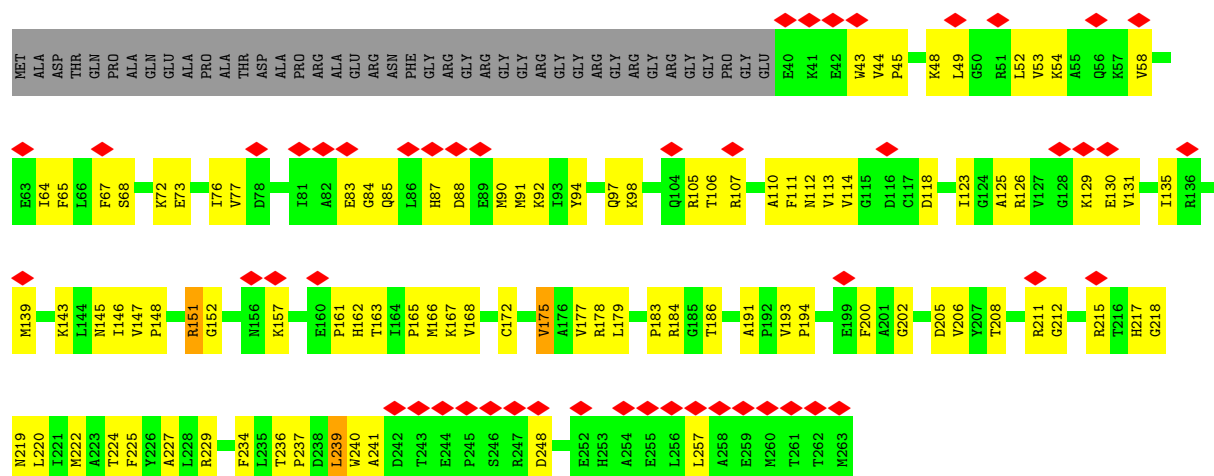
• Molecule 69: uS7

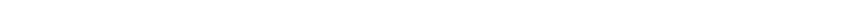


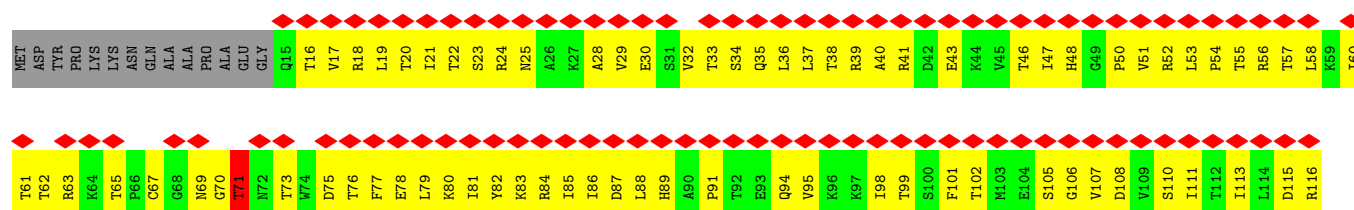
• Molecule 70: eS19

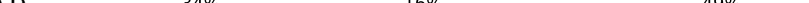


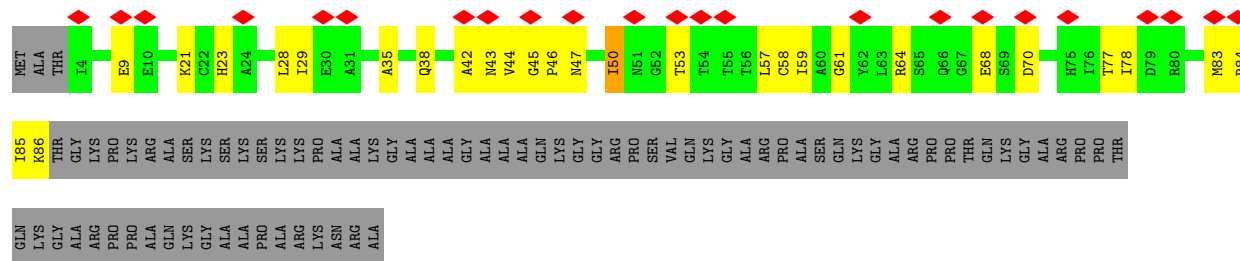
Chain AP: 

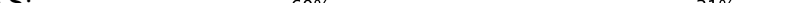


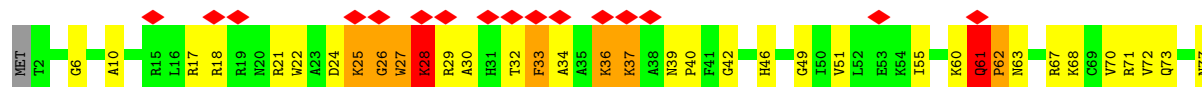
Chain AQ:  22% 66% 81% 12%

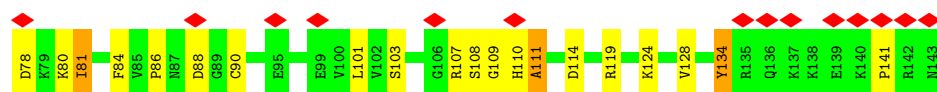


Chain AR: 

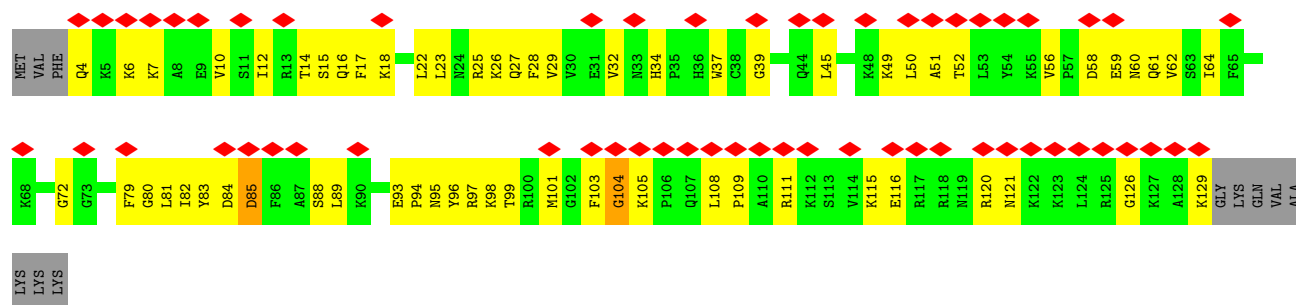
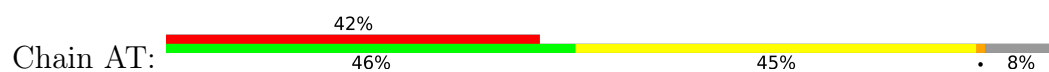


Chain AS: 

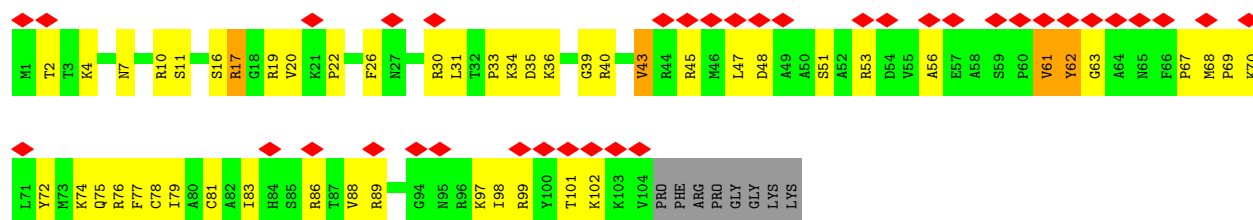




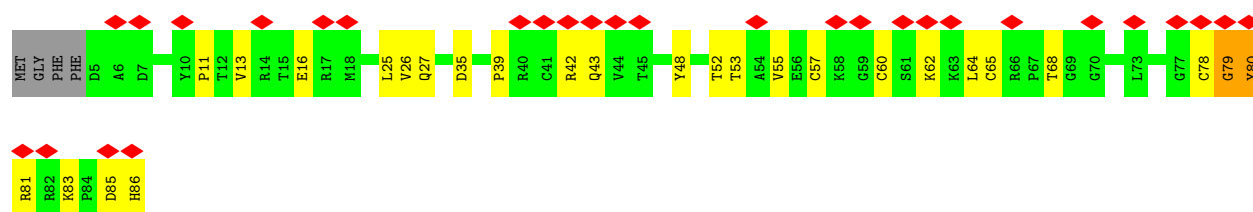
• Molecule 75: eS24



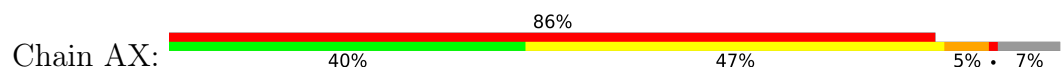
• Molecule 76: eS26

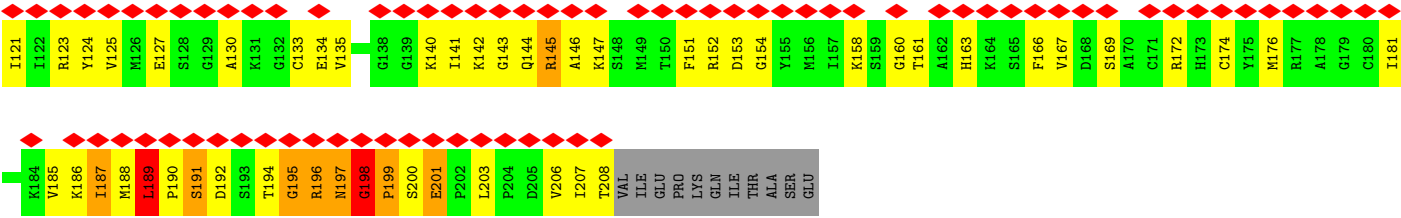


• Molecule 77: eS27

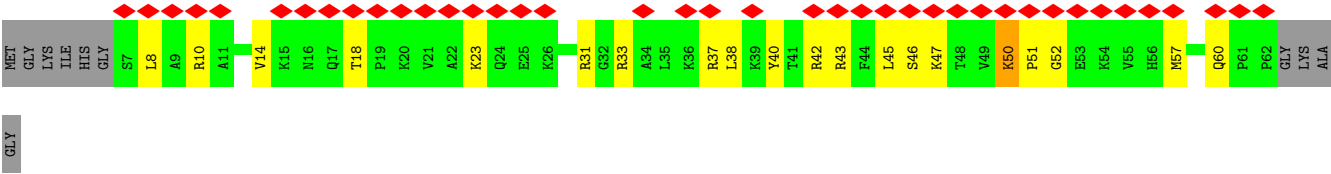


• Molecule 78: uS3

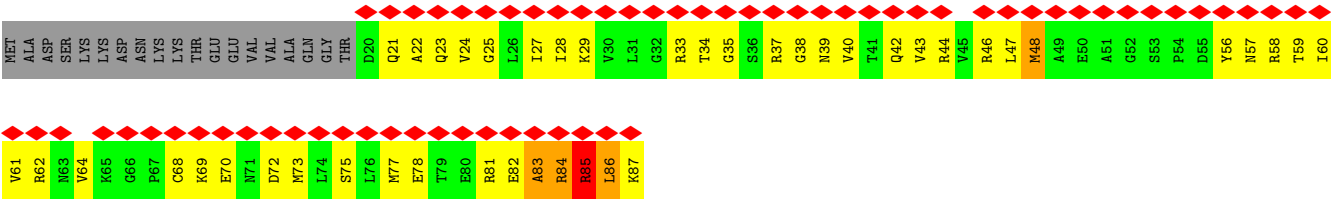
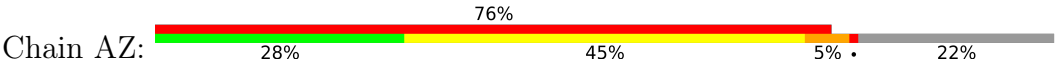




• Molecule 79: eS30



• Molecule 80: eS28



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
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	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.039	Depositor
Minimum map value	-0.020	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.01	Depositor
Map size ($\text{\AA}$)	317.31998, 317.31998, 317.31998	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.7932999, 0.7932999, 0.7932999	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.50	0/38479	0.38	0/59984
2	B	0.51	0/25421	0.36	0/39614
3	C	0.47	0/3855	0.37	0/6002
4	D	0.45	0/2829	0.32	0/4405
5	E	0.49	0/4004	0.35	0/6223
6	F	0.42	0/1686	0.41	0/2623
7	G	0.54	0/4373	0.37	0/6817
8	H	0.55	0/2230	0.38	0/3470
9	I	0.66	2/1564 (0.1%)	0.96	10/2092 (0.5%)
10	J	0.47	0/1737	0.78	2/2324 (0.1%)
11	K	0.37	0/1362	0.63	0/1821
12	L	0.49	0/1463	0.74	1/1952 (0.1%)
13	M	0.55	0/1815	0.89	8/2436 (0.3%)
14	N	0.46	0/1355	0.83	5/1814 (0.3%)
15	O	0.67	2/1754 (0.1%)	0.97	9/2342 (0.4%)
16	P	0.57	0/1269	0.71	0/1700
17	Q	0.53	0/1490	0.72	0/2007
18	R	0.48	0/1665	0.72	3/2206 (0.1%)
19	S	0.51	0/1290	0.95	8/1734 (0.5%)
20	T	0.47	0/1013	0.75	2/1350 (0.1%)
21	U	0.58	0/1052	0.78	1/1417 (0.1%)
22	V	0.46	0/978	0.65	0/1318
23	W	0.58	0/584	0.65	0/785
24	X	0.52	0/980	0.81	2/1308 (0.2%)
25	Y	0.50	0/1100	0.68	0/1470
26	Z	0.57	1/1153 (0.1%)	0.87	5/1541 (0.3%)
27	a	0.47	0/1157	0.92	7/1548 (0.5%)
28	b	0.44	0/565	0.71	0/754
29	c	0.80	2/1961 (0.1%)	0.92	9/2630 (0.3%)
30	d	0.60	0/3250	0.87	8/4368 (0.2%)
31	e	0.54	0/730	1.08	9/988 (0.9%)
32	f	0.54	0/893	0.66	0/1196
33	g	0.53	0/1071	0.90	5/1432 (0.3%)
34	h	0.54	0/1030	0.73	0/1369

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	i	0.45	0/1067	0.71	1/1416 (0.1%)
36	j	0.55	0/1082	0.81	1/1454 (0.1%)
37	k	0.40	0/802	0.59	0/1073
38	l	0.71	1/688 (0.1%)	1.14	4/918 (0.4%)
39	m	0.55	0/724	0.80	1/964 (0.1%)
40	n	0.47	0/614	0.69	1/818 (0.1%)
41	o	0.56	0/463	0.73	0/617
42	p	0.51	0/2874	0.84	11/3865 (0.3%)
43	q	0.52	0/431	0.72	0/572
44	r	0.51	0/792	0.80	1/1046 (0.1%)
45	s	0.44	0/2129	0.68	1/2846 (0.0%)
46	t	0.55	0/1074	1.00	6/1454 (0.4%)
47	u	0.53	0/1891	0.79	6/2531 (0.2%)
48	v	0.46	0/1878	0.65	0/2524
49	w	0.52	0/1504	0.86	4/2024 (0.2%)
50	0	0.69	0/1811	1.00	9/2438 (0.4%)
51	1	0.79	0/2076	0.87	3/2799 (0.1%)
52	2	0.78	15/43318 (0.0%)	0.64	37/67487 (0.1%)
53	3	0.66	0/2019	0.98	5/2694 (0.2%)
54	4	0.73	0/1697	1.02	5/2276 (0.2%)
55	5	0.91	3/1494 (0.2%)	1.11	6/2000 (0.3%)
56	6	0.72	0/1389	0.82	1/1866 (0.1%)
57	7	0.43	0/2454	0.97	13/3337 (0.4%)
58	8	0.71	0/317	1.19	2/421 (0.5%)
59	AC	0.67	0/1656	0.81	0/2238
60	AD	0.45	0/788	1.37	8/1064 (0.8%)
61	AE	0.90	0/1171	0.83	0/1570
62	AG	0.82	0/1180	0.95	3/1581 (0.2%)
63	AH	0.76	0/1038	0.92	2/1392 (0.1%)
64	AI	1.40	4/1006 (0.4%)	1.45	14/1351 (1.0%)
65	AJ	0.87	0/1037	1.01	5/1391 (0.4%)
66	AK	0.53	0/1128	1.14	13/1515 (0.9%)
67	AL	0.51	0/993	0.87	4/1322 (0.3%)
68	AM	0.53	0/1206	1.10	6/1615 (0.4%)
69	AN	0.48	0/1516	0.98	8/2034 (0.4%)
70	AO	0.49	0/1180	0.97	2/1585 (0.1%)
71	AP	0.78	0/1758	0.88	3/2380 (0.1%)
72	AQ	0.53	0/817	0.89	1/1107 (0.1%)
73	AR	0.68	0/639	0.82	0/866
74	AS	0.79	0/1134	1.22	16/1517 (1.1%)
75	AT	0.66	0/1054	0.83	0/1405
76	AV	0.71	1/845 (0.1%)	1.01	3/1130 (0.3%)
77	AW	1.82	2/658 (0.3%)	1.06	4/883 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	AX	0.53	0/1616	1.13	8/2159 (0.4%)
79	AY	0.52	0/460	1.04	3/611 (0.5%)
80	AZ	0.77	1/528 (0.2%)	1.19	4/705 (0.6%)
All	All	0.62	34/215154 (0.0%)	0.67	319/315901 (0.1%)

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
9	I	0	1
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

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Mol	Chain	#Chirality outliers	#Planarity outliers
78	AX	0	1
All	All	0	58

All (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	AI	135	HIS	CB-CG	38.96	2.04	1.50
77	AW	80	TYR	C-N	-34.82	0.87	1.33
52	2	1954	U	O3'-P	31.14	2.07	1.61
52	2	1864	C	C2-N3	29.08	1.94	1.35
52	2	1864	C	N3-C4	28.34	1.90	1.33
77	AW	79	GLY	C-N	25.23	1.68	1.33
52	2	1864	C	N1-C2	24.20	1.88	1.40
29	c	246	ILE	C-N	-22.82	1.01	1.33
52	2	1864	C	N1-C6	20.84	1.78	1.37
52	2	1864	C	C4-C5	19.29	1.81	1.43
52	2	1864	C	C5-C6	17.86	1.70	1.34
52	2	1954	U	C3'-O3'	17.41	1.69	1.43
80	AZ	85	ARG	C-N	12.88	1.51	1.33
9	I	20	TYR	C-N	12.86	1.52	1.33
15	O	50	MET	C-N	-12.40	1.15	1.33
38	l	66	TYR	C-N	-11.46	1.19	1.33
15	O	51	LEU	C-N	10.84	1.49	1.33
29	c	247	ARG	C-N	10.56	1.47	1.32
64	AI	135	HIS	CA-CB	8.56	1.64	1.54
55	5	49	ARG	C-N	-8.29	1.21	1.33
9	I	19	THR	C-N	-7.50	1.23	1.33
26	Z	114	HIS	C-N	-7.46	1.23	1.33
52	2	1899	A	C1'-N9	-7.35	1.36	1.48
52	2	1935	C	C1'-N1	6.75	1.57	1.47
52	2	1977	G	C1'-N9	-6.70	1.38	1.48
64	AI	135	HIS	CG-CD2	6.61	1.43	1.35
55	5	48	ALA	C-N	-6.50	1.22	1.33
52	2	1934	C	C1'-N1	6.47	1.58	1.48
52	2	726	G	C1'-N9	-6.15	1.38	1.48
52	2	1971	A	C1'-N9	-5.96	1.38	1.47
64	AI	135	HIS	N-CA	5.72	1.53	1.46
55	5	34	ALA	CA-CB	-5.55	1.46	1.53
76	AV	53	ARG	CA-C	-5.43	1.45	1.52
52	2	1698	A	C1'-N9	-5.12	1.40	1.48

All (319) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1954	U	P-O3'-C3'	22.10	153.35	120.20
64	AI	131	ARG	N-CA-C	-21.01	76.87	109.64
64	AI	133	VAL	N-CA-C	20.95	130.53	110.42
60	AD	40	SER	N-CA-C	-20.35	80.16	110.28
53	3	150	LEU	N-CA-C	19.70	132.15	111.07
60	AD	68	LEU	N-CA-C	19.70	135.16	111.33
74	AS	28	LYS	N-CA-C	-19.15	89.42	113.16
78	AX	198	GLY	CA-C-N	18.49	140.39	119.32
78	AX	198	GLY	C-N-CA	18.49	140.39	119.32
55	5	49	ARG	O-C-N	-18.48	89.07	122.34
64	AI	135	HIS	CA-CB-CG	15.99	129.79	113.80
30	d	239	GLY	CA-C-N	-15.82	92.62	122.69
30	d	239	GLY	C-N-CA	-15.82	92.62	122.69
31	e	83	CYS	N-CA-C	-15.71	83.13	108.73
54	4	190	TRP	N-CA-C	15.46	127.61	111.07
15	O	51	LEU	N-CA-C	-14.62	87.08	110.32
66	AK	122	LEU	CA-C-N	-14.40	99.54	120.28
66	AK	122	LEU	C-N-CA	-14.40	99.54	120.28
46	t	107	GLN	N-CA-C	14.23	126.80	111.28
38	l	65	ARG	CA-C-N	-14.16	96.75	122.38
38	l	65	ARG	C-N-CA	-14.16	96.75	122.38
38	l	66	TYR	O-C-N	-13.96	103.11	122.37
77	AW	79	GLY	O-C-N	-13.64	110.77	122.77
27	a	69	SER	N-CA-C	13.58	125.61	111.07
33	g	102	GLY	N-CA-C	13.57	131.55	112.82
47	u	223	GLY	N-CA-C	12.79	127.96	112.48
49	w	135	ASP	CA-C-N	12.56	134.04	119.47
49	w	135	ASP	C-N-CA	12.56	134.04	119.47
50	0	80	GLU	N-CA-C	12.30	124.77	111.36
50	0	134	ASP	N-CA-C	-12.21	93.28	110.50
50	0	78	ALA	N-CA-C	11.66	127.48	111.74
52	2	971	U	O5'-P-OP2	-11.54	73.39	108.00
45	s	126	ASP	N-CA-C	-11.50	88.55	108.56
64	AI	134	LEU	N-CA-C	11.46	127.20	111.39
19	S	10	GLY	CA-C-N	-11.38	104.57	121.76
19	S	10	GLY	C-N-CA	-11.38	104.57	121.76
15	O	51	LEU	O-C-N	11.24	135.65	123.06
29	c	149	LYS	N-CA-C	11.10	123.38	111.28
69	AN	62	LEU	N-CA-C	10.97	123.24	111.28
19	S	123	LYS	N-CA-C	-10.90	91.48	113.29
26	Z	114	HIS	O-C-N	-10.74	108.30	122.59
24	X	57	ARG	N-CA-C	10.69	122.68	111.14
30	d	276	GLY	N-CA-C	10.50	129.75	112.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	AI	84	LYS	N-CA-C	10.47	125.41	110.23
52	2	970	U	OP2-P-O3'	-10.34	76.97	108.00
57	7	27	ILE	N-CA-C	10.34	130.85	109.34
52	2	1817	U	OP2-P-O3'	-10.33	77.02	108.00
27	a	70	SER	N-CA-C	-10.32	96.34	110.68
31	e	100	SER	N-CA-C	-10.13	92.65	109.46
57	7	26	TYR	N-CA-C	10.05	122.24	111.28
62	AG	73	ARG	N-CA-C	-9.97	101.44	114.31
78	AX	199	PRO	N-CA-C	9.93	128.54	113.75
42	p	140	GLY	CA-C-N	-9.91	104.70	122.74
42	p	140	GLY	C-N-CA	-9.91	104.70	122.74
79	AY	50	LYS	CA-C-N	9.90	132.22	119.84
79	AY	50	LYS	C-N-CA	9.90	132.22	119.84
52	2	1818	U	O5'-P-OP2	-9.74	78.78	108.00
13	M	220	GLY	N-CA-C	9.68	131.18	113.76
52	2	1817	U	OP1-P-O3'	-9.65	79.05	108.00
52	2	970	U	OP1-P-O3'	-9.61	79.16	108.00
15	O	52	GLY	CA-C-N	-9.60	109.06	123.07
15	O	52	GLY	C-N-CA	-9.60	109.06	123.07
74	AS	33	PHE	N-CA-C	-9.58	100.69	112.38
57	7	148	GLY	N-CA-C	9.58	125.03	112.77
53	3	151	SER	N-CA-C	9.45	123.83	108.34
46	t	67	GLY	N-CA-C	-9.36	93.24	112.34
57	7	158	PHE	N-CA-C	-9.26	96.07	109.96
52	2	1605	U	OP1-P-O3'	-9.23	80.31	108.00
72	AQ	71	THR	N-CA-C	-9.21	102.61	112.93
29	c	214	GLY	N-CA-C	9.18	134.94	113.18
52	2	1796	U	OP1-P-O3'	-9.16	80.53	108.00
80	AZ	83	ALA	N-CA-C	9.16	123.56	108.08
52	2	2028	U	OP1-P-O3'	-9.11	80.67	108.00
52	2	1788	G	OP1-P-O3'	-8.98	81.05	108.00
55	5	49	ARG	N-CA-C	8.95	123.51	113.21
52	2	2028	U	OP2-P-O3'	-8.86	81.43	108.00
15	O	91	GLY	CA-C-N	-8.84	106.65	122.74
15	O	91	GLY	C-N-CA	-8.84	106.65	122.74
60	AD	67	THR	CA-C-N	8.84	132.49	120.38
60	AD	67	THR	C-N-CA	8.84	132.49	120.38
76	AV	61	VAL	N-CA-C	8.65	119.46	110.72
52	2	1796	U	OP2-P-O3'	-8.50	82.49	108.00
52	2	1605	U	OP2-P-O3'	-8.46	82.61	108.00
31	e	80	GLY	CA-C-N	-8.41	106.42	122.06
31	e	80	GLY	C-N-CA	-8.41	106.42	122.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	143	ALA	N-CA-C	8.40	120.43	111.28
14	N	10	GLY	CA-C-N	-8.36	108.13	120.75
14	N	10	GLY	C-N-CA	-8.36	108.13	120.75
9	I	9	SER	N-CA-C	-8.35	100.83	113.51
20	T	65	SER	CA-C-N	-8.34	109.00	122.34
20	T	65	SER	C-N-CA	-8.34	109.00	122.34
78	AX	61	ASN	N-CA-C	-8.33	96.69	109.85
65	AJ	28	ARG	N-CA-C	8.31	124.05	112.75
52	2	1954	U	O3'-P-O5'	8.27	116.40	104.00
9	I	20	TYR	O-C-N	8.24	132.21	122.24
78	AX	189	LEU	N-CA-C	-8.19	95.15	109.48
9	I	187	GLY	N-CA-C	8.17	122.53	112.73
60	AD	41	ARG	CA-C-N	-8.14	106.66	120.58
60	AD	41	ARG	C-N-CA	-8.14	106.66	120.58
57	7	147	ASP	CA-C-N	8.14	128.96	120.00
57	7	147	ASP	C-N-CA	8.14	128.96	120.00
58	8	30	ALA	N-CA-C	-8.12	101.41	110.91
80	AZ	85	ARG	CA-C-N	8.10	137.01	121.54
80	AZ	85	ARG	C-N-CA	8.10	137.01	121.54
46	t	108	ARG	C-N-CD	-8.07	91.91	125.00
52	2	1818	U	OP1-P-OP2	8.05	143.75	119.60
52	2	1818	U	O5'-P-OP1	-8.03	83.92	108.00
33	g	103	ALA	N-CA-C	-7.86	102.67	111.71
9	I	20	TYR	CA-C-N	-7.85	110.48	122.09
9	I	20	TYR	C-N-CA	-7.85	110.48	122.09
77	AW	80	TYR	CA-C-N	-7.83	112.19	123.00
77	AW	80	TYR	C-N-CA	-7.83	112.19	123.00
12	L	25	GLY	N-CA-C	7.83	127.54	115.72
29	c	187	TYR	N-CA-C	-7.82	103.47	113.16
9	I	9	SER	CA-C-N	-7.74	110.08	122.23
9	I	9	SER	C-N-CA	-7.74	110.08	122.23
54	4	191	ASN	C-N-CD	-7.69	93.47	125.00
78	AX	145	ARG	N-CA-C	7.64	124.16	114.31
40	n	75	ALA	N-CA-C	-7.62	95.30	108.56
66	AK	46	LEU	N-CA-C	7.61	123.97	113.16
78	AX	198	GLY	O-C-N	7.59	129.36	121.77
57	7	27	ILE	CA-C-N	7.55	135.96	121.54
57	7	27	ILE	C-N-CA	7.55	135.96	121.54
52	2	971	U	O5'-P-OP1	-7.52	85.44	108.00
52	2	1788	G	OP2-P-O3'	-7.50	85.51	108.00
14	N	46	MET	N-CA-C	-7.46	96.18	108.49
64	AI	131	ARG	CA-C-N	-7.45	111.85	121.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	AI	131	ARG	C-N-CA	-7.45	111.85	121.91
64	AI	135	HIS	ND1-CG-CD2	-7.44	98.66	106.10
24	X	58	GLY	N-CA-C	7.43	122.89	110.56
57	7	25	SER	N-CA-C	7.41	126.57	110.80
38	l	67	LEU	N-CA-C	7.36	119.31	111.28
76	AV	62	TYR	N-CA-C	7.36	120.48	110.55
50	0	79	GLY	N-CA-C	-7.35	103.91	112.73
46	t	68	PRO	N-CA-C	-7.30	102.62	112.48
27	a	74	PRO	N-CA-C	7.30	124.62	113.75
29	c	125	THR	CA-C-N	-7.30	110.39	122.21
29	c	125	THR	C-N-CA	-7.30	110.39	122.21
35	i	39	GLY	N-CA-C	7.30	125.72	111.34
76	AV	63	GLY	N-CA-C	7.29	125.44	115.30
13	M	127	PRO	O-C-N	7.29	124.58	121.15
50	0	135	GLY	CA-C-N	-7.29	111.25	122.62
50	0	135	GLY	C-N-CA	-7.29	111.25	122.62
69	AN	42	TRP	N-CA-C	7.24	119.17	111.28
55	5	67	TRP	CA-CB-CG	7.24	127.36	113.60
47	u	224	MET	N-CA-C	7.23	119.24	111.36
64	AI	84	LYS	CA-C-N	7.20	135.12	122.67
64	AI	84	LYS	C-N-CA	7.20	135.12	122.67
47	u	233	GLU	N-CA-C	-7.18	98.44	109.65
13	M	220	GLY	CA-C-N	-7.16	110.73	122.54
13	M	220	GLY	C-N-CA	-7.16	110.73	122.54
30	d	275	HIS	N-CA-C	-7.14	102.10	111.74
36	j	88	VAL	N-CA-C	7.11	118.73	110.62
42	p	150	PRO	N-CA-C	-7.10	97.74	112.36
74	AS	62	PRO	CA-C-N	-7.09	111.59	122.09
74	AS	62	PRO	C-N-CA	-7.09	111.59	122.09
33	g	123	GLY	N-CA-C	-6.99	103.59	112.54
57	7	160	PRO	N-CA-C	-6.99	104.75	113.84
57	7	136	VAL	N-CA-C	-6.97	105.93	112.83
67	AL	85	ALA	CA-C-N	-6.95	111.15	119.84
67	AL	85	ALA	C-N-CA	-6.95	111.15	119.84
31	e	79	LEU	N-CA-C	-6.93	103.81	111.36
58	8	28	GLN	N-CA-C	-6.86	103.46	112.24
52	2	1875	A	C5'-C4'-O4'	-6.86	99.51	109.80
64	AI	135	HIS	CB-CA-C	6.81	116.58	109.83
29	c	186	PHE	N-CA-C	6.81	118.49	111.14
66	AK	121	PHE	N-CA-C	-6.76	103.91	111.28
9	I	20	TYR	N-CA-C	-6.76	104.24	113.30
50	0	133	ALA	N-CA-C	-6.75	103.93	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	2	1863	A	P-O3'-C3'	6.71	130.27	120.20
19	S	121	ALA	N-CA-C	-6.70	102.39	110.44
39	m	68	ALA	CB-CA-C	-6.70	108.86	116.63
18	R	20	ALA	N-CA-C	-6.67	103.38	113.51
69	AN	43	GLN	CA-C-N	-6.66	108.82	121.54
69	AN	43	GLN	C-N-CA	-6.66	108.82	121.54
27	a	73	LYS	CA-C-N	6.63	126.88	119.32
27	a	73	LYS	C-N-CA	6.63	126.88	119.32
68	AM	55	ARG	N-CA-C	-6.61	99.36	109.41
18	R	62	ARG	N-CA-C	-6.59	104.13	111.71
52	2	716	U	C2'-C3'-O3'	6.57	123.56	113.70
52	2	1876	U	P-O5'-C5'	6.57	130.75	120.90
69	AN	10	ASN	N-CA-C	-6.55	103.34	112.12
56	6	119	LYS	N-CA-C	6.52	118.39	111.28
13	M	218	LYS	N-CA-C	-6.52	98.58	109.07
29	c	246	ILE	O-C-N	-6.51	115.01	122.62
47	u	235	GLY	N-CA-C	6.48	120.61	110.96
74	AS	61	GLN	CA-C-N	-6.46	113.15	119.87
74	AS	61	GLN	C-N-CA	-6.46	113.15	119.87
15	O	50	MET	N-CA-C	-6.46	104.16	111.07
42	p	149	VAL	N-CA-C	6.42	120.05	112.35
30	d	277	TYR	CA-CB-CG	6.39	125.41	113.90
80	AZ	70	GLU	N-CA-C	6.39	119.07	111.33
62	AG	71	ILE	CA-C-N	-6.38	112.90	123.37
62	AG	71	ILE	C-N-CA	-6.38	112.90	123.37
52	2	971	U	OP1-P-OP2	6.36	138.67	119.60
30	d	240	VAL	N-CA-C	6.24	118.49	111.88
42	p	149	VAL	O-C-N	6.15	124.36	120.42
52	2	1875	A	C4'-C3'-O3'	6.12	122.18	113.00
74	AS	26	GLY	N-CA-C	-6.11	98.70	113.18
65	AJ	72	CYS	CA-C-N	-6.09	116.11	122.69
65	AJ	72	CYS	C-N-CA	-6.09	116.11	122.69
66	AK	38	ASN	N-CA-C	-6.07	104.66	111.28
13	M	87	GLY	CA-C-N	-6.05	113.30	119.83
13	M	87	GLY	C-N-CA	-6.05	113.30	119.83
52	2	1103	G	C2'-C3'-O3'	6.04	118.56	109.50
42	p	150	PRO	CA-C-N	-6.03	112.32	121.31
42	p	150	PRO	C-N-CA	-6.03	112.32	121.31
68	AM	59	THR	N-CA-C	-6.00	100.78	109.59
57	7	92	TRP	CB-CA-C	-5.99	107.95	116.34
55	5	48	ALA	CA-C-N	5.96	134.65	122.55
55	5	48	ALA	C-N-CA	5.96	134.65	122.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	p	139	ARG	N-CA-C	-5.96	105.86	113.01
68	AM	54	GLU	N-CA-C	5.94	118.88	110.50
26	Z	26	ARG	CB-CA-C	-5.93	108.04	116.34
64	AI	125	GLU	N-CA-C	-5.90	106.03	113.23
52	2	716	U	C3'-C2'-O2'	5.90	119.55	110.70
71	AP	239	LEU	CA-C-N	-5.89	114.66	122.85
71	AP	239	LEU	C-N-CA	-5.89	114.66	122.85
46	t	59	HIS	CA-C-N	-5.88	112.48	121.66
46	t	59	HIS	C-N-CA	-5.88	112.48	121.66
47	u	234	GLY	N-CA-C	-5.88	99.25	113.18
69	AN	114	VAL	N-CA-C	-5.87	107.27	112.90
13	M	28	ASP	N-CA-C	5.84	117.32	111.07
49	w	135	ASP	O-C-N	5.84	126.61	121.18
27	a	70	SER	CA-C-N	-5.82	110.99	120.71
27	a	70	SER	C-N-CA	-5.82	110.99	120.71
67	AL	116	VAL	CA-C-N	-5.81	113.95	119.76
67	AL	116	VAL	C-N-CA	-5.81	113.95	119.76
49	w	136	PRO	N-CA-C	5.80	122.23	113.81
50	0	76	GLN	N-CA-C	-5.80	105.87	113.17
44	r	17	CYS	CA-CB-SG	5.79	127.72	114.40
9	I	189	SER	N-CA-C	5.79	117.59	111.28
52	2	1577	G	C4-N9-C1'	5.78	143.83	126.50
21	U	46	GLY	N-CA-C	5.77	119.97	110.97
74	AS	86	PRO	CA-C-N	-5.77	112.27	122.20
74	AS	86	PRO	C-N-CA	-5.77	112.27	122.20
31	e	84	GLY	CA-C-N	-5.74	113.17	122.81
31	e	84	GLY	C-N-CA	-5.74	113.17	122.81
53	3	80	ARG	CG-CD-NE	-5.74	99.38	112.00
52	2	1864	C	O5'-C5'-C4'	5.73	120.10	111.50
69	AN	63	MET	N-CA-C	5.67	117.84	108.49
52	2	2164	U	C2'-C3'-O3'	5.67	118.00	109.50
51	1	139	HIS	CA-C-N	5.66	127.87	120.28
51	1	139	HIS	C-N-CA	5.66	127.87	120.28
63	AH	91	ARG	NE-CZ-NH1	-5.65	115.85	121.50
52	2	970	U	O3'-P-O5'	5.63	112.45	104.00
26	Z	77	ASN	CA-C-N	-5.62	113.35	122.34
26	Z	77	ASN	C-N-CA	-5.62	113.35	122.34
50	0	166	TRP	CA-CB-CG	5.58	124.19	113.60
54	4	134	TYR	CA-C-N	5.54	140.31	127.00
54	4	134	TYR	C-N-CA	5.54	140.31	127.00
19	S	9	SER	N-CA-C	5.53	117.31	111.28
57	7	147	ASP	N-CA-C	-5.52	105.33	113.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	R	19	ARG	N-CA-C	-5.50	103.26	110.53
9	I	3	VAL	N-CA-C	-5.50	99.89	108.86
30	d	275	HIS	CA-C-N	5.50	129.52	121.05
30	d	275	HIS	C-N-CA	5.50	129.52	121.05
66	AK	46	LEU	CA-C-N	-5.49	112.98	119.84
66	AK	46	LEU	C-N-CA	-5.49	112.98	119.84
51	1	46	ARG	CB-CG-CD	-5.47	98.71	111.30
60	AD	69	GLY	N-CA-C	5.42	119.23	112.73
52	2	1954	U	OP2-P-O3'	5.40	124.19	108.00
29	c	182	ALA	N-CA-C	-5.39	105.41	111.28
74	AS	60	LYS	O-C-N	5.38	129.08	123.06
78	AX	195	GLY	N-CA-C	-5.38	100.43	113.18
31	e	81	THR	CA-C-N	5.37	127.47	120.28
31	e	81	THR	C-N-CA	5.37	127.47	120.28
52	2	790	U	C2'-C3'-O3'	5.36	117.54	109.50
19	S	158	PRO	CA-C-O	-5.36	115.37	121.96
66	AK	137	ARG	N-CA-C	-5.36	102.47	110.23
55	5	205	GLY	N-CA-C	5.33	119.12	112.73
14	N	136	PRO	CA-N-CD	-5.31	104.56	112.00
74	AS	84	PHE	CA-C-N	-5.31	118.77	122.59
74	AS	84	PHE	C-N-CA	-5.31	118.77	122.59
47	u	89	ALA	CB-CA-C	-5.31	108.89	115.89
66	AK	45	ILE	CA-C-N	5.28	126.69	120.09
66	AK	45	ILE	C-N-CA	5.28	126.69	120.09
66	AK	136	GLY	N-CA-C	-5.28	106.59	115.62
14	N	44	ALA	N-CA-C	-5.28	103.06	110.50
10	J	142	GLU	N-CA-C	5.27	122.03	110.80
65	AJ	28	ARG	CA-C-N	-5.25	113.27	119.84
65	AJ	28	ARG	C-N-CA	-5.25	113.27	119.84
74	AS	25	LYS	N-CA-C	5.25	119.77	112.90
74	AS	36	LYS	N-CA-C	5.24	116.99	111.28
52	2	2046	U	C2'-C3'-O3'	5.23	121.54	113.70
52	2	2011	U	C2'-C3'-O3'	5.21	117.32	109.50
79	AY	23	LYS	CB-CA-C	-5.21	109.59	115.79
68	AM	150	SER	N-CA-C	5.20	117.28	108.02
66	AK	66	TYR	CA-C-N	-5.20	115.44	122.77
66	AK	66	TYR	C-N-CA	-5.20	115.44	122.77
70	AO	158	SER	CB-CA-C	-5.16	110.60	116.54
19	S	157	VAL	CA-C-N	-5.15	115.28	120.85
19	S	157	VAL	C-N-CA	-5.15	115.28	120.85
64	AI	133	VAL	CB-CA-C	-5.15	105.37	111.97
15	O	49	ARG	CA-C-N	5.15	127.14	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	O	49	ARG	C-N-CA	5.15	127.14	120.44
69	AN	9	PHE	N-CA-C	-5.14	105.59	111.14
29	c	248	GLY	N-CA-C	-5.14	102.01	110.80
63	AH	140	ARG	CB-CG-CD	-5.13	99.49	111.30
71	AP	151	ARG	CB-CG-CD	-5.12	99.52	111.30
42	p	320	ILE	N-CA-C	-5.12	105.40	110.62
52	2	1106	U	C3'-C2'-C1'	5.10	106.40	101.30
60	AD	39	PRO	O-C-N	5.10	129.23	122.30
54	4	134	TYR	C-N-CD	-5.09	109.40	120.60
74	AS	111	ALA	CA-C-N	5.09	127.90	120.98
74	AS	111	ALA	C-N-CA	5.09	127.90	120.98
42	p	224	GLY	CA-C-N	-5.06	115.11	122.65
42	p	224	GLY	C-N-CA	-5.06	115.11	122.65
68	AM	143	HIS	CB-CA-C	-5.06	103.55	111.39
68	AM	149	VAL	CA-CB-CG2	5.05	118.99	110.40
70	AO	100	LEU	CA-CB-CG	5.05	133.96	116.30
26	Z	113	GLY	O-C-N	-5.02	116.17	122.70
64	AI	135	HIS	N-CA-C	-5.02	105.87	113.51
33	g	101	VAL	CA-C-N	5.02	126.97	120.64
33	g	101	VAL	C-N-CA	5.02	126.97	120.64
77	AW	80	TYR	O-C-N	5.02	129.19	123.27
52	2	2164	U	P-O3'-C3'	5.01	127.72	120.20
53	3	149	ASN	CA-C-N	5.01	126.95	120.44
53	3	149	ASN	C-N-CA	5.01	126.95	120.44

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

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Mol	Chain	Res	Type	Group
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
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

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Mol	Chain	Res	Type	Group
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	604	0
2	B	22723	0	11462	311	0
3	C	3449	0	1745	94	0
4	D	2531	0	1283	41	0
5	E	3589	0	1818	34	0
6	F	1508	0	768	61	0
7	G	3911	0	1975	43	0
8	H	1996	0	1013	24	0
9	I	1539	0	1648	124	0
10	J	1704	0	1776	51	0
11	K	1339	0	1369	70	0
12	L	1435	0	1525	98	0
13	M	1780	0	1894	85	0
14	N	1336	0	1409	84	0
15	O	1714	0	1792	113	0
16	P	1245	0	1289	38	0
17	Q	1456	0	1498	64	0
18	R	1646	0	1749	84	0
19	S	1261	0	1317	61	0
20	T	997	0	1051	30	0
21	U	1035	0	1092	51	0
22	V	963	0	1032	34	0
23	W	563	0	577	13	0
24	X	965	0	1033	70	0
25	Y	1079	0	1148	33	0
26	Z	1126	0	1153	84	0
27	a	1140	0	1186	57	0
28	b	554	0	581	16	0
29	c	1921	0	1978	104	0
30	d	3183	0	3308	156	0
31	e	720	0	734	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	f	878	0	951	27	0
33	g	1050	0	1115	46	0
34	h	1014	0	1078	38	0
35	i	1056	0	1156	33	0
36	j	1060	0	1108	63	0
37	k	787	0	846	24	0
38	l	674	0	690	43	0
39	m	712	0	746	27	0
40	n	605	0	663	28	0
41	o	450	0	483	17	0
42	p	2825	0	2941	184	0
43	q	425	0	463	19	0
44	r	779	0	839	32	0
45	s	2094	0	2198	82	0
46	t	1054	0	1098	56	0
47	u	1857	0	1952	103	0
48	v	1850	0	1972	73	0
49	w	1484	0	1568	50	0
50	0	1786	0	1868	131	0
51	1	2037	0	2124	104	0
52	2	38724	0	19533	1773	0
53	3	1994	0	2134	107	0
54	4	1667	0	1782	117	0
55	5	1473	0	1561	132	0
56	6	1362	0	1416	75	0
57	7	2394	0	2312	234	0
58	8	314	0	323	78	0
59	AC	1622	0	1663	113	0
60	AD	767	0	758	111	0
61	AE	1148	0	1194	60	0
62	AG	1157	0	1230	52	0
63	AH	1023	0	1054	66	0
64	AI	984	0	1011	195	0
65	AJ	1020	0	1050	47	0
66	AK	1108	0	1167	179	0
67	AL	983	0	1054	91	0
68	AM	1186	0	1241	252	0
69	AN	1493	0	1538	162	0
70	AO	1150	0	1173	145	0
71	AP	1722	0	1768	83	0
72	AQ	807	0	851	109	0
73	AR	630	0	620	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
74	AS	1114	0	1170	79	0
75	AT	1033	0	1095	54	0
76	AV	828	0	874	50	0
77	AW	646	0	656	26	0
78	AX	1595	0	1662	176	0
79	AY	452	0	505	24	0
80	AZ	526	0	548	63	0
All	All	200172	0	148297	7022	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

