Full wwPDB EM Validation Report ⓘ

Sep 8, 2025 – 02:01 PM JST

PDB ID	:	5ZEB / pdb_00005zeb
EMDB ID	:	EMD-6920
Title	:	M. Smegmatis P/P state 70S ribosome structure
Authors	:	Mishra, S.; Ahmed, T.; Tyagi, A.; Shi, J.; Bhushan, S.
Deposited on	:	2018-02-27
Resolution	:	3.40 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:

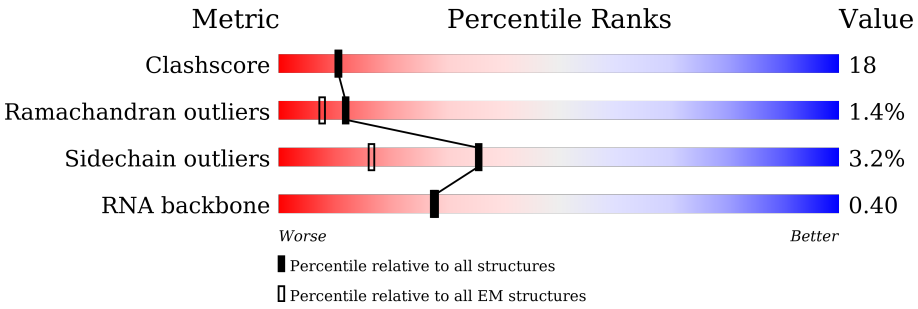
EMDB validation analysis	:	0.0.1.dev126
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	a	1528	6% 46% 41% 12%
2	c	275	28% 47% 24% 24%
3	e	214	24% 62% 29% 7%
4	g	156	24% 78% 19%
5	h	132	8% 68% 29%
6	i	150	18% 47% 33% 16%
7	j	101	41% 56% 35% 5%

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Mol	Chain	Length	Quality of chain
8	k	138	17% 54% 28% 15%
9	l	124	26% 68% 29%
10	o	89	12% 76% 21%
11	q	98	30% 65% 26% 6%
12	r	84	18% 48% 26% 24%
13	s	93	22% 51% 25% 9% 16%
14	t	86	26% 70% 26%
15	v	77	17% 40% 45% 14%
16	n	61	7% 59% 39%
17	b	277	79% 71% 12% 18%
18	d	201	55% 78% 21%
19	f	96	26% 66% 34%
20	m	124	22% 53% 35% 6%
21	p	156	29% 55% 17% 28%
22	u	33	45% 48% 39% 9%
23	C	278	56% 36%
24	D	217	5% 80% 17%
25	E	215	10% 55% 37%
26	F	187	12% 42% 43% 11%
27	G	179	21% 78% 21%
28	H	151	49% 88% 11%
29	I	175	70% 62% 10% 28%
30	J	142	90% 73% 21% 6%
31	K	147	5% 57% 33% 9%
32	L	122	6% 64% 29% 6%

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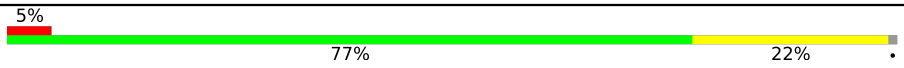
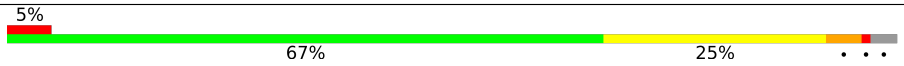
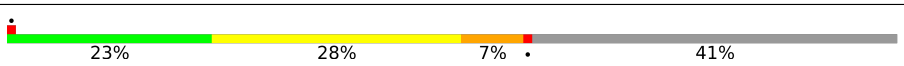
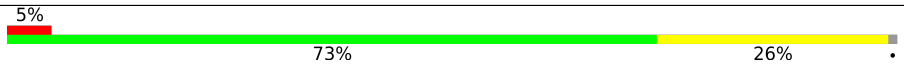
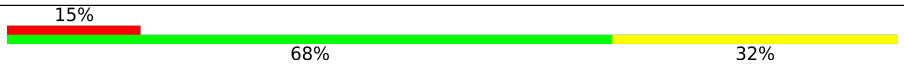
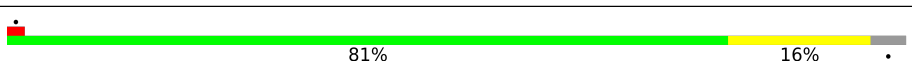
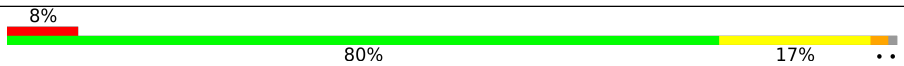
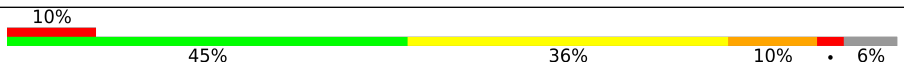
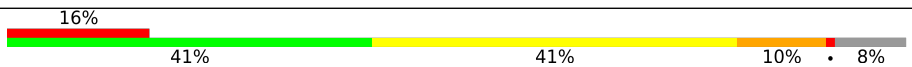
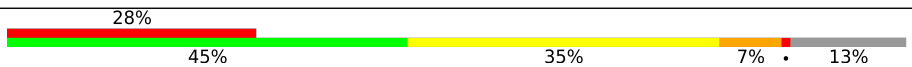
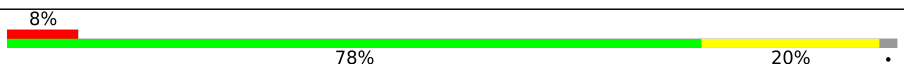
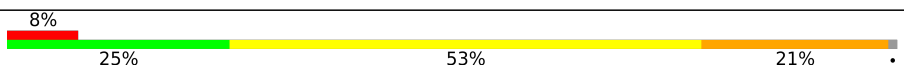
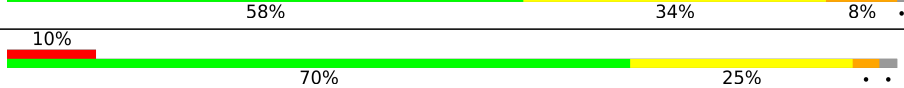
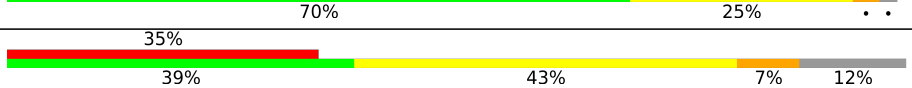
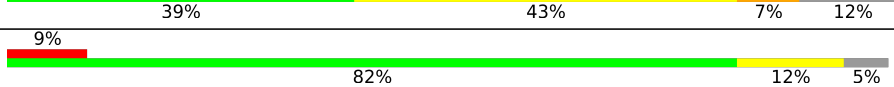
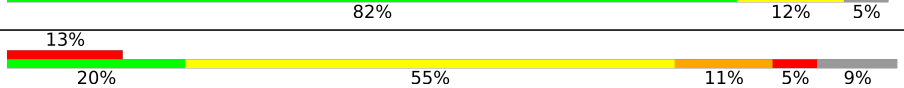
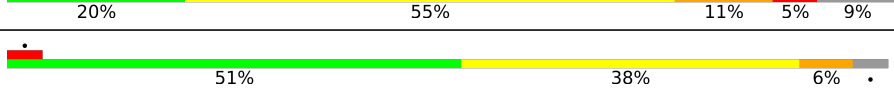
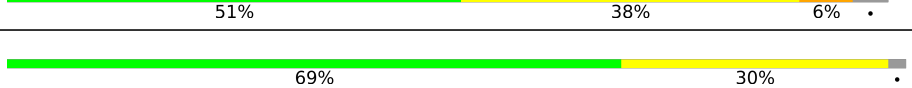
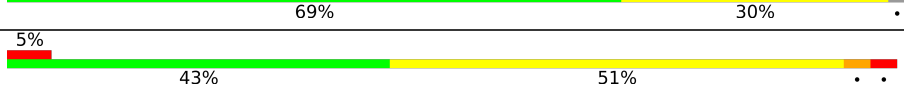
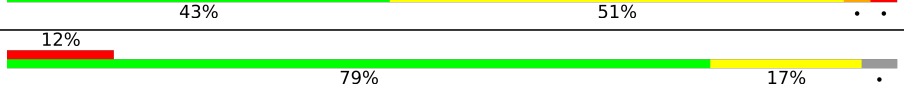
Mol	Chain	Length	Quality of chain
33	M	147	
34	N	138	
35	O	199	
36	P	127	
37	Q	113	
38	R	129	
39	S	103	
40	T	153	
41	U	100	
42	V	105	
43	W	215	
44	X	88	
45	Y	64	
46	Z	77	
47	B	118	
48	A	3120	
49	1	61	
50	2	75	
51	3	57	
52	4	55	
53	5	47	
54	6	64	
55	7	37	
56	8	24	

2 Entry composition (i)

There are 56 unique types of molecules in this entry. The entry contains 150328 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 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	a	1506	32341	14404	5921	10510	1506	0	0

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	c	210	1672	1043	324	300	5	0	0

- Molecule 3 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	e	198	1433	885	282	262	4	0	0

- Molecule 4 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	g	156	1240	773	242	222	3	0	0

- Molecule 5 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	h	130	1003	629	188	185	1	0	0

- Molecule 6 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	i	126	994	630	194	170	0	0

- Molecule 7 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	j	97	Total	C	N	O	S	0	0
			775	488	143	141	3		

- Molecule 8 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	k	117	Total	C	N	O	S	0	0
			871	539	173	158	1		

- Molecule 9 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	l	122	Total	C	N	O	S	0	0
			958	594	197	165	2		

- Molecule 10 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	o	87	Total	C	N	O	0	0
			709	443	143	123		

- Molecule 11 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	q	92	Total	C	N	O	S	0	0
			730	458	138	132	2		

- Molecule 12 is a protein called 30S ribosomal protein S18 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	r	64	Total	C	N	O	S	0	0
			512	319	102	88	3		

- Molecule 13 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	s	78	Total	C	N	O	S	0	0
			630	405	117	107	1		

- Molecule 14 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	t	84	Total 655	C 399	N 138	O 118	0	0

- Molecule 15 is a RNA chain called P-tRNAfMet.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	v	77	Total 1643	C 732	N 297	O 537	P 77	0	0

- Molecule 16 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	n	60	Total 477	C 302	N 97	O 73	S 5	0	0

- Molecule 17 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	b	228	Total 1793	C 1132	N 322	O 330	S 9	0	0

- Molecule 18 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	d	200	Total 1641	C 1028	N 316	O 295	S 2	0	0

- Molecule 19 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	f	96	Total 771	C 486	N 138	O 145	S 2	0	0

- Molecule 20 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	m	116	Total 935	C 572	N 191	O 169	S 3	0	0

- Molecule 21 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	p	113	Total	C	N	O	0	0
			891	570	162	159		

- Molecule 22 is a protein called Conserved domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	u	32	Total	C	N	O	S	0	0
			280	172	71	36	1		

- Molecule 23 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	C	273	Total	C	N	O	S	0	0
			2097	1290	435	368	4		

- Molecule 24 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	D	214	Total	C	N	O	S	0	0
			1587	982	310	290	5		

- Molecule 25 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	E	207	Total	C	N	O	S	0	0
			1553	959	292	300	2		

- Molecule 26 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	F	181	Total	C	N	O	S	0	0
			1437	903	269	259	6		

- Molecule 27 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	G	176	Total	C	N	O	S	0	0
			1348	845	249	253	1		

- Molecule 28 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	H	151	Total	C	N	O	S	0	0
			1018	635	188	194	1		

- Molecule 29 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	I	126	Total	C	N	O	S	0	0
			918	580	156	180	2		

- Molecule 30 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	J	133	Total	C	N	O	S	0	0
			990	625	175	187	3		

- Molecule 31 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	K	147	Total	C	N	O	S	0	0
			1138	727	208	201	2		

- Molecule 32 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	L	121	Total	C	N	O	S	0	0
			930	580	178	169	3		

- Molecule 33 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	M	145	Total	C	N	O	S	0	0
			1078	676	205	194	3		

- Molecule 34 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	N	134	Total	C	N	O	S	0	0
			1074	680	211	181	2		

- Molecule 35 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	O	117	Total 919	C 577	N 178	O 162	S 2	0	0

- Molecule 36 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	P	126	Total 956	C 586	N 199	O 171	0	0

- Molecule 37 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Q	113	Total 907	C 570	N 171	O 165	S 1	0	0

- Molecule 38 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	R	124	Total 988	C 613	N 203	O 172	0	0

- Molecule 39 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	S	102	Total 768	C 487	N 140	O 141	0	0

- Molecule 40 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	T	114	Total 873	C 543	N 171	O 159	0	0

- Molecule 41 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	U	94	Total 739	C 469	N 135	O 135	0	0

- Molecule 42 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	V	97	Total	C	N	O	S	0	0
			731	456	137	136	2		

- Molecule 43 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	W	188	Total	C	N	O	0	0
			1407	869	251	287		

- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	X	82	Total	C	N	O	0	0
			604	372	127	105		

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Y	63	Total	C	N	O	S	0	0
			470	283	103	80	4		

- Molecule 46 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Z	63	Total	C	N	O	S	0	0
			527	322	102	102	1		

- Molecule 47 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	B	117	Total	C	N	O	P	0	0
			2501	1116	462	806	117		

- Molecule 48 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	A	3102	Total	C	N	O	P	0	0
			66623	29694	12253	21574	3102		

- Molecule 49 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	1	60	Total 483	C 298	N 97	O 88	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	2	66	Total 510	C 316	N 93	O 96	S 5	0	0

- Molecule 51 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	3	54	Total 423	C 260	N 93	O 69	S 1	0	0

- Molecule 52 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	4	50	Total 416	C 254	N 86	O 72	S 4	0	0

- Molecule 53 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	5	45	Total 372	C 222	N 96	O 53	S 1	0	0

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	6	63	Total 502	C 302	N 115	O 85	0	0

- Molecule 55 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	7	37	Total 298	C 181	N 66	O 46	S 5	0	0

- Molecule 56 is a protein called Uncharacterized protein bL37.

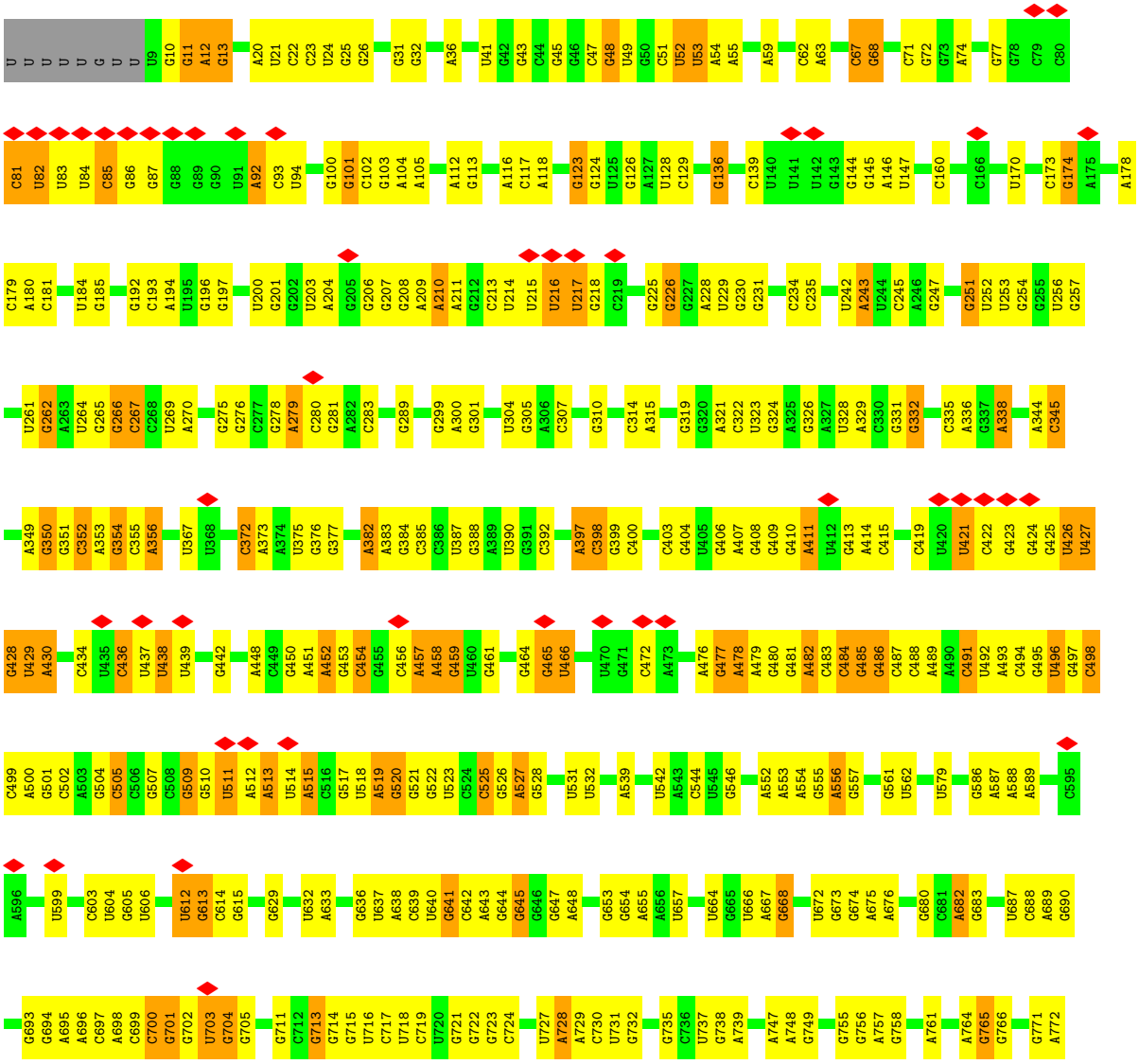
Mol	Chain	Residues	Atoms				AltConf	Trace
56	8	23	Total 189	C 111	N 50	O 28	0	0

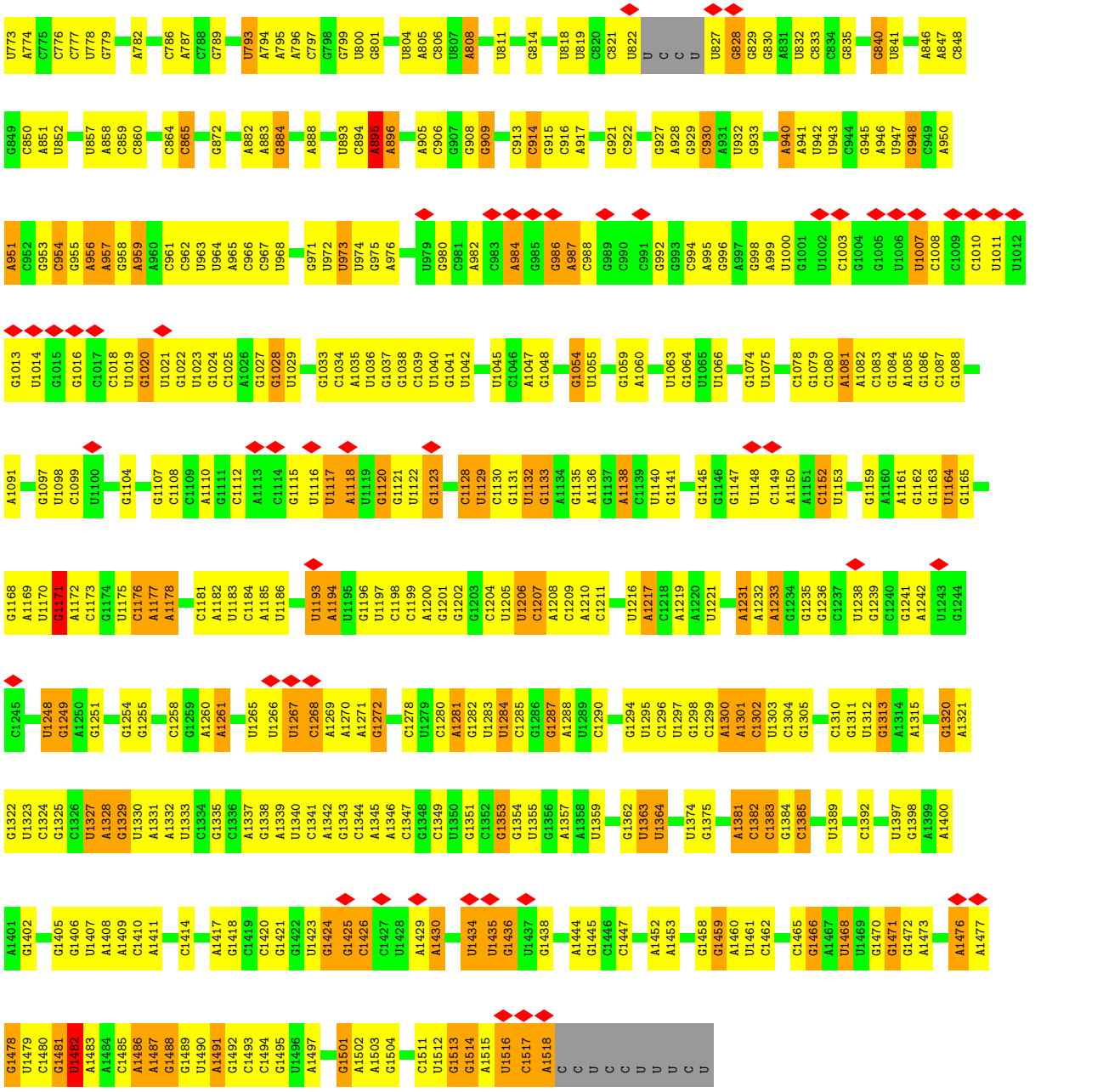
3 Residue-property plots (i)

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

• Molecule 1: 16S rRNA

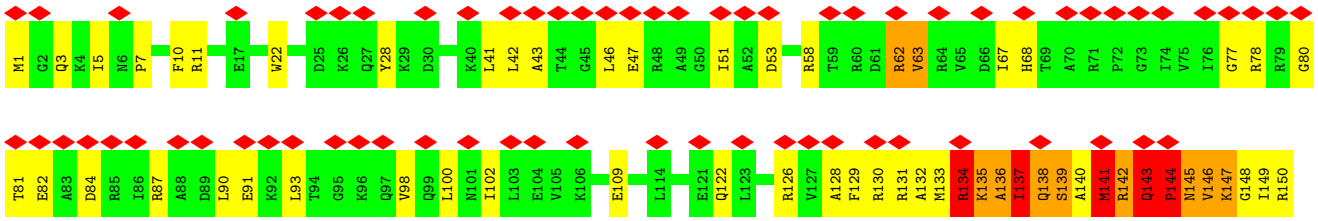
Chain a:

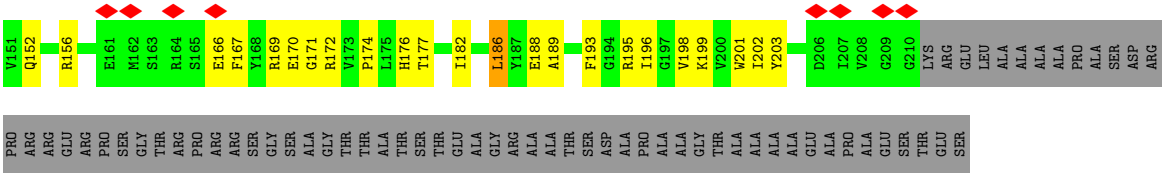




• Molecule 2: 30S ribosomal protein S3

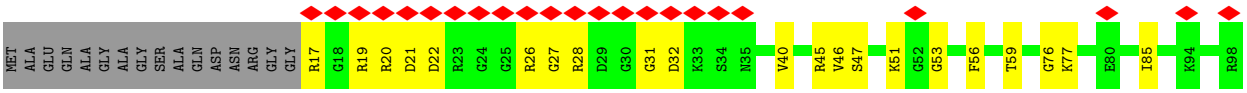
Chain c:

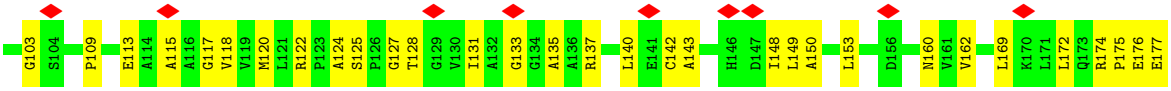


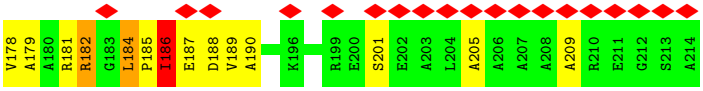


• Molecule 3: 30S ribosomal protein S5

Chain e:

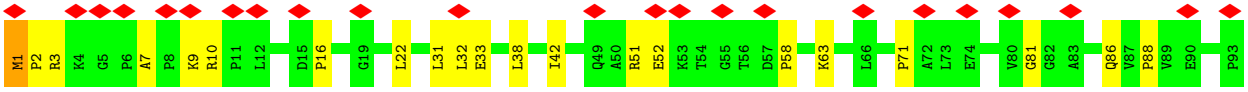


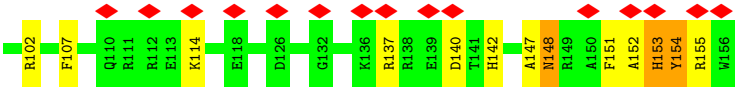




• Molecule 4: 30S ribosomal protein S7

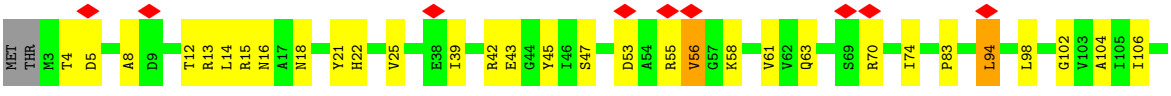
Chain g:

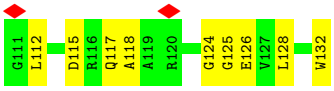




• Molecule 5: 30S ribosomal protein S8

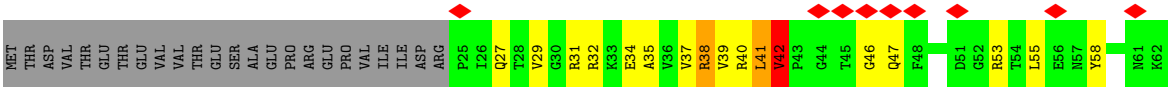
Chain h:

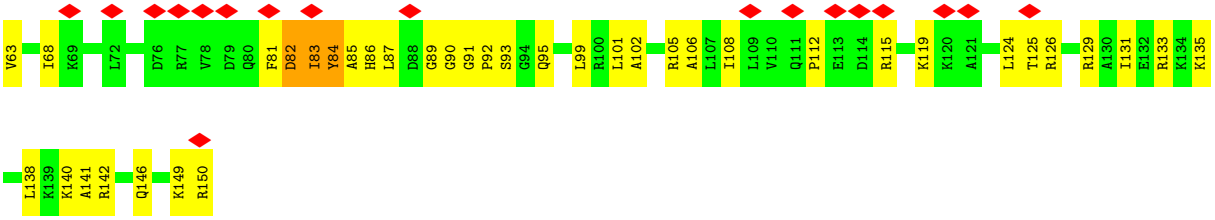




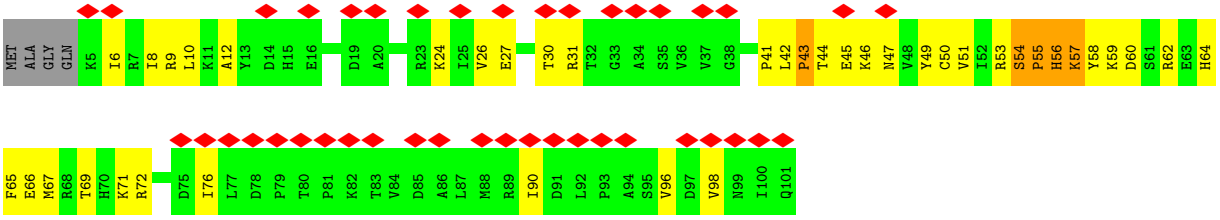
• Molecule 6: 30S ribosomal protein S9

Chain i:

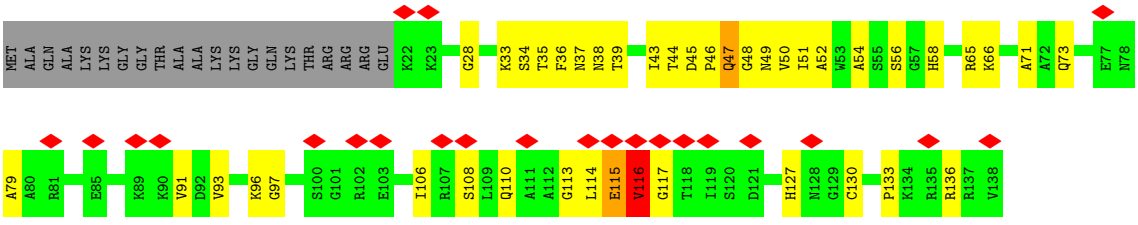




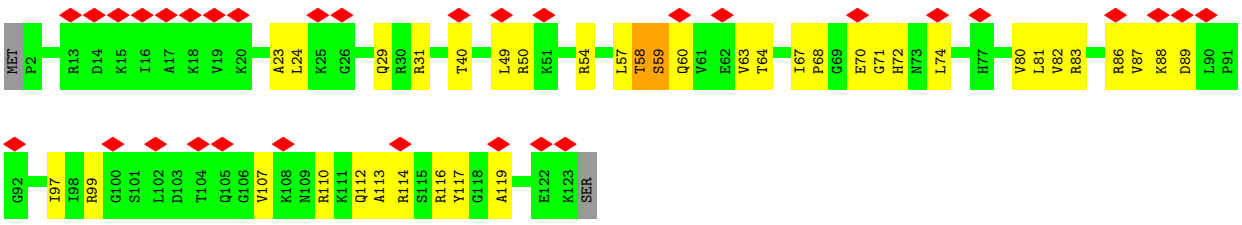
• Molecule 7: 30S ribosomal protein S10



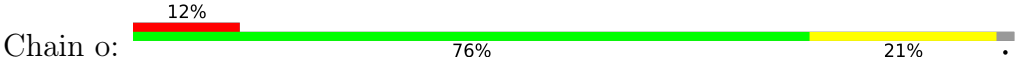
• Molecule 8: 30S ribosomal protein S11

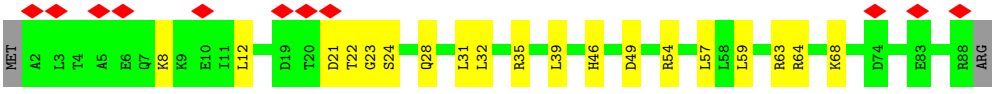


• Molecule 9: 30S ribosomal protein S12

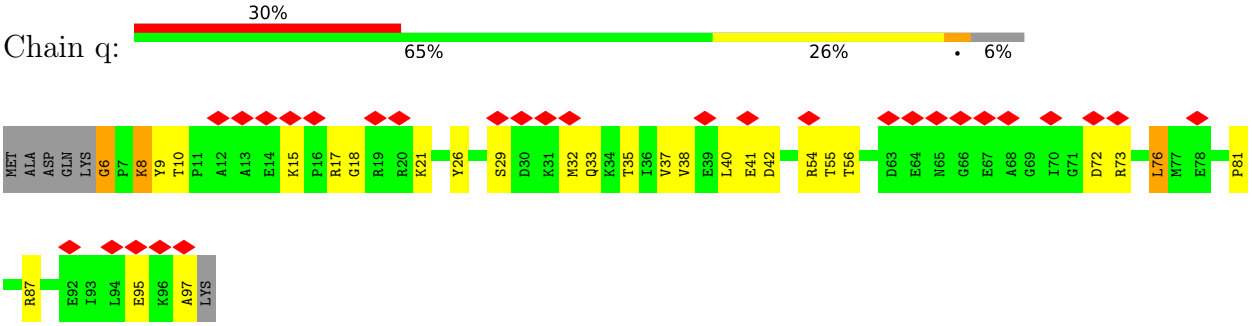


• Molecule 10: 30S ribosomal protein S15

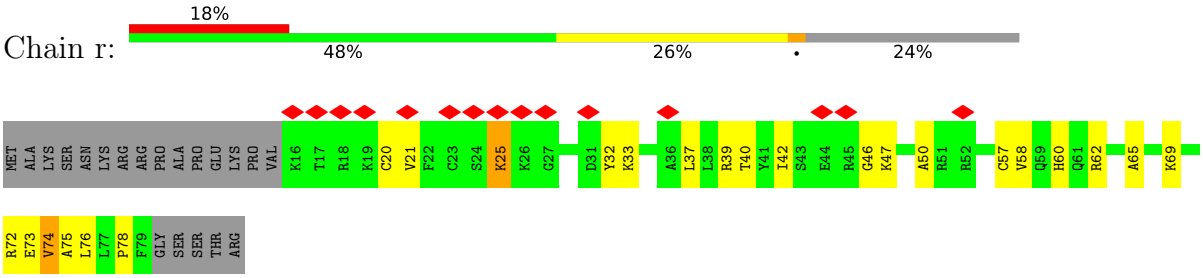




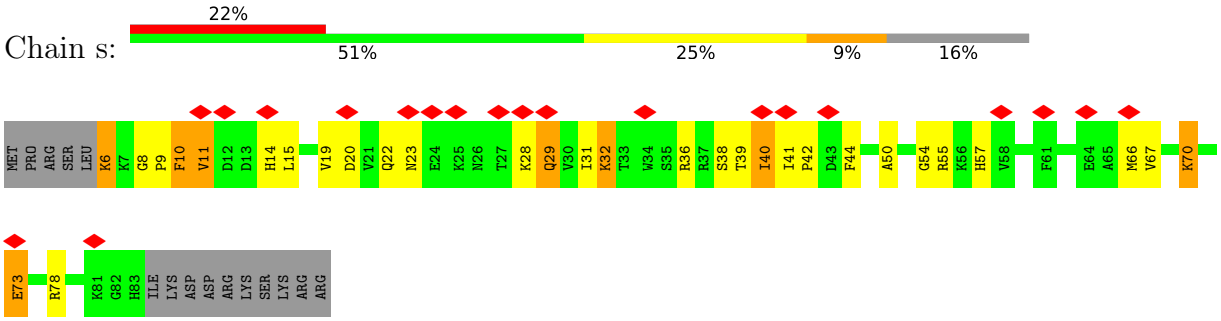
• Molecule 11: 30S ribosomal protein S17



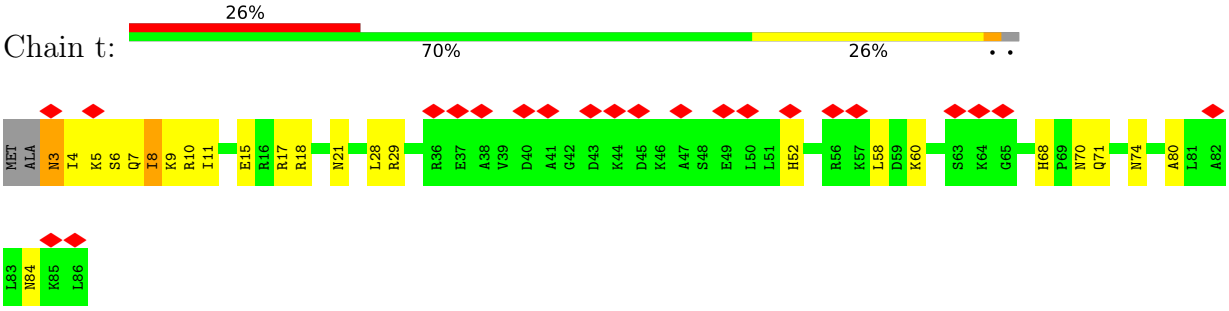
• Molecule 12: 30S ribosomal protein S18 2



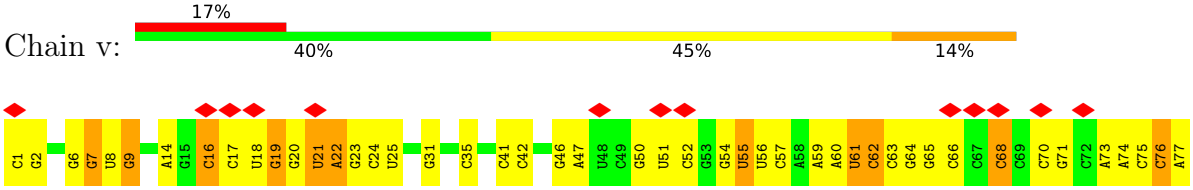
• Molecule 13: 30S ribosomal protein S19



• Molecule 14: 30S ribosomal protein S20

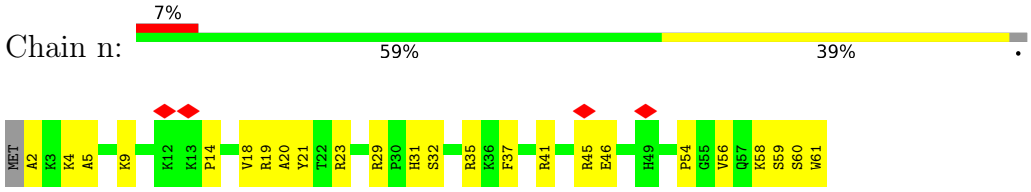


• Molecule 15: P-tRNAfMet



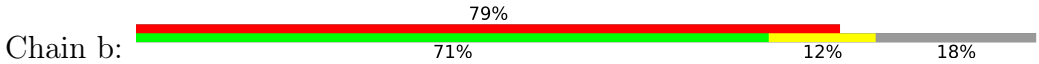
• Molecule 16: 30S ribosomal protein S14 type Z

Chain n:



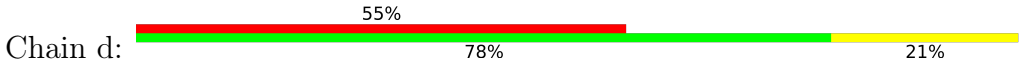
• Molecule 17: 30S ribosomal protein S2

Chain b:



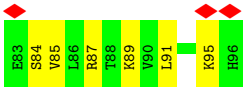
• Molecule 18: 30S ribosomal protein S4

Chain d:



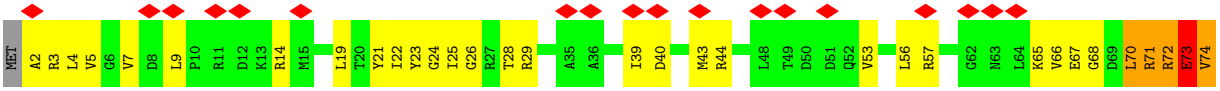
• Molecule 19: 30S ribosomal protein S6

Chain f:



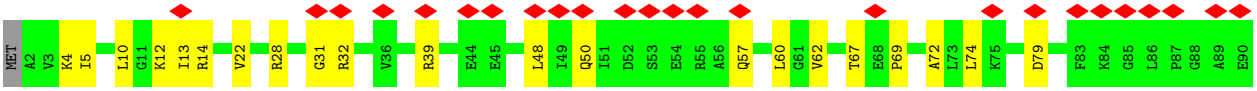
• Molecule 20: 30S ribosomal protein S13

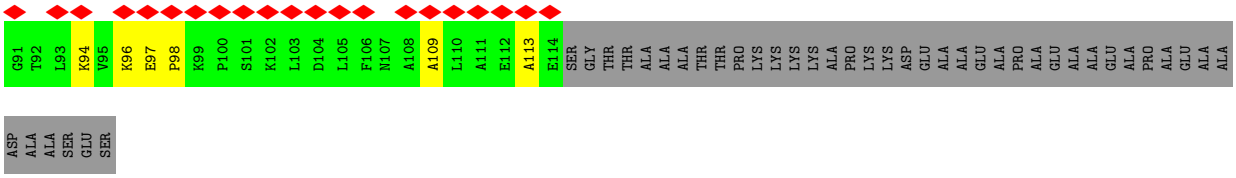
Chain m:



• Molecule 21: 30S ribosomal protein S16

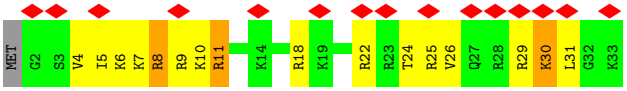
Chain p:





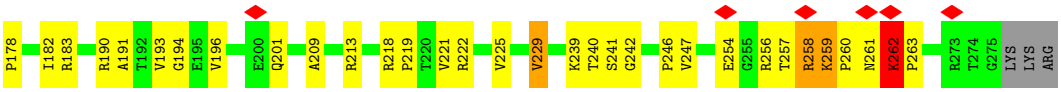
• Molecule 22: Conserved domain protein

Chain u:



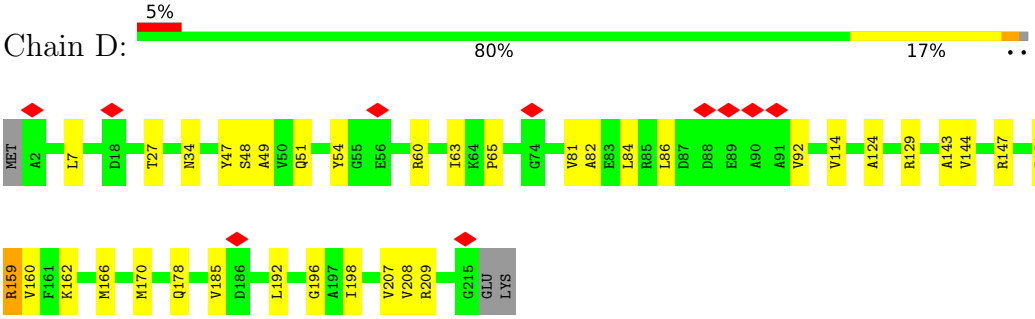
• Molecule 23: 50S ribosomal protein L2

Chain C:



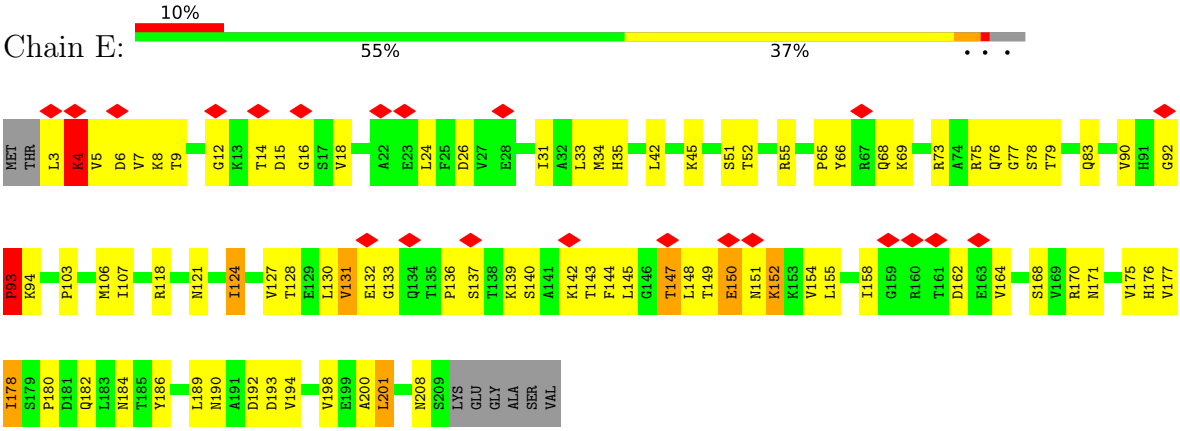
• Molecule 24: 50S ribosomal protein L3

Chain D:



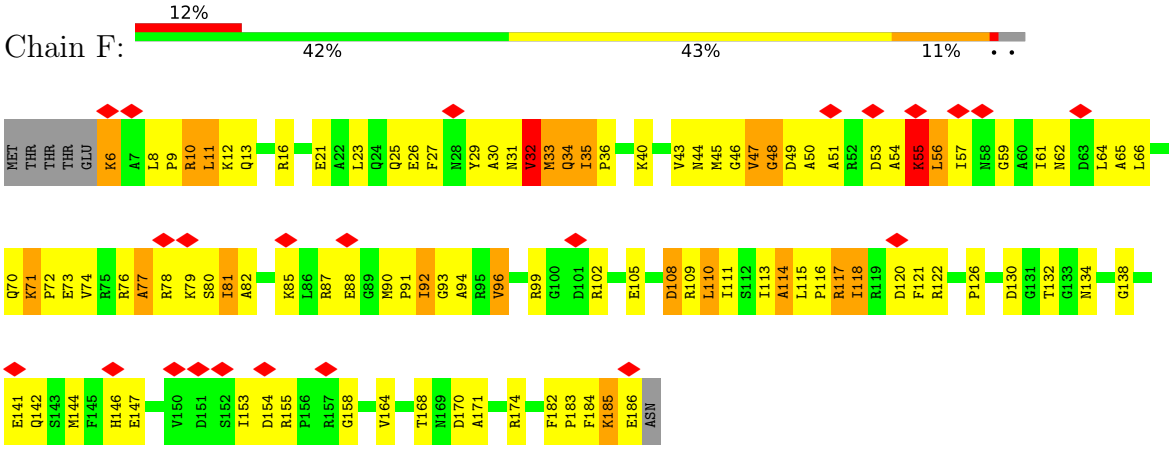
• Molecule 25: 50S ribosomal protein L4

Chain E:



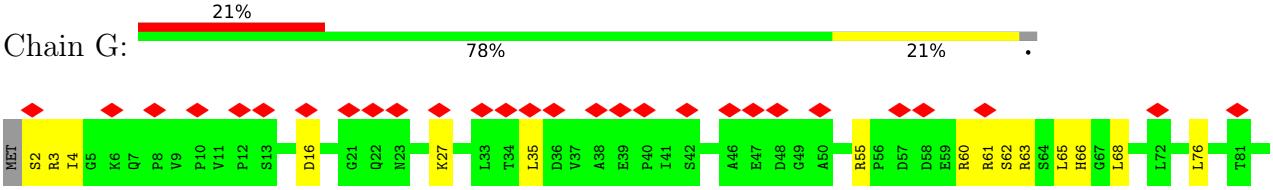
• Molecule 26: 50S ribosomal protein L5

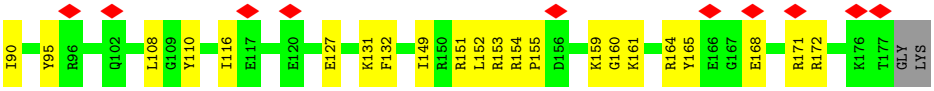
Chain F:



• Molecule 27: 50S ribosomal protein L6

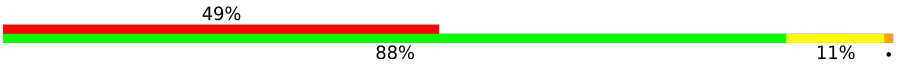
Chain G:

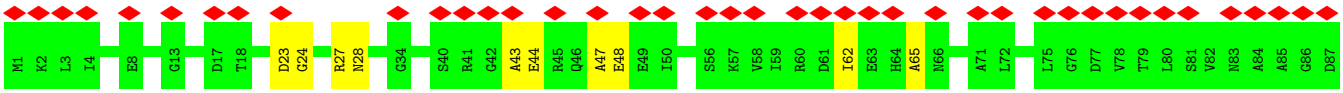


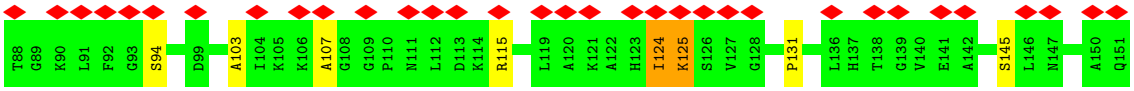


• Molecule 28: 50S ribosomal protein L9

Chain H:

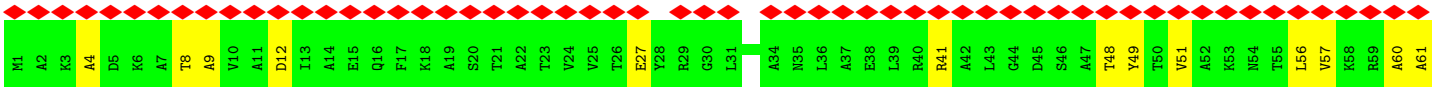


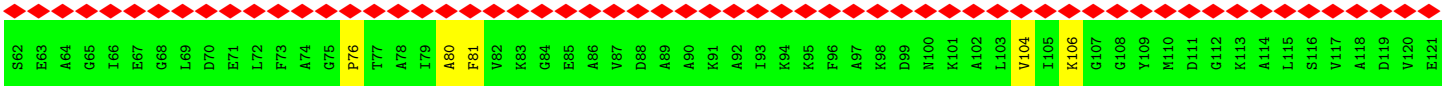


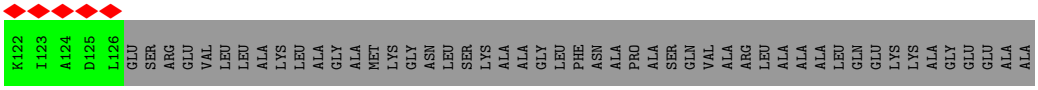


• Molecule 29: 50S ribosomal protein L10

Chain I:

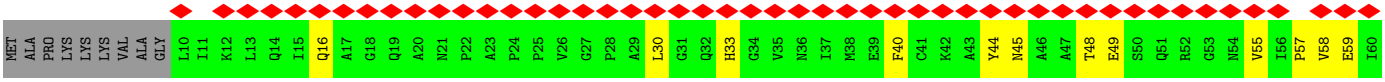


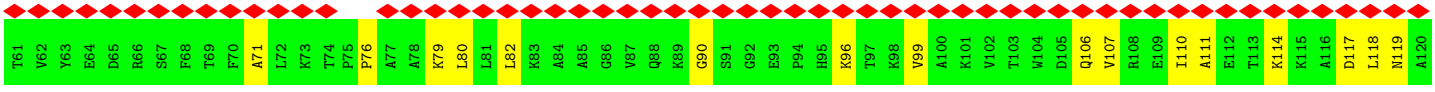


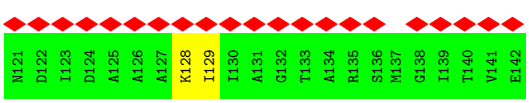


• Molecule 30: 50S ribosomal protein L11

Chain J:

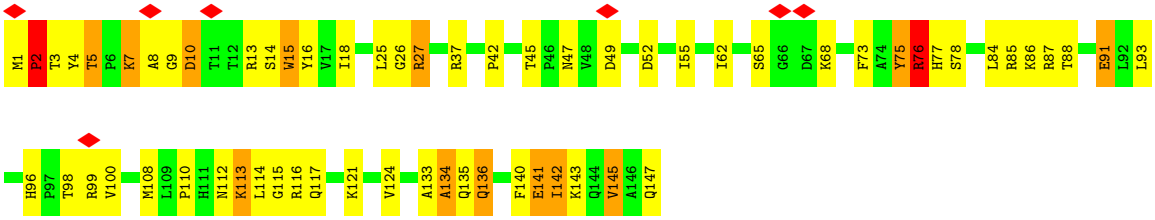






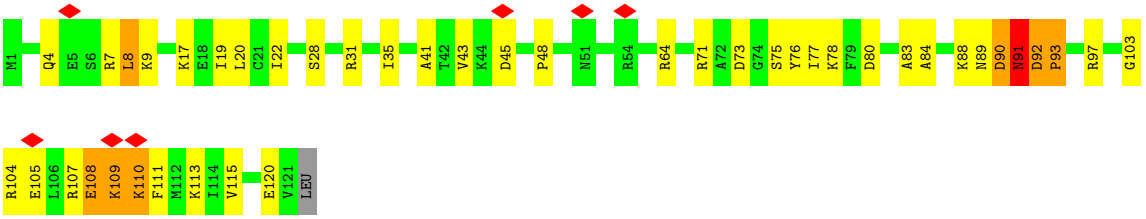
• Molecule 31: 50S ribosomal protein L13

Chain K:



• Molecule 32: 50S ribosomal protein L14

Chain L:

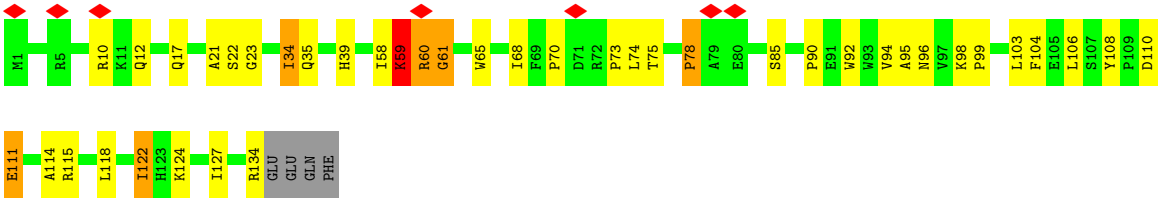


• Molecule 33: 50S ribosomal protein L15

Chain M:

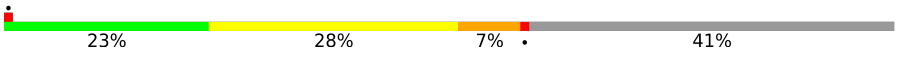
• Molecule 34: 50S ribosomal protein L16

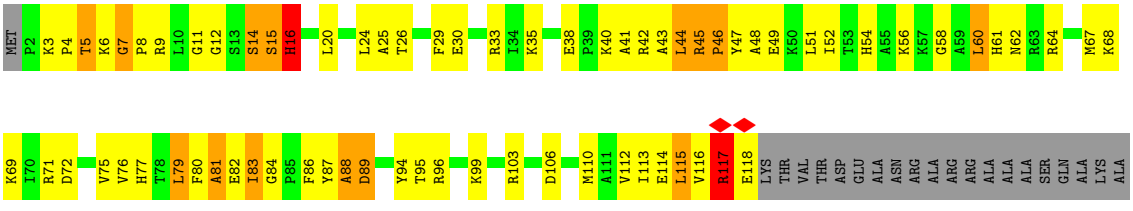
Chain N:

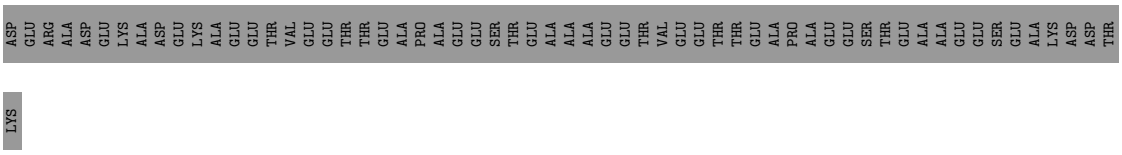


• Molecule 35: 50S ribosomal protein L17

Chain O:

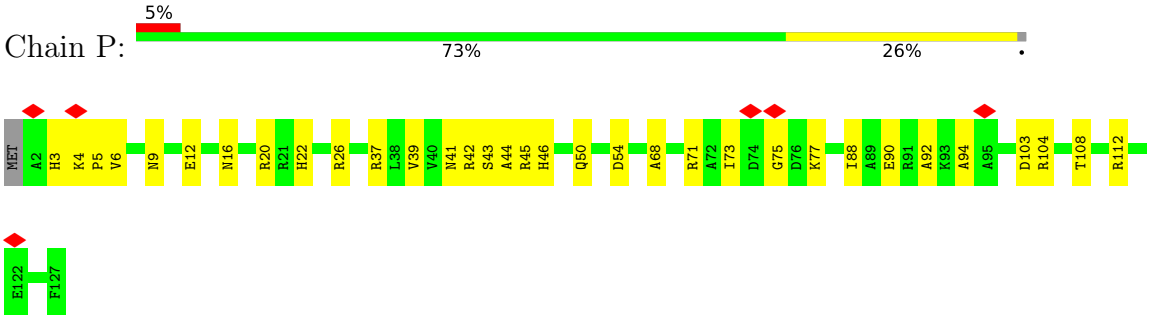






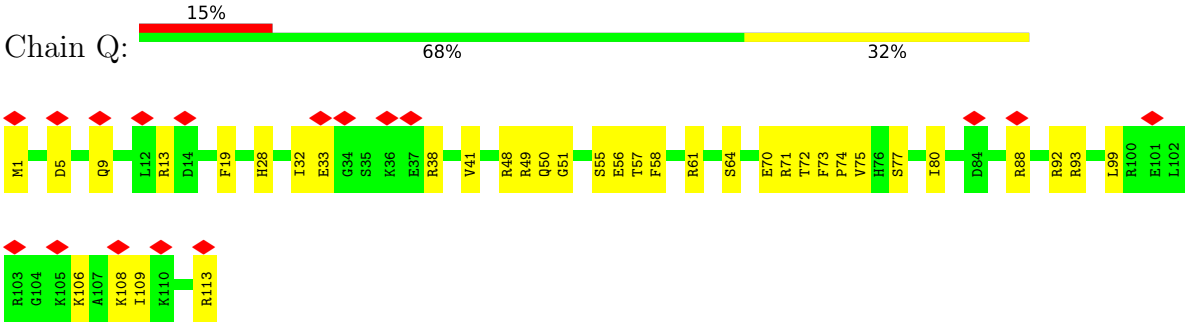
• Molecule 36: 50S ribosomal protein L18

Chain P:



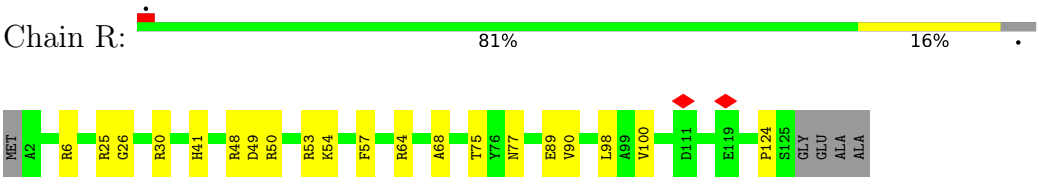
• Molecule 37: 50S ribosomal protein L19

Chain Q:



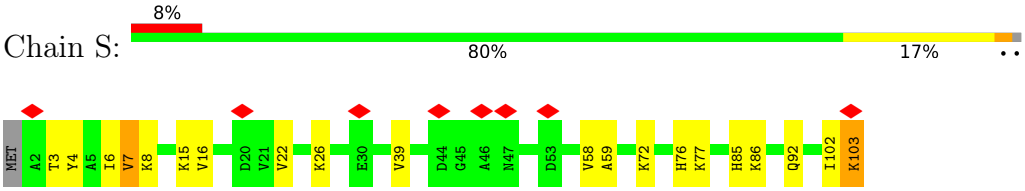
• Molecule 38: 50S ribosomal protein L20

Chain R:



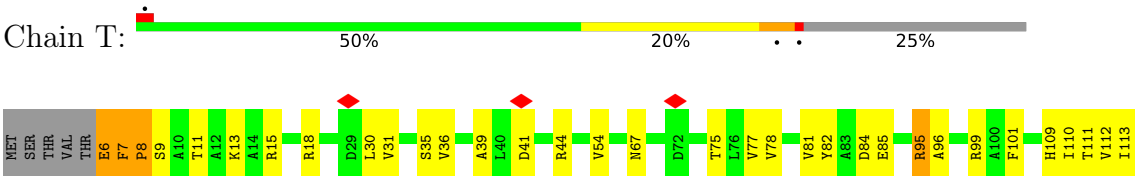
• Molecule 39: 50S ribosomal protein L21

Chain S:



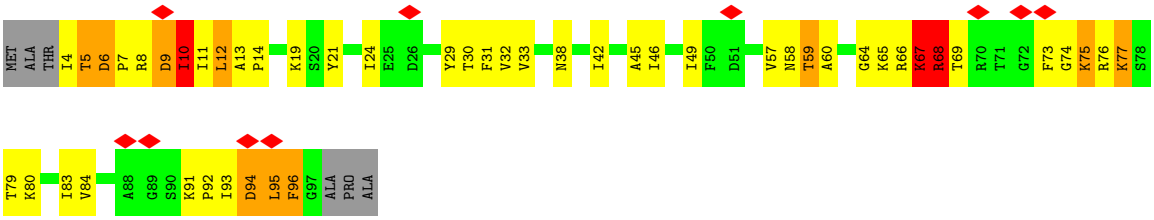
• Molecule 40: 50S ribosomal protein L22

Chain T:



• Molecule 41: 50S ribosomal protein L23

Chain U:

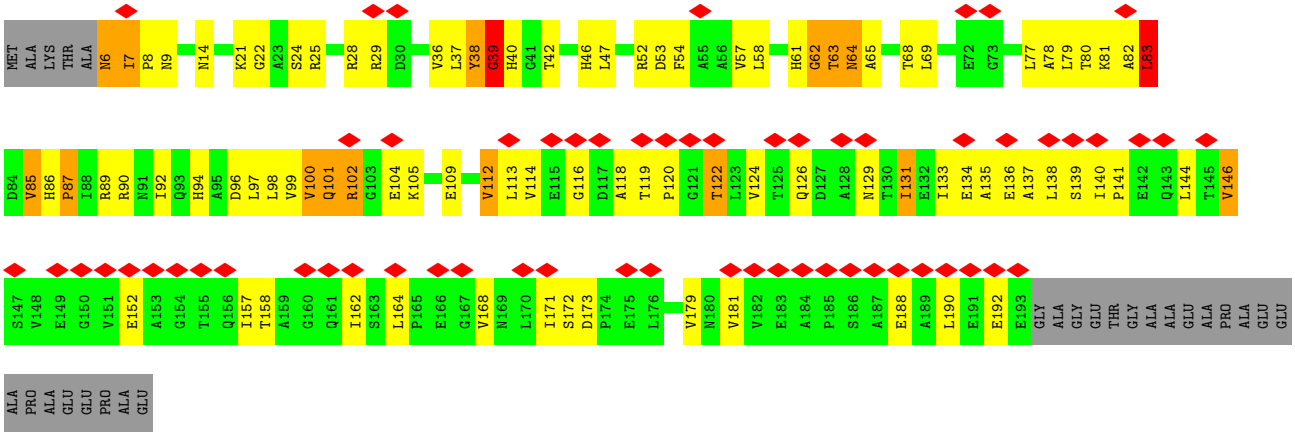


• Molecule 42: 50S ribosomal protein L24

Chain V:

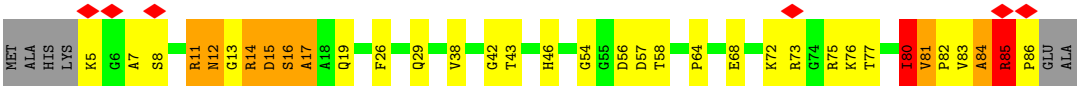
• Molecule 43: 50S ribosomal protein L25

Chain W:



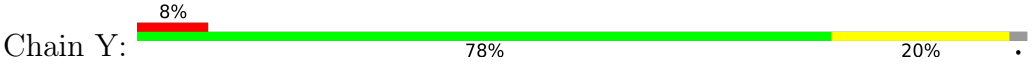
• Molecule 44: 50S ribosomal protein L27

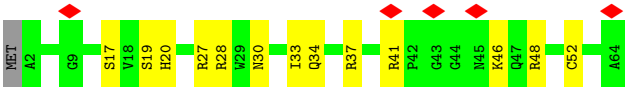
Chain X:



- Molecule 45: 50S ribosomal protein L28

Chain Y:



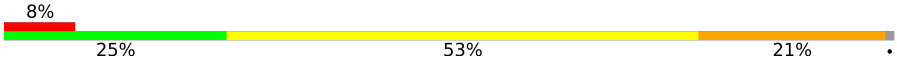


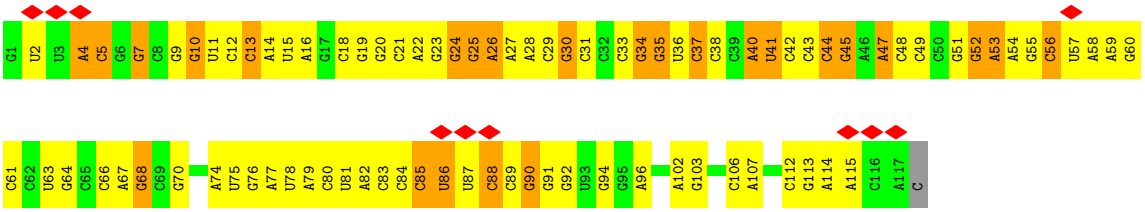
- Molecule 46: 50S ribosomal protein L29

Chain Z:

- Molecule 47: 5S rRNA

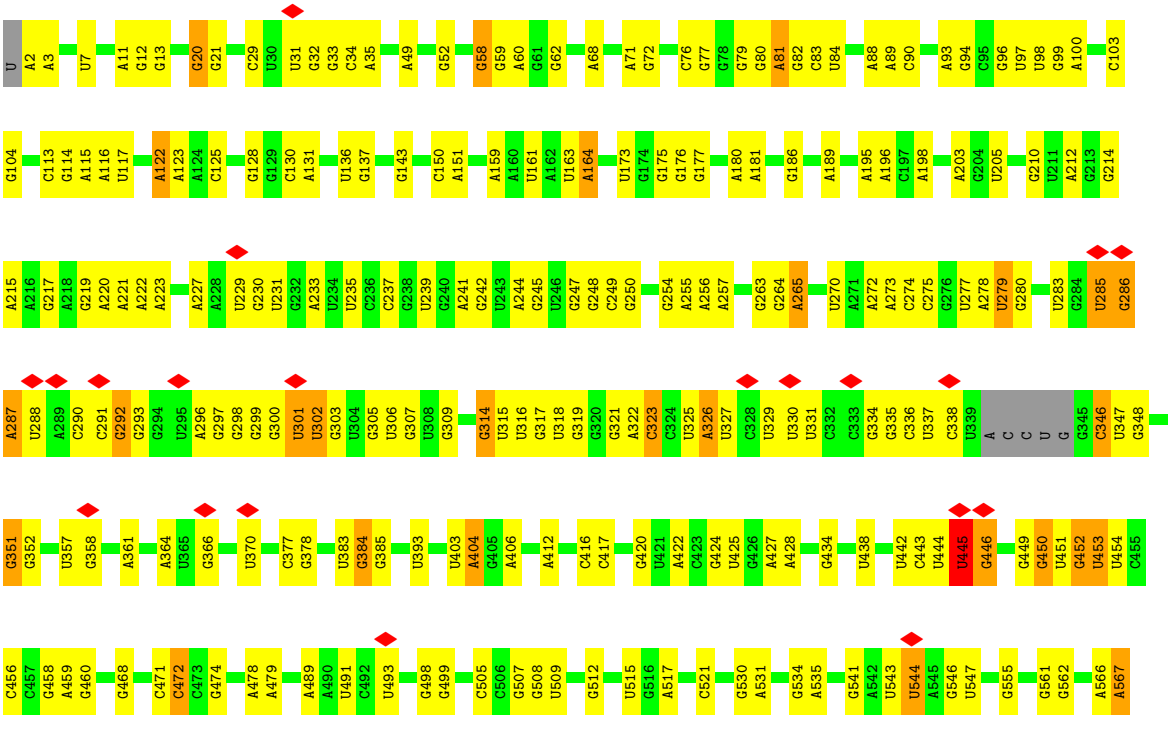
Chain B:

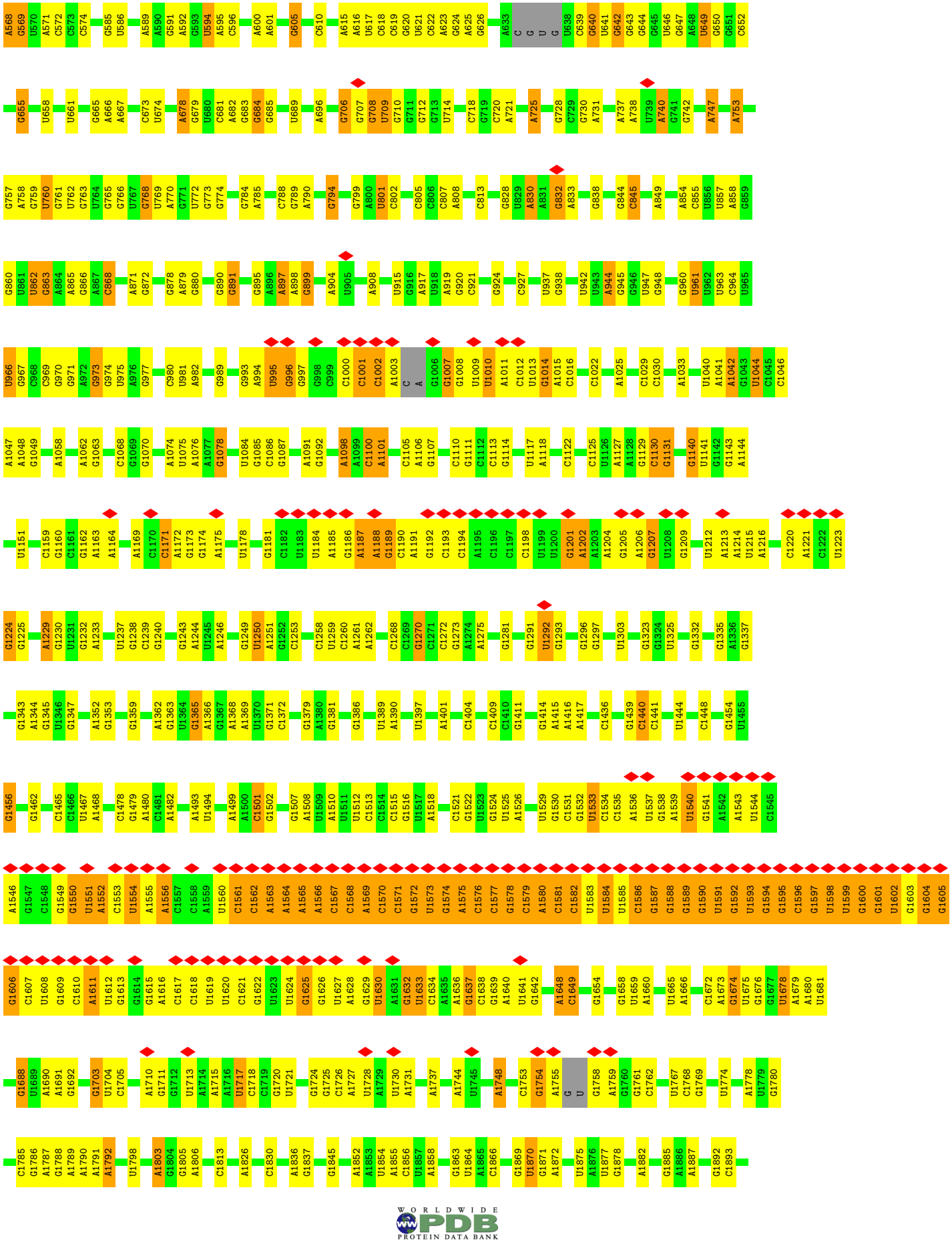


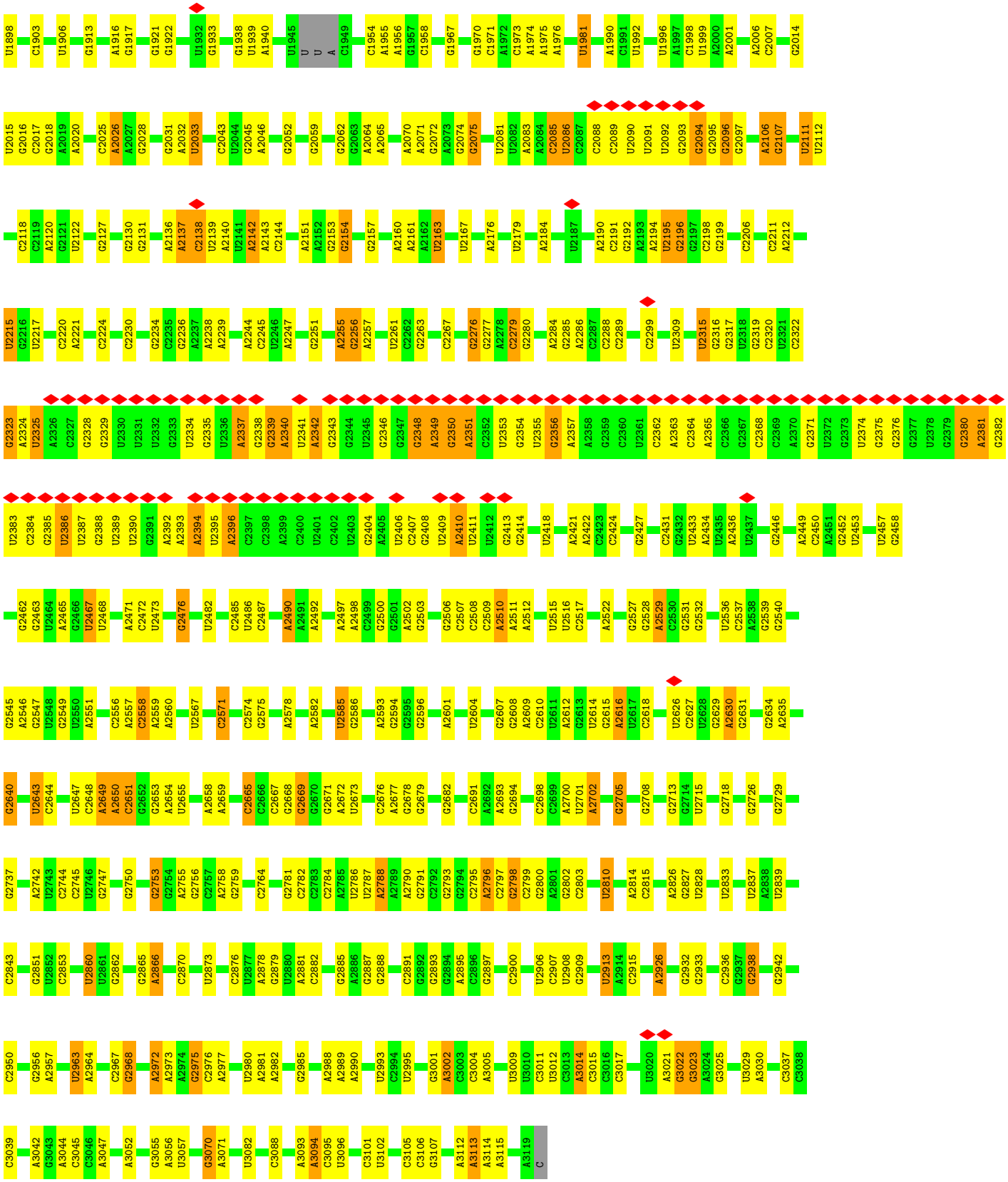


- Molecule 48: 23S rRNA

Chain A:

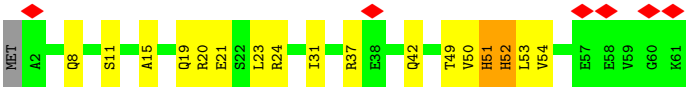






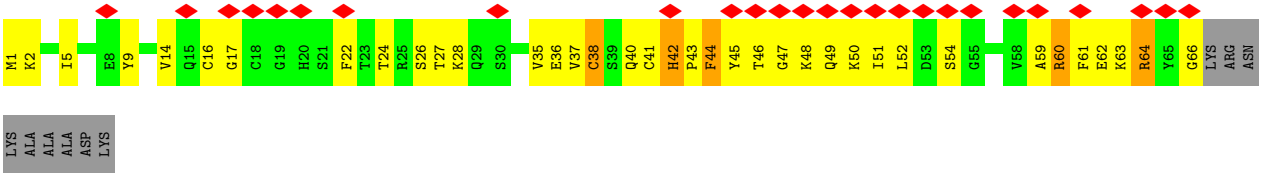
• Molecule 49: 50S ribosomal protein L30

Chain 1:



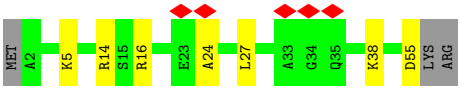
• Molecule 50: 50S ribosomal protein L31

Chain 2:



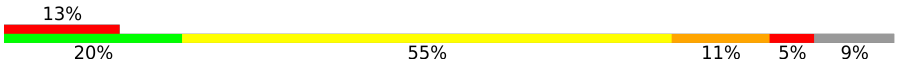
• Molecule 51: 50S ribosomal protein L32

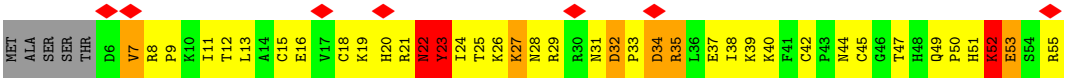
Chain 3:



• Molecule 52: 50S ribosomal protein L33 1

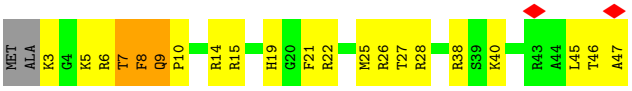
Chain 4:





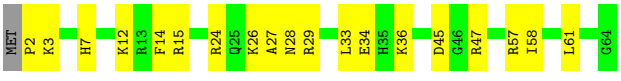
• Molecule 53: 50S ribosomal protein L34

Chain 5:



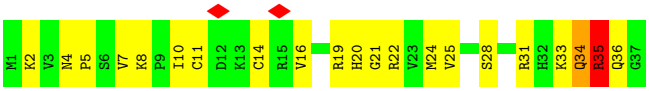
• Molecule 54: 50S ribosomal protein L35

Chain 6:

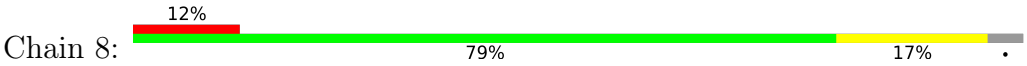


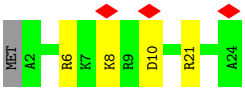
• Molecule 55: 50S ribosomal protein L36

Chain 7:



• Molecule 56: Uncharacterized protein bL37





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	391837	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 ($e^-/Å^2$)	1.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.550	Depositor
Minimum map value	-0.382	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.018	Depositor
Recommended contour level	0.07	Depositor
Map size (Å)	419.99997, 419.99997, 419.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.05, 1.05, 1.05	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	a	0.40	0/36201	0.52	5/56488 (0.0%)
2	c	0.32	0/1696	0.77	4/2276 (0.2%)
3	e	0.38	0/1449	0.78	3/1949 (0.2%)
4	g	0.30	0/1260	0.71	1/1701 (0.1%)
5	h	0.43	0/1018	0.92	4/1375 (0.3%)
6	i	0.42	1/1012 (0.1%)	0.91	4/1362 (0.3%)
7	j	0.39	0/789	0.78	4/1069 (0.4%)
8	k	0.31	0/889	0.75	2/1201 (0.2%)
9	l	0.41	0/969	0.95	1/1294 (0.1%)
10	o	0.31	0/718	0.66	1/963 (0.1%)
11	q	0.39	0/741	0.74	2/993 (0.2%)
12	r	0.30	0/517	0.78	2/691 (0.3%)
13	s	0.42	0/647	0.96	6/871 (0.7%)
14	t	0.35	0/658	0.68	0/875
15	v	0.21	0/1835	0.38	0/2857
16	n	0.46	0/488	0.67	0/650
17	b	0.25	0/1822	0.62	0/2457
18	d	0.33	0/1672	0.74	2/2251 (0.1%)
19	f	0.35	0/782	0.69	2/1059 (0.2%)
20	m	0.34	0/942	0.75	0/1260
21	p	0.39	0/908	0.69	0/1226
22	u	0.58	0/280	0.93	0/359
23	C	1.01	0/2140	1.15	14/2879 (0.5%)
24	D	0.53	0/1609	0.77	0/2165
25	E	0.86	0/1576	1.06	3/2132 (0.1%)
26	F	0.63	0/1459	1.11	12/1962 (0.6%)
27	G	0.31	0/1369	0.60	0/1848
28	H	0.30	0/1027	0.69	2/1398 (0.1%)
29	I	0.22	0/925	0.56	0/1246
30	J	0.27	0/1006	0.71	0/1364
31	K	0.80	0/1165	1.21	16/1578 (1.0%)
32	L	0.90	0/938	1.11	6/1257 (0.5%)
33	M	0.49	0/1091	0.71	0/1457
34	N	0.91	0/1100	1.19	7/1482 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	O	0.81	1/936 (0.1%)	1.24	13/1256 (1.0%)
36	P	0.38	0/966	0.62	0/1298
37	Q	0.46	0/921	0.70	0/1236
38	R	0.51	0/1000	0.64	0/1341
39	S	0.44	0/778	0.62	0/1048
40	T	0.95	1/887 (0.1%)	1.16	7/1204 (0.6%)
41	U	0.77	0/749	1.18	7/1006 (0.7%)
42	V	0.66	0/737	1.05	4/987 (0.4%)
43	W	0.63	1/1422 (0.1%)	1.17	9/1941 (0.5%)
44	X	0.94	0/613	1.08	1/821 (0.1%)
45	Y	0.52	0/478	0.77	0/641
46	Z	0.69	0/530	0.92	0/708
47	B	0.28	0/2797	0.48	0/4357
48	A	0.47	0/74597	0.51	4/116386 (0.0%)
49	1	0.85	0/486	1.00	1/651 (0.2%)
50	2	0.40	0/520	0.86	1/698 (0.1%)
51	3	0.54	0/427	0.70	0/572
52	4	0.75	0/424	1.10	2/567 (0.4%)
53	5	0.95	0/375	1.34	4/493 (0.8%)
54	6	1.00	0/507	1.03	1/672 (0.1%)
55	7	0.87	0/302	1.03	0/401
56	8	0.46	0/191	0.75	0/247
All	All	0.49	4/163341 (0.0%)	0.63	157/244526 (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
2	c	0	10
3	e	0	1
4	g	0	2
5	h	0	2
7	j	0	1
8	k	0	2
9	l	0	2
11	q	0	1
13	s	0	2
18	d	0	1
20	m	0	1
23	C	0	5

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Mol	Chain	#Chirality outliers	#Planarity outliers
25	E	0	5
26	F	0	3
31	K	0	1
32	L	0	2
34	N	0	1
35	O	0	4
40	T	0	1
43	W	0	2
44	X	0	4
50	2	0	1
52	4	0	1
All	All	0	55

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
43	W	7	ILE	C-N	6.28	1.39	1.33
40	T	117	ARG	C-N	5.83	1.40	1.33
35	O	45	ARG	C-N	5.53	1.40	1.34
6	i	42	VAL	C-N	5.09	1.39	1.33

All (157) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
43	W	62	GLY	N-CA-C	19.05	133.83	111.93
5	h	94	LEU	N-CA-C	-15.76	85.09	109.04
34	N	61	GLY	N-CA-C	14.64	128.49	111.36
43	W	61	HIS	CA-C-N	11.61	131.12	120.10
43	W	61	HIS	C-N-CA	11.61	131.12	120.10
26	F	117	ARG	N-CA-C	10.59	122.83	111.28
26	F	114	ALA	N-CA-C	10.40	122.62	111.28
40	T	118	PRO	N-CA-C	9.34	122.09	110.70
41	U	64	GLY	N-CA-C	9.23	122.16	111.36
18	d	189	PRO	CA-C-N	9.22	135.04	121.31
18	d	189	PRO	C-N-CA	9.22	135.04	121.31
31	K	10	ASP	N-CA-C	8.57	120.63	111.28
31	K	27	ARG	N-CA-C	-8.40	102.62	113.12
26	F	55	LYS	N-CA-C	8.29	120.32	111.28
40	T	118	PRO	CA-N-CD	-8.14	100.61	112.00
34	N	111	GLU	N-CA-C	7.93	119.92	111.28
53	5	8	PHE	N-CA-C	7.87	119.48	111.07
53	5	7	THR	N-CA-C	7.84	127.50	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	O	45	ARG	CA-C-N	-7.59	111.15	119.19
35	O	45	ARG	C-N-CA	-7.59	111.15	119.19
26	F	56	LEU	N-CA-C	7.49	120.40	111.33
1	a	1482	U	P-O3'-C3'	7.30	131.14	120.20
28	H	124	ILE	CA-C-N	7.03	134.97	121.54
28	H	124	ILE	C-N-CA	7.03	134.97	121.54
50	2	54	SER	N-CA-C	6.98	119.98	110.55
40	T	118	PRO	CB-CA-C	6.94	119.39	110.92
41	U	74	GLY	N-CA-C	6.87	119.82	110.69
42	V	58	GLY	N-CA-C	6.76	120.84	112.73
52	4	22	ASN	N-CA-C	6.71	120.41	110.48
31	K	9	GLY	N-CA-C	6.70	120.78	112.73
32	L	108	GLU	N-CA-C	-6.67	96.59	110.80
31	K	76	ARG	N-CA-C	-6.66	98.05	108.90
35	O	46	PRO	CA-N-CD	-6.64	102.70	112.00
8	k	115	GLU	N-CA-C	6.60	119.70	109.07
26	F	54	ALA	N-CA-C	6.51	118.46	111.36
32	L	110	LYS	N-CA-C	6.42	126.12	113.29
48	A	2085	C	C2'-C3'-O3'	6.37	119.06	109.50
5	h	94	LEU	CA-C-N	-6.34	112.62	119.98
5	h	94	LEU	C-N-CA	-6.34	112.62	119.98
10	o	24	SER	N-CA-C	-6.34	101.78	109.83
44	X	11	ARG	N-CA-C	-6.33	99.56	109.25
35	O	44	LEU	N-CA-C	-6.33	104.38	111.28
3	e	175	PRO	N-CA-C	-6.33	104.92	113.40
31	K	145	VAL	N-CA-C	6.29	116.94	107.75
13	s	8	GLY	CA-C-N	-6.28	114.31	120.52
13	s	8	GLY	C-N-CA	-6.28	114.31	120.52
31	K	7	LYS	N-CA-C	-6.20	102.34	110.53
52	4	23	TYR	N-CA-C	-6.19	98.90	109.24
40	T	31	VAL	N-CA-CB	-6.16	104.36	112.36
31	K	134	ALA	N-CA-C	-6.15	102.85	110.41
13	s	40	ILE	N-CA-C	6.09	116.57	110.23
35	O	16	HIS	N-CA-C	-6.08	104.66	111.28
19	f	67	ALA	CA-C-N	6.07	138.20	120.97
19	f	67	ALA	C-N-CA	6.07	138.20	120.97
26	F	153	ILE	N-CA-CB	-6.06	106.59	112.65
26	F	71	LYS	CA-C-N	-6.05	113.55	119.90
26	F	71	LYS	C-N-CA	-6.05	113.55	119.90
26	F	77	ALA	N-CA-C	6.04	119.36	109.76
49	1	52	HIS	N-CA-C	6.03	117.93	111.36
31	K	5	THR	CA-C-N	-5.99	113.59	119.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	K	5	THR	C-N-CA	-5.99	113.59	119.76
43	W	116	GLY	N-CA-C	5.98	120.48	110.56
41	U	8	ARG	N-CA-C	-5.97	106.63	114.04
23	C	262	LYS	CA-C-N	-5.92	114.66	120.52
23	C	262	LYS	C-N-CA	-5.92	114.66	120.52
54	6	15	ARG	CB-CG-CD	-5.87	97.80	111.30
2	c	62	ARG	CA-C-N	5.87	132.54	121.97
2	c	62	ARG	C-N-CA	5.87	132.54	121.97
32	L	110	LYS	CA-C-N	-5.86	113.34	123.25
32	L	110	LYS	C-N-CA	-5.86	113.34	123.25
31	K	5	THR	N-CA-C	-5.86	96.08	108.73
23	C	259	LYS	CA-C-N	-5.84	114.25	120.03
23	C	259	LYS	C-N-CA	-5.84	114.25	120.03
4	g	153	HIS	N-CA-C	5.83	117.64	111.28
23	C	145	VAL	CA-C-N	5.79	132.60	121.54
23	C	145	VAL	C-N-CA	5.79	132.60	121.54
41	U	77	LYS	N-CA-C	5.78	118.72	110.10
26	F	48	GLY	N-CA-C	-5.78	107.67	115.36
32	L	109	LYS	N-CA-C	5.78	117.82	108.41
31	K	136	GLN	CA-C-N	-5.77	113.81	119.76
31	K	136	GLN	C-N-CA	-5.77	113.81	119.76
35	O	7	GLY	CA-C-N	-5.77	114.32	120.03
35	O	7	GLY	C-N-CA	-5.77	114.32	120.03
43	W	173	ASP	CA-C-N	5.73	125.83	119.87
43	W	173	ASP	C-N-CA	5.73	125.83	119.87
34	N	59	LYS	N-CA-C	-5.72	102.83	110.55
42	V	89	ASP	N-CA-C	-5.72	105.05	111.28
35	O	30	GLU	N-CA-C	5.70	117.57	111.36
11	q	6	GLY	CA-C-N	-5.70	114.06	119.76
11	q	6	GLY	C-N-CA	-5.70	114.06	119.76
7	j	42	LEU	CA-C-N	-5.58	112.86	119.84
7	j	42	LEU	C-N-CA	-5.58	112.86	119.84
40	T	117	ARG	CA-C-N	-5.56	114.65	120.38
40	T	117	ARG	C-N-CA	-5.56	114.65	120.38
26	F	141	GLU	CA-C-N	5.55	132.13	121.54
26	F	141	GLU	C-N-CA	5.55	132.13	121.54
42	V	79	LYS	CA-C-N	-5.55	114.54	120.03
42	V	79	LYS	C-N-CA	-5.55	114.54	120.03
32	L	64	ARG	CB-CG-CD	-5.54	98.57	111.30
1	a	1482	U	C2'-C3'-O3'	5.53	117.79	109.50
34	N	61	GLY	CA-C-N	5.52	131.59	122.43
34	N	61	GLY	C-N-CA	5.52	131.59	122.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	s	39	THR	CA-C-N	5.52	128.00	120.77
13	s	39	THR	C-N-CA	5.52	128.00	120.77
12	r	25	LYS	CA-C-N	5.51	132.07	121.54
12	r	25	LYS	C-N-CA	5.51	132.07	121.54
31	K	133	ALA	N-CA-C	-5.50	105.29	111.28
25	E	147	THR	N-CA-C	-5.50	105.29	111.28
41	U	12	LEU	CA-CB-CG	5.49	135.52	116.30
23	C	80	ALA	N-CA-C	-5.47	106.66	113.55
35	O	3	LYS	CA-C-N	-5.45	114.17	119.78
35	O	3	LYS	C-N-CA	-5.45	114.17	119.78
31	K	15	TRP	N-CA-C	5.42	117.69	110.53
23	C	28	THR	CA-C-N	-5.42	114.67	120.03
23	C	28	THR	C-N-CA	-5.42	114.67	120.03
1	a	895	A	P-O3'-C3'	5.41	128.32	120.20
35	O	60	LEU	N-CA-C	-5.41	99.27	110.80
1	a	1171	G	P-O5'-C5'	-5.39	112.81	120.90
43	W	89	ARG	N-CA-C	-5.33	102.30	110.14
6	i	42	VAL	CA-C-N	-5.33	114.10	120.13
6	i	42	VAL	C-N-CA	-5.33	114.10	120.13
53	5	9	GLN	CA-C-N	-5.33	114.23	119.93
53	5	9	GLN	C-N-CA	-5.33	114.23	119.93
23	C	157	ARG	CB-CG-CD	-5.32	99.08	111.30
13	s	32	LYS	N-CA-C	-5.31	99.86	108.41
31	K	108	MET	CA-CB-CG	5.31	124.72	114.10
9	l	58	THR	N-CA-C	-5.31	105.49	111.28
3	e	190	ALA	CA-C-N	-5.29	113.23	119.84
3	e	190	ALA	C-N-CA	-5.29	113.23	119.84
31	K	2	PRO	CA-N-CD	-5.29	104.60	112.00
40	T	116	SER	N-CA-C	5.28	117.71	108.52
48	A	2085	C	P-O3'-C3'	5.27	128.11	120.20
48	A	445	U	P-O3'-C3'	5.27	128.10	120.20
6	i	82	ASP	N-CA-C	5.26	117.97	109.40
2	c	143	GLN	CA-C-N	-5.25	113.28	119.84
2	c	143	GLN	C-N-CA	-5.25	113.28	119.84
41	U	11	ILE	CA-C-N	-5.25	114.05	122.08
41	U	11	ILE	C-N-CA	-5.25	114.05	122.08
25	E	93	PRO	CA-C-N	5.22	134.55	121.80
25	E	93	PRO	C-N-CA	5.22	134.55	121.80
7	j	54	SER	CA-C-N	-5.18	113.37	119.84
7	j	54	SER	C-N-CA	-5.18	113.37	119.84
48	A	2094	G	P-O3'-C3'	5.18	127.97	120.20
6	i	101	LEU	CB-CG-CD2	-5.15	95.25	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	O	45	ARG	C-N-CD	5.13	146.03	125.00
23	C	98	LEU	N-CA-C	-5.12	105.78	111.36
8	k	116	VAL	N-CA-C	5.08	119.91	109.34
1	a	1482	U	C4'-C3'-O3'	5.07	117.01	109.40
43	W	152	GLU	N-CA-C	5.07	117.38	109.52
43	W	122	THR	N-CA-C	5.06	117.74	109.59
34	N	68	ILE	CA-C-N	-5.04	113.97	121.83
34	N	68	ILE	C-N-CA	-5.04	113.97	121.83
23	C	201	GLN	CA-C-N	5.03	131.15	121.54
23	C	201	GLN	C-N-CA	5.03	131.15	121.54
23	C	28	THR	N-CA-C	5.03	117.91	110.32
35	O	41	ALA	N-CA-C	5.03	116.76	111.28
5	h	128	LEU	N-CA-C	-5.02	101.14	108.07

There are no chirality outliers.

All (55) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
50	2	64	ARG	Peptide
52	4	52	LYS	Peptide
23	C	144	ALA	Peptide
23	C	229	VAL	Peptide
23	C	246	PRO	Peptide
23	C	35	ARG	Peptide
23	C	61	ALA	Peptide
25	E	131	VAL	Peptide
25	E	137	SER	Peptide
25	E	158	ILE	Peptide
25	E	162	ASP	Peptide
25	E	93	PRO	Peptide
26	F	32	VAL	Peptide
26	F	34	GLN	Peptide
26	F	81	ILE	Peptide
31	K	91	GLU	Peptide
32	L	89	ASN	Peptide
32	L	91	ASN	Peptide
34	N	78	PRO	Peptide
35	O	117	ARG	Peptide
35	O	61	HIS	Peptide
35	O	83	ILE	Peptide
35	O	88	ALA	Peptide
40	T	95	ARG	Peptide

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Mol	Chain	Res	Type	Group
43	W	38	TYR	Peptide
43	W	39	GLY	Peptide
44	X	80	ILE	Peptide
44	X	82	PRO	Peptide
44	X	84	ALA	Peptide
44	X	85	ARG	Peptide
2	c	136	ALA	Peptide
2	c	137	ILE	Peptide
2	c	141	MET	Peptide
2	c	142	ARG	Peptide
2	c	143	GLN	Peptide
2	c	144	PRO	Peptide
2	c	145	ASN	Peptide
2	c	146	VAL	Peptide
2	c	148	GLY	Peptide
2	c	62	ARG	Peptide
18	d	189	PRO	Peptide
3	e	186	ILE	Peptide
4	g	1	MET	Peptide
4	g	32	LEU	Peptide
5	h	126	GLU	Peptide
5	h	55	ARG	Peptide
7	j	44	THR	Peptide
8	k	133	PRO	Peptide
8	k	35	THR	Peptide
9	l	23	ALA	Peptide
9	l	88	LYS	Peptide
20	m	73	GLU	Peptide
11	q	15	LYS	Peptide
13	s	70	LYS	Peptide
13	s	73	GLU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	a	32341	0	16266	942	0
2	c	1672	0	1722	149	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	e	1433	0	1485	158	0
4	g	1240	0	1293	78	0
5	h	1003	0	1039	54	0
6	i	994	0	1048	118	0
7	j	775	0	808	62	0
8	k	871	0	885	105	0
9	l	958	0	1045	35	0
10	o	709	0	747	41	0
11	q	730	0	772	38	0
12	r	512	0	543	29	0
13	s	630	0	639	93	0
14	t	655	0	707	103	0
15	v	1643	0	832	69	0
16	n	477	0	501	60	0
17	b	1793	0	1839	29	0
18	d	1641	0	1668	67	0
19	f	771	0	795	43	0
20	m	935	0	983	111	0
21	p	891	0	933	33	0
22	u	280	0	342	15	0
23	C	2097	0	2147	221	0
24	D	1587	0	1629	58	0
25	E	1553	0	1587	149	0
26	F	1437	0	1461	250	0
27	G	1348	0	1399	27	0
28	H	1018	0	988	11	0
29	I	918	0	959	13	0
30	J	990	0	1021	28	0
31	K	1138	0	1174	118	0
32	L	930	0	989	80	0
33	M	1078	0	1151	46	0
34	N	1074	0	1116	73	0
35	O	919	0	959	161	0
36	P	956	0	990	58	0
37	Q	907	0	938	49	0
38	R	988	0	1038	20	0
39	S	768	0	820	46	0
40	T	873	0	909	55	0
41	U	739	0	777	100	0
42	V	731	0	782	115	0
43	W	1407	0	1422	151	0
44	X	604	0	622	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	Y	470	0	484	9	0
46	Z	527	0	537	60	0
47	B	2501	0	1272	232	0
48	A	66623	0	33514	1038	0
49	1	483	0	513	22	0
50	2	510	0	500	121	0
51	3	423	0	463	12	0
52	4	416	0	419	99	0
53	5	372	0	406	38	0
54	6	502	0	541	32	0
55	7	298	0	320	23	0
56	8	189	0	205	4	0
All	All	150328	0	100944	4550	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 18.