All (7022) 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:C4	52:2:1864:C:C5	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
24:X:57:ARG:HD3	24:X:100:ASN:CG	1.24	1.60
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
52:2:1864:C:N3	64:AI:135:HIS:CG	1.74	1.54
29:c:135:ILE:HD12	29:c:149:LYS:CE	1.39	1.53
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
14:N:135:THR:HB	14:N:140:HIS:CD2	1.49	1.48
52:2:1864:C:C6	52:2:1864:C:N1	1.78	1.48
29:c:135:ILE:CD1	29:c:149:LYS:HE2	1.44	1.47
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
77:AW:79:GLY:C	77:AW:80:TYR:N	1.68	1.45
55:5:28:GLU:C	55:5:29:LEU:HD12	1.42	1.44
9:I:7:GLY:CA	9:I:8:ILE:HB	1.43	1.43
9:I:5:LEU:CD1	9:I:8:ILE:CG2	1.98	1.42
52:2:1864:C:C2	52:2:1864:C:N1	1.88	1.42
52:2:1863:A:C4'	64:AI:134:LEU:HD23	0.95	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1535:U:C4'	64:AI:133:VAL:HG11	1.49	1.40
52:2:1864:C:C2	64:AI:135:HIS:CB	2.04	1.39
78:AX:63:ARG:HG2	78:AX:67:GLU:CD	1.47	1.39
64:AI:135:HIS:CG	64:AI:135:HIS:CB	2.04	1.38
11:K:118:ASP:N	68:AM:15:ARG:HH22	0.91	1.38
52:2:1864:C:C4	52:2:1864:C:N3	1.90	1.38
78:AX:166:PHE:HA	78:AX:189:LEU:CD1	1.52	1.38
11:K:122:LYS:HD3	68:AM:10:PHE:CD1	1.59	1.36
12:L:177:VAL:CG2	26:Z:98:VAL:HG23	0.90	1.36
52:2:1864:C:C2	52:2:1864:C:N3	1.93	1.36
35:i:41:ALA:O	35:i:43:THR:N	1.59	1.35
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
24:X:57:ARG:CD	24:X:100:ASN:OD1	1.76	1.32
78:AX:166:PHE:CA	78:AX:189:LEU:HD11	1.59	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
24:X:57:ARG:CG	24:X:100:ASN:HB3	1.58	1.31
52:2:711:G:H1'	52:2:715:G:N7	1.42	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
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
66:AK:37:VAL:HG22	66:AK:40:VAL:C	1.46	1.29
24:X:57:ARG:CG	24:X:100:ASN:CB	2.06	1.29
24:X:58:GLY:O	24:X:60:PHE:N	1.66	1.29
52:2:750:U:H2'	52:2:751:G:C8	1.65	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
50:0:134:ASP:OD1	50:0:183:GLN:CB	1.82	1.26
52:2:2028:U:P	69:AN:42:TRP:HZ3	1.57	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
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
47:u:225:ARG:O	47:u:226:GLN:HG3	1.31	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
24:X:57:ARG:CD	24:X:100:ASN:CG	2.11	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
6:F:73:A:O2'	36:j:25:ASN:HB3	1.38	1.21
78:AX:63:ARG:HG2	78:AX:67:GLU:OE2	1.37	1.21
78:AX:63:ARG:CG	78:AX:67:GLU:OE2	1.88	1.21
78:AX:97:ALA:HB2	78:AX:187:ILE:CD1	1.71	1.21
78:AX:167:VAL:CG2	78:AX:186:LYS:HE3	1.70	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
56:6:113:PHE:CG	56:6:120:SER:O	1.91	1.21
6:F:73:A:O2'	36:j:25:ASN:CB	1.89	1.21
46:t:108:ARG:CB	46:t:109:PRO:HD3	1.66	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
6:F:11:G:C4'	6:F:73:A:H61	1.55	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
52:2:1864:C:C5	64:AI:135:HIS:HB2	1.78	1.18
64:AI:84:LYS:HG3	64:AI:102:ALA:CB	1.73	1.18
12:L:177:VAL:HG21	26:Z:98:VAL:CG2	1.55	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
21:U:111:MET:HE2	21:U:113:GLY:O	1.40	1.18
42:p:7:VAL:HG21	42:p:150:PRO:HG2	1.18	1.17
50:0:135:GLY:O	50:0:224:PRO:HD3	1.40	1.17
11:K:117:ILE:C	68:AM:15:ARG:NH2	2.01	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
2:B:321:A:HO2'	38:l:2:THR:N	1.41	1.16
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
9:I:5:LEU:HD12	9:I:8:ILE:CB	1.75	1.16
52:2:715:G:N2	52:2:740:C:O2	1.79	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:u:231:PHE:HA	47:u:235:GLY:O	1.43	1.15
52:2:719:C:O2	52:2:735:G:N2	1.80	1.15
52:2:1863:A:H4'	64:AI:134:LEU:CG	1.77	1.15
66:AK:89:GLN:CA	66:AK:122:LEU:CD2	2.25	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
9:I:5:LEU:HD12	9:I:8:ILE:CG1	1.78	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:HB2	9:I:8:ILE:HG12	1.28	1.14
9:I:5:LEU:CD1	9:I:8:ILE:CG1	2.26	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
78:AX:198:GLY:N	78:AX:199:PRO:HD3	1.18	1.14
52:2:1864:C:N1	64:AI:135:HIS:CB	2.10	1.13
57:7:123:VAL:HG12	57:7:158:PHE:CE2	1.82	1.13
74:AS:32:THR:CG2	74:AS:34:ALA:CB	2.26	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
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
2:B:363:G:OP1	29:c:174:ARG:NH1	1.84	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
11:K:122:LYS:HD3	68:AM:10:PHE:CE1	1.86	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
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
12:L:177:VAL:HG22	26:Z:98:VAL:CG2	1.58	1.09
18:R:170:ARG:HH22	52:2:919:G:H5'	1.10	1.09
53:3:148:PHE:HB2	53:3:150:LEU:HD12	1.11	1.09
67:AL:109:LEU:HD13	67:AL:116:VAL:HG13	1.14	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
42:p:320:ILE:HD11	47:u:160:LYS:HD2	1.27	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:N3	69:AN:63:MET:HE2	1.14	1.08
52:2:2028:U:P	69:AN:42:TRP:CZ3	2.46	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
24:X:57:ARG:HG3	24:X:100:ASN:HB3	1.13	1.07
13:M:29:LEU:HD22	13:M:59:LEU:HD21	1.09	1.07
52:2:734:U:C2'	52:2:735:G:H4'	1.82	1.07
52:2:1964:G:N2	52:2:1978:G:H1	1.50	1.07
12:L:177:VAL:HG12	26:Z:120:ILE:HD12	1.13	1.07
65:AJ:6:VAL:CG2	65:AJ:29:PRO:HG2	1.84	1.07
60:AD:68:LEU:O	60:AD:72:THR:HG22	1.54	1.07
42:p:320:ILE:HG12	47:u:160:LYS:HB2	1.37	1.06
47:u:230:HIS:O	47:u:233:GLU:HG3	1.54	1.06
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
55:5:28:GLU:C	55:5:29:LEU:CD1	2.29	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
46:t:108:ARG:HB3	46:t:109:PRO:HD3	1.29	1.05
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
30:d:21:ARG:HB3	30:d:274:GLN:HE22	1.10	1.05
69:AN:62:LEU:HD23	69:AN:75:ALA:HB2	1.39	1.05
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:CD	64:AI:109:PHE:HA	1.85	1.04
42:p:7:VAL:HG21	42:p:150:PRO:CG	1.86	1.04
66:AK:89:GLN:C	66:AK:122:LEU:HD21	1.83	1.04
18:R:179:ARG:NH2	52:2:963:U:OP1	1.91	1.04
64:AI:84:LYS:NZ	64:AI:109:PHE:HA	1.73	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:29:LEU:CD2	13:M:59:LEU:HD21	1.86	1.03
50:0:134:ASP:OD1	50:0:183:GLN:CA	2.06	1.03
57:7:148:GLY:C	57:7:177:LYS:HZ1	1.66	1.03
78:AX:97:ALA:HB2	78:AX:187:ILE:HD13	1.04	1.03
6:F:73:A:C2'	36:j:25:ASN:HB3	1.88	1.03
15:O:89:VAL:C	15:O:90:LEU:HG	1.81	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
11:K:117:ILE:C	68:AM:15:ARG:HH22	1.63	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
27:a:72:ASN:HB2	42:p:149:VAL:HG23	1.40	1.02
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
2:B:607:A:OP1	15:O:90:LEU:CD1	2.06	1.02
52:2:1671:C:HO2'	52:2:1803:G:HO2'	1.03	1.02
55:5:28:GLU:O	55:5:29:LEU:CD1	2.06	1.02
29:c:149:LYS:O	29:c:154:GLN:O	1.77	1.02
52:2:740:C:H2'	52:2:741:C:C6	1.95	1.02
66:AK:93:LYS:HG3	66:AK:122:LEU:HG	1.41	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
10:J:144:TYR:C	10:J:146:PRO:HD2	1.86	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
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
9:I:5:LEU:HD13	9:I:8:ILE:HG13	1.43	1.00
52:2:1864:C:C6	64:AI:135:HIS:ND1	2.29	1.00
80:AZ:57:ASN:CG	80:AZ:60:ILE:CD1	2.35	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:116:ILE:CD1	21:U:134:HIS:HB2	1.92	0.99
30:d:21:ARG:HB3	30:d:274:GLN:NE2	1.76	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
15:O:49:ARG:C	15:O:51:LEU:O	2.06	0.98
6:F:11:G:C4'	6:F:73:A:N6	2.20	0.98
78:AX:187:ILE:CG2	78:AX:188:MET:H	1.73	0.98
12:L:177:VAL:CB	26:Z:98:VAL:HG23	1.93	0.98
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
55:5:26:LYS:HD2	55:5:29:LEU:HD21	1.43	0.98
55:5:204:GLU:O	55:5:208:LEU:HB2	1.64	0.98
55:5:204:GLU:HB2	61:AE:32:ASN:ND2	1.79	0.97
52:2:1490:U:H5	74:AS:110:HIS:CE1	1.81	0.97
52:2:1977:G:H3'	52:2:1977:G:N3	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
52:2:1863: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
11:K:122:LYS:CD	68:AM:10:PHE:CD1	2.47	0.97
72:AQ:38:THR:HA	72:AQ:41:ARG:HB3	1.45	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
2:B:1450:U:H1'	8:H:107:U:H3'	1.42	0.96
50:0:134:ASP:OD1	50:0:183:GLN:HA	1.64	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
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
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
14:N:135:THR:HG21	14:N:140:HIS:NE2	1.82	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
13:M:127:PRO:CG	13:M:129:ASN:HD21	1.80	0.95
64:AI:83:VAL:HG22	64:AI:84:LYS:H	1.29	0.95
11:K:118:ASP:CA	68:AM:15:ARG:HH22	1.78	0.94
52:2:526:G:O6	52:2:527:A:N6	2.00	0.94
1:A:1752:G:C4	40:n:74:HIS:CD2	2.55	0.94
52:2:734:U:C6	52:2:735:G:O4'	2.19	0.94
52:2:918:A:N6	52:2:1101:A:N1	2.15	0.94
2:B:390:A:O2'	52:2:1160:A:N3	1.73	0.94
12:L:177:VAL:HG22	26:Z:98:VAL:HG23	0.97	0.94
13:M:127:PRO:HG2	13:M:129:ASN:ND2	1.81	0.94
9:I:5:LEU:CD1	9:I:8:ILE:HG12	1.98	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
24:X:57:ARG:HB2	24:X:100:ASN:HB3	1.48	0.94
52:2:306:U:O2'	55:5:75:ARG:NH2	2.01	0.94
52:2:526:G:C6	52:2:527:A:C6	2.56	0.94
41:o:27:ILE:O	41:o:33:ASN:ND2	2.01	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
52:2:1132:G:N2	63:AH:131:ASP:OD2	2.01	0.93
52:2:1595:G:H4'	64:AI:84:LYS:O	1.66	0.93
68:AM:95:LYS:HE2	68:AM:97:GLU:HG2	1.48	0.93
15:O:64:VAL:HG21	15:O:106:LEU:HD21	1.49	0.93
36:j:111:HIS:HB2	36:j:118:ARG:HG3	1.50	0.93
52:2:1863:A:C3'	64:AI:134:LEU:CD2	2.36	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
18:R:174:ARG:NH2	52:2:1101:A:C4	2.37	0.93
52:2:1490:U:H5	74:AS:110:HIS:HE1	1.16	0.93
52:2:1864:C:N3	64:AI:135:HIS:CA	2.32	0.93
18:R:179:ARG:NH2	52:2:963:U:P	2.42	0.92
80:AZ:84:ARG:O	80:AZ:85:ARG:C	2.12	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:17:U:H1'	13:M:134:GLY:O	1.68	0.92
66:AK:89:GLN:CA	66:AK:122:LEU:HD21	1.99	0.92
2:B:391:A:C5'	52:2:1160:A:N7	2.30	0.92
2:B:1125:A:O2'	9:I:189:SER:OG	1.87	0.92
30:d:240:VAL:HG21	30:d:254:VAL:HG22	1.51	0.92
42:p:320:ILE:CD1	47:u:160:LYS:HD2	1.99	0.92
52:2:711:G:C1'	52:2:715:G:N7	2.32	0.92
9:I:182:ARG:H	26:Z:51:GLY:HA2	1.34	0.92
60:AD:68:LEU:O	60:AD:72:THR:CG2	2.17	0.92
9:I:5:LEU:HB2	9:I:8:ILE:CG1	2.00	0.92
46:t:108:ARG:CB	46:t:109:PRO:CD	2.47	0.92
31:e:19:VAL:O	31:e:22:SER:O	1.87	0.92
52:2:1115:G:H21	62:AG:52:MET:HE2	1.31	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
80:AZ:57:ASN:HB2	80:AZ:58:ARG:C	1.94	0.91
47:u:225:ARG:O	47:u:226:GLN:CG	2.17	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
12:L:178:SER:O	26:Z:120:ILE:CD1	2.18	0.91
27:a:30:ASP:HB3	27:a:33:ASN:HD22	1.36	0.91
73:AR:23:HIS:HD2	73:AR:58:CYS:H	1.13	0.91
47:u:224:MET:CB	47:u:236:ASP:OD2	2.18	0.91
52:2:715:G:C2	52:2:740:C:O2	2.24	0.91
12:L:177:VAL:CG1	26:Z:120:ILE:HD12	2.01	0.91
57:7:158:PHE:HA	57:7:167:VAL:HG12	1.52	0.91
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
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:N	2.04	0.90
14:N:13:VAL:HG21	14:N:56:VAL:HG13	1.53	0.90
70:AO:22:ARG:NH1	70:AO:82:CYS:SG	2.44	0.90
52:2:1869:A:N6	68:AM:139:THR:OG1	2.05	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
30:d:296:VAL:HG12	30:d:297:GLU:HG3	1.54	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:170:ARG:NH2	52:2:919:G:H5'	1.86	0.90
52:2:711:G:HO2'	52:2:715:G:H8	1.18	0.90
52:2:1535:U:O4'	64:AI:133:VAL:HG11	1.70	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
47:u:230:HIS:N	47:u:233:GLU:OE2	2.04	0.90
11:K:118:ASP:HB2	68:AM:15:ARG:HH12	1.37	0.90
30:d:19:ARG:HB2	30:d:237:ARG:HH21	1.36	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
1:A:1752:G:C4	40:n:74:HIS:NE2	2.41	0.89
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
12:L:178:SER:O	26:Z:120:ILE:HD11	1.72	0.89
47:u:224:MET:CG	47:u:236:ASP:OD2	2.21	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
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
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
27:a:74:PRO:HA	27:a:77:THR:HG22	1.53	0.89
50:0:134:ASP:CG	50:0:183:GLN:CA	2.44	0.88
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
50:0:134:ASP:CG	50:0:183:GLN:HA	1.98	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
78:AX:196:ARG:C	78:AX:199:PRO:HD3	1.98	0.88
80:AZ:57:ASN:CG	80:AZ:60:ILE:HD12	1.97	0.88
31:e:47:SER:OG	31:e:79:LEU:HD12	1.73	0.88
57:7:180:ASN:HB2	57:7:185:LYS:HB2	1.56	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:57:ARG:CD	24:X:100:ASN:CB	2.50	0.88
74:AS:61:GLN:HG3	74:AS:62:PRO:HD3	1.55	0.88
1:A:768:C:C5	26:Z:114:HIS:CE1	2.62	0.88
21:U:116:ILE:HD12	21:U:134:HIS:CB	2.03	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
24:X:28:MET:HB2	24:X:98:PRO:HG3	1.57	0.87
60:AD:88:LYS:HE2	60:AD:95:GLU:HG3	1.54	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
2:B:363:G:P	29:c:174:ARG:HH12	1.98	0.87
31:e:24:LYS:HB2	31:e:95:THR:OG1	1.72	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
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
24:X:57:ARG:HG3	24:X:100:ASN:C	1.99	0.87
15:O:48:ALA:O	15:O:51:LEU:O	1.93	0.86
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
12:L:177:VAL:HG11	26:Z:120:ILE:HB	1.55	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
2:B:1019:A:OP1	44:r:97:LYS:HB3	1.74	0.86
74:AS:32:THR:HG22	74:AS:34:ALA:H	1.40	0.86
1:A:768:C:C5	26:Z:114:HIS:HE1	1.94	0.86
2:B:1045:C:HO2'	11:K:25:CYS:HG	1.13	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
52:2:1980:C:H5''	68:AM:84:PHE:HA	1.57	0.86
55:5:204:GLU:HG3	61:AE:32:ASN:HB3	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
12:L:20:CYS:O	12:L:22:SER:N	2.09	0.86
74:AS:26:GLY:O	74:AS:27:TRP:HB2	1.74	0.86
52:2:1878:U:C4	69:AN:63:MET:HE2	2.09	0.86
56:6:17:PRO:O	56:6:22:ARG:NH2	2.08	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:89:VAL:O	15:O:90:LEU:HG	1.74	0.86
39:m:60:CYS:HB3	39:m:62:LYS:HG2	1.56	0.86
6:F:17:U:C1'	13:M:134:GLY:O	2.24	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
66:AK:14:THR:HG21	66:AK:93:LYS:HB3	1.56	0.86
52:2:1863:A:H1'	68:AM:150:SER:HB3	1.56	0.85
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
66:AK:37:VAL:CG2	66:AK:40:VAL:C	2.40	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
44:r:96:LYS:HA	44:r:96:LYS:HE3	1.57	0.85
47:u:224:MET:HG3	47:u:236:ASP:OD2	1.76	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
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
35:i:41:ALA:O	35:i:42:GLU:C	2.19	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
64:AI:84:LYS:HD3	64:AI:109:PHE:C	2.01	0.85
2:B:1398:A:H2'	2:B:1399:A:C8	2.12	0.85
1:A:1593:G:O2'	34:h:7:GLN:NE2	2.10	0.85
50:0:135:GLY:O	50:0:224:PRO:CD	2.24	0.85
18:R:170:ARG:HH22	52:2:918:A:H1'	1.37	0.85
26:Z:114:HIS:O	26:Z:115:ILE:C	2.14	0.84
47:u:26:ALA:HB3	47:u:29:LYS:HB2	1.59	0.84
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
2:B:125:U:OP2	18:R:74:ARG:NH1	2.09	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
10:J:16:PRO:O	10:J:95:HIS:ND1	2.08	0.84
30:d:276:GLY:O	30:d:278:HIS:ND1	2.10	0.84
42:p:261:ILE:O	42:p:269:SER:OG	1.95	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
6:F:73:A:O2'	36:j:25:ASN:CG	2.21	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
69:AN:43:GLN:O	69:AN:44:LYS:C	2.16	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
1:A:248:A:OP2	42:p:221:ASN:ND2	2.11	0.84
18:R:8:ALA:CB	18:R:19:ARG:HH21	1.90	0.84
52:2:719:C:O2	52:2:735:G:N1	2.10	0.84
52:2:1957:G:H22	52:2:1982:C:H42	1.19	0.84
64:AI:84:LYS:HD3	64:AI:109:PHE:O	1.78	0.84
80:AZ:57:ASN:CG	80:AZ:60:ILE:HD11	2.02	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
2:B:1449:U:O2'	30:d:172:ARG:NH1	2.10	0.83
12:L:177:VAL:HG21	26:Z:98:VAL:CB	2.08	0.83
33:g:102:GLY:O	33:g:106:ARG:CB	2.26	0.83
52:2:726:G:H1	67:AL:96:GLN:CG	1.90	0.83
52:2:1520:C:N4	52:2:1521:G:O6	2.11	0.83
42:p:292:GLN:OE1	42:p:297:ARG:NH2	2.10	0.83
66:AK:89:GLN:HA	66:AK:122:LEU:HD22	1.59	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
54:4:9:ARG:HH12	54:4:11:LEU:HD12	1.44	0.83
52:2:717:C:H2'	52:2:718:C:C6	2.14	0.83
52:2:1963:G:N2	52:2:1980:C:N3	2.25	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
47:u:224:MET:HB2	47:u:236:ASP:OD2	1.79	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1913:U:O2	52:2:1925:G:N2	2.11	0.83
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
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
12:L:177:VAL:HG21	26:Z:98:VAL:HG23	0.84	0.82
50:0:78:ALA:HB2	50:0:82:GLU:CD	2.02	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
59:AC:52:GLN:HG3	67:AL:117:PRO:HB2	1.62	0.82
66:AK:36:LYS:HA	66:AK:41:PRO:HA	1.61	0.82
1:A:469:A:OP2	33:g:16:LYS:NZ	2.12	0.82
52:2:718:C:H42	52:2:736:G:H22	1.28	0.82
52:2:1879:C:N4	52:2:1941:A:OP2	2.12	0.82
66:AK:89:GLN:C	66:AK:122:LEU:CD2	2.52	0.82
73:AR:43:ASN:H	73:AR:53:THR:HB	1.42	0.82
9:I:189:SER:O	9:I:190:TYR:HB3	1.78	0.82
47:u:224:MET:HB2	47:u:236:ASP:CG	2.03	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
15:O:106:LEU:HD11	15:O:132:VAL:HB	1.62	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
5:E:155:U:OP1	20:T:120:LYS:NZ	2.12	0.82
52:2:1527:C:O5'	68:AM:131:ARG:NH1	2.13	0.82
52:2:1536:U:C4'	64:AI:131:ARG:HG2	2.10	0.82
17:Q:165:ARG:NH2	36:j:62:ASN:O	2.12	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
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
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
1:A:1399:C:H4'	36:j:45:GLY:HA2	1.62	0.81
50:0:112:LYS:HE3	50:0:214:ARG:HH12	1.42	0.81
78:AX:167:VAL:HG22	78:AX:186:LYS:CE	2.10	0.81
1:A:23:U:OP1	38:l:58:ARG:NH1	2.13	0.81
1:A:25:C:H42	1:A:55:A:H61	1.24	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1752:G:N3	40:n:74:HIS:CD2	2.48	0.81
5:E:145:A:OP1	40:n:35:LYS:NZ	2.13	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
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
3:C:257:C:O2'	48:v:267:ASP:OD2	1.98	0.81
9:I:5:LEU:HD11	9:I:8:ILE:HG21	1.60	0.81
47:u:230:HIS:O	47:u:233:GLU:CG	2.28	0.81
52:2:331:G:O2'	52:2:332:C:O5'	1.96	0.81
52:2:765:U:OP1	54:4:12:LYS:NZ	2.13	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
1:A:304:G:H1'	15:O:50:MET:HE3	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
2:B:1036:A:H4'	11:K:110:GLY:HA3	1.62	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
31:e:24:LYS:C	31:e:95:THR:HG1	1.89	0.81
46:t:72:ASN:ND2	46:t:178:LEU:O	2.14	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
51:1:66:LEU:HD23	75:AT:22:LEU:HD12	1.63	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
43:q:99:CYS:N	43:q:115:CYS:SG	2.46	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
18:R:170:ARG:NH2	52:2:918:A:C1'	2.40	0.80
66:AK:60:VAL:HG21	66:AK:118:TYR:OH	1.81	0.80
1:A:393:G:O6	38:l:52:LYS:NZ	2.14	0.80
12:L:177:VAL:HG21	26:Z:98:VAL:N	1.95	0.80
52:2:66:U:OP1	53:3:139:LYS:NZ	2.15	0.80
52:2:1876:U:C2	52:2:1880:A:H4'	2.17	0.80
80:AZ:57:ASN:ND2	80:AZ:60:ILE:CD1	2.38	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:56:A:O2'	11:K:155:VAL:O	2.00	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
1:A:596:A:H61	1:A:609:C:H42	1.29	0.80
52:2:1536:U:H4'	64:AI:131:ARG:CB	2.10	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:60:LEU:N	68:AM:65:LEU:H	1.80	0.80
68:AM:130:LEU:HD11	68:AM:148:GLY:HA3	1.61	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
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
52:2:1864:C:H5''	68:AM:149:VAL:HG22	1.63	0.80
66:AK:89:GLN:CB	66:AK:122:LEU:HD22	2.12	0.80
1:A:434:U:O3'	24:X:84:ARG:NH2	2.15	0.80
12:L:177:VAL:CG1	26:Z:98:VAL:CG2	2.59	0.80
52:2:82:A:O2'	52:2:83:A:O5'	2.00	0.80
6:F:56:A:N7	46:t:179:ARG:NH1	2.30	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
52:2:740:C:O2'	52:2:741:C:O4'	2.00	0.80
52:2:1585:U:N3	52:2:1608:C:O2	2.12	0.80
66:AK:36:LYS:HD2	66:AK:72:ASP:CG	2.06	0.80
2:B:995:G:OP2	19:S:9:SER:O	1.99	0.79
72:AQ:36:LEU:O	72:AQ:39:ARG:NH1	2.16	0.79
42:p:191:GLY:O	42:p:194:LYS:NZ	2.14	0.79
52:2:1524:G:N1	52:2:1990:G:N3	2.30	0.79
78:AX:166:PHE:HZ	78:AX:199:PRO:CB	1.95	0.79
1:A:191:U:O2'	1:A:192:C:O4'	1.99	0.79
52:2:734:U:C6	52:2:735:G:H4'	2.13	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
47:u:149:PRO:HA	47:u:245:ASN:HD21	1.46	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
64:AI:84:LYS:HZ3	64:AI:109:PHE:HA	1.43	0.79
7:G:36:G:H1	7:G:166:C:H5	1.31	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
5:E:42:U:O2'	34:h:3:CYS:SG	2.36	0.79
12:L:63:VAL:HG22	12:L:106:ARG:HH22	1.47	0.79
31:e:24:LYS:O	31:e:95:THR:OG1	2.00	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
52:2:1575:A:N1	52:2:1617:G:N2	2.31	0.79
52:2:1864:C:C4	64:AI:135:HIS:HA	2.18	0.79
78:AX:197:ASN:C	78:AX:199:PRO:HD3	2.08	0.79
52:2:1865:G:O2'	68:AM:147:VAL:N	2.14	0.78
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
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
52:2:1490:U:C5	74:AS:110:HIS:CE1	2.71	0.78
68:AM:27:VAL:CG2	68:AM:54:GLU:HB3	2.13	0.78
80:AZ:57:ASN:OD1	80:AZ:60:ILE:HD11	1.84	0.78
1:A:376:A:H2	3:C:118:U:H3	1.31	0.78
2:B:406:G:H4'	37:k:83:PHE:HE2	1.48	0.78
9:I:178:LYS:O	9:I:181:LYS:NZ	2.16	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:1028:A:OP2	9:I:147:ARG:NH2	2.16	0.78
1:A:1496:U:OP2	33:g:60:SER:OG	2.02	0.78
52:2:977:G:N2	52:2:1097:C:N3	2.30	0.78
57:7:148:GLY:C	57:7:177:LYS:NZ	2.41	0.78
5:E:13:G:N2	5:E:18:A:OP1	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:180:ASN:ND2	57:7:187:GLU:OE2	2.17	0.78
1:A:1054:A:O2'	45:s:15:ARG:NH1	2.17	0.78
1:A:1096:C:OP1	10:J:133:GLN:NE2	2.16	0.78
38:l:34:CYS:SG	38:l:37:CYS:N	2.54	0.78
52:2:1965:A:C4	52:2:1978:G:N2	2.51	0.78
50:0:134:ASP:CG	50:0:183:GLN:CB	2.56	0.78
52:2:1793:C:H42	52:2:1809:G:H1	1.29	0.78
78:AX:196:ARG:C	78:AX:199:PRO:CD	2.57	0.78
19:S:118:ALA:O	19:S:122:GLY:O	2.00	0.78
29:c:207:VAL:HG23	29:c:208:GLU:HG3	1.65	0.78
36:j:111:HIS:HB2	36:j:118:ARG:CG	2.14	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
50:0:151:ASN:HD21	52:2:1380:U:H1'	1.49	0.78
74:AS:61:GLN:HB3	74:AS:62:PRO:HD2	1.63	0.78
1:A:453:G:OP1	16:P:62:ARG:NH1	2.17	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
12:L:177:VAL:HB	26:Z:96:LEU:O	1.82	0.77
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
4:D:7:C:OP1	45:s:54:ARG:NH1	2.17	0.77
42:p:31:ILE:O	42:p:125:SER:HB2	1.84	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
69:AN:155:MET:HB2	69:AN:156:PRO:HD3	1.65	0.77
1:A:768:C:C6	26:Z:114:HIS:CE1	2.72	0.77
71:AP:162:HIS:CD2	71:AP:163:THR:HG23	2.19	0.77
2:B:1272:G:OP2	49:w:172:ARG:NH2	2.17	0.77
8:H:104:G:OP2	30:d:175:ARG:NH2	2.18	0.77
15:O:181:ALA:HB1	15:O:184:LEU:HG	1.65	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
52:2:1864:C:O5'	68:AM:151:ARG:N	2.17	0.77
63:AH:32:ASP:OD1	63:AH:33:THR:N	2.17	0.77
1:A:808:A:O2'	28:b:29:LEU:O	2.01	0.77
27:a:43:CYS:O	27:a:47:ASN:ND2	2.17	0.77
30:d:276:GLY:C	30:d:278:HIS:H	1.93	0.77
53:3:80:ARG:NH2	53:3:94:GLU:H	1.82	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:AQ:32:VAL:O	72:AQ:36:LEU:N	2.17	0.77
1:A:1482:C:H1'	33:g:103:ALA:HB3	1.66	0.77
2:B:1437:G:N2	2:B:1462:C:N3	2.31	0.77
54:4:189:MET:HE1	54:4:195:GLN:HG2	1.67	0.77
55:5:31:ARG:O	55:5:32:LEU:C	2.28	0.77
66:AK:120:LYS:HG2	66:AK:123:LEU:HB2	1.65	0.77
11:K:115:GLU:OE1	68:AM:15:ARG:CD	2.31	0.77
12:L:177:VAL:CG1	26:Z:98:VAL:HG22	2.15	0.77
14:N:35:ARG:NH1	17:Q:98:ASP:OD1	2.16	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
52:2:1936:C:N3	70:AO:87:ARG:NH2	2.33	0.77
53:3:65:VAL:HG23	53:3:100:VAL:CG1	2.14	0.77
68:AM:113:GLU:HB3	68:AM:117:LYS:HE3	1.65	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
51:1:182:GLY:H	51:1:186:ARG:HG2	1.50	0.77
52:2:613:G:N2	52:2:626:G:OP1	2.18	0.77
52:2:1950:C:N4	69:AN:152:LEU:O	2.16	0.77
57:7:7:LEU:HB2	57:7:303:ILE:HB	1.64	0.77
64:AI:128:MET:HE1	68:AM:119:ARG:HE	1.50	0.77
72:AQ:29:VAL:HG12	72:AQ:84:ARG:HE	1.49	0.77
19:S:80:VAL:HG12	19:S:81:ARG:H	1.49	0.77
57:7:252:VAL:N	57:7:259:SER:O	2.17	0.77
52:2:93:G:HO2'	52:2:508:A:HO2'	1.28	0.77
52:2:322:C:H3'	52:2:323:U:H5''	1.67	0.77
52:2:1964:G:OP1	64:AI:49:ARG:NH2	2.18	0.77
70:AO:77:TRP:HH2	70:AO:117:THR:HG22	1.50	0.77
16:P:32:THR:O	16:P:48:TYR:OH	2.01	0.76
43:q:97:ARG:HE	43:q:122:ARG:HD3	1.51	0.76
52:2:1957:G:H5'	70:AO:105:GLY:N	1.99	0.76
1:A:326:A:OP1	15:O:97:ASN:ND2	2.17	0.76
42:p:150:PRO:O	42:p:151:LEU:C	2.26	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
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
2:B:363:G:P	29:c:174:ARG:NH1	2.57	0.76
11:K:117:ILE:C	68:AM:15:ARG:HH21	1.90	0.76
52:2:1525:A:C4	68:AM:143:HIS:HB2	2.20	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:150:LEU:HD22	53:3:151:SER:CB	2.14	0.76
14:N:45:LYS:HA	14:N:47:TRP:CE3	2.21	0.76
48:v:228:ILE:HG23	48:v:260:ILE:HD12	1.68	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
9:I:182:ARG:HH22	26:Z:38:MET:HE1	1.51	0.76
14:N:10:GLY:HA2	14:N:27:ILE:O	1.84	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
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
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
63:AH:75:VAL:HG13	63:AH:117:MET:HE3	1.67	0.76
63:AH:121:ARG:N	76:AV:62:TYR:CE2	2.11	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
2:B:436:G:O6	2:B:446:C:N4	2.19	0.76
2:B:1395:C:OP1	30:d:151:ASN:ND2	2.19	0.76
24:X:57:ARG:HD3	24:X:100:ASN:CB	2.10	0.76
47:u:230:HIS:CB	47:u:233:GLU:OE2	2.34	0.76
52:2:1878:U:H3	69:AN:63:MET:HE2	0.95	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:401:G:OP2	37:k:71:ARG:NH2	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
66:AK:132:PRO:O	66:AK:134:LYS:NZ	2.19	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
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
1:A:201:A:OP2	33:g:104:ARG:NH1	2.19	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:109:ILE:HG22	20:T:119:LEU:HD23	1.68	0.75
50:O:129:GLU:OE2	50:O:139:ARG:NE	2.16	0.75
52:2:308:C:H4'	52:2:309:G:C8	2.20	0.75
1:A:1752:G:C5	40:n:74:HIS:CE1	2.74	0.75
52:2:1529:U:P	68:AM:135:GLN:H	2.09	0.75
52:2:1558:C:N3	52:2:1969:C:N4	2.34	0.75
52:2:1931:A:H3'	72:AQ:56:ARG:NH2	2.00	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
59:AC:45:ARG:HE	73:AR:84:ARG:HH22	1.34	0.75
66:AK:12:VAL:HG12	66:AK:13:GLN:H	1.49	0.75
3:C:143:A:H62	41:o:27:ILE:HD13	1.51	0.75
13:M:129:ASN:OD1	13:M:130:VAL:HG13	1.85	0.75
33:g:84:TYR:OH	33:g:112:LYS:NZ	2.18	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
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
1:A:704:G:H5''	9:I:20:TYR:O	1.86	0.75
2:B:1257:U:H4'	30:d:266:MET:HE1	1.68	0.75
45:s:124:GLU:HB3	45:s:126:ASP:OD1	1.87	0.75
46:t:106:PHE:CD1	46:t:150:ARG:NH2	2.53	0.75
52:2:1523:G:OP1	68:AM:142:ARG:NE	2.19	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
78:AX:63:ARG:HG2	78:AX:67:GLU:OE1	1.86	0.75
1:A:1272:U:H4'	49:w:64:ILE:HD11	1.68	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
54:4:19:LEU:O	54:4:50:ARG:NH1	2.19	0.75
57:7:288:SER:OG	57:7:290:ASP:OD1	2.05	0.75
66:AK:37:VAL:H	66:AK:40:VAL:C	1.93	0.75
1:A:990:U:OP2	26:Z:26:ARG:NH2	2.19	0.75
41:o:20:ASN:O	41:o:41:ARG:NH1	2.19	0.75
42:p:139:ARG:NH2	42:p:240:PRO:HG2	2.02	0.75
52:2:382:A:H5''	55:5:10:LYS:HD2	1.67	0.75
69:AN:126:ASP:OD2	80:AZ:62:ARG:HD2	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1466:G:O6	27:a:13:ARG:NH2	2.17	0.75
47:u:138:ARG:HA	47:u:141:GLU:HG3	1.69	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
47:u:224:MET:HB2	47:u:236:ASP:OD1	1.86	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
24:X:48:ARG:HG2	24:X:49:LYS:H	1.49	0.74
27:a:11:LEU:HD21	42:p:31:ILE:HG21	1.68	0.74
52:2:1698:A:C2	52:2:1701:A:C4	2.75	0.74
52:2:82:A:O2'	52:2:83:A:O4'	2.05	0.74
52:2:1793:C:OP2	67:AL:59:LYS:NZ	2.17	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
36:j:44:ARG:HG2	36:j:46:LEU:H	1.53	0.74
51:1:33:HIS:CD2	51:1:82:GLY:H	2.04	0.74
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
31:e:24:LYS:N	31:e:96:ASN:OD1	2.19	0.74
47:u:230:HIS:O	47:u:235:GLY:HA3	1.87	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
1:A:62:G:OP1	15:O:169:ARG:NH2	2.20	0.74
1:A:612:G:OP2	42:p:359:ARG:NH1	2.20	0.74
2:B:1438:G:H22	2:B:1461:U:H3	1.35	0.74
11:K:118:ASP:HB2	68:AM:15:ARG:NH1	2.02	0.74
15:O:121:VAL:HG21	15:O:131:GLU:HG3	1.67	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
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
1:A:226:C:N4	7:G:14:G:O6	2.17	0.74
42:p:150:PRO:O	42:p:152:VAL:HG23	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1874:A:O5'	69:AN:67:ARG:NH2	2.21	0.74
54:4:190:TRP:HE1	54:4:196:GLN:CB	2.00	0.74
71:AP:43:TRP:CH2	71:AP:73:GLU:HG2	2.23	0.74
1:A:597:C:H42	1:A:608:G:H1	1.32	0.74
1:A:1752:G:O4'	18:R:42:ARG:NH1	2.19	0.74
2:B:439:A:N7	52:2:2061:G:N2	2.36	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
27:a:72:ASN:HB2	42:p:149:VAL:CG2	2.15	0.74
2:B:391:A:H5'	52:2:1160:A:N7	2.01	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
12:L:177:VAL:HG22	26:Z:98:VAL:HG21	1.62	0.74
52:2:164:C:H3'	52:2:164:C:OP2	1.87	0.74
52:2:1526:G:H4'	52:2:1985:A:C2	2.23	0.74
52:2:1864:C:C4	64:AI:135:HIS:HB2	2.22	0.74
63:AH:139:ARG:HG3	76:AV:31:LEU:HD12	1.69	0.74
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
29:c:60:ARG:HE	29:c:75:LEU:HD12	1.52	0.73
52:2:1292:U:H2'	52:2:1293:G:H5''	1.68	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
33:g:102:GLY:O	33:g:106:ARG:HB2	1.87	0.73
50:0:97:ARG:HG2	50:0:243:GLU:HG3	1.68	0.73
30:d:36:ASP:OD2	30:d:38:THR:OG1	2.06	0.73
31:e:47:SER:HG	31:e:79:LEU:HD12	1.49	0.73
38:l:63:ARG:NH1	38:l:65:ARG:HD2	2.02	0.73
50:0:107:GLU:OE2	50:0:217:LYS:NZ	2.21	0.73
52:2:716:U:C4	52:2:739:A:N1	2.56	0.73
52:2:1252:A:O2'	52:2:2187:C:O2'	2.05	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
1:A:1590:G:O6	34:h:5:ARG:NH2	2.20	0.73
33:g:72:PHE:HE2	33:g:119:ARG:HE	1.37	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
2:B:390:A:N3	52:2:1160:A:O2'	2.09	0.73
74:AS:32:THR:HG22	74:AS:34:ALA:CA	2.19	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AS:61:GLN:HG3	74:AS:62:PRO:CD	2.17	0.73
52:2:1574:C:H5''	60:AD:90:ARG:HH12	1.54	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
15:O:94:LEU:HG	15:O:95:ASN:H	1.52	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
52:2:1793:C:N4	52:2:1809:G:H1	1.87	0.73
62:AG:4:MET:HE1	62:AG:124:ARG:HD2	1.71	0.73
69:AN:154:SER:OG	69:AN:157:GLU:HB2	1.89	0.73
2:B:607:A:OP1	15:O:90:LEU:HD11	1.88	0.73
52:2:1804:C:OP2	67:AL:60:ARG:NH2	2.20	0.73
58:8:21:CYS:HA	58:8:28:GLN:CG	2.18	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
1:A:995:C:O2	1:A:1467:G:N2	2.18	0.72
57:7:116:SER:OG	57:7:118:ASP:O	2.03	0.72
74:AS:24:ASP:O	74:AS:28:LYS:HB2	1.89	0.72
78:AX:190:PRO:C	78:AX:192:ASP:N	2.46	0.72
2:B:330:A:OP2	29:c:200:ARG:NH1	2.21	0.72
9:I:5:LEU:HD11	9:I:8:ILE:HG23	1.63	0.72
9:I:182:ARG:HG3	9:I:189:SER:HB2	1.70	0.72
13:M:127:PRO:HB2	13:M:129:ASN:HD22	1.52	0.72
29:c:174:ARG:HG2	29:c:175:ILE:N	2.04	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
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
52:2:1535:U:C3'	64:AI:133:VAL:HG11	1.78	0.72
66:AK:47:PRO:O	66:AK:48:ASP:C	2.30	0.72
78:AX:63:ARG:O	78:AX:67:GLU:HB2	1.89	0.72
22:V:60:ILE:HD11	35:i:22:LEU:HD22	1.71	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
68:AM:141:GLY:HA3	68:AM:147:VAL:HG21	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:8:LEU:HB3	69:AN:11:LYS:HA	1.71	0.72
10:J:212:MET:O	45:s:300:ARG:NH1	2.22	0.72
54:4:196:GLN:HE22	77:AW:13:VAL:HA	1.53	0.72
56:6:76:MET:HE2	56:6:90:ASP:HA	1.72	0.72
3:C:118:U:O2	42:p:49:GLN:NE2	2.22	0.72
18:R:179:ARG:HH22	52:2:963:U:P	2.12	0.72
38:l:59:THR:CG2	38:l:67:LEU:HD11	2.19	0.72
60:AD:125:MET:HE3	78:AX:66:ARG:HH22	1.55	0.72
65:AJ:86:TYR:HE1	65:AJ:104:LEU:HD11	1.55	0.72
11:K:118:ASP:CA	68:AM:15:ARG:NH2	2.46	0.72
13:M:80:LYS:HB2	13:M:87:GLY:HA2	1.71	0.72
46:t:106:PHE:CE1	46:t:150:ARG:NH1	2.58	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
78:AX:176:MET:HG3	78:AX:181:ILE:HD12	1.72	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
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
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
39:m:53:GLY:HA2	39:m:67:GLY:HA2	1.70	0.72
46:t:55:LYS:NZ	46:t:101:ILE:O	2.20	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
52:2:1707:C:H2'	52:2:1708:A:C8	2.25	0.72
12:L:177:VAL:HG21	26:Z:98:VAL:CA	2.20	0.71
48:v:275:ILE:HG22	48:v:276:GLY:H	1.54	0.71
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
80:AZ:48:MET:SD	80:AZ:73:MET:HE1	2.30	0.71
9:I:62:ILE:HG23	9:I:148:GLY:HA2	1.71	0.71
53:3:150:LEU:CD2	53:3:151:SER:HB3	2.19	0.71
55:5:204:GLU:HB2	61:AE:32:ASN:HD22	1.54	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)
8:H:7:C:H5	8:H:19:G:H1	1.36	0.71
42:p:229:ASN:OD1	42:p:230:VAL:N	2.23	0.71
52:2:2012:C:O2'	52:2:2013:A:O5'	2.04	0.71
71:AP:165:PRO:HG2	71:AP:166:MET:HE2	1.73	0.71
2:B:1265:U:O2'	7:G:42:A:OP1	2.08	0.71
10:J:144:TYR:C	10:J:146:PRO:CD	2.60	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
1:A:1475:G:OP1	42:p:204:ARG:NH2	2.21	0.71
2:B:717:G:O2'	48:v:328:ARG:NH1	2.22	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
34:h:42:GLY:HA3	34:h:53:ARG:HH12	1.55	0.71
52:2:64:A:H5'	53:3:180:GLN:HE22	1.55	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
57:7:24:GLU:HG3	57:7:25:SER:OG	1.90	0.71
1:A:711:G:N3	1:A:839:U:O2'	2.23	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
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
65:AJ:6:VAL:HG23	65:AJ:29:PRO:HG2	1.70	0.71
2:B:1142:G:O2'	12:L:198:ARG:NH2	2.24	0.71
52:2:1864:C:C5'	68:AM:149:VAL:HG22	2.21	0.71
68:AM:131:ARG:NH2	68:AM:147:VAL:HG11	2.05	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
78:AX:134:GLU:OE2	78:AX:158:LYS:NZ	2.17	0.71
19:S:135:GLY:H	47:u:89:ALA:HB2	1.56	0.71
52:2:711:G:O2'	52:2:715:G:H8	1.61	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
60:AD:127:ASN:HD21	78:AX:63:ARG:HH12	1.37	0.71
69:AN:148:ALA:HA	69:AN:152:LEU:HD21	1.73	0.71
1:A:705:C:O3'	42:p:32:ARG:NH2	2.24	0.71
1:A:1562:U:O4'	16:P:49:ARG:NH1	2.23	0.71
2:B:1226:C:N3	10:J:158:LYS:NZ	2.38	0.71
42:p:237:HIS:O	42:p:246:ARG:NE	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:p:319:GLY:O	42:p:326:ARG:HB2	1.91	0.71
42:p:320:ILE:HD12	42:p:321:LYS:HG2	1.72	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
52:2:1872:A:H4'	70:AO:107:LYS:HD2	1.72	0.71
66:AK:128:ARG:HE	69:AN:41:ARG:CZ	2.04	0.71
50:0:134:ASP:CG	50:0:183:GLN:HB3	2.15	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
4:D:45:U:H4'	45:s:158:ARG:HD2	1.72	0.70
40:n:75:ALA:O	40:n:76:LYS:CB	2.39	0.70
45:s:170:LYS:NZ	45:s:174:ASP:OD2	2.23	0.70
51:1:64:GLN:NE2	52:2:497:A:N1	2.39	0.70
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
1:A:1112:A:O2'	19:S:102:GLN:OE1	2.09	0.70
2:B:285:A:N7	20:T:2:VAL:N	2.39	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
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
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
52:2:762:A:O2'	54:4:179:LEU:O	2.08	0.70
52:2:1529:U:O4	68:AM:139:THR:OG1	2.08	0.70
52:2:1977:G:N3	52:2:1977:G:C3'	2.52	0.70
69:AN:108:ARG:HD2	80:AZ:77:MET:HE3	1.74	0.70
72:AQ:37:LEU:HD11	72:AQ:86:ILE:HD13	1.73	0.70
1:A:1003:A:N3	1:A:1171:U:O2'	2.24	0.70
1:A:1621:U:O2	41:o:45:ARG:NH2	2.24	0.70
31:e:24:LYS:CB	31:e:95:THR:OG1	2.39	0.70
52:2:286:G:H1'	53:3:217:ALA:HB1	1.72	0.70
52:2:526:G:O6	52:2:527:A:C6	2.44	0.70
69:AN:178:LYS:HA	69:AN:181:GLU:HG2	1.72	0.70
74:AS:27:TRP:C	74:AS:29:ARG:N	2.42	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:U:H1'	42:p:96:ARG:HG3	1.74	0.70
19:S:133:ARG:HH11	47:u:90:LYS:HG3	1.55	0.70
30:d:133:GLN:O	30:d:137:ALA:N	2.21	0.70
36:j:111:HIS:N	36:j:116:MET:O	2.25	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
74:AS:27:TRP:C	74:AS:29:ARG:H	1.86	0.70
2:B:741:U:O2'	2:B:742:G:O5'	2.09	0.70
29:c:204:ARG:HD2	29:c:209:HIS:HB2	1.73	0.70
55:5:175:ILE:O	55:5:178:GLN:N	2.24	0.70
78:AX:63:ARG:CG	78:AX:67:GLU:CD	2.39	0.70
4:D:45:U:OP2	11:K:144:ARG:NH2	2.25	0.70
27:a:20:GLN:OE1	27:a:22:ARG:NH1	2.24	0.70
27:a:22:ARG:HD3	33:g:76:PRO:HG2	1.73	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
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
64:AI:136:GLY:CA	68:AM:153:LYS:HG3	2.22	0.69
65:AJ:6:VAL:CG2	65:AJ:29:PRO:CG	2.66	0.69
2:B:598:U:H5'	29:c:207:VAL:HG12	1.72	0.69
12:L:51:VAL:HG22	12:L:54:ARG:HB3	1.72	0.69
33:g:119:ARG:HH12	33:g:128:ARG:CZ	2.04	0.69
69:AN:47:PHE:CE2	80:AZ:69:LYS:HB2	2.28	0.69
69:AN:161:ASP:O	69:AN:165:ASN:ND2	2.24	0.69
78:AX:46:GLU:OE1	78:AX:46:GLU:N	2.26	0.69
29:c:117:GLU:HB2	29:c:122:ASP:HB3	1.74	0.69
52:2:1103:G:O2'	52:2:1104:A:O5'	2.10	0.69
52:2:1110:G:H1	65:AJ:60:LYS:HZ2	1.39	0.69
53:3:65:VAL:HG22	53:3:100:VAL:HG11	1.74	0.69
2:B:344:C:H5''	29:c:227:ARG:HH22	1.57	0.69
29:c:135:ILE:HD12	29:c:149:LYS:CD	2.20	0.69
52:2:726:G:H1	67:AL:96:GLN:HG2	1.56	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
29:c:242:ARG:NH1	29:c:243:THR:O	2.26	0.69
52:2:102:C:OP1	55:5:12:LYS:NZ	2.26	0.69
52:2:134:G:N1	52:2:138:C:N3	2.32	0.69
57:7:65:THR:OG1	57:7:86:ASP:OD2	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:69:SER:N	57:7:83:ALA:O	2.26	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
2:B:1151:A:N6	26:Z:60:HIS:HA	2.08	0.69
30:d:21:ARG:N	30:d:274:GLN:HE21	1.91	0.69
1:A:383:U:H1'	42:p:96:ARG:CG	2.23	0.69
21:U:81:ILE:HD11	21:U:116:ILE:HG23	1.75	0.69
27:a:20:GLN:HG3	27:a:29:ASN:HB2	1.72	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
2:B:27:G:H4'	38:l:8:MET:HG2	1.74	0.69
11:K:39:ARG:HD3	11:K:127:THR:HA	1.74	0.69
42:p:252:LYS:NZ	42:p:256:GLU:OE2	2.24	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
53:3:66:PRO:HD3	53:3:83:ILE:HD12	1.73	0.69
53:3:211:GLU:OE1	53:3:214:ARG:NH2	2.25	0.69
59:AC:45:ARG:NE	73:AR:84:ARG:HH22	1.89	0.69
65:AJ:90:MET:SD	65:AJ:113:HIS:NE2	2.66	0.69
2:B:607:A:H5''	15:O:90:LEU:CD1	2.19	0.69
32:f:96:PHE:HB3	32:f:136:LYS:HG2	1.73	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
21:U:116:ILE:HD12	21:U:134:HIS:HB3	1.73	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
3:C:132:A:H4'	38:l:59:THR:HG23	1.75	0.68
11:K:122:LYS:CD	68:AM:10:PHE:CE1	2.72	0.68
30:d:57:VAL:HG22	30:d:73:VAL:HG22	1.75	0.68
42:p:62:SER:HG	42:p:79:SER:HG	1.39	0.68
45:s:132:VAL:HG21	45:s:180:PRO:HA	1.75	0.68
52:2:1536:U:C5'	64:AI:131:ARG:CG	2.54	0.68
52:2:1912:C:H5''	70:AO:88:ALA:HB2	1.73	0.68
66:AK:33:CYS:SG	66:AK:70:ARG:NE	2.66	0.68
52:2:1998:U:N3	52:2:2030:A:N7	2.41	0.68
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:34:VAL:HA	70:AO:37:TRP:HD1	1.59	0.68
14:N:107:ASP:HB3	14:N:110:ARG:HH21	1.58	0.68
24:X:58:GLY:C	24:X:60:PHE:H	1.95	0.68
63:AH:19:LEU:HA	63:AH:84:ASN:HD22	1.58	0.68
69:AN:1:MET:HB2	69:AN:6:PRO:HD3	1.73	0.68
69:AN:64:PHE:HD2	69:AN:145:ARG:HH22	1.38	0.68
70:AO:37:TRP:CH2	70:AO:75:PRO:HD2	2.27	0.68
9:I:29:LEU:HD21	42:p:282:LEU:HD21	1.76	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
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
2:B:321:A:O2'	38:l:2:THR:N	2.22	0.68
22:V:82:ASN:O	22:V:128:ARG:NH1	2.27	0.68
33:g:83:LEU:HD11	33:g:109:ILE:HG23	1.75	0.68
36:j:111:HIS:O	36:j:116:MET:HB3	1.94	0.68
52:2:1975:U:H5	52:2:2014:U:O2'	1.75	0.68
56:6:122:HIS:HE1	79:AY:37:ARG:HD3	1.58	0.68
57:7:26:TYR:C	57:7:27:ILE:HG12	2.17	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
1:A:149:G:OP1	15:O:147:ARG:NH2	2.26	0.68
1:A:947:A:OP2	29:c:187:TYR:OH	2.11	0.68
44:r:94:ASN:O	44:r:95:ASP:O	2.11	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
1:A:196:C:O2'	1:A:198:C:OP2	2.12	0.68
1:A:556:U:OP1	42:p:323:ARG:NH1	2.14	0.68
1:A:746:G:N2	1:A:749:A:OP2	2.26	0.68
52:2:717:C:N3	52:2:739:A:C2	2.61	0.68
52:2:1573:A:N3	60:AD:89:SER:OG	2.27	0.68
66:AK:35:ILE:HG22	66:AK:36:LYS:O	1.93	0.68
66:AK:126:ASP:HB3	66:AK:128:ARG:HH12	1.56	0.68
68:AM:68:ILE:HA	68:AM:71:ILE:HD12	1.74	0.68
1:A:1539:G:O6	16:P:25:HIS:ND1	2.27	0.68
6:F:73:A:OP1	6:F:73:A:H3'	1.93	0.68
52:2:44:C:O2'	52:2:45:U:OP1	2.11	0.68
52:2:2092:U:OP1	55:5:42:ARG:NH1	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1245:G:N3	17:Q:114:SER:OG	2.21	0.68
52:2:65:A:OP2	53:3:180:GLN:NE2	2.27	0.68
52:2:78:C:O2'	52:2:79:A:O5'	2.10	0.68
52:2:507:G:OP2	75:AT:111:ARG:NH2	2.27	0.68
52:2:1973:U:OP1	68:AM:122:ARG:NH1	2.27	0.68
57:7:12:GLY:O	57:7:301:ASN:ND2	2.26	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
1:A:704:G:C5'	9:I:20:TYR:O	2.42	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
63:AH:106:GLN:OE1	80:AZ:85:ARG:NH1	2.27	0.68
64:AI:84:LYS:HZ3	64:AI:109:PHE:CA	2.06	0.68
1:A:384:A:OP1	42:p:97:GLY:HA2	1.94	0.67
25:Y:60:GLN:HG3	25:Y:61:THR:N	2.06	0.67
42:p:189:ARG:HG2	42:p:201:VAL:HG23	1.75	0.67
54:4:20:GLU:HA	54:4:50:ARG:CZ	2.24	0.67
54:4:190:TRP:CD1	54:4:190:TRP:H	2.09	0.67
56:6:113:PHE:CD1	56:6:120:SER:C	2.72	0.67
70:AO:22:ARG:HH21	70:AO:141:GLY:H	1.43	0.67
78:AX:196:ARG:C	78:AX:199:PRO:CG	2.67	0.67
1:A:575:A:N1	42:p:334:LYS:HD3	2.09	0.67
12:L:208:ALA:O	12:L:212:ALA:N	2.26	0.67
31:e:59:GLU:HA	31:e:69:ILE:HD11	1.76	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
48:v:225:THR:HG22	48:v:251:MET:HE1	1.77	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
1:A:728:C:O2	1:A:730:G:N1	2.27	0.67
6:F:10:C:OP2	36:j:134:ARG:NH1	2.27	0.67
9:I:7:GLY:CA	9:I:8:ILE:CB	2.23	0.67
18:R:170:ARG:HH21	52:2:918:A:H1'	1.54	0.67
30:d:11:HIS:CG	30:d:239:GLY:O	2.47	0.67
52:2:1566:G:N3	52:2:1856:G:N2	2.42	0.67
57:7:214:LYS:HE2	67:AL:24:LEU:HD13	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:8:21:CYS:HA	58:8:28:GLN:HG3	1.77	0.67
1:A:1366:A:N6	2:B:1234:U:OP1	2.28	0.67
6:F:61:U:OP1	46:t:77:ARG:NH1	2.28	0.67
9:I:40:THR:HG21	9:I:45:ASN:HD22	1.60	0.67
30:d:276:GLY:O	30:d:278:HIS:N	2.25	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
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
1:A:827:G:OP1	28:b:45:ARG:NH2	2.27	0.67
1:A:512:U:N3	17:Q:30:GLU:OE2	2.26	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
52:2:1975:U:H5	52:2:2014:U:HO2'	1.42	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
1:A:367:A:H2	12:L:27:VAL:H	1.41	0.67
2:B:12:A:O2'	22:V:94:ASN:OD1	2.11	0.67
2:B:1113:G:O2'	45:s:35:GLN:NE2	2.28	0.67
5:E:42:U:HO2'	34:h:3:CYS:HG	1.31	0.67
14:N:110:ARG:HH12	46:t:193:TRP:HB3	1.60	0.67
18:R:62:ARG:HG2	18:R:62:ARG:HH11	1.60	0.67
52:2:39:A:H5'	56:6:3:ASN:HD22	1.58	0.67
52:2:290:U:O2'	52:2:291:G:OP1	2.11	0.67
52:2:913:G:O2'	52:2:914:G:OP2	2.11	0.67
52:2:1529:U:OP2	68:AM:135:GLN:N	2.27	0.67
52:2:1869:A:N7	68:AM:139:THR:HG21	2.09	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
7:G:32:U:H3	7:G:169:U:H5	1.43	0.67
32:f:75:LYS:HG2	32:f:79:VAL:HG21	1.75	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
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
53:3:36:GLU:HG2	53:3:52:ARG:HD2	1.76	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:169:G:N2	1:A:172:G:N7	2.42	0.66
49:w:47:VAL:HG22	49:w:54:PHE:HD1	1.60	0.66
49:w:115:LEU:HD11	49:w:166:VAL:HG22	1.77	0.66
52:2:1415:C:O2'	76:AV:16:SER:OG	2.13	0.66
52:2:1540:U:OP1	52:2:1860:G:O2'	2.11	0.66
52:2:1965:A:C5	52:2:1978:G:N2	2.63	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
1:A:1749:U:H2'	1:A:1750:G:H8	1.60	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
58:8:41:ARG:HD2	58:8:44:PHE:CD1	2.30	0.66
60:AD:38:LYS:HB2	60:AD:41:ARG:NH1	2.10	0.66
66:AK:122:LEU:O	66:AK:123:LEU:C	2.31	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
12:L:84:GLU:OE2	12:L:108:ASN:ND2	2.28	0.66
45:s:64:ILE:HG23	45:s:75:VAL:HB	1.77	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
1:A:599:G:N2	1:A:607:C:O2	2.28	0.66
1:A:1763:A:H2'	22:V:128:ARG:HH21	1.60	0.66
2:B:34:G:O2'	38:l:10:GLN:OE1	2.13	0.66
2:B:127:U:H4'	55:5:88:ASN:ND2	2.10	0.66
5:E:190:C:N3	39:m:56:ARG:NH2	2.44	0.66
34:h:6:VAL:HG12	34:h:33:MET:HG2	1.76	0.66
47:u:230:HIS:H	47:u:233:GLU:CD	2.02	0.66
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
60:AD:39:PRO:O	60:AD:42:ASP:N	2.25	0.66
60:AD:63:THR:OG1	60:AD:77:CYS:SG	2.40	0.66
70:AO:147:ARG:O	70:AO:151:LYS:N	2.24	0.66
6:F:52:G:O6	36:j:28:ARG:NH2	2.28	0.66
15:O:193:ARG:O	15:O:197:ARG:HG3	1.95	0.66
31:e:53:ILE:HG21	34:h:94:ARG:HE	1.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:AQ:30:GLU:OE1	72:AQ:84:ARG:NH2	2.29	0.66
19:S:63:ILE:HD13	28:b:27:LEU:HD21	1.76	0.66
20:T:13:TYR:HE2	20:T:15:ARG:HE	1.42	0.66
49:w:92:ARG:HG3	49:w:181:GLN:HG2	1.78	0.66
52:2:562:G:O6	52:2:579:C:N4	2.28	0.66
52:2:1863:A:O3'	64:AI:134:LEU:CD2	2.43	0.66
54:4:12:LYS:NZ	54:4:49:VAL:HG22	2.10	0.66
15:O:106:LEU:HD11	15:O:132:VAL:CB	2.25	0.66
29:c:80:GLU:HG2	39:m:76:ASN:CG	2.21	0.66
30:d:338:PRO:HD2	30:d:341:ARG:HE	1.60	0.66
43:q:98:ARG:NH1	43:q:118:CYS:SG	2.69	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
1:A:994:U:OP1	26:Z:15:THR:HG22	1.96	0.66
1:A:1389:A:H5'	14:N:19:PRO:HD3	1.76	0.66
52:2:257:A:H4'	52:2:258:C:OP1	1.96	0.66
52:2:930:A:O2'	52:2:931:C:O5'	2.09	0.66
54:4:30:LEU:HD13	54:4:38:ARG:HH22	1.60	0.66
59:AC:103:ALA:HB2	73:AR:42:ALA:HB2	1.77	0.66
71:AP:90:MET:HE2	71:AP:135:ILE:HG12	1.78	0.66
71:AP:98:LYS:HD3	71:AP:105:ARG:HE	1.59	0.66
2:B:71:G:H5'	30:d:250:GLY:HA3	1.76	0.66
14:N:95:ARG:O	14:N:99:LYS:N	2.29	0.66
30:d:138:ASN:OD1	30:d:139:THR:N	2.28	0.66
42:p:319:GLY:HA2	42:p:325:LEU:HB2	1.78	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
1:A:374:G:N1	3:C:120:C:N3	2.44	0.66
2:B:1400:A:OP1	14:N:141:LYS:NZ	2.29	0.66
50:0:242:VAL:HG11	63:AH:13:ASN:ND2	2.11	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
61:AE:81:ILE:HD13	61:AE:155:LEU:HD21	1.77	0.66
69:AN:64:PHE:HD2	69:AN:145:ARG:NH2	1.93	0.66
1:A:106:A:O2'	1:A:362:A:N3	2.28	0.65
10:J:206:ILE:HA	10:J:209:ARG:HH12	1.59	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:63:VAL:HG22	12:L:106:ARG:NH2	2.11	0.65
29:c:84:THR:OG1	39:m:63:THR:OG1	2.13	0.65
29:c:216:HIS:O	29:c:218:HIS:ND1	2.21	0.65
52:2:364:G:N3	52:2:364:G:O2'	2.24	0.65
57:7:135:ASN:ND2	57:7:139:ASP:HB3	2.11	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
1:A:70:C:O2'	12:L:71:ASN:ND2	2.22	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
57:7:26:TYR:O	57:7:27:ILE:HG23	1.96	0.65
57:7:240:GLN:H	57:7:253:ALA:HB3	1.61	0.65
69:AN:4:LYS:HZ2	69:AN:5:THR:HG23	1.61	0.65
78:AX:63:ARG:O	78:AX:67:GLU:HG3	1.95	0.65
13:M:127:PRO:HB2	13:M:129:ASN:ND2	2.12	0.65
54:4:54:VAL:HG22	54:4:60:THR:HG22	1.78	0.65
65:AJ:28:ARG:HG2	65:AJ:28:ARG:NH1	2.09	0.65
1:A:328:U:OP1	15:O:68:ARG:HB2	1.96	0.65
1:A:563:C:C2	36:j:122:ASN:HB2	2.31	0.65
38:l:63:ARG:O	38:l:68:LYS:NZ	2.28	0.65
46:t:169:ALA:HA	46:t:172:LYS:HG2	1.77	0.65
52:2:376:U:OP1	55:5:56:ARG:NH2	2.30	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
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:381:G:H2'	42:p:192:ARG:HH12	1.62	0.65
1:A:1752:G:C5	40:n:74:HIS:NE2	2.64	0.65
31:e:59:GLU:OE2	31:e:71:HIS:NE2	2.27	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
58:8:33:ARG:HH21	72:AQ:62:THR:HG21	1.62	0.65
66:AK:93:LYS:CE	66:AK:122:LEU:HD11	2.27	0.65
71:AP:83:GLU:HG3	71:AP:84:GLY:H	1.62	0.65
71:AP:172:CYS:SG	71:AP:222:MET:HB2	2.36	0.65
1:A:745:U:O2'	1:A:815:G:N3	2.30	0.65
2:B:1174:G:O6	26:Z:42:ARG:NH2	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:164:U:H4'	30:d:349:MET:SD	2.36	0.65
13:M:45:LEU:HD21	13:M:120:LEU:HB2	1.78	0.65
14:N:50:VAL:HG23	17:Q:71:LEU:HD13	1.78	0.65
14:N:135:THR:HG22	14:N:140:HIS:NE2	2.09	0.65
30:d:21:ARG:CB	30:d:274:GLN:NE2	2.58	0.65
49:w:74:ALA:O	49:w:78:ASN:ND2	2.29	0.65
52:2:1959:C:OP2	68:AM:132:VAL:HG22	1.96	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
1:A:147:G:OP1	15:O:49:ARG:NH2	2.29	0.65
9:I:4:ASP:HB2	47:u:102:ILE:HG21	1.79	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
30:d:221:ASP:HB2	30:d:282:GLN:O	1.96	0.65
47:u:224:MET:CB	47:u:236:ASP:CG	2.66	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
1:A:207:C:O2'	42:p:145:ASN:ND2	2.24	0.65
1:A:1437:A:OP2	27:a:112:ARG:NH2	2.30	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
30:d:76:VAL:HG11	30:d:330:MET:HG2	1.79	0.65
38:l:55:LYS:HA	38:l:58:ARG:HG3	1.79	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
78:AX:186:LYS:C	78:AX:187:ILE:HD12	2.21	0.65
1:A:1611:A:N1	1:A:1622:A:O2'	2.26	0.65
2:B:1424:G:H2'	2:B:1425:G:H8	1.62	0.65
30:d:119:TYR:OH	30:d:128:LEU:N	2.30	0.65
52:2:1529:U:O2'	52:2:1530:G:O5'	2.07	0.65
54:4:196:GLN:HE22	77:AW:13:VAL:CA	2.10	0.65
55:5:117:TYR:O	55:5:166:ARG:NH1	2.30	0.65
5:E:69:A:H2'	5:E:70:A:H8	1.60	0.65
30:d:276:GLY:N	30:d:278:HIS:CE1	2.65	0.65
52:2:351:G:OP1	61:AE:105:TYR:OH	2.10	0.65
52:2:1957:G:H22	52:2:1982:C:N4	1.93	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:34:ALA:HB2	55:5:56:ARG:HD3	1.79	0.65
57:7:61:LEU:HB3	57:7:92:TRP:CZ3	2.32	0.65
57:7:203:SER:HB3	57:7:243:PHE:CG	2.32	0.65
59:AC:53:LYS:O	59:AC:57:MET:N	2.28	0.65
60:AD:58:LYS:HG3	60:AD:81:MET:HE1	1.77	0.65
80:AZ:42:GLN:NE2	80:AZ:84:ARG:CB	2.59	0.65
1:A:575:A:C8	42:p:323:ARG:HD3	2.31	0.64
1:A:1562:U:N3	1:A:1571:U:O2'	2.30	0.64
22:V:30:TYR:CD1	48:v:135:MET:HE1	2.32	0.64
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
64:AI:32:LEU:HD13	64:AI:94:PRO:HB3	1.78	0.64
1:A:1566:C:O2'	8:H:122:A:N6	2.30	0.64
30:d:274:GLN:HG3	30:d:276:GLY:H	1.63	0.64
54:4:190:TRP:C	54:4:192:PRO:CD	2.70	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
9:I:39:ARG:HH22	42:p:303:LYS:HE3	1.63	0.64
10:J:156:LYS:HD2	10:J:163:GLN:HB2	1.79	0.64
67:AL:5:ARG:HB2	67:AL:10:LYS:HE2	1.77	0.64
2:B:342:U:O2	2:B:958:U:N3	2.31	0.64
2:B:1085:A:OP1	28:b:34:ARG:NH2	2.29	0.64
42:p:352:ARG:HH12	42:p:356:LYS:HD3	1.63	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
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:131:G:H1	2:B:283:C:H5	1.44	0.64
6:F:73:A:O2'	36:j:25:ASN:CA	2.46	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
30:d:225:VAL:HG13	30:d:277:TYR:O	1.97	0.64
45:s:235:TYR:HD1	45:s:240:VAL:HG21	1.62	0.64
46:t:108:ARG:HB2	46:t:109:PRO:HD3	1.71	0.64
52:2:586:G:O2'	52:2:587:A:OP1	2.14	0.64
52:2:1124:G:N2	62:AG:110:ASP:OD2	2.26	0.64
52:2:1635:G:H4'	72:AQ:71:THR:H	1.63	0.64
52:2:1783:U:O2'	72:AQ:52:ARG:HD2	1.97	0.64
54:4:68:LEU:HD11	54:4:100:ARG:HG2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:190:TRP:O	54:4:192:PRO:HD2	1.96	0.64
57:7:172:TRP:HA	57:7:196:TYR:HB2	1.77	0.64
14:N:9:ALA:O	14:N:27:ILE:O	2.15	0.64
14:N:23:ARG:CB	14:N:46:MET:HE3	2.28	0.64
22:V:99:LYS:NZ	22:V:110:ALA:O	2.30	0.64
31:e:80:GLY:O	31:e:83:CYS:O	2.16	0.64
45:s:50:ARG:NH1	45:s:153:ASP:OD2	2.31	0.64
49:w:27:VAL:HG12	49:w:79:MET:HE2	1.78	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
60:AD:81:MET:HE2	60:AD:102:TYR:HE2	1.61	0.64
72:AQ:52:ARG:HH21	72:AQ:84:ARG:HH12	1.46	0.64
2:B:1396:G:OP2	30:d:155:LYS:NZ	2.21	0.64
33:g:44:ARG:HA	33:g:53:MET:HE1	1.80	0.64
52:2:759:U:O2'	52:2:761:A:O5'	2.14	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
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
2:B:1092:G:N7	19:S:87:LYS:NZ	2.45	0.64
34:h:42:GLY:HA3	34:h:53:ARG:NH1	2.13	0.64
45:s:127:GLY:O	45:s:198:ALA:HB1	1.98	0.64
52:2:75:U:H2'	52:2:76:U:H6	1.63	0.64
52:2:288:A:O2'	52:2:290:U:OP2	2.16	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
62:AG:141:TYR:C	62:AG:142:GLU:HG2	2.23	0.64
2:B:947:G:OP2	48:v:153:ARG:NH2	2.23	0.64
31:e:24:LYS:C	31:e:95:THR:OG1	2.40	0.64
57:7:30:VAL:HG22	57:7:40:ALA:HA	1.80	0.64
60:AD:96:GLN:CD	78:AX:27:GLU:HG3	2.22	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
9:I:132:GLN:HE22	42:p:283:THR:HG21	1.61	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:57:ARG:CD	24:X:100:ASN:CA	2.75	0.64
29:c:174:ARG:HG2	29:c:175:ILE:H	1.61	0.64
29:c:249:GLY:O	29:c:250:LYS:C	2.41	0.64
38:l:16:HIS:HB3	38:l:25:ASN:O	1.98	0.64
52:2:761:A:H5''	52:2:762:A:OP1	1.98	0.64
52:2:1527:C:H2'	52:2:1528:G:C8	2.33	0.64
52:2:1968:G:O2'	64:AI:54:ARG:NH1	2.31	0.64
57:7:250:MET:HE2	57:7:261:TYR:HB2	1.78	0.64
60:AD:68:LEU:C	60:AD:72:THR:HG22	2.23	0.64
62:AG:108:ASP:OD2	62:AG:111:THR:OG1	2.12	0.64
67:AL:98:GLY:HA3	67:AL:121:LYS:HG2	1.78	0.64
1:A:460:A:H2'	1:A:461:G:H5''	1.80	0.63
21:U:81:ILE:HD11	21:U:120:VAL:HG12	1.80	0.63
24:X:58:GLY:C	24:X:60:PHE:N	2.45	0.63
35:i:67:ARG:HH12	35:i:86:VAL:HG12	1.63	0.63
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
52:2:21:U:O2'	52:2:22:A:H8	1.79	0.63
52:2:1159:U:OP1	52:2:1160:A:O2'	2.16	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
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
1:A:57:G:OP2	35:i:94:ARG:NH1	2.32	0.63
1:A:180:A:H2'	1:A:181:G:C8	2.33	0.63
2:B:1398:A:H2'	2:B:1399:A:H8	1.62	0.63
29:c:247:ARG:O	52:2:1260:A:OP1	2.16	0.63
39:m:60:CYS:O	39:m:61:SER:OG	2.15	0.63
50:0:27:ARG:NH2	52:2:1143:U:OP1	2.28	0.63
52:2:91:A:O2'	52:2:441:G:N2	2.31	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
54:4:33:SER:HB2	54:4:39:GLN:NE2	2.14	0.63
54:4:139:VAL:HG22	62:AG:19:ARG:HD3	1.80	0.63
67:AL:42:GLU:OE2	78:AX:197:ASN:ND2	2.31	0.63
67:AL:102:ASP:N	67:AL:105:THR:OG1	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:99:THR:HG22	75:AT:104:GLY:HA2	1.80	0.63
75:AT:121:ASN:HB3	75:AT:129:LYS:HD2	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:182:A:C4	13:M:6:ARG:NH2	2.67	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
1:A:1592:G:N3	34:h:5:ARG:NH1	2.47	0.63
2:B:1210:C:H5	2:B:1226:C:H42	1.44	0.63
33:g:102:GLY:O	33:g:106:ARG:N	2.30	0.63
43:q:86:ALA:HB1	49:w:175:LEU:HB3	1.81	0.63
52:2:1490:U:C5	74:AS:110:HIS:HE1	2.07	0.63
55:5:67:TRP:CH2	55:5:175:ILE:HD13	2.28	0.63
57:7:96:ASN:HB3	57:7:98:GLN:OE1	1.97	0.63
57:7:149:HIS:CE1	57:7:170:GLY:O	2.51	0.63
65:AJ:44:HIS:NE2	65:AJ:112:ASP:OD2	2.31	0.63
74:AS:24:ASP:O	74:AS:28:LYS:CG	2.47	0.63
9:I:64:LEU:O	9:I:65:SER:OG	2.14	0.63
18:R:81:ARG:HG2	18:R:88:ARG:NH1	2.13	0.63
45:s:59:ASP:OD1	45:s:60:ILE:N	2.32	0.63
52:2:463:A:OP1	53:3:99:ASN:ND2	2.30	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
52:2:1445: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
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
15:O:40:ARG:HH21	15:O:41:ARG:NH1	1.95	0.63
52:2:276:G:P	53:3:240:ARG:HH21	2.21	0.63
52:2:1528:G:N7	68:AM:140:THR:HG22	2.13	0.63
52:2:1535:U:C3'	64:AI:133:VAL:CG1	2.62	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
52:2:1815:A:OP1	69:AN:44:LYS:NZ	2.32	0.63
57:7:152:TRP:HB2	57:7:172:TRP:CD1	2.34	0.63
75:AT:50:LEU:HD12	75:AT:64:ILE:HD11	1.81	0.63
1:A:1184:G:O3'	10:J:100:ASN:ND2	2.32	0.63
2:B:1442:C:H42	2:B:1457:G:H1	1.47	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:362:C:O2	29:c:173:GLY:O	2.16	0.63
30:d:19:ARG:HB2	30:d:237:ARG:NH2	2.10	0.63
52:2:731:A:C5	52:2:732:U:O4	2.52	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:26:C:H4'	1:A:59:A:C2	2.33	0.63
2:B:66:G:O6	32:f:98:LYS:NZ	2.31	0.63
2:B:1130:U:H4'	44:r:31:GLY:HA3	1.81	0.63
18:R:181:ARG:HH11	52:2:972:A:H3'	1.63	0.63
30:d:46:PHE:CE2	30:d:210:VAL:HG22	2.34	0.63
42:p:148:GLU:HG2	42:p:150:PRO:HD2	1.80	0.63
45:s:186:PHE:HB3	45:s:201:HIS:CD2	2.34	0.63
51:1:71:ASN:HD21	51:1:162:LYS:HA	1.64	0.63
74:AS:32:THR:CG2	74:AS:34:ALA:HB2	2.25	0.63
1:A:1403:A:H5''	47:u:120:GLN:HE21	1.64	0.62
13:M:28:ASP:OD1	13:M:55:ARG:HD2	1.99	0.62
25:Y:11:VAL:HG23	25:Y:82:PRO:HA	1.80	0.62
25:Y:76:ASN:OD1	25:Y:77:HIS:N	2.31	0.62
29:c:135:ILE:HB	29:c:149:LYS:HD3	1.81	0.62
32:f:111:VAL:HG21	32:f:165:ILE:HG12	1.81	0.62
48:v:287:ASP:OD1	48:v:288:VAL:N	2.32	0.62
51:1:3:LYS:NZ	52:2:426:G:OP1	2.32	0.62
51:1:68:HIS:HD2	51:1:90:PRO:HD3	1.64	0.62
52:2:564:A:H4'	52:2:565:U:OP1	1.99	0.62
52:2:1864:C:N3	64:AI:135:HIS:O	2.32	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
75:AT:49:LYS:O	75:AT:52:THR:OG1	2.13	0.62
78:AX:29:ALA:C	78:AX:31:GLU:H	2.05	0.62
9:I:5:LEU:O	9:I:6:THR:C	2.41	0.62
11:K:117:ILE:CG2	68:AM:15:ARG:HH21	2.11	0.62
52:2:1677:C:O2'	59:AC:149:GLN:NE2	2.30	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
64:AI:116:GLY:O	64:AI:117:GLU:HG2	1.99	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
2:B:1093:U:H3	2:B:1173:A:H62	1.45	0.62
35:i:41:ALA:O	35:i:43:THR:CA	2.47	0.62
42:p:139:ARG:HH22	42:p:240:PRO:HG2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:70:ASN:HD22	63:AH:121:ARG:HD2	1.64	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
52:2:1580:G:H5'	52:2:1581:A:OP1	1.98	0.62
52:2:1864:C:H1'	68:AM:151:ARG:HH21	1.65	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
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:55:U:H5'	18:R:55:VAL:HG13	1.81	0.62
17:Q:12:VAL:HG22	17:Q:28:LYS:HG2	1.82	0.62
29:c:209:HIS:CE1	29:c:235:VAL:HG11	2.34	0.62
47:u:231:PHE:HA	47:u:235:GLY:C	2.21	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
52:2:1525:A:OP2	68:AM:142:ARG:HA	1.99	0.62
52:2:1864:C:H5''	68:AM:149:VAL:C	2.24	0.62
52:2:1957:G:N2	52:2:1982:C:H42	1.93	0.62
57:7:117:PRO:CG	57:7:160:PRO:O	2.47	0.62
1:A:753:A:C2'	26:Z:112:ASN:OD1	2.47	0.62
36:j:111:HIS:O	36:j:116:MET:O	2.17	0.62
50:0:106:MET:HE1	50:0:192:THR:HG22	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
54:4:19:LEU:HB3	54:4:50:ARG:HD2	1.81	0.62
54:4:190:TRP:H	54:4:190:TRP:HD1	1.47	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:204:A:O2'	27:a:57:LYS:NZ	2.31	0.62
4:D:48:U:OP1	45:s:95:TYR:N	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
30:d:80:GLU:OE2	30:d:321:TYR:OH	2.13	0.62
32:f:153:THR:OG1	32:f:156:ASN:OD1	2.17	0.62
34:h:61:ARG:HG2	34:h:62:HIS:H	1.64	0.62
52:2:368:U:OP1	61:AE:148:LYS:NZ	2.24	0.62
52:2:628:A:N1	78:AX:144:GLN:CD	2.58	0.62
52:2:733:U:N3	52:2:735:G:H8	1.96	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
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
1:A:911:G:N2	39:m:17:ARG:HD3	2.14	0.62
2:B:1272:G:P	49:w:172:ARG:HH22	2.23	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
50:0:121:CYS:HA	50:0:157:CYS:HB2	1.82	0.62
52:2:256:A:N6	52:2:952:U:H3	1.96	0.62
52:2:1141:C:O2	52:2:1165:G:N2	2.32	0.62
52:2:1283:C:O2'	65:AJ:9:ASN:OD1	2.11	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
54:4:190:TRP:HE1	54:4:196:GLN:HB2	1.64	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
1:A:73:U:H5'	12:L:63:VAL:HG13	1.82	0.62
2:B:712:C:OP1	48:v:332:ARG:NH2	2.32	0.62
29:c:41:MET:HE3	29:c:66:PRO:HB3	1.81	0.62
34:h:40:SER:OG	34:h:59:ALA:O	2.17	0.62
47:u:160:LYS:NZ	47:u:252:ILE:O	2.28	0.62
52:2:759:U:H2'	52:2:761:A:C8	2.34	0.62
52:2:1791:U:H3'	67:AL:5:ARG:NH2	2.14	0.62
52:2:1863:A:C5'	64:AI:134:LEU:HD21	2.17	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
56:6:59:LEU:HD12	56:6:68:ARG:HH12	1.63	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
80:AZ:28:ILE:HD13	80:AZ:46:ARG:HH21	1.64	0.62
1:A:719:U:OP2	12:L:41:ARG:NH2	2.33	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
46:t:157:ILE:O	46:t:161:LEU:N	2.33	0.62
49:w:128:SER:OG	49:w:152:GLN:NE2	2.33	0.62
51:1:103:LYS:NZ	52:2:889:A:OP2	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:497:A:O2'	52:2:498:C:O5'	2.18	0.62
52:2:1575:A:H4'	52:2:1576:G:OP1	1.99	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:32:LYS:HG3	70:AO:79:TYR:CZ	2.35	0.62
70:AO:81:ARG:NH1	70:AO:130:LYS:O	2.33	0.62
1:A:113:C:OP1	15:O:147:ARG:NH1	2.33	0.62
15:O:64:VAL:HG22	15:O:106:LEU:HD21	1.80	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
33:g:43:VAL:HG12	33:g:53:MET:HE3	1.82	0.62
38:l:8:MET:SD	38:l:11:ARG:NH1	2.73	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
52:2:1092:A:O2'	52:2:1093:C:O5'	2.16	0.62
54:4:30:LEU:HD22	54:4:38:ARG:HH22	1.65	0.62
57:7:42:LYS:HG3	57:7:58:SER:HB2	1.81	0.62
57:7:146:ARG:HH11	57:7:177:LYS:HD3	1.65	0.62
59:AC:42:LYS:HG3	59:AC:42:LYS:O	2.00	0.62
67:AL:73:LEU:HA	67:AL:76:GLU:HB2	1.81	0.62
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
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
59:AC:70:MET:HE2	59:AC:190:LEU:HD11	1.82	0.61
65:AJ:6:VAL:HG23	65:AJ:29:PRO:CG	2.29	0.61
1:A:304:G:O3'	15:O:50:MET:HE1	2.00	0.61
1:A:1147:A:O2'	1:A:1150:A:N1	2.33	0.61
2:B:1036:A:O2'	11:K:133:ASP:OD1	2.14	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
26:Z:55:LYS:HZ1	44:r:42:ARG:HH12	1.47	0.61
38:l:38:ALA:HB2	38:l:45:ARG:HB2	1.82	0.61
52:2:1529:U:C5	68:AM:136:HIS:ND1	2.69	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
1:A:731:U:H5''	42:p:43:MET:HE3	1.81	0.61
6:F:12:C:H1'	6:F:73:A:C2	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:144:TYR:O	10:J:145:VAL:C	2.41	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
35:i:41:ALA:C	35:i:43:THR:N	2.50	0.61
36:j:78:VAL:HG21	36:j:136:ARG:HH11	1.65	0.61
47:u:26:ALA:HB3	47:u:29:LYS:CB	2.30	0.61
52:2:39:A:P	56:6:3:ASN:HD21	2.23	0.61
52:2:376:U:OP1	55:5:31:ARG:HD3	2.00	0.61
52:2:733:U:N3	52:2:735:G:C8	2.68	0.61
52:2:1571:G:H5'	60:AD:85:ARG:NH2	2.15	0.61
52:2:1864:C:C6	52:2:1864:C:C1'	2.82	0.61
52:2:1864:C:O4'	68:AM:150:SER:C	2.43	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
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
10:J:45:GLU:O	10:J:141:LYS:NZ	2.33	0.61
29:c:104:LEU:HD12	29:c:164:ALA:HB2	1.83	0.61
30:d:288:TYR:OH	30:d:332:LYS:HD3	1.99	0.61
60:AD:127:ASN:ND2	78:AX:63:ARG:HH12	1.97	0.61
70:AO:37:TRP:HH2	70:AO:74:ASN:H	1.48	0.61
70:AO:57:ASN:HA	70:AO:113:ARG:HG3	1.82	0.61
1:A:327:G:H1'	15:O:93:LYS:HD2	1.83	0.61
42:p:43:MET:HB2	42:p:114:ILE:HD11	1.83	0.61
42:p:182:VAL:HG11	42:p:224:GLY:HA3	1.82	0.61
42:p:328:ARG:O	47:u:176:ASN:ND2	2.33	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
52:2:254:A:H61	52:2:954:A:H2	1.49	0.61
52:2:1875:A:P	52:2:1875:A:C8	2.94	0.61
52:2:1892:A:N3	52:2:2008:A:O2'	2.34	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
58:8:22:CYS:HB2	58:8:42:GLN:CD	2.26	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
1:A:493:A:H2'	1:A:494:A:H8	1.64	0.61
27:a:128:ARG:HH12	33:g:111:ARG:HD2	1.64	0.61
42:p:186:ARG:HD2	42:p:223:PHE:CZ	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:s:55:ILE:HG21	45:s:164:ARG:HH21	1.65	0.61
46:t:68:PRO:HA	46:t:158:ASP:OD1	2.01	0.61
46:t:68:PRO:HA	46:t:158:ASP:CG	2.25	0.61
58:8:27:ASN:HB2	58:8:42:GLN:HE22	1.63	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
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
52:2:165: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
59:AC:87:VAL:H	67:AL:108:MET:HE1	1.66	0.61
1:A:454:U:H2'	1:A:455:G:H8	1.66	0.61
1:A:1495:G:N2	1:A:1498:A:OP2	2.27	0.61
5:E:189:G:OP1	34:h:41:GLN:NE2	2.34	0.61
12:L:20:CYS:C	12:L:22:SER:N	2.58	0.61
26:Z:82:ILE:HD11	26:Z:119:CYS:SG	2.40	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
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
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
49:w:31:ARG:HH21	49:w:86:GLY:HA3	1.66	0.61
50:0:40:GLU:HG2	50:0:75:ASN:HD22	1.65	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:452:C:H2'	1:A:453:G:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1375:G:O2'	1:A:1380:A:N1	2.30	0.61
10:J:142:GLU:HA	10:J:142:GLU:OE2	2.01	0.61
42:p:166:ALA:CB	42:p:218:ALA:O	2.48	0.61
49:w:92:ARG:HD3	49:w:142:GLU:HG2	1.81	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
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
1:A:892:C:H5'	18:R:125:VAL:HG12	1.82	0.60
1:A:1752:G:C2	40:n:74:HIS:CG	2.89	0.60
6:F:24:C:OP1	49:w:23:ARG:NH1	2.35	0.60
45:s:117:ASP:OD1	45:s:120:GLN:NE2	2.34	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
52:2:1525:A:O5'	68:AM:144:GLY:N	2.34	0.60
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
55:5:36:THR:O	55:5:95:THR:HA	2.00	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
70:AO:47:PHE:HE2	70:AO:49:GLN:HG2	1.66	0.60
2:B:331:U:O2'	29:c:182:ALA:HB2	2.01	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
25:Y:93:LEU:HD11	25:Y:115:VAL:HG21	1.84	0.60
51:1:188:ARG:HD3	51:1:215:PHE:CE2	2.36	0.60
52:2:1878:U:N3	69:AN:63:MET:HG3	2.13	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
71:AP:179:LEU:HD23	71:AP:208:THR:HG22	1.81	0.60
2:B:1436:C:H4'	30:d:138:ASN:ND2	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:78:LYS:HB3	22:V:84:THR:OG1	2.00	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
54:4:189:MET:HE3	54:4:195:GLN:HA	1.83	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
58:8:25:CYS:C	58:8:42:GLN:HE21	2.09	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
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
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
42:p:325:LEU:O	42:p:328:ARG:N	2.34	0.60
49:w:169:LYS:HD2	49:w:174:PHE:HE2	1.67	0.60
52:2:1597:G:C5	64:AI:61:PRO:HB2	2.36	0.60
52:2:1996:U:O2'	52:2:1997:C:OP1	2.18	0.60
66:AK:21:ALA:HB2	66:AK:78:GLY:HA3	1.83	0.60
66:AK:93:LYS:CG	66:AK:122:LEU:HD11	2.31	0.60
70:AO:23:ILE:HG22	70:AO:24:GLY:H	1.66	0.60
1:A:50:A:N3	1:A:862:U:O2'	2.34	0.60
2:B:348:C:OP2	15:O:77:LYS:NZ	2.34	0.60
25:Y:50:PRO:HD3	25:Y:68:VAL:HG22	1.83	0.60
52:2:22:A:OP1	56:6:17:PRO:HG3	2.01	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
52:2:526:G:H2'	52:2:527:A:H8	1.65	0.60
52:2:1145:A:H5''	63:AH:53:MET:HE3	1.82	0.60
52:2:1549:C:N4	66:AK:147:SER:OG	2.30	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
60:AD:49:PHE:HE2	60:AD:114:MET:HG3	1.66	0.60
71:AP:118:ASP:HA	71:AP:151:ARG:NH2	2.17	0.60
18:R:179:ARG:NH2	52:2:963:U:OP2	2.33	0.60
25:Y:134:PHE:HD2	34:h:79:TYR:HE2	1.50	0.60
32:f:84:THR:HG23	32:f:143:ARG:HD3	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:148:PHE:C	53:3:150:LEU:H	2.09	0.60
54:4:95:MET:HG3	54:4:132:MET:HE1	1.83	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
1:A:497:A:OP1	1:A:576:G:N2	2.35	0.60
1:A:1252:C:N4	1:A:1364:A:OP2	2.31	0.60
2:B:90:C:O2	30:d:245:ARG:NH2	2.31	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
18:R:181:ARG:NH1	52:2:972:A:C2'	2.65	0.60
32:f:126:LEU:HD13	32:f:165:ILE:HG22	1.83	0.60
32:f:152:THR:HG22	32:f:160:HIS:H	1.67	0.60
42:p:151:LEU:HD23	42:p:249:ILE:HG12	1.84	0.60
52:2:183:C:O2'	52:2:184:C:O5'	2.19	0.60
52:2:709:C:HO2'	52:2:710:U:P	2.24	0.60
52:2:1529:U:H3	52:2:1869:A:H61	1.49	0.60
64:AI:132:PRO:O	64:AI:134:LEU:HD11	2.02	0.60
69:AN:9:PHE:H	69:AN:12:TRP:HB2	1.65	0.60
69:AN:66:GLY:HA3	69:AN:71:ARG:HH21	1.66	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
1:A:55:A:H5''	15:O:157:LYS:HD2	1.83	0.60
1:A:113:C:P	15:O:147:ARG:HD3	2.42	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
42:p:151:LEU:HD21	42:p:173:ILE:HD12	1.81	0.60
50:0:47:THR:HG21	50:0:67:PHE:HE1	1.67	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
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
64:AI:135:HIS:CB	68:AM:150:SER:O	2.50	0.60
2:B:404:G:N1	2:B:407:A:OP2	2.33	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
33:g:102:GLY:O	33:g:106:ARG:HB3	2.01	0.60
44:r:70:LEU:HD11	44:r:85:LEU:HD11	1.83	0.60
52:2:71:G:H1	52:2:78:C:H5	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:1948:C:H5'	68:AM:26:LYS:NZ	2.17	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
1:A:449:A:N3	1:A:687:C:O2'	2.34	0.60
1:A:555:U:OP1	42:p:323:ARG:NH2	2.35	0.60
1:A:842:G:OP1	42:p:109:ARG:NH2	2.34	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
29:c:225:VAL:HG11	29:c:234:LYS:HA	1.84	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
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
1:A:1242:U:OP1	14:N:17:ARG:NH1	2.34	0.59
7:G:152:G:N2	49:w:151:GLU:OE2	2.35	0.59
13:M:28:ASP:O	13:M:29:LEU:HB2	2.01	0.59
42:p:183:ASN:OD1	42:p:223:PHE:HD2	1.84	0.59
50:0:65:ARG:HG2	63:AH:43:ARG:HG3	1.83	0.59
52:2:308:C:H4'	52:2:309:G:N7	2.17	0.59
52:2:1103:G:O4'	62:AG:69:ARG:NH2	2.34	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
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
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
1:A:127:G:N2	1:A:139:C:O2	2.35	0.59
41:o:33:ASN:OD1	41:o:34:ARG:N	2.35	0.59
44:r:2:VAL:HG21	44:r:88:THR:HG21	1.84	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
52:2:1611:U:C4	60:AD:41:ARG:HD3	2.36	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:32:LYS:HE2	70:AO:145:GLY:HA3	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
29:c:136:ILE:HA	29:c:148:LEU:HB3	1.83	0.59
30:d:215:GLN:HB2	30:d:218:GLU:HG3	1.83	0.59
47:u:164:LEU:HD12	47:u:178:MET:HE2	1.83	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:720:A:N6	1:A:732:A:N1	2.50	0.59
1:A:741:G:HO2'	1:A:838:G:HO2'	1.48	0.59
1:A:1599:G:O6	41:o:2:GLY:N	2.35	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
51:1:244:MET:HE3	51:1:249:GLU:HG2	1.85	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
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
1:A:318:G:H21	1:A:320:G:H22	1.51	0.59
1:A:367:A:H2	12:L:27:VAL:N	2.00	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
1:A:1184:G:N2	1:A:1187:A:OP2	2.29	0.59
5:E:69:A:H2'	5:E:70:A:C8	2.37	0.59
11:K:117:ILE:CB	68:AM:15:ARG:NH2	2.65	0.59
44:r:2:VAL:N	44:r:90:HIS:O	2.35	0.59
46:t:108:ARG:HB2	46:t:109:PRO:CD	2.29	0.59
52:2:554:U:O2'	52:2:555:C:OP1	2.17	0.59
52:2:1513:C:H2'	66:AK:149:ARG:HH22	1.67	0.59
52:2:1849:A:H4'	52:2:1850:U:OP1	2.03	0.59
57:7:6:HIS:CD2	57:7:304:ARG:HG2	2.37	0.59
1:A:947:A:H4'	29:c:186:PHE:CD2	2.37	0.59
1:A:1512:C:N4	42:p:188:ILE:O	2.27	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:l:19:CYS:HB2	38:l:27:TYR:HB2	1.84	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
52:2:2164:U:O2'	52:2:2165:A:OP2	2.17	0.59
54:4:35:LYS:HG2	54:4:38:ARG:NE	2.17	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
1:A:369:A:O2'	38:l:58:ARG:NH2	2.26	0.59
1:A:811:G:H2'	1:A:812:A:H8	1.67	0.59
3:C:187:A:OP1	35:i:67:ARG:HG2	2.02	0.59
15:O:85:LYS:HG3	15:O:86:THR:HG23	1.83	0.59
31:e:42:LYS:HD2	31:e:96:ASN:HA	1.84	0.59
45:s:232:PHE:HD1	45:s:235:TYR:CD2	2.21	0.59
47:u:226:GLN:OE1	47:u:234:GLY:O	2.21	0.59
52:2:315:A:H3'	52:2:316:A:C5'	2.32	0.59
52:2:1288:G:H2'	52:2:1289:A:C8	2.38	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
67:AL:109:LEU:HD13	67:AL:116:VAL:HA	1.85	0.59
67:AL:109:LEU:HB3	67:AL:116:VAL:HG22	1.85	0.59
1:A:1355:C:O2'	17:Q:87:CYS:SG	2.59	0.59
2:B:536:G:H5''	16:P:86:LYS:HB2	1.84	0.59
3:C:219:U:H3	3:C:226:A:H61	1.51	0.59
4:D:111:G:N7	45:s:21:ARG:NH2	2.51	0.59
30:d:240:VAL:HG22	30:d:240:VAL:O	2.01	0.59
52:2:569:U:N3	52:2:572:A:OP2	2.21	0.59
52:2:1804:C:P	67:AL:60:ARG:HH22	2.25	0.59
57:7:3:TYR:HB2	57:7:306:TRP:CE3	2.37	0.59
70:AO:117:THR:O	70:AO:120:SER:OG	2.13	0.59
71:AP:112:ASN:ND2	71:AP:139:MET:HA	2.18	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
2:B:1449:U:O5'	30:d:325:ARG:HD3	2.02	0.59
12:L:28:LYS:HE2	12:L:30:PHE:HE1	1.67	0.59
18:R:181:ARG:HH11	52:2:972:A:C2'	2.14	0.59
45:s:86:PHE:CD2	45:s:256:ILE:HG12	2.38	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
52:2:604:A:N3	52:2:639:C:O2'	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1688:C:H4'	58:8:56:LEU:HD13	1.85	0.59
52:2:1876:U:N3	52:2:1880:A:H4'	2.18	0.59
58:8:21:CYS:CA	58:8:28:GLN:CG	2.81	0.59
65:AJ:68:ARG:HD2	71:AP:240:TRP:CD2	2.38	0.59
66:AK:89:GLN:HB3	66:AK:122:LEU:HD21	1.83	0.59
19:S:10:GLY:C	19:S:11:THR:HG23	2.28	0.59
29:c:108:THR:HG21	39:m:86:LEU:HG	1.85	0.59
33:g:60:SER:O	33:g:61:ASP:HB3	2.03	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
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
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
1:A:115:U:H4'	15:O:4:PHE:CD2	2.38	0.58
3:C:174:A:C2	24:X:110:HIS:HB3	2.38	0.58
9:I:131:ASP:HB3	42:p:282:LEU:HD22	1.85	0.58
18:R:181:ARG:NH1	52:2:972:A:H2'	2.18	0.58
44:r:47:GLN:NE2	44:r:53:GLN:OE1	2.32	0.58
51:1:143:ARG:NH2	52:2:339:U:C2	2.71	0.58
52:2:1863:A:O3'	64:AI:134:LEU:HD22	2.02	0.58
56:6:158:ALA:HB3	56:6:161:SER:HB2	1.83	0.58
61:AE:68:TYR:CD1	61:AE:128:PRO:HG2	2.38	0.58
65:AJ:68:ARG:HD2	71:AP:240:TRP:CE3	2.38	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
68:AM:125:ARG:NH1	68:AM:134:GLY:O	2.36	0.58
69:AN:53:PRO:HG2	69:AN:56:GLU:HG3	1.85	0.58
69:AN:108:ARG:HH22	80:AZ:22:ALA:HB2	1.68	0.58
75:AT:17:PHE:HZ	75:AT:26:LYS:HD3	1.68	0.58
78:AX:200:SER:O	78:AX:201:GLU:C	2.45	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
17:Q:28:LYS:HZ2	19:S:143:VAL:HG11	1.68	0.58
30:d:274:GLN:CD	30:d:276:GLY:HA3	2.27	0.58
48:v:194:LEU:O	48:v:198:ALA:N	2.32	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
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