All (4550) 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)
39:S:3:THR:CG2	39:S:102:ILE:HD13	1.25	1.65
39:S:58:VAL:HG23	39:S:103:LYS:CG	1.24	1.65
41:U:83:ILE:HD11	48:A:1456:G:C2	1.14	1.64
48:A:1565:A:N3	48:A:1606:G:C5	1.69	1.61
12:r:32:TYR:CE1	19:f:91:LEU:HD11	1.34	1.59
48:A:1595:G:H5"	48:A:1596:C:C6	1.33	1.59
2:c:128:ALA:HB2	3:e:19:ARG:CD	1.31	1.58
8:k:43:ILE:HD11	8:k:51:ILE:CD1	1.13	1.57
35:O:29:PHE:CB	35:O:79:LEU:HD12	1.28	1.56
2:c:128:ALA:CB	3:e:19:ARG:HD2	1.35	1.56
26:F:45:MET:HE2	26:F:64:LEU:CD2	1.36	1.56
41:U:83:ILE:CD1	48:A:1456:G:C2	1.85	1.53
25:E:144:PHE:CG	25:E:148:LEU:HD11	1.42	1.53
26:F:45:MET:CE	26:F:64:LEU:HD21	1.32	1.52
39:S:3:THR:CG2	39:S:102:ILE:CD1	1.83	1.52
26:F:117:ARG:NH1	26:F:146:HIS:CD2	1.72	1.52
42:V:4:HIS:CE1	42:V:96:ARG:NH1	1.75	1.52
8:k:43:ILE:CD1	8:k:51:ILE:HD11	1.38	1.51
6:i:39:VAL:CG2	6:i:83:ILE:HG23	1.39	1.50
25:E:192:ASP:HB3	33:M:5:LYS:NZ	1.21	1.50
43:W:77:LEU:HB3	43:W:100:VAL:CG2	1.40	1.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:141:MET:CE	2:c:170:GLU:HB3	1.04	1.48
2:c:141:MET:CE	2:c:170:GLU:CB	1.88	1.48
23:C:25:THR:HG21	23:C:81:HIS:CA	1.44	1.48
1:a:11:G:N1	3:e:122:ARG:NH2	1.60	1.47
1:a:331:G:C2	14:t:5:LYS:NZ	1.78	1.47
39:S:3:THR:HG22	39:S:102:ILE:CD1	1.38	1.47
35:O:86:PHE:CZ	35:O:117:ARG:O	1.68	1.46
42:V:4:HIS:CE1	42:V:96:ARG:HH12	1.31	1.46
6:i:41:LEU:HD11	6:i:83:ILE:CD1	1.41	1.46
6:i:39:VAL:CG2	6:i:83:ILE:CG2	1.91	1.46
26:F:45:MET:CE	26:F:64:LEU:CD2	1.85	1.45
4:g:151:PHE:HZ	8:k:65:ARG:NE	1.05	1.45
25:E:144:PHE:CD1	25:E:148:LEU:HD21	1.50	1.45
3:e:17:ARG:NH1	3:e:40:VAL:HG21	1.30	1.43
25:E:182:GLN:NE2	48:A:706:G:H8	1.06	1.43
26:F:132:THR:CG2	36:P:6:VAL:HG21	1.48	1.43
3:e:17:ARG:HH12	3:e:40:VAL:CG2	1.29	1.42
39:S:58:VAL:CG2	39:S:103:LYS:HG2	1.49	1.42
48:A:1565:A:N3	48:A:1606:G:C6	1.86	1.41
2:c:135:LYS:CG	3:e:26:ARG:HH22	1.34	1.41
31:K:142:ILE:CG2	48:A:1130:C:H41	1.33	1.41
32:L:91:ASN:ND2	32:L:110:LYS:HB3	1.35	1.40
41:U:4:ILE:HD13	46:Z:58:TYR:CE1	1.57	1.40
41:U:19:LYS:HD2	48:A:1508:A:N6	1.30	1.40
6:i:41:LEU:CD1	6:i:83:ILE:HD12	1.48	1.39
42:V:2:LYS:HD2	42:V:83:VAL:CG1	1.52	1.39
3:e:17:ARG:CZ	3:e:40:VAL:HG21	1.53	1.39
32:L:91:ASN:HD21	32:L:110:LYS:CB	1.35	1.39
1:a:421:U:C4	2:c:126:ARG:NH1	1.92	1.36
26:F:51:ALA:O	26:F:85:LYS:NZ	1.58	1.36
2:c:135:LYS:HG3	3:e:26:ARG:NH2	1.09	1.35
23:C:26:ARG:HD2	23:C:81:HIS:CD2	1.61	1.35
1:a:345:C:C5'	37:Q:38:ARG:NH1	1.90	1.35
1:a:1042:U:C5	2:c:3:GLN:NE2	1.94	1.34
3:e:17:ARG:HH21	3:e:85:ILE:CG1	1.08	1.34
35:O:29:PHE:HB3	35:O:79:LEU:CD1	1.54	1.33
41:U:73:PHE:CZ	48:A:544:U:O2	1.81	1.33
1:a:1295:U:OP2	13:s:6:LYS:CB	1.74	1.33
1:a:1478:G:C8	48:A:2137:A:H2	1.47	1.33
2:c:141:MET:HE2	2:c:170:GLU:CB	1.51	1.33
41:U:4:ILE:HD13	46:Z:58:TYR:CZ	1.63	1.33

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:F:183:PRO:O	26:F:184:PHE:CD2	1.79	1.32
3:e:137:ARG:HH12	18:d:197:GLU:CD	1.19	1.32
2:c:109:GLU:OE2	2:c:143:GLN:CG	1.77	1.32
52:4:15:CYS:O	52:4:20:HIS:HB2	1.27	1.32
41:U:83:ILE:HD11	48:A:1456:G:N2	1.42	1.32
35:O:29:PHE:CB	35:O:79:LEU:CD1	2.07	1.32
35:O:29:PHE:CG	35:O:79:LEU:HD11	1.65	1.31
4:g:151:PHE:CZ	8:k:65:ARG:NE	1.95	1.31
15:v:1:C:OP3	34:N:78:PRO:HG2	1.23	1.31
48:A:1567:C:C2	48:A:1603:G:O6	1.84	1.30
25:E:144:PHE:CE1	25:E:148:LEU:HD21	1.66	1.30
1:a:345:C:H5”	37:Q:38:ARG:NH1	0.98	1.30
1:a:48:G:OP2	21:p:13:ILE:HB	1.19	1.29
6:i:47:GLN:N	6:i:82:ASP:OD2	1.65	1.29
31:K:142:ILE:CG2	48:A:1130:C:N4	1.95	1.29
35:O:29:PHE:CG	35:O:79:LEU:CD1	2.16	1.28
47:B:4:A:C2	47:B:25:G:O6	1.84	1.28
48:A:1595:G:C5’	48:A:1596:C:C6	2.16	1.28
48:A:1567:C:N3	48:A:1603:G:O6	1.67	1.28
48:A:1574:G:O6	48:A:1599:U:H5”	1.30	1.28
52:4:15:CYS:O	52:4:20:HIS:CB	1.82	1.28
1:a:1295:U:OP2	13:s:6:LYS:HB2	1.11	1.27
41:U:68:ARG:O	41:U:69:THR:HG23	1.30	1.27
48:A:1565:A:C2	48:A:1606:G:N7	2.01	1.27
39:S:58:VAL:CG2	39:S:103:LYS:CG	2.07	1.27
25:E:151:ASN:O	25:E:152:LYS:CG	1.83	1.27
41:U:19:LYS:NZ	48:A:1508:A:H61	1.31	1.27
35:O:75:VAL:O	35:O:79:LEU:HB3	1.09	1.26
41:U:83:ILE:HD11	48:A:1456:G:N3	1.48	1.26
44:X:17:ALA:CB	48:A:2485:C:OP2	1.80	1.26
48:A:1574:G:O6	48:A:1599:U:C5’	1.82	1.26
2:c:135:LYS:CG	3:e:26:ARG:NH2	1.95	1.25
26:F:183:PRO:O	26:F:184:PHE:HD2	0.92	1.25
1:a:275:G:O2’	11:q:32:MET:SD	1.94	1.25
26:F:73:GLU:HG2	47:B:42:C:C5	1.71	1.25
23:C:25:THR:CG2	23:C:81:HIS:HB3	1.66	1.25
43:W:105:LYS:HZ1	43:W:136:GLU:CD	1.42	1.25
1:a:1329:G:OP2	6:i:129:ARG:HG2	1.29	1.24
15:v:8:U:O2’	15:v:22:A:C2	1.82	1.24
35:O:33:ARG:CD	35:O:114:GLU:OE2	1.84	1.24
35:O:33:ARG:HD3	35:O:114:GLU:OE2	1.19	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:U:19:LYS:CD	48:A:1508:A:N6	1.98	1.24
48:A:1580:A:C6	48:A:1591:U:O2	1.91	1.24
13:s:40:ILE:HD12	50:2:64:ARG:NH1	1.51	1.24
31:K:142:ILE:HG21	48:A:1130:C:N4	1.50	1.23
24:D:154:CYS:N	48:A:2798:G:O2'	1.70	1.23
36:P:9:ASN:ND2	47:B:58:A:N3	1.85	1.23
26:F:46:GLY:O	26:F:47:VAL:CG2	1.86	1.22
48:A:1595:G:OP2	48:A:1596:C:C4	1.93	1.22
2:c:5:ILE:CD1	16:n:58:LYS:NZ	2.03	1.22
23:C:25:THR:HG21	23:C:81:HIS:CB	1.69	1.22
1:a:1294:G:OP2	50:2:63:LYS:HE2	1.39	1.21
47:B:25:G:N2	47:B:114:A:N3	1.88	1.21
1:a:1478:G:C8	48:A:2137:A:C2	2.29	1.21
3:e:17:ARG:HH12	3:e:40:VAL:CB	1.53	1.21
35:O:8:PRO:HG3	48:A:1870:U:C4	1.75	1.21
43:W:38:TYR:CZ	43:W:96:ASP:OD1	1.87	1.21
48:A:1590:G:C5	48:A:1591:U:H5	1.58	1.21
3:e:17:ARG:CD	3:e:20:ARG:HH22	1.52	1.21
43:W:100:VAL:CG1	43:W:137:ALA:HB1	1.71	1.21
15:v:1:C:OP3	34:N:78:PRO:CG	1.87	1.20
48:A:1565:A:C2	48:A:1606:G:C5	2.28	1.20
36:P:41:ASN:ND2	47:B:7:G:O2'	1.73	1.20
26:F:29:TYR:HB3	26:F:34:GLN:OE1	1.02	1.20
31:K:141:GLU:CD	31:K:143:LYS:HG2	1.66	1.20
1:a:421:U:C4	2:c:126:ARG:CZ	2.23	1.20
12:r:33:LYS:NZ	19:f:5:GLU:OE2	1.74	1.20
1:a:338:A:OP1	32:L:97:ARG:NH2	1.75	1.20
3:e:19:ARG:HA	18:d:40:ARG:NH1	1.53	1.19
23:C:25:THR:CG2	23:C:81:HIS:CB	2.20	1.19
43:W:6:ASN:HB2	43:W:138:LEU:O	1.36	1.19
25:E:7:VAL:HG23	25:E:16:GLY:C	1.65	1.19
25:E:144:PHE:CE1	25:E:148:LEU:CD2	2.24	1.19
48:A:1595:G:H8	48:A:1596:C:C6	1.60	1.19
1:a:1284:U:O4	20:m:14:ARG:HD3	1.42	1.19
25:E:151:ASN:O	25:E:152:LYS:HG3	1.01	1.19
30:J:96:LYS:CE	43:W:120:PRO:HB2	1.73	1.19
20:m:57:ARG:NH1	50:2:36:GLU:OE1	1.76	1.18
36:P:50:GLN:NE2	47:B:7:G:H21	1.38	1.18
12:r:32:TYR:CE1	19:f:91:LEU:CD1	2.27	1.18
32:L:91:ASN:ND2	32:L:110:LYS:CB	1.98	1.18
1:a:421:U:H3	2:c:126:ARG:NH2	1.41	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:109:GLU:OE2	2:c:143:GLN:HG2	1.01	1.18
13:s:40:ILE:HD12	50:2:64:ARG:CZ	1.73	1.18
1:a:1173:C:OP1	2:c:150:ARG:NH1	1.77	1.18
26:F:51:ALA:C	26:F:85:LYS:NZ	1.87	1.18
41:U:73:PHE:CE2	48:A:544:U:O2	1.97	1.18
48:A:1595:G:H5"	48:A:1596:C:C5	1.77	1.18
23:C:54:LYS:HZ2	48:A:2031:G:C4'	1.56	1.17
32:L:7:ARG:NH2	32:L:20:LEU:HD12	1.55	1.17
44:X:17:ALA:HB2	48:A:2485:C:OP2	1.34	1.17
23:C:96:HIS:CE1	23:C:102:LYS:HZ3	1.62	1.17
25:E:144:PHE:CD1	25:E:148:LEU:HD11	1.80	1.17
43:W:6:ASN:CB	43:W:138:LEU:O	1.93	1.17
3:e:182:ARG:HD2	5:h:45:TYR:CE1	1.80	1.16
25:E:182:GLN:NE2	48:A:706:G:C8	1.97	1.16
48:A:1580:A:N6	48:A:1591:U:C2	2.13	1.16
24:D:154:CYS:SG	48:A:2798:G:O3'	2.02	1.16
47:B:40:A:N6	50:2:1:MET:H2	1.44	1.16
26:F:29:TYR:CB	26:F:34:GLN:OE1	1.92	1.16
41:U:68:ARG:O	41:U:69:THR:CG2	1.93	1.16
1:a:1098:U:H5'	6:i:126:ARG:NE	1.61	1.15
1:a:1476:A:H2'	1:a:1477:A:H2'	1.28	1.15
32:L:7:ARG:HH22	32:L:20:LEU:HD12	1.00	1.15
26:F:46:GLY:O	26:F:47:VAL:HG22	1.00	1.15
26:F:132:THR:HG21	36:P:6:VAL:CG2	1.75	1.15
43:W:105:LYS:NZ	43:W:136:GLU:CD	2.03	1.15
8:k:54:ALA:CB	8:k:79:ALA:HB2	1.77	1.15
23:C:73:ASP:HB3	23:C:120:GLY:CA	1.76	1.15
1:a:1042:U:H5	2:c:3:GLN:NE2	1.36	1.15
10:o:23:GLY:HA2	10:o:28:GLN:HE21	1.07	1.15
34:N:85:SER:OG	44:X:8:SER:HB3	1.43	1.15
41:U:91:LYS:HG2	41:U:92:PRO:CD	1.77	1.15
23:C:258:ARG:HA	48:A:2015:U:H5"	1.28	1.14
31:K:3:THR:CG2	48:A:1113:C:O2	1.96	1.14
43:W:105:LYS:CE	43:W:136:GLU:OE2	1.96	1.14
23:C:72:LYS:HG3	23:C:75:VAL:HG21	1.20	1.14
41:U:4:ILE:CD1	46:Z:58:TYR:CE1	2.31	1.14
1:a:1204:C:P	13:s:78:ARG:HH11	1.71	1.14
2:c:141:MET:HE3	2:c:170:GLU:CG	1.78	1.14
3:e:17:ARG:HD3	3:e:20:ARG:NH2	1.61	1.14
3:e:19:ARG:CA	18:d:40:ARG:HH12	1.61	1.14
1:a:968:U:O2	13:s:54:GLY:O	1.64	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:K:142:ILE:HG22	48:A:1130:C:H41	1.04	1.13
48:A:1574:G:C6	48:A:1599:U:H5"	1.81	1.13
50:2:41:CYS:HB3	50:2:43:PRO:HD2	1.29	1.13
52:4:19:LYS:CD	52:4:44:ASN:HB2	1.77	1.13
31:K:25:LEU:O	48:A:1258:C:OP1	1.65	1.13
1:a:193:C:N4	11:q:18:GLY:HA2	1.63	1.13
23:C:25:THR:HG23	23:C:81:HIS:HB3	1.17	1.13
41:U:19:LYS:CE	48:A:1508:A:H61	1.59	1.13
42:V:45:THR:O	48:A:571:A:O2'	1.65	1.13
3:e:19:ARG:CA	18:d:40:ARG:NH1	2.11	1.13
47:B:10:G:N1	47:B:107:A:C2	2.17	1.13
1:a:1332:A:O2'	4:g:33:GLU:OE1	1.68	1.12
32:L:90:ASP:HB3	32:L:92:ASP:HB3	1.24	1.12
48:A:1569:A:N6	48:A:1603:G:C2	2.15	1.12
23:C:96:HIS:CE1	23:C:102:LYS:NZ	2.16	1.12
32:L:91:ASN:ND2	32:L:110:LYS:O	1.82	1.12
48:A:1590:G:C5	48:A:1591:U:C5	2.36	1.12
36:P:42:ARG:NH1	47:B:48:C:OP1	1.83	1.12
2:c:142:ARG:HB3	2:c:143:GLN:HB2	1.31	1.12
14:t:4:ILE:HG21	14:t:8:ILE:HG13	1.26	1.12
35:O:9:ARG:HG2	35:O:14:SER:HB3	1.25	1.12
13:s:15:LEU:O	13:s:19:VAL:HG23	1.49	1.12
26:F:45:MET:CE	26:F:64:LEU:HD23	1.77	1.12
1:a:941:A:C2	13:s:55:ARG:NH1	2.16	1.11
43:W:77:LEU:CB	43:W:100:VAL:HG23	1.79	1.11
1:a:1261:A:OP1	7:j:9:ARG:NH1	1.83	1.11
8:k:43:ILE:CD1	8:k:51:ILE:CD1	2.09	1.11
43:W:100:VAL:CG1	43:W:137:ALA:CB	2.27	1.11
48:A:1563:A:O2'	48:A:1564:A:OP2	1.65	1.11
42:V:4:HIS:CE1	42:V:96:ARG:CZ	2.33	1.11
1:a:193:C:H41	11:q:18:GLY:HA2	0.96	1.11
1:a:331:G:N2	14:t:5:LYS:NZ	1.97	1.11
2:c:141:MET:HE1	2:c:170:GLU:HB3	1.15	1.11
31:K:141:GLU:OE1	31:K:143:LYS:HG2	1.50	1.11
42:V:28:PRO:HG2	48:A:83:C:OP1	1.49	1.11
43:W:77:LEU:HB3	43:W:100:VAL:HG21	1.30	1.11
48:A:1601:G:H2'	48:A:1602:U:H5"	1.28	1.11
3:e:17:ARG:NH2	3:e:40:VAL:HG21	1.66	1.10
43:W:9:ASN:ND2	43:W:57:VAL:HG13	1.66	1.10
39:S:3:THR:HG21	39:S:102:ILE:CD1	1.62	1.10
6:i:39:VAL:HG21	6:i:83:ILE:HG21	1.17	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:F:46:GLY:C	26:F:47:VAL:HG22	1.74	1.10
39:S:103:LYS:HZ3	39:S:103:LYS:HA	1.06	1.10
46:Z:13:LEU:HD11	46:Z:17:GLU:HB2	1.34	1.10
8:k:45:ASP:HB2	8:k:46:PRO:HD2	1.32	1.10
25:E:7:VAL:N	25:E:16:GLY:O	1.84	1.10
26:F:31:ASN:OD1	47:B:56:C:H4'	1.49	1.10
31:K:112:ASN:ND2	48:A:650:G:OP1	1.84	1.10
46:Z:6:THR:HG22	46:Z:10:LEU:HD11	1.21	1.10
52:4:19:LYS:HD2	52:4:44:ASN:HB2	1.10	1.10
20:m:72:ARG:HB3	20:m:72:ARG:HH21	1.09	1.10
23:C:37:LEU:HD23	23:C:62:TYR:CB	1.81	1.10
25:E:144:PHE:CD1	25:E:148:LEU:CD2	2.31	1.10
25:E:192:ASP:CB	33:M:5:LYS:NZ	2.14	1.10
43:W:101:GLN:HB3	43:W:104:GLU:HB2	1.30	1.10
3:e:17:ARG:NH1	3:e:40:VAL:CG2	1.96	1.09
1:a:421:U:N3	2:c:126:ARG:NH2	1.97	1.09
6:i:41:LEU:HG	6:i:81:PHE:CE2	1.87	1.09
7:j:54:SER:O	16:n:41:ARG:NH2	1.84	1.09
48:A:1581:C:H42	48:A:1591:U:H1'	1.14	1.09
1:a:1040:U:H4'	7:j:53:ARG:O	1.52	1.09
1:a:1328:A:O2'	6:i:129:ARG:NH2	1.84	1.09
3:e:17:ARG:CG	3:e:20:ARG:NH2	2.16	1.09
5:h:94:LEU:HD13	5:h:118:ALA:HB3	1.11	1.09
48:A:1569:A:N6	48:A:1603:G:N3	2.01	1.09
13:s:40:ILE:CD1	50:2:64:ARG:NH1	2.16	1.08
26:F:51:ALA:HB2	26:F:90:MET:HE1	1.22	1.08
35:O:75:VAL:O	35:O:79:LEU:CB	2.01	1.08
47:B:78:U:O2	48:A:977:G:O2'	1.71	1.08
1:a:517:G:H5"	9:l:110:ARG:HH22	0.97	1.08
2:c:137:ILE:HG22	2:c:138:GLN:N	1.66	1.08
23:C:25:THR:CG2	23:C:81:HIS:CA	2.30	1.08
52:4:15:CYS:CB	52:4:20:HIS:HA	1.83	1.08
15:v:57:C:O2'	26:F:82:ALA:HB2	1.53	1.08
24:D:154:CYS:SG	48:A:2796:A:OP1	2.11	1.08
48:A:1595:G:C8	48:A:1596:C:C6	2.42	1.08
23:C:26:ARG:CD	23:C:81:HIS:CD2	2.36	1.08
36:P:3:HIS:HD2	47:B:57:U:O3'	1.37	1.08
43:W:100:VAL:HG12	43:W:137:ALA:CB	1.84	1.08
31:K:13:ARG:NH2	31:K:49:ASP:O	1.86	1.08
36:P:9:ASN:HB2	47:B:58:A:O2'	1.52	1.07
47:B:40:A:N6	50:2:1:MET:N	2.01	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1595:G:C8	48:A:1596:C:H6	1.72	1.07
6:i:39:VAL:HG21	6:i:83:ILE:CG2	1.70	1.07
42:V:4:HIS:ND1	42:V:96:ARG:NH1	2.02	1.07
43:W:77:LEU:CB	43:W:100:VAL:CG2	2.33	1.07
23:C:29:PRO:CG	23:C:34:VAL:HG21	1.85	1.07
36:P:42:ARG:HH12	47:B:48:C:P	1.77	1.07
24:D:154:CYS:SG	48:A:2798:G:O2'	1.99	1.07
39:S:6:ILE:O	39:S:7:VAL:HG23	1.54	1.07
52:4:28:ASN:OD1	52:4:31:ASN:N	1.88	1.07
26:F:31:ASN:CG	47:B:56:C:H4'	1.80	1.06
26:F:99:ARG:HD2	47:B:45:G:C8	1.89	1.06
39:S:59:ALA:O	39:S:103:LYS:NZ	1.87	1.06
43:W:100:VAL:HG12	43:W:137:ALA:HB2	1.37	1.06
1:a:1042:U:C4	2:c:3:GLN:NE2	2.23	1.06
48:A:1595:G:C3'	48:A:1596:C:H5'	1.85	1.06
23:C:54:LYS:HZ2	48:A:2031:G:H4'	1.11	1.06
26:F:118:ILE:H	26:F:118:ILE:HD12	1.17	1.06
26:F:132:THR:HG21	36:P:6:VAL:HG21	1.10	1.06
33:M:51:GLU:CG	54:6:57:ARG:NH1	2.19	1.06
1:a:1354:G:O3'	6:i:91:GLY:HA3	1.53	1.06
3:e:17:ARG:NH2	3:e:85:ILE:HG12	1.20	1.06
25:E:144:PHE:CG	25:E:148:LEU:CD1	2.38	1.06
26:F:73:GLU:OE1	47:B:41:U:H5	1.35	1.06
1:a:1328:A:O2'	6:i:129:ARG:CZ	2.04	1.06
14:t:4:ILE:HD13	14:t:8:ILE:HG12	1.37	1.06
32:L:80:ASP:OD2	37:Q:61:ARG:NH1	1.86	1.06
52:4:15:CYS:HB2	52:4:20:HIS:HA	1.35	1.06
23:C:55:GLY:HA3	23:C:218:ARG:CD	1.86	1.05
43:W:101:GLN:O	43:W:101:GLN:NE2	1.87	1.05
47:B:4:A:H2	47:B:25:G:O6	1.24	1.05
48:A:1563:A:N7	48:A:1565:A:N7	2.04	1.05
48:A:1565:A:C2	48:A:1606:G:C8	2.44	1.05
48:A:1580:A:N6	48:A:1591:U:O2	1.87	1.05
1:a:637:U:O2	10:o:22:THR:HG22	1.57	1.05
2:c:137:ILE:HG23	2:c:141:MET:HG2	1.38	1.05
26:F:73:GLU:HG2	47:B:42:C:C6	1.91	1.05
42:V:2:LYS:CD	42:V:83:VAL:HG11	1.85	1.05
1:a:1328:A:N3	6:i:129:ARG:NH2	2.04	1.05
32:L:91:ASN:HD21	32:L:110:LYS:HB2	1.21	1.05
1:a:1332:A:C1'	4:g:33:GLU:HG3	1.85	1.05
1:a:654:G:N2	8:k:127:HIS:CE1	2.24	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:m:67:GLU:O	20:m:71:ARG:HD2	1.55	1.04
25:E:150:GLU:O	25:E:193:ASP:OD2	1.75	1.04
26:F:138:GLY:HA3	48:A:2529:A:H5"	1.38	1.04
26:F:183:PRO:C	26:F:184:PHE:HD2	1.63	1.04
48:A:1608:U:H2'	48:A:1609:G:C8	1.91	1.04
1:a:1332:A:H1'	4:g:33:GLU:CG	1.86	1.04
3:e:19:ARG:C	18:d:40:ARG:HH12	1.65	1.04
3:e:137:ARG:NH1	18:d:197:GLU:CD	1.98	1.04
42:V:28:PRO:CG	48:A:83:C:OP1	2.03	1.04
1:a:1342:A:OP2	16:n:35:ARG:NH2	1.91	1.04
20:m:3:ARG:NH1	26:F:117:ARG:HH21	1.55	1.04
35:O:88:ALA:N	35:O:89:ASP:OD1	1.88	1.04
39:S:58:VAL:HG23	39:S:103:LYS:HG3	1.07	1.04
3:e:17:ARG:HH22	3:e:40:VAL:CG2	1.69	1.04
4:g:153:HIS:O	4:g:155:ARG:N	1.91	1.04
34:N:60:ARG:HH12	48:A:1193:C:H5"	1.18	1.04
47:B:10:G:N1	47:B:107:A:H2	1.51	1.04
48:A:1561:C:H2'	48:A:1562:C:H5'	1.40	1.04
48:A:1580:A:N6	48:A:1591:U:N3	2.06	1.04
48:A:1608:U:H2'	48:A:1609:G:H8	1.16	1.04
41:U:91:LYS:CG	41:U:92:PRO:HD2	1.87	1.04
48:A:1581:C:H42	48:A:1591:U:C1'	1.69	1.04
1:a:262:G:H4'	14:t:70:ASN:HB2	1.40	1.03
23:C:30:GLU:OE1	23:C:33:LEU:CD1	2.06	1.03
26:F:49:ASP:HB2	26:F:56:LEU:HD11	1.09	1.03
35:O:96:ARG:HH22	35:O:116:VAL:HG12	1.22	1.03
1:a:653:G:H4'	19:f:87:ARG:HH12	1.22	1.03
7:j:53:ARG:HB2	16:n:45:ARG:HH12	1.20	1.03
8:k:116:VAL:HG13	8:k:117:GLY:H	1.23	1.03
13:s:42:PRO:HD3	50:2:60:ARG:HE	1.23	1.03
31:K:141:GLU:OE2	31:K:143:LYS:CG	2.06	1.03
52:4:11:ILE:HD13	52:4:27:LYS:HG2	1.37	1.03
1:a:12:A:N6	18:d:197:GLU:O	1.91	1.03
3:e:182:ARG:NH1	5:h:45:TYR:OH	1.92	1.03
42:V:2:LYS:CD	42:V:83:VAL:CG1	2.37	1.03
42:V:62:GLN:HG2	42:V:63:GLU:N	1.53	1.03
1:a:1332:A:C2'	4:g:33:GLU:CD	2.31	1.03
43:W:102:ARG:NH2	43:W:138:LEU:HD11	1.72	1.03
48:A:1578:G:C4	48:A:1592:G:N1	2.27	1.03
43:W:105:LYS:NZ	43:W:136:GLU:OE2	1.92	1.02
1:a:439:U:O2	18:d:115:HIS:ND1	1.92	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:637:U:O2	10:o:22:THR:CG2	2.07	1.02
1:a:1332:A:C2'	4:g:33:GLU:OE1	2.08	1.02
1:a:1447:C:OP1	37:Q:108:LYS:HE3	1.59	1.02
41:U:19:LYS:CE	48:A:1508:A:N6	2.20	1.02
43:W:100:VAL:HG11	43:W:137:ALA:HB1	1.38	1.02
43:W:188:GLU:O	43:W:192:GLU:OE1	1.76	1.02
48:A:1590:G:C4	48:A:1591:U:C5	2.47	1.02
52:4:27:LYS:NZ	52:4:34:ASP:HB2	1.75	1.02
6:i:41:LEU:HD11	6:i:83:ILE:CG1	1.88	1.02
24:D:154:CYS:SG	48:A:2798:G:C3'	2.48	1.02
26:F:132:THR:HG22	36:P:6:VAL:HG21	1.37	1.02
31:K:141:GLU:OE2	31:K:143:LYS:HG2	1.58	1.02
40:T:18:ARG:NH1	48:A:1436:C:O2'	1.92	1.02
48:A:2509:C:C5	52:4:8:ARG:NH1	2.28	1.02
1:a:345:C:H5"	37:Q:38:ARG:CZ	1.90	1.01
2:c:141:MET:CE	2:c:170:GLU:CG	2.37	1.01
3:e:179:ALA:CB	3:e:189:VAL:HG21	1.90	1.01
8:k:43:ILE:HD11	8:k:51:ILE:HD13	1.41	1.01
1:a:636:G:N2	10:o:23:GLY:HA3	1.75	1.01
20:m:57:ARG:CZ	50:2:36:GLU:OE1	2.08	1.01
1:a:421:U:N3	2:c:126:ARG:CZ	2.23	1.01
32:L:7:ARG:HH22	32:L:20:LEU:CD1	1.72	1.01
35:O:16:HIS:HD2	48:A:1390:A:C8	1.77	1.01
3:e:20:ARG:N	18:d:40:ARG:HH12	1.58	1.01
5:h:94:LEU:HD13	5:h:118:ALA:CB	1.90	1.00
41:U:5:THR:HG22	41:U:6:ASP:H	1.24	1.00
43:W:77:LEU:HB3	43:W:100:VAL:HG23	1.01	1.00
47:B:40:A:H61	50:2:1:MET:N	1.58	1.00
48:A:1561:C:N3	48:A:1562:C:H5	1.57	1.00
7:j:53:ARG:HB2	16:n:45:ARG:NH1	1.76	1.00
23:C:26:ARG:HD2	23:C:81:HIS:NE2	1.76	1.00
23:C:37:LEU:HD23	23:C:62:TYR:HB2	1.01	1.00
26:F:117:ARG:NH1	26:F:146:HIS:HD2	1.24	1.00
36:P:108:THR:OG1	47:B:47:A:O2'	1.79	1.00
41:U:19:LYS:NZ	48:A:1508:A:N6	2.09	1.00
48:A:1610:C:H2'	48:A:1611:A:H8	1.21	1.00
1:a:331:G:N2	14:t:5:LYS:HZ1	1.52	1.00
23:C:25:THR:CG2	23:C:81:HIS:HA	1.89	1.00
1:a:421:U:O4	2:c:126:ARG:CZ	2.10	1.00
1:a:1098:U:OP1	6:i:31:ARG:HD2	1.60	1.00
1:a:1161:A:OP1	6:i:125:THR:OG1	1.78	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:D:154:CYS:SG	48:A:2798:G:H4'	1.99	1.00
42:V:62:GLN:CG	42:V:63:GLU:H	1.75	1.00
48:A:2980:U:OP2	55:7:19:ARG:NH1	1.95	1.00
1:a:941:A:C2	13:s:55:ARG:NH2	2.29	1.00
5:h:94:LEU:CD1	5:h:118:ALA:HB3	1.91	1.00
1:a:331:G:N3	14:t:5:LYS:NZ	2.00	1.00
1:a:338:A:P	32:L:97:ARG:HH22	1.85	1.00
1:a:525:C:OP2	18:d:54:GLN:NE2	1.94	1.00
26:F:9:PRO:HD2	26:F:12:LYS:NZ	1.75	1.00
43:W:105:LYS:HE2	43:W:136:GLU:OE2	1.61	1.00
48:A:1595:G:H3'	48:A:1596:C:C5'	1.91	1.00
50:2:41:CYS:HB2	50:2:44:PHE:CZ	1.97	1.00
23:C:29:PRO:HG2	23:C:34:VAL:HG21	1.44	0.99
1:a:730:C:O2	10:o:22:THR:O	1.77	0.99
2:c:141:MET:HE3	2:c:170:GLU:HG2	1.42	0.99
35:O:33:ARG:HD3	35:O:114:GLU:CD	1.86	0.99
42:V:62:GLN:HG2	42:V:63:GLU:H	0.85	0.99
26:F:45:MET:HE3	26:F:64:LEU:CD2	1.89	0.99
50:2:44:PHE:O	50:2:48:LYS:HG3	1.61	0.99
26:F:34:GLN:HG3	47:B:57:U:C4'	1.92	0.99
32:L:8:LEU:CD1	32:L:19:ILE:HG13	1.92	0.99
48:A:1570:C:O2'	48:A:1571:C:OP2	1.79	0.99
1:a:1414:C:OP1	37:Q:106:LYS:NZ	1.95	0.99
35:O:86:PHE:CE1	35:O:117:ARG:O	2.16	0.99
48:A:1561:C:C2'	48:A:1562:C:H5'	1.92	0.99
1:a:1329:G:H5"	6:i:129:ARG:HB3	1.42	0.99
6:i:41:LEU:HD12	6:i:83:ILE:HD12	1.42	0.99
23:C:54:LYS:NZ	48:A:2031:G:O3'	1.94	0.99
40:T:9:SER:HB3	40:T:115:GLU:CB	1.92	0.99
48:A:1564:A:H2'	48:A:1565:A:H5"	1.44	0.99
1:a:527:A:OP2	18:d:2:ALA:N	1.95	0.99
52:4:15:CYS:CA	52:4:20:HIS:HA	1.93	0.99
53:5:5:LYS:HB3	53:5:9:GLN:NE2	1.76	0.99
1:a:104:A:N6	14:t:10:ARG:HH21	1.60	0.99
26:F:49:ASP:HB2	26:F:56:LEU:CD1	1.93	0.99
40:T:44:ARG:HH12	51:3:55:ASP:H	1.09	0.99
31:K:141:GLU:CD	31:K:143:LYS:CG	2.35	0.99
24:D:154:CYS:HA	48:A:2799:C:H5'	1.42	0.99
32:L:90:ASP:HB3	32:L:92:ASP:CB	1.91	0.99
43:W:36:VAL:HG21	47:B:74:A:H2	1.27	0.99
3:e:17:ARG:NH2	3:e:40:VAL:CG2	2.24	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1565:A:N3	48:A:1606:G:N7	2.04	0.98
48:A:1578:G:C4	48:A:1592:G:C2	2.30	0.98
47:B:21:C:H2'	47:B:22:A:C8	1.98	0.98
12:r:32:TYR:CZ	19:f:91:LEU:HD11	1.99	0.98
23:C:29:PRO:HB2	23:C:34:VAL:CG2	1.92	0.98
25:E:66:TYR:CD1	25:E:73:ARG:NH1	2.31	0.98
26:F:10:ARG:HG2	26:F:10:ARG:HH11	1.27	0.98
39:S:58:VAL:HG22	39:S:103:LYS:HG2	1.45	0.98
6:i:40:ARG:NH1	6:i:84:TYR:CD2	2.32	0.98
48:A:1565:A:C4	48:A:1606:G:C6	2.50	0.98
6:i:39:VAL:HG23	6:i:83:ILE:CG2	1.93	0.98
23:C:54:LYS:HZ2	48:A:2031:G:C5'	1.75	0.98
6:i:39:VAL:HG22	6:i:83:ILE:HG23	0.98	0.98
3:e:17:ARG:CD	3:e:20:ARG:NH2	2.19	0.98
23:C:37:LEU:CD2	23:C:62:TYR:HB2	1.93	0.98
48:A:1561:C:C4	48:A:1562:C:H5	1.81	0.98
1:a:403:C:H5"	18:d:128:PRO:HD2	1.45	0.97
41:U:83:ILE:CD1	48:A:1456:G:N2	2.11	0.97
1:a:819:U:H3	1:a:829:G:N2	1.61	0.97
14:t:4:ILE:HG21	14:t:8:ILE:H	1.30	0.97
24:D:158:GLY:O	48:A:2276:G:N3	1.97	0.97
34:N:85:SER:OG	44:X:8:SER:CB	2.11	0.97
8:k:54:ALA:HB3	8:k:79:ALA:CB	1.93	0.97
20:m:72:ARG:HH11	50:2:50:LYS:NZ	1.62	0.97
52:4:19:LYS:HD2	52:4:44:ASN:CB	1.93	0.97
1:a:1332:A:H1'	4:g:33:GLU:HG3	0.98	0.97
43:W:87:PRO:O	43:W:90:ARG:NH2	1.97	0.97
23:C:55:GLY:HA3	23:C:218:ARG:HD2	1.43	0.97
34:N:111:GLU:OE2	34:N:115:ARG:NE	1.97	0.97
53:5:8:PHE:CE2	53:5:10:PRO:HG3	1.99	0.97
1:a:1170:U:H4'	2:c:10:PHE:CE1	2.00	0.97
42:V:2:LYS:HG2	42:V:83:VAL:HB	1.47	0.97
1:a:11:G:N1	3:e:122:ARG:CZ	2.28	0.97
1:a:193:C:H41	11:q:18:GLY:CA	1.78	0.97
23:C:256:ARG:HA	23:C:256:ARG:HE	1.28	0.97
25:E:7:VAL:CG2	25:E:16:GLY:HA3	1.95	0.97
23:C:54:LYS:NZ	48:A:2031:G:C4'	2.28	0.96
20:m:57:ARG:HH12	50:2:36:GLU:HB3	1.27	0.96
8:k:47:GLN:HA	8:k:47:GLN:HE21	1.28	0.96
35:O:8:PRO:CG	48:A:1870:U:C5	2.48	0.96
36:P:50:GLN:NE2	47:B:7:G:N2	2.13	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:V:46:ALA:HB2	48:A:571:A:O3'	1.65	0.96
3:e:17:ARG:HD3	3:e:20:ARG:HH22	0.81	0.96
24:D:154:CYS:SG	48:A:2796:A:H5"	2.04	0.96
1:a:941:A:N1	13:s:55:ARG:NH2	2.13	0.96
47:B:96:A:H2	48:A:977:G:N3	1.62	0.96
48:A:1595:G:OP2	48:A:1596:C:C5	2.18	0.96
43:W:21:LYS:NZ	47:B:80:C:H42	1.64	0.96
46:Z:13:LEU:HD11	46:Z:17:GLU:CB	1.95	0.96
1:a:1425:G:O6	37:Q:113:ARG:HB2	1.65	0.96
34:N:61:GLY:O	34:N:108:TYR:CE1	2.17	0.96
48:A:1595:G:H3'	48:A:1596:C:H5'	1.00	0.96
6:i:41:LEU:CD1	6:i:83:ILE:CD1	2.24	0.96
26:F:116:PRO:HB2	50:2:37:VAL:HG11	1.48	0.96
1:a:517:G:H5"	9:l:110:ARG:NH2	1.80	0.95
47:B:82:A:H2	47:B:91:G:H1	1.05	0.95
1:a:1169:A:O4'	16:n:60:SER:OG	1.84	0.95
8:k:54:ALA:HB3	8:k:79:ALA:HB2	0.97	0.95
36:P:3:HIS:CD2	47:B:57:U:O3'	2.18	0.95
40:T:75:THR:HB	40:T:118:PRO:HD3	1.46	0.95
23:C:25:THR:HG21	23:C:81:HIS:HA	0.99	0.95
24:D:156:THR:HB	48:A:2795:C:O2'	1.66	0.95
25:E:192:ASP:HB3	33:M:5:LYS:HZ3	1.29	0.95
26:F:66:LEU:HD23	50:2:27:THR:CG2	1.95	0.95
35:O:86:PHE:HZ	35:O:117:ARG:O	1.32	0.95
39:S:3:THR:CG2	39:S:102:ILE:HD11	1.92	0.95
39:S:6:ILE:O	39:S:7:VAL:CG2	2.15	0.95
31:K:112:ASN:CG	48:A:650:G:OP1	2.08	0.95
33:M:51:GLU:HG2	54:6:57:ARG:NH1	1.79	0.95
48:A:1554:U:H3	48:A:1617:C:N4	1.64	0.95
12:r:32:TYR:HE1	19:f:91:LEU:HD11	1.14	0.95
30:J:96:LYS:HE3	43:W:120:PRO:HB2	1.47	0.95
39:S:58:VAL:HG23	39:S:103:LYS:HG2	0.99	0.95
2:c:5:ILE:HD13	16:n:58:LYS:HZ2	1.31	0.95
23:C:35:ARG:HG2	23:C:36:PRO:HD3	1.49	0.95
41:U:91:LYS:HG2	41:U:92:PRO:HD2	0.96	0.95
47:B:25:G:H21	47:B:114:A:C2'	1.79	0.95
48:A:1551:U:H3	48:A:1619:U:H3	1.12	0.95
52:4:11:ILE:CD1	52:4:27:LYS:HG2	1.95	0.95
32:L:8:LEU:H	32:L:8:LEU:HD12	1.32	0.94
1:a:261:U:C5	14:t:74:ASN:ND2	2.35	0.94
25:E:9:THR:OG1	25:E:12:GLY:O	1.85	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:O:117:ARG:NE	35:O:118:GLU:OE1	2.00	0.94
20:m:57:ARG:NH1	50:2:36:GLU:HB3	1.82	0.94
25:E:144:PHE:HD1	25:E:148:LEU:HD21	1.32	0.94
34:N:60:ARG:HG2	34:N:60:ARG:HH21	1.27	0.94
40:T:18:ARG:CZ	48:A:1436:C:O2'	2.16	0.94
1:a:1039:C:H4'	16:n:46:GLU:OE2	1.68	0.94
1:a:1302:C:OP1	13:s:70:LYS:HD2	1.67	0.94
22:u:30:LYS:HG2	48:A:2199:G:H4'	1.48	0.94
32:L:8:LEU:HD11	32:L:19:ILE:HG13	1.48	0.94
35:O:8:PRO:HG3	48:A:1870:U:C5	2.02	0.94
35:O:86:PHE:HZ	35:O:117:ARG:C	1.75	0.94
26:F:49:ASP:CB	26:F:56:LEU:HD11	1.96	0.94
44:X:84:ALA:CB	44:X:86:PRO:HD2	1.98	0.94
25:E:192:ASP:CB	33:M:5:LYS:HZ1	1.76	0.94
26:F:109:ARG:HG3	26:F:113:ILE:HD12	1.48	0.94
39:S:3:THR:HG21	39:S:102:ILE:HD12	1.46	0.94
40:T:9:SER:HB3	40:T:115:GLU:HB2	1.50	0.94
42:V:96:ARG:HD2	42:V:105:ILE:HG23	1.50	0.94
1:a:1327:U:O2'	4:g:1:MET:HE3	1.68	0.94
41:U:4:ILE:HD13	46:Z:58:TYR:OH	1.68	0.94
8:k:44:THR:CG2	8:k:48:GLY:C	2.40	0.94
48:A:1560:U:O2'	48:A:1561:C:H5'	1.68	0.93
3:e:17:ARG:CZ	3:e:40:VAL:CG2	2.42	0.93
14:t:4:ILE:CG2	14:t:8:ILE:HG13	1.98	0.93
48:A:1581:C:H2'	48:A:1582:C:C6	2.03	0.93
48:A:1578:G:C5	48:A:1592:G:C6	2.56	0.93
1:a:1086:G:H5"	2:c:172:ARG:HG2	1.48	0.93
1:a:1170:U:OP1	16:n:58:LYS:NZ	2.01	0.93
3:e:17:ARG:NH1	3:e:40:VAL:CB	2.24	0.93
20:m:72:ARG:HE	50:2:50:LYS:NZ	1.66	0.93
31:K:68:LYS:NZ	48:A:1140:G:O6	2.01	0.93
48:A:1580:A:N1	48:A:1591:U:O2	2.02	0.93
26:F:110:LEU:HD23	26:F:111:ILE:N	1.83	0.93
1:a:653:G:H4'	19:f:87:ARG:NH1	1.84	0.93
1:a:1221:U:O4'	4:g:38:LEU:HD21	1.69	0.93
26:F:66:LEU:HD23	50:2:27:THR:HG21	1.48	0.93
1:a:954:C:H4'	7:j:59:LYS:HB2	1.50	0.93
20:m:3:ARG:HH12	26:F:117:ARG:HH21	1.15	0.93
1:a:261:U:C4	14:t:74:ASN:ND2	2.36	0.93
47:B:29:C:H42	47:B:55:G:H1	1.14	0.93
26:F:73:GLU:OE1	47:B:41:U:C5	2.23	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:F:109:ARG:HD2	26:F:147:GLU:OE2	1.69	0.92
1:a:1310:C:OP1	20:m:28:THR:HG21	1.67	0.92
15:v:21:U:O2'	15:v:22:A:OP1	1.87	0.92
46:Z:9:GLU:O	46:Z:11:ARG:N	2.03	0.92
1:a:345:C:H5"	37:Q:38:ARG:HH11	1.28	0.92
5:h:94:LEU:HB2	5:h:115:ASP:OD1	1.68	0.92
23:C:30:GLU:OE2	23:C:102:LYS:HD3	1.68	0.92
24:D:154:CYS:CA	48:A:2799:C:H5'	2.00	0.92
35:O:9:ARG:HG2	35:O:14:SER:CB	1.99	0.92
44:X:15:ASP:OD2	48:A:2487:C:N4	2.01	0.92
1:a:1479:U:O2'	48:A:2143:A:N1	2.01	0.92
3:e:17:ARG:HG2	3:e:20:ARG:HH21	1.31	0.92
48:A:1583:U:O2	48:A:1589:G:N1	2.03	0.92
2:c:5:ILE:CD1	16:n:58:LYS:HZ2	1.76	0.92
1:a:718:U:H5"	19:f:69:PRO:HB3	1.51	0.92
1:a:1362:G:O6	4:g:2:PRO:HB2	1.69	0.92
48:A:1580:A:N6	48:A:1591:U:H3	1.66	0.92
41:U:19:LYS:HZ2	48:A:1508:A:H61	1.16	0.92
48:A:1597:G:N3	48:A:1598:U:C6	2.37	0.92
26:F:105:GLU:HG3	50:2:24:THR:HG22	1.52	0.91
13:s:29:GLN:HA	13:s:29:GLN:HE21	1.33	0.91
23:C:30:GLU:OE1	23:C:33:LEU:HD11	1.68	0.91
23:C:72:LYS:HG3	23:C:75:VAL:CG2	2.00	0.91
24:D:154:CYS:SG	48:A:2798:G:C4'	2.58	0.91
42:V:2:LYS:CG	42:V:83:VAL:HB	1.99	0.91
44:X:68:GLU:HG3	44:X:81:VAL:HG21	1.52	0.91
2:c:5:ILE:HD13	16:n:58:LYS:NZ	1.81	0.91
41:U:4:ILE:CD1	46:Z:58:TYR:CZ	2.51	0.91
6:i:40:ARG:NH1	6:i:84:TYR:HB3	1.85	0.91
26:F:168:THR:OG1	36:P:4:LYS:O	1.89	0.91
48:A:1565:A:H2'	48:A:1566:A:C8	2.05	0.91
1:a:1332:A:H2'	4:g:33:GLU:OE1	1.71	0.91
43:W:87:PRO:HA	43:W:90:ARG:HH22	1.35	0.91
25:E:144:PHE:CD1	25:E:148:LEU:CD1	2.52	0.91
52:4:12:THR:HG22	52:4:22:ASN:HB3	1.50	0.91
32:L:108:GLU:HG3	32:L:109:LYS:H	1.36	0.91
13:s:31:ILE:O	13:s:50:ALA:HB3	1.70	0.91
23:C:256:ARG:O	48:A:2014:G:H4'	1.71	0.91
47:B:18:C:H2'	47:B:19:G:H8	1.33	0.91
41:U:19:LYS:HZ2	48:A:1508:A:N6	1.64	0.90
47:B:96:A:C2	48:A:977:G:N3	2.39	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:54:LYS:NZ	48:A:2031:G:H4'	1.83	0.90
35:O:9:ARG:CG	35:O:14:SER:HB3	2.01	0.90
35:O:29:PHE:CD1	35:O:79:LEU:HD11	2.06	0.90
43:W:83:LEU:CD1	43:W:92:ILE:HG23	2.02	0.90
48:A:325:U:H3	48:A:450:G:H1	0.94	0.90
48:A:1580:A:C6	48:A:1591:U:C2	2.56	0.90
1:a:1098:U:H5'	6:i:126:ARG:HE	1.35	0.90
10:o:23:GLY:HA2	10:o:28:GLN:NE2	1.86	0.90
1:a:1042:U:O4	2:c:3:GLN:NE2	2.05	0.90
41:U:19:LYS:HD2	48:A:1508:A:H62	0.84	0.90
47:B:4:A:H2	47:B:25:G:C6	1.90	0.90
52:4:15:CYS:HB2	52:4:20:HIS:CA	2.01	0.90
2:c:5:ILE:HD11	16:n:58:LYS:NZ	1.85	0.90
4:g:88:PRO:HG2	4:g:152:ALA:HB2	1.52	0.90
23:C:73:ASP:HB3	23:C:120:GLY:HA2	1.50	0.90
40:T:115:GLU:OE2	40:T:117:ARG:NH1	2.04	0.90
3:e:179:ALA:HB2	3:e:189:VAL:HG21	1.54	0.90
8:k:91:VAL:HG21	8:k:114:LEU:HD13	1.52	0.90
48:A:2508:C:OP1	52:4:7:VAL:HG11	1.71	0.90
1:a:941:A:C2	13:s:55:ARG:CZ	2.55	0.90
42:V:42:LYS:HD2	48:A:586:U:H5"	1.53	0.90
1:a:1261:A:P	7:j:9:ARG:HH12	1.95	0.90
25:E:7:VAL:HB	25:E:16:GLY:HA3	1.52	0.90
25:E:144:PHE:CD2	25:E:148:LEU:HD11	2.07	0.90
52:4:27:LYS:HZ1	52:4:34:ASP:CB	1.84	0.90
44:X:64:PRO:HB3	48:A:759:G:H1	1.34	0.90
35:O:8:PRO:CG	48:A:1870:U:C4	2.55	0.89
1:a:636:G:H21	10:o:23:GLY:CA	1.85	0.89
41:U:83:ILE:HD12	48:A:1456:G:C2	2.05	0.89
46:Z:18:LEU:HD13	46:Z:61:LEU:CD2	2.01	0.89
34:N:58:ILE:CG2	34:N:108:TYR:CE1	2.55	0.89
48:A:1572:G:O6	48:A:1600:G:C2	2.25	0.89
48:A:1572:G:O6	48:A:1600:G:N2	2.05	0.89
15:v:1:C:OP2	34:N:78:PRO:HG3	1.71	0.89
26:F:34:GLN:H	26:F:35:ILE:HG13	1.36	0.89
1:a:954:C:OP2	7:j:59:LYS:HE2	1.73	0.89
43:W:83:LEU:HD11	43:W:92:ILE:HD12	1.55	0.89
52:4:9:PRO:HD2	52:4:27:LYS:O	1.71	0.89
48:A:2509:C:H5	52:4:8:ARG:NH1	1.69	0.89
1:a:10:G:N2	3:e:128:THR:OG1	2.05	0.89
48:A:1597:G:N3	48:A:1598:U:C5	2.41	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:10:G:C6	3:e:124:ALA:HB1	2.07	0.89
1:a:811:U:H5'	17:b:21:ARG:HG2	1.52	0.89
23:C:258:ARG:HA	48:A:2015:U:C5'	2.01	0.89
25:E:7:VAL:O	25:E:14:THR:HA	1.73	0.89
1:a:672:U:C5	8:k:37:ASN:OD1	2.26	0.89
2:c:137:ILE:HG22	2:c:138:GLN:H	1.31	0.89
48:A:2086:U:H3	48:A:2096:G:H1	0.97	0.89
1:a:47:C:OP1	21:p:14:ARG:CG	2.21	0.88
7:j:6:ILE:O	7:j:76:ILE:HB	1.72	0.88
31:K:13:ARG:CZ	31:K:121:LYS:HZ3	1.85	0.88
7:j:51:VAL:HG13	16:n:41:ARG:HB2	1.54	0.88
26:F:31:ASN:OD1	47:B:56:C:C4'	2.20	0.88
52:4:19:LYS:HB2	52:4:21:ARG:NH2	1.88	0.88
48:A:1561:C:C4	48:A:1562:C:C5	2.61	0.88
3:e:182:ARG:HD2	5:h:45:TYR:HE1	1.33	0.88
47:B:25:G:H21	47:B:114:A:C1'	1.86	0.88
2:c:5:ILE:HD11	16:n:58:LYS:HZ1	1.36	0.88
26:F:31:ASN:ND2	47:B:56:C:H5'	1.89	0.88
26:F:99:ARG:CD	47:B:45:G:C8	2.57	0.88
48:A:1564:A:C2'	48:A:1565:A:H5"	2.02	0.88
2:c:122:GLN:HE22	2:c:135:LYS:HE2	1.37	0.88
23:C:256:ARG:HA	23:C:256:ARG:NE	1.88	0.88
50:2:41:CYS:HB3	50:2:43:PRO:CD	2.03	0.88
53:5:22:ARG:O	53:5:26:ARG:HD3	1.73	0.88
1:a:483:C:OP1	9:l:116:ARG:NH1	2.06	0.88
25:E:150:GLU:OE1	25:E:193:ASP:OD1	1.92	0.88
1:a:644:G:H22	1:a:721:G:H1	1.22	0.87
1:a:1295:U:OP2	13:s:6:LYS:HB3	1.71	0.87
26:F:45:MET:HB2	26:F:94:ALA:O	1.74	0.87
1:a:1359:U:C4	4:g:9:LYS:NZ	2.41	0.87
6:i:41:LEU:HD11	6:i:83:ILE:HD12	1.01	0.87
13:s:40:ILE:HD12	50:2:64:ARG:HH12	1.38	0.87
1:a:1332:A:H2'	4:g:33:GLU:CD	1.97	0.87
33:M:58:HIS:CD2	54:6:7:HIS:HE1	1.92	0.87
48:A:1597:G:C4	48:A:1598:U:H5	1.91	0.87
42:V:2:LYS:HD2	42:V:83:VAL:HG11	0.88	0.87
48:A:1597:G:C4	48:A:1598:U:C5	2.62	0.87
1:a:827:U:H2'	1:a:828:G:H8	1.39	0.87
2:c:109:GLU:OE1	2:c:139:SER:OG	1.92	0.87
47:B:19:G:H22	47:B:64:G:H1	1.18	0.87
48:A:1575:A:O2'	48:A:1576:C:H5'	1.72	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1601:G:H2'	48:A:1602:U:C5'	2.03	0.87
52:4:27:LYS:NZ	52:4:34:ASP:CB	2.37	0.87
6:i:40:ARG:HH12	6:i:84:TYR:HD2	1.13	0.87
43:W:38:TYR:CE1	43:W:96:ASP:OD1	2.27	0.87
48:A:1610:C:H2'	48:A:1611:A:C8	2.10	0.87
1:a:962:C:O2'	16:n:19:ARG:HG3	1.75	0.87
26:F:34:GLN:HG3	47:B:57:U:O4'	1.74	0.87
35:O:8:PRO:HG2	48:A:1870:U:C5	2.10	0.87
48:A:1563:A:C5	48:A:1565:A:N7	2.42	0.87
1:a:1355:U:H5'	6:i:92:PRO:HD2	1.56	0.87
15:v:55:U:O2'	15:v:56:U:H5'	1.75	0.87
1:a:206:G:O2'	14:t:52:HIS:CD2	2.28	0.86
1:a:345:C:H5"	37:Q:38:ARG:HH12	1.08	0.86
1:a:1312:U:H5'	20:m:23:TYR:O	1.75	0.86
44:X:15:ASP:CG	48:A:2487:C:H41	1.83	0.86
1:a:331:G:H2'	14:t:5:LYS:HD2	1.56	0.86
30:J:45:ASN:O	30:J:49:GLU:HB2	1.74	0.86
43:W:29:ARG:NH1	47:B:90:G:H5'	1.89	0.86
39:S:103:LYS:HZ3	39:S:103:LYS:CA	1.87	0.86
42:V:83:VAL:HG11	42:V:96:ARG:HG3	1.57	0.86
48:A:1569:A:O2'	48:A:1570:C:OP2	1.92	0.86
48:A:1610:C:O2'	48:A:1611:A:H5'	1.75	0.86
52:4:18:CYS:SG	52:4:19:LYS:N	2.47	0.86
2:c:109:GLU:OE2	2:c:143:GLN:CD	2.19	0.86
20:m:74:VAL:O	20:m:77:ASP:N	2.08	0.86
52:4:11:ILE:HD13	52:4:27:LYS:CG	2.06	0.86
1:a:10:G:O6	3:e:125:SER:N	2.08	0.86
1:a:502:C:OP1	9:l:117:TYR:OH	1.94	0.86
26:F:34:GLN:HG3	47:B:57:U:H4'	1.58	0.86
41:U:4:ILE:HD13	46:Z:58:TYR:HE1	1.40	0.86
3:e:17:ARG:HH12	3:e:40:VAL:HB	1.40	0.86
47:B:4:A:C2	47:B:25:G:C6	2.63	0.86
48:A:1566:A:O2'	48:A:1567:C:H5'	1.75	0.86
48:A:1582:C:O2'	48:A:1583:U:H5'	1.75	0.86
1:a:946:A:O2'	7:j:57:LYS:HD3	1.76	0.86
1:a:1027:G:OP1	16:n:4:LYS:NZ	2.07	0.86
34:N:60:ARG:O	43:W:190:LEU:HD11	1.76	0.86
42:V:4:HIS:HE1	42:V:96:ARG:NH2	1.74	0.86
23:C:96:HIS:HE1	23:C:102:LYS:NZ	1.70	0.85
1:a:123:G:O2'	11:q:21:LYS:NZ	2.08	0.85
3:e:17:ARG:HH22	3:e:40:VAL:HG22	1.40	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:s:42:PRO:HD3	50:2:60:ARG:NE	1.90	0.85
9:l:57:LEU:CD2	9:l:63:VAL:HG22	2.07	0.85
23:C:73:ASP:HB3	23:C:120:GLY:HA3	1.56	0.85
35:O:4:PRO:HG3	48:A:3094:A:C2	2.10	0.85
48:A:1550:G:H1	48:A:1620:U:H3	0.86	0.85
48:A:1570:C:N4	48:A:1602:U:O2	2.08	0.85
24:D:154:CYS:SG	48:A:2798:G:C2'	2.65	0.85
25:E:7:VAL:CB	25:E:16:GLY:HA3	2.05	0.85
26:F:74:VAL:O	47:B:41:U:O4	1.93	0.85
48:A:1590:G:C6	48:A:1591:U:C5	2.64	0.85
1:a:48:G:OP2	21:p:13:ILE:CB	2.16	0.85
7:j:58:TYR:O	7:j:60:ASP:O	1.94	0.85
43:W:77:LEU:HD22	43:W:100:VAL:HG21	1.57	0.85
48:A:1574:G:O6	48:A:1599:U:H5'	1.73	0.85
35:O:117:ARG:N	35:O:118:GLU:HB2	1.92	0.85
36:P:41:ASN:ND2	47:B:7:G:HO2'	1.70	0.85
1:a:517:G:C5'	9:l:110:ARG:HH22	1.86	0.85
23:C:55:GLY:CA	23:C:218:ARG:CD	2.54	0.85
25:E:68:GLN:OE1	48:A:790:A:O2'	1.94	0.85
26:F:99:ARG:CD	47:B:45:G:H8	1.88	0.85
41:U:29:TYR:CE1	41:U:93:ILE:CG2	2.60	0.85
1:a:922:C:OP1	4:g:102:ARG:NH2	2.08	0.85
1:a:1133:G:P	7:j:72:ARG:HH12	1.99	0.85
40:T:6:GLU:C	40:T:8:PRO:HD3	2.01	0.85
42:V:29:ASP:OD1	42:V:30:ARG:N	2.10	0.85
42:V:97:ILE:HD12	42:V:103:LYS:O	1.77	0.84
44:X:68:GLU:HG3	44:X:81:VAL:CG2	2.07	0.84
1:a:11:G:C2	3:e:122:ARG:NH2	2.42	0.84
15:v:57:C:C2'	26:F:82:ALA:HB2	2.07	0.84
41:U:68:ARG:C	41:U:69:THR:HG23	2.00	0.84
43:W:86:HIS:O	43:W:90:ARG:NH2	2.10	0.84