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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
2:B:1275:G:O2'	7:G:52:A:N1	2.36	0.58
3:C:128:U:O4	3:C:196:C:N4	2.32	0.58
19:S:122:GLY:C	19:S:124:ALA:N	2.52	0.58
20:T:34:ALA:HA	20:T:39:PHE:HB2	1.84	0.58
21:U:116:ILE:O	21:U:117:ALA:C	2.46	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
52:2:2201:U:H2'	76:AV:40:ARG:HH11	1.68	0.58
72:AQ:32:VAL:HG22	72:AQ:36:LEU:HD12	1.86	0.58
2:B:1101:G:O6	2:B:1102:A:N6	2.37	0.58
6:F:73:A:H2'	36:j:25:ASN:HB3	1.83	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
15:O:48:ALA:C	15:O:51:LEU:O	2.47	0.58
30:d:302:THR:HG22	30:d:308:THR:O	2.04	0.58
42:p:205:GLY:O	42:p:246:ARG:NH1	2.36	0.58
50:0:241:SER:O	50:0:242:VAL:C	2.45	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
52:2:1877:G:H1'	69:AN:155:MET:HE1	1.84	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
57:7:265:SER:HG	57:7:267:THR:HG1	1.48	0.58
60:AD:64:TRP:HB2	60:AD:75:VAL:O	2.03	0.58
69:AN:52:MET:HE3	69:AN:53:PRO:HD2	1.85	0.58
78:AX:134:GLU:HG2	78:AX:152:ARG:HG2	1.85	0.58
1:A:210:G:H4'	1:A:211:U:H5''	1.86	0.58
1:A:1484:A:N3	1:A:1511:C:O2'	2.36	0.58
2:B:1019:A:OP2	44:r:96:LYS:HE2	2.02	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
50:0:97:ARG:HG2	50:0:243:GLU:CG	2.34	0.58
52:2:935:U:H3	61:AE:12:GLN:HB2	1.69	0.58
52:2:2024:C:O2'	52:2:2025:C:OP1	2.18	0.58
54:4:196:GLN:OE1	77:AW:13:VAL:HG22	2.04	0.58
57:7:158:PHE:CD1	57:7:167:VAL:HG11	2.38	0.58
63:AH:41:SER:OG	63:AH:42:GLY:N	2.36	0.58
66:AK:12:VAL:O	66:AK:27:VAL:HB	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:909:A:C2	48:v:117:LYS:HG2	2.38	0.58
19:S:10:GLY:C	19:S:11:THR:CG2	2.77	0.58
51:1:71:ASN:ND2	51:1:162:LYS:HA	2.17	0.58
52:2:64:A:H5'	53:3:180:GLN:NE2	2.17	0.58
52:2:558:U:H1'	56:6:130:GLN:HE22	1.68	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
69:AN:190:ARG:NH2	80:AZ:78:GLU:HG2	2.19	0.58
76:AV:33:PRO:HG2	76:AV:36:LYS:HB2	1.84	0.58
2:B:994:U:OP2	19:S:9:SER:OG	2.20	0.58
30:d:133:GLN:HG3	30:d:134:LYS:N	2.17	0.58
52:2:1569:C:N3	52:2:1570:C:N4	2.51	0.58
52:2:1864:C:N3	64:AI:135:HIS:C	2.62	0.58
63:AH:121:ARG:CA	76:AV:62:TYR:CE2	2.86	0.58
68:AM:60:LEU:N	68:AM:65:LEU:HB2	2.19	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
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
30:d:139:THR:O	30:d:143:LYS:HG2	2.02	0.58
42:p:246:ARG:HG2	42:p:247:PHE:N	2.18	0.58
49:w:64:ILE:HB	49:w:65:PRO:HD3	1.84	0.58
52:2:591:A:H4'	52:2:592:C:O5'	2.02	0.58
52:2:1556:A:O2'	52:2:1557:A:O5'	2.20	0.58
52:2:1645:G:H5'	71:AP:129:LYS:HE3	1.85	0.58
52:2:1956:G:C4	52:2:1985:A:N6	2.64	0.58
52:2:2018:A:OP1	70:AO:107:LYS:NZ	2.36	0.58
69:AN:54:ILE:HA	69:AN:57:ARG:HB3	1.86	0.58
70:AO:49:GLN:HB2	70:AO:70:ARG:NH2	2.18	0.58
1:A:178:G:C4	1:A:281:G:N2	2.72	0.58
2:B:362:C:O3'	29:c:174:ARG:NH1	2.37	0.58
2:B:1023:C:O2'	2:B:1108:C:O2	2.19	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
29:c:150:LEU:HB3	29:c:151:PRO:CD	2.34	0.58
30:d:261:HIS:HA	30:d:262:PRO:C	2.28	0.58
34:h:8:TYR:HB2	34:h:13:HIS:ND1	2.17	0.58
37:k:77:LYS:HD2	37:k:83:PHE:CE1	2.38	0.58
47:u:57:ARG:NH1	47:u:193:ASP:OD2	2.37	0.58
52:2:936:U:HO2'	52:2:937:C:H6	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1575:A:H1'	52:2:1576:G:C8	2.39	0.58
58:8:45:ARG:HH12	72:AQ:77:PHE:HB2	1.69	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
72:AQ:58:LEU:HD12	72:AQ:79:LEU:HD12	1.86	0.58
1:A:805:A:H1'	9:I:147:ARG:HD2	1.86	0.58
7:G:178:G:H4'	30:d:130:PHE:CE1	2.39	0.58
18:R:8:ALA:HB2	18:R:24:LEU:HD11	1.86	0.58
18:R:62:ARG:HH11	18:R:62:ARG:CG	2.16	0.58
40:n:75:ALA:O	40:n:76:LYS:HB3	2.03	0.58
49:w:27:VAL:HG11	49:w:79:MET:HB3	1.86	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
52:2:1526:G:N1	52:2:1872:A:C2	2.72	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
52:2:1974:A:C5	52:2:1975:U:O4	2.56	0.58
52:2:1974:A:C2	52:2:2014:U:H1'	2.38	0.58
52:2:1977:G:O2'	52:2:1979:U:OP1	2.22	0.58
52:2:2035:C:H2'	52:2:2036:C:H6	1.68	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:56:GLU:HB3	69:AN:60:ASN:ND2	2.19	0.58
69:AN:107:PRO:HA	69:AN:179:LYS:HG3	1.85	0.58
72:AQ:110:SER:C	72:AQ:111:ILE:HG13	2.28	0.58
1:A:1261:U:H4'	1:A:1262:G:H5''	1.86	0.57
2:B:360:A:OP2	29:c:128:ARG:NH1	2.37	0.57
6:F:17:U:O3'	13:M:136:ARG:NH1	2.37	0.57
15:O:18:VAL:HG21	48:v:159:ALA:HB3	1.84	0.57
27:a:74:PRO:HA	27:a:77:THR:CG2	2.29	0.57
30:d:138:ASN:O	30:d:139:THR:OG1	2.14	0.57
42:p:7:VAL:CG2	42:p:150:PRO:CG	2.72	0.57
48:v:166:VAL:HG21	48:v:266:LYS:HD3	1.85	0.57
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:1875:A:C8	52:2:1875:A:OP2	2.56	0.57
59:AC:92:GLU:OE2	73:AR:84:ARG:HB3	2.05	0.57
5:E:125:G:H5''	5:E:126:A:H3'	1.86	0.57
7:G:137:G:OP1	43:q:93:LYS:NZ	2.38	0.57
30:d:276:GLY:C	30:d:278:HIS:N	2.61	0.57
31:e:75:ASN:O	31:e:79:LEU:HB2	2.04	0.57
45:s:60:ILE:HB	45:s:80:ALA:HB2	1.85	0.57
50:0:132:THR:C	50:0:134:ASP:O	2.46	0.57
51:1:142:HIS:ND1	52:2:121:C:H4'	2.19	0.57
55:5:26:LYS:C	55:5:29:LEU:HD11	2.29	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
59:AC:237:LEU:HD12	67:AL:82:MET:HG3	1.86	0.57
64:AI:102:ALA:HB1	64:AI:109:PHE:O	2.04	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
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
2:B:1093:U:H3	2:B:1173:A:N6	2.02	0.57
2:B:1315:A:OP1	30:d:260:TRP:HB2	2.04	0.57
2:B:1425:G:H2'	2:B:1426:G:H8	1.68	0.57
31:e:33:LEU:HD22	31:e:61:TYR:CD2	2.39	0.57
48:v:271:LEU:O	48:v:275:ILE:HD12	2.04	0.57
52:2:707:U:H3	52:2:744:G:H22	1.51	0.57
52:2:1123:G:H3'	52:2:1183:G:H22	1.68	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
60:AD:126:PRO:HA	78:AX:66:ARG:CZ	2.34	0.57
64:AI:113:GLU:OE2	64:AI:126:PHE:HB3	2.04	0.57
66:AK:99:PHE:HA	66:AK:103:HIS:HB2	1.84	0.57
1:A:350:C:H2'	1:A:351:U:H6	1.69	0.57
2:B:741:U:C5	48:v:118:ASN:HB3	2.38	0.57
2:B:1436:C:OP1	30:d:138:ASN:ND2	2.27	0.57
3:C:152:A:OP1	35:i:53:LYS:NZ	2.30	0.57
21:U:89:ARG:NE	21:U:123:GLU:OE2	2.35	0.57
36:j:75:VAL:HG12	36:j:137:VAL:HG22	1.86	0.57
42:p:33:ASN:OD1	42:p:34:ASP:N	2.38	0.57
49:w:92:ARG:NH1	49:w:139:VAL:HG22	2.19	0.57
52:2:724:A:H4'	52:2:725:U:OP1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1634:C:O2'	72:AQ:65:THR:HG22	2.04	0.57
55:5:6:SER:HB3	55:5:28:GLU:CD	2.30	0.57
55:5:174:ALA:O	55:5:178:GLN:HG3	2.03	0.57
67:AL:16:VAL:O	67:AL:20:TYR:N	2.37	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
2:B:687:U:O2'	37:k:62:GLU:OE1	2.22	0.57
19:S:122:GLY:C	19:S:124:ALA:H	2.01	0.57
52:2:199:C:O2'	52:2:200:A:N3	2.33	0.57
64:AI:133:VAL:C	64:AI:134:LEU:HD12	2.30	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
1:A:1025:G:OP1	9:I:16:ARG:NE	2.36	0.57
1:A:1119:C:H2'	1:A:1120:C:H6	1.70	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
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
52:2:1553:G:H3'	58:8:31:LEU:HG	1.85	0.57
52:2:1673:U:OP1	59:AC:138:ARG:NH2	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
62:AG:36:MET:HE1	62:AG:58:MET:HE2	1.87	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
69:AN:63:MET:HA	69:AN:63:MET:HE3	1.86	0.57
1:A:189:A:OP1	24:X:121:ARG:NH1	2.38	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
33:g:105:SER:O	33:g:109:ILE:HD12	2.05	0.57
42:p:27:PHE:CD1	42:p:131:SER:HB3	2.39	0.57
50:0:23:GLU:OE1	50:0:23:GLU:N	2.38	0.57
52:2:1877:G:O2'	69:AN:155:MET:SD	2.52	0.57
52:2:1954:U:O4	68:AM:26:LYS:HG3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:12:LYS:HZ2	54:4:49:VAL:HG22	1.67	0.57
54:4:190:TRP:HE1	54:4:196:GLN:HB3	1.69	0.57
55:5:9:HIS:CG	55:5:9:HIS:O	2.57	0.57
57:7:105:LYS:O	57:7:106:HIS:ND1	2.38	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
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
1:A:664:C:O2	36:j:49:GLN:NE2	2.37	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
30:d:76:VAL:CG1	30:d:330:MET:HG2	2.34	0.57
30:d:235:VAL:HG22	30:d:240:VAL:HG12	1.87	0.57
36:j:79:TYR:HE2	36:j:103:LEU:HG	1.70	0.57
47:u:229:ARG:O	47:u:235:GLY:HA3	2.04	0.57
49:w:3:LYS:HE2	49:w:5:LYS:O	2.05	0.57
49:w:92:ARG:HH12	49:w:139:VAL:HG22	1.68	0.57
52:2:68:A:O2'	52:2:69:C:OP2	2.23	0.57
52:2:1113:G:OP1	62:AG:3:ARG:NH1	2.36	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
53:3:44:SER:O	53:3:45:GLU:HB3	2.05	0.57
54:4:79:ARG:HH21	54:4:135:PRO:HG3	1.70	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
1:A:425:G:C8	1:A:1557:A:H1'	2.40	0.57
1:A:1439:A:N6	27:a:105:ASP:OD2	2.37	0.57
1:A:1579:U:H5''	18:R:24:LEU:HD12	1.86	0.57
2:B:528:A:OP1	32:f:95:THR:HG22	2.04	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
32:f:167:ASN:OD1	32:f:168:VAL:N	2.38	0.57
40:n:57:GLU:O	40:n:66:LYS:NZ	2.30	0.57
42:p:216:THR:HB	42:p:220:ARG:HH21	1.69	0.57
42:p:346:VAL:HA	42:p:349:ARG:HG2	1.86	0.57
45:s:147:PRO:HG2	45:s:178:ALA:HB2	1.86	0.57
51:1:159:TYR:OH	51:1:164:LYS:HG3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
78:AX:79:LYS:HB2	78:AX:82:LYS:HZ1	1.69	0.57
1:A:593:U:O4	1:A:594:G:N1	2.38	0.57
6:F:11:G:C5'	6:F:73:A:N6	2.68	0.57
8:H:19:G:H4'	30:d:178:VAL:HG22	1.86	0.57
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
52:2:83:A:H5'	75:AT:129:LYS:HE3	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
55:5:47:ARG:HG3	55:5:47:ARG:O	2.02	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
1:A:181:G:H22	1:A:276:C:H6	1.50	0.56
1:A:514:C:O3'	17:Q:70:LYS:NZ	2.37	0.56
1:A:1502:U:H2'	1:A:1503:A:H8	1.70	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
29:c:135:ILE:HB	29:c:149:LYS:CD	2.35	0.56
52:2:954:A:H2'	52:2:955:A:C8	2.40	0.56
52:2:1145:A:N1	52:2:1158:U:O2'	2.29	0.56
52:2:1922:A:O2'	52:2:1966:U:H5'	2.05	0.56
52:2:1936:C:H42	70:AO:87:ARG:NE	2.03	0.56
52:2:1974:A:C2	52:2:1975:U:O4	2.58	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
1:A:531:C:H1'	17:Q:132:PRO:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:456:G:O2'	2:B:494:G:O6	2.17	0.56
19:S:43:VAL:HG21	19:S:97:ARG:HH21	1.69	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
1:A:70:C:H1'	12:L:66:PRO:O	2.05	0.56
1:A:192:C:H42	1:A:241:G:H1	1.54	0.56
1:A:781:A:OP1	9:I:141:LYS:HG3	2.06	0.56
1:A:1726:C:O2'	1:A:1727:U:O5'	2.23	0.56
2:B:994:U:H5	19:S:4:SER:OG	1.88	0.56
2:B:1125:A:H2	26:Z:38:MET:HE2	1.70	0.56
3:C:166:G:OP2	24:X:71:TYR:OH	2.24	0.56
9:I:89:VAL:HG12	9:I:91:GLY:H	1.69	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
25:Y:61:THR:O	25:Y:65:ARG:HG2	2.06	0.56
30:d:78:ILE:HG13	30:d:330:MET:HG3	1.88	0.56
35:i:40:GLY:O	35:i:41:ALA:HB3	2.05	0.56
44:r:46:LYS:HE2	44:r:54:THR:HB	1.88	0.56
51:1:95:ARG:CZ	51:1:113:GLU:HG2	2.36	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:H6	52:2:1949:U:OP2	1.88	0.56
53:3:8:PRO:O	53:3:9:ARG:HG2	2.06	0.56
55:5:26:LYS:CD	55:5:29:LEU:HD21	2.27	0.56
57:7:22:GLN:HB3	57:7:75:HIS:CD2	2.40	0.56
57:7:234:VAL:HG21	57:7:238:ILE:HD11	1.87	0.56
57:7:260:VAL:O	57:7:268:VAL:HA	2.05	0.56
58:8:33:ARG:NH2	72:AQ:62:THR:HG21	2.20	0.56
59:AC:73:TYR:OH	59:AC:93:LYS:NZ	2.34	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
61:AE:81:ILE:CD1	61:AE:155:LEU:HD21	2.36	0.56
63:AH:98:THR:HG22	63:AH:100:SER:H	1.70	0.56
64:AI:84:LYS:HG3	64:AI:102:ALA:C	2.30	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
68:AM:88:GLN:O	68:AM:95:LYS:HB3	2.05	0.56
68:AM:125:ARG:HH22	68:AM:135:GLN:HA	1.70	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

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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
78:AX:114:VAL:HG21	78:AX:141:ILE:HD12	1.87	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
14:N:26:VAL:HG21	14:N:78:LEU:HD21	1.87	0.56
20:T:44:LEU:HB3	20:T:72:MET:HE2	1.87	0.56
29:c:46:LYS:HE3	34:h:48:VAL:HG11	1.87	0.56
46:t:28:THR:H	46:t:60:ASN:HD21	1.52	0.56
51:1:69:VAL:HG12	51:1:74:ARG:HG3	1.88	0.56
52:2:68:A:OP2	53:3:175:LYS:NZ	2.38	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
52:2:2000: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
1:A:218:A:N6	1:A:1482:C:O2	2.39	0.56
1:A:530:U:O2	17:Q:133:ASP:HB2	2.04	0.56
1:A:963:G:H1	29:c:208:GLU:CD	2.13	0.56
1:A:1752:G:N9	40:n:74:HIS:NE2	2.54	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
46:t:42:LEU:HD11	46:t:85:ILE:HG13	1.85	0.56
48:v:275:ILE:HG22	48:v:276:GLY:N	2.20	0.56
51:1:238:LYS:HD3	52:2:886:U:H2'	1.86	0.56
52:2:471:A:N3	52:2:483:U:O2'	2.33	0.56
52:2:1536:U:H5'	64:AI:133:VAL:CG2	2.35	0.56
52:2:1975:U:C5	52:2:2014:U:O2'	2.57	0.56
54:4:191:ASN:N	54:4:192:PRO:CD	2.67	0.56
55:5:60:LEU:C	55:5:60:LEU:HD12	2.31	0.56
55:5:162:TRP:O	55:5:166:ARG:HG2	2.06	0.56
65:AJ:81:CYS:HG	65:AJ:89:TRP:CD1	2.24	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
1:A:594:G:N2	1:A:615:C:N3	2.54	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
30:d:303:THR:HG21	30:d:363:LEU:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:e:33:LEU:HD22	31:e:61:TYR:HD2	1.71	0.56
33:g:129:LYS:O	33:g:129:LYS:HD3	2.04	0.56
34:h:25:ARG:HH21	34:h:31:LEU:HG	1.70	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
52:2:459: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
52:2:1501:A:O2'	52:2:2052:C:OP2	2.22	0.56
52:2:1875:A:O5'	52:2:1955:G:O2'	2.22	0.56
52:2:1879:C:O3'	52:2:1880:A:H3'	2.05	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
1:A:717:G:OP1	12:L:44:ARG:NH2	2.30	0.56
12:L:20:CYS:O	12:L:23:GLN:N	2.35	0.56
29:c:58:LEU:HD13	29:c:75:LEU:HD21	1.87	0.56
29:c:193:ARG:NE	29:c:195:CYS:SG	2.66	0.56
43:q:109:ASN:HD22	43:q:119:SER:HA	1.71	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
52:2:1572:G:C6	52:2:1847:C:C5	2.94	0.56
52:2:1817:U:OP1	67:AL:3:LYS:NZ	2.39	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
64:AI:89:ASP:HA	64:AI:122:TYR:OH	2.05	0.56
66:AK:44:GLN:HE22	70:AO:25:LYS:C	2.14	0.56
66:AK:137:ARG:HD3	66:AK:143:ARG:NH1	2.20	0.56
22:V:108:VAL:HG23	22:V:133:HIS:CG	2.41	0.56
27:a:120:ARG:NE	33:g:117:ASP:OD1	2.38	0.56
29:c:187:TYR:CD2	29:c:187:TYR:N	2.74	0.56
30:d:62:ARG:O	30:d:62:ARG:HG3	2.05	0.56
50:0:66:VAL:HG22	50:0:90:THR:HG22	1.87	0.56
52:2:730:G:C6	52:2:731:A:C6	2.93	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
54:4:40:GLU:C	54:4:42:PRO:HD3	2.30	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:8:29:LYS:HG3	58:8:30:ALA:H	1.71	0.56
59:AC:231:TRP:CG	59:AC:232:GLU:H	2.23	0.56
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
64:AI:134:LEU:HA	68:AM:150:SER:HB2	1.87	0.56
67:AL:39:THR:HG22	78:AX:206:VAL:HG22	1.87	0.56
71:AP:91:MET:HE2	71:AP:193:VAL:HG13	1.88	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
1:A:181:G:N2	1:A:276:C:H6	2.03	0.56
1:A:377:G:N2	3:C:117:U:O2	2.38	0.56
1:A:379:C:OP1	1:A:1472:G:O2'	2.24	0.56
1:A:435:G:P	24:X:84:ARG:HH22	2.29	0.56
9:I:33:TYR:O	9:I:37:ALA:N	2.27	0.56
15:O:7:LEU:HD11	48:v:247:LEU:HD23	1.88	0.56
47:u:230:HIS:O	47:u:235:GLY:CA	2.53	0.56
49:w:92:ARG:HH12	49:w:140:LYS:HB2	1.70	0.56
50:0:72:ALA:HB2	50:0:82:GLU:O	2.06	0.56
52:2:519:A:O2'	56:6:8:ASN:O	2.18	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
57:7:26:TYR:CD1	57:7:27:ILE:HG12	2.40	0.56
59:AC:221:LEU:HB3	73:AR:50:ILE:CD1	2.36	0.56
80:AZ:84:ARG:O	80:AZ:85:ARG:O	2.22	0.56
1:A:569:G:N7	42:p:313:TYR:OH	2.38	0.56
2:B:406:G:H4'	37:k:83:PHE:CE2	2.35	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
52:2:717: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
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
52:2:1576:G:O2'	52:2:1577:G:OP1	2.23	0.56
52:2:1863:A:N6	68:AM:137:THR:OG1	2.38	0.56
52:2:1983:G:H5''	52:2:1984:C:H2'	1.87	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
56:6:122:HIS:HE1	79:AY:37:ARG:CD	2.18	0.56
57:7:173:ASP:OD1	57:7:175:THR:OG1	2.23	0.56
70:AO:57:ASN:ND2	70:AO:60:GLU:OE2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:152:GLY:HA3	70:AO:156:ALA:CB	2.35	0.56
1:A:646:C:OP1	36:j:92:LYS:HB2	2.06	0.55
1:A:827:G:C6	1:A:828:U:C2	2.93	0.55
1:A:1535:U:H2'	1:A:1536:G:C8	2.41	0.55
2:B:742:G:N2	48:v:122:GLY:HA3	2.21	0.55
7:G:18:U:H2'	7:G:19:C:C6	2.41	0.55
7:G:85:C:H4'	32:f:92:LYS:HE3	1.87	0.55
15:O:2:GLY:N	15:O:5:MET:HE3	2.21	0.55
27:a:139:ARG:NH1	27:a:140:LYS:O	2.40	0.55
42:p:131:SER:O	42:p:149:VAL:HG11	2.06	0.55
42:p:210:MET:HE1	42:p:216:THR:HA	1.87	0.55
42:p:261:ILE:HG22	42:p:262:PHE:CD1	2.40	0.55
48:v:251:MET:HE3	48:v:282:CYS:SG	2.46	0.55
52:2:1183:G:O6	76:AV:17:ARG:HG2	2.07	0.55
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
54:4:30:LEU:HD13	54:4:38:ARG:NH2	2.21	0.55
54:4:190:TRP:CD1	54:4:190:TRP:N	2.73	0.55
65:AJ:28:ARG:HH11	65:AJ:28:ARG:CG	2.18	0.55
69:AN:60:ASN:HA	69:AN:72:LYS:HE2	1.87	0.55
80:AZ:33:ARG:HH12	80:AZ:39:ASN:C	2.13	0.55
1:A:1004:G:OP1	28:b:15:LYS:NZ	2.31	0.55
1:A:1559:A:OP2	1:A:1575:A:N6	2.40	0.55
29:c:78:ALA:O	29:c:170:SER:OG	2.20	0.55
30:d:288:TYR:CD1	30:d:361:ILE:HG21	2.41	0.55
30:d:347:ARG:HD3	30:d:348:PRO:HD2	1.88	0.55
36:j:26:ARG:HD2	36:j:28:ARG:HH12	1.71	0.55
45:s:83:LEU:HD21	45:s:100:ALA:HB3	1.89	0.55
50:0:32:ASP:OD1	50:0:32:ASP:N	2.38	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
52:2:1611:U:H4'	52:2:1612:U:OP2	2.06	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
54:4:190:TRP:C	54:4:192:PRO:HD2	2.31	0.55
57:7:67:PHE:HB2	57:7:85:TRP:HB2	1.88	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
52:2:915:A:H4'	52:2:916:G:O5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1697:C:O4'	72:AQ:51:VAL:HG23	2.06	0.55
57:7:83:ALA:HB2	57:7:113:VAL:HG22	1.87	0.55
57:7:174:ASN:ND2	57:7:194:SER:O	2.39	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
1:A:454:U:H2'	1:A:455:G:C8	2.41	0.55
2:B:1341:A:H5''	29:c:213:GLY:HA2	1.88	0.55
4:D:114:G:N2	45:s:72:ASP:O	2.38	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
14:N:10:GLY:O	14:N:11:ARG:C	2.46	0.55
31:e:101:ASP:O	31:e:102:ILE:HG22	2.06	0.55
42:p:34:ASP:OD1	42:p:35:ILE:N	2.38	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
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
1:A:737:U:H5'	12:L:73:LYS:HE2	1.88	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
1:A:1133:A:O2'	1:A:1134:C:O5'	2.19	0.55
2:B:389:G:H3'	2:B:391:A:C8	2.42	0.55
2:B:1160:U:OP2	44:r:34:ARG:NH2	2.40	0.55
18:R:190:ARG:O	18:R:194:ALA:N	2.32	0.55
19:S:153:TYR:HA	19:S:156:MET:HE3	1.88	0.55
20:T:91:LYS:HG3	20:T:109:ILE:CD1	2.36	0.55
46:t:80:ASP:N	46:t:80:ASP:OD1	2.38	0.55
50:0:40:GLU:HG3	50:0:76:GLN:CD	2.26	0.55
50:0:175:ILE:HG23	50:0:179:LEU:HD12	1.88	0.55
51:1:101:ASP:OD1	51:1:102:VAL:N	2.40	0.55
52:2:528:G:H8	52:2:528:G:O5'	1.89	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
57:7:28:LYS:NZ	57:7:94:LEU:HB3	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AC:168:GLN:NE2	59:AC:172:GLU:OE2	2.39	0.55
60:AD:81:MET:HE2	60:AD:102:TYR:CE2	2.41	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
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
34:h:4:PRO:HG2	34:h:31:LEU:HD12	1.89	0.55
42:p:100:MET:HE1	42:p:104:THR:HG23	1.89	0.55
52:2:1559:U:H3'	52:2:1560:U:H5''	1.89	0.55
57:7:117:PRO:HG3	57:7:160:PRO:C	2.31	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
7:G:182:A:N3	13:M:6:ARG:NH2	2.55	0.55
13:M:29:LEU:HD11	13:M:53:VAL:CG1	2.36	0.55
33:g:103:ALA:O	33:g:107:LYS:HG3	2.07	0.55
52:2:251:A:O2'	52:2:252:G:OP1	2.21	0.55
52:2:1454:A:O2'	65:AJ:74:ALA:O	2.24	0.55
52:2:1553:G:N7	58:8:41:ARG:NH2	2.55	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
57:7:251:CYS:SG	57:7:260:VAL:HG22	2.47	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
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
1:A:320:G:O6	1:A:342:G:H1'	2.06	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
16:P:2:THR:OG1	16:P:3:HIS:N	2.32	0.55
31:e:76:ASN:OD1	31:e:77:LEU:N	2.40	0.55
50:0:86:LYS:NZ	50:0:109:THR:HA	2.21	0.55
52:2:14:C:OP1	71:AP:219:ASN:ND2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:780:A:H4'	52:2:781:A:O5'	2.07	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
52:2:2028:U:OP1	69:AN:60:ASN:HB3	2.07	0.55
54:4:31:GLU:HG3	54:4:42:PRO:HB2	1.88	0.55
60:AD:56:CYS:N	78:AX:75:ARG:HH22	2.04	0.55
1:A:148:U:H5''	15:O:54:LYS:HB3	1.88	0.55
1:A:247:A:OP2	42:p:163:THR:N	2.40	0.55
1:A:755:A:H4'	1:A:772:G:H5'	1.89	0.55
1:A:911:G:OP1	39:m:17:ARG:NH1	2.40	0.55
1:A:1467:G:O2'	1:A:1468:C:OP2	2.21	0.55
4:D:36:C:O4'	45:s:204:ARG:NH2	2.40	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
48:v:311:SER:O	48:v:315:ARG:HG2	2.07	0.55
52:2:244:G:H5''	55:5:201:ILE:HD11	1.89	0.55
52:2:695:G:OP2	52:2:747:C:O2	2.25	0.55
52:2:1791:U:O2'	52:2:1792:C:OP2	2.16	0.55
53:3:43:GLY:O	53:3:44:SER:CB	2.54	0.55
57:7:63:GLY:N	57:7:92:TRP:HH2	2.05	0.55
58:8:24:ILE:HG13	60:AD:99:TRP:CE3	2.42	0.55
59:AC:58:ARG:HG3	59:AC:61:ILE:HD12	1.89	0.55
66:AK:30:ALA:O	66:AK:69:LEU:HA	2.07	0.55
66:AK:133:LYS:HG3	66:AK:139:SER:O	2.05	0.55
66:AK:137:ARG:CD	66:AK:141:ARG:H	2.20	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
1:A:1169:A:O2'	1:A:1461:G:O3'	2.26	0.55
3:C:233:C:HO2'	22:V:96:THR:HG1	1.53	0.55
6:F:63:A:C6	46:t:109:PRO:HG2	2.42	0.55
6:F:72:A:C5'	6:F:72:A:C8	2.90	0.55
12:L:20:CYS:C	12:L:22:SER:H	2.14	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
36:j:78:VAL:O	36:j:78:VAL:HG12	2.05	0.55
40:n:47:VAL:HG23	40:n:48:ASN:H	1.72	0.55
42:p:319:GLY:H	42:p:322:ASN:HB3	1.72	0.55
50:0:80:GLU:OE1	50:0:81:GLU:HG2	2.06	0.55
52:2:903:G:N3	65:AJ:107:SER:OG	2.37	0.55
52:2:1627:G:H4'	52:2:1628:C:O5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
57:7:148:GLY:C	57:7:177:LYS:HE3	2.32	0.55
60:AD:55:ALA:HB2	78:AX:71:CYS:SG	2.47	0.55
61:AE:147:SER:OG	61:AE:148:LYS:N	2.38	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
1:A:368:G:N3	38:l:55:LYS:NZ	2.46	0.54
9:I:182:ARG:HG2	9:I:183:GLY:N	2.20	0.54
18:R:15:LEU:HD13	18:R:52:ARG:HB3	1.89	0.54
29:c:187:TYR:HA	29:c:190:ARG:HB3	1.89	0.54
43:q:103:LEU:HD11	43:q:110:CYS:HA	1.89	0.54
49:w:17:THR:HG1	49:w:28:THR:HG1	1.55	0.54
52:2:56:U:HO2'	52:2:57:G:P	2.30	0.54
52:2:750:U:HO2'	52:2:751:G:Cl'	2.14	0.54
52:2:773:A:H2'	52:2:774:A:H8	1.71	0.54
52:2:1597:G:P	64:AI:62:VAL:HG21	2.47	0.54
55:5:204:GLU:HG3	61:AE:32:ASN:CB	2.35	0.54
57:7:148:GLY:C	57:7:177:LYS:CE	2.80	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
66:AK:12:VAL:HG12	66:AK:13:GLN:N	2.21	0.54
66:AK:128:ARG:CZ	69:AN:41:ARG:HB2	2.36	0.54
68:AM:86:ASN:HD22	68:AM:99:LEU:HB2	1.71	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
1:A:59:A:N6	1:A:60:A:N1	2.55	0.54
2:B:1088:U:H4'	19:S:54:HIS:CD2	2.43	0.54
29:c:32:LEU:HB2	29:c:163:ARG:HH12	1.71	0.54
32:f:129:TYR:O	32:f:132:HIS:ND1	2.39	0.54
42:p:155:ASP:OD1	42:p:253:SER:N	2.35	0.54
52:2:461:G:O2'	53:3:60:ASP:OD2	2.19	0.54
52:2:707:U:C5	52:2:708:C:C4	2.95	0.54
52:2:1822:G:P	66:AK:135:TRP:HE1	2.22	0.54
52:2:1833:U:H1'	72:AQ:67:CYS:SG	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:2024:C:H2'	52:2:2025:C:H6	1.70	0.54
56:6:55:ALA:O	56:6:59:LEU:HB2	2.06	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
70:AO:22:ARG:HH21	70:AO:141:GLY:N	2.06	0.54
70:AO:120:SER:O	70:AO:124:PRO:HD2	2.07	0.54
1:A:1234:A:H5'	36:j:44:ARG:NH2	2.22	0.54
1:A:1463:U:OP2	26:Z:7:LYS:NZ	2.36	0.54
2:B:1454:G:H2'	2:B:1455:C:C6	2.41	0.54
45:s:129:TYR:HB2	45:s:183:PRO:HB3	1.89	0.54
47:u:99:ILE:HD11	47:u:237:TYR:HB3	1.88	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
59:AC:94:LEU:HD11	59:AC:210:MET:HE1	1.88	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
78:AX:8:ARG:O	78:AX:12:ARG:HG3	2.06	0.54
1:A:1132:A:N6	45:s:146:PHE:H	2.04	0.54
1:A:1726:C:O2'	1:A:1727:U:O4'	2.26	0.54
2:B:1049:C:H5''	11:K:154:ARG:HH12	1.72	0.54
9:I:5:LEU:HA	47:u:119:ARG:HH11	1.71	0.54
12:L:2:PRO:O	26:Z:44:ASN:ND2	2.41	0.54
18:R:19:ARG:HH11	18:R:19:ARG:CG	2.19	0.54
27:a:22:ARG:NH2	33:g:82:ASP:OD2	2.41	0.54
40:n:47:VAL:HG21	40:n:53:ALA:HB2	1.89	0.54
41:o:27:ILE:HG13	41:o:30:ARG:HE	1.72	0.54
45:s:124:GLU:O	45:s:125:ALA:C	2.47	0.54
46:t:62:PRO:HG2	46:t:78:ARG:HD2	1.90	0.54
48:v:267:ASP:OD1	48:v:267:ASP:N	2.38	0.54
50:0:136:TYR:CD2	50:0:184:ILE:HD12	2.43	0.54
52:2:376:U:P	55:5:56:ARG:NH2	2.79	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
68:AM:71:ILE:HG12	68:AM:78:PHE:CZ	2.42	0.54
68:AM:125:ARG:O	68:AM:129:GLY:N	2.40	0.54
72:AQ:37:LEU:CD1	72:AQ:86:ILE:HD13	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:171:GLY:O	39:m:68:ALA:N	2.40	0.54
30:d:329:VAL:HG21	30:d:345:LEU:HD11	1.89	0.54
47:u:175:ASP:OD1	47:u:176:ASN:N	2.41	0.54
47:u:230:HIS:HB3	47:u:233:GLU:OE2	2.07	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
52:2:1571: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
52:2:2028:U:O5'	69:AN:42:TRP:CZ3	2.58	0.54
52:2:2030:A:H2	52:2:2031:C:C6	2.26	0.54
74:AS:49:GLY:HA3	74:AS:72:VAL:CG1	2.37	0.54
1:A:350:C:H2'	1:A:351:U:C6	2.43	0.54
27:a:73:LYS:HE2	27:a:76:GLN:OE1	2.08	0.54
32:f:99:ARG:HB2	32:f:135:VAL:O	2.07	0.54
42:p:11:SER:HB3	42:p:18:VAL:HG21	1.90	0.54
43:q:92:GLU:O	43:q:105:VAL:HG22	2.08	0.54
52:2:37:U:C4	52:2:38:C:H5	2.26	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
57:7:159:SER:HB2	57:7:166:ILE:HG13	1.90	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
1:A:1635:G:N2	1:A:1636:G:N3	2.54	0.54
2:B:708:G:H4'	48:v:134:PHE:CZ	2.43	0.54
9:I:40:THR:HG21	9:I:45:ASN:HB3	1.89	0.54
11:K:117:ILE:HB	68:AM:15:ARG:NH2	2.23	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
27:a:74:PRO:HD2	42:p:146:VAL:O	2.07	0.54
50:0:40:GLU:CB	50:0:76:GLN:OE1	2.55	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
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
57:7:87:ARG:O	57:7:104:LEU:HD13	2.08	0.54
65:AJ:3:MET:HE1	65:AJ:9:ASN:CB	2.37	0.54
66:AK:37:VAL:HG23	66:AK:39:GLY:C	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:9:PHE:HE2	69:AN:80:LYS:HD3	1.73	0.54
69:AN:87:HIS:CE1	69:AN:88:LEU:HD23	2.43	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
1:A:188:A:O2'	1:A:189:A:O5'	2.26	0.54
1:A:452:C:H2'	1:A:453:G:C8	2.42	0.54
2:B:432:G:N2	2:B:450:C:O2	2.30	0.54
2:B:1126:U:H5''	9:I:188:ARG:HB3	1.90	0.54
12:L:20:CYS:O	12:L:21:SER:C	2.51	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
14:N:110:ARG:HH12	46:t:193:TRP:CG	2.26	0.54
42:p:318:ASN:O	42:p:320:ILE:N	2.40	0.54
42:p:336:GLU:OE2	47:u:155:ARG:NH1	2.40	0.54
52:2:64:A:O2'	52:2:173:A:N3	2.36	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
52:2:1528:G:P	68:AM:131:ARG:HB3	2.47	0.54
52:2:1881:G:N2	52:2:1882:U:O2	2.41	0.54
52:2:1977:G:H1'	70:AO:113:ARG:HH21	1.71	0.54
56:6:27:MET:HE2	79:AY:43:ARG:HH21	1.71	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
70:AO:76:ASP:O	70:AO:80:ILE:N	2.28	0.54
78:AX:201:GLU:O	78:AX:203:LEU:N	2.40	0.54
80:AZ:27:ILE:HD12	80:AZ:72:ASP:HB2	1.89	0.54
1:A:178:G:N3	1:A:281:G:N2	2.55	0.54
1:A:497:A:H1'	42:p:313:TYR:HD1	1.73	0.54
1:A:585:U:O4'	42:p:335:ARG:HD2	2.07	0.54
29:c:117:GLU:O	29:c:162:SER:OG	2.24	0.54
38:l:21:ARG:HD3	38:l:44:ARG:CZ	2.37	0.54
42:p:210:MET:HE2	42:p:227:LEU:HD22	1.90	0.54
43:q:77:VAL:N	49:w:96:ALA:O	2.41	0.54
47:u:224:MET:CB	47:u:236:ASP:OD1	2.55	0.54
50:0:242:VAL:HG11	63:AH:13:ASN:HD22	1.72	0.54
52:2:639:C:H5''	79:AY:57:MET:HE2	1.90	0.54
52:2:695:G:H2'	52:2:696:U:O4'	2.08	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1938:G:H21	52:2:2006:G:H1'	1.73	0.54
52:2:1975:U:O2	52:2:1975:U:O2'	2.23	0.54
52:2:2100:G:N2	52:2:2120:C:H1'	2.23	0.54
63:AH:121:ARG:HA	76:AV:62:TYR:CZ	2.42	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
78:AX:79:LYS:HB2	78:AX:82:LYS:NZ	2.22	0.54
1:A:71:C:O2'	12:L:64:ASN:ND2	2.41	0.54
1:A:708:A:N7	9:I:111:ARG:NH2	2.55	0.54
2:B:127:U:H4'	55:5:88:ASN:HD22	1.72	0.54
14:N:13:VAL:HG21	14:N:56:VAL:CG1	2.34	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
29:c:44:VAL:HG13	29:c:46:LYS:HD3	1.91	0.54
29:c:173:GLY:O	29:c:174:ARG:HG2	2.07	0.54
45:s:102:GLY:HA2	45:s:105:LEU:HB3	1.90	0.54
45:s:159:THR:HA	45:s:166:PHE:HE2	1.72	0.54
50:0:70:ASN:ND2	63:AH:121:ARG:HD2	2.23	0.54
52:2:709:C:C2'	52:2:710:U:O5'	2.56	0.54
52:2:1103:G:O2'	52:2:1104:A:P	2.65	0.54
52:2:1439:A:O5'	52:2:1439:A:H8	1.91	0.54
52:2:1529:U:O5'	68:AM:136:HIS:HD2	1.90	0.54
52:2:1556:A:O2'	52:2:1557:A:O4'	2.26	0.54
52:2:1964:G:H8	52:2:1964:G:O5'	1.91	0.54
54:4:128:ILE:O	54:4:132:MET:HG2	2.08	0.54
57:7:274:PRO:HG3	57:7:306:TRP:CZ2	2.43	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:19:G:C4	3:C:128:U:O4	2.62	0.53
1:A:189:A:C4	1:A:248:A:C2	2.95	0.53
2:B:50:U:HO2'	2:B:301:G:HO2'	1.48	0.53
2:B:390:A:O4'	52:2:1160:A:C5'	2.54	0.53
2:B:1029:C:OP2	2:B:1050:G:N1	2.30	0.53
7:G:78:C:H4'	23:W:17:HIS:HB3	1.89	0.53
8:H:33:U:H5''	30:d:315:MET:HE2	1.91	0.53
9:I:132:GLN:O	9:I:135:MET:N	2.31	0.53
27:a:75:ARG:NH2	27:a:75:ARG:HG2	2.22	0.53
29:c:134:CYS:SG	29:c:150:LEU:HA	2.47	0.53
29:c:201:GLY:O	29:c:204:ARG:HG2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:e:24:LYS:O	31:e:95:THR:N	2.41	0.53
47:u:165:LYS:O	47:u:182:LYS:NZ	2.36	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
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
52:2:1863:A:C1'	68:AM:150:SER:HB3	2.35	0.53
52:2:1954:U:C3'	52:2:1954:U:HO3'	2.12	0.53
55:5:66:ALA:HA	55:5:73:ALA:HA	1.90	0.53
55:5:204:GLU:O	55:5:208:LEU:CA	2.55	0.53
67:AL:41:ALA:H	67:AL:47:LYS:NZ	2.07	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
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
1:A:1165:A:H2'	1:A:1166:C:C6	2.43	0.53
2:B:360:A:O2'	29:c:126:LEU:HA	2.08	0.53
26:Z:55:LYS:NZ	44:r:42:ARG:HH12	2.06	0.53
49:w:92:ARG:O	49:w:178:ILE:HG23	2.09	0.53
51:1:9:LEU:O	52:2:857:A:H1'	2.08	0.53
52:2:47:A:H4'	52:2:48:G:O5'	2.06	0.53
52:2:693:C:H42	52:2:756:C:H42	1.56	0.53
52:2:1096:C:N3	52:2:1097:C:N4	2.56	0.53
57:7:36:GLY:HA2	57:7:68:VAL:HG23	1.89	0.53
57:7:254:THR:OG1	57:7:257:SER:N	2.39	0.53
60:AD:127:ASN:HD21	78:AX:63:ARG:NH1	2.06	0.53
62:AG:55:ARG:O	77:AW:48:TYR:HB2	2.08	0.53
72:AQ:50:PRO:HD2	72:AQ:86:ILE:HA	1.88	0.53
1:A:65:A:O2'	1:A:353:C:O2'	2.23	0.53
1:A:172:G:H2'	1:A:173:G:C8	2.44	0.53
2:B:1018:U:O4	44:r:8:LYS:NZ	2.30	0.53
6:F:14:A:N3	14:N:138:SER:HB2	2.22	0.53
30:d:58:ARG:NH1	30:d:361:ILE:HD12	2.24	0.53
52:2:76:U:O2'	52:2:77:G:OP2	2.25	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
52:2:955:A:H2'	52:2:956:A:H5'	1.90	0.53
52:2:1557:A:H2'	52:2:1557:A:N3	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1968:G:C6	52:2:1974:A:N6	2.76	0.53
57:7:108:LYS:N	57:7:128:ASP:OD1	2.41	0.53
58:8:45:ARG:HH22	72:AQ:77:PHE:HD2	1.55	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
2:B:705:G:H1	29:c:68:LYS:NZ	2.06	0.53
15:O:3:ALA:HB2	48:v:225:THR:OG1	2.09	0.53
47:u:229:ARG:C	47:u:235:GLY:HA3	2.33	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
52:2:1864:C:C4'	68:AM:151:ARG:HB2	2.38	0.53
57:7:28:LYS:HZ3	57:7:94:LEU:HB3	1.74	0.53
57:7:78:ASP:C	57:7:94:LEU:HD12	2.34	0.53
57:7:292:ASN:O	57:7:307:SER:OG	2.25	0.53
60:AD:108:ASP:OD1	78:AX:63:ARG:NH2	2.41	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
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
26:Z:26:ARG:HB2	26:Z:29:GLU:OE2	2.07	0.53
33:g:119:ARG:NH1	33:g:128:ARG:CZ	2.71	0.53
35:i:126:LYS:HG2	35:i:127:ILE:HG13	1.90	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
2:B:1391:U:O2'	2:B:1392:C:O5'	2.26	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
46:t:38:ILE:HD12	46:t:178:LEU:HD21	1.90	0.53
48:v:245:VAL:HG12	48:v:249:LEU:HD12	1.90	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
52:2:30:G:OP1	74:AS:124:LYS:NZ	2.41	0.53
52:2:254:A:H2	52:2:255:A:C5	2.26	0.53
52:2:1606:C:O2'	52:2:1607:U:O5'	2.24	0.53
52:2:1645:G:H22	52:2:1678:G:N2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
78:AX:21:PHE:HZ	78:AX:98:MET:HE1	1.74	0.53
80:AZ:33:ARG:NH2	80:AZ:38:GLY:N	2.56	0.53
1:A:307:U:H2'	1:A:308:A:H8	1.74	0.53
1:A:446:U:O2'	1:A:1486:G:N2	2.40	0.53
1:A:727:C:C2	1:A:728:C:H5	2.27	0.53
6:F:73:A:O4'	36:j:26:ARG:O	2.26	0.53
7:G:85:C:H5"	32:f:93:LYS:HD3	1.91	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
33:g:68:THR:HB	33:g:69:PRO:HD2	1.91	0.53
52:2:268:C:HO2'	52:2:269:A:H8	1.55	0.53
52:2:719:C:C2	52:2:735:G:C2	2.91	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
57:7:77:THR:OG1	57:7:119:ASP:OD2	2.19	0.53
57:7:274:PRO:HG2	57:7:278:LYS:HZ3	1.74	0.53
70:AO:121:SER:O	70:AO:125:LEU:HG	2.08	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
30:d:11:HIS:CD2	30:d:239:GLY:O	2.62	0.53
42:p:349:ARG:O	42:p:352:ARG:HB3	2.08	0.53
46:t:33:CYS:SG	46:t:53:ILE:HD13	2.49	0.53
52:2:290:U:O2'	52:2:789:G:C2	2.61	0.53
52:2:369:G:P	61:AE:147:SER:HG	2.31	0.53
52:2:717:C:C2	52:2:739:A:C2	2.97	0.53
52:2:718:C:H2'	52:2:719:C:H6	1.74	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
57:7:10:HIS:CG	57:7:33:SER:HB2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:61:VAL:HG13	66:AK:114:LYS:HD2	1.91	0.53
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
67:AL:41:ALA:HB3	67:AL:47:LYS:HZ2	1.74	0.53
76:AV:19:ARG:HH12	76:AV:22:PRO:HD3	1.73	0.53
1:A:207:C:N3	27:a:80:LYS:NZ	2.46	0.53
1:A:1036:U:H4'	47:u:108:LYS:HG3	1.90	0.53
1:A:1759:U:C5	34:h:9:ARG:HD3	2.44	0.53
4:D:50:A:OP1	45:s:233:SER:N	2.42	0.53
26:Z:16:PHE:HE2	26:Z:21:ARG:CZ	2.22	0.53
49:w:125:VAL:HG21	49:w:131:VAL:HG21	1.91	0.53
50:0:30:TRP:HB2	50:0:243:GLU:OE1	2.07	0.53
50:0:140:LEU:HD21	50:0:218:VAL:HG13	1.90	0.53
51:1:102:VAL:O	51:1:103:LYS:HB2	2.09	0.53
52:2:580:A:OP2	52:2:584:U:H5	1.92	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
52:2:1525:A:H5''	68:AM:141:GLY:C	2.34	0.53
52:2:1527:C:O2'	52:2:2017:A:N1	2.34	0.53
55:5:57:ALA:HB2	55:5:196:GLY:HA2	1.89	0.53
60:AD:111:ILE:CD1	78:AX:63:ARG:HH22	2.21	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
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
29:c:135:ILE:CD1	29:c:149:LYS:CE	2.34	0.53
46:t:68:PRO:HG3	46:t:71:TYR:CE2	2.44	0.53
52:2:71:G:N7	53:3:173:ARG:NH2	2.57	0.53
52:2:157:G:H21	53:3:4:ASN:HD22	1.56	0.53
52:2:1524:G:N1	52:2:1990:G:O2'	2.41	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
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
75:AT:34:HIS:ND1	75:AT:34:HIS:O	2.41	0.53
1:A:321:A:O3'	1:A:322:A:H8	1.92	0.52
1:A:752:G:O2'	1:A:814:C:O2'	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:873:G:H1'	29:c:15:VAL:HG13	1.91	0.52
1:A:1601:U:H2'	41:o:17:MET:HE3	1.90	0.52
2:B:1453:C:O5'	2:B:1453:C:H6	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:49:ARG:HA	15:O:53:TYR:H	1.74	0.52
15:O:168:GLY:HA2	15:O:171:HIS:CE1	2.43	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
48:v:182:TYR:OH	48:v:292:ASP:OD2	2.27	0.52
49:w:160:LEU:CD2	49:w:178:ILE:HG21	2.39	0.52
50:0:40:GLU:HG2	50:0:75:ASN:ND2	2.25	0.52
52:2:7:G:N7	71:AP:215:ARG:NH1	2.57	0.52
52:2:230:G:H2'	52:2:231:A:C8	2.44	0.52
52:2:717:C:C6	52:2:718:C:C5	2.96	0.52
52:2:742:C:C4	52:2:743:A:N7	2.76	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
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
57:7:20:PRO:HB2	57:7:23:ALA:HB3	1.90	0.52
57:7:123:VAL:HG11	57:7:158:PHE:CE2	2.40	0.52
74:AS:68:LYS:HE3	79:AY:8:LEU:HD13	1.90	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
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
52:2:99:U:O2	55:5:21:HIS:HB2	2.08	0.52
52:2:913:G:HO2'	52:2:914:G:P	2.32	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
57:7:90:ARG:HE	57:7:102:LYS:HE2	1.73	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
59:AC:241:ARG:NH1	67:AL:80:ARG:HG2	2.24	0.52
71:AP:87:HIS:ND1	71:AP:200:PHE:HE1	2.07	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:5:LEU:HD12	9:I:5:LEU:O	2.10	0.52
10:J:87:MET:HE3	10:J:136:LEU:HB3	1.91	0.52
14:N:23:ARG:HB3	14:N:46:MET:HE3	1.91	0.52
29:c:30:ARG:NH1	29:c:36:GLU:OE1	2.42	0.52
42:p:204:ARG:HD2	42:p:246:ARG:HH22	1.71	0.52
48:v:242:VAL:HG11	48:v:247:LEU:HD12	1.90	0.52
52:2:26:A:O2'	52:2:27:U:O5'	2.27	0.52
52:2:55:A:H1'	52:2:469:G:N2	2.24	0.52
52:2:309:G:H21	52:2:311:G:H5'	1.73	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
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
2:B:1396:G:O2'	2:B:1398:A:N7	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
33:g:84:TYR:HA	33:g:87:VAL:HG23	1.90	0.52
38:l:26:SER:HB2	38:l:35:ALA:HB3	1.92	0.52
42:p:43:MET:HB2	42:p:114:ILE:CD1	2.38	0.52
50:0:30:TRP:HB3	50:0:243:GLU:OE1	2.09	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
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
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
64:AI:134:LEU:O	68:AM:151:ARG:HA	2.09	0.52
65:AJ:57:ARG:NH1	77:AW:27:GLN:OE1	2.41	0.52
1:A:25:C:N4	1:A:55:A:H61	2.02	0.52
1:A:1161:A:C6	9:I:13:ARG:NH2	2.78	0.52
2:B:1447:G:H4'	30:d:207:GLU:OE1	2.09	0.52
12:L:133:MET:HB2	35:i:121:ARG:NH1	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:174:ARG:CG	29:c:175:ILE:N	2.73	0.52
35:i:41:ALA:O	35:i:44:ARG:N	2.43	0.52
42:p:93:ASN:OD1	42:p:93:ASN:N	2.36	0.52
42:p:317:THR:O	42:p:318:ASN:C	2.52	0.52
49:w:31:ARG:NH2	49:w:186:ILE:HD12	2.24	0.52
51:l:132:ARG:HB3	52:2:288:A:H62	1.73	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
52:2:1528:G:OP1	68:AM:131:ARG:HB3	2.10	0.52
52:2:1589:C:C2	52:2:1590:A:C8	2.97	0.52
57:7:40:ALA:O	57:7:58:SER:N	2.40	0.52
57:7:285:ILE:HB	57:7:294:LEU:HD11	1.92	0.52
59:AC:57:MET:HG3	59:AC:209:MET:HG3	1.91	0.52
60:AD:83:LEU:O	60:AD:86:SER:OG	2.20	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
72:AQ:91:PRO:HG2	72:AQ:95:VAL:HG23	1.90	0.52
1:A:803:C:OP1	9:I:73:ARG:NE	2.41	0.52
2:B:1365:A:OP1	30:d:21:ARG:HG2	2.10	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
38:l:59:THR:HG22	38:l:67:LEU:HD11	1.92	0.52
42:p:32:ARG:HH21	42:p:35:ILE:HD11	1.75	0.52
50:0:59:ALA:O	50:0:62:LEU:N	2.39	0.52
52:2:746:C:H2'	52:2:748:C:C5	2.44	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
54:4:41:LEU:N	54:4:42:PRO:HD3	2.25	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
1:A:384:A:OP1	42:p:97:GLY:CA	2.56	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:8:SER:C	24:X:10:ARG:H	2.18	0.52
30:d:82:PRO:HG3	30:d:171:LEU:HB2	1.92	0.52
30:d:224:SER:OG	30:d:336:SER:OG	2.24	0.52
30:d:279:HIS:O	30:d:280:ARG:NH1	2.41	0.52
37:k:10:ILE:HG22	37:k:12:ALA:H	1.75	0.52
52:2:114:U:HO2'	52:2:377:A:HO2'	1.57	0.52
52:2:377:A:C5	55:5:49:ARG:HD3	2.44	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
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
58:8:27:ASN:HB2	58:8:42:GLN:CD	2.34	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
1:A:189:A:N6	1:A:190:U:O4	2.43	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
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
46:t:24:PRO:HD2	46:t:25:GLU:H	1.74	0.52
47:u:153:THR:HG21	47:u:245:ASN:HD22	1.74	0.52
47:u:224:MET:O	47:u:225:ARG:HD3	2.10	0.52
52:2:500:A:C6	52:2:502:A:H2	2.28	0.52
52:2:1561:U:H3	52:2:1860:G:H1	1.57	0.52
53:3:31:TYR:HB2	53:3:105:LEU:HD12	1.91	0.52
56:6:129:GLN:OE1	56:6:141:THR:HG22	2.09	0.52
58:8:20:ARG:C	58:8:28:GLN:HG2	2.35	0.52
64:AI:87:LEU:HD12	64:AI:87:LEU:O	2.10	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
1:A:1216:U:H5	47:u:103:ALA:HB2	1.74	0.52
2:B:359:U:OP1	29:c:54:ARG:NH2	2.42	0.52
2:B:424:U:O3'	29:c:242:ARG:NH1	2.43	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
27:a:16:SER:HB3	27:a:19:LEU:HB2	1.92	0.52
46:t:23:SER:N	46:t:24:PRO:CD	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:w:92:ARG:HH22	49:w:140:LYS:HD2	1.75	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
52:2:1206:C:H4'	62:AG:16:LEU:HD23	1.91	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
59:AC:57:MET:HE3	59:AC:205:LYS:HB3	1.90	0.52
60:AD:101:HIS:HB3	78:AX:75:ARG:NH2	2.25	0.52
1:A:71:C:C6	37:k:18:HIS:HB3	2.45	0.52
9:I:3:VAL:HG13	9:I:5:LEU:HD23	1.92	0.52
14:N:23:ARG:HB2	14:N:46:MET:HE3	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
25:Y:102:ALA:O	25:Y:103:SER:OG	2.22	0.52
26:Z:72:THR:O	26:Z:106:TYR:HD1	1.93	0.52
38:l:21:ARG:HG3	38:l:22:CYS:H	1.75	0.52
45:s:132:VAL:HG12	45:s:178:ALA:HB1	1.91	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
56:6:122:HIS:CE1	79:AY:37:ARG:HD3	2.44	0.52
57:7:70:CYS:SG	57:7:112:ALA:HA	2.50	0.52
57:7:93:ASP:CG	57:7:94:LEU:H	2.18	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
1:A:323:U:O2'	15:O:180:LYS:O	2.28	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
1:A:645:G:OP1	36:j:92:LYS:NZ	2.42	0.51
1:A:875:C:H5''	29:c:21:HIS:ND1	2.25	0.51
2:B:1399:A:H2'	2:B:1400:A:O4'	2.11	0.51
14:N:110:ARG:HH12	46:t:193:TRP:CB	2.22	0.51
39:m:46:ALA:HB1	39:m:58:ASP:H	1.74	0.51
42:p:234:ASN:HD21	42:p:237:HIS:CD2	2.28	0.51
45:s:9:ASN:OD1	45:s:10:LYS:N	2.43	0.51
47:u:75:LEU:HD22	47:u:86:TYR:CE1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:v:256:ARG:NH2	48:v:262:TYR:OH	2.43	0.51
50:0:124:MET:SD	50:0:164:VAL:HG22	2.50	0.51
52:2:91:A:H5'	52:2:91:A:N3	2.24	0.51
52:2:133:G:O6	52:2:139:C:N4	2.42	0.51
52:2:229:A:O2'	52:2:230:G:O5'	2.28	0.51
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
52:2:1208:U:H5''	62:AG:71:ILE:HD12	1.93	0.51
52:2:1240:A:C6	52:2:1259:U:C2	2.98	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
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
63:AH:106:GLN:HG2	76:AV:47:LEU:HD13	1.92	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
79:AY:43:ARG:HD3	79:AY:57:MET:HE3	1.92	0.51
1:A:470:A:O2'	36:j:51:LYS:HD2	2.10	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
2:B:384:G:H1'	29:c:222:PRO:HG2	1.93	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
12:L:99:GLY:HA3	35:i:123:TYR:OH	2.11	0.51
19:S:28:SER:O	19:S:32:THR:HG23	2.11	0.51
52:2:734:U:O2'	52:2:736:G:OP2	2.23	0.51
52:2:740:C:H6	52:2:740:C:O5'	1.93	0.51
58:8:36:GLU:OE2	72:AQ:58:LEU:HD22	2.09	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
65:AJ:91:LYS:O	71:AP:167:LYS:NZ	2.39	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
1:A:108:G:C6	35:i:120:LYS:HD2	2.45	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
1:A:1465:U:O2'	1:A:1467:G:OP1	2.25	0.51
1:A:1496:U:OP1	33:g:59:GLY:HA2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:427:A:O4'	29:c:243:THR:HG21	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
22:V:69:PRO:HD2	35:i:34:VAL:HG22	1.91	0.51
33:g:72:PHE:HE2	33:g:119:ARG:NE	2.05	0.51
34:h:53:ARG:NH2	34:h:57:THR:O	2.43	0.51
51:l:143:ARG:NH2	52:2:338:U:O2	2.40	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
55:5:211:TYR:O	55:5:215:LEU:N	2.42	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:OE1	72:AQ:43:GLU:N	2.44	0.51
78:AX:53:LYS:HG2	78:AX:56:GLU:OE1	2.10	0.51
2:B:717:G:H2'	2:B:718:G:C8	2.45	0.51
2:B:1447:G:C6	2:B:1448:C:C2	2.98	0.51
17:Q:143:GLN:NE2	49:w:4:VAL:HG13	2.25	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
35:i:75:ALA:HA	35:i:80:ARG:HH21	1.75	0.51
37:k:60:VAL:HG21	37:k:76:CYS:SG	2.50	0.51
38:l:19:CYS:SG	38:l:20:ARG:N	2.84	0.51
39:m:8:MET:SD	39:m:23:ARG:NH1	2.83	0.51
47:u:230:HIS:HB2	47:u:233:GLU:OE2	2.10	0.51
50:0:29:GLU:O	50:0:48:ILE:HA	2.10	0.51
52:2:380:G:O6	55:5:5:ARG:HD2	2.09	0.51
52:2:740:C:H2'	52:2:741:C:O4'	2.08	0.51
52:2:1545:U:H2'	52:2:1546:C:C6	2.45	0.51
52:2:2197:A:OP2	76:AV:4:LYS:NZ	2.37	0.51
55:5:31:ARG:C	55:5:32:LEU:O	2.53	0.51
56:6:113:PHE:CD1	56:6:120:SER:HA	2.33	0.51
61:AE:73:CYS:O	61:AE:77:SER:OG	2.26	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
1:A:80:C:O2'	1:A:714:G:N3	2.41	0.51
1:A:108:G:C5	35:i:120:LYS:HD2	2.45	0.51
12:L:190:LEU:HD12	26:Z:143:LEU:HD22	1.92	0.51
15:O:176:HIS:HB3	15:O:180:LYS:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
34:h:21:MET:HG3	34:h:33:MET:HE3	1.92	0.51
46:t:106:PHE:HE1	46:t:150:ARG:NH1	2.07	0.51
48:v:137:TRP:HB2	48:v:142:THR:HG23	1.91	0.51
48:v:149:VAL:O	48:v:153:ARG:HG2	2.11	0.51
51:1:122:LYS:HB2	51:1:223:PHE:CE1	2.46	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
52:2:1921:A:C6	52:2:1922:A:C8	2.99	0.51
54:4:106:PRO:O	54:4:107:THR:OG1	2.18	0.51
55:5:204:GLU:C	55:5:208:LEU:HB2	2.34	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
59:AC:45:ARG:HD3	73:AR:84:ARG:HH12	1.76	0.51
67:AL:101:VAL:HB	67:AL:121:LYS:O	2.10	0.51
68:AM:27:VAL:CG2	68:AM:54:GLU:CB	2.86	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
1:A:357:A:C2	1:A:358:G:C4	2.98	0.51
1:A:383:U:H1'	42:p:96:ARG:CD	2.41	0.51
1:A:1743:A:O2'	5:E:201:A:N1	2.39	0.51
2:B:15:G:O2'	41:o:3:ARG:O	2.29	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
22:V:30:TYR:HB3	48:v:135:MET:SD	2.51	0.51
23:W:8:PHE:HZ	23:W:53:ILE:HD13	1.76	0.51
47:u:100:ARG:HD2	47:u:143:TYR:CD1	2.45	0.51
47:u:166:ILE:HD12	47:u:171:VAL:HG21	1.92	0.51
52:2:448:C:O2'	53:3:95:ARG:O	2.28	0.51
52:2:716:U:H2'	52:2:717:C:C2	2.46	0.51
52:2:750:U:H3'	52:2:750:U:H6	1.76	0.51
52:2:1608:C:H4'	52:2:1609:G:N7	2.25	0.51
52:2:1817:U:OP2	52:2:1817:U:H4'	2.11	0.51
52:2:1875:A:H4'	52:2:1955:G:N3	2.26	0.51
55:5:57:ALA:CB	55:5:60:LEU:HD23	2.41	0.51
59:AC:147:GLN:CD	71:AP:72:LYS:HG2	2.36	0.51
65:AJ:94:LEU:HD11	65:AJ:102:VAL:HG23	1.93	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:138:HIS:N	66:AK:142:THR:O	2.39	0.51
68:AM:79:LYS:C	68:AM:80:ILE:HG13	2.35	0.51
1:A:130:U:C4	1:A:132:A:C8	2.99	0.51
1:A:389:A:N6	3:C:112:U:H3	2.08	0.51
1:A:1110:G:H21	19:S:61:THR:HG21	1.75	0.51
2:B:427:A:H5''	29:c:243:THR:HG22	1.93	0.51
7:G:34:A:OP2	13:M:167:LYS:NZ	2.44	0.51
30:d:48:VAL:CG1	30:d:79:LEU:HB3	2.40	0.51
30:d:352:GLN:HG2	30:d:357:LEU:HD21	1.93	0.51
39:m:33:GLN:HB2	39:m:49:ARG:HD3	1.92	0.51
39:m:82:THR:O	39:m:86:LEU:N	2.44	0.51
42:p:127:LEU:HD12	42:p:262:PHE:HE2	1.75	0.51
49:w:19:ASP:HB2	49:w:26:THR:OG1	2.11	0.51
51:1:171:LYS:HG3	51:1:173:ARG:HH12	1.76	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
52:2:1963:G:H1	52:2:1980:C:H42	1.57	0.51
53:3:150:LEU:HD22	53:3:150:LEU:C	2.35	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
58:8:50:HIS:HE1	78:AX:21:PHE:CE2	2.29	0.51
60:AD:129:GLN:HG3	60:AD:130:LYS:H	1.76	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
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
1:A:805:A:C1'	9:I:147:ARG:HD2	2.40	0.51
3:C:147:G:C2	3:C:148:C:C2	2.98	0.51
4:D:49:G:OP1	45:s:235:TYR:OH	2.14	0.51
23:W:22:VAL:HG22	23:W:32:VAL:HG22	1.93	0.51
30:d:274:GLN:OE1	30:d:274:GLN:HA	2.10	0.51
49:w:88:ARG:N	49:w:184:THR:O	2.38	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
53:3:3:LEU:O	53:3:15:GLN:HG3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:62:PHE:CD2	53:3:73:ARG:NH1	2.79	0.51
53:3:112:VAL:HG12	53:3:114:VAL:HG23	1.91	0.51
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
78:AX:190:PRO:O	78:AX:191:SER:C	2.39	0.51
1:A:309:G:N2	37:k:80:LEU:O	2.34	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
31:e:59:GLU:HG2	31:e:69:ILE:HD13	1.92	0.51
46:t:67:GLY:O	46:t:69:MET:N	2.42	0.51
52:2:598:G:N2	52:2:639:C:O2	2.44	0.51
52:2:733:U:H3'	52:2:733:U:H6	1.76	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
68:AM:65:LEU:O	68:AM:68:ILE:N	2.43	0.51
69:AN:8:LEU:O	69:AN:34:TYR:HA	2.11	0.51
69:AN:19:THR:O	69:AN:25:ARG:NE	2.42	0.51
78:AX:133:CYS:HB2	78:AX:153:ASP:OD2	2.11	0.51
1:A:1752:G:H5''	1:A:1753:A:N7	2.26	0.51
15:O:106:LEU:HD12	15:O:132:VAL:CB	2.36	0.51
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
42:p:127:LEU:CD1	42:p:262:PHE:HE2	2.24	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
52:2:310:U:H1'	55:5:55:ILE:HD11	1.93	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
2:B:369:U:O2'	2:B:496:A:N3	2.42	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
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
30:d:263:ALA:O	30:d:264:ARG:HG3	2.11	0.50
38:l:21:ARG:HG3	38:l:22:CYS:N	2.25	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
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
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
66:AK:25:ALA:HB2	66:AK:90:ALA:HB1	1.92	0.50
66:AK:118:TYR:O	66:AK:119:ASP:HB2	2.10	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
1:A:384:A:OP1	42:p:97:GLY:N	2.44	0.50
1:A:712:G:N2	1:A:739:U:O2	2.44	0.50
3:C:139:A:C6	3:C:153:A:C5	2.99	0.50
4:D:45:U:H4'	45:s:158:ARG:CD	2.40	0.50
6:F:18:A:P	13:M:136:ARG:HH12	2.34	0.50
6:F:37:C:H2'	6:F:38:C:C6	2.47	0.50
21:U:82:ARG:HG2	21:U:101:ALA:HB3	1.93	0.50
33:g:109:ILE:HG22	33:g:120:LEU:HD11	1.92	0.50
38:l:53:ALA:HB1	38:l:57:ARG:HH12	1.76	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AI:134:LEU:CB	68:AM:150:SER:C	2.84	0.50
69:AN:58:LEU:O	69:AN:62:LEU:N	2.44	0.50
1:A:826:G:N2	1:A:827:G:C4	2.80	0.50
1:A:1365:A:N3	2:B:1259:C:O2'	2.35	0.50
2:B:1229:C:H5''	10:J:10:ARG:NH2	2.26	0.50
2:B:1414:G:O2'	2:B:1415:U:O5'	2.27	0.50
12:L:92:PRO:C	12:L:94:TYR:H	2.19	0.50
14:N:51:GLN:NE2	14:N:55:ASN:HD22	2.09	0.50
26:Z:63:ARG:HH12	26:Z:65:LYS:CE	2.23	0.50
26:Z:114:HIS:O	26:Z:115:ILE:O	2.28	0.50
51:1:18:SER:OG	51:1:20:LEU:O	2.29	0.50
52:2:271:U:H2'	52:2:272:G:C8	2.45	0.50
52:2:1557:A:H5'	52:2:1559:U:C5	2.46	0.50
52:2:1918:C:H42	70:AO:50:GLU:HG3	1.77	0.50
57:7:17:LEU:HB3	57:7:286:ALA:HB2	1.93	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
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
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
4:D:27:C:H2'	4:D:28:A:O4'	2.12	0.50
9:I:32:LEU:HD12	42:p:287:VAL:HG13	1.92	0.50
13:M:141:ARG:HH12	17:Q:167:ILE:HG12	1.76	0.50
17:Q:163:LYS:C	36:j:62:ASN:HD21	2.17	0.50
30:d:20:LYS:H	30:d:278:HIS:HD2	1.58	0.50
46:t:68:PRO:CG	46:t:71:TYR:CD2	2.94	0.50
52:2:25:C:OP1	56:6:9:ARG:NH2	2.44	0.50
52:2:166:C:O2'	52:2:167:C:H5'	2.10	0.50
52:2:1534:U:O2'	64:AI:135:HIS:O	2.27	0.50
52:2:1845:C:N4	52:2:1846:U:O4	2.45	0.50
52:2:1863:A:OP1	68:AM:124:VAL:HG12	2.11	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
64:AI:134:LEU:HB3	68:AM:150:SER:C	2.37	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
1:A:16:G:N2	3:C:244:C:O2	2.44	0.50
1:A:225:C:H2'	1:A:226:C:C6	2.47	0.50
1:A:1192:A:H5'	28:b:7:HIS:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:994:U:P	19:S:9:SER:HG	2.34	0.50
2:B:1338:G:N2	2:B:1341:A:OP2	2.40	0.50
2:B:1425:G:H2'	2:B:1426:G:C8	2.45	0.50
7:G:70:C:OP1	21:U:50:ARG:NH1	2.43	0.50
8:H:34:G:OP2	30:d:383:LYS:NZ	2.42	0.50
15:O:39:LEU:HD21	15:O:63:ARG:NH2	2.27	0.50
15:O:57:GLN:HB2	15:O:141:THR:HG21	1.93	0.50
27:a:74:PRO:O	27:a:77:THR:HG22	2.11	0.50
29:c:130:SER:HB2	29:c:171:GLY:HA3	1.93	0.50
32:f:78:ALA:HA	32:f:148:ARG:O	2.12	0.50
50:0:97:ARG:HD3	50:0:243:GLU:HB2	1.91	0.50
51:1:26:PRO:HD3	52:2:491:G:OP1	2.11	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
52:2:597:G:C2	52:2:640:A:N1	2.79	0.50
52:2:1864:C:O4'	68:AM:151:ARG:HB2	2.12	0.50
57:7:3:TYR:HD2	57:7:306:TRP:HE3	1.59	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
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
1:A:607:C:H2'	1:A:608:G:C8	2.47	0.50
3:C:119:C:H5''	12:L:32:ASN:HB3	1.93	0.50
4:D:115:U:H1'	45:s:73:GLU:HA	1.93	0.50
6:F:20:A:N6	17:Q:172:ASN:OD1	2.44	0.50
20:T:18:GLN:HE22	20:T:67:LYS:HE2	1.76	0.50
42:p:176:ILE:HA	42:p:179:VAL:HG12	1.92	0.50
50:0:66:VAL:HA	50:0:89:PHE:O	2.11	0.50
50:0:218:VAL:O	50:0:218:VAL:HG12	2.09	0.50
52:2:503:C:N4	75:AT:108:LEU:HG	2.27	0.50
52:2:588:G:N3	52:2:588:G:OP2	2.45	0.50
52:2:594:A:P	79:AY:31:ARG:HH11	2.34	0.50
52:2:1836:G:H22	58:8:47:ASN:HD22	1.59	0.50
60:AD:49:PHE:CE1	60:AD:124:ALA:HA	2.47	0.50
60:AD:93:ILE:HG12	60:AD:106:LEU:HD22	1.93	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:CZ2	70:AO:72:PRO:C	2.90	0.50
70:AO:37:TRP:CZ3	70:AO:71:ALA:HA	2.47	0.50
74:AS:80:LYS:C	74:AS:81:ILE:HD12	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:70:C:HO2'	12:L:71:ASN:HD21	1.51	0.50
1:A:435:G:H2'	1:A:437:A:H2	1.75	0.50
1:A:734:U:OP2	42:p:120:ARG:NH2	2.44	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
48:v:167:LEU:HB2	48:v:307:PHE:CE2	2.46	0.50
52:2:587:A:OP1	52:2:587:A:H4'	2.12	0.50
52:2:1529:U:C4	52:2:1869:A:N6	2.78	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
52:2:1912:C:H5''	70:AO:88:ALA:CB	2.40	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
59:AC:199:CYS:SG	59:AC:210:MET:HE2	2.51	0.50
59:AC:205:LYS:HA	59:AC:239:PHE:CE1	2.47	0.50
59:AC:214:LEU:O	59:AC:218:VAL:HG23	2.11	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
1:A:262:C:H4'	24:X:29:SER:O	2.11	0.50
2:B:1387:A:H5'	2:B:1391:U:C5	2.46	0.50
4:D:50:A:OP1	45:s:234:ARG:N	2.31	0.50
13:M:29:LEU:HD11	13:M:53:VAL:HG13	1.90	0.50
30:d:175:ARG:HH21	30:d:340:ARG:HH22	1.60	0.50
36:j:110:PRO:HA	36:j:117:MET:HA	1.93	0.50
43:q:108:THR:O	43:q:109:ASN:ND2	2.45	0.50
46:t:67:GLY:C	46:t:69:MET:N	2.70	0.50
52:2:95:C:OP1	56:6:2:ARG:NH1	2.33	0.50
52:2:793:U:C2	53:3:226:ARG:NH2	2.79	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
52:2:1942:C:OP2	69:AN:77:ARG:HD3	2.11	0.50
52:2:1971:A:C4	52:2:1974:A:N7	2.79	0.50
59:AC:202:ARG:O	59:AC:206:SER:OG	2.27	0.50
60:AD:111:ILE:HD11	78:AX:63:ARG:NH2	2.27	0.50
64:AI:135:HIS:O	68:AM:153:LYS:HE3	2.12	0.50
72:AQ:37:LEU:HD13	72:AQ:86:ILE:HG21	1.93	0.50
1:A:509:U:H3	1:A:545:A:H61	1.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:553:A:N6	1:A:556:U:O2'	2.45	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
13:M:208:MET:HE3	13:M:213:VAL:HB	1.93	0.50
30:d:175:ARG:HH21	30:d:340:ARG:NH2	2.09	0.50
37:k:77:LYS:O	37:k:81:GLY:N	2.45	0.50
42:p:288:THR:O	42:p:292:GLN:HG2	2.12	0.50
51:1:8:ARG:NH1	51:1:18:SER:O	2.45	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
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
55:5:169:HIS:HE1	55:5:171:VAL:HG23	1.77	0.50
56:6:136:ALA:C	56:6:138:GLN:H	2.20	0.50
57:7:151:ASP:OD1	57:7:152:TRP:N	2.40	0.50