44:X:84:ALA:HB1	44:X:86:PRO:HD2	1.57	0.84
15:v:8:U:HO2'	15:v:22:A:H2	0.88	0.84
48:A:2571:C:O2'	52:4:23:TYR:OH	1.77	0.84
23:C:30:GLU:OE1	23:C:33:LEU:HD12	1.78	0.84
25:E:144:PHE:CE1	25:E:148:LEU:HD22	2.09	0.84
2:c:5:ILE:CD1	16:n:58:LYS:HZ1	1.82	0.84
3:e:137:ARG:NH1	18:d:49:GLN:NE2	2.24	0.84
13:s:19:VAL:HG21	13:s:44:PHE:CE1	2.11	0.84
23:C:25:THR:HG22	23:C:82:ILE:N	1.92	0.84
26:F:105:GLU:CG	50:2:24:THR:HG22	2.07	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:K:3:THR:HG21	48:A:1113:C:O2	1.75	0.84
35:O:95:THR:HG22	35:O:115:LEU:HD23	1.58	0.84
47:B:21:C:H2'	47:B:22:A:H8	1.38	0.84
3:e:20:ARG:N	18:d:40:ARG:NH1	2.24	0.84
33:M:51:GLU:HG3	54:6:57:ARG:NH1	1.93	0.84
35:O:29:PHE:CE2	35:O:51:LEU:HD12	2.11	0.84
20:m:57:ARG:NH2	50:2:36:GLU:OE1	2.09	0.84
35:O:96:ARG:NH2	35:O:116:VAL:HG12	1.91	0.84
3:e:20:ARG:H	18:d:40:ARG:NH1	1.75	0.84
4:g:86:GLN:HB2	4:g:148:ASN:OD1	1.78	0.84
23:C:76:ASN:O	23:C:98:LEU:CD2	2.25	0.84
43:W:101:GLN:HB3	43:W:104:GLU:CB	2.08	0.84
47:B:82:A:C2	47:B:91:G:N1	2.45	0.84
1:a:1284:U:OP2	20:m:21:TYR:OH	1.96	0.83
36:P:50:GLN:CD	47:B:7:G:H21	1.86	0.83
47:B:18:C:H2'	47:B:19:G:C8	2.11	0.83
55:7:7:VAL:HG11	55:7:35:ARG:O	1.77	0.83
1:a:961:C:H42	16:n:18:VAL:HB	1.43	0.83
15:v:59:A:O2'	15:v:61:U:OP2	1.96	0.83
34:N:58:ILE:HG21	34:N:108:TYR:CE1	2.13	0.83
1:a:23:C:OP1	3:e:160:ASN:ND2	2.12	0.83
23:C:35:ARG:O	23:C:62:TYR:HB3	1.77	0.83
36:P:3:HIS:CD2	47:B:57:U:H4'	2.13	0.83
46:Z:13:LEU:CD1	46:Z:17:GLU:HB2	2.07	0.83
3:e:186:ILE:HG22	3:e:187:GLU:H	1.42	0.83
15:v:1:C:P	34:N:78:PRO:HG3	2.17	0.83
26:F:108:ASP:O	26:F:111:ILE:HG22	1.76	0.83
30:J:96:LYS:HE2	43:W:120:PRO:HB2	1.59	0.83
52:4:27:LYS:HZ2	52:4:34:ASP:HB2	1.40	0.83
2:c:137:ILE:CG2	2:c:138:GLN:N	2.41	0.83
6:i:39:VAL:CG2	6:i:83:ILE:HG21	1.84	0.83
25:E:90:VAL:HG11	48:A:678:A:O5'	1.77	0.83
1:a:1414:C:OP1	37:Q:106:LYS:CE	2.27	0.83
2:c:128:ALA:CB	3:e:19:ARG:CD	2.17	0.83
5:h:94:LEU:CD1	5:h:118:ALA:CB	2.53	0.83
20:m:72:ARG:HB3	20:m:72:ARG:NH2	1.93	0.83
20:m:72:ARG:HH21	20:m:72:ARG:CB	1.91	0.83
48:A:2508:C:OP1	52:4:7:VAL:CG1	2.27	0.83
3:e:185:PRO:O	3:e:188:ASP:HB2	1.77	0.83
20:m:70:LEU:O	20:m:74:VAL:HG23	1.78	0.83
25:E:145:LEU:HA	25:E:148:LEU:HD12	1.58	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S:3:THR:HG22	39:S:102:ILE:HD11	1.51	0.83
44:X:17:ALA:CB	48:A:2485:C:P	2.66	0.83
48:A:1567:C:O2	48:A:1603:G:O6	1.95	0.83
24:D:154:CYS:HA	48:A:2799:C:C5'	2.09	0.83
48:A:1566:A:N3	48:A:1605:G:C6	2.47	0.83
8:k:44:THR:CG2	8:k:48:GLY:HA2	2.09	0.83
20:m:67:GLU:O	20:m:71:ARG:CD	2.27	0.83
25:E:14:THR:HG22	25:E:15:ASP:H	1.44	0.83
31:K:141:GLU:OE1	31:K:143:LYS:CG	2.27	0.83
15:v:57:C:O2'	26:F:82:ALA:CB	2.26	0.82
34:N:60:ARG:NH1	48:A:1193:C:H5"	1.94	0.82
1:a:714:G:O2'	12:r:69:LYS:HD3	1.79	0.82
1:a:1332:A:O2'	4:g:33:GLU:CD	2.22	0.82
1:a:12:A:C8	3:e:131:ILE:HG23	2.14	0.82
35:O:14:SER:O	35:O:15:SER:OG	1.96	0.82
4:g:151:PHE:CZ	8:k:65:ARG:CZ	2.63	0.82
13:s:6:LYS:HE2	50:2:63:LYS:HB3	1.59	0.82
13:s:40:ILE:CD1	50:2:64:ARG:CZ	2.56	0.82
15:v:1:C:P	34:N:78:PRO:CG	2.67	0.82
43:W:83:LEU:CD1	43:W:92:ILE:HD12	2.09	0.82
47:B:25:G:N2	47:B:114:A:H1'	1.94	0.82
48:A:1563:A:C8	48:A:1565:A:N7	2.48	0.82
14:t:4:ILE:HG21	14:t:8:ILE:CG1	2.08	0.82
26:F:31:ASN:CG	47:B:56:C:C4'	2.53	0.82
43:W:8:PRO:HB2	43:W:68:THR:OG1	1.80	0.82
47:B:36:U:O2'	47:B:37:C:H5'	1.80	0.82
48:A:1556:A:H61	48:A:1615:G:H1	1.26	0.82
1:a:946:A:O2'	7:j:57:LYS:HE2	1.80	0.82
15:v:8:U:C1'	15:v:22:A:H2	1.92	0.82
23:C:54:LYS:NZ	48:A:2031:G:H5"	1.94	0.82
26:F:116:PRO:CB	50:2:37:VAL:HG11	2.09	0.82
48:A:1565:A:H2	48:A:1606:G:C8	1.98	0.82
48:A:1582:C:C2'	48:A:1583:U:H5'	2.10	0.82
2:c:137:ILE:O	2:c:139:SER:N	2.13	0.82
13:s:9:PRO:HG3	50:2:64:ARG:NE	1.95	0.82
41:U:83:ILE:CD1	48:A:1456:G:N3	2.20	0.82
1:a:1209:C:OP1	20:m:108:ARG:NH1	2.13	0.81
1:a:1284:U:O4	20:m:14:ARG:CD	2.27	0.81
35:O:96:ARG:NH2	35:O:116:VAL:CG1	2.43	0.81
1:a:811:U:C5'	17:b:21:ARG:HG2	2.08	0.81
1:a:1354:G:OP1	6:i:90:GLY:HA2	1.79	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:W:9:ASN:HD22	43:W:57:VAL:HG13	1.40	0.81
31:K:112:ASN:OD1	31:K:113:LYS:N	2.11	0.81
36:P:5:PRO:HG3	47:B:58:A:O5'	1.78	0.81
41:U:19:LYS:CD	48:A:1508:A:H61	1.78	0.81
47:B:85:C:O2'	47:B:86:U:O4'	1.97	0.81
1:a:377:G:OP1	21:p:4:LYS:NZ	2.12	0.81
1:a:715:G:O2'	19:f:89:LYS:NZ	2.14	0.81
26:F:118:ILE:HD11	26:F:144:MET:HE3	1.61	0.81
35:O:117:ARG:HG2	35:O:118:GLU:N	1.95	0.81
48:A:1611:A:O2'	48:A:1612:U:H5'	1.80	0.81
13:s:40:ILE:HD12	50:2:64:ARG:NH2	1.94	0.81
46:Z:6:THR:HG22	46:Z:10:LEU:CD1	2.09	0.81
47:B:20:G:O2'	47:B:21:C:H5'	1.80	0.81
50:2:41:CYS:CB	50:2:43:PRO:HD2	2.10	0.81
1:a:126:G:C6	11:q:17:ARG:NH2	2.49	0.81
1:a:421:U:N3	2:c:126:ARG:NH1	2.28	0.81
1:a:1362:G:O6	4:g:2:PRO:CB	2.28	0.81
35:O:86:PHE:CZ	35:O:117:ARG:C	2.52	0.81
1:a:828:G:H2'	1:a:829:G:C8	2.14	0.81
15:v:22:A:H61	15:v:47:A:H2'	1.43	0.81
46:Z:13:LEU:HD11	46:Z:17:GLU:OE1	1.79	0.81
23:C:56:GLY:CA	48:A:807:C:OP1	2.29	0.81
52:4:21:ARG:HG3	52:4:44:ASN:OD1	1.81	0.81
1:a:261:U:O4	14:t:74:ASN:ND2	2.13	0.81
5:h:94:LEU:CB	5:h:115:ASP:OD1	2.28	0.81
23:C:25:THR:HG23	23:C:81:HIS:CB	1.98	0.81
47:B:30:G:N1	47:B:54:A:C2	2.48	0.81
3:e:179:ALA:CA	3:e:189:VAL:HG21	2.11	0.80
25:E:45:LYS:HG3	48:A:709:U:O4	1.80	0.80
26:F:32:VAL:HB	26:F:33:MET:CB	2.10	0.80
31:K:3:THR:HG23	48:A:1113:C:N3	1.97	0.80
44:X:15:ASP:HB2	48:A:2486:U:O4	1.81	0.80
25:E:24:LEU:HD21	25:E:208:ASN:OD1	1.82	0.80
25:E:51:SER:OG	48:A:35:A:H5'	1.81	0.80
1:a:722:G:OP2	10:o:35:ARG:NH1	2.15	0.80
25:E:145:LEU:CA	25:E:148:LEU:HD12	1.98	0.80
31:K:142:ILE:HG22	48:A:1130:C:N4	1.78	0.80
1:a:1290:C:H5'	20:m:110:ARG:NH2	1.97	0.80
2:c:142:ARG:HB3	2:c:143:GLN:CB	2.10	0.80
35:O:33:ARG:HG3	35:O:114:GLU:CG	2.11	0.80
48:A:351:G:H1	48:A:444:U:H3	1.27	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:636:G:H21	10:o:23:GLY:HA3	1.43	0.80
48:A:1581:C:N4	48:A:1591:U:C1'	2.45	0.80
3:e:17:ARG:CZ	3:e:40:VAL:HG11	2.12	0.80
41:U:19:LYS:HE3	48:A:1454:G:H5'	1.61	0.80
1:a:941:A:H2	13:s:55:ARG:NH1	1.75	0.80
1:a:1405:G:H5'	32:L:48:PRO:HB3	1.63	0.80
31:K:26:GLY:O	48:A:1262:A:N6	2.14	0.80
53:5:5:LYS:HB3	53:5:9:GLN:HE21	1.47	0.80
1:a:1184:C:OP1	16:n:2:ALA:HB3	1.80	0.80
35:O:117:ARG:HD3	35:O:117:ARG:H	1.43	0.80
48:A:1578:G:O6	48:A:1592:G:C8	2.34	0.80
1:a:1280:C:H5	4:g:114:LYS:HE3	1.46	0.80
6:i:39:VAL:HG23	6:i:85:ALA:HB2	1.64	0.80
15:v:8:U:O2'	15:v:22:A:N1	2.13	0.80
44:X:17:ALA:HB3	48:A:2485:C:OP2	1.82	0.80
1:a:808:A:H62	1:a:840:G:H21	1.30	0.80
26:F:34:GLN:N	26:F:35:ILE:HG13	1.97	0.80
31:K:113:LYS:HD2	48:A:616:A:OP1	1.81	0.80
48:A:1561:C:N3	48:A:1562:C:C5	2.47	0.80
1:a:1329:G:O6	6:i:32:ARG:NH2	2.15	0.79
8:k:44:THR:HG23	8:k:48:GLY:C	2.06	0.79
1:a:324:G:OP1	14:t:17:ARG:HD3	1.83	0.79
1:a:941:A:H2	13:s:55:ARG:HH12	1.22	0.79
26:F:34:GLN:CG	47:B:57:U:C4'	2.58	0.79
48:A:1596:C:O2'	48:A:1597:G:O4'	2.00	0.79
26:F:182:PHE:CD2	26:F:184:PHE:HE2	2.01	0.79
35:O:4:PRO:HG3	48:A:3094:A:N1	1.97	0.79
41:U:91:LYS:CG	41:U:92:PRO:CD	2.51	0.79
42:V:4:HIS:CE1	42:V:96:ARG:NH2	2.50	0.79
50:2:48:LYS:O	50:2:52:LEU:HG	1.82	0.79
1:a:47:C:OP1	21:p:14:ARG:HG3	1.83	0.79
25:E:8:LYS:O	25:E:127:VAL:HA	1.82	0.79
47:B:96:A:H2	48:A:977:G:C2	2.00	0.79
34:N:61:GLY:O	34:N:108:TYR:HE1	1.59	0.79
43:W:98:LEU:HD23	43:W:99:VAL:N	1.97	0.79
1:a:1359:U:C5	4:g:9:LYS:NZ	2.50	0.79
26:F:29:TYR:HB3	26:F:34:GLN:CD	2.05	0.79
35:O:42:ARG:O	35:O:45:ARG:HB3	1.83	0.79
52:4:9:PRO:CD	52:4:27:LYS:O	2.30	0.79
13:s:42:PRO:CD	50:2:60:ARG:HE	1.96	0.79
26:F:55:LYS:HB2	26:F:55:LYS:NZ	1.97	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:i:40:ARG:O	6:i:41:LEU:HD13	1.83	0.79
23:C:54:LYS:NZ	48:A:2031:G:C5'	2.46	0.79
40:T:75:THR:HB	40:T:118:PRO:CD	2.12	0.79
48:A:860:G:HO2'	48:A:863:G:HO2'	1.30	0.79
48:A:1566:A:H1'	48:A:1605:G:H1	1.46	0.79
43:W:102:ARG:HH21	43:W:138:LEU:HD21	1.45	0.79
44:X:14:ARG:NH2	48:A:2503:G:N7	2.30	0.79
48:A:1574:G:N1	48:A:1599:U:H5"	1.97	0.79
9:l:57:LEU:HD21	9:l:63:VAL:CG2	2.13	0.79
46:Z:5:THR:HG23	46:Z:6:THR:H	1.47	0.79
14:t:4:ILE:CG2	14:t:7:GLN:H	1.96	0.78
23:C:257:THR:HB	48:A:2014:G:O2'	1.82	0.78
25:E:118:ARG:HH11	33:M:3:VAL:HG13	1.48	0.78
34:N:85:SER:HG	44:X:8:SER:HB3	1.45	0.78
42:V:2:LYS:NZ	42:V:85:TYR:CE2	2.51	0.78
46:Z:18:LEU:CD1	46:Z:61:LEU:CD2	2.61	0.78
20:m:57:ARG:HH12	50:2:36:GLU:CB	1.96	0.78
31:K:112:ASN:HD21	48:A:650:G:P	2.04	0.78
35:O:33:ARG:NH2	35:O:114:GLU:OE2	2.16	0.78
48:A:1554:U:H3	48:A:1617:C:H42	1.31	0.78
1:a:1294:G:OP2	50:2:63:LYS:CE	2.27	0.78
2:c:141:MET:HE2	2:c:170:GLU:HB3	0.79	0.78
26:F:120:ASP:OD2	26:F:122:ARG:NH1	2.16	0.78
32:L:107:ARG:NH1	37:Q:33:GLU:HG3	1.99	0.78
48:A:725:A:OP2	54:6:47:ARG:NH2	2.16	0.78
48:A:1611:A:C2	48:A:1612:U:C4	2.72	0.78
1:a:136:G:O2'	11:q:6:GLY:HA3	1.82	0.78
1:a:261:U:OP2	14:t:71:GLN:NE2	2.16	0.78
36:P:42:ARG:NH1	47:B:48:C:P	2.46	0.78
41:U:29:TYR:CE1	41:U:93:ILE:HG22	2.19	0.78
48:A:1595:G:H8	48:A:1596:C:C5	2.01	0.78
48:A:2075:G:HO2'	48:A:2107:G:H1	0.78	0.78
50:2:44:PHE:O	50:2:48:LYS:HE3	1.84	0.78
1:a:104:A:N6	14:t:10:ARG:NH2	2.31	0.78
6:i:40:ARG:NH1	6:i:84:TYR:CB	2.46	0.78
23:C:55:GLY:HA3	23:C:218:ARG:CG	2.13	0.78
34:N:60:ARG:NE	48:A:1194:C:OP2	2.17	0.78
43:W:87:PRO:CA	43:W:90:ARG:HH22	1.96	0.78
1:a:1425:G:O6	37:Q:113:ARG:CB	2.31	0.78
13:s:41:ILE:HA	50:2:60:ARG:NH2	1.98	0.78
34:N:61:GLY:O	34:N:108:TYR:CD1	2.36	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:U:7:PRO:O	41:U:49:ILE:HD11	1.84	0.78
31:K:3:THR:CG2	48:A:1113:C:C2	2.66	0.78
35:O:16:HIS:CD2	48:A:1390:A:C8	2.68	0.78
48:A:1541:G:O6	48:A:1630:U:C4	2.36	0.78
42:V:47:VAL:C	42:V:56:SER:HA	2.09	0.78
48:A:1561:C:N4	48:A:1562:C:H41	1.80	0.78
1:a:806:C:H5'	5:h:13:ARG:HH22	1.49	0.78
13:s:19:VAL:HG11	13:s:44:PHE:CD1	2.19	0.78
23:C:29:PRO:CB	23:C:34:VAL:CG2	2.62	0.78
52:4:15:CYS:O	52:4:20:HIS:HB3	1.80	0.78
1:a:439:U:C2	18:d:115:HIS:ND1	2.49	0.78
1:a:452:A:H62	21:p:94:LYS:H	1.30	0.78
25:E:7:VAL:CG2	25:E:16:GLY:CA	2.61	0.78
27:G:171:ARG:NH2	55:7:28:SER:O	2.16	0.78
48:A:1541:G:O6	48:A:1630:U:C5	2.36	0.78
1:a:1204:C:P	13:s:78:ARG:NH1	2.55	0.77
20:m:72:ARG:NH1	50:2:50:LYS:NZ	2.33	0.77
25:E:7:VAL:CG2	25:E:16:GLY:C	2.54	0.77
35:O:33:ARG:HG3	35:O:114:GLU:HG3	1.66	0.77
52:4:13:LEU:HD23	52:4:53:GLU:HB3	1.65	0.77
1:a:1060:A:O3'	3:e:46:VAL:HG11	1.84	0.77
23:C:57:GLY:O	23:C:58:HIS:O	2.02	0.77
25:E:51:SER:HB3	48:A:34:C:O2'	1.84	0.77
32:L:109:LYS:HD2	32:L:110:LYS:HZ1	1.47	0.77
34:N:134:ARG:HH21	43:W:129:ASN:HD21	1.30	0.77
47:B:19:G:O2'	47:B:20:G:H5'	1.84	0.77
52:4:18:CYS:HG	52:4:45:CYS:HG	1.29	0.77
1:a:603:C:O2'	21:p:12:LYS:HD3	1.83	0.77
3:e:17:ARG:CG	3:e:20:ARG:HH21	1.86	0.77
32:L:91:ASN:H	32:L:92:ASP:CB	1.98	0.77
1:a:350:G:OP1	14:t:3:ASN:OD1	2.03	0.77
1:a:1168:G:P	6:i:135:LYS:HZ1	2.07	0.77
1:a:1287:G:HO2'	1:a:1288:A:H8	1.31	0.77
1:a:207:G:H5'	14:t:52:HIS:CE1	2.19	0.77
1:a:1060:A:OP1	3:e:77:LYS:NZ	2.17	0.77
3:e:118:VAL:HB	3:e:153:LEU:O	1.84	0.77
5:h:94:LEU:HD11	5:h:118:ALA:C	2.09	0.77
33:M:61:LEU:CD2	54:6:24:ARG:HH11	1.96	0.77
47:B:25:G:N2	47:B:114:A:C1'	2.47	0.77
1:a:104:A:H61	14:t:10:ARG:HH21	1.28	0.77
26:F:117:ARG:NH1	26:F:146:HIS:NE2	2.30	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:986:G:N1	1:a:1016:G:O6	2.18	0.77
1:a:1117:U:H1'	1:a:1118:A:H5"	1.65	0.77
1:a:1280:C:N4	4:g:114:LYS:HG2	2.00	0.77
3:e:17:ARG:CB	3:e:20:ARG:NH2	2.48	0.77
13:s:31:ILE:O	13:s:50:ALA:CB	2.32	0.77
25:E:7:VAL:HG23	25:E:16:GLY:CA	2.15	0.77
1:a:1210:A:N6	20:m:105:THR:HG22	1.99	0.77
26:F:53:ASP:O	26:F:56:LEU:CD2	2.33	0.77
39:S:6:ILE:C	39:S:7:VAL:HG23	2.10	0.77
44:X:15:ASP:CB	48:A:2487:C:H41	1.98	0.77
47:B:29:C:N4	47:B:55:G:H1	1.83	0.77
48:A:1572:G:OP2	48:A:1594:G:OP2	2.03	0.77
1:a:1303:U:O4'	13:s:73:GLU:CD	2.28	0.77
26:F:9:PRO:HD2	26:F:12:LYS:HZ1	1.47	0.77
32:L:90:ASP:CB	32:L:92:ASP:HB3	2.13	0.77
35:O:33:ARG:HD2	35:O:114:GLU:OE2	1.85	0.77
1:a:262:G:OP2	14:t:71:GLN:HG3	1.86	0.76
39:S:103:LYS:C	39:S:103:LYS:HD3	2.10	0.76
47:B:84:C:H2'	47:B:85:C:H5'	1.65	0.76
48:A:802:C:H1'	53:5:7:THR:HG22	1.67	0.76
48:A:1554:U:N3	48:A:1617:C:N4	2.33	0.76
50:2:47:GLY:O	50:2:51:ILE:HG13	1.85	0.76
1:a:672:U:H5	8:k:37:ASN:OD1	1.67	0.76
31:K:96:HIS:HB3	31:K:99:ARG:HG2	1.66	0.76
48:A:1578:G:N3	48:A:1592:G:N2	1.92	0.76
1:a:1329:G:H5"	6:i:129:ARG:CB	2.13	0.76
1:a:1392:C:O2	48:A:2137:A:N6	2.19	0.76
1:a:1478:G:N7	48:A:2137:A:H2	1.82	0.76
3:e:179:ALA:HA	3:e:189:VAL:HG21	1.67	0.76
3:e:184:LEU:HD22	3:e:188:ASP:HB3	1.66	0.76
23:C:29:PRO:CB	23:C:34:VAL:HG21	2.15	0.76
1:a:1280:C:N4	4:g:114:LYS:CG	2.48	0.76
3:e:17:ARG:NH2	3:e:85:ILE:CG1	1.84	0.76
25:E:121:ASN:HD22	33:M:3:VAL:HG22	1.50	0.76
40:T:41:ASP:OD2	51:3:27:LEU:HD13	1.86	0.76
42:V:44:HIS:HA	42:V:58:GLY:O	1.84	0.76
48:A:1597:G:C2	48:A:1598:U:C5	2.73	0.76
1:a:421:U:C5	2:c:126:ARG:NH1	2.53	0.76
3:e:17:ARG:HB3	3:e:20:ARG:NH2	2.00	0.76
4:g:153:HIS:C	4:g:155:ARG:H	1.92	0.76
39:S:6:ILE:HG22	39:S:7:VAL:N	1.99	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:56:SER:HB3	8:k:71:ALA:HB1	1.67	0.76
47:B:40:A:H61	50:2:1:MET:H3	1.31	0.76
1:a:1098:U:H5'	6:i:126:ARG:CZ	2.16	0.76
25:E:107:ILE:CD1	48:A:710:G:OP1	2.33	0.76
26:F:78:ARG:NH2	48:A:2522:A:OP1	2.19	0.76
26:F:99:ARG:HD2	47:B:45:G:H8	1.40	0.76
35:O:29:PHE:HE2	35:O:51:LEU:CD1	1.99	0.76
23:C:76:ASN:HB2	23:C:98:LEU:HD21	1.68	0.76
31:K:13:ARG:HH21	31:K:49:ASP:C	1.94	0.76
1:a:730:C:O2'	10:o:21:ASP:OD1	2.04	0.76
26:F:32:VAL:HG21	47:B:55:G:H5'	1.69	0.76
38:R:50:ARG:HG2	38:R:53:ARG:HH21	1.51	0.76
39:S:103:LYS:HA	39:S:103:LYS:NZ	1.94	0.76
47:B:25:G:H21	47:B:114:A:H1'	1.50	0.76
52:4:15:CYS:C	52:4:20:HIS:CB	2.59	0.76
1:a:322:C:O2'	14:t:18:ARG:HB3	1.85	0.75
1:a:654:G:H22	8:k:127:HIS:CE1	2.01	0.75
1:a:1295:U:P	13:s:6:LYS:HB3	2.25	0.75
1:a:1477:A:H4'	1:a:1478:G:OP1	1.87	0.75
35:O:43:ALA:C	35:O:46:PRO:HD2	2.11	0.75
47:B:19:G:H2'	47:B:20:G:H8	1.50	0.75
53:5:8:PHE:CD2	53:5:10:PRO:HG3	2.21	0.75
23:C:239:LYS:HE2	48:A:2196:G:OP2	1.85	0.75
28:H:103:ALA:O	28:H:107:ALA:HB3	1.87	0.75
43:W:29:ARG:HH12	47:B:90:G:C5'	2.00	0.75
1:a:481:G:H2'	1:a:482:A:H8	1.51	0.75
8:k:28:GLY:O	8:k:91:VAL:HA	1.85	0.75
15:v:75:C:O2	48:A:2476:G:N2	2.19	0.75
20:m:72:ARG:HH11	50:2:50:LYS:HZ1	1.32	0.75
33:M:51:GLU:HG2	54:6:57:ARG:CZ	2.16	0.75
39:S:3:THR:HG22	39:S:102:ILE:HD13	0.76	0.75
44:X:68:GLU:CG	44:X:81:VAL:HG21	2.16	0.75
1:a:1465:C:H2'	1:a:1466:G:H5'	1.68	0.75
8:k:44:THR:CG2	8:k:48:GLY:O	2.35	0.75
30:J:44:TYR:O	30:J:48:THR:HB	1.87	0.75
40:T:96:ALA:O	48:A:866:G:OP2	2.04	0.75
1:a:948:G:H21	6:i:149:LYS:HE2	1.50	0.75
1:a:1038:G:OP1	2:c:199:LYS:NZ	2.19	0.75
35:O:29:PHE:CE2	35:O:51:LEU:CD1	2.69	0.75
35:O:96:ARG:HH22	35:O:116:VAL:CG1	1.98	0.75
42:V:96:ARG:NH2	42:V:96:ARG:HB2	2.01	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:M:63:LYS:HE3	54:6:12:LYS:HG2	1.68	0.75
41:U:5:THR:HG22	41:U:6:ASP:N	2.02	0.75
1:a:1332:A:O2'	4:g:33:GLU:CG	2.35	0.75
13:s:40:ILE:O	50:2:64:ARG:NH1	2.20	0.75
52:4:12:THR:CG2	52:4:22:ASN:HB3	2.16	0.75
1:a:806:C:H5'	5:h:13:ARG:NH2	2.02	0.75
1:a:1476:A:C2'	1:a:1477:A:H2'	2.14	0.75
12:r:32:TYR:HE1	19:f:91:LEU:CD1	1.81	0.75
23:C:23:GLU:O	23:C:82:ILE:HB	1.86	0.75
35:O:16:HIS:CD2	48:A:1390:A:C4	2.75	0.75
43:W:83:LEU:HD11	43:W:92:ILE:HG23	1.68	0.75
2:c:122:GLN:HE22	2:c:135:LYS:CE	1.99	0.75
1:a:11:G:N7	3:e:120:MET:HE1	2.02	0.74
1:a:1132:U:H5"	7:j:43:PRO:HA	1.69	0.74
13:s:42:PRO:HD3	50:2:60:ARG:HH21	1.51	0.74
20:m:67:GLU:C	20:m:71:ARG:HD2	2.10	0.74
44:X:15:ASP:CB	48:A:2486:U:O4	2.35	0.74
46:Z:18:LEU:HD13	46:Z:61:LEU:HD23	1.67	0.74
46:Z:18:LEU:CD1	46:Z:61:LEU:HD23	2.17	0.74
49:1:51:HIS:H	49:1:51:HIS:CD2	2.03	0.74
23:C:256:ARG:HD3	23:C:258:ARG:CD	2.17	0.74
1:a:323:U:OP1	14:t:21:ASN:HB2	1.86	0.74
1:a:376:G:P	21:p:67:THR:HG21	2.27	0.74
23:C:57:GLY:O	23:C:58:HIS:C	2.29	0.74
26:F:183:PRO:C	26:F:184:PHE:CD2	2.50	0.74
35:O:20:LEU:HD11	35:O:40:LYS:NZ	2.01	0.74
48:A:1590:G:C4	48:A:1591:U:C6	2.74	0.74
48:A:2644:C:OP1	54:6:34:GLU:OE2	2.05	0.74
8:k:44:THR:CG2	8:k:48:GLY:CA	2.64	0.74
26:F:168:THR:HG21	36:P:3:HIS:CE1	2.21	0.74
26:F:182:PHE:HD2	26:F:184:PHE:HE2	1.33	0.74
31:K:3:THR:HG23	48:A:1113:C:C2	2.22	0.74
48:A:1581:C:N4	48:A:1591:U:H1'	1.98	0.74
1:a:1280:C:H41	4:g:114:LYS:HG2	1.53	0.74
23:C:256:ARG:CZ	23:C:258:ARG:HE	1.99	0.74
46:Z:13:LEU:HD21	46:Z:17:GLU:C	2.11	0.74
52:4:27:LYS:HZ1	52:4:34:ASP:HB3	1.49	0.74
26:F:64:LEU:HB2	26:F:72:PRO:HG3	1.70	0.74
34:N:60:ARG:HG2	34:N:60:ARG:NH2	2.03	0.74
42:V:97:ILE:CD1	42:V:103:LYS:O	2.35	0.74
47:B:84:C:C4	47:B:85:C:N3	2.55	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:4:18:CYS:HB2	52:4:45:CYS:SG	2.27	0.74
1:a:225:G:H21	11:q:10:THR:HG21	1.51	0.74
1:a:1267:U:H3'	1:a:1268:C:H5'	1.70	0.74
8:k:33:LYS:O	8:k:39:THR:HA	1.87	0.74
23:C:96:HIS:HE1	23:C:102:LYS:HZ2	1.35	0.74
42:V:86:ARG:HD3	42:V:97:ILE:HG13	1.68	0.74
47:B:19:G:H2'	47:B:20:G:C8	2.23	0.74
48:A:1703:G:H1	48:A:1726:C:H42	1.33	0.74
1:a:1204:C:OP2	13:s:78:ARG:NH1	2.21	0.74
40:T:44:ARG:NH1	51:3:55:ASP:H	1.85	0.74
43:W:36:VAL:HG21	47:B:74:A:C2	2.17	0.74
46:Z:13:LEU:HD21	46:Z:17:GLU:HB3	1.68	0.74
48:A:801:U:O2'	53:5:7:THR:O	2.05	0.74
48:A:1586:C:H3'	48:A:1587:G:H5"	1.68	0.74
1:a:323:U:OP1	14:t:21:ASN:CB	2.36	0.74
40:T:116:SER:OG	40:T:118:PRO:HG2	1.86	0.74
1:a:654:G:N2	8:k:127:HIS:HE1	1.86	0.74
1:a:207:G:H5'	14:t:52:HIS:NE2	2.03	0.73
1:a:1354:G:H5"	6:i:90:GLY:C	2.12	0.73
26:F:45:MET:HE1	26:F:64:LEU:CD2	2.12	0.73
46:Z:13:LEU:HD21	46:Z:17:GLU:CB	2.17	0.73
50:2:41:CYS:HB2	50:2:44:PHE:CE2	2.22	0.73
1:a:332:G:H4'	14:t:7:GLN:NE2	2.02	0.73
4:g:147:ALA:C	4:g:148:ASN:HD22	1.95	0.73
43:W:29:ARG:NH1	47:B:90:G:C5'	2.51	0.73
1:a:637:U:O2	10:o:22:THR:HG21	1.85	0.73
1:a:858:A:H4'	5:h:15:ARG:NH1	2.03	0.73
1:a:1280:C:H41	4:g:114:LYS:CG	2.01	0.73
1:a:1355:U:C5'	6:i:92:PRO:HD2	2.18	0.73
1:a:1478:G:O2'	1:a:1479:U:H5'	1.88	0.73
26:F:6:LYS:HE2	26:F:6:LYS:HA	1.69	0.73
44:X:13:GLY:C	44:X:14:ARG:HG3	2.13	0.73
1:a:323:U:O3'	14:t:17:ARG:HD2	1.89	0.73
7:j:49:TYR:CE2	16:n:37:PHE:HE2	2.06	0.73
20:m:72:ARG:NH1	50:2:50:LYS:HZ1	1.87	0.73
20:m:72:ARG:NE	50:2:50:LYS:NZ	2.37	0.73
26:F:45:MET:HE1	26:F:64:LEU:HD23	1.70	0.73
43:W:87:PRO:C	43:W:90:ARG:HH22	1.95	0.73
44:X:84:ALA:HA	44:X:86:PRO:CD	2.18	0.73
47:B:20:G:H2'	47:B:21:C:C6	2.22	0.73
1:a:1295:U:P	13:s:6:LYS:CB	2.77	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:L:109:LYS:HD2	32:L:110:LYS:NZ	2.02	0.73
47:B:82:A:H2	47:B:91:G:N1	1.82	0.73
1:a:1060:A:P	3:e:77:LYS:NZ	2.62	0.73
7:j:56:HIS:CD2	7:j:57:LYS:H	2.06	0.73
20:m:71:ARG:HG2	20:m:71:ARG:HH11	1.53	0.73
36:P:12:GLU:HB2	47:B:59:A:H4'	1.71	0.73
8:k:54:ALA:CB	8:k:79:ALA:CB	2.61	0.73
32:L:91:ASN:ND2	32:L:110:LYS:C	2.46	0.73
23:C:55:GLY:HA3	23:C:218:ARG:HG3	1.71	0.73
26:F:11:LEU:HD13	26:F:108:ASP:HB2	1.70	0.73
26:F:185:LYS:O	26:F:185:LYS:HE2	1.88	0.73
23:C:20:ASP:OD2	23:C:22:ALA:HB2	1.89	0.73
36:P:50:GLN:HE22	47:B:7:G:N2	1.87	0.73
1:a:1353:G:H5"	6:i:34:GLU:CD	2.14	0.72
35:O:20:LEU:HD23	35:O:20:LEU:C	2.13	0.72
39:S:59:ALA:H	39:S:103:LYS:HE2	1.53	0.72
42:V:42:LYS:CD	48:A:586:U:H5"	2.18	0.72
1:a:698:A:O4'	8:k:127:HIS:HB2	1.89	0.72
23:C:262:LYS:CE	48:A:2309:U:OP1	2.37	0.72
1:a:481:G:H2'	1:a:482:A:C8	2.24	0.72
3:e:21:ASP:O	3:e:22:ASP:OD1	2.07	0.72
26:F:32:VAL:O	26:F:34:GLN:N	2.21	0.72
35:O:33:ARG:CG	35:O:114:GLU:HG2	2.19	0.72
1:a:10:G:O6	3:e:124:ALA:HA	1.89	0.72
1:a:922:C:OP1	4:g:102:ARG:HD3	1.88	0.72
2:c:142:ARG:NH1	2:c:143:GLN:OE1	2.19	0.72
8:k:43:ILE:HD11	8:k:51:ILE:CG1	2.15	0.72
15:v:75:C:N3	48:A:2476:G:N1	2.37	0.72
23:C:56:GLY:HA3	48:A:807:C:OP1	1.90	0.72
25:E:151:ASN:C	25:E:152:LYS:HG3	2.07	0.72
31:K:96:HIS:CB	31:K:99:ARG:CG	2.68	0.72
48:A:1595:G:OP2	48:A:1596:C:N4	2.22	0.72
48:A:1598:U:O2'	48:A:1599:U:H5'	1.89	0.72
1:a:1321:A:O2'	15:v:41:C:O2'	1.94	0.72
2:c:131:ARG:HH12	3:e:22:ASP:CG	1.97	0.72
6:i:39:VAL:HG12	6:i:102:ALA:HB1	1.70	0.72
8:k:43:ILE:O	8:k:50:VAL:HG13	1.89	0.72
20:m:3:ARG:NH1	26:F:117:ARG:NH2	2.36	0.72
26:F:32:VAL:HB	26:F:33:MET:HB3	1.71	0.72
48:A:1578:G:C5	48:A:1592:G:C5	2.65	0.72
1:a:13:G:H5'	3:e:133:GLY:HA3	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:103:G:O6	14:t:10:ARG:HD3	1.89	0.72
14:t:4:ILE:CG2	14:t:8:ILE:H	2.02	0.72
25:E:14:THR:HG22	25:E:15:ASP:N	2.04	0.72
34:N:59:LYS:HB2	34:N:59:LYS:NZ	2.05	0.72
35:O:79:LEU:C	35:O:79:LEU:HD23	2.15	0.72
42:V:86:ARG:HB3	42:V:97:ILE:CG1	2.19	0.72
43:W:21:LYS:HZ1	47:B:80:C:H42	1.37	0.72
48:A:1595:G:H5"	48:A:1596:C:N1	2.02	0.72
53:5:6:ARG:NH1	53:5:6:ARG:HB2	2.05	0.72
23:C:257:THR:HG22	48:A:2020:A:O2'	1.90	0.72
26:F:34:GLN:H	26:F:35:ILE:CG1	2.03	0.72
26:F:45:MET:CB	26:F:94:ALA:O	2.37	0.72
1:a:933:G:O6	20:m:105:THR:HG21	1.89	0.72
20:m:23:TYR:CD2	20:m:70:LEU:HD12	2.25	0.72
25:E:149:THR:C	25:E:150:GLU:HG3	2.13	0.72
1:a:846:A:OP2	3:e:115:ALA:O	2.06	0.72
4:g:151:PHE:CE2	8:k:65:ARG:NH1	2.58	0.72
48:A:1566:A:C2'	48:A:1605:G:O6	2.38	0.72
23:C:25:THR:HG22	23:C:82:ILE:H	1.53	0.72
26:F:74:VAL:O	47:B:41:U:C4	2.42	0.72
1:a:235:C:OP1	11:q:87:ARG:NH2	2.23	0.71
1:a:636:G:N2	10:o:23:GLY:CA	2.46	0.71
1:a:1177:A:O2'	1:a:1178:A:OP1	2.06	0.71
6:i:40:ARG:NH1	6:i:84:TYR:HD2	1.81	0.71
35:O:81:ALA:O	35:O:84:GLY:HA3	1.89	0.71
37:Q:51:GLY:HA2	37:Q:56:GLU:HG3	1.71	0.71
48:A:964:C:O2'	49:1:21:GLU:HG2	1.90	0.71
1:a:10:G:O6	3:e:124:ALA:CA	2.39	0.71
1:a:531:U:O2'	9:l:83:ARG:NH2	2.23	0.71
1:a:1312:U:C5'	20:m:23:TYR:O	2.37	0.71
8:k:44:THR:HG22	8:k:48:GLY:HA2	1.72	0.71
23:C:35:ARG:CZ	23:C:35:ARG:HB3	2.20	0.71
35:O:29:PHE:CD2	35:O:79:LEU:HD11	2.24	0.71
1:a:700:C:H5'	12:r:50:ALA:HA	1.71	0.71
1:a:828:G:C2	1:a:829:G:C5	2.78	0.71
9:l:57:LEU:HD21	9:l:63:VAL:HG21	1.71	0.71
25:E:24:LEU:CD2	25:E:208:ASN:OD1	2.38	0.71
1:a:1168:G:P	6:i:135:LYS:NZ	2.63	0.71
3:e:113:GLU:HA	3:e:117:GLY:O	1.90	0.71
13:s:66:MET:HE1	20:m:84:ILE:HB	1.71	0.71
15:v:57:C:O4'	26:F:80:SER:O	2.09	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:X:15:ASP:HB2	48:A:2486:U:C4	2.25	0.71
43:W:87:PRO:O	43:W:90:ARG:CZ	2.39	0.71
44:X:26:PHE:H	44:X:29:GLN:HE21	1.38	0.71
52:4:15:CYS:HB2	52:4:20:HIS:N	2.05	0.71
1:a:426:U:OP1	18:d:31:TYR:OH	2.09	0.71
6:i:41:LEU:HD11	6:i:83:ILE:HG13	1.72	0.71
35:O:56:LYS:CD	35:O:87:TYR:O	2.38	0.71
48:A:1609:G:H2'	48:A:1610:C:C6	2.26	0.71
1:a:1332:A:O2'	4:g:33:GLU:HB3	1.91	0.71
14:t:3:ASN:O	14:t:4:ILE:HG13	1.90	0.71
31:K:142:ILE:HG22	31:K:143:LYS:N	2.06	0.71
35:O:4:PRO:CG	48:A:3094:A:C2	2.73	0.71
47:B:81:U:H3	47:B:92:G:H22	1.38	0.71
48:A:1566:A:N3	48:A:1605:G:N1	2.38	0.71
1:a:1060:A:O3'	3:e:46:VAL:CG1	2.38	0.71
23:C:25:THR:CB	23:C:81:HIS:HD1	2.03	0.71
31:K:112:ASN:ND2	48:A:650:G:P	2.64	0.71
48:A:279:U:H3	48:A:307:G:H1	1.39	0.71
2:c:130:ARG:O	2:c:134:ARG:HB2	1.91	0.71
35:O:16:HIS:CD2	48:A:1390:A:C5	2.78	0.71
46:Z:13:LEU:CD1	46:Z:17:GLU:OE1	2.39	0.71
46:Z:18:LEU:HD13	46:Z:61:LEU:HD21	1.71	0.71
46:Z:18:LEU:HB3	46:Z:61:LEU:HD21	1.72	0.71
49:1:19:GLN:CG	49:1:50:VAL:HG12	2.21	0.71
15:v:55:U:C2'	15:v:56:U:H5'	2.20	0.71
25:E:143:THR:O	25:E:147:THR:OG1	2.09	0.71
26:F:105:GLU:HG3	50:2:24:THR:CG2	2.20	0.71
35:O:29:PHE:CZ	35:O:51:LEU:HD12	2.25	0.71
52:4:15:CYS:CB	52:4:20:HIS:CA	2.63	0.71
1:a:827:U:H2'	1:a:828:G:C8	2.23	0.70
1:a:961:C:N3	16:n:18:VAL:CG2	2.53	0.70
1:a:967:C:O2	13:s:55:ARG:NH1	2.24	0.70
20:m:71:ARG:HG2	20:m:71:ARG:NH1	2.06	0.70
23:C:55:GLY:CA	23:C:218:ARG:HD2	2.16	0.70
26:F:34:GLN:CG	47:B:57:U:H4'	2.12	0.70
36:P:45:ARG:NH1	47:B:52:G:N7	2.17	0.70
47:B:10:G:H1	47:B:107:A:H2	0.80	0.70
1:a:403:C:H5"	18:d:128:PRO:CD	2.20	0.70
1:a:1328:A:O2'	6:i:129:ARG:NE	2.24	0.70
23:C:54:LYS:NZ	48:A:2031:G:C3'	2.54	0.70
48:A:2363:A:H61	48:A:2374:U:H3	1.36	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:O:33:ARG:HD3	35:O:114:GLU:CG	2.21	0.70
31:K:7:LYS:O	31:K:10:ASP:OD1	2.10	0.70
1:a:1327:U:OP1	6:i:142:ARG:NH2	2.24	0.70
26:F:9:PRO:HD2	26:F:12:LYS:CE	2.21	0.70
47:B:13:C:O2'	47:B:14:A:H3'	1.91	0.70
48:A:1556:A:N6	48:A:1615:G:H1	1.89	0.70
1:a:984:A:H61	1:a:1018:C:H42	1.39	0.70
23:C:29:PRO:CG	23:C:34:VAL:CG2	2.68	0.70
42:V:42:LYS:HD3	42:V:59:ILE:HD11	1.73	0.70
48:A:802:C:C4'	53:5:7:THR:HA	2.21	0.70
48:A:997:G:H1	48:A:1010:U:H3	1.40	0.70
50:2:38:CYS:SG	50:2:40:GLN:NE2	2.64	0.70
7:j:54:SER:OG	7:j:56:HIS:O	2.10	0.70
8:k:116:VAL:HG13	8:k:117:GLY:N	2.02	0.70
14:t:4:ILE:HG22	14:t:6:SER:N	2.07	0.70
15:v:22:A:N6	15:v:47:A:H2'	2.05	0.70
20:m:23:TYR:CE2	20:m:70:LEU:HD12	2.26	0.70
46:Z:62:ARG:HH21	46:Z:66:LEU:HB2	1.55	0.70
48:A:802:C:O4'	53:5:7:THR:HA	1.92	0.70
26:F:32:VAL:C	26:F:35:ILE:HD11	2.16	0.70
35:O:33:ARG:CG	35:O:114:GLU:CG	2.70	0.70
1:a:1132:U:O4'	7:j:41:PRO:HB2	1.91	0.70
3:e:17:ARG:NH1	3:e:40:VAL:HB	2.01	0.70
8:k:45:ASP:HB2	8:k:46:PRO:CD	2.19	0.70
26:F:34:GLN:CG	47:B:57:U:O4'	2.38	0.70
26:F:46:GLY:C	26:F:47:VAL:CG2	2.49	0.70
3:e:109:PRO:HB3	3:e:122:ARG:HG3	1.73	0.70
6:i:41:LEU:HG	6:i:81:PHE:HE2	1.55	0.70
13:s:41:ILE:CA	50:2:60:ARG:NH2	2.55	0.70
13:s:41:ILE:CA	50:2:60:ARG:HH21	2.04	0.70
20:m:72:ARG:HE	50:2:50:LYS:HZ3	1.36	0.70
26:F:66:LEU:HA	50:2:27:THR:HG21	1.74	0.70
48:A:290:C:H42	48:A:298:G:H1	1.39	0.70
35:O:20:LEU:HD21	35:O:24:LEU:HD11	1.73	0.69
42:V:96:ARG:O	42:V:97:ILE:HD13	1.91	0.69
48:A:966:U:H5'	49:1:49:THR:OG1	1.92	0.69
1:a:12:A:H8	3:e:131:ILE:HG23	1.55	0.69
31:K:113:LYS:N	31:K:113:LYS:HD3	2.06	0.69
1:a:206:G:HO2'	14:t:52:HIS:CD2	2.07	0.69
1:a:653:G:O3'	19:f:87:ARG:NH2	2.26	0.69
1:a:946:A:O2'	7:j:57:LYS:CD	2.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1210:A:H61	20:m:105:THR:HG22	1.55	0.69
23:C:36:PRO:HG3	48:A:1790:A:H5'	1.73	0.69
31:K:134:ALA:C	31:K:135:GLN:HG2	2.18	0.69
35:O:56:LYS:HD3	35:O:87:TYR:O	1.92	0.69
47:B:40:A:C8	50:2:2:LYS:HE3	2.27	0.69
48:A:1566:A:O2'	48:A:1605:G:N1	2.24	0.69
1:a:345:C:C5'	37:Q:38:ARG:HH11	1.87	0.69
24:D:157:PRO:O	24:D:159:ARG:HG3	1.92	0.69
25:E:192:ASP:CB	33:M:5:LYS:HZ3	1.91	0.69
26:F:132:THR:CG2	36:P:6:VAL:CG2	2.40	0.69
35:O:5:THR:O	35:O:6:LYS:HB3	1.92	0.69
35:O:79:LEU:HG	35:O:83:ILE:HD12	1.72	0.69
48:A:1569:A:H62	48:A:1603:G:N2	1.89	0.69
48:A:1704:U:H3	48:A:1725:G:H1	1.39	0.69
1:a:10:G:N1	3:e:124:ALA:HB1	2.08	0.69
6:i:41:LEU:CD1	6:i:83:ILE:HA	2.22	0.69
14:t:4:ILE:CG1	14:t:8:ILE:HG13	2.23	0.69
18:d:54:GLN:O	18:d:58:PHE:HB2	1.93	0.69
34:N:59:LYS:HB2	34:N:59:LYS:HZ3	1.57	0.69
1:a:639:C:P	10:o:8:LYS:HZ3	2.15	0.69
1:a:1355:U:OP1	6:i:93:SER:N	2.25	0.69
23:C:76:ASN:O	23:C:98:LEU:HD22	1.92	0.69
31:K:3:THR:HG22	48:A:1113:C:O2	1.92	0.69
35:O:33:ARG:CD	35:O:114:GLU:CG	2.70	0.69
41:U:4:ILE:CD1	46:Z:58:TYR:HE1	2.00	0.69
3:e:137:ARG:NH1	18:d:49:GLN:HE22	1.89	0.69
13:s:40:ILE:C	50:2:64:ARG:HH12	1.99	0.69
15:v:1:C:O2'	44:X:7:ALA:HA	1.93	0.69
31:K:47:ASN:HD21	48:A:623:A:H2	1.39	0.69
52:4:15:CYS:N	52:4:20:HIS:HA	2.07	0.69
1:a:1328:A:HO2'	6:i:129:ARG:CZ	2.01	0.69
1:a:1486:A:H2	1:a:1489:G:H1	1.41	0.69
15:v:57:C:H2'	26:F:82:ALA:HB2	1.74	0.69
23:C:262:LYS:HE2	48:A:2309:U:OP1	1.93	0.69
26:F:73:GLU:CG	47:B:42:C:C6	2.73	0.69
26:F:182:PHE:HD2	26:F:184:PHE:CE2	2.09	0.69
35:O:29:PHE:HE2	35:O:51:LEU:HD12	1.56	0.69
43:W:22:GLY:HA3	47:B:92:G:OP2	1.93	0.69
46:Z:18:LEU:CD1	46:Z:61:LEU:HD21	2.23	0.69
1:a:324:G:H5'	14:t:17:ARG:HH11	1.57	0.69
1:a:1098:U:OP1	6:i:31:ARG:CD	2.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:i:41:LEU:HB3	6:i:81:PHE:CZ	2.28	0.69
25:E:7:VAL:HG23	25:E:16:GLY:O	1.92	0.69
4:g:151:PHE:HZ	8:k:65:ARG:HE	0.70	0.69
23:C:58:HIS:HE1	48:A:1788:G:H21	1.41	0.69
40:T:95:ARG:NH2	48:A:863:G:OP1	2.18	0.69
43:W:39:GLY:HA2	43:W:42:THR:H	1.58	0.69
52:4:18:CYS:CB	52:4:45:CYS:SG	2.81	0.69
1:a:636:G:H21	10:o:23:GLY:HA2	1.56	0.68
1:a:827:U:O2'	1:a:828:G:H5'	1.93	0.68
1:a:946:A:O2'	7:j:57:LYS:CE	2.40	0.68
14:t:4:ILE:CD1	14:t:8:ILE:HG12	2.20	0.68
15:v:8:U:H1'	15:v:22:A:H2	1.56	0.68
31:K:25:LEU:HD12	31:K:26:GLY:H	1.56	0.68
31:K:96:HIS:CB	31:K:99:ARG:HG3	2.23	0.68
1:a:579:U:H5'	5:h:125:GLY:HA2	1.73	0.68
3:e:17:ARG:HG2	3:e:20:ARG:NH2	1.90	0.68
4:g:153:HIS:O	4:g:154:TYR:C	2.36	0.68
9:l:57:LEU:CD2	9:l:63:VAL:CG2	2.68	0.68
15:v:64:G:H2'	15:v:65:G:C8	2.28	0.68
23:C:73:ASP:OD1	23:C:73:ASP:N	2.26	0.68
48:A:1566:A:O2'	48:A:1605:G:O6	2.11	0.68
23:C:26:ARG:CD	23:C:81:HIS:CG	2.76	0.68
41:U:83:ILE:CD1	48:A:1456:G:N1	2.52	0.68
42:V:46:ALA:HB1	48:A:572:C:OP1	1.94	0.68
43:W:77:LEU:CB	43:W:100:VAL:HG21	2.11	0.68
44:X:19:GLN:N	44:X:19:GLN:OE1	2.26	0.68
48:A:1569:A:N6	48:A:1603:G:C4	2.57	0.68
48:A:2702:A:OP1	55:7:31:ARG:NH1	2.26	0.68
6:i:39:VAL:HG22	6:i:83:ILE:CG2	1.88	0.68
32:L:90:ASP:O	32:L:91:ASN:HB2	1.92	0.68
41:U:83:ILE:HD13	48:A:1456:G:C2	2.18	0.68
43:W:58:LEU:O	43:W:62:GLY:HA3	1.93	0.68
48:A:753:A:H61	48:A:762:U:H3	1.41	0.68
1:a:672:U:C4	8:k:37:ASN:OD1	2.47	0.68
1:a:1168:G:OP1	6:i:135:LYS:NZ	2.26	0.68
1:a:1290:C:H5'	20:m:110:ARG:HH21	1.58	0.68
1:a:1434:U:O2'	1:a:1435:U:H5"	1.92	0.68
24:D:114:VAL:HG12	24:D:208:VAL:HG12	1.74	0.68
31:K:4:TYR:CD2	38:R:100:VAL:HG11	2.29	0.68
32:L:108:GLU:HG3	32:L:109:LYS:N	2.08	0.68
35:O:47:TYR:OH	35:O:69:LYS:HG2	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:T:9:SER:HB3	40:T:115:GLU:HB3	1.72	0.68
43:W:64:ASN:ND2	43:W:109:GLU:O	2.27	0.68
1:a:860:C:OP1	5:h:83:PRO:O	2.10	0.68
6:i:41:LEU:CG	6:i:81:PHE:CE2	2.73	0.68
47:B:10:G:C6	47:B:107:A:N1	2.62	0.68
47:B:25:G:O2'	47:B:26:A:H5'	1.94	0.68
47:B:44:C:OP2	50:2:1:MET:N	2.27	0.68
1:a:962:C:O2'	16:n:19:ARG:CG	2.42	0.68
13:s:41:ILE:HA	50:2:60:ARG:HH21	1.57	0.68
1:a:315:A:N7	1:a:328:U:H5	1.92	0.68
1:a:345:C:H3'	37:Q:38:ARG:NH2	2.09	0.68
1:a:664:U:O4'	8:k:49:ASN:ND2	2.27	0.68
2:c:109:GLU:OE2	2:c:143:GLN:NE2	2.27	0.68
31:K:96:HIS:HB3	31:K:99:ARG:CG	2.23	0.68
1:a:323:U:H5'	14:t:18:ARG:HB3	1.74	0.68
1:a:1040:U:C4'	7:j:53:ARG:O	2.38	0.68
1:a:1405:G:C5'	32:L:48:PRO:HB3	2.23	0.68
2:c:43:ALA:O	2:c:47:GLU:HB3	1.94	0.68
35:O:20:LEU:HD11	35:O:40:LYS:HZ2	1.56	0.68
42:V:4:HIS:HE1	42:V:96:ARG:HH22	1.39	0.68
44:X:68:GLU:CD	44:X:81:VAL:HG21	2.19	0.68
48:A:2136:A:N7	48:A:2142:A:C2	2.62	0.68
52:4:16:GLU:CD	52:4:52:LYS:CE	2.67	0.68
1:a:500:A:H62	1:a:509:G:H8	1.40	0.68
43:W:24:SER:OG	47:B:76:G:H5"	1.92	0.68
43:W:101:GLN:HE21	43:W:101:GLN:C	2.01	0.68