62:AG:47:PRO:HD2	62:AG:86:GLU:CD	2.35	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
80:AZ:46:ARG:O	80:AZ:47:LEU:C	2.52	0.50
1:A:199:A:OP1	1:A:216:G:N2	2.43	0.49
1:A:373:G:N2	3:C:121:U:C2	2.80	0.49
1:A:765:C:H2'	1:A:766:A:C8	2.47	0.49
1:A:1010:C:O2'	1:A:1011:U:OP2	2.24	0.49
1:A:1238:C:OP1	17:Q:165:ARG:NH1	2.45	0.49
2:B:620:G:H2'	2:B:621:C:C6	2.47	0.49
2:B:905:A:H5'	34:h:91:ARG:HH21	1.77	0.49
18:R:32:ILE:HD11	18:R:49:PHE:HB3	1.94	0.49
49:w:105:ASP:HB2	49:w:108:ASN:HB2	1.93	0.49
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
52:2:68:A:O2'	52:2:69:C:P	2.69	0.49
52:2:125:A:H4'	52:2:126:A:OP2	2.12	0.49
52:2:256:A:H4'	52:2:257:A:OP1	2.12	0.49
52:2:752:C:H2'	52:2:753:A:C8	2.46	0.49
52:2:1092:A:H4'	52:2:1093:C:OP1	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1807:A:H2'	52:2:1808:A:C8	2.46	0.49
52:2:2010:C:H5''	58:8:35:TYR:HB2	1.94	0.49
54:4:189:MET:HE2	54:4:192:PRO:HA	1.92	0.49
55:5:7:ARG:HH12	61:AE:151:ARG:HH21	1.59	0.49
60:AD:124:ALA:HB1	60:AD:126:PRO:HD2	1.94	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
1:A:121:A:P	48:v:190:ARG:HH12	2.35	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
1:A:1184:G:P	10:J:98:ARG:HH12	2.35	0.49
1:A:1472:G:N2	1:A:1519:U:H1'	2.26	0.49
2:B:904:G:N2	25:Y:133:ARG:O	2.43	0.49
9:I:8:ILE:N	9:I:8:ILE:CD1	2.75	0.49
9:I:185:ARG:HG3	9:I:187:GLY:H	1.76	0.49
12:L:177:VAL:HG13	26:Z:98:VAL:CG2	2.41	0.49
29:c:135:ILE:HB	29:c:149:LYS:CG	2.42	0.49
39:m:53:GLY:HA2	39:m:67:GLY:CA	2.40	0.49
42:p:25:ALA:HB3	42:p:264:THR:HG22	1.93	0.49
47:u:230:HIS:HB3	47:u:233:GLU:HG2	1.95	0.49
49:w:25:VAL:O	49:w:35:THR:HA	2.12	0.49
49:w:48:ASP:HB3	49:w:53:THR:HG22	1.94	0.49
50:0:151:ASN:ND2	52:2:1380:U:H1'	2.23	0.49
52:2:121:C:H2'	52:2:122:A:O4'	2.12	0.49
52:2:939:G:C6	52:2:940:C:C2	3.00	0.49
52:2:1890:A:N6	52:2:1937:C:N4	2.60	0.49
57:7:246:ASN:OD1	57:7:247:ARG:N	2.39	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: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
68:AM:122:ARG:O	68:AM:126:HIS:N	2.29	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
1:A:343:U:O2	2:B:1150:G:N2	2.45	0.49
1:A:906:U:H4'	18:R:95:TRP:CZ3	2.47	0.49
1:A:1438:G:H5'	27:a:35:ASN:HD22	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:687:U:H4'	37:k:62:GLU:OE2	2.12	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
29:c:32:LEU:HD12	29:c:163:ARG:HH11	1.77	0.49
30:d:27:GLY:HA2	30:d:279:HIS:CD2	2.48	0.49
30:d:232:GLU:HG3	30:d:275:HIS:ND1	2.27	0.49
30:d:303:THR:HG22	30:d:304:THR:N	2.26	0.49
41:o:27:ILE:CG1	41:o:30:ARG:HE	2.25	0.49
52:2:467:C:O2'	52:2:469:G:OP1	2.24	0.49
52:2:954:A:H2'	52:2:955:A:H8	1.77	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
53:3:10:ASN:O	53:3:132:ALA:N	2.37	0.49
55:5:155:SER:O	55:5:159:GLN:HG3	2.13	0.49
57:7:28:LYS:HD2	57:7:40:ALA:HB1	1.93	0.49
59:AC:123:ILE:CG2	59:AC:134:PHE:HB2	2.42	0.49
1:A:189:A:H5''	24:X:121:ARG:HH11	1.77	0.49
1:A:907:G:OP1	18:R:92:LYS:HE3	2.12	0.49
2:B:1125:A:C2	26:Z:38:MET:HE2	2.47	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
19:S:80:VAL:HG12	19:S:81:ARG:N	2.24	0.49
30:d:209:ARG:HE	30:d:292:ARG:NH1	2.09	0.49
31:e:99:ASP:HB2	62:AG:42:ARG:O	2.13	0.49
44:r:96:LYS:HE3	44:r:96:LYS:CA	2.37	0.49
52:2:275:A:H2'	52:2:276:G:H8	1.78	0.49
52:2:1589:C:H2'	52:2:1590:A:H8	1.77	0.49
52:2:1954:U:O4	68:AM:26:LYS:NZ	2.45	0.49
57:7:148:GLY:CA	57:7:177:LYS:HE3	2.43	0.49
63:AH:110:ARG:HE	76:AV:51:SER:CB	2.26	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
1:A:483:C:OP1	1:A:486:C:O2'	2.30	0.49
1:A:1275:G:H4'	17:Q:92:MET:HE3	1.95	0.49
2:B:1364:U:H5'	30:d:19:ARG:O	2.12	0.49
21:U:82:ARG:HB2	21:U:97:PHE:CD2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:142:ILE:HG22	35:i:34:VAL:HG11	1.95	0.49
37:k:49:ASP:OD1	48:v:315:ARG:NH2	2.32	0.49
42:p:166:ALA:HB3	42:p:218:ALA:O	2.12	0.49
42:p:325:LEU:HD21	47:u:174:THR:HA	1.94	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
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
52:2:1970:A:OP2	64:AI:54:ARG:NH1	2.46	0.49
54:4:95:MET:SD	54:4:168:ARG:NH2	2.86	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
66:AK:41:PRO:HD3	70:AO:24:GLY:O	2.12	0.49
76:AV:78:CYS:HB3	76:AV:81:CYS:SG	2.52	0.49
1:A:931:G:O2'	1:A:932:C:H3'	2.12	0.49
2:B:82:G:O2'	2:B:517:U:O4	2.28	0.49
4:D:6:A:OP1	11:K:151:LYS:NZ	2.28	0.49
6:F:23:A:O2'	49:w:23:ARG:NH1	2.45	0.49
8:H:119:C:N4	8:H:120:U:O4	2.46	0.49
14:N:13:VAL:CG2	14:N:56:VAL:HG13	2.36	0.49
14:N:39:GLU:N	14:N:39:GLU:OE1	2.46	0.49
14:N:107:ASP:CB	14:N:110:ARG:HH21	2.26	0.49
14:N:147:MET:C	14:N:149:LYS:H	2.21	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
30:d:89:ILE:HG13	30:d:204:LEU:HD21	1.94	0.49
42:p:320:ILE:HG13	42:p:321:LYS:H	1.77	0.49
45:s:249:TYR:HB3	45:s:253:HIS:HE1	1.78	0.49
47:u:224:MET:HE3	47:u:236:ASP:OD2	2.12	0.49
51:l:105:ARG:NH2	52:2:889:A:N7	2.61	0.49
52:2:708:C:H2'	52:2:709:C:C6	2.47	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
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:412:C:H2'	2:B:413:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:18:A:H5'	13:M:136:ARG:HH12	1.78	0.49
9:I:36:LEU:HD12	9:I:45:ASN:HD21	1.77	0.49
9:I:131:ASP:OD2	42:p:283:THR:N	2.45	0.49
12:L:34:PRO:HD3	15:O:202:ARG:NH1	2.27	0.49
29:c:216:HIS:O	29:c:217:GLN:C	2.56	0.49
50:0:113:MET:HE3	50:0:216:ARG:HD3	1.95	0.49
52:2:134:G:N2	52:2:135:U:H1'	2.27	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
52:2:526:G:H5'	79:AY:33:ARG:HH22	1.76	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
52:2:1093:C:N4	52:2:1094:G:O6	2.46	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
52:2:1595:G:C4	64:AI:86:HIS:HD2	2.30	0.49
52:2:1865:G:H4'	68:AM:148:GLY:O	2.12	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
56:6:89:LYS:HB3	56:6:94:TYR:CD2	2.48	0.49
59:AC:176:VAL:O	59:AC:176:VAL:HG12	2.13	0.49
66:AK:89:GLN:HB3	66:AK:122:LEU:HD22	1.83	0.49
70:AO:85:VAL:HG22	70:AO:86:LEU:H	1.77	0.49
2:B:1460:A:H2'	2:B:1461:U:C6	2.47	0.49
4:D:62:C:H5''	45:s:283:LEU:HD12	1.94	0.49
7:G:77:U:C2	30:d:75:PRO:HB3	2.48	0.49
12:L:90:LEU:HD23	12:L:95:ALA:HB2	1.94	0.49
17:Q:9:TYR:CE1	17:Q:65:VAL:HG12	2.47	0.49
17:Q:27:TYR:HB3	19:S:146:LEU:HG	1.95	0.49
17:Q:166:ALA:HA	17:Q:179:ALA:HA	1.94	0.49
22:V:67:ARG:HH12	22:V:90:ASP:HA	1.76	0.49
30:d:224:SER:HG	30:d:336:SER:HG	1.54	0.49
42:p:320:ILE:CG2	47:u:159:TYR:HB2	2.42	0.49
48:v:119:PHE:CD1	48:v:126:PRO:HA	2.48	0.49
48:v:221:LEU:O	48:v:225:THR:HG23	2.12	0.49
50:0:170:ARG:NH2	50:0:203:ARG:HH21	2.11	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:951:U:H2'	52:2:952:U:C6	2.48	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
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
1:A:811:G:H2'	1:A:812:A:C8	2.46	0.49
2:B:599:U:H2'	2:B:600:U:C6	2.48	0.49
30:d:305:TYR:HD2	30:d:364:LYS:HA	1.78	0.49
42:p:42:ASN:OD1	42:p:112:ARG:HB2	2.13	0.49
42:p:309:LYS:HG3	42:p:310:ALA:N	2.28	0.49
44:r:38:ARG:HA	44:r:41:ARG:HE	1.77	0.49
46:t:147:SER:O	46:t:151:ALA:N	2.38	0.49
48:v:167:LEU:HB2	48:v:307:PHE:HE2	1.78	0.49
49:w:62:SER:O	49:w:66:ILE:HG12	2.13	0.49
52:2:760:G:N2	52:2:776:A:H1'	2.27	0.49
52:2:974:G:H5'	54:4:44:PHE:CE2	2.47	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
52:2:1528:G:H3'	68:AM:136:HIS:HD2	1.77	0.49
52:2:1686:U:H1'	78:AX:201:GLU:OE2	2.13	0.49
52:2:1968:G:H2'	52:2:1968:G:OP2	2.12	0.49
54:4:81:LEU:O	54:4:85:LEU:N	2.38	0.49
54:4:146:ARG:HA	65:AJ:49:GLU:OE1	2.13	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
57:7:124:SER:OG	57:7:132:ARG:HB2	2.12	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
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
1:A:307:U:H2'	1:A:308:A:C8	2.48	0.49
1:A:326:A:H5''	15:O:97:ASN:ND2	2.28	0.49
4:D:31:A:H2'	4:D:32:U:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:153:LYS:O	14:N:158:GLU:HB2	2.13	0.49
19:S:86:ARG:HH22	28:b:30:HIS:HB2	1.77	0.49
20:T:33:PRO:HB2	20:T:39:PHE:HD2	1.77	0.49
27:a:35:ASN:HA	33:g:88:MET:HG2	1.95	0.49
38:l:15:THR:HG23	38:l:16:HIS:ND1	2.28	0.49
46:t:24:PRO:CD	46:t:25:GLU:H	2.25	0.49
47:u:162:GLY:O	47:u:172:LYS:HD2	2.13	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
52:2:21:U:O2'	52:2:22:A:P	2.71	0.49
52:2:46:U:O2'	52:2:47:A:O5'	2.31	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
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
58:8:30:ALA:O	58:8:31:LEU:C	2.56	0.49
58:8:44:PHE:HB3	58:8:46:GLU:OE1	2.13	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
1:A:110:A:N1	1:A:111:C:C2	2.81	0.48
1:A:1540:U:H5''	16:P:66:LYS:HB2	1.94	0.48
1:A:1602:U:H5	2:B:17:A:N1	2.11	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
16:P:6:ARG:HD3	16:P:116:HIS:HB2	1.95	0.48
17:Q:142:ALA:HA	17:Q:145:HIS:HE1	1.78	0.48
40:n:5:ILE:HD11	40:n:43:TYR:HB3	1.94	0.48
41:o:23:VAL:HG23	41:o:38:ASN:HB2	1.93	0.48
42:p:136:VAL:HG12	42:p:143:ILE:HG13	1.95	0.48
50:0:66:VAL:O	63:AH:41:SER:HB3	2.13	0.48
50:0:130:VAL:O	50:0:137:THR:HA	2.13	0.48
52:2:1995:G:C4	52:2:1996:U:H5	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:279:G:C4	12:L:136:LYS:HE2	2.47	0.48
1:A:887:A:P	39:m:4:ARG:HD3	2.53	0.48
1:A:1005:U:O5'	28:b:8:THR:OG1	2.31	0.48
1:A:1527:A:H3'	1:A:1528:U:C5'	2.43	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:80:ILE:HD11	17:Q:108:ALA:HB1	1.94	0.48
17:Q:134:HIS:NE2	17:Q:135:GLU:OE2	2.47	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
34:h:62:HIS:C	34:h:64:ASP:H	2.20	0.48
50:0:97:ARG:CD	50:0:243:GLU:HB2	2.42	0.48
50:0:132:THR:O	50:0:134:ASP:O	2.31	0.48
51:1:18:SER:HG	51:1:21:THR:HG1	1.52	0.48
52:2:1152:A:H5''	63:AH:59:ARG:HG3	1.95	0.48
52:2:1536:U:C4'	64:AI:131:ARG:CB	2.87	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
57:7:151:ASP:CG	57:7:152:TRP:H	2.21	0.48
59:AC:93:LYS:NZ	73:AR:70:ASP:OD1	2.37	0.48
64:AI:84:LYS:HE3	64:AI:104:TYR:HB2	1.95	0.48
67:AL:86:PRO:N	67:AL:87:ALA:HA	2.28	0.48
74:AS:63:ASN:HB2	74:AS:114:ASP:OD1	2.12	0.48
1:A:29:C:H4'	15:O:96:LYS:HG3	1.94	0.48
1:A:78:C:OP1	15:O:194:ARG:HD3	2.13	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:638:C:H2'	1:A:639:A:H8	1.78	0.48
3:C:139:A:N6	3:C:153:A:C6	2.81	0.48
9:I:195:PHE:HB3	28:b:34:ARG:NH2	2.28	0.48
10:J:97:LEU:HD11	10:J:126:CYS:SG	2.54	0.48
27:a:75:ARG:HG2	27:a:75:ARG:HH21	1.77	0.48
42:p:59:MET:O	42:p:91:PHE:HE1	1.96	0.48
43:q:98:ARG:HD2	43:q:118:CYS:SG	2.53	0.48
46:t:68:PRO:HG3	46:t:71:TYR:CD2	2.48	0.48
51:1:19:LYS:HG3	51:1:20:LEU:N	2.27	0.48
52:2:558:U:H2'	52:2:559:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
53:3:77:LEU:HD22	53:3:95:ARG:HB3	1.95	0.48
54:4:23:VAL:HG23	54:4:50:ARG:NH1	2.29	0.48
54:4:156:PHE:HB3	54:4:189:MET:HG2	1.96	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
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:OD1	63:AH:60:ASP:N	2.44	0.48
68:AM:47:LYS:HA	68:AM:71:ILE:HG21	1.94	0.48
74:AS:90:CYS:SG	74:AS:134:TYR:HB2	2.52	0.48
74:AS:128:VAL:HG21	74:AS:141:PRO:HD3	1.94	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
2:B:1450:U:H5	30:d:325:ARG:HH12	1.59	0.48
3:C:137:G:N3	3:C:149:G:N2	2.61	0.48
9:I:73:ARG:CZ	28:b:59:ARG:HH21	2.26	0.48
11:K:66:ILE:HD13	11:K:72:ILE:HG12	1.94	0.48
18:R:186:GLU:OE1	18:R:186:GLU:HA	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
29:c:211:HIS:CD2	29:c:219:ILE:HG23	2.48	0.48
39:m:53:GLY:CA	39:m:67:GLY:HA2	2.40	0.48
42:p:76:PRO:HG2	42:p:90:ALA:O	2.12	0.48
47:u:230:HIS:ND1	47:u:232:VAL:HG22	2.28	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:2:LYS:HD2	53:3:15:GLN:HE21	1.78	0.48
53:3:199:ILE:O	53:3:202:VAL:N	2.45	0.48
54:4:190:TRP:O	54:4:192:PRO:CD	2.61	0.48
64:AI:134:LEU:HB3	68:AM:150:SER:HB2	1.96	0.48
67:AL:21:TYR:OH	67:AL:70:SER:OG	2.04	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:69:GLU:O	70:AO:72:PRO:HD2	2.13	0.48
70:AO:70:ARG:HA	70:AO:73:GLN:CD	2.38	0.48
70:AO:78:TYR:CZ	70:AO:124:PRO:HB3	2.49	0.48
1:A:681:A:OP2	2:B:1242:U:O2'	2.30	0.48
1:A:1676:A:C2	1:A:1729:A:H1'	2.48	0.48
4:D:40:C:C2	11:K:77:THR:HG22	2.49	0.48
7:G:112:C:O2'	8:H:36:C:OP1	2.21	0.48
8:H:28:U:H4'	32:f:84:THR:OG1	2.13	0.48
9:I:5:LEU:CD1	9:I:8:ILE:HG13	2.04	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
17:Q:163:LYS:O	36:j:62:ASN:ND2	2.32	0.48
23:W:14:HIS:CG	30:d:378:GLN:HE21	2.31	0.48
33:g:65:LYS:O	33:g:67:ILE:HD12	2.13	0.48
33:g:80:VAL:HG12	33:g:109:ILE:HG13	1.94	0.48
39:m:50:LYS:O	39:m:54:ILE:HB	2.13	0.48
46:t:62:PRO:HB2	46:t:78:ARG:HB3	1.95	0.48
51:1:117:GLN:HG3	51:1:162:LYS:HB2	1.95	0.48
52:2:255:A:H5''	52:2:943:U:H1'	1.95	0.48
52:2:1248:A:N6	52:2:2164:U:OP1	2.43	0.48
52:2:1537:A:C1'	64:AI:107:HIS:HE2	2.27	0.48
52:2:1790:U:OP1	67:AL:45:LYS:HG2	2.14	0.48
58:8:41:ARG:HD2	58:8:44:PHE:CE1	2.48	0.48
60:AD:49:PHE:C	60:AD:51:GLU:H	2.20	0.48
60:AD:96:GLN:HG2	78:AX:27:GLU:CD	2.38	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
69:AN:60:ASN:C	69:AN:62:LEU:H	2.21	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
1:A:26:C:H4'	1:A:59:A:N3	2.29	0.48
1:A:52:C:O2'	1:A:1655:U:H1'	2.13	0.48
1:A:373:G:H2'	1:A:374:G:H8	1.78	0.48
1:A:687:C:H5'	33:g:27:PRO:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1611:A:H5''	16:P:23:ARG:NH1	2.29	0.48
2:B:13:C:H2'	2:B:14:C:H6	1.78	0.48
2:B:1436:C:H4'	30:d:138:ASN:CG	2.38	0.48
7:G:150:A:N1	49:w:71:THR:HG21	2.29	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
47:u:233:GLU:O	47:u:235:GLY:N	2.44	0.48
52:2:133:G:C6	52:2:134:G:C5	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
52:2:1595:G:C4	64:AI:86:HIS:CD2	3.01	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
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
1:A:218:A:N7	33:g:107:LYS:HE2	2.29	0.48
1:A:1752:G:C6	40:n:74:HIS:CE1	3.02	0.48
2:B:1348:U:H2'	2:B:1349:U:C6	2.49	0.48
3:C:194:A:OP1	38:l:21:ARG:NH2	2.47	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
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
28:b:12:GLN:O	28:b:15:LYS:N	2.46	0.48
34:h:6:VAL:CG1	34:h:33:MET:HG2	2.44	0.48
52:2:147:U:O4	53:3:181:ARG:NH1	2.47	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
52:2:1529:U:N3	52:2:1869:A:N6	2.61	0.48
52:2:1590:A:H2'	52:2:1591:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1846:U:O2'	52:2:1847:C:OP2	2.30	0.48
52:2:2145:A:OP1	74:AS:37:LYS:HE2	2.14	0.48
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
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
1:A:761:U:O2	1:A:761:U:H2'	2.12	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
31:e:27:LEU:HD22	31:e:89:THR:HG21	1.94	0.48
48:v:184:PRO:HD2	48:v:275:ILE:HG23	1.94	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
52:2:295:A:H2	61:AE:80:VAL:HG13	1.79	0.48
52:2:325:G:N3	52:2:326:U:H5'	2.28	0.48
52:2:1919:A:H1'	70:AO:54:PHE:CZ	2.49	0.48
55:5:169:HIS:CE1	55:5:171:VAL:HG23	2.49	0.48
56:6:81:GLU:C	56:6:83:GLY:H	2.21	0.48
58:8:21:CYS:CA	58:8:28:GLN:HG2	2.42	0.48
62:AG:56:ASP:OD2	77:AW:53:THR:OG1	2.27	0.48
70:AO:57:ASN:HB3	70:AO:60:GLU:CD	2.38	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
1:A:124:C:H2'	1:A:125:G:H8	1.79	0.48
2:B:549:C:H2'	2:B:550:A:H8	1.78	0.48
3:C:178:A:C5	35:i:4:HIS:NE2	2.81	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
28:b:38:LEU:O	28:b:41:LEU:N	2.47	0.48
34:h:14:TYR:O	34:h:19:ASN:ND2	2.44	0.48
35:i:49:ARG:HB2	35:i:50:PRO:HD3	1.94	0.48
35:i:92:THR:HG21	38:l:74:ILE:HD11	1.96	0.48
48:v:233:ALA:HA	48:v:286:THR:HG22	1.96	0.48
49:w:31:ARG:HH21	49:w:86:GLY:CA	2.27	0.48
52:2:34:G:O6	52:2:522:A:H2	1.97	0.48
52:2:262:U:H2'	52:2:263:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
52:2:1876:U:H5'	69:AN:149:PHE:CZ	2.49	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
57:7:41:TRP:HA	57:7:57:PRO:HA	1.96	0.48
62:AG:64:LYS:O	62:AG:64:LYS:HG2	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
1:A:177:A:H2	1:A:283:G:C6	2.31	0.48
1:A:735:U:H2'	1:A:736:C:C5	2.49	0.48
3:C:174:A:N1	24:X:111:HIS:CD2	2.81	0.48
40:n:32:THR:HG22	40:n:47:VAL:CG2	2.43	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
52:2:442: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
52:2:1555:G:N7	52:2:2016:A:C5	2.82	0.48
52:2:1685:A:N3	78:AX:201:GLU:OE1	2.47	0.48
52:2:1880:A:N3	52:2:1881:G:N7	2.62	0.48
54:4:23:VAL:HB	54:4:50:ARG:HH22	1.79	0.48
54:4:189:MET:CE	54:4:195:GLN:HA	2.43	0.48
58:8:53:PHE:CD1	72:AQ:79:LEU:HG	2.49	0.48
1:A:461:G:H22	7:G:170:G:N2	2.12	0.47
1:A:1628:G:N1	1:A:1629:U:O4	2.47	0.47
2:B:1439:U:N3	2:B:1440:G:N7	2.62	0.47
2:B:1462:C:H2'	2:B:1463:U:C6	2.49	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
45:s:249:TYR:C	45:s:253:HIS:HD1	2.22	0.47
47:u:150:SER:H	47:u:245:ASN:ND2	2.12	0.47
51:1:151:THR:HG22	51:1:169:LEU:HD22	1.96	0.47
52:2:659:G:H21	74:AS:17:ARG:HH12	1.61	0.47
52:2:936:U:H1'	52:2:937:C:H5	1.78	0.47
52:2:1413:A:OP1	62:AG:11:LYS:NZ	2.47	0.47
52:2:1512:C:H42	52:2:1517:A:H61	1.61	0.47
54:4:38:ARG:O	54:4:42:PRO:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:21:GLU:HG3	57:7:289:ALA:HA	1.95	0.47
58:8:38:ASN:HB3	78:AX:11:VAL:CG1	2.44	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:48:LYS:HB2	68:AM:67:LYS:HZ3	1.78	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
72:AQ:85:ILE:C	72:AQ:86:ILE:HG13	2.39	0.47
1:A:174:U:C4	1:A:175:G:N1	2.82	0.47
1:A:1444:G:N7	1:A:1466:G:N1	2.62	0.47
1:A:1752:G:C4'	18:R:42:ARG:HH12	2.26	0.47
9:I:181:LYS:HG2	26:Z:56:LEU:HB2	1.96	0.47
13:M:74:GLN:O	13:M:78:LYS:NZ	2.44	0.47
15:O:21:PHE:CZ	48:v:156:VAL:HG22	2.50	0.47
22:V:53:VAL:HG12	22:V:54:THR:H	1.79	0.47
40:n:47:VAL:HG23	40:n:48:ASN:N	2.29	0.47
45:s:106:ALA:HB2	45:s:172:ALA:HA	1.95	0.47
51:1:170:ILE:HD13	51:1:225:ILE:O	2.14	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
52:2:918:A:C6	52:2:1101:A:N1	2.80	0.47
52:2:960:C:N4	52:2:961:U:O4	2.47	0.47
52:2:1586:U:H2'	52:2:1587:G:H8	1.78	0.47
52:2:1588:A:C2	52:2:1606:C:H5	2.31	0.47
52:2:1606:C:C2	52:2:1607:U: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
56:6:10:VAL:C	56:6:46:MET:HE2	2.40	0.47
57:7:105:LYS:O	57:7:106:HIS:CG	2.67	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
70:AO:87:ARG:HB3	70:AO:88:ALA:H	1.55	0.47
70:AO:142:ALA:O	70:AO:146:GLN:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:AW:52:THR:HG22	77:AW:52:THR:O	2.13	0.47
78:AX:197:ASN:CA	78:AX:199:PRO:HG3	2.44	0.47
1:A:541:A:H4'	1:A:544:A:O5'	2.15	0.47
3:C:215:A:C6	22:V:103:ARG:HD2	2.50	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
27:a:8:GLN:CB	27:a:46:LEU:HD11	2.44	0.47
30:d:290:ILE:HG12	30:d:329:VAL:HG12	1.96	0.47
34:h:61:ARG:HG2	34:h:62:HIS:N	2.28	0.47
36:j:109:ARG:HB2	36:j:110:PRO:HD2	1.95	0.47
42:p:100:MET:SD	42:p:103:PRO:HA	2.54	0.47
47:u:221:ALA:H	47:u:250:ARG:HB3	1.78	0.47
48:v:234:ARG:HD2	48:v:296:LEU:HD21	1.95	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
52:2:73:A:N6	53:3:172:ASP:O	2.45	0.47
52:2:125:A:N6	52:2:186:A:N3	2.62	0.47
52:2:287:C:O2'	53:3:213:LEU:HD13	2.14	0.47
52:2:604:A:HO2'	52:2:605:A:P	2.37	0.47
52:2:1590:A:C6	52:2:1591:G:C6	3.02	0.47
52:2:1850:U:H2'	52:2:1850:U:O2	2.13	0.47
54:4:30:LEU:HB3	54:4:38:ARG:HH12	1.78	0.47
62:AG:87:ASP:OD2	62:AG:129:TYR:OH	2.29	0.47
64:AI:134:LEU:O	68:AM:151:ARG:CA	2.59	0.47
66:AK:15:PHE:HA	66:AK:24:VAL:HA	1.96	0.47
67:AL:108:MET:HE3	67:AL:108:MET:HB3	1.70	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
5:E:208:G:H2'	5:E:209:G:O4'	2.14	0.47
6:F:68:A:OP1	36:j:138:TYR:OH	2.25	0.47
10:J:49:CYS:HB2	10:J:168:SER:HB3	1.97	0.47
15:O:2:GLY:N	48:v:229:GLU:OE2	2.46	0.47
24:X:76:VAL:HG11	24:X:95:GLY:HA3	1.95	0.47
27:a:6:ASP:OD2	42:p:288:THR:N	2.33	0.47
36:j:32:ARG:O	46:t:184:VAL:HG12	2.14	0.47
52:2:157:G:H21	53:3:4:ASN:ND2	2.13	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
52:2:1108:A:H4'	52:2:1109:A:O5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1569:C:O2	52:2:1851:G:N2	2.47	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
52:2:1864:C:P	68:AM:149:VAL:O	2.72	0.47
52:2:1958:A:P	70:AO:104:PHE:HB3	2.54	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
69:AN:13:SER:O	69:AN:95:LEU:HD12	2.13	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
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
1:A:864:G:O2'	38:l:45:ARG:NH2	2.44	0.47
2:B:538:G:OP1	16:P:141:CYS:HB3	2.14	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
36:j:89:ARG:O	36:j:90:TRP:C	2.58	0.47
46:t:54:LEU:HD12	46:t:66:SER:HB3	1.96	0.47
50:0:30:TRP:CZ3	63:AH:12:PRO:HG3	2.49	0.47
50:0:90:THR:O	50:0:101:THR:HA	2.13	0.47
52:2:163:A:O2'	52:2:164:C:OP2	2.26	0.47
52:2:787:G:O2'	52:2:788:A:H5'	2.15	0.47
52:2:1137:G:C2	52:2:1170:A:C2	3.02	0.47
52:2:1148:G:C6	52:2:1149:G:C6	3.02	0.47
52:2:1524:G:C3'	68:AM:144:GLY:H	2.27	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
52:2:1972:U:C2	64:AI:122:TYR:CE2	3.02	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
57:7:250:MET:HE3	57:7:252:VAL:CG2	2.44	0.47
59:AC:125:LYS:HB2	59:AC:238:PHE:CE1	2.49	0.47
61:AE:66:GLY:O	61:AE:67:LYS:C	2.58	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
1:A:1628:G:H5''	22:V:74:LYS:HD3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1052:A:H2'	2:B:1052:A:N3	2.30	0.47
9:I:7:GLY:CA	9:I:8:ILE:C	2.85	0.47
13:M:167:LYS:CD	13:M:167:LYS:H	2.28	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
30:d:21:ARG:HB2	30:d:277:TYR:CE2	2.50	0.47
30:d:58:ARG:HH11	30:d:361:ILE:HD12	1.80	0.47
30:d:257:ILE:HD12	30:d:271:ARG:HH21	1.79	0.47
30:d:303:THR:HG22	30:d:304:THR:H	1.79	0.47
32:f:115:MET:O	32:f:148:ARG:NH2	2.48	0.47
36:j:67:ALA:HB3	36:j:110:PRO:HB3	1.95	0.47
38:l:55:LYS:HG2	38:l:58:ARG:HD2	1.97	0.47
40:n:7:THR:OG1	40:n:10:GLU:HG2	2.15	0.47
44:r:43:TYR:OH	44:r:47:GLN:NE2	2.47	0.47
51:1:104:GLY:HA2	51:1:186:ARG:HB2	1.97	0.47
51:1:119:LYS:O	51:1:159:TYR:N	2.31	0.47
52:2:521:A:H2'	52:2:522:A:H5'	1.96	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
56:6:99:THR:HG22	56:6:101:PRO:HD2	1.96	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
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
2:B:13:C:H2'	2:B:14:C:C6	2.50	0.47
2:B:43:C:OP1	18:R:60:ARG:NH2	2.38	0.47
2:B:390:A:OP2	2:B:391:A:H2'	2.15	0.47
3:C:162:A:O2'	3:C:173:C:N4	2.48	0.47
3:C:185:C:OP1	38:l:73:ARG:HD2	2.15	0.47
5:E:7:U:H4'	25:Y:75:VAL:HA	1.96	0.47
5:E:49:G:C4	5:E:50:U:C5	3.02	0.47
6:F:8:A:H4'	36:j:78:VAL:O	2.14	0.47
6:F:45:G:N7	17:Q:175:ARG:NH2	2.56	0.47
7:G:75:C:H5'	30:d:336:SER:HA	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:188:ARG:CG	9:I:188:ARG:NH1	2.76	0.47
9:I:189:SER:O	9:I:190:TYR:CB	2.49	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
15:O:140:LYS:HE3	15:O:144:ARG:NH2	2.30	0.47
18:R:95:TRP:HD1	18:R:98:ARG:NH2	2.12	0.47
18:R:133:ARG:HB3	18:R:137:ASN:HD22	1.78	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
24:X:57:ARG:CG	24:X:100:ASN:O	2.63	0.47
29:c:117:GLU:OE1	29:c:123:ARG:N	2.44	0.47
29:c:173:GLY:C	29:c:175:ILE:H	2.22	0.47
30:d:17:LEU:HD21	30:d:238:TRP:HH2	1.80	0.47
30:d:313:THR:CG2	30:d:324:VAL:H	2.27	0.47
34:h:83:LEU:HD11	34:h:91:ARG:HH11	1.79	0.47
35:i:84:PRO:HD2	35:i:87:LEU:HD12	1.96	0.47
41:o:12:LYS:O	41:o:16:LYS:HG2	2.14	0.47
42:p:42:ASN:C	42:p:44:ALA:H	2.23	0.47
43:q:104:PRO:HG2	43:q:107:ALA:HB2	1.96	0.47
46:t:52:VAL:HB	46:t:66:SER:O	2.15	0.47
50:0:106:MET:CE	50:0:192:THR:HG22	2.44	0.47
51:1:78:LYS:NZ	52:2:492:U:OP1	2.27	0.47
51:1:231:HIS:C	51:1:232:LEU:HD12	2.40	0.47
52:2:229:A:H4'	52:2:281:A:C2	2.50	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
52:2:1521:G:O2'	52:2:1522:U:H6	1.98	0.47
52:2:1524:G:C6	68:AM:143:HIS:ND1	2.82	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
52:2:1549:C:H42	66:AK:148:TYR:HD2	1.62	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
52:2:2149:A:H2'	52:2:2150:G:O4'	2.15	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
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
55:5:191:ARG:HD2	55:5:194:GLN:CG	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:27:ILE:O	57:7:28:LYS:O	2.33	0.47
57:7:85:TRP:HZ3	57:7:127:ARG:HH22	1.62	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
57:7:212:GLY:HA3	57:7:238:ILE:HG21	1.96	0.47
58:8:21:CYS:HB2	58:8:28:GLN:HG3	1.97	0.47
59:AC:46:MET:HE3	59:AC:46:MET:HB2	1.81	0.47
61:AE:66:GLY:O	61:AE:68:TYR:N	2.48	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:92:ALA:HB3	66:AK:122:LEU:HD23	1.96	0.47
66:AK:112:LYS:O	66:AK:116:LEU:HG	2.14	0.47
66:AK:133:LYS:HE2	66:AK:139:SER:HA	1.97	0.47
68:AM:136:HIS:HB3	68:AM:140:THR:CG2	2.45	0.47
72:AQ:39:ARG:NH2	72:AQ:99:THR:HA	2.29	0.47
76:AV:43:VAL:HG22	76:AV:72:TYR:CD1	2.50	0.47
1:A:19:G:OP2	3:C:127:G:N1	2.38	0.47
1:A:248:A:P	42:p:221:ASN:ND2	2.87	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
1:A:965:A:C8	29:c:199:VAL:HG21	2.50	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
29:c:64:ARG:NH1	48:v:123:GLN:O	2.47	0.47
36:j:61:VAL:HG22	46:t:191:HIS:NE2	2.30	0.47
44:r:26:VAL:HG13	44:r:71:LYS:HB2	1.97	0.47
52:2:78:C:O2'	52:2:79:A:H8	1.98	0.47
52:2:1269:U:O2'	52:2:1479:A:N1	2.46	0.47
52:2:1525:A:C4	68:AM:143:HIS:CB	2.94	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:O2	52:2:1975:U:C2'	2.62	0.47
52:2:2020:U:OP1	66:AK:135:TRP:O	2.33	0.47
53:3:66:PRO:CD	53:3:83:ILE:HD12	2.44	0.47
53:3:193:LYS:HE2	53:3:197:ASP:OD2	2.15	0.47
54:4:52:VAL:HG22	54:4:62:LEU:HD23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:74:ALA:N	57:7:79:TYR:O	2.24	0.47
57:7:146:ARG:C	57:7:148:GLY:H	2.23	0.47
60:AD:55:ALA:HB3	78:AX:74:GLN:HG2	1.95	0.47
64:AI:50:ARG:HH21	64:AI:54:ARG:NH2	2.12	0.47
65:AJ:41:MET:HE1	65:AJ:72:CYS:SG	2.55	0.47
67:AL:23:LYS:O	67:AL:58:MET:HE2	2.15	0.47
67:AL:101:VAL:HG13	67:AL:105:THR:OG1	2.15	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
1:A:570:A:N6	1:A:639:A:H2'	2.30	0.47
2:B:71:G:H5'	30:d:250:GLY:CA	2.43	0.47
2:B:1363:U:O2'	30:d:237:ARG:NH1	2.34	0.47
5:E:144:A:O3'	40:n:44:THR:HG21	2.14	0.47
11:K:117:ILE:CA	68:AM:15:ARG:NH2	2.76	0.47
13:M:146:VAL:HG12	17:Q:157:ARG:NH1	2.29	0.47
14:N:13:VAL:HG23	14:N:57:GLU:C	2.40	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
42:p:166:ALA:HB1	42:p:219:PHE:CE1	2.50	0.47
45:s:95:TYR:CD2	45:s:204:ARG:HG3	2.50	0.47
47:u:121:ILE:HG12	47:u:122:PHE:CD2	2.50	0.47
48:v:225:THR:CG2	48:v:250:TRP:HH2	2.28	0.47
51:1:9:LEU:HD11	56:6:4:TYR:CZ	2.50	0.47
52:2:377:A:P	55:5:48:ALA:HB1	2.55	0.47
52:2:522:A:HO2'	52:2:523:A:P	2.38	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
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
53:3:49:TYR:OH	53:3:122:GLN:O	2.27	0.47
57:7:105:LYS:HB3	57:7:134:TRP:HH2	1.80	0.47
64:AI:122:TYR:CD2	64:AI:124:GLY:N	2.83	0.47
66:AK:46:LEU:H	66:AK:46:LEU:HG	1.51	0.47
66:AK:61:VAL:HG13	66:AK:114:LYS:CD	2.45	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
2:B:330:A:H2'	2:B:331:U:O4'	2.14	0.47
2:B:741:U:C4	48:v:118:ASN:HB3	2.50	0.47
2:B:909:A:N1	48:v:117:LYS:HG2	2.30	0.47
2:B:1229:C:H5''	10:J:10:ARG:HH22	1.79	0.47
2:B:1397:C:N4	2:B:1398:A:C6	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:102:G:N2	3:C:103:A:N3	2.63	0.47
3:C:143:A:N6	41:o:27:ILE:HD13	2.24	0.47
4:D:8:G:H8	45:s:22:ARG:NH1	2.12	0.47
11:K:54:LEU:HD12	11:K:54:LEU:O	2.15	0.47
19:S:46:SER:HA	19:S:52:MET:HE2	1.97	0.47
22:V:57:SER:CB	22:V:60:ILE:HD12	2.45	0.47
27:a:32:PHE:HA	27:a:52:VAL:HG21	1.97	0.47
41:o:4:PHE:O	41:o:5:LYS:HG3	2.15	0.47
42:p:320:ILE:HG23	47:u:159:TYR:CB	2.45	0.47
42:p:320:ILE:HG23	47:u:159:TYR:HB2	1.97	0.47
45:s:125:ALA:C	45:s:127:GLY:N	2.71	0.47
51:1:143:ARG:CZ	52:2:121:C:H5	2.28	0.47
52:2:111:U:HO2'	52:2:113:A:HO2'	1.54	0.47
52:2:257:A:H3'	52:2:257:A:OP2	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
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
52:2:1153:A:H2	52:2:1245:A:HO2'	1.62	0.47
52:2:1938:G:H22	52:2:2023:G:H21	1.61	0.47
52:2:1986:A:H3'	52:2:1987:C:C6	2.50	0.47
54:4:65:PHE:HA	54:4:97:VAL:O	2.15	0.47
54:4:121:SER:HB2	54:4:125:PHE:CE2	2.50	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
1:A:116:U:H2'	1:A:117:G:H8	1.79	0.46
1:A:768:C:C6	26:Z:114:HIS:HE1	2.20	0.46
1:A:1132:A:H62	45:s:146:PHE:H	1.63	0.46
1:A:1506:A:N3	7:G:9:G:O2'	2.46	0.46
2:B:960:U:H2'	2:B:961:G:C8	2.50	0.46
2:B:1063:G:N3	19:S:49:ARG:NH2	2.63	0.46
9:I:4:ASP:O	47:u:119:ARG:NE	2.48	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
27:a:75:ARG:HH21	27:a:75:ARG:CG	2.29	0.46
30:d:338:PRO:HD2	30:d:341:ARG:NE	2.29	0.46
32:f:84:THR:HG23	32:f:143:ARG:CD	2.43	0.46
46:t:28:THR:H	46:t:60:ASN:ND2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:162:ARG:HD3	52:2:1121:C:OP1	2.15	0.46
51:1:133:VAL:HG11	51:1:145:ARG:HD3	1.96	0.46
52:2:1597:G:OP1	64:AI:62:VAL:HG21	2.15	0.46
52:2:1812:G:H21	52:2:1814:A:H3'	1.80	0.46
52:2:1912:C:OP1	70:AO:88:ALA:HB3	2.15	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
59:AC:140:ILE:O	59:AC:143:THR:HG23	2.15	0.46
66:AK:30:ALA:O	66:AK:69:LEU:HD23	2.15	0.46
66:AK:128:ARG:HE	69:AN:41:ARG:NE	2.12	0.46
67:AL:98:GLY:HA2	67:AL:119:ARG:O	2.16	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
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:743:U:O2	29:c:95:PRO:HD3	2.15	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:33:SER:HB3	11:K:70:GLU:O	2.15	0.46
11:K:168:LYS:O	11:K:172:LYS:N	2.49	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
30:d:112:VAL:O	30:d:116:ARG:HB2	2.15	0.46
30:d:119:TYR:O	30:d:180:LYS:NZ	2.48	0.46
34:h:49:LEU:HB3	34:h:87:GLN:NE2	2.30	0.46
35:i:77:ARG:HD2	35:i:80:ARG:HB2	1.97	0.46
36:j:75:VAL:HA	36:j:136:ARG:O	2.15	0.46
36:j:90:TRP:CZ3	36:j:97:ARG:HG3	2.50	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
52:2:22: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
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
54:4:130:ASN:O	54:4:134:TYR:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:205:GLY:O	55:5:209:GLN:HG2	2.15	0.46
57:7:120:ARG:NH2	57:7:121:LEU:HG	2.30	0.46
71:AP:90:MET:HE1	71:AP:110:ALA:HB1	1.96	0.46
77:AW:35:ASP:HB2	77:AW:83:LYS:HE3	1.97	0.46
1:A:1133:A:OP2	45:s:113:LEU:HD13	2.16	0.46
2:B:1051:U:N3	45:s:17:GLN:O	2.47	0.46
2:B:1450:U:HO2'	2:B:1451:G:P	2.38	0.46
3:C:138:C:C4	3:C:153:A:N6	2.84	0.46
12:L:180:GLU:O	12:L:181:GLU:C	2.57	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
29:c:32:LEU:HB2	29:c:163:ARG:NH1	2.30	0.46
29:c:32:LEU:HD21	29:c:37:ARG:HD3	1.98	0.46
30:d:237:ARG:HA	30:d:275:HIS:CD2	2.50	0.46
31:e:29:THR:O	31:e:33:LEU:HG	2.15	0.46
35:i:67:ARG:HH11	35:i:87:LEU:HD23	1.80	0.46
37:k:58:LYS:O	37:k:61:GLN:HB3	2.16	0.46
40:n:75:ALA:O	40:n:76:LYS:HB2	2.16	0.46
47:u:230:HIS:C	47:u:233:GLU:HG3	2.37	0.46
49:w:164:CYS:SG	49:w:178:ILE:HD12	2.54	0.46
51:l:18:SER:OG	51:l:21:THR:OG1	2.25	0.46
52:2:720:G:C4	52:2:735:G:O6	2.69	0.46
52:2:1213:A:OP2	62:AG:124:ARG:HD3	2.14	0.46
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
52:2:1954:U:HO3'	52:2:1955:G:P	2.28	0.46
52:2:1966:U:H2'	52:2:1967:U:C6	2.49	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
57:7:190:LEU:HD22	57:7:221:TRP:CE3	2.50	0.46
57:7:196:TYR:CZ	57:7:214:LYS:HB2	2.51	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
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
1:A:447:G:H1'	3:C:106:G:N2	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:784:U:H2'	1:A:785:C:C6	2.51	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
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:O	9:I:8:ILE:HG22	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
29:c:32:LEU:HD12	29:c:163:ARG:NH1	2.30	0.46
38:l:21:ARG:HG3	38:l:37:CYS:SG	2.55	0.46
40:n:32:THR:HG22	40:n:47:VAL:HG21	1.98	0.46
44:r:23:PHE:CD1	44:r:74:CYS:HA	2.50	0.46
45:s:55:ILE:HG12	45:s:60:ILE:HG12	1.95	0.46
49:w:88:ARG:HG3	49:w:144:ILE:HG23	1.96	0.46
51:l:47:ASN:O	51:l:50:LYS:HE3	2.15	0.46
52:2:15:U:H2'	52:2:16:G:O4'	2.14	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
52:2:1554:G:H3'	52:2:1554:G:P	2.55	0.46
52:2:1566:G:N2	52:2:1567:A:N3	2.64	0.46
52:2:1606:C:O2'	52:2:1607:U:H6	1.98	0.46
52:2:1878:U:H3	69:AN:63:MET:HG3	1.79	0.46
52:2:1996:U:H4'	66:AK:143:ARG:HB2	1.96	0.46
58:8:49:GLU:HG3	58:8:50:HIS:N	2.25	0.46
59:AC:118:TYR:CD1	59:AC:204:ILE:HG12	2.41	0.46
59:AC:121:ARG:NH2	67:AL:80:ARG:HE	2.14	0.46
69:AN:190:ARG:O	80:AZ:81:ARG:NH2	2.45	0.46
74:AS:22:TRP:O	74:AS:28:LYS:CG	2.63	0.46
1:A:983:U:H5''	12:L:22:SER:HB2	1.97	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
12:L:183:SER:HB2	26:Z:135:ARG:NE	2.31	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
29:c:205:ASN:HB3	29:c:206:PRO:HD2	1.96	0.46
38:l:64:CYS:HB3	38:l:67:LEU:HB2	1.96	0.46
44:r:94:ASN:C	44:r:95:ASP:O	2.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:u:160:LYS:HD3	47:u:252:ILE:HG23	1.96	0.46
48:v:179:ILE:HD13	48:v:283:VAL:HG11	1.98	0.46
51:1:82:GLY:N	51:1:85:ASP:OD2	2.49	0.46
52:2:409:G:OP1	52:2:859:G:O2'	2.29	0.46
52:2:597:G:C2	52:2:640:A:C2	3.03	0.46
52:2:628:A:C6	78:AX:144:GLN:HG2	2.50	0.46
52:2:736:G:H2'	52:2:738:G:N7	2.30	0.46
52:2:764:A:C1'	54:4:99:GLN:HE22	2.28	0.46
58:8:45:ARG:NH2	72:AQ:77:PHE:HD2	2.14	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
68:AM:58:GLY:C	68:AM:62:ALA:H	2.23	0.46
73:AR:77:THR:OG1	73:AR:83:MET:HG3	2.15	0.46
79:AY:38:LEU:O	79:AY:42:ARG:HG2	2.15	0.46
1:A:26:C:H4'	1:A:59:A:H2	1.77	0.46
1:A:207:C:H5'	42:p:144:ASP:OD2	2.16	0.46
1:A:743:A:C6	1:A:753:A:N7	2.83	0.46
1:A:1512:C:C6	42:p:190:ALA:HB2	2.51	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
31:e:19:VAL:C	31:e:22:SER:O	2.58	0.46
36:j:35:MET:SD	46:t:184:VAL:HG21	2.56	0.46
42:p:27:PHE:HD1	42:p:131:SER:HB3	1.77	0.46
42:p:39:VAL:O	42:p:43:MET:HB3	2.16	0.46
42:p:213:ASN:O	42:p:216:THR:HG23	2.16	0.46
42:p:250:TRP:CZ3	42:p:258:LEU:HD11	2.51	0.46
47:u:233:GLU:C	47:u:235:GLY:N	2.73	0.46
50:0:97:ARG:CD	50:0:243:GLU:CB	2.93	0.46
51:1:83:PHE:C	51:1:85:ASP:H	2.23	0.46
51:1:188:ARG:NH2	51:1:243:ARG:HD2	2.31	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
52:2:1206:C:C5	62:AG:17:PRO:HG3	2.51	0.46
52:2:1557:A:C2	52:2:1970:A:N1	2.84	0.46
52:2:1806:C:OP1	67:AL:3:LYS:HB2	2.16	0.46
52:2:1974:A:N3	52:2:1975:U:C4	2.83	0.46
55:5:29:LEU:CD1	55:5:29:LEU:N	2.72	0.46
55:5:31:ARG:CB	55:5:56:ARG:HH21	2.28	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
59:AC:205:LYS:HA	59:AC:239:PHE:HE1	1.81	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
74:AS:32:THR:C	74:AS:34:ALA:N	2.69	0.46
78:AX:192:ASP:O	78:AX:196:ARG:HB2	2.16	0.46
1:A:245:C:C2	1:A:246:A:C8	3.03	0.46
1:A:575:A:C2	42:p:334:LYS:HB2	2.51	0.46
2:B:368:C:O2'	2:B:497:U:OP2	2.28	0.46
2:B:705:G:H1	29:c:68:LYS:HZ1	1.62	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
14:N:67:ARG:NH1	17:Q:144:TYR:O	2.45	0.46
15:O:194:ARG:HA	15:O:197:ARG:NH1	2.31	0.46
24:X:79:ILE:HG22	24:X:80:ASP:O	2.15	0.46
27:a:47:ASN:ND2	27:a:100:ARG:HH12	2.14	0.46
29:c:51:GLU:HG3	29:c:58:LEU:HD12	1.98	0.46
42:p:167:MET:HE2	42:p:222:ILE:HG12	1.97	0.46
45:s:149:LYS:HA	45:s:178:ALA:O	2.16	0.46
45:s:201:HIS:CE1	45:s:205:ILE:HD11	2.51	0.46
48:v:238:ILE:O	48:v:265:VAL:HG12	2.15	0.46
52:2:129:U:C4	52:2:182:A:C8	3.04	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
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
52:2:1856: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
56:6:90:ASP:OD1	56:6:90:ASP:N	2.47	0.46
57:7:103:PHE:CE1	57:7:138:GLY:HA2	2.50	0.46
64:AI:67:LEU:O	64:AI:71:LYS:HB2	2.16	0.46
64:AI:84:LYS:CE	64:AI:104:TYR:HD1	2.23	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
1:A:25:C:H42	1:A:55:A:N6	2.03	0.46
1:A:198:C:H5''	1:A:1482:C:N4	2.31	0.46
1:A:456:A:H2'	1:A:457:C:O4'	2.16	0.46
2:B:122:G:OP1	18:R:77:GLY:HA3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1128:C:O3'	44:r:39:GLY:HA3	2.16	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
9:I:26:ILE:HD11	42:p:281:MET:HE1	1.98	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
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
30:d:57:VAL:HB	30:d:365:PHE:HB3	1.98	0.46
47:u:53:THR:O	47:u:57:ARG:HG2	2.16	0.46
47:u:230:HIS:CA	47:u:233:GLU:OE2	2.63	0.46
50:0:198:ASP:O	50:0:202:ARG:HG3	2.16	0.46
52:2:290:U:C5	53:3:220:ARG:NH1	2.84	0.46
52:2:350:U:OP1	61:AE:120:LYS:HG3	2.16	0.46
52:2:716:U:C2	52:2:739:A:C2	3.03	0.46
52:2:1123:G:C8	52:2:1183:G:N2	2.83	0.46
52:2:1164:C:C2'	52:2:1165:G:H5'	2.45	0.46
52:2:1524:G:C6	52:2:1990:G:N3	2.84	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
52:2:2000:G:H1'	52:2:2001:U:OP2	2.16	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
61:AE:114:ARG:HD3	74:AS:6:GLY:O	2.15	0.46
62:AG:55:ARG:HG3	62:AG:56:ASP:N	2.31	0.46
69:AN:109:GLU:CD	80:AZ:77:MET:HB3	2.41	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
1:A:582:U:O2'	1:A:583:A:N7	2.47	0.46
1:A:1502:U:C2	1:A:1503:A:C8	3.04	0.46
2:B:344:C:H5''	29:c:227:ARG:NH2	2.29	0.46
2:B:1269:G:O2'	43:q:100:TYR:O	2.34	0.46
3:C:112:U:OP1	24:X:9:ARG:NH2	2.43	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
11:K:124:ASP:C	11:K:126:SER:H	2.23	0.46
15:O:99:GLN:NE2	15:O:118:SER:OG	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:40:VAL:HG21	19:S:96:VAL:HG13	1.97	0.46
22:V:35:PHE:CD2	48:v:138:PRO:HD3	2.51	0.46
30:d:219:ALA:HB3	30:d:352:GLN:HE22	1.81	0.46
37:k:56:LEU:HD12	37:k:79:ARG:HE	1.81	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
62:AG:125:LEU:HD22	62:AG:129:TYR:HE2	1.81	0.46
63:AH:39:ASP:CG	63:AH:46:TYR:HH	2.19	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:77:TRP:CD1	70:AO:77:TRP:H	2.34	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
71:AP:83:GLU:C	71:AP:85:GLN:H	2.24	0.46
76:AV:101:THR:HG22	76:AV:102:LYS:N	2.28	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
2:B:539:A:H4'	16:P:138:PRO:O	2.16	0.46
2:B:1072:U:H2'	2:B:1073:G:C8	2.51	0.46
2:B:1388:U:OP1	2:B:1390:A:O2'	2.31	0.46
8:H:96:A:O5'	8:H:96:A:H8	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
14:N:41:PRO:HD2	14:N:78:LEU:CD1	2.46	0.46
22:V:57:SER:OG	22:V:60:ILE:HB	2.16	0.46
29:c:150:LEU:CB	29:c:151:PRO:CD	2.93	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
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
52:2:1524:G:C5	68:AM:143:HIS:ND1	2.84	0.46
52:2:1527:C:H2'	52:2:1528:G:H8	1.81	0.46
52:2:1699:G:N2	72:AQ:116:ARG:HE	2.14	0.46
52:2:1813:A:H2'	52:2:1814:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
66:AK:21:ALA:HA	66:AK:77:GLY:C	2.41	0.46
70:AO:85:VAL:HG13	70:AO:86:LEU:H	1.81	0.46
70:AO:85:VAL:HG23	70:AO:135:LEU:HD11	1.97	0.46
71:AP:166:MET:SD	71:AP:234:PHE:CG	3.09	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
1:A:118:C:H3'	48:v:226:ARG:NH2	2.31	0.45
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
1:A:805:A:P	9:I:66:ARG:HH21	2.39	0.45
2:B:1113:G:H5'	19:S:70:ARG:NH2	2.31	0.45
4:D:15:C:H5'	45:s:24:ARG:NH1	2.31	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
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
30:d:274:GLN:OE1	30:d:276:GLY:HA3	2.16	0.45
34:h:83:LEU:HD11	34:h:91:ARG:NH1	2.32	0.45
42:p:116:LEU:HD21	42:p:120:ARG:CZ	2.46	0.45
51:1:60:MET:HE1	52:2:498:C:H1'	1.97	0.45
52:2:243:U:O3'	55:5:189:THR:HG21	2.17	0.45
52:2:550:C:O2	52:2:550:C:H2'	2.17	0.45
52:2:610:G:O6	52:2:633:C:N4	2.49	0.45
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
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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AX:105:ARG:HA	78:AX:174:CYS:SG	2.56	0.45
1:A:182:U:C4	1:A:183:G:C6	3.04	0.45
1:A:304:G:H1'	15:O:50:MET:CE	2.40	0.45
1:A:827:G:O6	1:A:828:U:N3	2.50	0.45
1:A:1491:U:H2'	1:A:1492:G:C8	2.51	0.45
2:B:66:G:H2'	2:B:67:A:H5''	1.98	0.45
2:B:412:C:H2'	2:B:413:C:H6	1.81	0.45
2:B:1070:C:H2'	2:B:1071:U:H6	1.81	0.45
3:C:173:C:H1'	3:C:174:A:C8	2.52	0.45
4:D:65:A:H1'	10:J:205:LYS:HE3	1.98	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
10:J:52:VAL:HG23	10:J:164:ILE:O	2.16	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
19:S:135:GLY:H	47:u:89:ALA:CB	2.28	0.45
30:d:285:LYS:HB3	30:d:331:LEU:HD21	1.98	0.45
31:e:77:LEU:O	31:e:81:THR:HG23	2.17	0.45
32:f:102:LEU:HD21	32:f:106:ARG:HE	1.81	0.45
42:p:55:ARG:HG3	42:p:56:LEU:HD12	1.97	0.45
44:r:25:VAL:HG22	44:r:72:LEU:HD22	1.97	0.45
47:u:92:LYS:O	47:u:129:MET:N	2.45	0.45
47:u:230:HIS:N	47:u:233:GLU:CD	2.67	0.45
50:0:27:ARG:O	50:0:51:LYS:HG2	2.17	0.45
51:1:84:MET:HE1	51:1:234:VAL:HG11	1.98	0.45
52:2:727:U:O2	67:AL:93:LYS:NZ	2.38	0.45
52:2:783:A:C2	52:2:784:C:C2	3.04	0.45
52:2:1611:U:N3	60:AD:41:ARG:HD3	2.31	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
55:5:67:TRP:CD1	55:5:72:ILE:HD12	2.50	0.45
55:5:82:VAL:CG1	55:5:215:LEU:HD11	2.47	0.45
57:7:245:PRO:HG3	57:7:288:SER:O	2.16	0.45
59:AC:219:LEU:CB	59:AC:225:ILE:HD12	2.46	0.45
64:AI:37:GLU:OE1	64:AI:59:ARG:NH2	2.41	0.45
64:AI:84:LYS:HB3	64:AI:84:LYS:HE2	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:205:A:C6	27:a:55:PRO:HG3	2.51	0.45
1:A:730:G:H5''	42:p:46:ASN:HB3	1.98	0.45
2:B:41:A:C2	2:B:54:C:N4	2.84	0.45
2:B:388:U:H2'	2:B:389:G:H2'	1.98	0.45
2:B:1315:A:H8	2:B:1315:A:OP2	1.99	0.45
3:C:156:G:H1'	3:C:186:A:C2	2.51	0.45
4:D:4:G:O2'	4:D:26:A:N3	2.49	0.45
7:G:175:G:H21	30:d:101:THR:HG21	1.82	0.45
13:M:72:TYR:OH	13:M:91:HIS:O	2.31	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
38:l:66:TYR:O	38:l:67:LEU:C	2.58	0.45
43:q:82:LEU:HD21	49:w:92:ARG:HE	1.80	0.45
45:s:52:VAL:HG22	45:s:54:ARG:HG2	1.97	0.45
47:u:229:ARG:O	47:u:235:GLY:CA	2.64	0.45
48:v:256:ARG:NH1	48:v:311:SER:OG	2.49	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:P	52:2:761:A:H3'	2.56	0.45
52:2:762:A:N6	54:4:102:ILE:H	2.14	0.45
52:2:930:A:HO2'	52:2:931:C:P	2.35	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
52:2:1521:G:C6	52:2:1995:G:N1	2.84	0.45
52:2:1863:A:C3'	64:Al: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
52:2:2030:A:H2	52:2:2031:C:N1	2.14	0.45
53:3:236:VAL:O	53:3:240:ARG:HG2	2.15	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
57:7:90:ARG:HB2	57:7:92:TRP:NE1	2.31	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
59:AC:121:ARG:HH21	67:AL:80:ARG:HH21	1.62	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
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

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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
1:A:840:G:H21	42:p:115:ASN:ND2	2.14	0.45
1:A:1188:G:N2	2:B:555:A:OP2	2.42	0.45
1:A:1419:C:OP1	42:p:303:LYS:NZ	2.50	0.45
7:G:120:U:O2	21:U:14:ARG:NH1	2.50	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
30:d:80:GLU:HB3	30:d:324:VAL:HG13	1.98	0.45
35:i:5:MET:HB2	35:i:25:TYR:OH	2.16	0.45
37:k:54:SER:O	37:k:58:LYS:HG2	2.16	0.45
42:p:18:VAL:O	42:p:18:VAL:HG12	2.17	0.45
52:2:97:C:OP2	52:2:421:A:O2'	2.30	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
52:2:1527:C:H3'	68:AM:131:ARG:NH1	2.22	0.45
52:2:1536:U:H5'	64:AI:131:ARG:HG2	1.80	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
61:AE:53:ILE:HD12	61:AE:75:PHE:CE1	2.51	0.45
1:A:65:A:HO2'	1:A:353:C:HO2'	1.63	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
2:B:551:A:H2'	2:B:552:G:H8	1.82	0.45
2:B:1151:A:N6	26:Z:59:ASP:O	2.49	0.45
16:P:36:ILE:HD13	16:P:36:ILE:HG21	1.79	0.45
27:a:8:GLN:HB3	27:a:46:LEU:HD11	1.99	0.45
27:a:129:LYS:HA	27:a:132:SER:HB3	1.98	0.45
29:c:113:VAL:CG1	29:c:164:ALA:HB1	2.47	0.45
30:d:248:HIS:ND1	30:d:249:ARG:HG3	2.32	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
52:2:1528:G:H1'	52:2:2017:A:C4	2.52	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
52:2:1889:A:H4'	66:AK:77:GLY:C	2.41	0.45
52:2:2201:U:HO2'	52:2:2202:U:P	2.38	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
62:AG:129:TYR:O	62:AG:135:LEU:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:65:LEU:C	68:AM:65:LEU:HD13	2.41	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
70:AO:142:ALA:C	70:AO:146:GLN:HG3	2.41	0.45
1:A:81:U:O2'	1:A:738:C:O2'	2.34	0.45
1:A:581:G:N2	1:A:626:U:C2	2.84	0.45
4:D:8:G:H5''	45:s:22:ARG:HH12	1.82	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:78:VAL:HA	18:R:81:ARG:HH11	1.82	0.45
18:R:114:LYS:O	18:R:146:LYS:NZ	2.49	0.45
44:r:78:LYS:HA	44:r:78:LYS:HD2	1.68	0.45
48:v:157:PRO:HA	48:v:318:TRP:CE3	2.51	0.45
49:w:31:ARG:HH22	49:w:186:ILE:HD12	1.79	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
52:2:56:U:H2'	52:2:57:G:O4'	2.15	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
52:2:580: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
52:2:770:A:H1'	52:2:771:G:P	2.57	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
52:2:1947:A:H1'	70:AO:66:HIS:CE1	2.52	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
56:6:27:MET:HG3	79:AY:43:ARG:NH2	2.31	0.45
57:7:3:TYR:CD2	57:7:306:TRP:HE3	2.34	0.45
57:7:159:SER:C	57:7:161:SER:N	2.72	0.45
57:7:193:HIS:CD2	57:7:197:VAL:HG22	2.52	0.45
59:AC:104:VAL:HG11	59:AC:110:VAL:HG23	1.98	0.45
60:AD:39:PRO:C	60:AD:42:ASP:H	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:495:C:H5''	46:t:28:THR:HG21	1.99	0.45
1:A:814:C:H5	1:A:830:G:H22	1.64	0.45
1:A:887:A:O2'	39:m:9:GLY:O	2.35	0.45
1:A:1417:G:H4'	42:p:306:GLN:NE2	2.31	0.45
2:B:465:U:OP1	2:B:1347:G:O2'	2.29	0.45
2:B:1028:U:O2	2:B:1069:G:N2	2.49	0.45
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
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
14:N:110:ARG:NH1	46:t:193:TRP:CG	2.84	0.45
27:a:7:LEU:O	27:a:11:LEU:HD13	2.16	0.45
27:a:51:ALA:HB3	27:a:96:VAL:HG13	1.97	0.45
30:d:50:LYS:HA	30:d:79:LEU:HD23	1.99	0.45
42:p:66:TRP:HB3	42:p:70:ARG:HG3	1.99	0.45
43:q:89:TYR:HD2	49:w:179:TYR:CD1	2.35	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
52:2:6:G:C6	71:AP:215:ARG:NH2	2.84	0.45
52:2:881:U:H4'	52:2:881:U:OP1	2.17	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
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
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
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
1:A:250:A:N3	24:X:5:LYS:HE3	2.31	0.45
1:A:1576:C:O2'	1:A:1617:C:O2'	2.27	0.45
2:B:1093:U:OP2	9:I:165:PRO:HD2	2.17	0.45
3:C:119:C:H5''	12:L:32:ASN:CB	2.47	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:47:VAL:HG12	9:I:51:ARG:HE	1.82	0.45
29:c:173:GLY:C	29:c:175:ILE:N	2.75	0.45
30:d:368:THR:O	30:d:368:THR:HG22	2.16	0.45
35:i:7:ILE:HG13	35:i:11:ARG:NH1	2.32	0.45
45:s:21:ARG:HA	45:s:24:ARG:HE	1.82	0.45
52:2:5:U:H2'	52:2:6:G:H8	1.81	0.45
52:2:571:A:H2'	52:2:572:A:O4'	2.17	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:H6	52:2:790:U:H5'	1.81	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
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
59:AC:151:LYS:O	59:AC:153:VAL:HG23	2.17	0.45
63:AH:19:LEU:O	63:AH:19:LEU:HD12	2.16	0.45
68:AM:16:LEU:HA	68:AM:16:LEU:HD23	1.66	0.45
76:AV:56:ALA:HB2	76:AV:68:MET:HE3	1.99	0.45
80:AZ:34:THR:O	80:AZ:40:VAL:HG23	2.16	0.45
1:A:279:G:C5	12:L:136:LYS:HE2	2.52	0.45
6:F:45:G:H4'	13:M:201:ARG:NH2	2.32	0.45
9:I:29:LEU:HA	9:I:29:LEU:HD23	1.69	0.45
13:M:221:TYR:C	14:N:120:ARG:HH12	2.25	0.45
15:O:10:LEU:HD22	48:v:246:GLU:HG2	1.98	0.45
17:Q:47:MET:SD	19:S:146:LEU:HD11	2.56	0.45
18:R:19:ARG:CG	18:R:19:ARG:NH1	2.77	0.45
21:U:127:LEU:HD23	21:U:127:LEU:HA	1.81	0.45
22:V:78:LYS:HB3	22:V:84:THR:HG1	1.80	0.45
27:a:75:ARG:HD3	27:a:75:ARG:HA	1.72	0.45
37:k:60:VAL:HG13	37:k:72:ALA:HB1	1.99	0.45
42:p:6:SER:HA	42:p:22:PRO:HA	1.99	0.45
42:p:42:ASN:OD1	42:p:43:MET:N	2.49	0.45
47:u:70:LYS:O	47:u:74:THR:HG23	2.16	0.45
48:v:205:PRO:O	48:v:207:LYS:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:125:A:N6	52:2:186:A:C2	2.85	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
52:2:784:C:H2'	52:2:785:G:C8	2.51	0.45
52:2:1108:A:H5''	65:AJ:57:ARG:HH21	1.81	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
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:46:MET:HE2	59:AC:51:ALA:HB2	1.99	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
1:A:381:G:H2'	42:p:192:ARG:NH1	2.32	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
12:L:177:VAL:CB	26:Z:98:VAL:CG2	2.70	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
25:Y:36:ARG:HG3	25:Y:38:TYR:CZ	2.51	0.45
42:p:145:ASN:HB2	42:p:174:ALA:HB1	1.98	0.45
42:p:320:ILE:CG1	47:u:160:LYS:HB2	2.28	0.45
44:r:65:THR:HG22	44:r:89:LYS:HG2	1.98	0.45
50:0:205:ASN:N	50:0:206:PRO:HD2	2.32	0.45
52:2:83:A:O2'	75:AT:126:GLY:O	2.34	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
52:2:583:A:OP2	75:AT:4:GLN:NE2	2.51	0.45
52:2:1791:U:OP1	67:AL:49:LYS:HG3	2.16	0.45
52:2:1888:C:O2'	66:AK:78:GLY:O	2.35	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
55:5:210:PHE:CE2	61:AE:23:TYR:HB2	2.52	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:AH:88:VAL:HB	63:AH:122:ILE:HG13	1.99	0.45
68:AM:81:PRO:HG2	68:AM:84:PHE:HD2	1.81	0.45
68:AM:122:ARG:O	68:AM:126:HIS:CG	2.70	0.45
69:AN:22:LEU:HA	69:AN:25:ARG:HB3	1.98	0.45
69:AN:131:ARG:HD2	69:AN:131:ARG:HA	1.82	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
1:A:80:C:H2'	1:A:81:U:O4'	2.17	0.44
1:A:122:A:OP1	48:v:190:ARG:HD2	2.16	0.44
1:A:308:A:H2'	1:A:309:G:O4'	2.16	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
1:A:1421:G:C5	27:a:102:ASP:O	2.69	0.44
1:A:1652:U:H5'	15:O:67:ARG:HD2	1.98	0.44
2:B:356:G:O3'	29:c:193:ARG:HD3	2.16	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
15:O:48:ALA:O	15:O:51:LEU:C	2.59	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
29:c:112:ILE:HG13	39:m:79:VAL:HG22	1.98	0.44
32:f:75:LYS:HD3	32:f:79:VAL:HG11	1.98	0.44
34:h:8:TYR:HB2	34:h:13:HIS:CE1	2.51	0.44
42:p:309:LYS:HG3	42:p:310:ALA:H	1.82	0.44
47:u:154:VAL:CG1	47:u:195:VAL:HG23	2.47	0.44
52:2:37:U:C4	52:2:38:C:C5	3.05	0.44
52:2:316:A:O2'	53:3:191:ARG:NH1	2.50	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
52:2:1584: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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:16:G:N2	3:C:244:C:C2	2.85	0.44
1:A:246:A:N6	42:p:167:MET:HE3	2.32	0.44
1:A:632:A:H5''	1:A:633:U:H3'	1.99	0.44
1:A:1477:U:O4	42:p:203:ARG:NH2	2.50	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
25:Y:102:ALA:C	25:Y:104:LYS:H	2.25	0.44
50:0:70:ASN:ND2	50:0:83:ALA:O	2.42	0.44
50:0:85:ARG:HD2	50:0:106:MET:SD	2.57	0.44
51:1:64:GLN:HG2	52:2:497:A:N6	2.33	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
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
52:2:1956:G:N2	52:2:1986:A:C8	2.85	0.44
56:6:157:PHE:CD1	56:6:163:PHE:HD2	2.35	0.44
57:7:26:TYR:C	57:7:27:ILE:CG1	2.86	0.44
59:AC:46:MET:HB3	59:AC:91:TRP:CE2	2.52	0.44
59:AC:129:HIS:CE1	59:AC:233:GLU:HG3	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
79:AY:45:LEU:C	79:AY:47:LYS:H	2.25	0.44
1:A:59:A:N7	1:A:60:A:C5	2.85	0.44
1:A:123:U:H2'	1:A:124:C:C6	2.53	0.44
1:A:382:A:H4'	1:A:384:A:N7	2.32	0.44
1:A:731:U:H4'	42:p:43:MET:HE3	1.99	0.44
1:A:1203:C:OP1	33:g:48:LYS:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:30:VAL:HG12	11:K:32:GLU:H	1.82	0.44
11:K:124:ASP:O	11:K:126:SER:N	2.46	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
33:g:75:PHE:O	33:g:95:GLY:HA2	2.16	0.44
38:l:36:ALA:O	38:l:45:ARG:HD3	2.17	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
52:2:881:U:H3	75:AT:14:THR:H	1.65	0.44
52:2:1381:U:H2'	52:2:1382:C:H6	1.82	0.44
52:2:1525:A:O3'	68:AM:147:VAL:HG22	2.17	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
52:2:2028:U:OP2	69:AN:42:TRP:CZ3	2.71	0.44
54:4:7:LYS:HD3	54:4:7:LYS:HA	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
57:7:246:ASN:CG	57:7:247:ARG:H	2.25	0.44
57:7:254:THR:HG1	57:7:257:SER:H	1.64	0.44
58:8:33:ARG:HD3	72:AQ:60:ILE:HD13	1.99	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
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
71:AP:49:LEU:HD22	71:AP:76:ILE:HD13	1.99	0.44
1:A:15:G:C4	3:C:245:A:H2	2.36	0.44
1:A:1369:G:C4	13:M:78:LYS:HD3	2.52	0.44
2:B:110:G:H1'	39:m:15:GLY:O	2.16	0.44
2:B:604:U:O2'	44:r:52:GLY:HA3	2.17	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
21:U:81:ILE:HG22	21:U:101:ALA:C	2.41	0.44
25:Y:63:ALA:O	25:Y:64:ARG:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:d:234:VAL:HG13	30:d:240:VAL:HG11	2.00	0.44
34:h:19:ASN:O	34:h:21:MET:HG2	2.17	0.44
48:v:250:TRP:CD1	48:v:250:TRP:H	2.34	0.44
49:w:84:THR:OG1	49:w:85:LYS:N	2.51	0.44
50:0:141:PHE:CD2	50:0:217:LYS:HB3	2.52	0.44
52:2:883:G:O2'	52:2:884:A:P	2.76	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
52:2:1931:A:H5''	72:AQ:83:LYS:NZ	2.33	0.44
52:2:1967:U:C2	52:2:1968:G:C8	3.06	0.44
53:3:7:TYR:HD1	53:3:116:ILE:HB	1.82	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
78:AX:93:ARG:HB3	78:AX:124:TYR:HH	1.83	0.44
1:A:495:C:H2'	1:A:496:C:H6	1.81	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
2:B:379:C:H2'	2:B:425:A:H61	1.83	0.44
2:B:538:G:H4'	16:P:139:TYR:CE1	2.52	0.44
2:B:1163:C:OP1	9:I:185:ARG:HD2	2.17	0.44
5:E:67:A:N6	5:E:68:U:O4	2.51	0.44
9:I:20:TYR:HD1	9:I:20:TYR:HA	1.69	0.44
17:Q:37:VAL:HG21	47:u:231:PHE:CE2	2.53	0.44
21:U:116:ILE:HG21	21:U:120:VAL:CG1	2.47	0.44
24:X:57:ARG:CG	24:X:100:ASN:CG	2.60	0.44
38:l:21:ARG:HD3	38:l:44:ARG:NE	2.33	0.44
44:r:23:PHE:HD2	44:r:72:LEU:HB3	1.81	0.44
45:s:190:ASN:HB3	45:s:192:GLU:HG2	2.00	0.44
46:t:67:GLY:C	46:t:69:MET:H	2.23	0.44
50:0:32:ASP:OD2	50:0:241:SER:HB2	2.17	0.44
51:1:4:LYS:HD3	52:2:493:C:H5'	2.00	0.44
52:2:182:A:HO2'	52:2:183:C:P	2.40	0.44
52:2:364:G:O2'	52:2:365:U:H2'	2.18	0.44
52:2:718:C:H6	52:2:718:C:O5'	2.00	0.44
52:2:930:A:O2'	52:2:931:C:C6	2.70	0.44
52:2:1525:A:N7	52:2:1526:G:C8	2.86	0.44
52:2:1526:G:C5	52:2:1527:C:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:2020:U:OP1	66:AK:136:GLY:HA2	2.17	0.44
57:7:272:LEU:HA	57:7:272:LEU:HD13	1.48	0.44
60:AD:124:ALA:C	60:AD:126:PRO:HD2	2.43	0.44
61:AE:155:LEU:HD23	61:AE:155:LEU:HA	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
66:AK:39:GLY:C	66:AK:40:VAL:HG12	2.42	0.44
68:AM:39:ILE:HD11	70:AO:61:ILE:HG23	2.00	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
75:AT:23:LEU:HD23	75:AT:23:LEU:HA	1.77	0.44
78:AX:97:ALA:CA	78:AX:187:ILE:CD1	2.95	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
3:C:145:G:C6	3:C:146:U:N3	2.86	0.44
5:E:125:G:O2'	31:e:89:THR:HG22	2.17	0.44
6:F:66:A:C2	36:j:88:VAL:HG11	2.53	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
12:L:186:VAL:HG21	26:Z:141:VAL:HB	1.99	0.44
22:V:84:THR:HG22	22:V:128:ARG:HA	1.98	0.44
28:b:29:LEU:HD12	28:b:29:LEU:HA	1.75	0.44
30:d:21:ARG:CA	30:d:274:GLN:NE2	2.80	0.44
30:d:25:ILE:H	30:d:25:ILE:HG13	1.66	0.44
30:d:175:ARG:NH2	30:d:340:ARG:HH22	2.16	0.44
40:n:26:LYS:O	40:n:32:THR:OG1	2.33	0.44
42:p:36:VAL:O	42:p:40:HIS:N	2.46	0.44
42:p:39:VAL:HG13	42:p:114:ILE:HD13	1.99	0.44
51:1:69:VAL:CG1	51:1:74:ARG:HG3	2.47	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1672:G:H2'	52:2:1673:U:O4'	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
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
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
1:A:18:A:H1'	15:O:111:GLY:HA3	1.99	0.44
1:A:73:U:H5'	12:L:63:VAL:CG1	2.48	0.44
1:A:127:G:C6	1:A:128:U:N3	2.86	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:988:G:N2	1:A:1012:C:OP1	2.51	0.44
1:A:1393:G:N2	1:A:1394:U:O2	2.38	0.44
2:B:688:U:H2'	2:B:689:G:C8	2.52	0.44
2:B:904:G:O6	34:h:102:ARG:NH2	2.50	0.44
2:B:946:U:O2'	2:B:947:G:OP2	2.34	0.44
2:B:981:G:OP1	2:B:1007:C:O2'	2.31	0.44
3:C:175:U:H4'	3:C:177:U:C5	2.53	0.44
17:Q:5:HIS:CE1	17:Q:106:SER:HB2	2.52	0.44
17:Q:51:ASN:ND2	19:S:146:LEU:HD21	2.33	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
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
27:a:87:VAL:HG22	27:a:88:ARG:O	2.17	0.44
29:c:113:VAL:O	29:c:134:CYS:N	2.46	0.44
33:g:48:LYS:HG3	33:g:48:LYS:O	2.18	0.44
35:i:29:LEU:HD11	35:i:52:ARG:HG2	2.00	0.44
36:j:37:GLY:O	36:j:134:ARG:HD3	2.18	0.44
45:s:110:LEU:O	45:s:116:ALA:N	2.41	0.44
47:u:96:VAL:HG13	47:u:144:ILE:HG23	2.00	0.44
52:2:31:C:O2'	52:2:596:U:OP1	2.32	0.44
52:2:163:A:N6	52:2:165:G:N3	2.65	0.44
52:2:290:U:H1'	52:2:789:G:C4	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:720:G:H22	52:2:732:U:H3	1.66	0.44
52:2:726:G:O2'	52:2:727:U:P	2.76	0.44
52:2:726:G:N1	67:AL:96:GLN:CG	2.71	0.44
52:2:768:A:C5	52:2:769:A:H5''	2.52	0.44
52:2:790:U:O2'	52:2:791:G:P	2.76	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
52:2:1816:U:H4'	52:2:1817:U:O5'	2.16	0.44
52:2:2050:C:O2	52:2:2050:C:H2'	2.18	0.44
53:3:46:PHE:C	53:3:49:TYR:HD2	2.26	0.44
53:3:69:LEU:HD23	53:3:69:LEU:HA	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
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
68:AM:58:GLY:O	68:AM:63:GLU:HG3	2.17	0.44
71:AP:163:THR:HG22	71:AP:205:ASP:HB2	1.99	0.44
71:AP:167:LYS:HD3	71:AP:178:ARG:HH21	1.81	0.44
74:AS:55:ILE:HD12	74:AS:71:ARG:HG3	1.99	0.44
1:A:358:G:H2'	1:A:359:U:H6	1.82	0.44
1:A:693:G:OP2	1:A:693:G:N2	2.33	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
9:I:153:ARG:O	9:I:157:ARG:HG2	2.18	0.44
9:I:182:ARG:O	26:Z:51:GLY:N	2.50	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
30:d:21:ARG:N	30:d:274:GLN:NE2	2.62	0.44
30:d:305:TYR:CD2	30:d:364:LYS:HA	2.52	0.44
33:g:42:PRO:HB2	33:g:50:GLN:HG3	1.98	0.44
37:k:40:LEU:O	37:k:43:VAL:N	2.51	0.44
47:u:194:MET:O	47:u:198:ILE:HG12	2.18	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
52:2:287:C:O2'	52:2:288:A:P	2.76	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:913:G:C2	62:AG:132:VAL:HG22	2.53	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
52:2:1964:G:H22	52:2:1978:G:H1	1.56	0.44
52:2:1968:G:N2	52:2:1970:A:H3'	2.33	0.44
54:4:77:VAL:O	54:4:80:ALA:N	2.47	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
63:AH:89:LYS:HB3	63:AH:125:VAL:HG21	2.00	0.44
63:AH:110:ARG:HE	76:AV:51:SER:HB3	1.81	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
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
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
2:B:372:U:H4'	39:m:22:PRO:HD3	1.99	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
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
25:Y:9:LYS:HG3	25:Y:86:ASN:OD1	2.17	0.44
25:Y:77:HIS:HB3	31:e:37:ARG:HD3	1.99	0.44
30:d:313:THR:HG21	30:d:324:VAL:H	1.83	0.44
36:j:75:VAL:HG21	36:j:119:VAL:HG11	1.99	0.44
47:u:106:ASN:HB3	47:u:107:PRO:HD2	1.99	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
52:2:275:A:H2'	52:2:276:G:C8	2.53	0.44
52:2:523:A:OP1	52:2:523:A:H4'	2.18	0.44
52:2:1188:G:O2'	52:2:1224:A:O4'	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:1519:A:N1	52:2:1996:U:O4	2.51	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
52:2:1995: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
57:7:22:GLN:HB3	57:7:75:HIS:HD2	1.80	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: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
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
1:A:1231:G:N2	13:M:105:MET:SD	2.91	0.43
1:A:1663:U:H3'	1:A:1664:G:H5''	1.98	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
5:E:31:C:O2	34:h:17:ARG:NH2	2.47	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
32:f:152:THR:HG22	32:f:160:HIS:N	2.33	0.43
34:h:19:ASN:OD1	34:h:21:MET:HE2	2.18	0.43
42:p:316:PRO:HB2	42:p:325:LEU:HG	2.00	0.43
48:v:173:ASN:OD1	48:v:177:LYS:HE2	2.18	0.43
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
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
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
59:AC:209:MET:HE3	59:AC:209:MET:HB3	1.78	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
69:AN:164:VAL:O	69:AN:167:SER:OG	2.31	0.43
72:AQ:98:ILE:O	72:AQ:101:PHE:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:AT:51:ALA:O	75:AT:56:VAL:N	2.47	0.43
78:AX:24:LEU:O	78:AX:28:LEU:N	2.37	0.43
78:AX:40:ILE:HG22	78:AX:45:THR:HA	2.00	0.43
78:AX:104:LEU:HA	78:AX:104:LEU:HD23	1.78	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:374:G:O6	3:C:120:C:N4	2.45	0.43
1:A:377:G:N2	3:C:117:U:H1'	2.33	0.43
1:A:805:A:H1'	9:I:147:ARG:CD	2.46	0.43
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
2:B:1086:U:O2'	19:S:88:ARG:O	2.24	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:40:ARG:NH2	15:O:41:ARG:HH22	2.16	0.43
15:O:107:GLY:HA2	15:O:160:GLU:OE2	2.18	0.43
18:R:170:ARG:HH21	52:2:918:A:C1'	2.22	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
27:a:47:ASN:O	27:a:66:LYS:HE2	2.18	0.43
29:c:242:ARG:NH2	29:c:245:ARG:O	2.51	0.43
30:d:347:ARG:CD	30:d:348:PRO:HD2	2.48	0.43
42:p:320:ILE:HG13	42:p:321:LYS:N	2.33	0.43
48:v:172:ARG:HG3	48:v:265:VAL:HG23	2.00	0.43
51:1:62:LEU:O	51:1:65:GLY:N	2.31	0.43
51:1:179:ILE:HD12	51:1:225:ILE:HD13	2.00	0.43
52:2:12:U:H2'	52:2:13:U:C6	2.53	0.43
52:2:56:U:C5'	52:2:446:A:H61	2.31	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
52:2:780: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
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
55:5:31:ARG:HB3	55:5:56:ARG:HH21	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:7:42:LYS:HB3	57:7:44:ASN:HD21	1.83	0.43
57:7:117:PRO:HG2	57:7:161:SER:O	2.18	0.43
59:AC:147:GLN:NE2	71:AP:72:LYS:HG2	2.34	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
66:AK:55:MET:HE3	66:AK:59:THR:CG2	2.48	0.43
68:AM:96:THR:C	68:AM:98:HIS:N	2.76	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
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:1204:G:O4'	1:A:1400:A:O2'	2.35	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
7:G:154:C:H4'	49:w:155:ARG:HE	1.84	0.43
12:L:26:ASN:HB3	15:O:197:ARG:HA	1.99	0.43
12:L:78:ARG:HH11	12:L:103:ASP:HB3	1.83	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
30:d:21:ARG:CB	30:d:274:GLN:HE22	2.02	0.43
38:l:59:THR:HG22	38:l:67:LEU:CD1	2.47	0.43
45:s:118:LYS:HE3	45:s:145:ARG:HH12	1.83	0.43
45:s:293:LYS:HA	45:s:296:VAL:HG12	2.01	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
52:2:56:U:O4	52:2:90:C:H4'	2.18	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
52:2:642:A:P	56:6:37:CYS:SG	3.15	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
55:5:93:THR:O	55:5:94:LYS:HB2	2.17	0.43
60:AD:60:ARG:HD3	60:AD:78:ILE:CG1	2.40	0.43
60:AD:111:ILE:CD1	78:AX:63:ARG:NH2	2.81	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
68:AM:28:PRO:O	68:AM:32:ARG:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:48:LYS:HD3	71:AP:257:LEU:HD13	1.99	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
78:AX:56:GLU:OE1	78:AX:56:GLU:N	2.51	0.43
78:AX:135:VAL:O	78:AX:151:PHE:N	2.48	0.43
1:A:818:C:O2'	2:B:1082:A:O2'	2.32	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
2:B:390:A:O4'	52:2:1160:A:OP1	2.36	0.43
2:B:1398:A:O2'	2:B:1399:A:H5'	2.18	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
25:Y:117:GLN:HE21	25:Y:121:ASN:CG	2.26	0.43
26:Z:126:VAL:HG12	26:Z:127:SER:N	2.34	0.43
29:c:206:PRO:HA	29:c:212:GLY:HA3	2.01	0.43
32:f:170:VAL:HG21	32:f:176:LEU:HD21	1.99	0.43
36:j:67:ALA:CB	36:j:110:PRO:HB3	2.48	0.43
47:u:96:VAL:HG12	47:u:118:LEU:HD11	1.99	0.43
47:u:102:ILE:HD12	47:u:102:ILE:O	2.18	0.43
48:v:188:LYS:NZ	48:v:192:GLU:OE2	2.46	0.43
48:v:228:ILE:HD11	48:v:236:VAL:HG21	1.99	0.43
50:0:161:GLN:HG3	52:2:1123:G:OP1	2.17	0.43
52:2:251:A:H2'	52:2:251:A:N3	2.33	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
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
52:2:1864:C:C2'	64:AI:135:HIS:HD1	2.31	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
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
59:AC:67:SER:OG	59:AC:187:ASP:O	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
1:A:365:A:C2	1:A:366:C:C2	3.06	0.43
1:A:614:A:OP1	47:u:67:GLY:HA3	2.19	0.43
2:B:946:U:HO2'	2:B:947:G:P	2.41	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
19:S:66:ASN:OD1	28:b:37:TRP:N	2.50	0.43
20:T:74:ASP:CG	20:T:75:ASN:H	2.26	0.43
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
27:a:3:HIS:NE2	42:p:31:ILE:HD11	2.33	0.43
33:g:61:ASP:C	33:g:63:ALA:H	2.26	0.43
35:i:36:GLN:HG2	35:i:45:LEU:HD11	2.00	0.43
39:m:51:ALA:HB3	39:m:54:ILE:HD13	2.00	0.43
42:p:167:MET:CE	42:p:222:ILE:HG12	2.48	0.43
47:u:111:LYS:O	47:u:115:LEU:HG	2.19	0.43
52:2:132:C:H2'	52:2:133:G:C8	2.53	0.43
52:2:286:G:C8	53:3:221:ARG:HB3	2.53	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:H8	52:2:783:A:O5'	2.02	0.43
52:2:1215:U:H4'	52:2:1280:A:N3	2.34	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
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
58:8:35:TYR:CE2	58:8:36:GLU:CD	2.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:77:VAL:HG21	71:AP:143:LYS:O	2.18	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
80:AZ:27:ILE:HG12	80:AZ:43:VAL:CG1	2.45	0.43
1:A:186:G:N2	1:A:270:C:C2	2.86	0.43
1:A:369:A:HO2'	38:l:58:ARG:HH22	1.59	0.43
1:A:383:U:H1'	42:p:96:ARG:HD2	1.99	0.43
1:A:690:G:N2	42:p:94:MET:HB2	2.34	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
2:B:480:U:O2	2:B:1294:U:H5'	2.18	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
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
30:d:222:VAL:HG13	30:d:282:GLN:OE1	2.19	0.43
30:d:276:GLY:H	30:d:278:HIS:CE1	2.37	0.43
47:u:124:THR:HB	47:u:215:PHE:HB2	2.00	0.43
47:u:192:GLU:HA	47:u:195:VAL:HG12	2.01	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
52:2:784:C:H2'	52:2:785:G:H8	1.83	0.43
52:2:974:G:H8	52:2:974:G:O5'	2.02	0.43
52:2:975:G:C6	52:2:976:A:C5	3.06	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
52:2:1597:G:C4	64:AI:61:PRO:HB2	2.54	0.43
52:2:1967:U:C2	52:2:1974:A:N1	2.87	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
59:AC:68:SER:OG	59:AC:69:ALA:N	2.51	0.43
64:AI:82:ALA:HB3	64:AI:100:VAL:O	2.19	0.43
66:AK:18:LYS:O	66:AK:21:ALA:N	2.51	0.43
66:AK:137:ARG:HD3	66:AK:141:ARG:CA	2.46	0.43
70:AO:22:ARG:HH21	70:AO:141:GLY:HA3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:62:GLY:C	78:AX:66:ARG:HD3	2.43	0.43
78:AX:84:GLN:HG2	78:AX:85:LEU:H	1.83	0.43
1:A:405:A:O2'	42:p:85:THR:HG23	2.18	0.43
1:A:1132:A:H5''	45:s:148:PHE:CD1	2.53	0.43
1:A:1378:U:O2'	17:Q:157:ARG:NH1	2.51	0.43
9:I:51:ARG:HH22	9:I:147:ARG:CZ	2.31	0.43
17:Q:132:PRO:HG2	17:Q:135:GLU:CD	2.44	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
29:c:30:ARG:HD2	29:c:63:PHE:CE2	2.54	0.43
30:d:107:ALA:HB1	30:d:205:GLU:HG3	1.99	0.43
30:d:226:THR:HG22	30:d:336:SER:HB2	2.00	0.43
36:j:90:TRP:O	36:j:91:SER:OG	2.34	0.43
42:p:9:VAL:HG21	42:p:252:LYS:HD3	1.99	0.43
45:s:21:ARG:HB2	45:s:24:ARG:HH21	1.84	0.43
52:2:73:A:H61	53:3:172:ASP:C	2.26	0.43
52:2:131:G:C6	52:2:132:C:C4	3.07	0.43
52:2:254:A:C2	52:2:255:A:C5	3.06	0.43
52:2:294:G:O2'	61:AE:54:GLY:O	2.36	0.43
52:2:321:G:N2	52:2:329:C:H1'	2.34	0.43
52:2:403:G:OP1	52:2:403:G:H4'	2.18	0.43
52:2:557:A:H2'	52:2:558:U:H6	1.84	0.43
52:2:915:A:H61	52:2:1102:G:H2'	1.84	0.43
52:2:1623:U:H5''	52:2:1623:U:H6	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
52:2:1981:G:OP1	68:AM:40:ARG:HB2	2.19	0.43
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
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
69:AN:24:LEU:H	69:AN:24:LEU:HG	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:46:GLU:O	78:AX:85:LEU:HD23	2.18	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
79:AY:45:LEU:O	79:AY:46:SER:OG	2.30	0.43
1:A:731:U:C5'	42:p:43:MET:HE3	2.49	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
2:B:465:U:O2	2:B:493:U:H4'	2.19	0.43
2:B:1289:U:C5	30:d:7:GLU:HG3	2.53	0.43
12:L:18:ASN:OD1	42:p:105:LYS:NZ	2.43	0.43
19:S:93:PHE:HA	19:S:96:VAL:HB	2.00	0.43
30:d:346:ARG:NH2	30:d:349:MET:HE3	2.34	0.43
32:f:143:ARG:NH1	32:f:177:THR:O	2.52	0.43
38:l:19:CYS:HB3	38:l:22:CYS:SG	2.59	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
52:2:608:C:H1'	79:AY:60:GLN:OE1	2.19	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
54:4:51:GLU:CD	54:4:53:LYS:HE3	2.44	0.43
58:8:38:ASN:HB3	78:AX:11:VAL:HG11	2.00	0.43
63:AH:15:LYS:NZ	63:AH:18:ASP:OD2	2.47	0.43
69:AN:29:SER:OG	69:AN:54:ILE:N	2.50	0.43
72:AQ:23:SER:OG	72:AQ:108:ASP:OD1	2.19	0.43
74:AS:67:ARG:HD3	74:AS:67:ARG:HA	1.82	0.43
74:AS:88:ASP:HB2	74:AS:134:TYR:HE1	1.83	0.43
78:AX:166:PHE:HA	78:AX:189:LEU:HD11	0.63	0.43
1:A:7:C:O2	3:C:255:G:C2	2.72	0.43
1:A:56:G:OP1	35:i:94:ARG:NH2	2.52	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
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
8:H:15:G:H1'	16:P:69:ARG:HD3	2.00	0.43
9:I:135:MET:HE3	42:p:295:GLU:OE1	2.18	0.43
9:I:192:ARG:O	9:I:192:ARG:HG3	2.18	0.43
11:K:44:LEU:HD12	11:K:74:VAL:HG12	2.01	0.43
11:K:109:PHE:CZ	11:K:138:LEU:HD11	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:151:LYS:HA	45:s:25:GLU:O	2.19	0.43
13:M:82:THR:HG22	30:d:266:MET:HG2	2.01	0.43
16:P:36:ILE:O	16:P:38:GLY:N	2.52	0.43
20:T:109:ILE:HD13	20:T:109:ILE:HG21	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
27:a:25:ILE:HG12	33:g:93:TYR:HE1	1.83	0.43
27:a:33:ASN:OD1	27:a:42:HIS:HB3	2.19	0.43
30:d:10:ARG:NH1	30:d:12:GLY:O	2.51	0.43
36:j:107:VAL:HG11	36:j:117:MET:HE3	1.99	0.43
42:p:8:SER:OG	42:p:148:GLU:OE1	2.33	0.43
42:p:217:ARG:O	42:p:218:ALA:HB3	2.19	0.43
45:s:190:ASN:HB2	45:s:193:LYS:O	2.18	0.43
47:u:32:GLN:O	47:u:35:ASN:N	2.52	0.43
48:v:234:ARG:N	48:v:285:ILE:O	2.50	0.43
50:0:127:THR:HG22	50:0:141:PHE:CD1	2.53	0.43
52:2:193:G:P	55:5:158:LEU:HD13	2.59	0.43
52:2:458:U:O2'	52:2:461:G:O6	2.27	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
52:2:1251:G:C8	52:2:1251:G:H3'	2.54	0.43
52:2:1524:G:H2'	68:AM:144:GLY:N	2.34	0.43
52:2:1536:U:C4'	64:AI:131:ARG:CG	2.79	0.43
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
57:7:206:GLY:O	57:7:223:LEU:HB2	2.19	0.43
60:AD:112:ALA:HA	60:AD:115:ARG:HD3	2.00	0.43
66:AK:128:ARG:HE	69:AN:41:ARG:NH2	2.16	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
1:A:16:G:OP1	35:i:88:ARG:NH2	2.40	0.43
1:A:107:C:H4'	1:A:361:A:C2	2.54	0.43
1:A:1399:C:H4'	36:j:45:GLY:CA	2.41	0.43
2:B:39:C:N4	2:B:40:A:N6	2.67	0.43
2:B:446:C:OP1	52:2:2183:G:N9	2.52	0.43
11:K:18:GLU:OE1	11:K:18:GLU:N	2.50	0.43
29:c:31:ILE:HD13	29:c:123:ARG:CZ	2.48	0.43
29:c:79:PRO:HG2	29:c:99:GLY:HA2	2.01	0.43
29:c:113:VAL:HG13	29:c:164:ALA:HB1	2.00	0.43
34:h:6:VAL:HG21	34:h:23:MET:HE1	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:m:46:ALA:HB3	39:m:57:CYS:SG	2.59	0.43
42:p:131:SER:C	42:p:149:VAL:HG11	2.44	0.43
45:s:61:ILE:HG12	45:s:79:TYR:CE1	2.54	0.43
50:0:119:LYS:NZ	52:2:1180:A:OP1	2.52	0.43
50:0:207:ILE:O	52:2:1404:A:O2'	2.19	0.43
52:2:597:G:N1	52:2:640:A:C6	2.74	0.43
52:2:1206:C:C6	62:AG:17:PRO:HG3	2.53	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
52:2:1864:C:P	68:AM:150:SER:HA	2.59	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
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
58:8:21:CYS:CB	58:8:28:GLN:HG3	2.49	0.43
60:AD:92:LEU:HD22	60:AD:110:GLY:HA2	1.99	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
74:AS:107:ARG:O	74:AS:108:SER:C	2.62	0.43
75:AT:61:GLN:NE2	75:AT:85:ASP:HA	2.33	0.43
1:A:107:C:H4'	1:A:361:A:H2	1.83	0.42
1:A:492:G:H5''	36:j:106:ARG:NH2	2.33	0.42
1:A:1090:U:H2'	1:A:1091:A:C8	2.54	0.42
1:A:1247:U:OP1	1:A:1272:U:O2'	2.24	0.42
2:B:704:U:H5''	29:c:31:ILE:HD12	2.01	0.42
2:B:1379:A:N6	6:F:9:U:H3	2.17	0.42
3:C:133:G:OP1	38:l:62:GLY:N	2.40	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
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
30:d:12:GLY:HA3	30:d:238:TRP:CE3	2.54	0.42
32:f:102:LEU:O	32:f:106:ARG:HG2	2.19	0.42
36:j:141:PRO:HB3	46:t:82:ARG:HB3	2.00	0.42
45:s:182:ARG:O	45:s:184:ASN:N	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:s:204:ARG:HD3	45:s:209:HIS:ND1	2.34	0.42
47:u:99:ILE:HD12	47:u:227:LYS:HG3	2.00	0.42
51:1:64:GLN:HE21	52:2:497:A:N6	2.17	0.42
52:2:37:U:N3	52:2:520:G:C6	2.87	0.42
52:2:128:C:H4'	52:2:129:U:O5'	2.19	0.42
52:2:1898:G:O2'	52:2:1899:A:OP1	2.30	0.42
52:2:1918:C:N3	70:AO:50:GLU:HB2	2.34	0.42
52:2:1941:A:H4'	66:AK:47:PRO:HB3	2.00	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
53:3:148:PHE:C	53:3:150:LEU:N	2.76	0.42
56:6:106:ARG:HD2	56:6:147:VAL:O	2.19	0.42
57:7:190:LEU:HD13	57:7:221:TRP:CG	2.54	0.42
57:7:203:SER:HB3	57:7:243:PHE:CD2	2.53	0.42
59:AC:61:ILE:H	59:AC:200:ASN:HD21	1.67	0.42
59:AC:117:LEU:HA	59:AC:120:THR:HG23	2.01	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
65:AJ:3:MET:HE1	65:AJ:9:ASN:HB2	2.00	0.42
67:AL:5:ARG:NE	67:AL:53:TYR:HB2	2.34	0.42
73:AR:58:CYS:O	73:AR:59:ILE:HD13	2.19	0.42
74:AS:46:HIS:CE1	74:AS:103:SER:HG	2.34	0.42
78:AX:45:THR:HG21	78:AX:78:TYR:CE1	2.55	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
1:A:1539:G:O2'	2:B:538:G:O6	2.33	0.42
1:A:1765:A:O2'	1:A:1768:G:OP2	2.27	0.42
3:C:175:U:C4	24:X:111:HIS:HD2	2.37	0.42
19:S:93:PHE:CD1	19:S:93:PHE:C	2.96	0.42
27:a:9:TRP:O	27:a:13:ARG:HB2	2.19	0.42
30:d:20:LYS:H	30:d:278:HIS:CD2	2.36	0.42
31:e:48:ASN:O	31:e:55:ARG:NH2	2.48	0.42
45:s:249:TYR:HB3	45:s:253:HIS:CE1	2.53	0.42
52:2:726:G:O6	67:AL:96:GLN:HG3	2.18	0.42
52:2:1524:G:P	52:2:1524:G:H8	2.42	0.42
52:2:1566:G:N1	52:2:1567:A:C4	2.87	0.42
52:2:1645:G:H1	52:2:1678:G:H1	1.65	0.42
52:2:1661:U:H3	52:2:1672:G:N2	2.17	0.42
52:2:1875:A:OP1	52:2:1955:G:O2'	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
62:AG:115:LEU:O	62:AG:116:ILE:C	2.60	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
79:AY:51:PRO:HA	79:AY:52:GLY:C	2.44	0.42
80:AZ:86:LEU:HD23	80:AZ:86:LEU:HA	1.88	0.42
1:A:726:G:C5	1:A:727:C:C5	3.07	0.42
1:A:779:A:H2	9:I:144:TYR:CD1	2.38	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:1752:G:C2	40:n:74:HIS:CD2	3.06	0.42
2:B:397:A:H2'	2:B:398:C:O4'	2.18	0.42
2:B:607:A:P	15:O:90:LEU:HD11	2.58	0.42
3:C:112:U:C5	42:p:195:MET:HE1	2.54	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
14:N:24:VAL:O	14:N:46:MET:SD	2.78	0.42
20:T:72:MET:HG3	20:T:72:MET:O	2.20	0.42
21:U:11:CYS:O	30:d:66:LYS:NZ	2.49	0.42
26:Z:84:ALA:O	26:Z:85:GLU:HB2	2.20	0.42
48:v:163:PHE:HB3	48:v:240:ASN:OD1	2.18	0.42
49:w:105:ASP:O	49:w:106:GLY:C	2.63	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
52:2:260:A:H2'	52:2:261:A:C8	2.54	0.42
52:2:578:C:H1'	75:AT:39:GLY:HA2	2.01	0.42
52:2:598:G:N2	52:2:639:C:C2	2.87	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
58:8:46:GLU:OE1	58:8:46:GLU:N	2.49	0.42
59:AC:70:MET:SD	59:AC:73:TYR:CD2	3.12	0.42
59:AC:184:CYS:SG	59:AC:196:ALA:HB1	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AE:101:ILE:HD13	61:AE:124:VAL:HG21	1.99	0.42
66:AK:36:LYS:H	66:AK:36:LYS:HG2	1.54	0.42
67:AL:86:PRO:HG2	67:AL:87:ALA:O	2.19	0.42
67:AL:117:PRO:HG2	67:AL:120:VAL:CG2	2.46	0.42
69:AN:108:ARG:NH1	80:AZ:21:GLN:O	2.46	0.42
72:AQ:37:LEU:HB2	72:AQ:41:ARG:NH2	2.34	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
1:A:663:C:O2	36:j:128:ALA:HB3	2.19	0.42
1:A:819:C:H2'	1:A:820:U:O4'	2.19	0.42
1:A:1729:A:H2'	1:A:1730:A:O4'	2.19	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
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:7:ILE:HG23	14:N:27:ILE:HD13	2.00	0.42
14:N:71:ALA:HA	14:N:74:LEU:HB3	2.02	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
29:c:187:TYR:H	29:c:187:TYR:HD2	1.65	0.42
30:d:57:VAL:O	30:d:364:LYS:N	2.46	0.42
30:d:59:ASP:CG	30:d:364:LYS:HE2	2.44	0.42
32:f:173:PHE:O	32:f:176:LEU:HD13	2.19	0.42
42:p:62:SER:OG	42:p:79:SER:OG	2.13	0.42
45:s:51:LEU:N	45:s:151:ILE:O	2.39	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
52:2:601: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
52:2:762:A:H61	54:4:102:ILE:H	1.66	0.42
52:2:1524:G:O6	68:AM:143:HIS:CE1	2.72	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
53:3:62:PHE:CB	53:3:73:ARG:HH12	2.32	0.42
54:4:190:TRP:HD1	54:4:196:GLN:O	1.98	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:5:6:SER:HB3	55:5:28:GLU:OE2	2.19	0.42
66:AK:136:GLY:O	66:AK:144:PHE:CE1	2.72	0.42
69:AN:31:THR:HG22	69:AN:53:PRO:HB3	2.01	0.42
69:AN:86:ILE:HD11	69:AN:160:ALA:HA	2.01	0.42
69:AN:155:MET:HB2	69:AN:156:PRO:CD	2.44	0.42
72:AQ:46:THR:OG1	72:AQ:89:HIS:HD2	2.02	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
1:A:1269:G:H4'	43:q:117:HIS:O	2.19	0.42
3:C:147:G:N1	3:C:153:A:C6	2.88	0.42
5:E:121:U:OP1	18:R:128:LYS:NZ	2.39	0.42
12:L:177:VAL:CG2	26:Z:98:VAL:N	2.76	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
30:d:165:HIS:HB3	30:d:183:VAL:HG22	2.00	0.42
30:d:238:TRP:CD1	30:d:270:ALA:HB1	2.54	0.42
30:d:310:LYS:HD3	30:d:368:THR:OG1	2.18	0.42
47:u:185:ASN:HD21	47:u:204:HIS:CE1	2.37	0.42
48:v:242:VAL:CG1	48:v:247:LEU:HD12	2.49	0.42
50:0:23:GLU:OE2	63:AH:10:TYR:HE2	2.02	0.42
50:0:225:LYS:HG2	50:0:226:PHE:H	1.85	0.42
52:2:729:G:O2'	59:AC:228:SER:HB2	2.18	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
56:6:122:HIS:O	56:6:126:VAL:HG12	2.20	0.42
59:AC:46:MET:HB3	59:AC:91:TRP:CD2	2.55	0.42
59:AC:181:ILE:HA	59:AC:195:ILE:O	2.20	0.42
60:AD:60:ARG:C	60:AD:78:ILE:HD11	2.45	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
66:AK:53:LYS:NZ	69:AN:38:THR:HG22	2.34	0.42
67:AL:57:ILE:O	67:AL:61:LEU:HG	2.19	0.42
69:AN:19:THR:HG22	69:AN:99:VAL:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:75:PRO:O	70:AO:76:ASP:C	2.63	0.42
71:AP:52:LEU:HG	71:AP:257:LEU:HD21	2.01	0.42
71:AP:151:ARG:HB3	71:AP:161:PRO:HB2	2.02	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
1:A:15:G:N1	1:A:16:G:C4	2.87	0.42
1:A:246:A:C6	42:p:167:MET:HE3	2.55	0.42
1:A:358:G:H2'	1:A:359:U:C6	2.54	0.42
1:A:1452:U:O2	47:u:169:GLN:NE2	2.47	0.42
1:A:1518:C:H4'	42:p:41:THR:HB	2.02	0.42
2:B:132:G:OP1	18:R:104:ARG:NH1	2.44	0.42
2:B:1229:C:OP1	10:J:10:ARG:NH2	2.52	0.42
2:B:1328:U:H5'	2:B:1328:U:O2	2.20	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
3:C:131:A:H4'	38:l:66:TYR:HD2	1.83	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:CG	18:R:62:ARG:NH1	2.75	0.42
24:X:58:GLY:O	24:X:60:PHE:CA	2.59	0.42
24:X:116:LEU:HA	24:X:116:LEU:HD23	1.85	0.42
27:a:65:VAL:HG12	27:a:66:LYS:O	2.19	0.42
29:c:219:ILE:HD13	29:c:223:SER:HB3	2.00	0.42
40:n:23:VAL:HG22	40:n:36:VAL:HG22	2.01	0.42
42:p:60:ASN:O	42:p:61:HIS:CG	2.73	0.42
46:t:185:LYS:H	46:t:185:LYS:HG2	1.64	0.42
47:u:230:HIS:C	47:u:235:GLY:HA3	2.43	0.42
52:2:106:A:N6	52:2:107:G:O6	2.52	0.42
52:2:1528:G:H5'	68:AM:134:GLY:HA3	2.00	0.42
52:2:1565:A:N1	52:2:1857:G:C6	2.87	0.42
52:2:1836:G:C6	52:2:1837:U:C4	3.08	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
57:7:20:PRO:HD2	57:7:29:VAL:HG12	2.01	0.42
57:7:146:ARG:NH2	57:7:189:THR:OG1	2.52	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AG:102:LEU:HD21	62:AG:111:THR:OG1	2.20	0.42
70:AO:59:THR:HG23	70:AO:100:LEU:HD22	2.01	0.42
72:AQ:87:ASP:C	72:AQ:88:LEU:HD22	2.44	0.42
76:AV:4:LYS:HG2	76:AV:4:LYS:O	2.17	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
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
1:A:585:U:OP2	47:u:59:ARG:NH1	2.39	0.42
1:A:1008:C:H5''	2:B:1173:A:C2	2.54	0.42
2:B:1075:U:O2'	2:B:1107:G:O2'	2.29	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:11:VAL:HG12	25:Y:23:ALA:O	2.20	0.42
25:Y:20:GLY:HA3	25:Y:134:PHE:CZ	2.55	0.42
26:Z:14:SER:HA	33:g:37:ARG:NH1	2.34	0.42
47:u:204:HIS:O	47:u:208:VAL:HG12	2.19	0.42
48:v:167:LEU:HD21	48:v:171:SER:HB2	2.01	0.42
48:v:200:GLU:O	48:v:203:LYS:HB3	2.19	0.42
50:0:139:ARG:NH1	52:2:1132:G:OP1	2.52	0.42
52:2:252:G:OP1	52:2:785:G:N2	2.53	0.42
52:2:275:A:H8	52:2:275:A:OP2	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
52:2:677:G:N2	52:2:1217:A:OP2	2.50	0.42
52:2:937:C:H1'	52:2:938:G:O5'	2.20	0.42
52:2:1501:A:H8	52:2:1501:A:O5'	2.03	0.42
52:2:1527:C:C3'	68:AM:131:ARG:HH11	2.25	0.42
52:2:1534:U:O2'	64:AI:135:HIS:C	2.63	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
52:2:1930:G:H4'	52:2:1931:A:C5'	2.49	0.42
54:4:191:ASN:HA	54:4:192:PRO:HD2	1.83	0.42
57:7:4:GLU:OE1	57:7:50:VAL:HG12	2.19	0.42
57:7:27:ILE:HG22	57:7:28:LYS:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:AK:18:LYS:HD2	66:AK:18:LYS:HA	1.85	0.42
66:AK:90:ALA:O	66:AK:94:GLY:N	2.48	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
72:AQ:81:ILE:HG23	78:AX:10:ILE:HD12	2.02	0.42
75:AT:98:LYS:O	75:AT:101:MET:N	2.50	0.42
1:A:185:C:C4	1:A:186:G:N1	2.88	0.42
1:A:1752:G:C8	40:n:74:HIS:NE2	2.87	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
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
32:f:80:SER:HA	32:f:146:ILE:O	2.19	0.42
45:s:82:GLU:HA	45:s:264:LEU:CD1	2.50	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
52:2:21:U:O2'	52:2:22:A:O5'	2.38	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
52:2:450: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
52:2:933:G:C2	52:2:934:U:N3	2.88	0.42
52:2:1102:G:O2'	52:2:1103:G:H3'	2.19	0.42
52:2:1489:U:P	74:AS:119:ARG:HH22	2.43	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
53:3:36:GLU:HG2	53:3:52:ARG:CD	2.47	0.42
57:7:62:GLU:OE2	66:AK:108:LYS:NZ	2.52	0.42
57:7:94:LEU:HD23	57:7:94:LEU:HA	1.77	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
68:AM:37:VAL:O	68:AM:39:ILE:N	2.53	0.42
70:AO:69:GLU:C	70:AO:72:PRO:HD2	2.45	0.42
70:AO:87:ARG:CD	70:AO:92:ARG:HG2	2.48	0.42
1:A:18:A:N7	1:A:19:G:C6	2.88	0.42
1:A:58:A:N6	1:A:59:A:N1	2.68	0.42
1:A:177:A:C2	1:A:283:G:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:184:G:N7	1:A:271:A:N1	2.68	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
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
7:G:128:U:H5'	30:d:351:PRO:HG2	2.02	0.42
11:K:122:LYS:CE	68:AM:10:PHE:CD1	3.02	0.42
13:M:97:VAL:O	13:M:101:THR:HG23	2.20	0.42
13:M:208:MET:HG3	13:M:209:PRO:HD2	2.02	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
27:a:3:HIS:HB3	27:a:8:GLN:HE21	1.84	0.42
29:c:135:ILE:HD12	29:c:149:LYS:HE2	0.53	0.42
30:d:48:VAL:HG22	30:d:81:ALA:HB2	2.02	0.42
30:d:230:GLY:O	30:d:274:GLN:O	2.38	0.42
30:d:288:TYR:CE2	30:d:332:LYS:HB2	2.54	0.42
36:j:63:THR:C	36:j:115:GLY:H	2.27	0.42
46:t:25:GLU:HG2	46:t:58:PRO:O	2.19	0.42
51:1:179:ILE:HD12	51:1:225:ILE:CD1	2.50	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
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
52:2:2135:U:H2'	52:2:2136:A:C8	2.55	0.42
55:5:201:ILE:HG21	55:5:201:ILE:HD13	1.75	0.42
57:7:129:ASN:OD1	57:7:152:TRP:HA	2.20	0.42
57:7:278:LYS:HA	57:7:278:LYS:HD2	1.85	0.42
59:AC:69:ALA:O	59:AC:70:MET:HB2	2.20	0.42
59:AC:93:LYS:HA	59:AC:93:LYS:HD3	1.79	0.42
60:AD:55:ALA:HB1	78:AX:75:ARG:CZ	2.49	0.42
60:AD:94:LYS:HB3	60:AD:105:THR:OG1	2.20	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
68:AM:58:GLY:HA2	68:AM:62:ALA:CB	2.50	0.42
68:AM:151:ARG:HD2	68:AM:153:LYS:HB2	2.01	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
1:A:126:G:O5'	1:A:126:G:H8	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:1169:U:OP2	44:r:63:LYS:HE2	2.19	0.42
4:D:92:U:H5'	10:J:57:LEU:HD12	2.02	0.42
11:K:91:LEU:HG	11:K:96:PHE:HD1	1.84	0.42
11:K:108:SER:HB2	11:K:136:VAL:O	2.20	0.42
12:L:182:LYS:HG3	12:L:183:SER:N	2.34	0.42
16:P:85:ARG:HG3	16:P:86:LYS:N	2.35	0.42
16:P:116:HIS:ND1	16:P:116:HIS:O	2.53	0.42
21:U:110:GLU:HG2	21:U:130:LYS:HE3	2.02	0.42
27:a:4:SER:OG	42:p:285:THR:O	2.37	0.42
30:d:221:ASP:OD1	30:d:346:ARG:HG3	2.19	0.42
30:d:327:ASP:OD1	30:d:327:ASP:N	2.52	0.42
34:h:6:VAL:HG12	34:h:7:GLN:N	2.35	0.42
42:p:152:VAL:HA	42:p:250:TRP:O	2.20	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
52:2:371: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
52:2:880:U:O2'	52:2:881:U:OP1	2.36	0.42
52:2:960:C:C4	52:2:961:U:C4	3.08	0.42
52:2:1287:U:H2'	52:2:1288:G:C8	2.55	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
55:5:9:HIS:O	55:5:9:HIS:CD2	2.72	0.42
55:5:34:ALA:CB	55:5:56:ARG:HD3	2.49	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
58:8:22:CYS:C	58:8:42:GLN:HG3	2.45	0.42
58:8:23:VAL:N	58:8:42:GLN:HG3	2.35	0.42
58:8:25:CYS:N	58:8:42:GLN:HB3	2.35	0.42
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
72:AQ:17:VAL:HG13	72:AQ:113:ILE:O	2.19	0.42
78:AX:66:ARG:HH11	78:AX:66:ARG:HG3	1.84	0.42
78:AX:167:VAL:HG21	78:AX:186:LYS:NZ	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
2:B:1211:A:H5''	10:J:154:ARG:HH11	1.78	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
9:I:24:PRO:HD2	42:p:32:ARG:HH11	1.85	0.41
10:J:3:ARG:O	10:J:4:ARG:HB3	2.20	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:2:PRO:HB2	26:Z:5:PHE:HD2	1.85	0.41
26:Z:101:LEU:HD22	26:Z:106:TYR:HB2	2.02	0.41
27:a:73:LYS:N	27:a:74:PRO:HD3	2.35	0.41
30:d:219:ALA:HA	30:d:286:LYS:HA	2.02	0.41
36:j:42:TYR:CE2	36:j:51:LYS:HG3	2.55	0.41
36:j:61:VAL:HG22	46:t:191:HIS:CD2	2.54	0.41
41:o:11:LYS:HB2	41:o:11:LYS:HE3	1.74	0.41
44:r:28:TYR:CE1	44:r:30:ALA:HB3	2.55	0.41
46:t:80:ASP:OD1	46:t:83:TYR:HD2	2.02	0.41
48:v:169:ARG:HA	48:v:172:ARG:HB3	2.01	0.41
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
52:2:31: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
52:2:1553:G:O6	72:AQ:62:THR:HG22	2.20	0.41
52:2:1575:A:P	60:AD:90:ARG:HH22	2.42	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
54:4:35:LYS:HD3	54:4:84:GLU:OE1	2.20	0.41
54:4:195:GLN:C	54:4:196:GLN:HG3	2.45	0.41
56:6:52:ARG:HH11	56:6:52:ARG:HD2	1.72	0.41
57:7:219:LEU:HD23	57:7:219:LEU:HA	1.89	0.41
57:7:237:PRO:HD2	57:7:255:GLU:HG2	2.02	0.41
58:8:41:ARG:O	58:8:42:GLN:C	2.63	0.41
60:AD:127:ASN:CG	78:AX:63:ARG:HH12	2.27	0.41
66:AK:10:LYS:HB3	66:AK:29:LYS:HG3	2.01	0.41
67:AL:41:ALA:H	67:AL:47:LYS:HZ1	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:998:A:H5''	33:g:56:LYS:HB3	2.00	0.41
2:B:906:A:H5''	29:c:69:PHE:CE1	2.55	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:1436:C:O2'	30:d:138:ASN:HB3	2.20	0.41
2:B:1463:U:C4	2:B:1464:C:C4	3.08	0.41
8:H:105:C:H4'	30:d:322:GLY:HA2	2.01	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
27:a:125:ALA:HA	27:a:128:ARG:HG2	2.01	0.41
42:p:143:ILE:HD12	42:p:143:ILE:HG23	1.80	0.41
42:p:143:ILE:HD11	42:p:247:PHE:CG	2.55	0.41
45:s:80:ALA:HA	45:s:83:LEU:HD13	2.01	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
59:AC:75:TYR:CE2	67:AL:108:MET:HG2	2.55	0.41
63:AH:39:ASP:O	63:AH:40:MET:C	2.63	0.41
67:AL:20:TYR:OH	78:AX:208:THR:HA	2.19	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
1:A:112:U:C4	1:A:358:G:N1	2.88	0.41
1:A:248:A:P	42:p:221:ASN:HD21	2.43	0.41
1:A:317:U:O2	1:A:323:U:C2	2.73	0.41
2:B:124:C:H4'	8:H:87:A:O4'	2.19	0.41
2:B:709:A:N7	48:v:134:PHE:HZ	2.18	0.41
2:B:1424:G:OP1	14:N:165:GLN:NE2	2.53	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
9:I:86:ILE:HG23	9:I:106:ARG:O	2.20	0.41
27:a:128:ARG:HG3	27:a:129:LYS:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:b:35:GLY:N	28:b:36:SER:HB2	2.35	0.41
46:t:106:PHE:CE1	46:t:150:ARG:NH2	2.83	0.41
49:w:86:GLY:O	49:w:185:ASN:ND2	2.40	0.41
50:0:97:ARG:HB3	50:0:241:SER:HG	1.83	0.41
51:1:121:MET:HB3	51:1:138:THR:HB	2.02	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
52:2:1584:A:C8	52:2:1584:A:H3'	2.56	0.41
52:2:1881:G:N3	52:2:1881:G:H2'	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
54:4:196:GLN:CD	77:AW:13:VAL:HG22	2.45	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
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
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
1:A:408:G:C4	1:A:410:U:H5	2.38	0.41
1:A:587:G:H5'	42:p:343:MET:HE1	2.02	0.41
1:A:1219:G:H5'	33:g:55:ASN:HD22	1.86	0.41
3:C:157:G:H2'	3:C:158:U:H6	1.84	0.41
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
9:I:76:VAL:HG11	28:b:63:ILE:HG12	2.03	0.41
12:L:105:ARG:HG3	12:L:105:ARG:O	2.20	0.41
14:N:32:ASP:CG	14:N:33:ALA:H	2.25	0.41
15:O:91:GLY:HA3	44:r:50:TYR:OH	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
26:Z:7:LYS:HE3	26:Z:11:GLN:NE2	2.35	0.41
26:Z:72:THR:HA	26:Z:108:LYS:O	2.21	0.41
27:a:12:VAL:O	27:a:12:VAL:HG12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:72:ASN:CB	42:p:149:VAL:CG2	2.92	0.41
32:f:120:ASN:ND2	32:f:163:THR:OG1	2.52	0.41
34:h:61:ARG:CG	34:h:62:HIS:H	2.31	0.41
36:j:58:VAL:HG13	36:j:61:VAL:HB	2.03	0.41
41:o:16:LYS:HG3	41:o:49:LEU:HD21	2.01	0.41
42:p:143:ILE:O	42:p:143:ILE:HG22	2.20	0.41
52:2:229:A:O2'	52:2:230:G:C8	2.70	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:C6	52:2:750:U:C3'	3.04	0.41
52:2:1565:A:H1'	64:AI:106:GLY:O	2.21	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
52:2:1878:U:OP2	69:AN:155:MET:HB3	2.20	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:P	52:2:1943:A:O4'	2.79	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:HD12	56:6:59:LEU:HA	1.90	0.41
57:7:69:SER:N	57:7:84:SER:HA	2.36	0.41
59:AC:55:LEU:HD21	67:AL:109:LEU:HD21	2.01	0.41
62:AG:46:MET:HB3	62:AG:86:GLU:CD	2.46	0.41
64:AI:84:LYS:CG	64:AI:102:ALA:HB1	2.40	0.41
64:AI:130:TYR:OH	68:AM:121:HIS:ND1	2.44	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
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
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
1:A:305:A:C5	15:O:12:LYS:HE3	2.55	0.41
1:A:553:A:N3	1:A:553:A:H2'	2.34	0.41
1:A:1605:G:H5'	1:A:1755:U:O2'	2.21	0.41
2:B:43:C:P	18:R:60:ARG:HH22	2.41	0.41
2:B:56:G:OP1	18:R:21:ARG:HD3	2.21	0.41
8:H:13:A:OP1	30:d:231:THR:HG23	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:HE3	12:L:37:LYS:HB2	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
18:R:55:VAL:HG12	18:R:56:LYS:O	2.20	0.41
18:R:170:ARG:NH1	52:2:919:G:O3'	2.53	0.41
20:T:27:LYS:HD3	20:T:78:THR:HG22	2.03	0.41
30:d:217:SER:OG	30:d:359:GLU:O	2.34	0.41
30:d:282:GLN:NE2	30:d:336:SER:OG	2.48	0.41
36:j:62:ASN:O	36:j:114:ALA:HB1	2.19	0.41
38:l:4:GLY:O	38:l:8:MET:HB2	2.20	0.41
42:p:316:PRO:HB3	42:p:322:ASN:ND2	2.35	0.41
45:s:283:LEU:O	45:s:288:LYS:HE3	2.19	0.41
52:2:442:A:P	55:5:49:ARG:HH21	2.43	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
52:2:734: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
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
57:7:29:VAL:O	57:7:41:TRP:HD1	2.04	0.41
57:7:91:MET:HE1	57:7:122:ILE:HG13	2.02	0.41
64:AI:97:VAL:HB	64:AI:119:ILE:HD11	2.02	0.41
65:AJ:3:MET:HE3	65:AJ:3:MET:HB3	1.71	0.41
65:AJ:94:LEU:HD23	65:AJ:94:LEU:HA	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
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
1:A:1089:C:H5''	45:s:5:LYS:HG3	2.03	0.41
1:A:1121:G:C2	1:A:1123:G:C8	3.09	0.41
2:B:1066:A:OP2	45:s:23:ARG:NH2	2.52	0.41
2:B:1317:G:H8	2:B:1317:G:O5'	2.03	0.41
15:O:6:TYR:CE1	37:k:43:VAL:HG22	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:67:ARG:NH1	22:V:90:ASP:HA	2.35	0.41
22:V:102:ILE:HG21	22:V:110:ALA:HB2	2.01	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
27:a:16:SER:OG	27:a:18:PHE:N	2.48	0.41
27:a:30:ASP:HB3	27:a:33:ASN:ND2	2.19	0.41
40:n:34:PHE:O	40:n:44:THR:HA	2.20	0.41
42:p:147:PRO:HD2	42:p:151:LEU:HD13	2.02	0.41
45:s:99:TYR:HE2	45:s:253:HIS:CD2	2.38	0.41
48:v:167:LEU:HD13	48:v:263:ALA:HB1	2.01	0.41
51:1:45:ILE:CD1	51:1:67:VAL:HG21	2.50	0.41
51:1:51:TYR:CD1	75:AT:18:LYS:HE3	2.56	0.41
52:2:138:C:H2'	52:2:139:C:C6	2.56	0.41
52:2:402:A:O2'	52:2:403:G:OP1	2.32	0.41
52:2:904:G:O5'	52:2:904:G:H8	2.03	0.41
52:2:906:U:H6	52:2:906:U:O5'	2.03	0.41
52:2:1525:A:O4'	68:AM:144:GLY:HA3	2.21	0.41
52:2:1529:U:H6	52:2:1529:U:H2'	1.63	0.41
52:2:1536:U:HO2'	52:2:1537:A:P	2.43	0.41
52:2:1606:C:O2	52:2:1606:C:H2'	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
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
55:5:64:ASN:OD1	55:5:64:ASN:C	2.63	0.41
57:7:234:VAL:O	57:7:235:GLU:HG2	2.20	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
59:AC:144:PHE:O	59:AC:152:PHE:HE1	2.02	0.41
59:AC:147:GLN:NE2	71:AP:72:LYS:C	2.78	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
78:AX:34:SER:OG	78:AX:90:VAL:HG21	2.20	0.41
78:AX:169:SER:HB3	78:AX:186:LYS:HA	2.02	0.41
1:A:191:U:C5	1:A:260:C:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:575:A:C6	42:p:334:LYS:HD3	2.55	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
1:A:1038:U:H5''	47:u:135:ASN:HD22	1.85	0.41
3:C:114:G:H8	24:X:10:ARG:HH21	1.65	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
12:L:135:HIS:HB3	12:L:138:VAL:HG23	2.02	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
24:X:79:ILE:HG22	24:X:80:ASP:N	2.35	0.41
29:c:40:TYR:HD2	29:c:93:LYS:HB2	1.85	0.41
30:d:312:ILE:H	30:d:312:ILE:HG13	1.50	0.41
40:n:37:ARG:HA	40:n:37:ARG:HD2	1.72	0.41
42:p:93:ASN:HA	42:p:99:ARG:O	2.21	0.41
42:p:217:ARG:O	42:p:218:ALA:CB	2.69	0.41
45:s:110:LEU:HD23	45:s:110:LEU:HA	1.88	0.41
50:0:121:CYS:O	52:2:1178:C:O2'	2.38	0.41
52:2:148:G:N1	52:2:149:G:C6	2.89	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
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
52:2:1529: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
52:2:1917:U:HO2'	52:2:1918:C:P	2.39	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
57:7:47:ARG:C	57:7:49:SER:H	2.29	0.41
58:8:49:GLU:CG	58:8:50:HIS:N	2.83	0.41
59:AC:88:HIS:NE2	73:AR:86:LYS:HB3	2.35	0.41
59:AC:221:LEU:HB3	73:AR:50:ILE:HD11	2.01	0.41
60:AD:43:ASN:HA	60:AD:46:ARG:HB2	2.02	0.41
60:AD:126:PRO:HA	78:AX:66:ARG:NH1	2.35	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
72:AQ:39:ARG:HE	72:AQ:98:ILE:C	2.28	0.41
76:AV:34:LYS:NZ	76:AV:76:ARG:HH12	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:AW:11:PRO:HG3	77:AW:16:GLU:OE2	2.20	0.41
1:A:16:G:C2	1:A:17:C:C2	3.08	0.41
1:A:1133:A:HO2'	1:A:1134:C:P	2.42	0.41
2:B:1110:A:H5'	45:s:184:ASN:HB3	2.02	0.41
2:B:1290:U:H5	2:B:1309:C:HO2'	1.62	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
5:E:197:G:C5	39:m:51:ALA:HA	2.56	0.41
9:I:98:ARG:HD2	26:Z:76:ASN:ND2	2.36	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
30:d:59:ASP:OD1	30:d:59:ASP:N	2.51	0.41
31:e:18:LEU:HB3	31:e:100:SER:HB2	2.02	0.41
36:j:78:VAL:HG21	36:j:136:ARG:HD3	2.02	0.41
39:m:47:PHE:O	39:m:48:ARG:HD2	2.21	0.41
44:r:10:MET:HE2	44:r:23:PHE:CE2	2.56	0.41
46:t:175:ALA:O	46:t:179:ARG:HG3	2.20	0.41
51:1:6:LEU:HD23	51:1:25:ALA:HB3	2.02	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
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
52:2:1581:A:H2'	52:2:1581:A:N3	2.36	0.41
52:2:1836:G:C5	58:8:44:PHE:HE2	2.39	0.41
52:2:1875:A:P	52:2:1875:A:H8	2.41	0.41
52:2:1893:A:N6	52:2:1934:C:OP2	2.51	0.41
53:3:80:ARG:NH2	53:3:92:GLN:C	2.78	0.41
53:3:80:ARG:NH2	53:3:93:GLY:N	2.69	0.41
53:3:80:ARG:HH22	53:3:93:GLY:N	2.19	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
54:4:102:ILE:HG12	54:4:124:VAL:HG21	2.02	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
67:AL:20:TYR:OH	78:AX:207:ILE:O	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:AL:32:LYS:HZ2	67:AL:33:ARG:HE	1.68	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
1:A:31:G:H1'	1:A:50:A:N6	2.36	0.41
1:A:455:G:H2'	1:A:456:A:O4'	2.21	0.41
1:A:521:G:H2'	1:A:522:G:O4'	2.20	0.41
1:A:546:G:N2	1:A:1392:G:OP2	2.52	0.41
1:A:677:A:N3	1:A:679:A:C8	2.89	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
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
2:B:327:A:H1'	2:B:464:A:N6	2.34	0.41
2:B:402:A:OP2	37:k:71:ARG:HD3	2.21	0.41
2:B:1084:G:C5	2:B:1101:G:C2	3.08	0.41
5:E:5:G:N7	25:Y:17:ARG:NE	2.69	0.41
6:F:33:G:O2'	6:F:34:C:OP2	2.31	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:19:PRO:HB3	12:L:24:LYS:O	2.21	0.41
12:L:183:SER:HB2	26:Z:135:ARG:HH21	1.86	0.41
12:L:191:LYS:O	12:L:195:SER:N	2.43	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
17:Q:139:LEU:HA	17:Q:142:ALA:HB3	2.03	0.41
21:U:110:GLU:HA	21:U:130:LYS:HG3	2.03	0.41
23:W:11:PHE:HB3	30:d:376:ARG:HD2	2.02	0.41
29:c:150:LEU:HD12	29:c:154:GLN:O	2.21	0.41
30:d:54:THR:O	30:d:76:VAL:N	2.47	0.41
33:g:77:ILE:HG23	33:g:82:ASP:HB2	2.02	0.41
36:j:53:THR:HG22	36:j:120:LYS:HD3	2.02	0.41
36:j:98:SER:OG	36:j:100:THR:HG22	2.21	0.41
37:k:12:ALA:HA	37:k:13:GLY:HA2	1.85	0.41
38:l:41:ARG:NH1	38:l:43:SER:O	2.53	0.41
42:p:294:GLU:OE2	42:p:297:ARG:NH1	2.53	0.41
43:q:96:CYS:SG	43:q:99:CYS:N	2.88	0.41
45:s:39:GLN:HE21	45:s:43:LYS:HD3	1.85	0.41
45:s:41:LYS:HA	45:s:41:LYS:HD3	1.81	0.41
46:t:57:LEU:HB3	46:t:58:PRO:HD2	2.02	0.41
49:w:169:LYS:HD2	49:w:174:PHE:CE2	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:111:ASP:OD2	76:AV:69:PRO:HB2	2.21	0.41
52:2:191:G:H2'	52:2:192:U:O4'	2.20	0.41
52:2:260:A:N6	52:2:948:G:O6	2.54	0.41
52:2:290:U:H5	53:3:220:ARG:NH1	2.19	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
52:2:659:G:H2'	52:2:663:C:C5	2.55	0.41
52:2:711:G:H1'	52:2:715:G:C8	2.36	0.41
52:2:718:C:N4	52:2:736:G:H22	2.06	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
52:2:1556:A:O2'	52:2:1557:A:P	2.79	0.41
52:2:1556:A:H1'	52:2:1557:A:OP1	2.21	0.41
52:2:1575:A:C4	52:2:1576:G:N7	2.89	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
52:2:1640: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
52:2:1864:C:C2	64:AI:135:HIS:C	2.99	0.41
52:2:1885:G:O2'	70:AO:29:ALA:O	2.38	0.41
52:2:1889:A:N1	52:2:1938:G:C2	2.89	0.41
52:2:1964:G:O5'	52:2:1964:G:C8	2.72	0.41
55:5:204:GLU:CG	61:AE:32:ASN:HB3	2.40	0.41
56:6:132:HIS:CE1	56:6:162:PRO:HD2	2.56	0.41
57:7:6:HIS:HD2	57:7:304:ARG:HG2	1.84	0.41
57:7:93:ASP:CG	57:7:94:LEU:N	2.79	0.41
57:7:93:ASP:OD1	57:7:94:LEU:N	2.45	0.41
57:7:117:PRO:HG3	57:7:160:PRO:HA	2.03	0.41
57:7:222:ASP:HB3	57:7:227:GLU:N	2.36	0.41
57:7:266:LYS:HB3	57:7:266:LYS:HE2	1.80	0.41
57:7:268:VAL:HG12	57:7:269:ILE:O	2.21	0.41
59:AC:95:ILE:HD12	59:AC:95:ILE:H	1.86	0.41
59:AC:234:LYS:HA	59:AC:234:LYS:HD3	1.87	0.41
61:AE:112:TYR:O	61:AE:114:ARG:HG3	2.21	0.41
64:AI:32:LEU:HB3	64:AI:94:PRO:CB	2.50	0.41
65:AJ:86:TYR:CE1	65:AJ:104:LEU:HD11	2.45	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
69:AN:7:LYS:HB3	69:AN:33:ALA:O	2.20	0.41
69:AN:43:GLN:O	69:AN:45:ARG:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AO:61:ILE:CD1	70:AO:102:LYS:HG3	2.51	0.41
70:AO:67:GLY:O	70:AO:68:ARG:HB2	2.20	0.41
70:AO:85:VAL:HG13	70:AO:86:LEU:N	2.35	0.41
72:AQ:40:ALA:HB1	72:AQ:47:ILE:HD11	2.03	0.41
73:AR:53:THR:O	73:AR:53:THR:OG1	2.36	0.41
74:AS:51:VAL:HG13	74:AS:70:VAL:CG1	2.51	0.41
78:AX:143:GLY:O	78:AX:144:GLN:HB2	2.20	0.41
78:AX:189:LEU:O	78:AX:191:SER:N	2.52	0.41
80:AZ:82:GLU:H	80:AZ:82:GLU:HG2	1.72	0.41
1:A:217:A:C8	33:g:127:LEU:HD21	2.56	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
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
2:B:1412:C:H2'	2:B:1413:C:C6	2.56	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
27:a:68:GLY:O	27:a:71:ASN:HB2	2.21	0.41
29:c:14:SER:OG	29:c:15:VAL:N	2.54	0.41
29:c:193:ARG:HB2	29:c:195:CYS:SG	2.61	0.41
30:d:133:GLN:O	30:d:136:PHE:N	2.54	0.41
35:i:18:LEU:O	35:i:22:LEU:N	2.48	0.41
37:k:46:ILE:O	37:k:50:LEU:N	2.46	0.41
45:s:86:PHE:HE1	45:s:262:LYS:HB3	1.86	0.41
45:s:182:ARG:C	45:s:184:ASN:H	2.26	0.41
46:t:82:ARG:HD3	46:t:82:ARG:HA	1.82	0.41
47:u:244:ILE:O	47:u:248:LEU:N	2.50	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
52:2:918:A:H61	52:2:1101:A:N6	2.19	0.41
52:2:1204:A:N6	52:2:1205:C:N4	2.69	0.41
52:2:1875:A:OP2	52:2:1875:A:H8	2.03	0.41
52:2:1981:G:O2'	52:2:1982:C:OP1	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:3:76:LEU:O	53:3:97:ARG:HD3	2.21	0.41
53:3:150:LEU:CD1	53:3:150:LEU:N	2.83	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
60:AD:40:SER:O	60:AD:41:ARG:CB	2.68	0.41
60:AD:64:TRP:HB3	60:AD:75:VAL:H	1.86	0.41
62:AG:4:MET:HE1	62:AG:124:ARG:NH1	2.35	0.41
62:AG:100:LYS:HE3	62:AG:100:LYS:HB3	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:13:ASP:HA	78:AX:16:PHE:HB3	2.02	0.41
78:AX:100:GLN:HE22	78:AX:125:VAL:HG22	1.85	0.41
1:A:71:C:C5	12:L:71:ASN:HB3	2.57	0.40
1:A:223:A:N7	7:G:10:U:H5	2.18	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:506:G:OP1	42:p:349:ARG:NE	2.54	0.40
1:A:517:U:H2'	1:A:518:C:C6	2.56	0.40
1:A:611:C:O2'	47:u:74:THR:HG22	2.21	0.40
1:A:1009:C:H5'	2:B:1173:A:O2'	2.21	0.40
1:A:1156:A:H2	47:u:136:MET:HE1	1.87	0.40
1:A:1622:A:OP1	41:o:44:TRP:HH2	2.04	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
5:E:144:A:H4'	40:n:4:GLU:OE1	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:153:TYR:O	19:S:156:MET:HG2	2.20	0.40
21:U:56:LEU:HD23	21:U:56:LEU:HA	1.89	0.40
22:V:34:GLN:O	48:v:135:MET:HE3	2.21	0.40
25:Y:117:GLN:NE2	25:Y:121:ASN:OD1	2.54	0.40
30:d:41:PRO:HA	30:d:189:ASN:O	2.21	0.40
30:d:105:VAL:HG13	30:d:146:GLU:OE1	2.21	0.40
33:g:14:ARG:HD3	33:g:18:PHE:HE1	1.86	0.40
44:r:7:LYS:HG3	44:r:23:PHE:O	2.21	0.40
45:s:187:PRO:HG3	45:s:204:ARG:HG2	2.03	0.40
47:u:29:LYS:O	47:u:33:THR:N	2.33	0.40
47:u:163:TYR:CZ	47:u:172:LYS:HD3	2.56	0.40
50:0:66:VAL:HG21	52:2:1167:A:H4'	2.03	0.40
51:1:172:ASN:HA	51:1:176:LYS:HD3	2.01	0.40
52:2:131:G:C6	52:2:132:C:N4	2.89	0.40
52:2:659:G:H21	74:AS:17:ARG:NH1	2.19	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
52:2:1861: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
52:2:1972:U:OP2	64:AI:47:ARG:NE	2.53	0.40
53:3:160:VAL:CG2	53:3:179:ILE:HD11	2.47	0.40
54:4:95:MET:HE2	54:4:132:MET:HE3	2.03	0.40
56:6:136:ALA:C	56:6:138:GLN:N	2.79	0.40
56:6:162:PRO:HB2	56:6:163:PHE:CD1	2.56	0.40
60:AD:103:TYR:CD1	78:AX:71:CYS:SG	3.09	0.40
61:AE:98:THR:C	61:AE:99:ILE:HD12	2.46	0.40
62:AG:71:ILE:HD13	62:AG:71:ILE:HG21	1.86	0.40
64:AI:76:VAL:HG11	64:AI:79:LYS:O	2.21	0.40
64:AI:105:ASN:O	64:AI:106:GLY:C	2.63	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
1:A:9:G:C2	3:C:252:A:C2	3.10	0.40
1:A:18:A:C2	3:C:242:G:C2	3.10	0.40
1:A:68:A:H8	1:A:68:A:OP2	2.04	0.40
1:A:170:U:H4'	1:A:171:U:H5''	2.03	0.40
1:A:574:G:H2'	1:A:577:C:C4	2.57	0.40
1:A:768:C:C4	26:Z:114:HIS:ND1	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:847:U:H1'	12:L:6:ASN:HD22	1.86	0.40
1:A:1054:A:N1	1:A:1100:C:O2'	2.53	0.40
1:A:1409:U:H5'	33:g:61:ASP:HA	2.04	0.40
9:I:7:GLY:HA2	9:I:8:ILE:HB	0.50	0.40
15:O:6:TYR:CZ	37:k:43:VAL:HG22	2.56	0.40
15:O:65:ARG:HG2	15:O:129:TRP:NE1	2.37	0.40
18:R:185:ARG:HA	18:R:185:ARG:HD3	1.79	0.40
22:V:99:LYS:O	22:V:102:ILE:HG22	2.21	0.40
23:W:17:HIS:HE1	30:d:367:ASP:OD1	2.05	0.40
42:p:59:MET:O	42:p:60:ASN:C	2.64	0.40
42:p:320:ILE:HG12	47:u:160:LYS:CB	2.27	0.40
47:u:247:PHE:HA	47:u:250:ARG:NH2	2.36	0.40
48:v:162:GLN:HG2	48:v:314:ILE:HG23	2.03	0.40
51:1:150:HIS:O	51:1:171:LYS:HE2	2.21	0.40
52:2:75:U:H2'	52:2:76:U:C6	2.51	0.40
52:2:183:C:O2'	52:2:184:C:O4'	2.38	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
52:2:1544: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
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
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:96:THR:O	68:AM:98:HIS:N	2.54	0.40
68:AM:105:ASP:HA	68:AM:108:LEU:HB2	2.02	0.40
78:AX:75:ARG:HG3	78:AX:76:PHE:CE1	2.56	0.40
1:A:346:U:H5''	37:k:83:PHE:HD2	1.87	0.40
1:A:453:G:H1'	16:P:120:ASP:OD1	2.21	0.40
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
1:A:564:U:OP2	36:j:120:LYS:HE2	2.21	0.40
1:A:1512:C:H3'	42:p:190:ALA:HB1	2.01	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1620:G:O2'	1:A:1621:U:H5'	2.21	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
5:E:107:U:O2'	5:E:125:G:O6	2.32	0.40
6:F:68:A:O2'	6:F:69:A:H5''	2.21	0.40
7:G:167:C:OP2	30:d:30:ARG:NH1	2.35	0.40
14:N:141:LYS:O	14:N:144:LEU:HB3	2.21	0.40
15:O:10:LEU:HD11	48:v:249:LEU:HD22	2.03	0.40
16:P:64:ASN:O	16:P:65:GLY:C	2.64	0.40
27:a:32:PHE:HB2	27:a:44:GLY:HA3	2.02	0.40
31:e:77:LEU:HA	31:e:88:ARG:HG2	2.04	0.40
34:h:119:LYS:HG2	34:h:123:ASN:HD21	1.86	0.40
36:j:55:LEU:HD21	36:j:111:HIS:ND1	2.36	0.40
36:j:55:LEU:HD22	36:j:111:HIS:CG	2.56	0.40
42:p:213:ASN:OD1	42:p:213:ASN:N	2.54	0.40
44:r:58:PHE:CZ	44:r:60:LYS:O	2.75	0.40
46:t:55:LYS:HB3	46:t:98:THR:CG2	2.52	0.40
49:w:170:ASP:OD1	49:w:172:ARG:HG2	2.22	0.40
51:1:39:LEU:HD22	51:1:44:ILE:CG1	2.51	0.40
52:2:2:A:O2'	71:AP:208:THR:O	2.38	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
52:2:1529:U:P	68:AM:136:HIS:HD2	2.44	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
53:3:230:LYS:HB2	53:3:230:LYS:HE2	1.82	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
57:7:46:ASP:CG	57:7:48:HIS:H	2.30	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
66:AK:61:VAL:O	69:AN:4:LYS:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AN:152:LEU:HB3	69:AN:154:SER:H	1.85	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
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:693:G:N2	26:Z:17:CYS:HG	2.20	0.40
1:A:753:A:OP2	26:Z:110:LEU:HB3	2.20	0.40
1:A:1669:G:C6	48:v:136:ARG:NH1	2.90	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:HA	19:S:31:LEU:HD23	1.81	0.40
29:c:40:TYR:HA	29:c:91:GLY:HA3	2.03	0.40
29:c:80:GLU:OE2	39:m:73:THR:HG22	2.21	0.40
30:d:55:HIS:HA	30:d:75:PRO:HA	2.04	0.40
30:d:119:TYR:HD2	30:d:122:TRP:HD1	1.68	0.40
42:p:261:ILE:HA	42:p:271:VAL:HG22	2.03	0.40
43:q:108:THR:O	43:q:108:THR:HG22	2.22	0.40
43:q:120:ASN:C	43:q:121:LEU:HD12	2.46	0.40
45:s:231:GLN:HG3	45:s:232:PHE:CD2	2.57	0.40
46:t:54:LEU:CD1	46:t:66:SER:HB3	2.52	0.40
48:v:240:ASN:HB2	48:v:265:VAL:O	2.22	0.40
50:0:123:THR:HG22	50:0:145:PHE:CD1	2.57	0.40
52:2:56:U:O4'	52:2:56:U:OP2	2.39	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
52:2:520:G:N3	52:2:870:A:H2	2.18	0.40
52:2:718:C:H42	52:2:736:G:N2	2.06	0.40
52:2:962:A:C6	52:2:963:U:O4	2.74	0.40
52:2:1865:G:C4	68:AM:146:THR:HB	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
63:AH:121:ARG:CA	76:AV:62:TYR:CZ	3.04	0.40
67:AL:46:LEU:HA	67:AL:46:LEU:HD23	1.90	0.40
68:AM:34:VAL:C	68:AM:35:LYS:HG2	2.47	0.40
72:AQ:52:ARG:NH2	72:AQ:84:ARG:HH12	2.17	0.40
77:AW:62:LYS:O	77:AW:62:LYS:HG2	2.20	0.40
78:AX:142:LYS:HB2	78:AX:147:LYS:HE2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AZ:64:VAL:HG21	80:AZ:68:CYS:SG	2.62	0.40
1:A:207:C:HO2'	42:p:145:ASN:HD21	1.55	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
1:A:563:C:N3	36:j:122:ASN:HB2	2.37	0.40
1:A:1444:G:H2'	1:A:1466:G:O2'	2.22	0.40
2:B:1025:A:H2'	2:B:1026:G:C8	2.56	0.40
3:C:174:A:C2	24:X:111:HIS:CD2	3.10	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
13:M:94:PRO:HD3	13:M:166:TRP:CD2	2.57	0.40
14:N:44:ALA:O	14:N:45:LYS:CB	2.70	0.40
14:N:108:PHE:O	14:N:111:TYR:HB3	2.21	0.40
15:O:16:SER:HB2	37:k:51:VAL:HB	2.04	0.40
15:O:72:LYS:HE3	15:O:90:LEU:HD23	2.04	0.40
17:Q:37:VAL:HG21	47:u:231:PHE:CD2	2.57	0.40
18:R:65:LYS:HB3	18:R:65:LYS:HE3	1.91	0.40
18:R:174:ARG:HH11	52:2:1101:A:H5'	1.19	0.40
19:S:40:VAL:HG23	19:S:96:VAL:HG13	2.02	0.40
24:X:57:ARG:CG	24:X:100:ASN:C	2.83	0.40
25:Y:23:ALA:HA	25:Y:45:GLY:HA2	2.04	0.40
25:Y:82:PRO:HD2	31:e:61:TYR:HE1	1.87	0.40
34:h:6:VAL:HG12	34:h:7:GLN:H	1.87	0.40
35:i:105:ASN:O	35:i:107:LYS:HG3	2.21	0.40
42:p:53:VAL:HG23	42:p:104:THR:OG1	2.22	0.40
42:p:127:LEU:HD23	42:p:127:LEU:HA	1.80	0.40
45:s:190:ASN:C	45:s:192:GLU:H	2.29	0.40
47:u:80:ALA:O	47:u:81:SER:OG	2.32	0.40
48:v:162:GLN:HG2	48:v:314:ILE:CG2	2.52	0.40
49:w:169:LYS:HE2	49:w:169:LYS:HB2	1.93	0.40
50:0:102:GLN:HG3	50:0:103:PHE:N	2.36	0.40
51:1:62:LEU:HA	51:1:62:LEU:HD23	1.86	0.40
51:1:96:PHE:HA	51:1:109:VAL:O	2.22	0.40
51:1:121:MET:SD	51:1:142:HIS:CD2	3.06	0.40
52:2:111:U:H5'	61:AE:82:ARG:HD2	2.03	0.40
52:2:193:G:C8	52:2:233:G:C2	3.10	0.40
52:2:287:C:H4'	52:2:288:A:H5''	2.02	0.40
52:2:305:U:H1'	55:5:73:ALA:HB3	2.03	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
52:2:1178:C:P	76:AV:74:LYS:HD2	2.62	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
52:2:1961:G:N1	52:2:1981:G:C2	2.89	0.40
52:2:2163:G:HO2'	52:2:2184:A:H2	1.64	0.40
54:4:30:LEU:HD21	54:4:88:ARG:HH21	1.86	0.40
57:7:57:PRO:HB2	66:AK:105:GLU:OE1	2.21	0.40
57:7:149:HIS:HD2	57:7:153:VAL:HG21	1.76	0.40
59:AC:54:LEU:O	59:AC:58:ARG:N	2.51	0.40
64:AI:122:TYR:HD2	64:AI:124:GLY:N	2.19	0.40
66:AK:31:ALA:O	66:AK:68:ARG:HB2	2.22	0.40
66:AK:33:CYS:O	66:AK:68:ARG:O	2.40	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
70:AO:91:LEU:C	70:AO:93:PRO:HD2	2.46	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
78:AX:153:ASP:O	78:AX:154:GLY:C	2.65	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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%)	8	28
10	J	209/213 (98%)	193 (92%)	13 (6%)	3 (1%)	9	30
11	K	165/188 (88%)	152 (92%)	12 (7%)	1 (1%)	21	51
12	L	175/220 (80%)	159 (91%)	14 (8%)	2 (1%)	11	36
13	M	219/222 (99%)	212 (97%)	6 (3%)	1 (0%)	24	54
14	N	166/175 (95%)	153 (92%)	12 (7%)	1 (1%)	21	51
15	O	201/204 (98%)	192 (96%)	9 (4%)	0	100	100
16	P	153/166 (92%)	145 (95%)	7 (5%)	1 (1%)	18	48
17	Q	176/179 (98%)	163 (93%)	11 (6%)	2 (1%)	11	36
18	R	194/245 (79%)	193 (100%)	1 (0%)	0	100	100
19	S	156/159 (98%)	144 (92%)	11 (7%)	1 (1%)	21	51
20	T	121/129 (94%)	116 (96%)	5 (4%)	0	100	100
21	U	135/139 (97%)	126 (93%)	9 (7%)	0	100	100
22	V	118/145 (81%)	106 (90%)	11 (9%)	1 (1%)	16	44
23	W	63/124 (51%)	61 (97%)	2 (3%)	0	100	100
24	X	118/143 (82%)	111 (94%)	5 (4%)	2 (2%)	7	26
25	Y	131/134 (98%)	124 (95%)	6 (5%)	1 (1%)	16	44
26	Z	142/145 (98%)	125 (88%)	14 (10%)	3 (2%)	5	21
27	a	144/147 (98%)	134 (93%)	9 (6%)	1 (1%)	18	48
28	b	67/70 (96%)	64 (96%)	3 (4%)	0	100	100
29	c	251/260 (96%)	229 (91%)	20 (8%)	2 (1%)	16	44
30	d	397/419 (95%)	376 (95%)	20 (5%)	1 (0%)	36	65
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%)	16	44
35	i	124/127 (98%)	117 (94%)	6 (5%)	1 (1%)	16	44
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	o	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
42	p	362/373 (97%)	340 (94%)	20 (6%)	2 (1%)	21	51
43	q	50/128 (39%)	47 (94%)	3 (6%)	0	100	100
44	r	94/106 (89%)	85 (90%)	8 (8%)	1 (1%)	11	36
45	s	258/305 (85%)	246 (95%)	12 (5%)	0	100	100
46	t	133/195 (68%)	123 (92%)	8 (6%)	2 (2%)	8	28
47	u	226/252 (90%)	209 (92%)	16 (7%)	1 (0%)	30	59
48	v	228/348 (66%)	218 (96%)	10 (4%)	0	100	100
49	w	185/190 (97%)	173 (94%)	11 (6%)	1 (0%)	24	54
50	0	219/264 (83%)	208 (95%)	10 (5%)	1 (0%)	24	54
51	1	256/273 (94%)	231 (90%)	22 (9%)	3 (1%)	10	34
53	3	247/249 (99%)	236 (96%)	10 (4%)	1 (0%)	30	59
54	4	198/200 (99%)	183 (92%)	11 (6%)	4 (2%)	6	22
55	5	178/220 (81%)	160 (90%)	16 (9%)	2 (1%)	11	36
56	6	162/190 (85%)	151 (93%)	9 (6%)	2 (1%)	10	34
57	7	306/312 (98%)	275 (90%)	28 (9%)	3 (1%)	12	39
58	8	36/57 (63%)	30 (83%)	5 (14%)	1 (3%)	4	15
59	AC	201/246 (82%)	193 (96%)	8 (4%)	0	100	100
60	AD	91/153 (60%)	78 (86%)	11 (12%)	2 (2%)	5	20
61	AE	136/173 (79%)	131 (96%)	4 (3%)	1 (1%)	18	48
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%)	16	44
66	AK	138/149 (93%)	118 (86%)	16 (12%)	4 (3%)	3	15
67	AL	119/143 (83%)	108 (91%)	8 (7%)	3 (2%)	4	17
68	AM	146/153 (95%)	125 (86%)	21 (14%)	0	100	100
69	AN	188/190 (99%)	165 (88%)	21 (11%)	2 (1%)	11	36
70	AO	143/179 (80%)	114 (80%)	25 (18%)	4 (3%)	4	15
71	AP	222/265 (84%)	216 (97%)	6 (3%)	0	100	100
72	AQ	100/116 (86%)	86 (86%)	13 (13%)	1 (1%)	12	39