48:A:1608:U:O2'	48:A:1609:G:H5'	1.94	0.68
1:a:448:A:OP2	1:a:465:G:N2	2.26	0.67
1:a:699:C:N3	12:r:72:ARG:NH2	2.40	0.67
1:a:1468:U:O2'	48:A:2184:A:O2'	2.12	0.67
1:a:1478:G:H2'	1:a:1479:U:C6	2.29	0.67
42:V:30:ARG:O	42:V:31:ASN:HB2	1.95	0.67
43:W:9:ASN:ND2	43:W:57:VAL:CG1	2.53	0.67
48:A:1939:U:H3	48:A:1955:A:H62	1.40	0.67
48:A:2349:A:H61	48:A:2386:U:H5'	1.58	0.67
1:a:47:C:OP1	21:p:14:ARG:HG2	1.94	0.67
26:F:120:ASP:CG	26:F:122:ARG:HH11	2.01	0.67
31:K:25:LEU:HD12	31:K:26:GLY:N	2.10	0.67
42:V:43:LYS:O	42:V:59:ILE:HA	1.93	0.67
43:W:9:ASN:HD21	43:W:57:VAL:HG13	1.59	0.67
47:B:83:C:H4'	49:1:52:HIS:ND1	2.08	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1541:G:O6	48:A:1630:U:O4	2.12	0.67
1:a:1078:C:OP1	17:b:146:ARG:NH2	2.26	0.67
4:g:153:HIS:C	4:g:155:ARG:N	2.48	0.67
31:K:113:LYS:HD3	31:K:113:LYS:H	1.60	0.67
32:L:109:LYS:C	32:L:110:LYS:HG3	2.17	0.67
40:T:75:THR:O	40:T:118:PRO:HD3	1.95	0.67
48:A:1580:A:O2'	48:A:1581:C:H5"	1.94	0.67
50:2:41:CYS:C	50:2:43:PRO:HD2	2.19	0.67
1:a:332:G:H4'	14:t:7:GLN:HE22	1.57	0.67
15:v:8:U:O5'	15:v:8:U:H6	1.78	0.67
25:E:144:PHE:CD1	25:E:148:LEU:CG	2.77	0.67
35:O:81:ALA:O	35:O:83:ILE:N	2.26	0.67
35:O:117:ARG:HG2	35:O:118:GLU:H	1.58	0.67
48:A:1603:G:H2'	48:A:1604:G:C8	2.28	0.67
52:4:51:HIS:O	52:4:52:LYS:HB3	1.93	0.67
10:o:63:ARG:NH1	48:A:830:A:H4'	2.10	0.67
15:v:57:C:O5'	15:v:57:C:H6	1.78	0.67
20:m:72:ARG:NH1	26:F:122:ARG:NH1	2.42	0.67
23:C:26:ARG:HG3	23:C:81:HIS:CG	2.29	0.67
25:E:192:ASP:HB3	33:M:5:LYS:HZ1	0.84	0.67
36:P:3:HIS:NE2	47:B:57:U:O2'	2.24	0.67
48:A:1599:U:H3'	48:A:1600:G:H5"	1.76	0.67
1:a:1170:U:C4'	2:c:10:PHE:CE1	2.77	0.67
13:s:32:LYS:HA	13:s:50:ALA:HB3	1.77	0.67
26:F:111:ILE:HD11	26:F:182:PHE:HA	1.75	0.67
47:B:29:C:N3	47:B:55:G:N2	2.43	0.67
47:B:35:G:C2	47:B:36:U:C5	2.83	0.67
1:a:948:G:H21	6:i:149:LYS:CE	2.07	0.67
40:T:81:VAL:HG12	40:T:112:VAL:HG12	1.75	0.67
1:a:372:C:N4	1:a:388:G:OP2	2.28	0.67
1:a:411:A:C4	1:a:413:G:H1'	2.30	0.67
1:a:954:C:H4'	7:j:59:LYS:CB	2.25	0.67
1:a:1129:U:O5'	6:i:29:VAL:HG21	1.95	0.67
13:s:42:PRO:HD3	50:2:60:ARG:NH2	2.08	0.67
26:F:47:VAL:HG21	26:F:93:GLY:N	2.09	0.67
28:H:43:ALA:O	28:H:47:ALA:HB3	1.95	0.67
32:L:7:ARG:HG2	32:L:7:ARG:HH21	1.58	0.67
41:U:9:ASP:N	41:U:9:ASP:OD1	2.25	0.67
1:a:1209:C:P	20:m:108:ARG:HH12	2.17	0.67
3:e:184:LEU:CD2	3:e:188:ASP:HB3	2.25	0.67
4:g:151:PHE:HE2	8:k:65:ARG:NH1	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:v:7:G:H4'	15:v:8:U:OP2	1.94	0.67
35:O:9:ARG:N	35:O:9:ARG:HD2	2.08	0.67
42:V:43:LYS:NZ	42:V:43:LYS:HB3	2.09	0.67
53:5:6:ARG:O	53:5:7:THR:OG1	2.09	0.67
1:a:253:U:H2'	1:a:254:G:H8	1.60	0.67
1:a:638:A:O3'	10:o:8:LYS:NZ	2.27	0.67
1:a:951:A:H61	6:i:150:ARG:CZ	2.08	0.67
7:j:55:PRO:O	7:j:56:HIS:HB2	1.96	0.67
47:B:2:U:H3	47:B:115:A:H61	1.43	0.67
10:o:64:ARG:NH1	48:A:830:A:OP1	2.27	0.66
13:s:6:LYS:HG3	13:s:6:LYS:O	1.93	0.66
26:F:79:LYS:HE3	26:F:81:ILE:HG12	1.76	0.66
35:O:77:HIS:CG	48:A:1674:G:H2'	2.11	0.66
39:S:58:VAL:CG2	39:S:103:LYS:HG3	1.94	0.66
48:A:1540:U:H3	48:A:1632:G:H1	1.43	0.66
48:A:1566:A:O2'	48:A:1605:G:C6	2.38	0.66
2:c:122:GLN:NE2	2:c:135:LYS:HE2	2.10	0.66
3:e:21:ASP:HB2	18:d:40:ARG:NH2	2.10	0.66
4:g:151:PHE:CE2	8:k:65:ARG:CZ	2.78	0.66
8:k:44:THR:HG21	8:k:48:GLY:HA2	1.78	0.66
26:F:66:LEU:CD2	50:2:27:THR:CG2	2.74	0.66
35:O:20:LEU:HD21	35:O:24:LEU:CD1	2.24	0.66
44:X:68:GLU:CG	44:X:81:VAL:CG2	2.73	0.66
48:A:1578:G:O6	48:A:1592:G:N7	2.29	0.66
23:C:222:ARG:NH1	48:A:2006:A:OP2	2.28	0.66
24:D:156:THR:CB	48:A:2795:C:O2'	2.43	0.66
31:K:96:HIS:CB	31:K:99:ARG:HG2	2.25	0.66
40:T:67:ASN:ND2	48:A:574:C:O2'	2.28	0.66
1:a:437:U:H5"	18:d:147:THR:CG2	2.26	0.66
6:i:41:LEU:HD12	6:i:82:ASP:O	1.94	0.66
34:N:58:ILE:HG23	34:N:108:TYR:CZ	2.30	0.66
44:X:75:ARG:HE	48:A:2558:C:N4	1.93	0.66
48:A:1607:C:H6	48:A:1607:C:O5'	1.79	0.66
1:a:338:A:P	32:L:97:ARG:NH2	2.58	0.66
1:a:1028:G:OP1	16:n:4:LYS:N	2.22	0.66
3:e:31:GLY:O	3:e:32:ASP:OD1	2.13	0.66
7:j:49:TYR:CD2	16:n:37:PHE:HE2	2.13	0.66
14:t:4:ILE:CB	14:t:8:ILE:HG13	2.26	0.66
23:C:22:ALA:O	23:C:23:GLU:HB2	1.94	0.66
41:U:10:ILE:HD13	41:U:10:ILE:N	2.10	0.66
43:W:101:GLN:CB	43:W:104:GLU:HB2	2.16	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:85:C:H2'	47:B:86:U:H5"	1.75	0.66
3:e:186:ILE:HG22	3:e:187:GLU:N	2.10	0.66
26:F:6:LYS:HE2	26:F:6:LYS:CA	2.26	0.66
31:K:142:ILE:O	31:K:143:LYS:HB2	1.95	0.66
1:a:265:G:H2'	1:a:267:C:H5	1.61	0.66
1:a:1310:C:O3'	20:m:29:ARG:HG2	1.96	0.66
34:N:124:LYS:NZ	48:A:2691:C:O2	2.29	0.66
42:V:99:LYS:HZ2	42:V:99:LYS:HB3	1.60	0.66
48:A:1583:U:O2	48:A:1589:G:C2	2.49	0.66
50:2:14:VAL:HB	50:2:22:PHE:HB2	1.78	0.66
1:a:860:C:O4'	5:h:4:THR:HG21	1.95	0.66
42:V:72:MET:HG2	42:V:80:PRO:HB2	1.78	0.66
44:X:76:LYS:NZ	48:A:973:G:OP1	2.27	0.66
48:A:1611:A:H2'	48:A:1612:U:C6	2.30	0.66
52:4:11:ILE:HD13	52:4:27:LYS:CD	2.24	0.66
52:4:15:CYS:C	52:4:20:HIS:HA	2.20	0.66
53:5:5:LYS:O	53:5:6:ARG:HG2	1.96	0.66
8:k:45:ASP:CB	8:k:46:PRO:HD2	2.16	0.66
23:C:56:GLY:HA2	48:A:807:C:OP1	1.95	0.66
33:M:61:LEU:HD21	54:6:24:ARG:HH11	1.60	0.66
35:O:29:PHE:CD2	35:O:79:LEU:CD1	2.77	0.66
48:A:1581:C:C2'	48:A:1582:C:C6	2.79	0.66
1:a:1207:C:OP1	20:m:96:LEU:HD13	1.96	0.66
1:a:1332:A:O2'	4:g:33:GLU:CB	2.44	0.66
20:m:75:GLN:C	20:m:75:GLN:HE21	2.04	0.66
31:K:27:ARG:HH11	31:K:27:ARG:HG3	1.59	0.66
35:O:87:TYR:OH	35:O:116:VAL:O	2.11	0.66
36:P:5:PRO:HG3	47:B:58:A:C5'	2.26	0.66
43:W:8:PRO:CB	43:W:68:THR:OG1	2.44	0.66
48:A:2799:C:O5'	48:A:2799:C:H6	1.78	0.66
1:a:331:G:H21	14:t:5:LYS:HZ1	1.39	0.65
1:a:941:A:C6	13:s:55:ARG:NH2	2.62	0.65
1:a:1261:A:OP2	7:j:9:ARG:NH2	2.25	0.65
15:v:57:C:O2'	26:F:82:ALA:N	2.28	0.65
25:E:107:ILE:HD11	48:A:710:G:OP1	1.95	0.65
26:F:33:MET:HG3	26:F:33:MET:O	1.95	0.65
34:N:65:TRP:HZ3	48:A:989:G:HO2'	1.44	0.65
44:X:16:SER:O	44:X:17:ALA:HB3	1.96	0.65
47:B:70:G:H22	47:B:103:G:H1	1.43	0.65
48:A:747:A:N6	48:A:768:G:O2'	2.28	0.65
48:A:1563:A:N6	48:A:1607:C:H41	1.94	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:141:MET:HE2	2:c:170:GLU:HB2	1.70	0.65
6:i:41:LEU:HD11	6:i:83:ILE:HD11	1.68	0.65
18:d:3:ARG:HE	18:d:110:ARG:HG2	1.61	0.65
25:E:7:VAL:HB	25:E:16:GLY:CA	2.26	0.65
1:a:276:G:OP1	11:q:29:SER:OG	2.13	0.65
1:a:421:U:O4	2:c:126:ARG:NE	2.30	0.65
1:a:480:G:H2'	1:a:481:G:H8	1.61	0.65
23:C:25:THR:HG1	23:C:81:HIS:CE1	2.08	0.65
24:D:158:GLY:O	48:A:2276:G:C2	2.49	0.65
25:E:201:LEU:O	25:E:201:LEU:HD23	1.94	0.65
31:K:116:ARG:NH2	48:A:615:A:H5"	2.12	0.65
46:Z:13:LEU:O	46:Z:64:ARG:NH1	2.27	0.65
1:a:579:U:C5'	5:h:125:GLY:HA2	2.26	0.65
1:a:961:C:N4	16:n:18:VAL:HB	2.12	0.65
1:a:1199:C:H2'	1:a:1200:A:C8	2.31	0.65
47:B:79:A:C2	47:B:94:G:N1	2.58	0.65
54:6:26:LYS:NZ	54:6:45:ASP:O	2.28	0.65
4:g:151:PHE:HZ	8:k:65:ARG:CD	2.04	0.65
31:K:25:LEU:HD22	31:K:62:ILE:CD1	2.27	0.65
40:T:41:ASP:CG	51:3:38:LYS:HB2	2.20	0.65
42:V:96:ARG:HG3	42:V:96:ARG:HH21	1.61	0.65
2:c:77:GLY:H	2:c:82:GLU:HB3	1.62	0.65
15:v:1:C:P	34:N:78:PRO:HG2	2.35	0.65
25:E:8:LYS:HE3	25:E:148:LEU:HD22	1.79	0.65
40:T:116:SER:C	40:T:118:PRO:HD2	2.21	0.65
43:W:102:ARG:NH2	43:W:138:LEU:HD21	2.12	0.65
47:B:25:G:N2	47:B:114:A:C4	2.62	0.65
15:v:55:U:H2'	15:v:56:U:O4'	1.97	0.65
26:F:87:ARG:HB3	26:F:90:MET:HG3	1.78	0.65
42:V:2:LYS:NZ	42:V:85:TYR:CD2	2.62	0.65
48:A:1578:G:C6	48:A:1592:G:C8	2.77	0.65
1:a:452:A:N6	21:p:94:LYS:H	1.95	0.65
2:c:133:MET:O	2:c:136:ALA:N	2.30	0.65
32:L:8:LEU:HD12	32:L:8:LEU:N	2.03	0.65
48:A:1577:C:O2'	48:A:1578:G:H5'	1.95	0.65
1:a:421:U:O4	2:c:126:ARG:NH1	2.23	0.65
1:a:1171:G:OP1	2:c:5:ILE:HB	1.97	0.65
2:c:137:ILE:HG23	2:c:141:MET:CG	2.24	0.65
6:i:46:GLY:HA2	6:i:82:ASP:OD2	1.97	0.65
8:k:91:VAL:CG2	8:k:114:LEU:HD13	2.25	0.65
25:E:107:ILE:HD11	48:A:710:G:H5"	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:F:57:ILE:HG12	26:F:91:PRO:HB2	1.77	0.65
31:K:96:HIS:HB2	31:K:99:ARG:HG3	1.78	0.65
48:A:1830:C:H4'	53:5:10:PRO:HD3	1.79	0.65
1:a:100:G:H2'	1:a:101:G:H5"	1.79	0.65
1:a:657:U:H3	1:a:693:G:H22	1.44	0.65
24:D:144:VAL:HG22	24:D:147:ARG:HE	1.62	0.65
25:E:45:LYS:HG3	48:A:709:U:C4	2.31	0.65
26:F:53:ASP:O	26:F:56:LEU:HD21	1.97	0.65
26:F:110:LEU:HD23	26:F:111:ILE:H	1.60	0.65
35:O:56:LYS:NZ	35:O:94:TYR:OH	2.21	0.65
1:a:859:C:O2'	5:h:5:ASP:HB2	1.96	0.64
10:o:57:LEU:HD21	48:A:830:A:N6	2.12	0.64
32:L:91:ASN:HD21	32:L:110:LYS:C	2.05	0.64
48:A:1578:G:C4	48:A:1592:G:C6	2.83	0.64
1:a:208:G:H5"	14:t:60:LYS:HZ1	1.62	0.64
3:e:186:ILE:O	3:e:187:GLU:HG2	1.97	0.64
15:v:8:U:C2'	15:v:22:A:C2	2.79	0.64
31:K:85:ARG:NH2	48:A:2866:A:OP2	2.26	0.64
42:V:2:LYS:CE	42:V:83:VAL:HG12	2.27	0.64
44:X:84:ALA:CA	44:X:86:PRO:HD2	2.26	0.64
48:A:1595:G:C5'	48:A:1596:C:N1	2.59	0.64
1:a:905:A:OP1	3:e:51:LYS:HE3	1.98	0.64
5:h:42:ARG:HH12	5:h:117:GLN:HE22	1.46	0.64
35:O:33:ARG:HG3	35:O:114:GLU:HG2	1.78	0.64
46:Z:60:VAL:O	46:Z:63:GLU:HB3	1.97	0.64
1:a:345:C:H3'	37:Q:38:ARG:CZ	2.28	0.64
1:a:1332:A:C1'	4:g:33:GLU:CG	2.61	0.64
3:e:177:GLU:OE1	3:e:177:GLU:HA	1.98	0.64
25:E:150:GLU:HB2	25:E:193:ASP:OD2	1.98	0.64
26:F:31:ASN:CG	47:B:56:C:H5'	2.20	0.64
35:O:79:LEU:O	35:O:83:ILE:HB	1.98	0.64
47:B:35:G:C2	47:B:36:U:C4	2.85	0.64
47:B:79:A:H2	47:B:94:G:H1	1.42	0.64
47:B:96:A:H2	48:A:977:G:N2	1.96	0.64
26:F:46:GLY:O	26:F:47:VAL:CB	2.46	0.64
43:W:77:LEU:CD2	43:W:100:VAL:HG21	2.26	0.64
52:4:18:CYS:SG	52:4:19:LYS:NZ	2.70	0.64
47:B:21:C:O2'	47:B:22:A:H5'	1.98	0.64
1:a:436:C:O2'	18:d:149:PRO:HG3	1.98	0.64
15:v:8:U:C2'	15:v:22:A:H2	2.09	0.64
32:L:8:LEU:CD1	32:L:19:ILE:CG1	2.71	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:L:91:ASN:HD21	32:L:110:LYS:CA	2.07	0.64
35:O:33:ARG:CD	35:O:114:GLU:CD	2.58	0.64
35:O:45:ARG:NH1	48:A:3102:U:O2	2.31	0.64
44:X:83:VAL:HA	44:X:85:ARG:HH21	1.61	0.64
48:A:1565:A:C2	48:A:1606:G:C4	2.86	0.64
55:7:7:VAL:CG1	55:7:35:ARG:O	2.46	0.64
1:a:299:G:H2'	1:a:300:A:C8	2.32	0.64
1:a:518:U:OP2	9:l:112:GLN:HB3	1.97	0.64
2:c:140:ALA:O	2:c:146:VAL:HG11	1.98	0.64
47:B:20:G:H22	47:B:63:U:H3	1.45	0.64
48:A:1591:U:C2	48:A:1592:G:C8	2.85	0.64
1:a:323:U:H5"	14:t:21:ASN:HD22	1.62	0.64
1:a:828:G:H2'	1:a:829:G:H8	1.58	0.64
1:a:1084:G:O5'	17:b:110:ARG:HD2	1.97	0.64
1:a:1176:C:H41	2:c:1:MET:HE2	1.62	0.64
1:a:1479:U:O5'	1:a:1479:U:H6	1.80	0.64
23:C:108:PRO:HD2	23:C:111:LEU:HD22	1.80	0.64
25:E:118:ARG:NH1	33:M:4:ILE:O	2.31	0.64
31:K:1:MET:N	31:K:2:PRO:HD3	2.13	0.64
43:W:104:GLU:HA	43:W:104:GLU:OE1	1.98	0.64
20:m:71:ARG:HH11	20:m:71:ARG:CG	2.10	0.64
46:Z:18:LEU:CB	46:Z:61:LEU:HD21	2.28	0.64
50:2:60:ARG:HH12	50:2:64:ARG:CZ	2.11	0.64
8:k:44:THR:HG23	8:k:48:GLY:O	1.95	0.63
8:k:47:GLN:HE21	8:k:47:GLN:CA	2.00	0.63
24:D:48:SER:HB2	24:D:92:VAL:HG21	1.80	0.63
33:M:76:GLN:NE2	48:A:720:C:N3	2.47	0.63
41:U:4:ILE:N	41:U:4:ILE:HD12	2.13	0.63
42:V:45:THR:C	48:A:571:A:O2'	2.38	0.63
42:V:99:LYS:HB3	42:V:99:LYS:NZ	2.12	0.63
48:A:1563:A:C5	48:A:1565:A:C8	2.86	0.63
20:m:72:ARG:HE	50:2:50:LYS:HZ1	1.44	0.63
22:u:26:VAL:HG21	48:A:2157:G:C5'	2.28	0.63
26:F:66:LEU:CD2	50:2:27:THR:HG22	2.28	0.63
34:N:60:ARG:CZ	48:A:1194:C:P	2.86	0.63
52:4:28:ASN:CG	52:4:31:ASN:HB2	2.23	0.63
52:4:29:ARG:O	52:4:32:ASP:O	2.16	0.63
52:4:47:THR:OG1	52:4:49:GLN:NE2	2.30	0.63
1:a:253:U:H2'	1:a:254:G:C8	2.34	0.63
1:a:829:G:O2'	1:a:830:G:H5'	1.98	0.63
12:r:33:LYS:NZ	19:f:5:GLU:CD	2.55	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:96:HIS:CE1	23:C:102:LYS:HZ2	2.07	0.63
26:F:11:LEU:HD22	26:F:108:ASP:N	2.13	0.63
30:J:96:LYS:HE3	43:W:120:PRO:CB	2.27	0.63
42:V:62:GLN:CG	42:V:63:GLU:N	2.39	0.63
42:V:83:VAL:CG1	42:V:96:ARG:HG3	2.27	0.63
46:Z:48:ARG:O	46:Z:52:GLN:NE2	2.31	0.63
47:B:40:A:H8	50:2:2:LYS:HE3	1.63	0.63
48:A:1590:G:C6	48:A:1591:U:C4	2.86	0.63
48:A:1604:G:H2'	48:A:1605:G:H5"	1.80	0.63
53:5:26:ARG:HD2	53:5:26:ARG:N	2.12	0.63
14:t:4:ILE:HG12	14:t:8:ILE:HG13	1.81	0.63
27:G:55:ARG:HD2	27:G:62:SER:HB3	1.81	0.63
40:T:75:THR:CB	40:T:118:PRO:HG3	2.28	0.63
42:V:96:ARG:HH21	42:V:96:ARG:CG	2.11	0.63
1:a:1018:C:H2'	1:a:1019:U:C6	2.34	0.63
26:F:11:LEU:HD13	26:F:108:ASP:CB	2.27	0.63
35:O:26:THR:HG23	35:O:75:VAL:HG21	1.81	0.63
36:P:5:PRO:CG	47:B:58:A:O5'	2.46	0.63
39:S:6:ILE:HG22	39:S:7:VAL:H	1.64	0.63
42:V:86:ARG:HB3	42:V:97:ILE:HG12	1.80	0.63
43:W:102:ARG:NH2	43:W:138:LEU:CD1	2.57	0.63
48:A:1582:C:H2'	48:A:1583:U:H5'	1.79	0.63
52:4:13:LEU:CD2	52:4:53:GLU:HB3	2.27	0.63
53:5:6:ARG:HB2	53:5:6:ARG:HH11	1.62	0.63
1:a:10:G:C6	3:e:124:ALA:CB	2.82	0.63
1:a:200:U:H1'	11:q:9:TYR:CD1	2.33	0.63
1:a:654:G:H22	8:k:127:HIS:HE1	1.39	0.63
1:a:655:A:N3	8:k:127:HIS:NE2	2.45	0.63
2:c:137:ILE:CG2	2:c:141:MET:HG2	2.23	0.63
3:e:19:ARG:N	18:d:40:ARG:NH1	2.47	0.63
23:C:100:GLY:O	48:A:1720:G:O2'	2.14	0.63
23:C:240:THR:HG22	23:C:242:GLY:H	1.64	0.63
25:E:52:THR:OG1	25:E:92:GLY:HA3	1.99	0.63
32:L:80:ASP:OD2	37:Q:61:ARG:CZ	2.46	0.63
33:M:51:GLU:CG	54:6:57:ARG:HH11	2.11	0.63
41:U:29:TYR:CE1	41:U:93:ILE:HG21	2.34	0.63
47:B:23:G:H22	47:B:60:G:H22	1.47	0.63
1:a:827:U:C2'	1:a:828:G:H5'	2.28	0.63
23:C:25:THR:CG2	23:C:82:ILE:N	2.62	0.63
25:E:3:LEU:HD11	25:E:26:ASP:OD1	1.99	0.63
42:V:89:ASP:N	42:V:89:ASP:OD1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:84:C:C2'	47:B:85:C:H5'	2.28	0.63
52:4:22:ASN:OD1	52:4:22:ASN:N	2.32	0.63
23:C:257:THR:CG2	48:A:2020:A:O2'	2.47	0.63
32:L:7:ARG:HH21	32:L:7:ARG:CG	2.12	0.63
50:2:38:CYS:HB2	50:2:40:GLN:NE2	2.14	0.63
1:a:1027:G:H5"	16:n:4:LYS:HD2	1.80	0.63
9:l:54:ARG:HA	9:l:64:THR:HA	1.81	0.63
44:X:17:ALA:HB1	48:A:2485:C:P	2.37	0.63
1:a:1425:G:C6	37:Q:113:ARG:HB2	2.34	0.62
14:t:4:ILE:HD13	14:t:8:ILE:CG1	2.22	0.62
26:F:70:GLN:NE2	47:B:43:C:H4'	2.14	0.62
26:F:118:ILE:HG13	26:F:144:MET:HG2	1.79	0.62
41:U:5:THR:CG2	41:U:6:ASP:H	2.07	0.62
48:A:1564:A:C3'	48:A:1565:A:H5"	2.28	0.62
1:a:639:C:P	10:o:8:LYS:NZ	2.72	0.62
8:k:44:THR:HG21	8:k:48:GLY:O	1.99	0.62
23:C:256:ARG:HD3	23:C:258:ARG:NE	2.14	0.62
31:K:25:LEU:HD22	31:K:62:ILE:HD12	1.82	0.62
35:O:11:GLY:O	35:O:12:GLY:C	2.42	0.62
41:U:6:ASP:OD2	46:Z:23:ARG:HG3	1.98	0.62
41:U:29:TYR:CZ	41:U:93:ILE:HB	2.34	0.62
42:V:43:LYS:HG2	48:A:568:A:H4'	1.81	0.62
48:A:1578:G:N1	48:A:1592:G:C2'	2.62	0.62
1:a:1311:G:H5"	20:m:26:GLY:N	2.14	0.62
6:i:41:LEU:CD2	6:i:106:ALA:HB1	2.29	0.62
23:C:25:THR:HG21	23:C:81:HIS:CG	2.34	0.62
23:C:256:ARG:CD	23:C:258:ARG:HD2	2.28	0.62
26:F:49:ASP:CB	26:F:56:LEU:CD1	2.65	0.62
47:B:82:A:N1	47:B:91:G:O6	2.32	0.62
48:A:1586:C:C3'	48:A:1587:G:H5"	2.28	0.62
20:m:57:ARG:HH12	50:2:36:GLU:CD	2.06	0.62
20:m:72:ARG:NE	50:2:50:LYS:HZ1	1.97	0.62
25:E:69:LYS:HE2	48:A:2668:G:OP2	1.98	0.62
25:E:149:THR:HG23	25:E:150:GLU:HG3	1.79	0.62
23:C:37:LEU:CD2	23:C:62:TYR:CB	2.63	0.62
27:G:154:ARG:HD2	27:G:155:PRO:HD2	1.82	0.62
47:B:88:C:H2'	47:B:89:C:C5	2.35	0.62
1:a:718:U:C5'	19:f:69:PRO:HB3	2.28	0.62
13:s:19:VAL:HG11	13:s:44:PHE:HD1	1.63	0.62
40:T:84:ASP:OD1	48:A:20:G:N2	2.23	0.62
1:a:193:C:C5	11:q:17:ARG:NH1	2.67	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1280:C:C4	4:g:114:LYS:HG3	2.34	0.62
1:a:1515:A:H2'	1:a:1516:U:C6	2.34	0.62
11:q:8:LYS:HB3	11:q:8:LYS:HZ3	1.65	0.62
15:v:7:G:O2'	15:v:50:G:H5'	1.99	0.62
48:A:1610:C:O5'	48:A:1610:C:H6	1.82	0.62
1:a:1098:U:C5'	6:i:126:ARG:HE	2.09	0.62
11:q:8:LYS:HB3	11:q:8:LYS:NZ	2.14	0.62
23:C:63:ARG:HH12	48:A:1788:G:P	2.22	0.62
23:C:256:ARG:NE	23:C:258:ARG:HE	1.97	0.62
31:K:96:HIS:HB2	31:K:99:ARG:CG	2.29	0.62
33:M:84:ASN:ND2	33:M:117:LYS:O	2.33	0.62
42:V:28:PRO:HG3	48:A:83:C:OP1	1.98	0.62
52:4:15:CYS:CB	52:4:20:HIS:H	2.12	0.62
4:g:148:ASN:HD22	4:g:148:ASN:N	1.97	0.62
23:C:25:THR:CG2	23:C:81:HIS:CG	2.83	0.62
23:C:241:SER:OG	48:A:2127:G:OP1	2.18	0.62
25:E:118:ARG:HH11	33:M:3:VAL:CG1	2.13	0.62
32:L:91:ASN:H	32:L:92:ASP:HB3	1.63	0.62
35:O:8:PRO:HG3	48:A:1870:U:N3	2.14	0.62
41:U:29:TYR:CD1	41:U:93:ILE:HG21	2.34	0.62
47:B:18:C:C2	47:B:19:G:N7	2.68	0.62
13:s:42:PRO:HD3	50:2:60:ARG:CZ	2.29	0.62
26:F:45:MET:CE	26:F:64:LEU:CG	2.77	0.62
34:N:60:ARG:CZ	48:A:1194:C:OP2	2.48	0.62
41:U:60:ALA:HB2	48:A:1456:G:H4'	1.80	0.62
3:e:21:ASP:HB2	18:d:40:ARG:HH21	1.65	0.61
26:F:77:ALA:HB2	26:F:92:ILE:HD11	1.82	0.61
46:Z:62:ARG:O	46:Z:62:ARG:HD3	2.00	0.61
48:A:1608:U:C2	48:A:1609:G:N7	2.67	0.61
1:a:636:G:H22	10:o:23:GLY:HA3	1.63	0.61
1:a:806:C:C5'	5:h:13:ARG:NH2	2.63	0.61
1:a:1470:G:H2'	1:a:1471:G:O4'	2.00	0.61
3:e:17:ARG:NH2	3:e:40:VAL:HG11	2.15	0.61
3:e:17:ARG:NH2	3:e:40:VAL:CG1	2.63	0.61
7:j:49:TYR:CE2	16:n:37:PHE:CE2	2.88	0.61
24:D:60:ARG:NH2	48:A:3052:A:OP1	2.33	0.61
26:F:55:LYS:HB2	26:F:55:LYS:HZ2	1.66	0.61
26:F:76:ARG:NH1	47:B:41:U:H3	1.98	0.61
35:O:83:ILE:O	35:O:86:PHE:HB3	1.99	0.61
1:a:806:C:C5'	5:h:13:ARG:HH22	2.13	0.61
8:k:44:THR:HG22	8:k:48:GLY:CA	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1609:G:O2'	48:A:1610:C:H5'	2.00	0.61
1:a:1280:C:C5	4:g:114:LYS:HG3	2.35	0.61
1:a:1332:A:C2'	4:g:33:GLU:CG	2.78	0.61
1:a:1382:C:H4'	1:a:1383:C:H5"	1.80	0.61
48:A:2256:G:N2	48:A:2796:A:OP2	2.33	0.61
52:4:19:LYS:HG3	52:4:21:ARG:HG2	1.82	0.61
1:a:561:G:H4'	10:o:64:ARG:NH2	2.14	0.61
1:a:1280:C:C5	4:g:114:LYS:HE3	2.31	0.61
26:F:10:ARG:HG2	26:F:10:ARG:NH1	2.05	0.61
26:F:126:PRO:O	26:F:174:ARG:NH1	2.33	0.61
32:L:109:LYS:HG2	32:L:110:LYS:HG3	1.82	0.61
50:2:16:CYS:SG	50:2:17:GLY:N	2.74	0.61
42:V:86:ARG:HD3	42:V:97:ILE:CG1	2.30	0.61
1:a:672:U:O4	8:k:37:ASN:OD1	2.18	0.61
1:a:777:C:H2'	1:a:778:U:C6	2.35	0.61
13:s:9:PRO:HG3	50:2:64:ARG:CZ	2.30	0.61
26:F:34:GLN:O	26:F:34:GLN:HG2	1.99	0.61
35:O:43:ALA:CA	35:O:46:PRO:HD2	2.30	0.61
41:U:68:ARG:O	41:U:69:THR:HG22	1.94	0.61
42:V:86:ARG:CB	42:V:97:ILE:HG13	2.30	0.61
2:c:141:MET:HE1	2:c:170:GLU:CB	1.92	0.61
39:S:6:ILE:CG2	39:S:7:VAL:N	2.63	0.61
40:T:44:ARG:HH12	51:3:55:ASP:N	1.90	0.61
43:W:29:ARG:HH11	47:B:90:G:H5'	1.65	0.61
43:W:100:VAL:HG11	43:W:137:ALA:CB	2.16	0.61
48:A:1754:G:O6	48:A:1759:A:N1	2.33	0.61
1:a:332:G:O2'	14:t:11:ILE:HG12	2.01	0.61
1:a:438:U:O2'	1:a:439:U:O2	2.18	0.61
1:a:1513:G:N7	22:u:7:LYS:HE3	2.15	0.61
15:v:8:U:H1'	15:v:22:A:C2	2.36	0.61
23:C:73:ASP:CB	23:C:120:GLY:HA3	2.28	0.61
26:F:132:THR:HG21	36:P:6:VAL:HG22	1.78	0.61
29:I:27:GLU:HB2	29:I:106:LYS:HE3	1.81	0.61
48:A:1122:C:H2'	48:A:1129:G:H2'	1.82	0.61
48:A:1574:G:H2'	48:A:1575:A:C8	2.36	0.61
48:A:2713:G:OP1	56:8:6:ARG:NH2	2.33	0.61
1:a:1132:U:C5'	7:j:43:PRO:HA	2.31	0.61
2:c:109:GLU:CD	2:c:143:GLN:HG2	2.11	0.61
30:J:111:ALA:HA	30:J:114:LYS:HB2	1.83	0.61
1:a:668:G:OP1	8:k:58:HIS:HD2	1.84	0.60
1:a:1311:G:H4'	20:m:24:GLY:O	1.99	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:i:27:GLN:HG2	6:i:40:ARG:HB3	1.83	0.60
13:s:50:ALA:HB1	13:s:57:HIS:HB3	1.82	0.60
17:b:138:THR:O	17:b:142:ASN:HB2	2.00	0.60
18:d:92:ARG:HH21	18:d:129:SER:HB3	1.66	0.60
30:J:96:LYS:CE	43:W:120:PRO:CB	2.66	0.60
35:O:7:GLY:O	35:O:9:ARG:NH1	2.33	0.60
35:O:67:MET:HG3	35:O:76:VAL:HG11	1.81	0.60
52:4:11:ILE:HD13	52:4:27:LYS:HD3	1.81	0.60
53:5:38:ARG:HA	53:5:45:LEU:HD21	1.80	0.60
1:a:526:G:H2'	18:d:2:ALA:HB2	1.83	0.60
1:a:930:C:OP1	20:m:109:THR:HG22	2.00	0.60
1:a:1280:C:N4	4:g:114:LYS:HG3	2.16	0.60
25:E:45:LYS:CG	48:A:709:U:O4	2.49	0.60
25:E:121:ASN:ND2	33:M:3:VAL:CG2	2.64	0.60
25:E:121:ASN:ND2	33:M:3:VAL:HG22	2.16	0.60
48:A:1591:U:N3	48:A:1592:G:N7	2.49	0.60
52:4:19:LYS:HD3	52:4:44:ASN:HB2	1.80	0.60
1:a:987:A:H8	1:a:1007:U:H1'	1.65	0.60
13:s:9:PRO:HG2	13:s:40:ILE:HD11	1.83	0.60
25:E:42:LEU:O	48:A:531:A:N6	2.34	0.60
25:E:155:LEU:HB3	25:E:194:VAL:HG12	1.82	0.60
31:K:110:PRO:O	31:K:115:GLY:HA3	2.01	0.60
31:K:141:GLU:CD	31:K:143:LYS:HG3	2.25	0.60
32:L:104:ARG:HH12	37:Q:33:GLU:HB2	1.67	0.60
42:V:59:ILE:O	42:V:59:ILE:HG12	2.02	0.60
48:A:1567:C:C2	48:A:1603:G:C6	2.84	0.60
49:1:50:VAL:O	49:1:50:VAL:HG23	2.01	0.60
49:1:51:HIS:H	49:1:51:HIS:HD2	1.46	0.60
1:a:806:C:H4'	5:h:13:ARG:NH2	2.16	0.60
30:J:57:PRO:HD3	30:J:76:PRO:HD3	1.84	0.60
33:M:61:LEU:HD22	54:6:24:ARG:HH11	1.64	0.60
1:a:480:G:H2'	1:a:481:G:C8	2.37	0.60
1:a:828:G:C2	1:a:829:G:C4	2.89	0.60
3:e:137:ARG:HH11	18:d:49:GLN:NE2	1.99	0.60
12:r:32:TYR:CZ	19:f:91:LEU:CD1	2.73	0.60
13:s:41:ILE:C	50:2:60:ARG:HH21	2.09	0.60
25:E:35:HIS:HE1	48:A:1359:G:O2'	1.85	0.60
36:P:50:GLN:HE22	47:B:7:G:H21	1.37	0.60
42:V:89:ASP:O	42:V:90:GLU:C	2.43	0.60
47:B:34:G:C6	47:B:44:C:C5	2.89	0.60
48:A:1574:G:H1	48:A:1599:U:H5"	1.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1608:U:O5'	48:A:1608:U:H6	1.84	0.60
1:a:501:G:OP1	9:l:70:GLU:O	2.19	0.60
1:a:606:U:H5"	21:p:39:ARG:HD3	1.84	0.60
1:a:687:U:O2'	8:k:48:GLY:O	2.18	0.60
13:s:29:GLN:HA	13:s:29:GLN:NE2	2.11	0.60
19:f:17:ARG:HD3	48:A:1560:U:O2	2.01	0.60
20:m:57:ARG:NH1	50:2:36:GLU:CD	2.56	0.60
23:C:54:LYS:HZ3	48:A:2031:G:H5"	1.66	0.60
30:J:129:ILE:HA	48:A:1198:C:H1'	1.84	0.60
43:W:105:LYS:HZ3	43:W:136:GLU:CD	2.03	0.60
48:A:1570:C:N4	48:A:1602:U:H3	1.99	0.60
52:4:35:ARG:HH21	52:4:35:ARG:HA	1.66	0.60
1:a:193:C:N4	11:q:17:ARG:HD2	2.17	0.60
1:a:209:A:OP2	14:t:60:LYS:HE3	2.02	0.60
1:a:808:A:H62	1:a:840:G:N2	2.00	0.60
1:a:1303:U:O4'	13:s:73:GLU:OE2	2.19	0.60
1:a:1330:U:OP1	6:i:131:ILE:HA	2.02	0.60
23:C:37:LEU:HD12	23:C:37:LEU:O	2.02	0.60
24:D:27:THR:HG21	24:D:198:ILE:HG12	1.84	0.60
31:K:77:HIS:CD2	31:K:78:SER:O	2.54	0.60
35:O:43:ALA:O	35:O:46:PRO:HD2	2.01	0.60
41:U:57:VAL:HG22	41:U:84:VAL:HG12	1.82	0.60
3:e:176:GLU:OE1	3:e:176:GLU:HA	2.00	0.60
23:C:73:ASP:O	23:C:119:SER:O	2.19	0.60
31:K:141:GLU:OE2	31:K:143:LYS:HG3	2.01	0.60
41:U:4:ILE:CD1	46:Z:58:TYR:OH	2.46	0.60
1:a:519:A:H2'	1:a:520:G:C8	2.36	0.60
1:a:1267:U:H3'	1:a:1268:C:C5'	2.32	0.60
8:k:56:SER:CB	8:k:71:ALA:HB1	2.32	0.60
13:s:40:ILE:CD1	50:2:64:ARG:HH12	1.99	0.60
23:C:158:SER:OG	23:C:159:ALA:N	2.34	0.60
43:W:6:ASN:O	43:W:6:ASN:ND2	2.35	0.60
44:X:84:ALA:O	44:X:85:ARG:NE	2.35	0.60
1:a:203:U:H2'	1:a:204:A:H8	1.67	0.60
2:c:135:LYS:CG	3:e:26:ARG:HH21	2.08	0.60
2:c:142:ARG:O	2:c:144:PRO:HD2	2.02	0.60
16:n:5:ALA:O	16:n:9:LYS:HB2	2.01	0.60
23:C:262:LYS:HE3	48:A:2309:U:OP1	2.02	0.60
24:D:158:GLY:O	48:A:2276:G:N2	2.34	0.60
25:E:4:LYS:HD3	25:E:5:VAL:N	2.17	0.60
32:L:107:ARG:NH1	37:Q:33:GLU:CG	2.62	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:T:75:THR:HB	40:T:118:PRO:CG	2.32	0.60
55:7:22:ARG:NH2	55:7:36:GLN:O	2.26	0.60
1:a:262:G:OP2	14:t:71:GLN:CG	2.49	0.59
2:c:132:ALA:O	2:c:136:ALA:N	2.31	0.59
3:e:182:ARG:CD	5:h:45:TYR:HE1	2.12	0.59
10:o:57:LEU:CD2	48:A:830:A:N6	2.65	0.59
20:m:72:ARG:HH11	50:2:50:LYS:HZ2	1.47	0.59
23:C:25:THR:OG1	23:C:81:HIS:ND1	1.92	0.59
25:E:186:TYR:CE1	33:M:6:LEU:HD11	2.37	0.59
26:F:99:ARG:HD3	47:B:45:G:H8	1.66	0.59
40:T:75:THR:HB	40:T:118:PRO:HG3	1.83	0.59
40:T:82:TYR:HD2	40:T:111:THR:HB	1.67	0.59
48:A:858:A:O2'	48:A:1877:U:OP1	2.20	0.59
48:A:1552:A:N6	48:A:1616:A:OP2	2.35	0.59
1:a:1209:C:N4	20:m:104:LYS:O	2.27	0.59
1:a:1381:A:H61	3:e:53:GLY:H	1.50	0.59
13:s:22:GLN:HE22	13:s:29:GLN:HB2	1.67	0.59
23:C:21:PHE:O	23:C:24:ILE:HG13	2.02	0.59
1:a:375:U:OP1	21:p:69:PRO:HB3	2.01	0.59
1:a:1260:A:H5"	7:j:9:ARG:NH1	2.17	0.59
1:a:1458:G:H2'	1:a:1459:G:O4'	2.01	0.59
23:C:257:THR:HG22	23:C:257:THR:O	2.01	0.59
1:a:208:G:H5"	14:t:60:LYS:NZ	2.16	0.59
1:a:1517:C:H4'	1:a:1518:A:OP1	2.00	0.59
15:v:57:C:O2'	26:F:82:ALA:CA	2.50	0.59
23:C:62:TYR:CE1	48:A:2033:U:H3'	2.38	0.59
35:O:116:VAL:HB	35:O:118:GLU:CB	2.32	0.59
37:Q:5:ASP:O	37:Q:9:GLN:HB3	2.02	0.59
42:V:86:ARG:CD	42:V:97:ILE:HG13	2.32	0.59
1:a:493:A:H2'	1:a:494:C:H6	1.66	0.59
19:f:10:LEU:HB2	19:f:59:ILE:HB	1.82	0.59
23:C:261:ASN:O	23:C:262:LYS:HB2	2.03	0.59
25:E:127:VAL:O	25:E:198:VAL:HG23	2.02	0.59
35:O:16:HIS:CD2	48:A:1390:A:N9	2.70	0.59
40:T:85:GLU:O	48:A:21:G:O2'	2.20	0.59
41:U:58:ASN:HD22	48:A:1456:G:H21	1.49	0.59
1:a:1332:A:C1'	4:g:33:GLU:CD	2.75	0.59
26:F:51:ALA:HB2	26:F:90:MET:CE	2.15	0.59
31:K:13:ARG:NE	31:K:121:LYS:HZ3	2.01	0.59
32:L:91:ASN:OD1	32:L:111:PHE:CE1	2.54	0.59
34:N:75:THR:HA	34:N:90:PRO:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:V:2:LYS:CG	42:V:83:VAL:CB	2.79	0.59
42:V:45:THR:C	48:A:571:A:HO2'	2.07	0.59
47:B:84:C:C4	47:B:85:C:C2	2.90	0.59
48:A:1563:A:HO2'	48:A:1564:A:P	2.21	0.59
5:h:21:TYR:HA	5:h:70:ARG:HH21	1.68	0.59
34:N:58:ILE:HG21	34:N:108:TYR:CD1	2.36	0.59
35:O:9:ARG:HG2	35:O:14:SER:CA	2.32	0.59
39:S:72:LYS:NZ	48:A:1337:G:N7	2.51	0.59
41:U:4:ILE:O	41:U:4:ILE:HG22	2.01	0.59
47:B:36:U:O5'	47:B:36:U:H6	1.84	0.59
50:2:44:PHE:O	50:2:48:LYS:CG	2.42	0.59
1:a:1133:G:P	7:j:72:ARG:NH1	2.75	0.59
1:a:1338:G:H2'	1:a:1339:A:C8	2.36	0.59
6:i:40:ARG:NH1	6:i:84:TYR:CG	2.62	0.59
8:k:43:ILE:HG13	8:k:51:ILE:HG12	1.84	0.59
19:f:12:PRO:O	19:f:45:ARG:NH1	2.35	0.59
23:C:262:LYS:HD2	23:C:262:LYS:N	2.17	0.59
25:E:7:VAL:H	25:E:16:GLY:C	1.99	0.59
25:E:144:PHE:HE1	25:E:148:LEU:CD2	2.05	0.59
26:F:32:VAL:HB	26:F:33:MET:HB2	1.82	0.59
33:M:68:LYS:NZ	48:A:244:A:OP1	2.36	0.59
47:B:87:U:H3'	47:B:88:C:O4'	2.02	0.59
52:4:27:LYS:HD3	52:4:53:GLU:OE1	2.03	0.59
1:a:606:U:H4'	21:p:39:ARG:CZ	2.32	0.59
1:a:1060:A:P	3:e:77:LYS:HZ1	2.26	0.59
19:f:17:ARG:NH1	48:A:1612:U:O2	2.28	0.59
22:u:30:LYS:HE2	48:A:2199:G:O5'	2.02	0.59
26:F:53:ASP:O	26:F:56:LEU:HD22	2.03	0.59
35:O:52:ILE:HD12	35:O:94:TYR:HB2	1.85	0.59
37:Q:19:PHE:HA	37:Q:88:ARG:HH12	1.68	0.59
48:A:1580:A:N1	48:A:1592:G:C1'	2.65	0.59
1:a:1088:G:OP2	2:c:174:PRO:HA	2.03	0.59
1:a:1145:G:H1	1:a:1153:U:H3	1.49	0.59
1:a:1202:G:OP1	13:s:36:ARG:HD3	2.03	0.59
23:C:99:ASP:O	48:A:1720:G:N2	2.22	0.59
15:v:9:G:N3	15:v:46:G:H2'	2.18	0.58
31:K:142:ILE:HG21	48:A:1130:C:H42	1.63	0.58
37:Q:13:ARG:NH1	37:Q:80:ILE:O	2.36	0.58
47:B:31:C:H42	47:B:51:G:H1	1.51	0.58
47:B:96:A:C2	48:A:977:G:N2	2.70	0.58
1:a:10:G:C8	3:e:122:ARG:NH1	2.71	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:409:G:H5'	18:d:104:ARG:NH1	2.18	0.58
26:F:43:VAL:O	26:F:43:VAL:HG12	2.02	0.58
34:N:134:ARG:HH21	43:W:129:ASN:ND2	2.01	0.58
44:X:84:ALA:HA	44:X:86:PRO:HD2	1.84	0.58
48:A:285:U:H3'	48:A:286:G:H4'	1.85	0.58
48:A:1174:G:O2'	48:A:1221:A:N6	2.36	0.58
48:A:1604:G:H2'	48:A:1605:G:C5'	2.33	0.58
1:a:403:C:C5'	18:d:128:PRO:HD2	2.27	0.58
1:a:693:G:H2'	1:a:694:G:C8	2.39	0.58
1:a:828:G:N1	1:a:829:G:C6	2.72	0.58
17:b:97:LEU:H	17:b:100:MET:HE3	1.67	0.58
43:W:6:ASN:HB3	43:W:138:LEU:O	1.96	0.58
43:W:82:ALA:O	43:W:83:LEU:HB2	2.04	0.58
48:A:122:A:OP2	53:5:22:ARG:NH1	2.37	0.58
48:A:1187:A:H4'	48:A:1188:A:H5"	1.85	0.58
48:A:1570:C:H42	48:A:1602:U:H3	1.47	0.58
48:A:1571:C:HO2'	48:A:1572:G:H8	1.52	0.58
1:a:372:C:H41	1:a:387:U:H2'	1.68	0.58
1:a:858:A:H1'	5:h:12:THR:OG1	2.03	0.58
6:i:119:LYS:HB2	6:i:124:LEU:HD12	1.84	0.58
27:G:63:ARG:HB3	48:A:2973:A:H4'	1.84	0.58
47:B:10:G:C2	47:B:107:A:H2	2.19	0.58
48:A:993:G:N2	48:A:1015:A:OP2	2.36	0.58
48:A:1000:C:OP2	48:A:1002:C:N4	2.36	0.58
48:A:1571:C:O2'	48:A:1572:G:H5"	2.04	0.58
48:A:1574:G:C2'	48:A:1575:A:C8	2.86	0.58
48:A:1590:G:O2'	48:A:1591:U:O4'	2.20	0.58
52:4:13:LEU:N	52:4:23:TYR:O	2.34	0.58
1:a:173:C:H2'	1:a:174:G:H5"	1.85	0.58
1:a:439:U:C2	18:d:115:HIS:CE1	2.92	0.58
1:a:562:U:OP1	10:o:68:LYS:NZ	2.35	0.58
9:l:68:PRO:O	9:l:99:ARG:NH2	2.37	0.58
48:A:1703:G:H1	48:A:1726:C:N4	2.01	0.58
1:a:200:U:H1'	11:q:9:TYR:HD1	1.68	0.58
1:a:987:A:C8	1:a:1007:U:H1'	2.38	0.58
1:a:1210:A:OP1	20:m:114:LYS:HD3	2.02	0.58
23:C:31:LYS:HE3	48:A:1648:A:O2'	2.03	0.58
23:C:176:ARG:HG3	23:C:182:ILE:HG12	1.86	0.58
42:V:96:ARG:CZ	42:V:96:ARG:HB2	2.33	0.58
48:A:2967:C:OP1	55:7:33:LYS:NZ	2.27	0.58
1:a:10:G:H22	3:e:128:THR:HG1	1.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:s:10:PHE:HD2	13:s:38:SER:HG	1.51	0.58
13:s:19:VAL:HG11	13:s:44:PHE:CE1	2.39	0.58
34:N:59:LYS:C	34:N:60:ARG:HG3	2.29	0.58
34:N:60:ARG:O	43:W:190:LEU:CD1	2.51	0.58
48:A:1397:U:H3	48:A:1401:A:H62	1.50	0.58
48:A:1584:U:C5	48:A:1586:C:OP2	2.57	0.58
1:a:699:C:O2'	12:r:47:LYS:HB3	2.04	0.58
1:a:758:G:O2'	8:k:130:CYS:HB3	2.04	0.58
1:a:882:A:H2'	1:a:883:A:C8	2.38	0.58
1:a:1197:U:H5"	16:n:5:ALA:HB2	1.86	0.58
1:a:1375:G:H21	1:a:1486:A:H8	1.51	0.58
2:c:141:MET:HE1	2:c:170:GLU:O	2.04	0.58
3:e:19:ARG:HA	18:d:40:ARG:HH12	1.28	0.58
14:t:8:ILE:HA	14:t:11:ILE:HD12	1.84	0.58
25:E:170:ARG:NH2	48:A:422:A:O2'	2.36	0.58
26:F:70:GLN:OE1	26:F:96:VAL:HG23	2.03	0.58
42:V:86:ARG:HB3	42:V:97:ILE:HG13	1.85	0.58
1:a:104:A:N6	14:t:10:ARG:HE	2.02	0.58
23:C:254:GLU:HG2	23:C:254:GLU:O	2.03	0.58
25:E:107:ILE:HD12	48:A:710:G:OP1	2.02	0.58
35:O:29:PHE:HB3	35:O:79:LEU:HD12	0.60	0.58
35:O:79:LEU:HD23	35:O:80:PHE:N	2.19	0.58
48:A:301:U:H5'	48:A:302:U:H4'	1.85	0.58
13:s:9:PRO:HG2	13:s:40:ILE:CD1	2.34	0.58
23:C:20:ASP:O	23:C:21:PHE:HB2	2.04	0.58
23:C:258:ARG:HG2	23:C:259:LYS:N	2.19	0.58
24:D:157:PRO:O	24:D:159:ARG:N	2.27	0.58
25:E:9:THR:HG22	25:E:128:THR:OG1	2.04	0.58
26:F:31:ASN:CG	47:B:56:C:C5'	2.77	0.58
32:L:76:TYR:O	37:Q:71:ARG:HD2	2.04	0.58
41:U:94:ASP:O	41:U:96:PHE:N	2.29	0.58
46:Z:63:GLU:OE1	46:Z:63:GLU:HA	2.01	0.58
47:B:4:A:C2	47:B:26:A:N6	2.71	0.58
47:B:84:C:N4	47:B:85:C:N3	2.52	0.58
48:A:1612:U:H2'	48:A:1613:G:H8	1.68	0.58
1:a:682:A:C6	48:A:2065:A:C5	2.91	0.57
2:c:133:MET:O	2:c:136:ALA:HB3	2.04	0.57
8:k:113:GLY:O	8:k:114:LEU:HD23	2.04	0.57
15:v:7:G:N2	15:v:50:G:H1'	2.19	0.57
20:m:86:CYS:SG	20:m:87:TYR:N	2.77	0.57
23:C:55:GLY:CA	23:C:218:ARG:HD3	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:260:PRO:O	23:C:263:PRO:HD3	2.04	0.57
27:G:2:SER:N	48:A:2973:A:OP1	2.37	0.57
30:J:44:TYR:O	30:J:48:THR:CB	2.51	0.57
42:V:2:LYS:HD2	42:V:83:VAL:HG12	1.73	0.57
47:B:4:A:N3	47:B:25:G:O6	2.34	0.57
50:2:59:ALA:O	50:2:62:GLU:CB	2.51	0.57
1:a:647:G:O2'	10:o:49:ASP:OD1	2.15	0.57
1:a:1284:U:C4	20:m:14:ARG:NH1	2.71	0.57
2:c:46:LEU:HB3	2:c:51:ILE:HB	1.85	0.57
6:i:41:LEU:CD1	6:i:83:ILE:CG1	2.75	0.57
26:F:109:ARG:O	26:F:113:ILE:HB	2.04	0.57
26:F:118:ILE:HD12	26:F:118:ILE:N	2.02	0.57
32:L:91:ASN:ND2	32:L:110:LYS:CA	2.66	0.57
48:A:1584:U:C6	48:A:1586:C:OP2	2.57	0.57
1:a:1340:U:OP1	16:n:35:ARG:HB2	2.04	0.57
13:s:67:VAL:CG1	50:2:60:ARG:HG3	2.35	0.57
23:C:26:ARG:HG3	23:C:81:HIS:ND1	2.19	0.57
26:F:11:LEU:HD22	26:F:108:ASP:HB3	1.86	0.57
34:N:58:ILE:CG2	34:N:108:TYR:CZ	2.87	0.57
36:P:39:VAL:HA	36:P:103:ASP:HB3	1.86	0.57
37:Q:19:PHE:O	37:Q:49:ARG:NH1	2.37	0.57
41:U:73:PHE:CZ	48:A:544:U:C2	2.83	0.57