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
73	AR	81/164 (49%)	78 (96%)	3 (4%)	0	100	100
74	AS	140/143 (98%)	132 (94%)	5 (4%)	3 (2%)	5	21
75	AT	124/137 (90%)	117 (94%)	6 (5%)	1 (1%)	16	44
76	AV	102/112 (91%)	90 (88%)	8 (8%)	4 (4%)	2	10
77	AW	80/86 (93%)	76 (95%)	4 (5%)	0	100	100
78	AX	201/219 (92%)	179 (89%)	17 (8%)	5 (2%)	4	17
79	AY	54/66 (82%)	48 (89%)	6 (11%)	0	100	100
80	AZ	66/87 (76%)	60 (91%)	4 (6%)	2 (3%)	3	14
All	All	10774/12317 (88%)	9993 (93%)	696 (6%)	85 (1%)	18	44

All (85) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	J	142	GLU
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	163/164 (99%)	157 (96%)	6 (4%)	30	64
10	J	178/179 (99%)	175 (98%)	3 (2%)	53	82
11	K	145/163 (89%)	144 (99%)	1 (1%)	76	92
12	L	152/182 (84%)	151 (99%)	1 (1%)	76	92
13	M	188/189 (100%)	187 (100%)	1 (0%)	81	93
14	N	139/144 (96%)	137 (99%)	2 (1%)	59	85
15	O	179/180 (99%)	177 (99%)	2 (1%)	65	88
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%)	165 (98%)	3 (2%)	51	80
19	S	132/133 (99%)	130 (98%)	2 (2%)	57	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	T	107/114 (94%)	106 (99%)	1 (1%)	70	90
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%)	53	82
24	X	103/121 (85%)	101 (98%)	2 (2%)	50	79
25	Y	114/115 (99%)	112 (98%)	2 (2%)	51	80
26	Z	114/115 (99%)	113 (99%)	1 (1%)	70	90
27	a	118/119 (99%)	116 (98%)	2 (2%)	53	82
28	b	57/58 (98%)	57 (100%)	0	100	100
29	c	198/204 (97%)	193 (98%)	5 (2%)	42	74
30	d	337/351 (96%)	335 (99%)	2 (1%)	78	93
31	e	82/90 (91%)	77 (94%)	5 (6%)	17	46
32	f	97/156 (62%)	95 (98%)	2 (2%)	47	77
33	g	113/117 (97%)	111 (98%)	2 (2%)	51	80
34	h	107/145 (74%)	107 (100%)	0	100	100
35	i	116/117 (99%)	116 (100%)	0	100	100
36	j	109/121 (90%)	107 (98%)	2 (2%)	51	80
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%)	294 (100%)	1 (0%)	86	96
43	q	46/113 (41%)	46 (100%)	0	100	100
44	r	83/92 (90%)	81 (98%)	2 (2%)	43	75
45	s	209/242 (86%)	208 (100%)	1 (0%)	81	93
46	t	111/152 (73%)	109 (98%)	2 (2%)	51	80
47	u	190/209 (91%)	185 (97%)	5 (3%)	40	73
48	v	196/292 (67%)	196 (100%)	0	100	100
49	w	169/172 (98%)	168 (99%)	1 (1%)	78	93
50	0	194/222 (87%)	189 (97%)	5 (3%)	40	73

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
51	1	215/225 (96%)	212 (99%)	3 (1%)	59	85
53	3	208/208 (100%)	205 (99%)	3 (1%)	59	85
54	4	186/186 (100%)	185 (100%)	1 (0%)	81	93
55	5	149/176 (85%)	145 (97%)	4 (3%)	39	73
56	6	147/164 (90%)	143 (97%)	4 (3%)	39	73
57	7	263/266 (99%)	259 (98%)	4 (2%)	57	84
58	8	35/49 (71%)	34 (97%)	1 (3%)	37	71
59	AC	177/202 (88%)	177 (100%)	0	100	100
60	AD	82/129 (64%)	80 (98%)	2 (2%)	43	75
61	AE	124/150 (83%)	121 (98%)	3 (2%)	43	75
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%)	50	79
65	AJ	110/111 (99%)	103 (94%)	7 (6%)	16	44
66	AK	113/120 (94%)	107 (95%)	6 (5%)	20	52
67	AL	107/123 (87%)	105 (98%)	2 (2%)	50	79
68	AM	125/130 (96%)	121 (97%)	4 (3%)	34	68
69	AN	159/159 (100%)	157 (99%)	2 (1%)	61	86
70	AO	118/147 (80%)	116 (98%)	2 (2%)	53	82
71	AP	184/209 (88%)	183 (100%)	1 (0%)	81	93
72	AQ	94/104 (90%)	93 (99%)	1 (1%)	65	88
73	AR	68/119 (57%)	66 (97%)	2 (3%)	37	71
74	AS	115/116 (99%)	111 (96%)	4 (4%)	32	66
75	AT	111/120 (92%)	111 (100%)	0	100	100
76	AV	87/93 (94%)	86 (99%)	1 (1%)	65	88
77	AW	72/75 (96%)	72 (100%)	0	100	100
78	AX	171/185 (92%)	167 (98%)	4 (2%)	44	76
79	AY	49/54 (91%)	49 (100%)	0	100	100
80	AZ	57/74 (77%)	54 (95%)	3 (5%)	20	52
All	All	9268/10330 (90%)	9137 (99%)	131 (1%)	57	85

All (131) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	I	5	LEU
9	I	9	SER
9	I	19	THR
9	I	20	TYR
9	I	188	ARG
9	I	189	SER
10	J	142	GLU
10	J	203	LYS
10	J	206	ILE
11	K	122	LYS
12	L	180	GLU
13	M	167	LYS
14	N	46	MET
14	N	137	VAL
15	O	90	LEU
15	O	198	ILE
18	R	19	ARG
18	R	62	ARG
18	R	185	ARG
19	S	9	SER
19	S	96	VAL
20	T	68	VAL
23	W	62	ILE
24	X	57	ARG
24	X	101	VAL
25	Y	58	SER
25	Y	60	GLN
26	Z	96	LEU
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
30	d	312	ILE
31	e	24	LYS
31	e	79	LEU
31	e	83	CYS
31	e	100	SER
31	e	101	ASP
32	f	122	ILE

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Mol	Chain	Res	Type
32	f	168	VAL
33	g	67	ILE
33	g	130	LEU
36	j	14	LEU
36	j	126	VAL
42	p	320	ILE
44	r	95	ASP
44	r	96	LYS
45	s	126	ASP
46	t	79	ILE
46	t	107	GLN
47	u	25	ARG
47	u	102	ILE
47	u	224	MET
47	u	225	ARG
47	u	233	GLU
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	41	ILE
53	3	44	SER
53	3	150	LEU
54	4	190	TRP
55	5	31	ARG
55	5	49	ARG
55	5	163	ILE
55	5	188	ILE
56	6	18	PHE
56	6	120	SER
56	6	133	ILE
56	6	142	ILE
57	7	25	SER
57	7	27	ILE
57	7	149	HIS
57	7	272	LEU
58	8	28	GLN

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Mol	Chain	Res	Type
60	AD	41	ARG
60	AD	68	LEU
61	AE	65	ASN
61	AE	99	ILE
61	AE	101	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	93	ILE
65	AJ	110	ILE
65	AJ	130	TYR
66	AK	36	LYS
66	AK	37	VAL
66	AK	45	ILE
66	AK	46	LEU
66	AK	119	ASP
66	AK	122	LEU
67	AL	69	ILE
67	AL	116	VAL
68	AM	44	LEU
68	AM	59	THR
68	AM	60	LEU
68	AM	65	LEU
69	AN	63	MET
69	AN	88	LEU
70	AO	61	ILE
70	AO	157	ASP
71	AP	175	VAL
72	AQ	71	THR
73	AR	29	ILE
73	AR	50	ILE
74	AS	28	LYS
74	AS	36	LYS
74	AS	37	LYS
74	AS	81	ILE
76	AV	83	ILE
78	AX	189	LEU
78	AX	194	THR
78	AX	196	ARG

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Mol	Chain	Res	Type
78	AX	201	GLU
80	AZ	48	MET
80	AZ	84	ARG
80	AZ	87	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (174) such sidechains are listed below:

Mol	Chain	Res	Type
9	I	45	ASN
10	J	100	ASN
11	K	157	HIS
12	L	6	ASN
12	L	93	GLN
12	L	117	ASN
12	L	134	ASN
13	M	129	ASN
14	N	5	HIS
14	N	49	HIS
14	N	51	GLN
15	O	95	ASN
15	O	171	HIS
15	O	196	ASN
16	P	3	HIS
17	Q	35	ASN
17	Q	57	HIS
17	Q	110	HIS
17	Q	121	HIS
17	Q	145	HIS
17	Q	155	GLN
18	R	75	HIS
18	R	76	ASN
18	R	137	ASN
18	R	169	ASN
19	S	22	HIS
20	T	18	GLN
20	T	52	GLN
20	T	75	ASN
21	U	26	ASN
22	V	133	HIS
24	X	111	HIS
25	Y	21	HIS
25	Y	77	HIS

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Mol	Chain	Res	Type
25	Y	117	GLN
26	Z	11	GLN
26	Z	60	HIS
26	Z	76	ASN
26	Z	114	HIS
26	Z	116	GLN
27	a	33	ASN
27	a	42	HIS
27	a	47	ASN
28	b	9	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
31	e	30	GLN
32	f	120	ASN
33	g	28	GLN
33	g	50	GLN
34	h	7	GLN
34	h	13	HIS
34	h	123	ASN
36	j	27	ASN
37	k	26	GLN
37	k	30	ASN
37	k	39	HIS
37	k	61	GLN
38	l	77	HIS
39	m	33	GLN
41	o	18	ASN
42	p	60	ASN
42	p	237	HIS
42	p	243	HIS
42	p	306	GLN
43	q	109	ASN
44	r	47	GLN
44	r	59	HIS
44	r	82	GLN
45	s	35	GLN
45	s	39	GLN
45	s	81	HIS

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Mol	Chain	Res	Type
45	s	201	HIS
46	t	60	ASN
47	u	114	GLN
47	u	120	GLN
47	u	167	ASN
47	u	185	ASN
47	u	226	GLN
47	u	245	ASN
48	v	111	HIS
48	v	123	GLN
49	w	77	GLN
49	w	161	HIS
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	174	GLN
51	1	231	HIS
53	3	10	ASN
53	3	15	GLN
53	3	180	GLN
54	4	34	HIS
54	4	45	HIS
54	4	47	ASN
54	4	89	HIS
54	4	178	GLN
54	4	196	GLN
56	6	3	ASN
56	6	64	ASN
56	6	122	HIS
56	6	130	GLN
57	7	10	HIS
57	7	59	HIS
57	7	75	HIS
57	7	142	HIS
57	7	149	HIS
57	7	180	ASN
57	7	195	ASN

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Mol	Chain	Res	Type
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	135	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	101	HIS
62	AG	123	HIS
63	AH	13	ASN
63	AH	36	HIS
63	AH	84	ASN
64	AI	45	HIS
64	AI	51	ASN
64	AI	55	HIS
64	AI	86	HIS
65	AJ	56	HIS
66	AK	38	ASN
66	AK	76	HIS
66	AK	80	GLN
66	AK	100	GLN
66	AK	103	HIS
67	AL	84	HIS
68	AM	12	HIS
68	AM	86	ASN
68	AM	126	HIS
68	AM	136	HIS
69	AN	87	HIS
70	AO	46	HIS
70	AO	66	HIS
71	AP	217	HIS
72	AQ	69	ASN
72	AQ	89	HIS

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Mol	Chain	Res	Type
73	AR	23	HIS
74	AS	77	ASN
74	AS	110	HIS
75	AT	4	GLN
75	AT	27	GLN
75	AT	95	ASN
76	AV	24	HIS
76	AV	84	HIS
78	AX	61	ASN
78	AX	144	GLN
80	AZ	23	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

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Mol	Chain	Res	Type
1	A	62	G
1	A	63	A
1	A	64	A
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

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Mol	Chain	Res	Type
1	A	255	G
1	A	256	U
1	A	258	A
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

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Mol	Chain	Res	Type
1	A	541	A
1	A	546	G
1	A	547	U
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

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Mol	Chain	Res	Type
1	A	760	A
1	A	761	U
1	A	762	A
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

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Mol	Chain	Res	Type
1	A	1092	U
1	A	1098	A
1	A	1114	A
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

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Mol	Chain	Res	Type
1	A	1378	U
1	A	1379	A
1	A	1389	A
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

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Mol	Chain	Res	Type
1	A	1634	C
1	A	1647	C
1	A	1656	A
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

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Mol	Chain	Res	Type
2	B	341	A
2	B	352	U
2	B	353	G
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

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Mol	Chain	Res	Type
2	B	741	U
2	B	742	G
2	B	900	A
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

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Mol	Chain	Res	Type
2	B	1177	U
2	B	1184	C
2	B	1188	G
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

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Mol	Chain	Res	Type
2	B	1399	A
2	B	1404	G
2	B	1410	G
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

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Mol	Chain	Res	Type
4	D	51	A
4	D	54	U
4	D	65	A
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

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Mol	Chain	Res	Type
6	F	73	A
7	G	8	U
7	G	40	G
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

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Mol	Chain	Res	Type
52	2	23	G
52	2	26	A
52	2	33	U
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

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Mol	Chain	Res	Type
52	2	117	G
52	2	122	A
52	2	125	A
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

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Mol	Chain	Res	Type
52	2	255	A
52	2	256	A
52	2	257	A
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

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Mol	Chain	Res	Type
52	2	364	G
52	2	365	U
52	2	366	G
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

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Mol	Chain	Res	Type
52	2	525	A
52	2	552	U
52	2	553	U
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

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Mol	Chain	Res	Type
52	2	657	C
52	2	659	G
52	2	660	U
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

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Mol	Chain	Res	Type
52	2	763	C
52	2	768	A
52	2	769	A
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

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Mol	Chain	Res	Type
52	2	918	A
52	2	919	G
52	2	920	C
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

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Mol	Chain	Res	Type
52	2	1162	A
52	2	1165	G
52	2	1166	C
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

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Mol	Chain	Res	Type
52	2	1444	U
52	2	1445	U
52	2	1446	G
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

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Mol	Chain	Res	Type
52	2	1555	G
52	2	1556	A
52	2	1557	A
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

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Mol	Chain	Res	Type
52	2	1660	U
52	2	1661	U
52	2	1668	U
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

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Mol	Chain	Res	Type
52	2	1844	C
52	2	1846	U
52	2	1847	C
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

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Mol	Chain	Res	Type
52	2	1916	A
52	2	1917	U
52	2	1918	C
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

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Mol	Chain	Res	Type
52	2	1982	C
52	2	1984	C
52	2	1985	A
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

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Mol	Chain	Res	Type
52	2	2160	G
52	2	2163	G
52	2	2164	U
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

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Mol	Chain	Res	Type
52	2	112	A
52	2	114	U
52	2	125	A
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

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Mol	Chain	Res	Type
52	2	709	C
52	2	716	U
52	2	724	A
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

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Mol	Chain	Res	Type
52	2	1536	U
52	2	1539	U
52	2	1547	A
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

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Mol	Chain	Res	Type
52	2	1917	U
52	2	1928	G
52	2	1930	G
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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

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

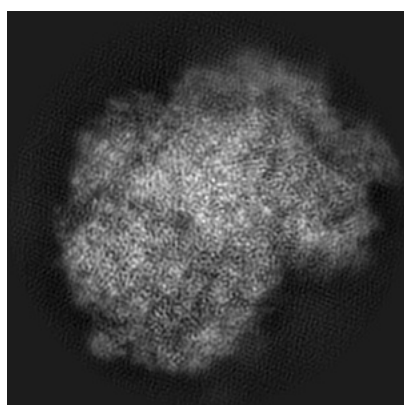
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8343. These allow visual inspection of the internal detail of the map and identification of artifacts.

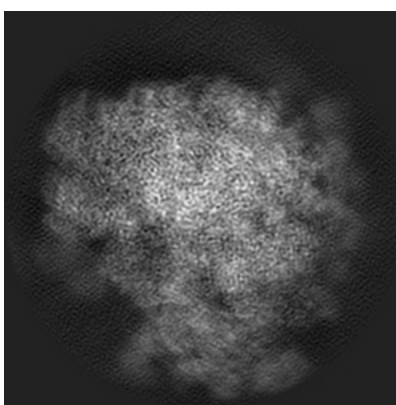
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

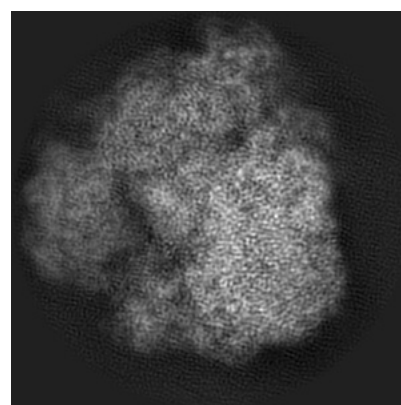
6.1.1 Primary map



X



Y

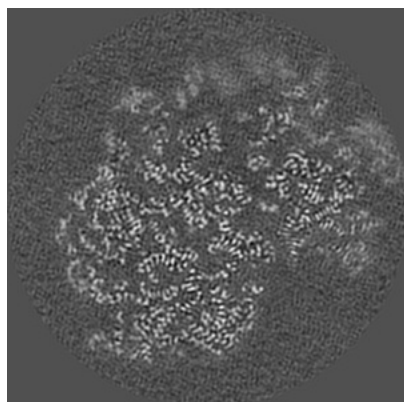


Z

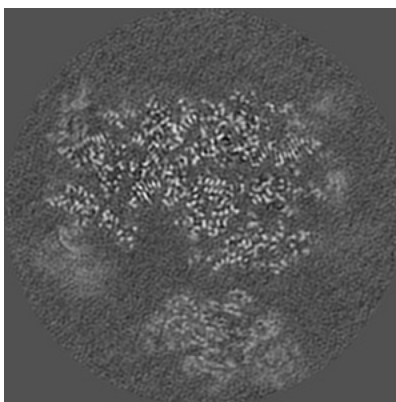
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

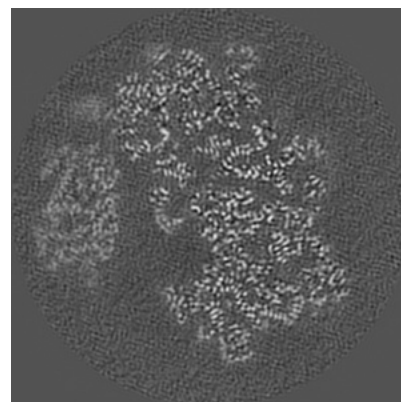
6.2.1 Primary map



X Index: 200



Y Index: 200

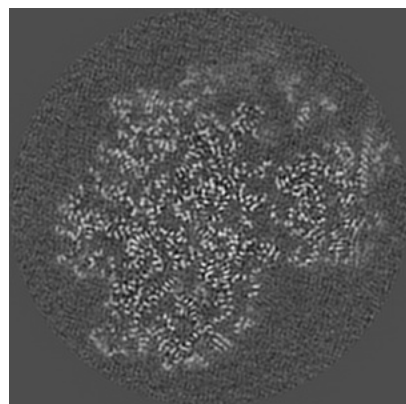


Z Index: 200

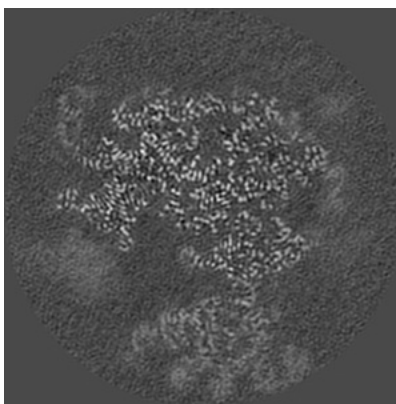
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

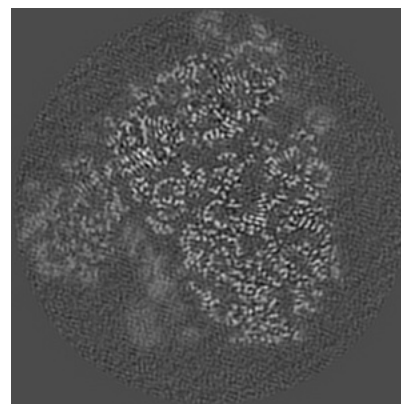
6.3.1 Primary map



X Index: 214



Y Index: 211

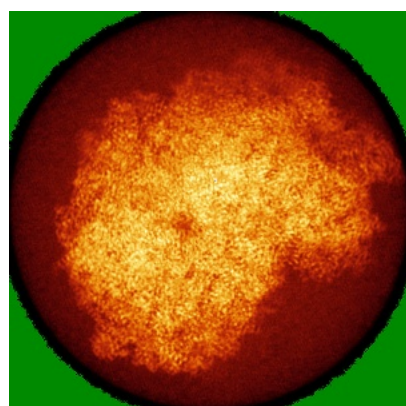


Z Index: 231

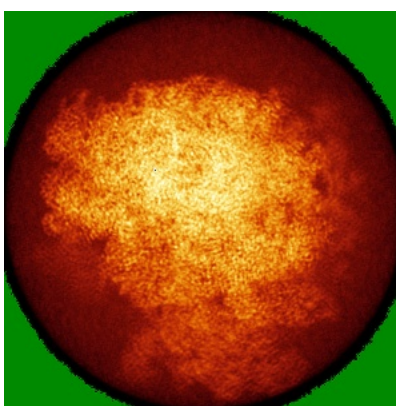
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

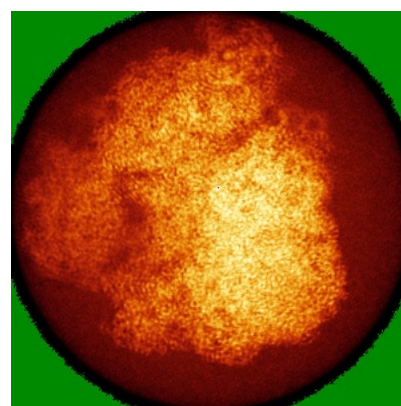
6.4.1 Primary map



X



Y

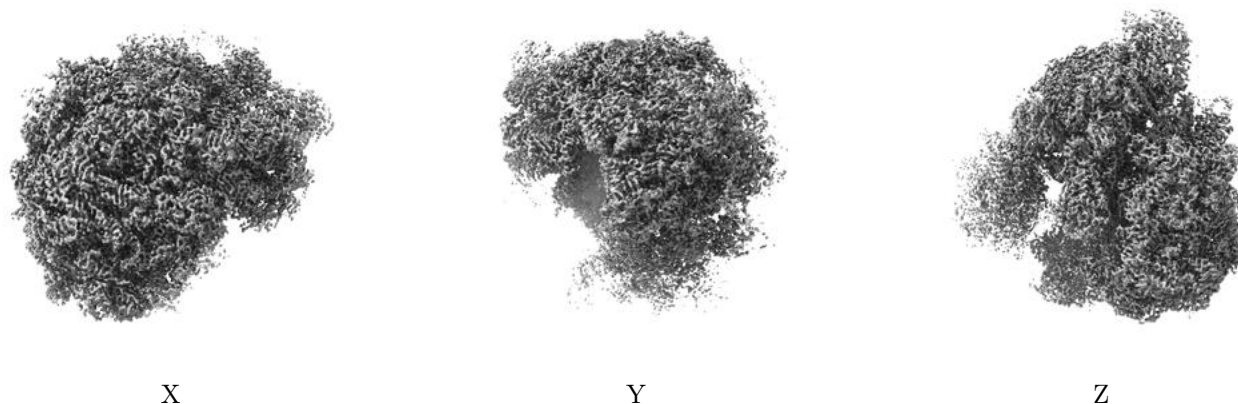


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

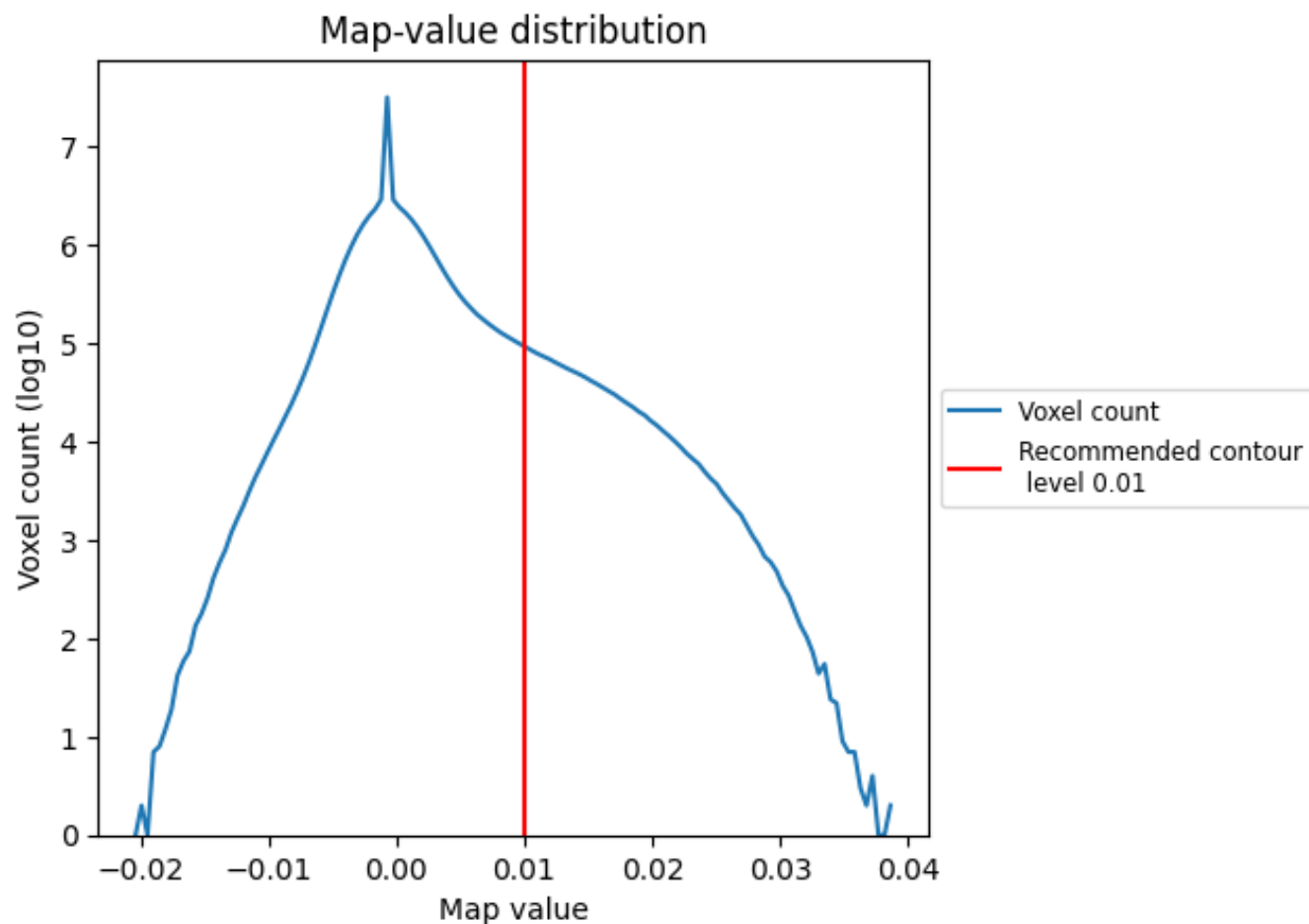
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

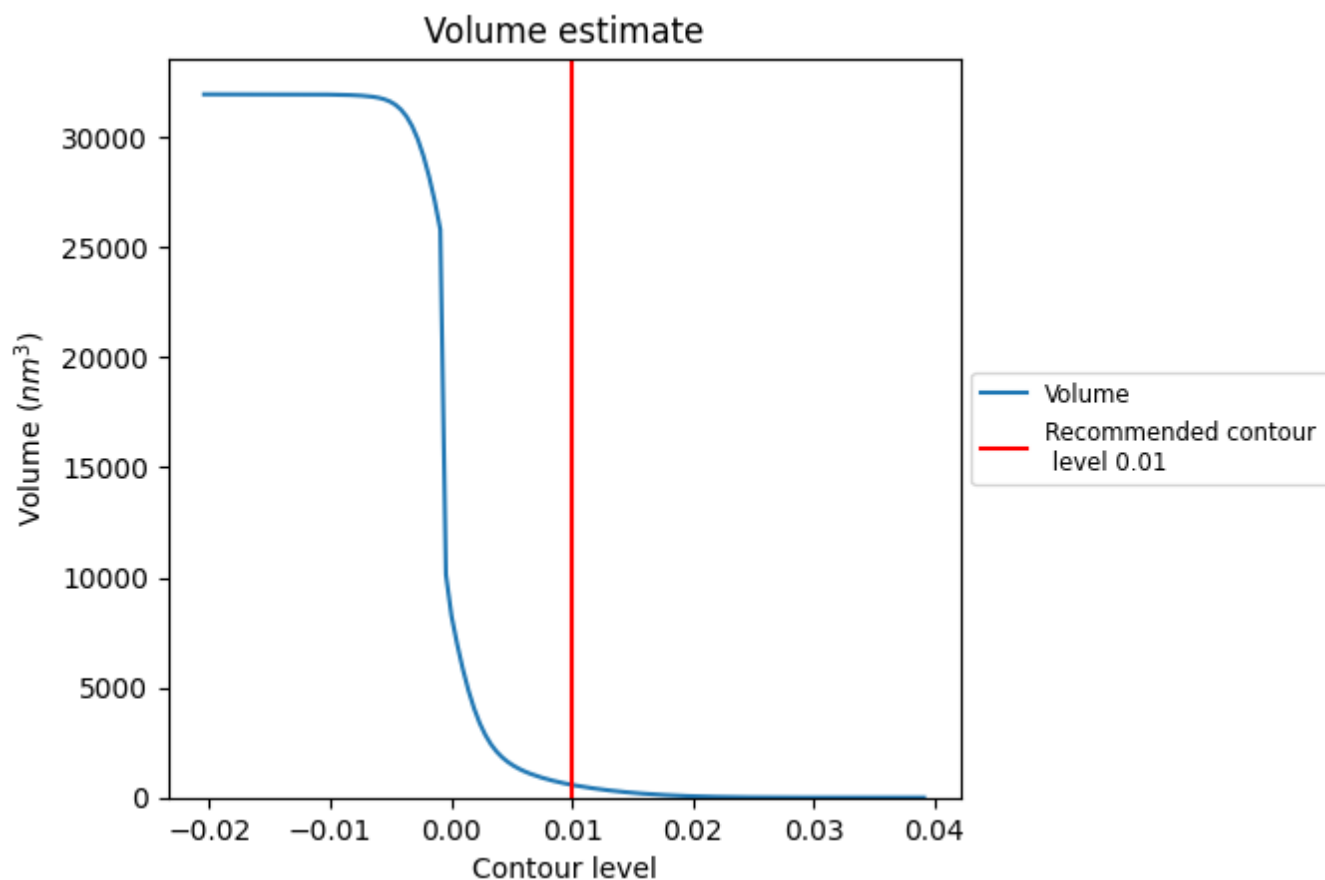
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

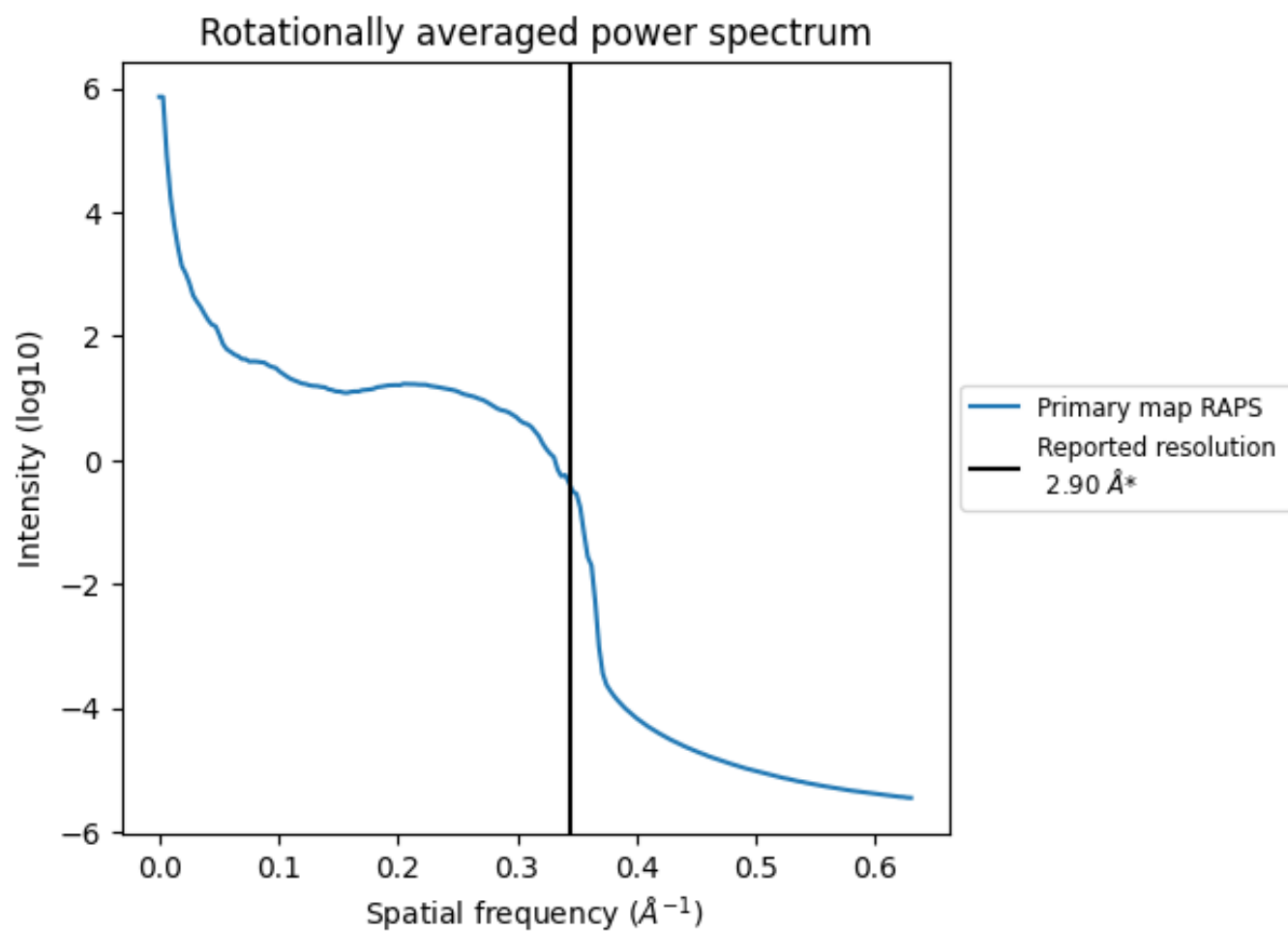
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 580 nm³; this corresponds to an approximate mass of 524 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.345 Å⁻¹

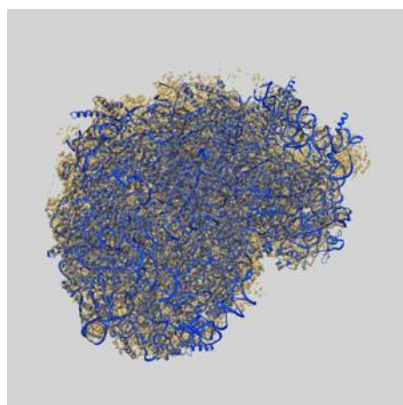
8 Fourier-Shell correlation

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

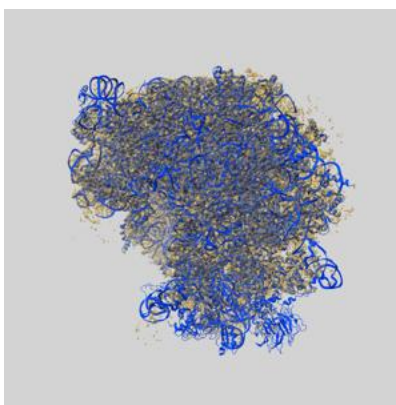
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-8343 and PDB model 5T2A. Per-residue inclusion information can be found in [section 3](#) on [page 20](#).

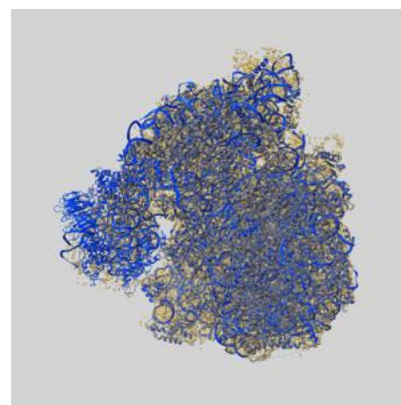
9.1 Map-model overlay [i](#)



X



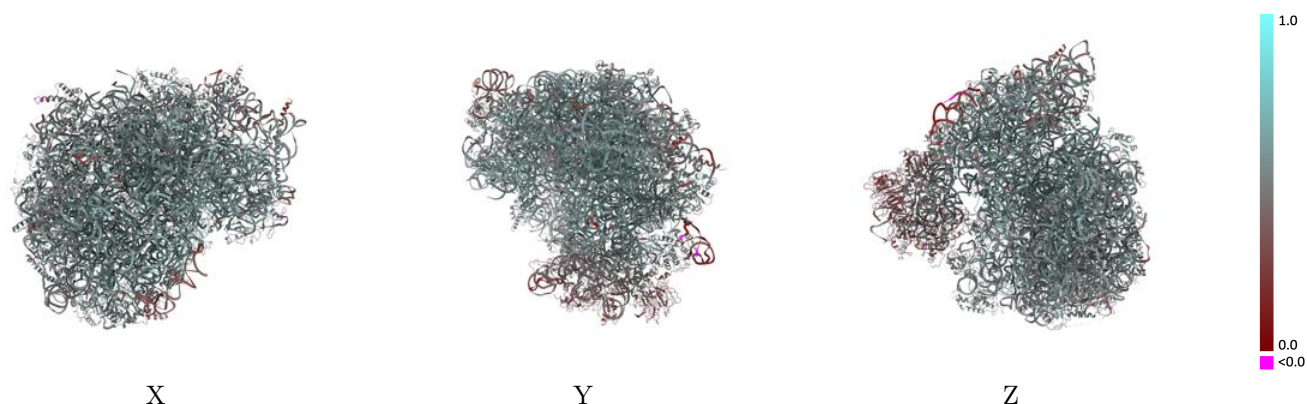
Y



Z

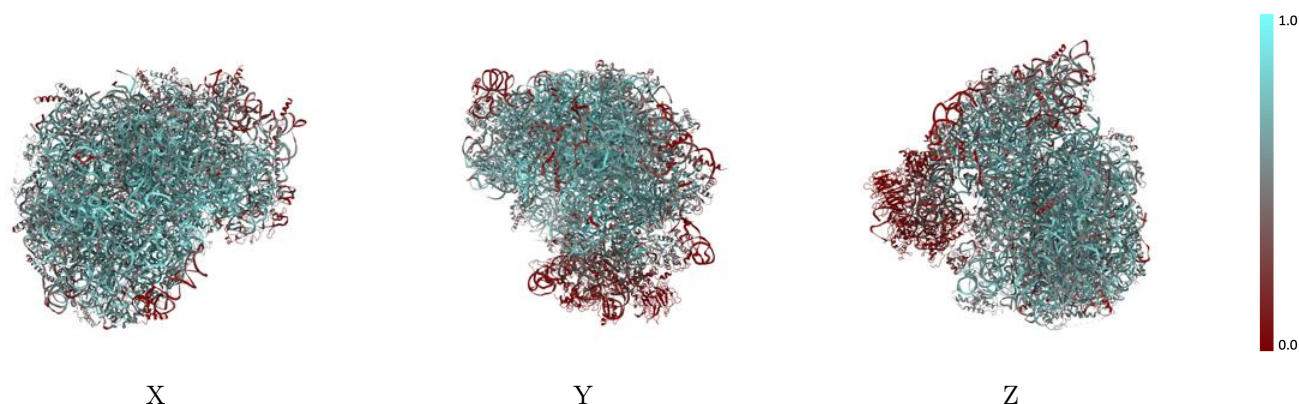
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



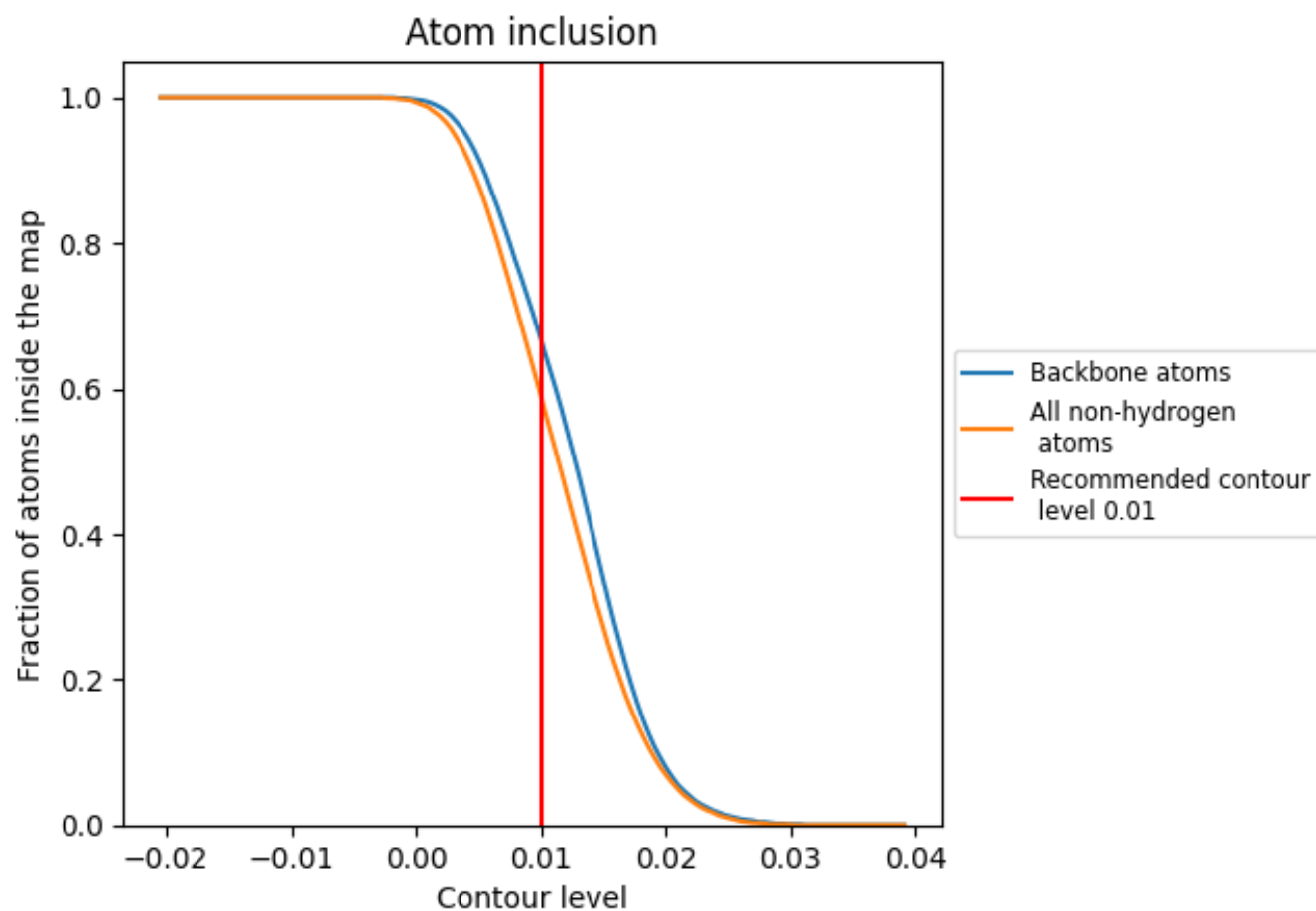
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 67% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5910	 0.5270
0	 0.4870	 0.5380
1	 0.5750	 0.5500
2	 0.5650	 0.5170
3	 0.3750	 0.4970
4	 0.4880	 0.5230
5	 0.6080	 0.5580
6	 0.5710	 0.5410
7	 0.0120	 0.3000
8	 0.1850	 0.4210
A	 0.7310	 0.5530
AC	 0.4350	 0.5100
AD	 0.0420	 0.3510
AE	 0.6510	 0.5800
AG	 0.6000	 0.5550
AH	 0.5070	 0.5350
AI	 0.0250	 0.3360
AJ	 0.6250	 0.5560
AK	 0.0970	 0.3800
AL	 0.1210	 0.4060
AM	 0.0600	 0.2810
AN	 0.0660	 0.4100
AO	 0.0930	 0.3020
AP	 0.5460	 0.5370
AQ	 0.0950	 0.3610
AR	 0.5050	 0.5220
AS	 0.5750	 0.5450
AT	 0.3950	 0.5170
AV	 0.4820	 0.5210
AW	 0.5060	 0.5350
AX	 0.1400	 0.4060
AY	 0.2780	 0.4900
AZ	 0.0830	 0.3970
B	 0.7220	 0.5550
C	 0.6960	 0.5260



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Chain	Atom inclusion	Q-score
D	 0.7290	 0.5450
E	 0.7230	 0.5630
F	 0.6250	 0.5290
G	 0.8080	 0.5870
H	 0.8140	 0.5920
I	 0.5680	 0.5280
J	 0.5370	 0.5240
K	 0.3570	 0.4740
L	 0.5430	 0.5060
M	 0.5960	 0.5520
N	 0.4570	 0.4860
O	 0.6250	 0.5490
P	 0.6680	 0.5560
Q	 0.6300	 0.5640
R	 0.5430	 0.5340
S	 0.5570	 0.5280
T	 0.4900	 0.5240
U	 0.6660	 0.5740
V	 0.5540	 0.5270
W	 0.6660	 0.5680
X	 0.5790	 0.5310
Y	 0.5480	 0.5340
Z	 0.6170	 0.5510
a	 0.5310	 0.5130
b	 0.5600	 0.5210
c	 0.6440	 0.5610
d	 0.6570	 0.5620
e	 0.5470	 0.5370
f	 0.6410	 0.5550
g	 0.5910	 0.5430
h	 0.5860	 0.5450
i	 0.5080	 0.5100
j	 0.6250	 0.5510
k	 0.4420	 0.4950
l	 0.6750	 0.5540
m	 0.6110	 0.5560
n	 0.5210	 0.5150
o	 0.6100	 0.5530
p	 0.5510	 0.5170
q	 0.6350	 0.5550
r	 0.5510	 0.5370
s	 0.4960	 0.5110

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Chain	Atom inclusion	Q-score
t	 0.5390	 0.5230
u	 0.5780	 0.5330
v	 0.4810	 0.5010
w	 0.6070	 0.5500