42:V:4:HIS:CG	42:V:96:ARG:NH1	2.71	0.57
1:a:310:G:OP1	21:p:31:GLY:CA	2.53	0.57
1:a:1304:C:H5"	20:m:100:GLY:HA3	1.87	0.57
2:c:131:ARG:CZ	3:e:22:ASP:OD2	2.52	0.57
2:c:131:ARG:NH2	3:e:22:ASP:OD2	2.38	0.57
2:c:131:ARG:NH1	3:e:22:ASP:CG	2.61	0.57
26:F:44:ASN:HB2	48:A:2537:C:H1'	1.87	0.57
28:H:115:ARG:NH1	48:A:163:U:O2	2.37	0.57
35:O:16:HIS:HD2	48:A:1390:A:N9	2.02	0.57
48:A:1100:C:O2	56:8:21:ARG:NH2	2.37	0.57
48:A:1580:A:C6	48:A:1591:U:N3	2.62	0.57
1:a:254:G:H4'	11:q:35:THR:OG1	2.03	0.57
1:a:262:G:O3'	14:t:70:ASN:HB3	2.04	0.57
1:a:1328:A:HO2'	6:i:129:ARG:NH2	2.01	0.57
8:k:38:ASN:HB3	8:k:66:LYS:HG2	1.86	0.57
13:s:11:VAL:HG23	13:s:40:ILE:HG12	1.86	0.57
32:L:78:LYS:HD3	37:Q:70:GLU:OE1	2.04	0.57
41:U:67:LYS:HB2	41:U:67:LYS:HZ3	1.68	0.57
41:U:83:ILE:HD12	48:A:1456:G:N2	2.13	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1341:C:OP2	16:n:35:ARG:NE	2.32	0.57
3:e:17:ARG:CZ	3:e:40:VAL:CG1	2.83	0.57
8:k:91:VAL:HG21	8:k:114:LEU:CD1	2.30	0.57
25:E:51:SER:HB2	48:A:35:A:H4'	1.87	0.57
25:E:143:THR:O	25:E:147:THR:CB	2.53	0.57
26:F:23:LEU:CD2	26:F:29:TYR:OH	2.53	0.57
30:J:30:LEU:HA	30:J:33:HIS:HD2	1.69	0.57
45:Y:19:SER:OG	45:Y:20:HIS:N	2.37	0.57
48:A:1604:G:C2'	48:A:1605:G:H5"	2.34	0.57
52:4:13:LEU:O	52:4:22:ASN:HA	2.05	0.57
1:a:1159:G:N7	6:i:119:LYS:HE3	2.20	0.57
1:a:1302:C:OP1	13:s:70:LYS:CD	2.50	0.57
6:i:37:VAL:HG23	6:i:87:LEU:HB3	1.87	0.57
9:l:114:ARG:NH2	9:l:119:ALA:O	2.38	0.57
13:s:28:LYS:O	13:s:29:GLN:NE2	2.37	0.57
35:O:14:SER:C	35:O:15:SER:HG	2.07	0.57
23:C:51:THR:HG21	23:C:54:LYS:HE3	1.86	0.57
26:F:47:VAL:HG23	26:F:48:GLY:H	1.69	0.57
26:F:130:ASP:OD2	26:F:134:ASN:ND2	2.38	0.57
1:a:655:A:C2	8:k:127:HIS:CE1	2.93	0.57
1:a:940:A:C4	13:s:55:ARG:HG2	2.36	0.57
31:K:13:ARG:NE	31:K:121:LYS:NZ	2.53	0.57
48:A:1563:A:N7	48:A:1565:A:C5	2.72	0.57
48:A:1563:A:H61	48:A:1607:C:H41	1.52	0.57
48:A:1578:G:N1	48:A:1592:G:H2'	2.20	0.57
48:A:2508:C:OP2	52:4:8:ARG:HG3	2.04	0.57
48:A:3014:A:H62	48:A:3113:A:H2	1.53	0.57
50:2:45:TYR:O	50:2:49:GLN:HG3	2.03	0.57
1:a:495:G:H2'	1:a:496:U:H6	1.70	0.57
22:u:26:VAL:HG21	48:A:2157:G:H5'	1.87	0.57
26:F:64:LEU:HD11	26:F:94:ALA:O	2.05	0.57
36:P:50:GLN:NE2	47:B:7:G:C2	2.69	0.57
41:U:59:THR:HG23	41:U:80:LYS:HE3	1.86	0.57
43:W:98:LEU:HD23	43:W:98:LEU:C	2.29	0.57
48:A:2747:G:HO2'	48:A:2988:A:HO2'	1.50	0.57
1:a:437:U:H5"	18:d:147:THR:HG21	1.86	0.56
2:c:22:TRP:CE2	16:n:54:PRO:HG3	2.39	0.56
23:C:37:LEU:HD23	23:C:62:TYR:CA	2.34	0.56
23:C:256:ARG:HG3	23:C:258:ARG:HD2	1.86	0.56
26:F:45:MET:HE3	26:F:64:LEU:CG	2.34	0.56
41:U:73:PHE:HD2	48:A:62:G:H4'	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:V:2:LYS:CE	42:V:85:TYR:CE2	2.88	0.56
48:A:995:U:O4	48:A:1014:G:N2	2.38	0.56
49:1:19:GLN:HG3	49:1:50:VAL:HG12	1.87	0.56
1:a:728:A:H8	1:a:728:A:OP2	1.88	0.56
4:g:151:PHE:CZ	8:k:65:ARG:CD	2.83	0.56
14:t:8:ILE:O	14:t:11:ILE:HB	2.05	0.56
27:G:95:TYR:HE2	27:G:161:LYS:HB3	1.69	0.56
35:O:44:LEU:HD23	35:O:113:ILE:HD12	1.87	0.56
43:W:102:ARG:HH22	43:W:138:LEU:HD11	1.66	0.56
48:A:1249:G:N2	48:A:1250:U:O4	2.35	0.56
1:a:828:G:N2	1:a:829:G:C4	2.73	0.56
3:e:140:LEU:HD13	3:e:148:ILE:HD11	1.85	0.56
9:l:68:PRO:HB2	9:l:117:TYR:HE1	1.70	0.56
18:d:117:HIS:HA	18:d:141:LYS:HE2	1.87	0.56
20:m:75:GLN:O	20:m:75:GLN:NE2	2.33	0.56
24:D:154:CYS:O	24:D:155:ALA:HB2	2.06	0.56
25:E:75:ARG:NH1	48:A:2669:G:OP1	2.38	0.56
26:F:55:LYS:HB2	26:F:55:LYS:HZ3	1.68	0.56
35:O:20:LEU:CD2	35:O:24:LEU:HD12	2.34	0.56
38:R:89:GLU:OE1	39:S:8:LYS:NZ	2.37	0.56
39:S:6:ILE:CG2	39:S:7:VAL:H	2.19	0.56
40:T:6:GLU:HG3	40:T:6:GLU:O	2.04	0.56
40:T:9:SER:HB2	40:T:114:VAL:O	2.04	0.56
48:A:1550:G:N2	48:A:1620:U:O2	2.35	0.56
48:A:1649:C:N4	48:A:1790:A:OP2	2.35	0.56
48:A:2086:U:O4	48:A:2096:G:O6	2.23	0.56
55:7:2:LYS:NZ	55:7:31:ARG:O	2.33	0.56
2:c:188:GLU:OE1	2:c:195:ARG:NH1	2.33	0.56
19:f:81:LEU:HD22	23:C:137:PRO:HG2	1.87	0.56
25:E:184:ASN:ND2	48:A:708:G:N2	2.54	0.56
40:T:117:ARG:N	40:T:118:PRO:HD2	2.21	0.56
48:A:1563:A:C5	48:A:1565:A:C5	2.92	0.56
48:A:1582:C:O5'	48:A:1582:C:H6	1.88	0.56
52:4:12:THR:HG23	52:4:24:ILE:HG22	1.87	0.56
1:a:1128:C:O2'	6:i:38:ARG:HD2	2.06	0.56
1:a:1310:C:OP1	20:m:28:THR:CG2	2.49	0.56
13:s:6:LYS:NZ	50:2:63:LYS:HD3	2.20	0.56
17:b:50:ILE:O	17:b:54:TYR:HB2	2.06	0.56
18:d:52:GLU:HG3	18:d:194:LEU:HB2	1.87	0.56
33:M:12:ALA:HB3	33:M:15:GLU:HB2	1.88	0.56
35:O:24:LEU:HB3	35:O:44:LEU:HD22	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:W:105:LYS:HZ2	43:W:135:ALA:HA	1.71	0.56
48:A:1042:A:H1'	49:1:42:GLN:HE22	1.69	0.56
48:A:1882:A:H61	48:A:2220:C:H42	1.52	0.56
52:4:15:CYS:HB2	52:4:20:HIS:H	1.66	0.56
1:a:1201:G:O3'	13:s:36:ARG:HD3	2.06	0.56
1:a:1465:C:C2'	1:a:1466:G:H5'	2.35	0.56
5:h:47:SER:HB3	5:h:63:GLN:HG3	1.87	0.56
8:k:110:GLN:HA	8:k:114:LEU:O	2.06	0.56
18:d:147:THR:HG22	18:d:149:PRO:HD2	1.88	0.56
26:F:118:ILE:H	26:F:118:ILE:CD1	1.96	0.56
41:U:60:ALA:HB2	48:A:1456:G:C4'	2.36	0.56
42:V:42:LYS:HG3	48:A:586:U:H4'	1.86	0.56
48:A:1565:A:H2'	48:A:1566:A:N7	2.21	0.56
52:4:15:CYS:C	52:4:20:HIS:HB3	2.29	0.56
5:h:94:LEU:CD1	5:h:118:ALA:C	2.79	0.56
25:E:7:VAL:HG21	25:E:16:GLY:HA3	1.86	0.56
31:K:15:TRP:N	31:K:15:TRP:CD1	2.73	0.56
42:V:42:LYS:O	48:A:568:A:O2'	2.23	0.56
44:X:84:ALA:HA	44:X:86:PRO:HD3	1.86	0.56
47:B:30:G:O6	47:B:54:A:N1	2.39	0.56
48:A:137:G:H21	48:A:1524:G:H1'	1.70	0.56
48:A:1530:G:H21	48:A:1805:G:H22	1.54	0.56
1:a:1207:C:OP1	20:m:96:LEU:CD1	2.54	0.56
2:c:137:ILE:CG2	2:c:138:GLN:H	2.06	0.56
3:e:17:ARG:HH21	3:e:85:ILE:HG12	0.40	0.56
26:F:45:MET:HE3	26:F:64:LEU:HD23	1.64	0.56
32:L:88:LYS:HB3	32:L:90:ASP:HB2	1.86	0.56
39:S:4:TYR:CE2	39:S:15:LYS:HE3	2.41	0.56
39:S:4:TYR:CD2	39:S:15:LYS:HE3	2.41	0.56
43:W:62:GLY:O	43:W:63:THR:HG23	2.05	0.56
45:Y:41:ARG:NH1	48:A:164:A:O3'	2.39	0.56
48:A:2329:G:O6	48:A:2406:U:O2	2.24	0.56
52:4:13:LEU:O	52:4:23:TYR:N	2.34	0.56
1:a:323:U:H5"	14:t:21:ASN:ND2	2.21	0.56
1:a:1312:U:OP1	20:m:22:ILE:O	2.23	0.56
25:E:51:SER:CB	48:A:35:A:H5'	2.35	0.56
40:T:18:ARG:NH1	48:A:1436:C:C2'	2.69	0.56
42:V:2:LYS:HD2	42:V:83:VAL:CB	2.32	0.56
47:B:20:G:C6	47:B:21:C:N4	2.74	0.56
47:B:30:G:C6	47:B:54:A:N1	2.74	0.56
48:A:2644:C:OP1	54:6:34:GLU:HG3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:2873:U:O4	48:A:2895:A:N1	2.38	0.56
1:a:1329:G:OP2	6:i:129:ARG:CG	2.25	0.56
8:k:113:GLY:C	8:k:114:LEU:HD23	2.30	0.56
19:f:24:GLU:OE2	19:f:31:ARG:NH1	2.38	0.56
22:u:30:LYS:HE3	48:A:2198:C:O2'	2.06	0.56
23:C:256:ARG:HD3	23:C:258:ARG:HD2	1.85	0.56
24:D:154:CYS:H	48:A:2798:G:HO2'	1.19	0.56
31:K:15:TRP:CD1	31:K:15:TRP:H	2.23	0.56
31:K:75:TYR:N	31:K:75:TYR:CD1	2.73	0.56
48:A:1574:G:C3'	48:A:1575:A:H8	2.19	0.56
48:A:1607:C:C5	48:A:1608:U:C4	2.93	0.56
48:A:1996:U:OP2	48:A:2001:A:N6	2.36	0.56
48:A:2509:C:H5	52:4:8:ARG:CZ	2.19	0.56
1:a:972:U:H2'	1:a:973:U:C6	2.41	0.55
1:a:998:G:OP2	13:s:14:HIS:CE1	2.56	0.55
1:a:1501:G:C8	48:A:2144:C:OP1	2.59	0.55
8:k:116:VAL:CG1	8:k:117:GLY:H	2.06	0.55
19:f:77:ARG:HH22	23:C:126:LYS:HB2	1.71	0.55
23:C:65:ILE:HG13	23:C:104:TYR:HB3	1.88	0.55
26:F:10:ARG:HH11	26:F:10:ARG:CG	2.09	0.55
26:F:32:VAL:HG21	47:B:55:G:C5'	2.36	0.55
35:O:69:LYS:O	35:O:71:ARG:NH1	2.40	0.55
47:B:35:G:N3	47:B:35:G:H2'	2.21	0.55
47:B:86:U:O2	47:B:88:C:H2'	2.06	0.55
48:A:263:G:O2'	48:A:517:A:N3	2.39	0.55
48:A:1593:U:O2	48:A:1593:U:H2'	2.06	0.55
48:A:1604:G:C2	48:A:1605:G:C8	2.94	0.55
52:4:15:CYS:C	52:4:20:HIS:CA	2.79	0.55
23:C:18:VAL:HG21	48:A:1785:C:H5"	1.88	0.55
35:O:103:ARG:HD3	35:O:110:MET:HE3	1.88	0.55
42:V:2:LYS:CD	42:V:83:VAL:HG12	2.30	0.55
48:A:808:A:O2'	48:A:1468:A:N3	2.35	0.55
48:A:1566:A:C1'	48:A:1605:G:H1	2.19	0.55
48:A:1591:U:O2	48:A:1592:G:C8	2.59	0.55
1:a:74:A:N7	1:a:92:A:N6	2.54	0.55
1:a:500:A:N6	1:a:509:G:H8	2.04	0.55
1:a:1359:U:O4	4:g:10:ARG:NH2	2.38	0.55
1:a:1461:U:H2'	1:a:1462:C:C6	2.41	0.55
3:e:182:ARG:NH1	5:h:45:TYR:CZ	2.73	0.55
5:h:104:ALA:HB3	5:h:115:ASP:HB2	1.87	0.55
8:k:44:THR:HG21	8:k:48:GLY:C	2.29	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:o:32:LEU:HD22	10:o:59:LEU:HD22	1.89	0.55
26:F:171:ALA:HA	26:F:174:ARG:HD3	1.88	0.55
40:T:11:THR:HG22	40:T:113:ILE:HG23	1.86	0.55
46:Z:18:LEU:HD22	46:Z:57:VAL:HG13	1.86	0.55
48:A:2691:C:OP1	55:7:8:LYS:NZ	2.39	0.55
50:2:46:THR:O	50:2:50:LYS:HG3	2.05	0.55
1:a:695:A:H2'	1:a:696:A:C8	2.41	0.55
1:a:968:U:H1'	13:s:55:ARG:HA	1.89	0.55
20:m:70:LEU:C	20:m:73:GLU:HB2	2.31	0.55
20:m:72:ARG:CZ	50:2:50:LYS:HZ1	2.17	0.55
27:G:154:ARG:NH1	48:A:2750:G:OP1	2.40	0.55
31:K:8:ALA:HB2	48:A:625:A:O2'	2.07	0.55
31:K:141:GLU:OE1	31:K:142:ILE:C	2.49	0.55
31:K:145:VAL:HG23	31:K:145:VAL:O	2.05	0.55
34:N:12:GLN:HG3	34:N:73:PRO:HD2	1.88	0.55
36:P:3:HIS:CD2	47:B:57:U:C4'	2.86	0.55
42:V:10:LEU:HD23	42:V:20:LYS:HB3	1.88	0.55
44:X:68:GLU:CD	44:X:81:VAL:CG2	2.79	0.55
47:B:35:G:N2	47:B:36:U:C2	2.75	0.55
48:A:346:C:H41	48:A:445:U:H3	1.53	0.55
48:A:1566:A:H2'	48:A:1605:G:O6	2.06	0.55
48:A:1569:A:H2'	48:A:1569:A:OP2	2.05	0.55
48:A:1586:C:O5'	48:A:1586:C:H6	1.89	0.55
48:A:2230:C:O2'	48:A:3044:A:N3	2.38	0.55
1:a:698:A:O4'	8:k:127:HIS:CB	2.53	0.55
8:k:115:GLU:OE1	8:k:115:GLU:N	2.40	0.55
11:q:29:SER:HB3	11:q:37:VAL:HB	1.87	0.55
12:r:46:GLY:O	12:r:72:ARG:NH1	2.39	0.55
37:Q:74:PRO:HB2	37:Q:77:SER:HB2	1.87	0.55
48:A:3017:C:N3	48:A:3025:G:O6	2.39	0.55
1:a:893:U:H2'	1:a:894:C:C6	2.42	0.55
9:l:82:VAL:HG22	9:l:97:ILE:HG12	1.88	0.55
23:C:97:TYR:HD2	23:C:101:GLU:HG3	1.72	0.55
23:C:257:THR:HG23	48:A:2020:A:O3'	2.06	0.55
26:F:11:LEU:CD1	26:F:108:ASP:HB2	2.36	0.55
35:O:20:LEU:CD1	35:O:40:LYS:NZ	2.68	0.55
43:W:87:PRO:C	43:W:90:ARG:NH2	2.61	0.55
43:W:131:ILE:HD11	43:W:162:ILE:HD12	1.87	0.55
44:X:83:VAL:HA	44:X:85:ARG:NH2	2.21	0.55
48:A:351:G:O6	48:A:444:U:O2	2.24	0.55
48:A:1595:G:H5'	48:A:1596:C:C6	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:1:21:GLU:OE2	49:1:24:ARG:NH1	2.39	0.55
1:a:1301:A:OP1	13:s:70:LYS:NZ	2.40	0.55
23:C:132:PRO:HA	23:C:190:ARG:HA	1.87	0.55
30:J:79:LYS:HD3	30:J:82:LEU:HD12	1.88	0.55
34:N:34:ILE:HG23	34:N:104:PHE:H	1.71	0.55
48:A:640:G:O2'	48:A:642:G:OP2	2.24	0.55
52:4:16:GLU:CD	52:4:52:LYS:HE3	2.32	0.55
55:7:11:CYS:SG	55:7:14:CYS:N	2.79	0.55
1:a:136:G:O2'	11:q:6:GLY:CA	2.54	0.55
1:a:653:G:H1'	12:r:73:GLU:OE1	2.06	0.55
2:c:129:PHE:O	2:c:133:MET:HG3	2.07	0.55
3:e:17:ARG:NH1	3:e:40:VAL:CG1	2.70	0.55
7:j:27:GLU:O	7:j:31:ARG:HB2	2.06	0.55
17:b:58:LYS:O	17:b:62:ALA:HB3	2.06	0.55
20:m:40:ASP:HB3	20:m:43:MET:HG3	1.88	0.55
28:H:23:ASP:O	28:H:27:ARG:HB3	2.07	0.55
29:I:9:ALA:HA	29:I:12:ASP:HB2	1.89	0.55
47:B:16:A:H2	47:B:68:G:H22	1.55	0.55
1:a:243:A:H4'	1:a:243:A:OP1	2.06	0.55
1:a:654:G:H21	8:k:127:HIS:CE1	2.19	0.55
1:a:722:G:P	10:o:35:ARG:NH1	2.80	0.55
1:a:1327:U:OP1	6:i:142:ARG:HD3	2.07	0.55
23:C:24:ILE:HD13	23:C:84:TYR:HB2	1.88	0.55
1:a:228:A:H4'	21:p:62:VAL:HB	1.89	0.55
23:C:256:ARG:O	23:C:257:THR:HB	2.07	0.55
38:R:50:ARG:O	38:R:54:LYS:NZ	2.40	0.55
48:A:1583:U:H2'	48:A:1584:U:C5	2.42	0.55
1:a:776:C:H5"	8:k:136:ARG:HG3	1.89	0.54
1:a:961:C:N3	16:n:18:VAL:HG23	2.21	0.54
1:a:1133:G:O5'	7:j:72:ARG:NH1	2.40	0.54
1:a:1353:G:H5'	6:i:34:GLU:HG2	1.89	0.54
23:C:156:ALA:HB2	23:C:163:ILE:HG13	1.89	0.54
26:F:11:LEU:HD22	26:F:108:ASP:CA	2.37	0.54
30:J:107:VAL:O	30:J:111:ALA:HB3	2.07	0.54
32:L:80:ASP:OD2	37:Q:61:ARG:NH2	2.40	0.54
36:P:3:HIS:HD2	47:B:57:U:C3'	2.19	0.54
1:a:721:G:H5'	10:o:39:LEU:HD21	1.88	0.54
13:s:40:ILE:CG1	50:2:64:ARG:HH12	2.20	0.54
14:t:4:ILE:CG1	14:t:8:ILE:CG1	2.86	0.54
20:m:7:VAL:HG21	20:m:22:ILE:HA	1.88	0.54
26:F:115:LEU:HD23	26:F:183:PRO:HG2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:H:131:PRO:HA	28:H:145:SER:HA	1.89	0.54
35:O:20:LEU:CD2	35:O:24:LEU:CD1	2.86	0.54
36:P:3:HIS:CD2	47:B:57:U:C3'	2.90	0.54
40:T:15:ARG:HG2	40:T:109:HIS:CD2	2.43	0.54
42:V:28:PRO:HG3	48:A:83:C:P	2.47	0.54
43:W:6:ASN:HB2	43:W:138:LEU:C	2.26	0.54
48:A:541:G:N2	48:A:546:G:OP2	2.40	0.54
48:A:1659:U:H2'	48:A:1660:A:H8	1.71	0.54
1:a:489:A:C8	1:a:523:U:O2'	2.60	0.54
1:a:962:C:C1'	16:n:19:ARG:HG3	2.38	0.54
1:a:1091:A:C2	2:c:177:THR:HG23	2.43	0.54
2:c:128:ALA:H	3:e:19:ARG:HD3	1.71	0.54
7:j:45:GLU:HG3	7:j:69:THR:HB	1.88	0.54
9:l:67:ILE:HG12	9:l:97:ILE:HD12	1.90	0.54
11:q:9:TYR:C	11:q:9:TYR:CD2	2.85	0.54
14:t:4:ILE:HG21	14:t:8:ILE:N	2.13	0.54
23:C:66:ASP:OD2	23:C:103:ARG:NH1	2.41	0.54
25:E:144:PHE:CD2	25:E:148:LEU:CD1	2.79	0.54
33:M:58:HIS:CD2	54:6:7:HIS:CE1	2.84	0.54
35:O:43:ALA:HA	35:O:46:PRO:HD2	1.89	0.54
1:a:252:U:H2'	1:a:253:U:C6	2.43	0.54
1:a:376:G:OP1	21:p:67:THR:HB	2.07	0.54
1:a:976:A:C8	1:a:1197:U:H4'	2.43	0.54
1:a:1312:U:H2'	1:a:1313:G:H5'	1.88	0.54
4:g:137:ARG:NH1	4:g:140:ASP:OD2	2.40	0.54
22:u:26:VAL:HG21	48:A:2157:G:H4'	1.88	0.54
24:D:7:LEU:HB2	24:D:34:ASN:HD21	1.71	0.54
26:F:79:LYS:HG2	26:F:80:SER:N	2.23	0.54
31:K:47:ASN:ND2	48:A:649:U:O2	2.40	0.54
42:V:43:LYS:HB3	42:V:43:LYS:HZ3	1.72	0.54
48:A:1518:A:HO2'	48:A:1692:G:HO2'	1.52	0.54
24:D:84:LEU:HD22	24:D:209:ARG:HD3	1.90	0.54
26:F:114:ALA:O	26:F:118:ILE:HD11	2.08	0.54
27:G:61:ARG:NH1	48:A:2981:A:O2'	2.40	0.54
31:K:42:PRO:HB3	38:R:68:ALA:HB2	1.89	0.54
35:O:29:PHE:HB2	35:O:79:LEU:HD12	1.68	0.54
35:O:80:PHE:C	35:O:80:PHE:CD2	2.85	0.54
44:X:13:GLY:O	44:X:14:ARG:HG3	2.06	0.54
46:Z:13:LEU:CD2	46:Z:17:GLU:C	2.78	0.54
48:A:1581:C:N4	48:A:1591:U:C6	2.76	0.54
52:4:55:ARG:HG3	52:4:55:ARG:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1297:U:O2'	1:a:1342:A:N3	2.33	0.54
6:i:46:GLY:C	6:i:82:ASP:OD2	2.44	0.54
10:o:57:LEU:HD21	48:A:830:A:H61	1.72	0.54
25:E:8:LYS:NZ	25:E:148:LEU:HB3	2.23	0.54
26:F:8:LEU:HD22	26:F:16:ARG:HD2	1.90	0.54
34:N:85:SER:OG	44:X:8:SER:OG	2.25	0.54
36:P:104:ARG:HH12	48:A:2517:C:H5"	1.72	0.54
42:V:9:VAL:HB	42:V:71:VAL:HB	1.90	0.54
52:4:35:ARG:HH21	52:4:35:ARG:CA	2.20	0.54
1:a:1221:U:C1'	4:g:38:LEU:HD21	2.38	0.54
2:c:189:ALA:HB3	2:c:196:ILE:HB	1.90	0.54
3:e:179:ALA:HA	3:e:189:VAL:CG2	2.38	0.54
8:k:43:ILE:HD11	8:k:51:ILE:HD11	0.54	0.54
13:s:31:ILE:O	13:s:50:ALA:N	2.40	0.54
23:C:29:PRO:HB2	23:C:34:VAL:HG21	1.76	0.54
30:J:96:LYS:NZ	43:W:120:PRO:HB2	2.22	0.54
33:M:90:GLY:HA2	33:M:122:VAL:HG22	1.90	0.54
34:N:103:LEU:HD11	34:N:127:ILE:HD11	1.90	0.54
36:P:73:ILE:HG22	36:P:75:GLY:H	1.72	0.54
40:T:6:GLU:HA	40:T:117:ARG:NH1	2.23	0.54
41:U:96:PHE:CD2	41:U:96:PHE:C	2.86	0.54
46:Z:13:LEU:HD12	46:Z:14:THR:H	1.72	0.54
48:A:384:G:H2'	48:A:385:G:H8	1.72	0.54
48:A:868:C:H5"	53:5:3:LYS:HE2	1.89	0.54
48:A:1568:C:O2'	48:A:1568:C:O2	2.26	0.54
3:e:182:ARG:CD	5:h:45:TYR:CE1	2.73	0.54
6:i:41:LEU:O	6:i:42:VAL:HG12	2.08	0.54
23:C:256:ARG:O	48:A:2014:G:C4'	2.52	0.54
25:E:151:ASN:C	25:E:152:LYS:CG	2.74	0.54
29:I:41:ARG:HH21	30:J:119:ASN:HA	1.72	0.54
31:K:134:ALA:O	31:K:135:GLN:HG2	2.08	0.54
31:K:141:GLU:OE2	31:K:143:LYS:CD	2.56	0.54
34:N:22:SER:OG	34:N:23:GLY:N	2.40	0.54
35:O:116:VAL:HB	35:O:118:GLU:HG2	1.89	0.54
42:V:86:ARG:NE	42:V:88:ASP:OD2	2.36	0.54
47:B:11:U:O2	47:B:11:U:H2'	2.08	0.54
1:a:84:U:H4'	1:a:85:C:OP2	2.07	0.54
1:a:664:U:C4'	8:k:49:ASN:ND2	2.71	0.54
11:q:9:TYR:HD2	11:q:9:TYR:O	1.90	0.54
13:s:10:PHE:O	13:s:40:ILE:HD13	2.08	0.54
26:F:50:ALA:O	26:F:51:ALA:HB3	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:N:85:SER:O	48:A:2500:G:OP2	2.26	0.54
43:W:6:ASN:CG	43:W:138:LEU:O	2.51	0.54
46:Z:13:LEU:CG	46:Z:17:GLU:HB2	2.38	0.54
48:A:737:A:N1	48:A:2593:A:O2'	2.41	0.54
48:A:1610:C:C2'	48:A:1611:A:H5'	2.36	0.54
48:A:2224:C:O2'	48:A:2913:U:OP2	2.26	0.54
48:A:2337:A:N6	48:A:2342:A:N7	2.56	0.54
1:a:457:A:O2'	1:a:458:A:O5'	2.18	0.54
3:e:127:GLY:HA3	18:d:80:LYS:HB2	1.89	0.54
20:m:72:ARG:CZ	50:2:50:LYS:NZ	2.71	0.54
38:R:25:ARG:NH1	48:A:2245:C:OP1	2.41	0.54
47:B:94:G:N3	48:A:1033:A:H4'	2.23	0.54
1:a:216:U:O2'	1:a:217:U:H5'	2.09	0.53
1:a:858:A:C4'	5:h:15:ARG:NH1	2.70	0.53
1:a:1284:U:N3	20:m:14:ARG:NH1	2.56	0.53
1:a:1311:G:P	20:m:29:ARG:HG2	2.48	0.53
1:a:1478:G:N7	48:A:2137:A:C2	2.67	0.53
14:t:4:ILE:HG23	14:t:7:GLN:H	1.73	0.53
15:v:1:C:OP3	34:N:78:PRO:CB	2.55	0.53
23:C:37:LEU:HD21	23:C:62:TYR:HA	1.90	0.53
28:H:94:SER:HA	28:H:125:LYS:HD3	1.90	0.53
31:K:116:ARG:HH22	48:A:615:A:H5"	1.73	0.53
41:U:30:THR:HG23	41:U:83:ILE:HG22	1.90	0.53
47:B:89:C:H6	47:B:89:C:P	2.30	0.53
48:A:1589:G:O5'	48:A:1589:G:H8	1.91	0.53
12:r:21:VAL:O	12:r:25:LYS:HB3	2.08	0.53
32:L:91:ASN:N	32:L:92:ASP:HB2	2.24	0.53
44:X:68:GLU:HG3	44:X:81:VAL:HG23	1.88	0.53
48:A:270:U:O2	48:A:458:G:C6	2.61	0.53
48:A:1627:U:H2'	48:A:1628:A:H2'	1.90	0.53
48:A:2348:G:O2'	48:A:2396:A:N6	2.41	0.53
48:A:2862:G:O2'	48:A:3002:A:N6	2.40	0.53
53:5:9:GLN:HA	53:5:9:GLN:OE1	2.07	0.53
9:l:71:GLY:O	9:l:99:ARG:NH1	2.40	0.53
17:b:207:ILE:O	17:b:211:ALA:HB3	2.08	0.53
32:L:88:LYS:C	32:L:90:ASP:N	2.66	0.53
41:U:92:PRO:HG2	41:U:94:ASP:OD1	2.08	0.53
44:X:43:THR:OG1	48:A:2560:A:N6	2.33	0.53
47:B:2:U:H3	47:B:115:A:N6	2.06	0.53
48:A:247:G:OP2	48:A:249:C:N4	2.41	0.53
48:A:601:A:N3	48:A:673:C:O2'	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1583:U:H2'	48:A:1584:U:C4	2.44	0.53
48:A:1595:G:C5'	48:A:1596:C:OP2	2.57	0.53
52:4:15:CYS:O	52:4:20:HIS:CA	2.54	0.53
1:a:399:G:H2'	1:a:400:C:C6	2.44	0.53
1:a:1311:G:OP1	20:m:29:ARG:HG2	2.09	0.53
27:G:62:SER:O	27:G:66:HIS:HB2	2.08	0.53
31:K:5:THR:HG21	48:A:624:G:H4'	1.91	0.53
34:N:10:ARG:HG3	34:N:90:PRO:HG3	1.91	0.53
34:N:118:LEU:O	34:N:122:ILE:HB	2.08	0.53
35:O:76:VAL:O	35:O:80:PHE:HB2	2.08	0.53
44:X:56:ASP:OD1	44:X:56:ASP:N	2.39	0.53
48:A:1564:A:C3'	48:A:1565:A:C5'	2.86	0.53
50:2:42:HIS:O	50:2:46:THR:HG23	2.08	0.53
1:a:1477:A:H1'	1:a:1478:G:O5'	2.07	0.53
11:q:38:VAL:HG11	11:q:76:LEU:HD21	1.90	0.53
18:d:73:GLU:OE1	18:d:131:ARG:NH2	2.41	0.53
24:D:178:GLN:HE22	48:A:2995:U:HO2'	1.55	0.53
25:E:118:ARG:HH22	25:E:189:LEU:HA	1.73	0.53
35:O:20:LEU:CD1	35:O:40:LYS:HZ3	2.21	0.53
47:B:87:U:O2'	47:B:88:C:H4'	2.08	0.53
48:A:1565:A:C2'	48:A:1566:A:C8	2.85	0.53
48:A:1921:G:H2'	48:A:1922:G:H8	1.73	0.53
48:A:2490:A:N6	48:A:2497:A:OP2	2.39	0.53
48:A:2755:A:N6	48:A:2885:G:O6	2.41	0.53
54:6:33:LEU:HD23	54:6:36:LYS:HD2	1.89	0.53
2:c:146:VAL:O	2:c:146:VAL:HG13	2.08	0.53
3:e:178:VAL:O	3:e:182:ARG:HG2	2.08	0.53
13:s:67:VAL:HG12	50:2:60:ARG:HG3	1.89	0.53
27:G:16:ASP:HB2	27:G:27:LYS:HB3	1.90	0.53
31:K:75:TYR:CD2	31:K:86:LYS:HG2	2.43	0.53
42:V:28:PRO:CG	48:A:83:C:P	2.95	0.53
42:V:79:LYS:HG3	42:V:79:LYS:O	2.07	0.53
48:A:189:A:N3	48:A:794:G:O2'	2.37	0.53
48:A:239:U:OP1	48:A:684:G:N2	2.42	0.53
48:A:828:G:H22	48:A:832:G:H5"	1.74	0.53
1:a:11:G:C6	3:e:122:ARG:NH2	2.68	0.53
1:a:1468:U:HO2'	48:A:2184:A:HO2'	1.39	0.53
3:e:17:ARG:HB3	3:e:20:ARG:CZ	2.39	0.53
6:i:46:GLY:CA	6:i:82:ASP:OD2	2.57	0.53
16:n:29:ARG:NH1	16:n:31:HIS:O	2.42	0.53
23:C:76:ASN:C	23:C:98:LEU:CD2	2.82	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:256:ARG:CD	23:C:258:ARG:CD	2.85	0.53
32:L:91:ASN:H	32:L:92:ASP:HB2	1.72	0.53
48:A:444:U:H5'	48:A:446:G:H4'	1.90	0.53
48:A:2585:U:OP1	54:6:24:ARG:NH1	2.26	0.53
1:a:518:U:C2	1:a:519:A:C8	2.97	0.53
1:a:716:U:H2'	1:a:717:C:C6	2.43	0.53
1:a:1303:U:C1'	13:s:73:GLU:OE2	2.57	0.53
1:a:1324:C:H2'	1:a:1325:G:C8	2.43	0.53
8:k:43:ILE:CG1	8:k:51:ILE:HG12	2.39	0.53
8:k:54:ALA:HB2	8:k:79:ALA:CA	2.38	0.53
23:C:256:ARG:CG	23:C:258:ARG:HD2	2.39	0.53
24:D:84:LEU:HD21	24:D:207:VAL:HG11	1.90	0.53
27:G:116:ILE:HD11	27:G:152:LEU:HD11	1.90	0.53
31:K:112:ASN:ND2	48:A:650:G:H5"	2.24	0.53
43:W:37:LEU:HG	43:W:37:LEU:O	2.09	0.53
43:W:100:VAL:CG1	43:W:137:ALA:HB2	2.11	0.53
47:B:82:A:N1	47:B:91:G:C6	2.77	0.53
48:A:270:U:O2	48:A:458:G:O6	2.27	0.53
48:A:1540:U:O4	48:A:1632:G:O6	2.27	0.53
1:a:278:G:H5'	1:a:279:A:OP1	2.09	0.53
1:a:909:G:O2'	1:a:1487:A:N7	2.40	0.53
1:a:1221:U:C4'	4:g:38:LEU:HD21	2.38	0.53
1:a:1514:G:H2'	1:a:1515:A:C8	2.44	0.53
8:k:44:THR:OG1	8:k:50:VAL:HG22	2.09	0.53
23:C:35:ARG:HG2	23:C:36:PRO:CD	2.32	0.53
31:K:1:MET:H2	31:K:2:PRO:CD	2.22	0.53
31:K:75:TYR:HD2	31:K:86:LYS:HG2	1.73	0.53
48:A:944:A:N7	48:A:2471:A:O2'	2.42	0.53
1:a:10:G:N2	3:e:128:THR:CG2	2.71	0.53
1:a:206:G:O2'	14:t:52:HIS:NE2	2.30	0.53
2:c:84:ASP:HA	2:c:87:ARG:HB3	1.91	0.53
2:c:135:LYS:HG3	3:e:26:ARG:HH22	0.53	0.53
20:m:72:ARG:NE	50:2:50:LYS:HZ3	2.02	0.53
28:H:44:GLU:O	28:H:48:GLU:CB	2.57	0.53
47:B:24:G:H2'	47:B:56:C:H41	1.74	0.53
1:a:654:G:N2	8:k:127:HIS:NE2	2.55	0.52
1:a:694:G:H2'	1:a:695:A:C8	2.44	0.52
8:k:44:THR:HG23	8:k:49:ASN:O	2.09	0.52
9:l:29:GLN:HG3	9:l:81:LEU:HD21	1.91	0.52
23:C:98:LEU:HD22	23:C:98:LEU:N	2.24	0.52
23:C:257:THR:CG2	48:A:2020:A:O3'	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:E:55:ARG:NH2	48:A:788:C:OP1	2.42	0.52
30:J:107:VAL:O	30:J:111:ALA:CB	2.56	0.52
35:O:16:HIS:HD2	48:A:1390:A:N7	2.04	0.52
43:W:9:ASN:HD22	43:W:57:VAL:CG1	2.17	0.52
44:X:83:VAL:HG22	44:X:84:ALA:H	1.74	0.52
1:a:963:U:H4'	16:n:21:TYR:CZ	2.44	0.52
7:j:50:CYS:SG	7:j:62:ARG:NH2	2.81	0.52
7:j:54:SER:C	7:j:56:HIS:H	2.17	0.52
26:F:46:GLY:O	26:F:47:VAL:HG13	2.09	0.52
34:N:17:GLN:HB2	34:N:39:HIS:HB2	1.91	0.52
35:O:86:PHE:C	35:O:86:PHE:CD1	2.85	0.52
42:V:96:ARG:NH2	42:V:96:ARG:CB	2.73	0.52
43:W:83:LEU:HD11	43:W:92:ILE:CG2	2.36	0.52
46:Z:44:ASN:HD21	48:A:58:G:P	2.31	0.52
48:A:1202:A:N3	48:A:1223:U:O2'	2.42	0.52
48:A:1323:G:O2'	48:A:1352:A:N1	2.40	0.52
50:2:42:HIS:N	50:2:43:PRO:CD	2.72	0.52
53:5:21:PHE:O	53:5:25:MET:HG2	2.09	0.52
1:a:893:U:H2'	1:a:894:C:H6	1.74	0.52
38:R:6:ARG:NH1	48:A:1366:A:OP2	2.41	0.52
40:T:35:SER:HA	40:T:77:VAL:HA	1.92	0.52
45:Y:33:ILE:HA	45:Y:52:CYS:HA	1.91	0.52
47:B:25:G:C2'	47:B:26:A:H5'	2.40	0.52
48:A:1544:U:H3	48:A:1626:G:H1	1.58	0.52
48:A:1560:U:C2	48:A:1561:C:C5	2.97	0.52
50:2:59:ALA:O	50:2:62:GLU:HB2	2.09	0.52
1:a:1208:A:O2'	20:m:115:ARG:HG3	2.10	0.52
2:c:58:ARG:HE	2:c:63:VAL:HG23	1.75	0.52
2:c:131:ARG:NH1	3:e:22:ASP:OD2	2.42	0.52
31:K:98:THR:HG23	31:K:124:VAL:HB	1.90	0.52
34:N:70:PRO:HA	34:N:95:ALA:HB2	1.91	0.52
42:V:43:LYS:NZ	42:V:43:LYS:CB	2.73	0.52
48:A:114:G:OP2	48:A:116:A:O2'	2.26	0.52
48:A:1574:G:H2'	48:A:1575:A:N7	2.24	0.52
48:A:1589:G:H2'	48:A:1590:G:H5'	1.91	0.52
52:4:15:CYS:CB	52:4:20:HIS:N	2.68	0.52
1:a:332:G:OP2	14:t:4:ILE:HA	2.10	0.52
1:a:409:G:H5'	18:d:104:ARG:HH12	1.73	0.52
1:a:442:G:H1	1:a:472:C:H42	1.56	0.52
1:a:777:C:H2'	1:a:778:U:H6	1.73	0.52
1:a:954:C:O3'	7:j:59:LYS:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1211:C:H5'	15:v:31:G:H5"	1.92	0.52
7:j:64:HIS:O	16:n:59:SER:HB3	2.10	0.52
23:C:209:ALA:HB2	48:A:2007:C:O2'	2.10	0.52
38:R:41:HIS:HE1	48:A:655:G:H4'	1.75	0.52
48:A:1560:U:C2'	48:A:1561:C:H5'	2.39	0.52
48:A:1830:C:H5'	53:5:10:PRO:HG2	1.91	0.52
50:2:44:PHE:O	50:2:48:LYS:CE	2.55	0.52
53:5:6:ARG:CB	53:5:6:ARG:CZ	2.87	0.52
1:a:279:A:H5"	1:a:279:A:H8	1.75	0.52
23:C:26:ARG:HD3	23:C:81:HIS:CD2	2.38	0.52
26:F:9:PRO:HD2	26:F:12:LYS:HE3	1.91	0.52
26:F:168:THR:HG21	36:P:3:HIS:ND1	2.23	0.52
27:G:4:ILE:HD13	48:A:2972:A:H5'	1.90	0.52
31:K:147:GLN:HG2	48:A:1131:G:H1'	1.90	0.52
41:U:67:LYS:CD	41:U:76:ARG:HH11	2.23	0.52
46:Z:45:ARG:O	46:Z:49:THR:OG1	2.27	0.52
47:B:10:G:O6	47:B:107:A:N1	2.42	0.52
47:B:25:G:N2	47:B:114:A:C2'	2.61	0.52
47:B:86:U:H2'	47:B:88:C:H1'	1.90	0.52
48:A:1563:A:O2'	48:A:1564:A:P	2.65	0.52
1:a:324:G:OP1	14:t:17:ARG:CD	2.55	0.52
1:a:427:U:O2'	1:a:521:G:OP1	2.19	0.52
1:a:526:G:H2'	18:d:2:ALA:CB	2.40	0.52
1:a:811:U:H5"	17:b:21:ARG:NE	2.25	0.52
1:a:951:A:N6	6:i:150:ARG:CZ	2.72	0.52
2:c:41:LEU:HD22	2:c:93:LEU:HD13	1.91	0.52
9:l:24:LEU:HD12	9:l:59:SER:HB3	1.90	0.52
9:l:40:THR:O	9:l:49:LEU:HA	2.10	0.52
20:m:39:ILE:HD12	20:m:56:LEU:HD13	1.91	0.52
24:D:154:CYS:HB3	48:A:2799:C:OP1	2.10	0.52
26:F:29:TYR:O	26:F:30:ALA:HB3	2.08	0.52
35:O:75:VAL:HG12	35:O:79:LEU:HD13	1.92	0.52
47:B:89:C:H2'	47:B:90:G:C8	2.44	0.52
48:A:1562:C:O2	48:A:1562:C:O2'	2.26	0.52
48:A:2315:U:OP1	48:A:2422:A:O2'	2.28	0.52
52:4:9:PRO:HD3	52:4:27:LYS:O	2.09	0.52
1:a:961:C:N3	16:n:18:VAL:HG21	2.25	0.52
1:a:1042:U:H5	2:c:3:GLN:HE22	0.64	0.52
1:a:1170:U:H4'	2:c:10:PHE:CZ	2.43	0.52
3:e:45:ARG:NH2	3:e:56:PHE:CD2	2.78	0.52
6:i:41:LEU:HD23	6:i:106:ALA:HB1	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:p:57:GLN:NE2	21:p:79:ASP:O	2.43	0.52
23:C:262:LYS:N	23:C:263:PRO:CD	2.73	0.52
33:M:106:LYS:NZ	48:A:714:U:O2'	2.43	0.52
44:X:16:SER:O	44:X:17:ALA:CB	2.58	0.52
48:A:499:G:OP2	48:A:2630:A:O2'	2.27	0.52
48:A:1078:G:O6	56:8:8:LYS:NZ	2.43	0.52
48:A:2356:G:H2'	48:A:2380:G:H1	1.74	0.52
1:a:492:U:O5'	18:d:36:HIS:CE1	2.63	0.52
1:a:811:U:H5"	17:b:21:ARG:HG2	1.89	0.52
1:a:864:C:O2'	1:a:865:C:H5'	2.10	0.52
7:j:65:PHE:HE2	16:n:45:ARG:HA	1.74	0.52
8:k:93:VAL:HG11	8:k:106:ILE:HG12	1.91	0.52
13:s:42:PRO:CD	50:2:60:ARG:HH21	2.20	0.52
15:v:64:G:H2'	15:v:65:G:H8	1.74	0.52
26:F:6:LYS:CA	26:F:6:LYS:CE	2.87	0.52
33:M:81:GLY:HA2	33:M:84:ASN:HD22	1.75	0.52
48:A:1589:G:C2'	48:A:1590:G:H5'	2.40	0.52
48:A:1940:A:N6	48:A:1954:C:O2'	2.42	0.52
50:2:43:PRO:HA	50:2:46:THR:OG1	2.09	0.52
1:a:668:G:OP1	8:k:58:HIS:CD2	2.62	0.52
1:a:857:U:H1'	5:h:16:ASN:OD1	2.10	0.52
32:L:28:SER:HA	48:A:2787:U:H4'	1.90	0.52
32:L:109:LYS:HB3	32:L:110:LYS:HE2	1.92	0.52
32:L:109:LYS:CD	32:L:110:LYS:NZ	2.73	0.52
33:M:78:VAL:HG21	33:M:98:LEU:HD13	1.91	0.52
41:U:4:ILE:HD11	46:Z:58:TYR:CE1	2.38	0.52
48:A:242:G:OP2	54:6:3:LYS:HE2	2.10	0.52
48:A:1584:U:H6	48:A:1584:U:H3'	1.75	0.52
1:a:654:G:H5'	19:f:50:TYR:CE2	2.45	0.51
1:a:1099:C:P	6:i:105:ARG:HH12	2.33	0.51
6:i:83:ILE:CD1	6:i:83:ILE:N	2.73	0.51
23:C:62:TYR:HE1	48:A:2033:U:H3'	1.75	0.51
23:C:145:VAL:HG11	23:C:175:LEU:HD11	1.92	0.51
26:F:113:ILE:O	26:F:116:PRO:HD2	2.09	0.51
32:L:88:LYS:C	32:L:90:ASP:H	2.18	0.51
39:S:6:ILE:C	39:S:7:VAL:CG2	2.78	0.51
41:U:5:THR:O	41:U:6:ASP:HB2	2.10	0.51
42:V:96:ARG:NH2	42:V:96:ARG:CG	2.72	0.51
42:V:99:LYS:NZ	42:V:99:LYS:CB	2.73	0.51
43:W:105:LYS:HZ3	43:W:136:GLU:CG	2.23	0.51
44:X:17:ALA:HB1	48:A:2485:C:OP1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:34:G:H8	47:B:34:G:O5'	1.92	0.51
48:A:159:A:OP2	48:A:164:A:N6	2.30	0.51
48:A:1171:C:H2'	48:A:1172:A:H8	1.75	0.51
52:4:38:ILE:HG22	52:4:40:LYS:HG2	1.92	0.51
1:a:502:C:N4	9:l:50:ARG:HH11	2.09	0.51
2:c:147:LYS:N	2:c:203:TYR:O	2.41	0.51
6:i:133:ARG:HD2	16:n:61:TRP:NE1	2.26	0.51
9:l:67:ILE:HG21	9:l:72:HIS:HB3	1.92	0.51
18:d:21:GLY:HA3	18:d:160:ARG:HH22	1.75	0.51
20:m:71:ARG:C	20:m:73:GLU:H	2.17	0.51
25:E:131:VAL:HG13	25:E:140:SER:HB2	1.91	0.51
26:F:102:ARG:NH1	50:2:9:TYR:CE1	2.78	0.51
26:F:168:THR:CG2	36:P:3:HIS:CE1	2.91	0.51
31:K:1:MET:N	31:K:2:PRO:CD	2.73	0.51
32:L:7:ARG:NH2	32:L:20:LEU:CD1	2.43	0.51
32:L:8:LEU:HD13	32:L:19:ILE:CG1	2.40	0.51
36:P:112:ARG:N	47:B:49:C:OP1	2.40	0.51
41:U:59:THR:CG2	41:U:80:LYS:HE3	2.39	0.51
47:B:19:G:C2	47:B:20:G:C5	2.98	0.51
47:B:21:C:H6	47:B:21:C:O5'	1.92	0.51
48:A:1755:A:O2'	48:A:1758:G:N2	2.35	0.51
48:A:1856:C:O3'	48:A:2933:G:N2	2.44	0.51
48:A:2142:A:O2'	48:A:2144:C:N4	2.43	0.51
50:2:42:HIS:N	50:2:43:PRO:HD2	2.25	0.51
53:5:6:ARG:NH1	53:5:6:ARG:CB	2.72	0.51
1:a:556:A:N6	1:a:739:A:OP1	2.41	0.51
23:C:26:ARG:CG	23:C:81:HIS:CG	2.92	0.51
25:E:90:VAL:CG1	48:A:678:A:O5'	2.51	0.51
30:J:128:LYS:HG2	48:A:1198:C:H4'	1.93	0.51
33:M:134:ARG:HH22	33:M:146:GLU:HG2	1.75	0.51
35:O:29:PHE:CE2	35:O:51:LEU:HD13	2.45	0.51
35:O:56:LYS:HD2	35:O:87:TYR:O	2.10	0.51
47:B:34:G:O2'	47:B:35:G:N7	2.43	0.51
48:A:1381:G:O2'	48:A:2236:G:O6	2.27	0.51
48:A:1938:G:H21	48:A:1956:A:H62	1.58	0.51
50:2:38:CYS:SG	50:2:40:GLN:CD	2.94	0.51
3:e:19:ARG:HA	18:d:40:ARG:CZ	2.35	0.51
3:e:187:GLU:CG	3:e:188:ASP:N	2.73	0.51
25:E:5:VAL:HG12	25:E:18:VAL:O	2.10	0.51
42:V:72:MET:CE	48:A:383:U:H5'	2.41	0.51
48:A:1174:G:N1	48:A:1220:C:OP2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1201:G:N2	48:A:1204:A:OP2	2.34	0.51
48:A:1564:A:H3'	48:A:1565:A:C5'	2.41	0.51
1:a:41:U:O2'	1:a:480:G:H4'	2.11	0.51
1:a:81:C:H3'	1:a:82:U:H5"	1.91	0.51
1:a:146:A:H2'	1:a:147:U:C6	2.45	0.51
1:a:579:U:H4'	5:h:124:GLY:O	2.11	0.51
1:a:1063:U:O2'	1:a:1082:A:OP2	2.29	0.51
1:a:1175:U:C5	2:c:1:MET:HG3	2.44	0.51
23:C:25:THR:CG2	23:C:81:HIS:C	2.83	0.51
25:E:182:GLN:CD	48:A:706:G:C8	2.83	0.51
26:F:11:LEU:HD22	26:F:108:ASP:CB	2.41	0.51
45:Y:17:SER:HB2	45:Y:27:ARG:HD2	1.91	0.51
47:B:40:A:N6	50:2:1:MET:H3	1.90	0.51
47:B:80:C:O2'	48:A:1033:A:H1'	2.10	0.51
48:A:325:U:O2	48:A:450:G:N2	2.30	0.51
48:A:1598:U:O2'	48:A:1599:U:OP2	2.24	0.51
50:2:60:ARG:HH11	50:2:60:ARG:CG	2.24	0.51
52:4:8:ARG:HH21	52:4:28:ASN:HB2	1.74	0.51
1:a:437:U:H5"	18:d:147:THR:HG23	1.91	0.51
1:a:737:U:H2'	1:a:738:G:O4'	2.11	0.51
1:a:1037:G:O2'	2:c:188:GLU:OE2	2.28	0.51
1:a:1362:G:C6	4:g:2:PRO:HB2	2.45	0.51
2:c:169:ARG:NH2	2:c:171:GLY:O	2.44	0.51
5:h:94:LEU:HD11	5:h:118:ALA:CB	2.37	0.51
23:C:30:GLU:HB2	23:C:33:LEU:HD12	1.93	0.51
23:C:259:LYS:HG2	48:A:2016:G:OP1	2.09	0.51
24:D:154:CYS:N	48:A:2799:C:H5'	2.25	0.51
25:E:45:LYS:CG	48:A:709:U:C4	2.93	0.51
25:E:139:LYS:HE2	25:E:142:LYS:HD2	1.92	0.51
26:F:32:VAL:C	26:F:34:GLN:H	2.18	0.51
33:M:84:ASN:HD21	33:M:118:LEU:HA	1.75	0.51
34:N:65:TRP:HZ3	48:A:989:G:O2'	1.93	0.51
35:O:35:LYS:HG3	35:O:112:VAL:HG22	1.93	0.51
44:X:46:HIS:HB2	44:X:77:THR:HG22	1.91	0.51
48:A:1127:A:N3	48:A:1272:C:O2'	2.39	0.51
48:A:1597:G:N3	48:A:1598:U:H6	2.02	0.51
48:A:1673:A:O2'	48:A:2926:A:OP2	2.28	0.51
53:5:5:LYS:HB3	53:5:9:GLN:HE22	1.67	0.51
1:a:324:G:OP2	14:t:21:ASN:ND2	2.44	0.51
1:a:612:U:H5'	1:a:613:G:C8	2.46	0.51
1:a:846:A:H5"	3:e:115:ALA:HB1	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1374:U:H2'	1:a:1375:G:C8	2.46	0.51
1:a:1420:C:OP1	14:t:29:ARG:NH1	2.44	0.51
2:c:87:ARG:HE	2:c:100:LEU:HB3	1.76	0.51
8:k:44:THR:HG21	8:k:48:GLY:CA	2.38	0.51
19:f:17:ARG:HD2	48:A:1612:U:O2	2.11	0.51
23:C:14:ARG:NH2	48:A:1913:G:N7	2.55	0.51
23:C:35:ARG:O	23:C:62:TYR:CB	2.55	0.51
24:D:155:ALA:CB	48:A:2277:G:C5'	2.89	0.51
25:E:164:VAL:O	25:E:168:SER:OG	2.20	0.51
25:E:186:TYR:O	25:E:190:ASN:HB2	2.11	0.51
35:O:96:ARG:NH2	35:O:116:VAL:HG13	2.24	0.51
41:U:67:LYS:NZ	41:U:67:LYS:CB	2.73	0.51
43:W:81:LYS:HB2	43:W:96:ASP:O	2.10	0.51
48:A:1044:U:O2'	49:1:24:ARG:O	2.26	0.51
50:2:44:PHE:C	50:2:48:LYS:HE3	2.35	0.51
1:a:645:G:H3'	1:a:705:G:H21	1.76	0.51
1:a:957:A:N1	1:a:1349:C:O2'	2.41	0.51
1:a:1310:C:H2'	1:a:1311:G:O4'	2.11	0.51
3:e:17:ARG:NH1	3:e:40:VAL:HG11	2.26	0.51
11:q:8:LYS:NZ	11:q:8:LYS:CB	2.73	0.51
26:F:62:ASN:O	26:F:65:ALA:O	2.28	0.51
26:F:71:LYS:HG3	50:2:5:ILE:HB	1.93	0.51
32:L:7:ARG:NH2	32:L:7:ARG:CG	2.73	0.51
33:M:24:ARG:NH1	48:A:1365:G:OP2	2.43	0.51
48:A:1577:C:O2'	48:A:1578:G:O4'	2.24	0.51
48:A:2547:G:O6	48:A:2556:C:N3	2.44	0.51
53:5:6:ARG:C	53:5:7:THR:HG23	2.36	0.51
1:a:126:G:O6	11:q:17:ARG:NH2	2.34	0.51
1:a:605:G:OP1	21:p:10:LEU:HB3	2.10	0.51
1:a:860:C:C1'	5:h:4:THR:HG21	2.41	0.51
1:a:1516:U:O2	1:a:1516:U:H2'	2.11	0.51
6:i:149:LYS:NZ	15:v:35:C:OP2	2.42	0.51
20:m:68:GLY:O	20:m:72:ARG:HD2	2.11	0.51
23:C:29:PRO:HB2	23:C:34:VAL:HG23	1.84	0.51
48:A:2138:C:O2	48:A:2138:C:H2'	2.08	0.51
48:A:2629:G:O2'	48:A:2635:A:N6	2.42	0.51
50:2:38:CYS:CB	50:2:40:GLN:NE2	2.73	0.51
1:a:322:C:O2'	14:t:18:ARG:CB	2.59	0.51
1:a:1518:A:H5'	1:a:1518:A:C8	2.46	0.51
2:c:133:MET:O	2:c:135:LYS:N	2.44	0.51
2:c:152:GLN:HA	2:c:166:GLU:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:145:VAL:HG13	23:C:191:ALA:HB2	1.93	0.51
26:F:9:PRO:HD2	26:F:12:LYS:HZ2	1.67	0.51
36:P:22:HIS:HE1	47:B:9:G:OP2	1.93	0.51
40:T:75:THR:O	40:T:118:PRO:CD	2.59	0.51
40:T:75:THR:CB	40:T:118:PRO:HD3	2.32	0.51
42:V:2:LYS:HE3	42:V:83:VAL:HG12	1.92	0.51
43:W:9:ASN:O	43:W:68:THR:N	2.30	0.51
5:h:94:LEU:HB3	5:h:115:ASP:OD1	2.09	0.50
20:m:4:LEU:HD23	20:m:22:ILE:HD11	1.93	0.50
23:C:261:ASN:C	23:C:262:LYS:HD3	2.36	0.50
24:D:63:ILE:HG22	24:D:65:PRO:HD2	1.93	0.50
25:E:201:LEU:HD23	25:E:201:LEU:C	2.36	0.50
35:O:81:ALA:C	35:O:83:ILE:H	2.19	0.50
42:V:2:LYS:CE	42:V:83:VAL:CG1	2.89	0.50
48:A:854:A:H1'	48:A:855:C:H5	1.75	0.50
48:A:2851:G:N2	48:A:3001:G:OP2	2.36	0.50
2:c:135:LYS:HG2	3:e:26:ARG:NH2	2.15	0.50
5:h:39:ILE:HD11	5:h:112:LEU:HB3	1.93	0.50
12:r:76:LEU:HD21	19:f:60:TYR:CZ	2.46	0.50
20:m:53:VAL:O	20:m:57:ARG:CB	2.59	0.50
23:C:262:LYS:N	23:C:262:LYS:CD	2.73	0.50
24:D:156:THR:N	24:D:157:PRO:CD	2.75	0.50
34:N:111:GLU:OE2	34:N:115:ARG:CD	2.59	0.50
38:R:48:ARG:NH1	38:R:49:ASP:OD1	2.44	0.50
42:V:2:LYS:HE2	42:V:85:TYR:CE2	2.46	0.50
48:A:265:A:N1	48:A:515:U:O2'	2.41	0.50
48:A:2340:A:H61	48:A:2389:U:H3	1.58	0.50
48:A:2394:A:O2'	48:A:2396:A:OP1	2.29	0.50
1:a:493:A:H2'	1:a:494:C:C6	2.44	0.50
1:a:495:G:H2'	1:a:496:U:C6	2.47	0.50
1:a:786:C:H2'	1:a:787:A:H8	1.77	0.50
21:p:109:ALA:O	21:p:113:ALA:HB2	2.12	0.50
37:Q:93:ARG:HH21	48:A:1971:C:H5	1.60	0.50
44:X:54:GLY:N	44:X:58:THR:O	2.39	0.50
47:B:5:C:H42	47:B:112:C:H42	1.58	0.50
47:B:34:G:C6	47:B:44:C:C6	2.99	0.50
48:A:277:U:H2'	48:A:278:A:C8	2.46	0.50
48:A:2571:C:OP1	52:4:40:LYS:NZ	2.37	0.50
48:A:2764:C:O2'	48:A:2964:A:N3	2.34	0.50
55:7:16:VAL:HG22	55:7:25:VAL:HG22	1.92	0.50
1:a:1324:C:H2'	1:a:1325:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:37:LEU:CD2	23:C:62:TYR:CA	2.90	0.50
23:C:57:GLY:C	23:C:58:HIS:O	2.54	0.50
23:C:213:ARG:HH22	23:C:219:PRO:HD3	1.75	0.50
26:F:34:GLN:CB	47:B:57:U:O4'	2.59	0.50
28:H:62:ILE:H	28:H:65:ALA:HB3	1.77	0.50
31:K:14:SER:N	31:K:52:ASP:OD1	2.31	0.50
36:P:9:ASN:HB2	47:B:58:A:C2'	2.39	0.50
48:A:222:A:O2'	48:A:508:G:N3	2.40	0.50
48:A:2756:G:O2'	48:A:2881:A:N1	2.40	0.50
1:a:956:A:OP1	16:n:32:SER:CB	2.60	0.50
1:a:962:C:H1'	16:n:19:ARG:HG3	1.94	0.50
1:a:1152:C:H2'	1:a:1153:U:C6	2.47	0.50
4:g:88:PRO:CG	4:g:152:ALA:HB2	2.34	0.50
7:j:46:LYS:HA	7:j:67:MET:O	2.10	0.50
23:C:108:PRO:HG3	23:C:128:GLY:HA2	1.91	0.50
26:F:78:ARG:O	26:F:88:GLU:OE1	2.30	0.50
48:A:1570:C:HO2'	48:A:1571:C:P	2.28	0.50
48:A:1590:G:N3	48:A:1591:U:C6	2.79	0.50
48:A:2509:C:C5	52:4:8:ARG:CZ	2.94	0.50
4:g:22:LEU:HD12	4:g:63:LYS:HE3	1.93	0.50
23:C:61:ALA:O	23:C:63:ARG:NH2	2.44	0.50
26:F:47:VAL:HG23	26:F:48:GLY:N	2.26	0.50
26:F:115:LEU:O	26:F:118:ILE:HD13	2.11	0.50
31:K:113:LYS:HD2	48:A:616:A:P	2.52	0.50
32:L:31:ARG:NH2	48:A:2900:C:OP1	2.45	0.50
33:M:65:LYS:HD2	48:A:2640:G:H5"	1.92	0.50
35:O:16:HIS:CD2	48:A:1390:A:N7	2.78	0.50
38:R:90:VAL:HG13	39:S:6:ILE:CD1	2.42	0.50
41:U:83:ILE:HD13	48:A:1456:G:N3	2.19	0.50
41:U:91:LYS:CG	41:U:92:PRO:HD3	2.41	0.50
48:A:1563:A:N6	48:A:1607:C:N4	2.60	0.50
1:a:599:U:O2'	18:d:125:VAL:HG22	2.12	0.50
1:a:851:A:H5"	1:a:852:U:OP1	2.12	0.50
1:a:1037:G:O2'	2:c:188:GLU:CD	2.55	0.50
1:a:1176:C:H41	2:c:1:MET:CE	2.24	0.50
7:j:10:LEU:HD12	7:j:96:VAL:HG11	1.92	0.50
17:b:50:ILE:O	17:b:54:TYR:CB	2.60	0.50
24:D:155:ALA:HB2	48:A:2277:G:H5"	1.93	0.50
25:E:51:SER:HB2	48:A:35:A:C4'	2.42	0.50
44:X:75:ARG:NH1	48:A:2557:A:OP1	2.45	0.50
48:A:223:A:OP2	48:A:507:G:N2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1570:C:N4	48:A:1602:U:N3	2.51	0.50
48:A:2154:G:O2'	48:A:2192:G:O6	2.28	0.50
48:A:2279:C:OP1	51:3:5:LYS:NZ	2.44	0.50
1:a:948:G:N2	6:i:149:LYS:CE	2.75	0.50
1:a:994:C:H2'	1:a:995:A:C8	2.47	0.50
1:a:1300:A:H5"	1:a:1301:A:OP2	2.11	0.50
1:a:1303:U:H5'	13:s:73:GLU:OE1	2.12	0.50
25:E:5:VAL:HG22	25:E:6:ASP:N	2.27	0.50
25:E:118:ARG:HH22	25:E:189:LEU:HD23	1.77	0.50
32:L:91:ASN:N	32:L:92:ASP:CB	2.73	0.50
46:Z:18:LEU:HD12	46:Z:61:LEU:HD23	1.94	0.50
48:A:217:G:H22	48:A:235:U:H4'	1.77	0.50
48:A:1566:A:C4	48:A:1605:G:C6	2.99	0.50
1:a:323:U:O3'	14:t:17:ARG:CD	2.58	0.50
1:a:482:A:OP1	9:l:114:ARG:HB2	2.12	0.50
1:a:872:G:O2'	1:a:888:A:N6	2.45	0.50
20:m:53:VAL:O	20:m:57:ARG:HB2	2.12	0.50
20:m:70:LEU:C	20:m:73:GLU:CB	2.85	0.50
20:m:74:VAL:O	20:m:76:ALA:N	2.44	0.50
22:u:5:ILE:O	22:u:9:ARG:HG3	2.12	0.50
23:C:55:GLY:CA	23:C:218:ARG:HG3	2.38	0.50
26:F:158:GLY:HA3	48:A:2529:A:C2	2.47	0.50
27:G:65:LEU:HD12	27:G:68:LEU:HD23	1.93	0.50
29:I:4:ALA:O	29:I:8:THR:OG1	2.23	0.50
31:K:27:ARG:HH11	31:K:27:ARG:CG	2.25	0.50
43:W:87:PRO:HA	43:W:90:ARG:NH2	2.16	0.50
48:A:966:U:H2'	48:A:967:G:H8	1.77	0.50
1:a:382:A:H2'	1:a:383:A:H8	1.77	0.49
1:a:509:G:O2'	1:a:513:A:N1	2.40	0.49
1:a:664:U:H4'	8:k:49:ASN:HD22	1.77	0.49
1:a:1332:A:OP2	6:i:140:LYS:NZ	2.39	0.49
1:a:1486:A:H2'	1:a:1488:G:C8	2.47	0.49
3:e:21:ASP:H	18:d:40:ARG:NH2	2.10	0.49
23:C:76:ASN:O	23:C:98:LEU:HD23	2.11	0.49
25:E:136:PRO:HB3	25:E:164:VAL:HA	1.94	0.49
27:G:127:GLU:OE1	27:G:131:LYS:NZ	2.42	0.49
31:K:75:TYR:HB3	31:K:85:ARG:O	2.12	0.49
31:K:136:GLN:HA	31:K:136:GLN:OE1	2.12	0.49
38:R:98:LEU:CD2	39:S:4:TYR:OH	2.59	0.49
41:U:33:VAL:HG11	41:U:42:ILE:HD11	1.93	0.49
42:V:42:LYS:HD2	48:A:586:U:C5'	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1544:U:O4	48:A:1626:G:O6	2.29	0.49
48:A:1601:G:C2'	48:A:1602:U:C5'	2.86	0.49
48:A:1606:G:H2'	48:A:1606:G:N3	2.27	0.49
52:4:16:GLU:OE1	52:4:52:LYS:HE3	2.12	0.49
1:a:884:G:H5'	22:u:18:ARG:NH1	2.26	0.49
1:a:1518:A:H5'	1:a:1518:A:H8	1.76	0.49
5:h:98:LEU:HD22	5:h:132:TRP:HB2	1.94	0.49
7:j:56:HIS:CG	7:j:57:LYS:H	2.30	0.49
26:F:11:LEU:HD21	26:F:108:ASP:HA	1.94	0.49
29:I:27:GLU:HB3	29:I:104:VAL:HB	1.93	0.49
35:O:58:GLY:HA2	35:O:62:ASN:HB2	1.94	0.49
43:W:52:ARG:NH1	43:W:53:ASP:OD1	2.45	0.49
47:B:85:C:H3'	47:B:85:C:H6	1.75	0.49
48:A:403:U:O2'	48:A:422:A:N3	2.46	0.49
48:A:718:C:O2'	48:A:772:U:OP1	2.26	0.49
48:A:813:C:O2'	48:A:849:A:N6	2.41	0.49
48:A:2211:C:H2'	48:A:2212:A:H8	1.76	0.49
1:a:310:G:OP1	21:p:31:GLY:HA3	2.12	0.49
1:a:793:U:H5"	1:a:796:A:N6	2.27	0.49
1:a:793:U:O2	1:a:793:U:H2'	2.11	0.49
1:a:928:A:H2'	1:a:929:G:C8	2.47	0.49
1:a:1381:A:N6	3:e:53:GLY:H	2.10	0.49
3:e:137:ARG:HH11	18:d:49:GLN:HE21	1.59	0.49
7:j:66:GLU:O	16:n:56:VAL:HG23	2.12	0.49
13:s:15:LEU:O	13:s:19:VAL:CG2	2.41	0.49
15:v:2:G:H5'	44:X:8:SER:H	1.77	0.49
23:C:256:ARG:NE	23:C:258:ARG:NE	2.60	0.49
30:J:114:LYS:O	30:J:118:LEU:N	2.40	0.49
32:L:107:ARG:HD3	32:L:115:VAL:HG11	1.94	0.49
32:L:108:GLU:CG	32:L:109:LYS:N	2.73	0.49
34:N:35:GLN:NE2	43:W:90:ARG:NH1	2.60	0.49
35:O:86:PHE:O	35:O:86:PHE:HD1	1.95	0.49
48:A:1581:C:H2'	48:A:1582:C:C5	2.45	0.49
48:A:2745:C:O2'	48:A:2788:A:N3	2.39	0.49
48:A:2963:U:H2'	48:A:2964:A:H8	1.77	0.49
1:a:1041:G:H1'	7:j:58:TYR:CE1	2.47	0.49
3:e:137:ARG:NH1	18:d:49:GLN:HE21	2.06	0.49
3:e:184:LEU:HD12	5:h:43:GLU:O	2.12	0.49
8:k:54:ALA:HB2	8:k:79:ALA:HA	1.95	0.49
8:k:73:GLN:HG3	8:k:108:SER:HB2	1.94	0.49
26:F:147:GLU:HA	50:2:28:LYS:HD3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:K:1:MET:H2	31:K:2:PRO:HD3	1.75	0.49
31:K:1:MET:CE	48:A:642:G:OP1	2.60	0.49
36:P:16:ASN:O	36:P:20:ARG:HB2	2.12	0.49
40:T:7:PHE:O	40:T:7:PHE:HD1	1.95	0.49
42:V:81:THR:OG1	42:V:100:THR:HG23	2.12	0.49
43:W:46:HIS:HE1	47:B:74:A:O2'	1.96	0.49
48:A:277:U:H2'	48:A:278:A:H8	1.77	0.49
48:A:1541:G:O6	48:A:1630:U:H5	1.94	0.49
1:a:310:G:OP1	21:p:31:GLY:HA2	2.12	0.49
1:a:345:C:C5'	37:Q:38:ARG:HH12	1.93	0.49
1:a:350:G:OP1	14:t:3:ASN:CB	2.60	0.49
1:a:675:A:H2'	1:a:676:A:C8	2.47	0.49
1:a:814:G:H5"	12:r:58:VAL:HG21	1.93	0.49
1:a:961:C:O2'	16:n:19:ARG:NH2	2.45	0.49
1:a:1086:G:H5"	2:c:172:ARG:CG	2.32	0.49
2:c:28:TYR:OH	16:n:54:PRO:HD2	2.13	0.49
5:h:94:LEU:HD12	5:h:115:ASP:O	2.12	0.49
6:i:35:ALA:HB2	6:i:90:GLY:HA3	1.94	0.49
24:D:154:CYS:O	48:A:2277:G:OP1	2.31	0.49
25:E:170:ARG:NE	48:A:404:A:OP1	2.38	0.49
26:F:32:VAL:C	26:F:35:ILE:CD1	2.86	0.49
43:W:21:LYS:NZ	47:B:80:C:N4	2.46	0.49
48:A:280:G:H1	48:A:306:U:H3	1.60	0.49
48:A:1596:C:O2'	48:A:1597:G:C5'	2.60	0.49
1:a:1080:C:C5	17:b:95:ARG:CZ	2.95	0.49
2:c:128:ALA:CB	3:e:19:ARG:HD3	2.33	0.49
23:C:256:ARG:NH1	23:C:258:ARG:NH1	2.60	0.49
26:F:21:GLU:O	26:F:25:GLN:HG3	2.13	0.49
26:F:46:GLY:O	26:F:47:VAL:CG1	2.61	0.49
47:B:52:G:O2'	47:B:53:A:N7	2.44	0.49
48:A:1044:U:P	49:1:37:ARG:HH12	2.36	0.49
1:a:184:U:H4'	14:t:80:ALA:HB1	1.93	0.49
1:a:323:U:H5'	14:t:18:ARG:CB	2.41	0.49
4:g:16:PRO:HG3	6:i:63:VAL:HG22	1.95	0.49
23:C:261:ASN:C	23:C:262:LYS:CD	2.86	0.49
25:E:7:VAL:CB	25:E:16:GLY:CA	2.84	0.49
25:E:201:LEU:C	25:E:201:LEU:CD2	2.86	0.49
27:G:61:ARG:O	27:G:65:LEU:HB2	2.13	0.49
31:K:84:LEU:HD11	48:A:1250:U:H6	1.77	0.49
39:S:77:LYS:HD3	39:S:86:LYS:HE2	1.94	0.49
43:W:62:GLY:HA2	43:W:65:ALA:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1561:C:O2'	48:A:1562:C:H5'	2.11	0.49
48:A:1564:A:H3'	48:A:1565:A:H5"	1.94	0.49
48:A:1578:G:N2	48:A:1592:G:O2'	2.46	0.49
48:A:1590:G:C2	48:A:1591:U:C5	3.00	0.49
48:A:2375:G:H2'	48:A:2376:G:H8	1.77	0.49
53:5:21:PHE:HB2	53:5:46:THR:HG21	1.95	0.49
32:L:19:ILE:HG22	32:L:43:VAL:HA	1.95	0.49
32:L:22:ILE:HD12	48:A:2176:A:C5	2.48	0.49
42:V:76:SER:C	42:V:77:ASP:OD1	2.56	0.49
48:A:242:G:OP2	54:6:3:LYS:CE	2.61	0.49
48:A:1533:U:O2	48:A:1803:A:O2'	2.25	0.49
2:c:141:MET:CE	2:c:170:GLU:HG2	2.21	0.49
6:i:41:LEU:HD12	6:i:83:ILE:HA	1.95	0.49
34:N:59:LYS:NZ	34:N:59:LYS:CB	2.73	0.49
44:X:83:VAL:HG22	44:X:84:ALA:N	2.28	0.49
46:Z:48:ARG:HG3	48:A:58:G:OP1	2.13	0.49
47:B:37:C:C5	47:B:38:C:C5	3.01	0.49
48:A:1611:A:C2	48:A:1612:U:N3	2.79	0.49
50:2:60:ARG:HH11	50:2:60:ARG:HG2	1.78	0.49
1:a:251:G:C6	1:a:266:G:O6	2.66	0.49
1:a:1202:G:P	13:s:36:ARG:HD3	2.53	0.49
1:a:1461:U:H2'	1:a:1462:C:H6	1.77	0.49
25:E:180:PRO:HG3	25:E:200:ALA:HB1	1.94	0.49
26:F:80:SER:OG	26:F:88:GLU:N	2.46	0.49
34:N:111:GLU:OE2	34:N:115:ARG:HB2	2.13	0.49
35:O:86:PHE:C	35:O:86:PHE:HD1	2.20	0.49
38:R:57:PHE:HZ	48:A:623:A:H4'	1.78	0.49
48:A:610:C:O2	48:A:646:U:O2'	2.31	0.49
48:A:1581:C:N4	48:A:1591:U:N1	2.61	0.49
1:a:173:C:H1'	1:a:1430:A:C2	2.48	0.48
1:a:230:G:H2'	1:a:231:G:O4'	2.13	0.48
1:a:458:A:OP1	1:a:459:G:H1'	2.13	0.48
1:a:546:G:H8	1:a:546:G:OP1	1.96	0.48
1:a:1091:A:H2	2:c:177:THR:HG23	1.78	0.48
1:a:1169:A:C4'	16:n:60:SER:OG	2.61	0.48
1:a:1478:G:N2	1:a:1479:U:C2	2.81	0.48
3:e:19:ARG:N	18:d:40:ARG:HH11	2.11	0.48
6:i:41:LEU:C	6:i:42:VAL:CG1	2.85	0.48
26:F:46:GLY:HA3	48:A:2529:A:H61	1.78	0.48
29:I:9:ALA:HB3	29:I:56:LEU:HD11	1.95	0.48
43:W:77:LEU:CG	43:W:100:VAL:HG21	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:X:84:ALA:CA	44:X:86:PRO:CD	2.86	0.48
52:4:16:GLU:OE2	52:4:52:LYS:HD3	2.12	0.48
1:a:714:G:H21	12:r:73:GLU:CD	2.21	0.48
1:a:1193:U:O2'	1:a:1194:A:H5"	2.13	0.48
1:a:1397:U:H2'	1:a:1398:G:H8	1.78	0.48
4:g:51:ARG:NH2	4:g:52:GLU:OE2	2.46	0.48
10:o:57:LEU:CD2	48:A:830:A:C6	2.96	0.48
21:p:39:ARG:NH2	21:p:50:GLN:OE1	2.46	0.48
26:F:8:LEU:CD2	26:F:16:ARG:HD2	2.43	0.48
32:L:19:ILE:HB	32:L:41:ALA:HB1	1.95	0.48
40:T:99:ARG:HD2	48:A:862:U:O2'	2.12	0.48
43:W:28:ARG:HH12	47:B:77:A:H5'	1.77	0.48
48:A:567:A:H1'	48:A:568:A:H5"	1.94	0.48
48:A:1595:G:C3'	48:A:1596:C:C5'	2.72	0.48
1:a:632:U:O3'	5:h:56:VAL:HG21	2.13	0.48
1:a:688:C:H2'	1:a:689:A:H8	1.77	0.48
1:a:905:A:OP1	3:e:51:LYS:CE	2.62	0.48
1:a:1281:A:H2'	1:a:1281:A:N3	2.28	0.48
32:L:8:LEU:HD12	32:L:19:ILE:O	2.14	0.48
35:O:33:ARG:CB	35:O:114:GLU:HG2	2.43	0.48
35:O:38:GLU:O	35:O:42:ARG:HG3	2.13	0.48
40:T:13:LYS:HG2	40:T:111:THR:HG23	1.93	0.48
41:U:66:ARG:HA	41:U:75:LYS:HA	1.94	0.48
43:W:62:GLY:O	43:W:63:THR:OG1	2.26	0.48
48:A:1562:C:O2'	48:A:1563:A:OP2	2.31	0.48
48:A:1604:G:H8	48:A:1604:G:O5'	1.97	0.48
48:A:1665:U:H2'	48:A:1666:A:H8	1.77	0.48
48:A:2072:G:O6	48:A:2111:U:O4	2.31	0.48
1:a:958:G:OP2	1:a:1340:U:O2'	2.30	0.48
5:h:98:LEU:HB3	5:h:102:GLY:H	1.78	0.48
26:F:11:LEU:CD2	26:F:108:ASP:CA	2.91	0.48
31:K:87:ARG:NH1	31:K:91:GLU:OE2	2.46	0.48
42:V:2:LYS:CD	42:V:83:VAL:CB	2.91	0.48
43:W:157:ILE:HB	43:W:179:VAL:HB	1.95	0.48
48:A:1612:U:H2'	48:A:1613:G:C8	2.47	0.48
1:a:254:G:O2'	11:q:33:GLN:O	2.31	0.48
1:a:262:G:H5"	14:t:68:HIS:HB2	1.95	0.48
1:a:413:G:N2	1:a:428:G:H1'	2.29	0.48
1:a:458:A:H4'	1:a:459:G:O4'	2.13	0.48
1:a:521:G:H2'	1:a:522:G:C8	2.49	0.48
1:a:672:U:O2'	1:a:674:G:N7	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:956:A:OP1	16:n:32:SER:HB3	2.13	0.48
2:c:128:ALA:N	3:e:19:ARG:CD	2.75	0.48
9:l:110:ARG:HD2	9:l:113:ALA:HB3	1.96	0.48
15:v:9:G:N2	15:v:46:G:H3'	2.29	0.48
19:f:82:ASN:ND2	19:f:84:SER:OG	2.47	0.48
24:D:162:LYS:HG2	48:A:2843:C:H5"	1.95	0.48
25:E:6:ASP:HA	25:E:16:GLY:O	2.13	0.48
34:N:17:GLN:NE2	48:A:1075:U:H5	2.11	0.48
34:N:110:ASP:OD1	34:N:110:ASP:N	2.43	0.48
34:N:134:ARG:HD3	43:W:129:ASN:ND2	2.29	0.48
35:O:49:GLU:OE1	35:O:94:TYR:CD2	2.67	0.48
39:S:16:VAL:HG12	39:S:22:VAL:HG21	1.96	0.48
48:A:1554:U:C4	48:A:1617:C:N4	2.82	0.48
48:A:2374:U:H2'	48:A:2375:G:C8	2.49	0.48
1:a:749:G:H4'	1:a:1497:A:H4'	1.95	0.48
1:a:1175:U:H5	2:c:1:MET:HG3	1.78	0.48
1:a:1332:A:C2'	4:g:33:GLU:HG3	2.42	0.48
1:a:1359:U:O4	4:g:10:ARG:NH1	2.46	0.48
23:C:73:ASP:CB	23:C:120:GLY:CA	2.68	0.48
37:Q:48:ARG:NH1	48:A:2909:G:OP1	2.43	0.48
41:U:67:LYS:HZ3	41:U:67:LYS:CB	2.27	0.48
47:B:35:G:N1	47:B:36:U:C4	2.82	0.48
48:A:1591:U:C2	48:A:1592:G:N7	2.81	0.48
49:1:51:HIS:CD2	49:1:51:HIS:N	2.74	0.48
8:k:47:GLN:CA	8:k:47:GLN:NE2	2.73	0.48
18:d:102:LEU:HD12	18:d:175:ILE:HD11	1.96	0.48
23:C:25:THR:CG2	23:C:81:HIS:ND1	2.76	0.48
24:D:129:ARG:HG2	24:D:170:MET:HB3	1.96	0.48
26:F:73:GLU:HB3	47:B:42:C:C6	2.48	0.48
40:T:77:VAL:HG22	40:T:117:ARG:HG2	1.96	0.48
41:U:6:ASP:OD2	46:Z:23:ARG:CG	2.60	0.48
41:U:13:ALA:O	41:U:32:VAL:N	2.38	0.48
44:X:56:ASP:HA	48:A:2610:C:H4'	1.95	0.48
46:Z:13:LEU:HD21	46:Z:17:GLU:O	2.14	0.48
52:4:35:ARG:NH2	52:4:35:ARG:HB3	2.28	0.48
1:a:1221:U:C1'	4:g:38:LEU:CD2	2.91	0.48
10:o:63:ARG:HH12	48:A:830:A:H4'	1.78	0.48
22:u:22:ARG:HD3	22:u:25:ARG:NH2	2.29	0.48
23:C:79:VAL:HG23	23:C:114:GLY:H	1.78	0.48
27:G:161:LYS:NZ	48:A:2882:C:OP1	2.47	0.48
32:L:77:ILE:HG12	37:Q:71:ARG:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:W:87:PRO:O	43:W:90:ARG:NH1	2.46	0.48
43:W:102:ARG:HH21	43:W:138:LEU:HD11	1.70	0.48
47:B:88:C:H3'	47:B:88:C:H6	1.78	0.48
48:A:1171:C:H2'	48:A:1172:A:C8	2.49	0.48
1:a:465:G:O2'	1:a:466:U:H5"	2.13	0.48
1:a:1055:U:OP1	17:b:102:THR:HG21	2.14	0.48
1:a:1081:A:N6	17:b:175:GLU:OE2	2.47	0.48
1:a:1200:A:H2'	1:a:1201:G:C8	2.49	0.48
1:a:1236:G:H2'	1:a:1260:A:N6	2.29	0.48
1:a:1284:U:O4	20:m:14:ARG:NH1	2.47	0.48
2:c:5:ILE:HD12	16:n:58:LYS:NZ	2.14	0.48
20:m:19:LEU:HD21	20:m:56:LEU:HD21	1.96	0.48
23:C:178:PRO:HG2	48:A:2016:G:O6	2.14	0.48
26:F:23:LEU:HD22	26:F:36:PRO:HD2	1.95	0.48
27:G:132:PHE:HZ	27:G:149:ILE:HG21	1.79	0.48
31:K:84:LEU:HD11	48:A:1250:U:C6	2.49	0.48
32:L:73:ASP:OD1	32:L:73:ASP:N	2.46	0.48
38:R:98:LEU:HD21	39:S:4:TYR:OH	2.14	0.48
50:2:60:ARG:C	50:2:60:ARG:CD	2.86	0.48
1:a:376:G:OP1	21:p:67:THR:CB	2.61	0.48
1:a:1301:A:H5'	13:s:70:LYS:NZ	2.28	0.48
13:s:29:GLN:HE21	13:s:29:GLN:CA	2.05	0.48
23:C:256:ARG:CD	23:C:258:ARG:NE	2.76	0.48
26:F:32:VAL:HG23	47:B:55:G:H4'	1.96	0.48
26:F:45:MET:HE3	26:F:64:LEU:HG	1.94	0.48
30:J:96:LYS:HE2	43:W:120:PRO:CB	2.37	0.48
35:O:20:LEU:HD23	35:O:24:LEU:HD12	1.95	0.48
37:Q:33:GLU:OE1	37:Q:38:ARG:NH2	2.47	0.48
40:T:30:LEU:HD23	51:3:24:ALA:HB2	1.95	0.48
48:A:799:G:OP1	53:5:19:HIS:HD2	1.96	0.48
48:A:1552:A:H1'	48:A:1618:C:H42	1.78	0.48
51:3:27:LEU:HB3	51:3:38:LYS:HB3	1.95	0.48
1:a:52:U:H3'	1:a:53:U:H5"	1.95	0.47
1:a:1130:C:N4	1:a:1131:G:O6	2.47	0.47
1:a:1331:A:OP1	6:i:141:ALA:O	2.32	0.47
1:a:1444:A:H2'	1:a:1445:G:O4'	2.14	0.47
18:d:142:GLU:OE2	18:d:172:ARG:NH2	2.38	0.47
20:m:5:VAL:HG11	20:m:66:VAL:HG11	1.95	0.47
20:m:72:ARG:NH1	26:F:122:ARG:HH11	2.08	0.47
23:C:59:LYS:HG3	48:A:1788:G:H4'	1.96	0.47
23:C:73:ASP:HB3	23:C:120:GLY:N	2.25	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:132:PRO:HD2	23:C:135:ASN:HD22	1.79	0.47
28:H:23:ASP:O	28:H:27:ARG:CB	2.62	0.47
43:W:122:THR:HG23	43:W:181:VAL:HG13	1.96	0.47
47:B:89:C:H2'	47:B:90:G:H8	1.79	0.47
48:A:351:G:N1	48:A:444:U:N3	2.45	0.47
48:A:451:U:H2'	48:A:452:G:C8	2.49	0.47
48:A:681:C:H2'	48:A:682:A:H8	1.79	0.47
48:A:1105:C:O2'	48:A:1118:A:N3	2.44	0.47
48:A:1588:G:H3'	48:A:1589:G:H8	1.79	0.47
48:A:1830:C:H4'	53:5:10:PRO:CD	2.44	0.47
48:A:2800:G:O2'	48:A:2803:C:OP2	2.28	0.47
1:a:1060:A:OP2	3:e:77:LYS:CE	2.62	0.47
1:a:1199:C:H2'	1:a:1200:A:H8	1.79	0.47
1:a:1303:U:O4'	13:s:73:GLU:OE1	2.32	0.47
9:l:87:VAL:HG12	9:l:89:ASP:H	1.78	0.47
14:t:4:ILE:HG22	14:t:5:LYS:N	2.28	0.47
25:E:8:LYS:HZ2	25:E:148:LEU:HB3	1.78	0.47
42:V:11:VAL:HG21	42:V:38:VAL:HG11	1.96	0.47
47:B:4:A:C2	47:B:25:G:N1	2.82	0.47
47:B:10:G:C6	47:B:11:U:H1'	2.48	0.47
48:A:325:U:H2'	48:A:326:A:H8	1.79	0.47
48:A:661:U:O2'	48:A:1101:A:N1	2.40	0.47
48:A:1561:C:N4	48:A:1611:A:C6	2.77	0.47
48:A:1830:C:C5'	53:5:10:PRO:HG2	2.43	0.47
48:A:1885:G:O2'	48:A:2215:U:O4	2.28	0.47
1:a:264:U:O4	1:a:265:G:C6	2.68	0.47
1:a:382:A:H2'	1:a:383:A:C8	2.48	0.47
1:a:808:A:OP1	5:h:22:HIS:CE1	2.67	0.47
1:a:1039:C:O2	7:j:55:PRO:HD2	2.13	0.47
1:a:1374:U:O2'	1:a:1516:U:OP1	2.33	0.47
2:c:189:ALA:O	2:c:195:ARG:HA	2.14	0.47
8:k:45:ASP:CB	8:k:46:PRO:CD	2.87	0.47
13:s:40:ILE:CG1	50:2:64:ARG:NH1	2.74	0.47
18:d:86:LEU:HD11	18:d:188:VAL:HG11	1.97	0.47
25:E:154:VAL:HB	25:E:175:VAL:HG23	1.95	0.47
37:Q:92:ARG:HG3	48:A:1970:G:H5"	1.95	0.47
48:A:292:G:H2'	48:A:293:G:H8	1.79	0.47
48:A:1637:G:O2'	48:A:1805:G:O2'	2.31	0.47
48:A:1882:A:N6	48:A:2220:C:H42	2.11	0.47
48:A:2644:C:OP1	54:6:34:GLU:CD	2.57	0.47
55:7:21:GLY:C	55:7:22:ARG:HG3	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:200:U:C1'	11:q:9:TYR:CD1	2.97	0.47
1:a:399:G:H2'	1:a:400:C:H6	1.79	0.47
23:C:5:LYS:HD2	23:C:17:SER:HB3	1.97	0.47
23:C:25:THR:CG2	23:C:81:HIS:HD1	2.27	0.47
25:E:24:LEU:HD21	25:E:208:ASN:CG	2.38	0.47
26:F:102:ARG:NH1	50:2:9:TYR:CD1	2.82	0.47
37:Q:55:SER:HB2	48:A:2907:C:H5'	1.97	0.47
43:W:134:GLU:HB2	43:W:171:ILE:HD11	1.97	0.47
47:B:86:U:O2'	47:B:87:U:H2'	2.14	0.47
48:A:1188:A:N7	48:A:1214:A:O2'	2.44	0.47
48:A:2753:G:O6	55:7:31:ARG:NH1	2.47	0.47
2:c:80:GLY:O	2:c:84:ASP:HB3	2.15	0.47
3:e:184:LEU:CD1	5:h:43:GLU:O	2.63	0.47
20:m:57:ARG:NH1	50:2:36:GLU:CB	2.62	0.47
35:O:33:ARG:HD3	35:O:114:GLU:HG2	1.95	0.47
43:W:79:LEU:N	43:W:98:LEU:O	2.48	0.47
46:Z:33:ARG:HA	46:Z:36:MET:HG2	1.95	0.47
3:e:178:VAL:O	3:e:182:ARG:CG	2.63	0.47
7:j:54:SER:HG	7:j:56:HIS:C	2.16	0.47
12:r:75:ALA:HB2	19:f:52:ILE:HD11	1.96	0.47
23:C:37:LEU:CD2	23:C:62:TYR:HA	2.44	0.47
26:F:10:ARG:NH1	26:F:10:ARG:CG	2.72	0.47
26:F:115:LEU:HD23	26:F:183:PRO:CD	2.45	0.47
29:I:48:THR:HB	29:I:81:PHE:HB2	1.96	0.47
31:K:142:ILE:HG22	31:K:143:LYS:H	1.80	0.47
48:A:79:G:N2	48:A:100:A:OP2	2.44	0.47
48:A:738:A:O2'	48:A:740:A:OP1	2.32	0.47
48:A:1535:C:H3'	48:A:1536:A:H8	1.79	0.47
48:A:1563:A:C4	48:A:1565:A:C8	3.03	0.47
48:A:2528:G:H22	48:A:2536:U:H3	1.62	0.47
52:4:16:GLU:OE2	52:4:52:LYS:CD	2.62	0.47
55:7:5:PRO:O	55:7:36:GLN:NE2	2.45	0.47
1:a:672:U:O4	8:k:37:ASN:ND2	2.47	0.47
11:q:73:ARG:HD3	11:q:95:GLU:HB3	1.97	0.47
14:t:4:ILE:CG2	14:t:8:ILE:N	2.74	0.47
23:C:108:PRO:HA	23:C:196:VAL:HA	1.96	0.47
23:C:256:ARG:NH1	23:C:258:ARG:HH11	2.12	0.47
23:C:262:LYS:N	23:C:263:PRO:HD3	2.30	0.47
24:D:7:LEU:HD11	24:D:82:ALA:HB3	1.97	0.47
26:F:32:VAL:C	26:F:34:GLN:N	2.72	0.47
31:K:13:ARG:CZ	31:K:121:LYS:NZ	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:K:45:THR:OG1	38:R:64:ARG:NH2	2.46	0.47
31:K:112:ASN:CG	31:K:113:LYS:N	2.73	0.47
32:L:107:ARG:HH21	32:L:115:VAL:HG11	1.80	0.47
35:O:42:ARG:O	35:O:46:PRO:CD	2.63	0.47
42:V:97:ILE:HD12	42:V:103:LYS:C	2.38	0.47
43:W:28:ARG:NH1	47:B:76:G:O3'	2.48	0.47
43:W:77:LEU:HD13	43:W:100:VAL:HB	1.96	0.47
43:W:164:LEU:HD13	43:W:168:VAL:HG12	1.96	0.47
48:A:534:G:H4'	48:A:535:A:H5'	1.97	0.47
48:A:1551:U:O4	48:A:1619:U:O4	2.32	0.47
48:A:1596:C:O2'	48:A:1597:G:H5'	2.15	0.47
48:A:1603:G:N1	48:A:1604:G:C6	2.83	0.47
48:A:2255:A:O2'	48:A:2678:G:N2	2.44	0.47
52:4:35:ARG:HH21	52:4:35:ARG:CB	2.27	0.47
53:5:6:ARG:CZ	53:5:6:ARG:HB3	2.44	0.47
55:7:2:LYS:HE2	55:7:34:GLN:HG2	1.96	0.47
1:a:962:C:H1'	16:n:19:ARG:HA	1.97	0.47
1:a:1311:G:H5"	20:m:26:GLY:H	1.78	0.47
24:D:155:ALA:HB2	48:A:2277:G:C5'	2.45	0.47
26:F:118:ILE:HB	26:F:121:PHE:HB2	1.97	0.47
29:I:27:GLU:HG3	29:I:76:PRO:HG2	1.97	0.47
31:K:114:LEU:HD12	48:A:650:G:H5'	1.97	0.47
34:N:74:LEU:HD22	48:A:1075:U:OP2	2.15	0.47
39:S:103:LYS:C	39:S:103:LYS:CD	2.86	0.47
42:V:27:TYR:HB3	42:V:30:ARG:HB2	1.96	0.47
48:A:790:A:N3	48:A:2667:C:O2'	2.44	0.47
48:A:1110:C:H2'	48:A:1111:G:H8	1.80	0.47
48:A:1189:G:H1'	48:A:1207:G:H2'	1.96	0.47
48:A:1595:G:O5'	48:A:1596:C:OP2	2.31	0.47
48:A:1596:C:O2'	48:A:1597:G:P	2.73	0.47
48:A:2380:G:N2	48:A:2381:A:N1	2.58	0.47
52:4:16:GLU:CD	52:4:52:LYS:HE2	2.40	0.47
1:a:731:U:C5	1:a:732:G:C5	3.03	0.47
1:a:1303:U:C4'	13:s:73:GLU:OE1	2.63	0.47
1:a:1320:G:N3	15:v:42:C:O2'	2.47	0.47
6:i:39:VAL:HG13	6:i:39:VAL:O	2.14	0.47
15:v:70:C:H2'	15:v:71:G:C8	2.50	0.47
19:f:82:ASN:HB3	19:f:85:VAL:HG22	1.97	0.47
20:m:71:ARG:C	20:m:73:GLU:N	2.73	0.47
26:F:185:LYS:HE2	26:F:185:LYS:C	2.40	0.47
38:R:124:PRO:HB3	48:A:1268:C:H4'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:V:87:ILE:HG12	42:V:94:LYS:HG3	1.96	0.47
47:B:25:G:H2'	47:B:26:A:H5'	1.97	0.47
47:B:34:G:O6	47:B:44:C:C6	2.68	0.47
48:A:103:C:H2'	48:A:104:G:H8	1.79	0.47
48:A:113:C:O2'	48:A:123:A:N3	2.48	0.47
48:A:347:U:H2'	48:A:348:G:H8	1.80	0.47
48:A:1561:C:C2	48:A:1562:C:C5	3.02	0.47
56:8:6:ARG:O	56:8:10:ASP:HB2	2.14	0.47
1:a:502:C:H41	9:l:50:ARG:HH11	1.62	0.47
1:a:653:G:H4'	19:f:87:ARG:CZ	2.41	0.47
1:a:1097:G:H2'	6:i:126:ARG:NH1	2.30	0.47
1:a:1261:A:P	7:j:9:ARG:NH1	2.74	0.47
1:a:1424:G:H5"	1:a:1424:G:H8	1.80	0.47
6:i:53:ARG:HE	6:i:58:TYR:HD1	1.62	0.47
13:s:9:PRO:HG3	50:2:64:ARG:CD	2.45	0.47
14:t:8:ILE:O	14:t:9:LYS:C	2.58	0.47
25:E:208:ASN:HD22	25:E:208:ASN:N	2.13	0.47
26:F:70:GLN:OE1	26:F:96:VAL:CG2	2.62	0.47
38:R:90:VAL:HG13	39:S:6:ILE:HD13	1.97	0.47
43:W:81:LYS:N	43:W:96:ASP:O	2.43	0.47
43:W:94:HIS:CE1	47:B:75:U:O2	2.67	0.47
47:B:83:C:H5"	49:1:52:HIS:CE1	2.50	0.47
48:A:219:G:O2'	48:A:233:A:N3	2.42	0.47
48:A:747:A:H2	48:A:768:G:H21	1.63	0.47
52:4:18:CYS:SG	52:4:19:LYS:HG2	2.55	0.47
54:6:27:ALA:O	54:6:29:ARG:N	2.46	0.47
55:7:35:ARG:CG	55:7:36:GLN:H	2.28	0.47
1:a:225:G:H2'	1:a:226:G:O4'	2.14	0.46
1:a:654:G:H2'	1:a:655:A:C8	2.50	0.46
1:a:1117:U:H4'	1:a:1118:A:OP1	2.15	0.46
1:a:1447:C:P	37:Q:108:LYS:HE3	2.55	0.46
13:s:40:ILE:HG13	13:s:41:ILE:HG13	1.96	0.46
17:b:207:ILE:O	17:b:211:ALA:CB	2.63	0.46
23:C:256:ARG:CZ	23:C:258:ARG:NE	2.73	0.46
26:F:9:PRO:O	26:F:13:GLN:N	2.43	0.46
30:J:40:PHE:O	30:J:44:TYR:HB2	2.15	0.46
35:O:80:PHE:O	35:O:84:GLY:HA3	2.15	0.46
42:V:43:LYS:O	42:V:60:VAL:N	2.47	0.46
42:V:46:ALA:CB	48:A:572:C:OP1	2.62	0.46
42:V:79:LYS:HE3	42:V:79:LYS:HB2	1.70	0.46
48:A:2509:C:C4	52:4:8:ARG:NH1	2.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:6:58:ILE:HD13	54:6:61:LEU:HD12	1.97	0.46
1:a:644:G:N2	1:a:721:G:H1	2.02	0.46
8:k:54:ALA:CB	8:k:79:ALA:CA	2.92	0.46
21:p:60:LEU:HD11	21:p:74:LEU:HD13	1.98	0.46
26:F:114:ALA:HB1	26:F:144:MET:HE2	1.97	0.46
26:F:170:ASP:OD1	26:F:170:ASP:N	2.41	0.46
27:G:159:LYS:HA	27:G:172:ARG:HH22	1.81	0.46
30:J:106:GLN:O	30:J:110:ILE:HB	2.15	0.46
32:L:75:SER:HB2	37:Q:71:ARG:HE	1.80	0.46
33:M:76:GLN:HE22	48:A:720:C:H42	1.63	0.46
36:P:43:SER:CB	47:B:28:A:OP1	2.63	0.46
44:X:76:LYS:CE	48:A:973:G:OP1	2.63	0.46
47:B:84:C:C5	47:B:85:C:C4	3.03	0.46
48:A:1479:G:H4'	48:A:2025:C:H5	1.79	0.46
48:A:1541:G:C6	48:A:1630:U:O4	2.68	0.46
48:A:1597:G:C4	48:A:1598:U:C6	2.96	0.46
1:a:261:U:H5	14:t:74:ASN:ND2	2.02	0.46
1:a:323:U:OP1	14:t:21:ASN:ND2	2.47	0.46
1:a:488:C:H1'	1:a:489:A:H2	1.79	0.46
1:a:1209:C:OP1	20:m:108:ARG:NH2	2.48	0.46
1:a:1248:U:O2'	1:a:1249:G:O4'	2.33	0.46
9:l:74:LEU:HD22	9:l:80:VAL:HG11	1.97	0.46
20:m:75:GLN:C	20:m:75:GLN:NE2	2.73	0.46
23:C:35:ARG:NH2	48:A:2033:U:O4	2.40	0.46
25:E:77:GLY:H	48:A:789:G:H5"	1.80	0.46
26:F:99:ARG:HD3	47:B:45:G:H5'	1.98	0.46
28:H:124:ILE:HG22	28:H:125:LYS:H	1.81	0.46
34:N:60:ARG:NH1	48:A:1193:C:C5'	2.71	0.46
35:O:106:ASP:OD1	35:O:106:ASP:N	2.48	0.46
35:O:116:VAL:HB	35:O:118:GLU:CG	2.45	0.46
39:S:3:THR:CB	39:S:102:ILE:HD11	2.44	0.46
39:S:76:HIS:HE1	39:S:85:HIS:HD2	1.63	0.46
48:A:1441:C:O2'	48:A:2234:G:O2'	2.33	0.46
48:A:1479:G:N2	48:A:1482:A:OP2	2.47	0.46
1:a:510:G:H2'	1:a:510:G:N3	2.29	0.46
2:c:78:ARG:HB3	2:c:81:THR:HB	1.96	0.46
3:e:169:LEU:HA	3:e:172:LEU:HD13	1.97	0.46
12:r:74:VAL:HG11	19:f:7:MET:HG2	1.97	0.46
15:v:16:C:H4'	15:v:61:U:H1'	1.97	0.46
25:E:149:THR:C	25:E:150:GLU:CG	2.85	0.46
32:L:17:LYS:HB3	32:L:45:ASP:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:T:18:ARG:HH12	48:A:1436:C:C2'	2.28	0.46
43:W:6:ASN:HD22	43:W:6:ASN:C	2.22	0.46
47:B:34:G:O6	47:B:44:C:H2'	2.13	0.46
48:A:81:A:N1	48:A:96:G:O2'	2.34	0.46
48:A:1379:G:OP1	51:3:16:ARG:NH2	2.47	0.46
48:A:1530:G:N2	48:A:1805:G:H1	2.13	0.46
48:A:1543:A:N1	48:A:1628:A:O2'	2.44	0.46
48:A:1550:G:O6	48:A:1620:U:O4	2.34	0.46
55:7:24:MET:HB2	55:7:24:MET:HE3	1.77	0.46
1:a:1354:G:O3'	6:i:91:GLY:CA	2.43	0.46
1:a:1414:C:OP1	37:Q:106:LYS:HE3	2.13	0.46
1:a:1481:G:H2'	1:a:1482:U:H5'	1.97	0.46
6:i:40:ARG:HH22	6:i:84:TYR:HD2	1.62	0.46
8:k:34:SER:HA	8:k:39:THR:HG22	1.98	0.46
15:v:21:U:HO2'	15:v:22:A:P	2.29	0.46
18:d:73:GLU:OE2	18:d:131:ARG:NH1	2.48	0.46
20:m:57:ARG:HH12	50:2:36:GLU:CG	2.27	0.46
20:m:65:LYS:HG3	20:m:70:LEU:HD23	1.98	0.46
21:p:48:LEU:HB2	21:p:96:LYS:HE3	1.97	0.46
23:C:71:ASP:OD1	23:C:71:ASP:N	2.30	0.46
26:F:76:ARG:HG2	26:F:91:PRO:HA	1.96	0.46
26:F:154:ASP:OD1	26:F:155:ARG:N	2.48	0.46
32:L:91:ASN:ND2	32:L:110:LYS:HB2	2.00	0.46
34:N:60:ARG:NH2	34:N:60:ARG:CG	2.72	0.46
40:T:36:VAL:HG22	40:T:78:VAL:HG23	1.98	0.46
41:U:94:ASP:OD1	41:U:94:ASP:N	2.48	0.46
42:V:31:ASN:O	42:V:68:VAL:HB	2.15	0.46
43:W:29:ARG:HH12	47:B:90:G:C4'	2.28	0.46
48:A:2509:C:OP2	52:4:28:ASN:ND2	2.48	0.46
52:4:49:GLN:O	52:4:51:HIS:HD2	1.98	0.46
1:a:49:U:H5"	1:a:307:C:O2'	2.16	0.46
1:a:206:G:HO2'	1:a:207:G:H5'	1.80	0.46
1:a:1152:C:H2'	1:a:1153:U:H6	1.81	0.46
1:a:1501:G:N9	48:A:2144:C:OP1	2.49	0.46
10:o:12:LEU:HD21	10:o:31:LEU:HD11	1.98	0.46
20:m:75:GLN:O	20:m:75:GLN:HG2	2.16	0.46
41:U:29:TYR:CE2	41:U:93:ILE:HB	2.50	0.46
42:V:46:ALA:HB2	48:A:572:C:P	2.54	0.46
43:W:112:VAL:HG23	43:W:126:GLN:HE21	1.80	0.46
48:A:857:U:H2'	48:A:858:A:H8	1.81	0.46
48:A:1574:G:C3'	48:A:1575:A:C8	2.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1717:U:H5"	48:A:1718:C:H5	1.80	0.46
1:a:332:G:OP2	14:t:5:LYS:N	2.48	0.46
1:a:682:A:C4	48:A:2065:A:C8	3.04	0.46
1:a:700:C:O2'	12:r:65:ALA:HB2	2.16	0.46
1:a:719:C:OP2	19:f:2:ARG:NH1	2.40	0.46
1:a:1194:A:N7	1:a:1196:G:C5	2.84	0.46
23:C:261:ASN:C	23:C:263:PRO:HD3	2.41	0.46
31:K:14:SER:O	31:K:52:ASP:HB3	2.16	0.46
36:P:9:ASN:ND2	47:B:58:A:C2	2.72	0.46
37:Q:1:MET:N	48:A:3096:U:O2	2.44	0.46
42:V:4:HIS:CE1	42:V:96:ARG:HH22	2.22	0.46
44:X:76:LYS:HD3	48:A:973:G:OP1	2.16	0.46
48:A:1574:G:C6	48:A:1599:U:O4'	2.69	0.46
48:A:2081:U:OP1	48:A:2634:G:O2'	2.26	0.46
1:a:104:A:N6	14:t:10:ARG:NE	2.63	0.46
1:a:1323:U:H2'	1:a:1324:C:C6	2.51	0.46
12:r:37:LEU:O	12:r:40:THR:OG1	2.32	0.46
23:C:67:PHE:HE1	23:C:106:ILE:HD11	1.80	0.46
23:C:76:ASN:CB	23:C:98:LEU:HD21	2.42	0.46
23:C:229:VAL:HB	48:A:899:G:O6	2.16	0.46
25:E:150:GLU:OE1	25:E:193:ASP:CG	2.58	0.46
31:K:147:GLN:O	38:R:75:THR:HG21	2.16	0.46
33:M:35:ARG:NH1	33:M:41:LYS:O	2.47	0.46
33:M:51:GLU:HG3	54:6:57:ARG:HH11	1.70	0.46
35:O:14:SER:OG	48:A:2913:U:O2'	2.32	0.46
48:A:334:G:H2'	48:A:335:G:C8	2.50	0.46
48:A:1162:G:O2'	48:A:1229:A:N6	2.44	0.46
48:A:2527:G:H1	48:A:2537:C:H42	1.62	0.46
1:a:850:C:H2'	1:a:851:A:O4'	2.16	0.46
1:a:1332:A:HO2'	4:g:33:GLU:HB3	1.74	0.46
2:c:135:LYS:HG2	2:c:135:LYS:O	2.14	0.46
2:c:146:VAL:CG2	2:c:202:ILE:HG23	2.46	0.46
3:e:181:ARG:NH1	5:h:132:TRP:O	2.43	0.46
4:g:151:PHE:CZ	8:k:65:ARG:HG3	2.51	0.46
20:m:72:ARG:HG2	20:m:72:ARG:O	2.16	0.46
21:p:109:ALA:O	21:p:113:ALA:CB	2.63	0.46
23:C:168:LYS:HA	23:C:173:ALA:HA	1.97	0.46
25:E:51:SER:OG	48:A:35:A:C5'	2.58	0.46
26:F:23:LEU:HD21	26:F:29:TYR:OH	2.14	0.46
26:F:27:PHE:HB2	26:F:29:TYR:CE1	2.51	0.46
32:L:35:ILE:HG21	32:L:103:GLY:HA3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:L:120:GLU:OE1	37:Q:64:SER:HB3	2.15	0.46
35:O:81:ALA:C	35:O:83:ILE:N	2.73	0.46
41:U:67:LYS:HD2	41:U:76:ARG:HH11	1.81	0.46
44:X:42:GLY:N	44:X:57:ASP:OD2	2.46	0.46
44:X:72:LYS:HG3	44:X:73:ARG:H	1.80	0.46
45:Y:34:GLN:NE2	48:A:2453:U:O2	2.43	0.46
46:Z:18:LEU:HD12	46:Z:61:LEU:CD2	2.42	0.46
48:A:286:G:N2	48:A:287:A:H62	2.14	0.46
48:A:857:U:H2'	48:A:858:A:C8	2.51	0.46
48:A:1588:G:H3'	48:A:1589:G:C8	2.50	0.46
1:a:210:A:OP2	1:a:210:A:H8	1.99	0.46
1:a:811:U:H5"	17:b:21:ARG:HE	1.79	0.46
1:a:1107:G:H1'	1:a:1261:A:C6	2.51	0.46
7:j:57:LYS:O	7:j:58:TYR:CG	2.69	0.46
20:m:2:ALA:HB3	20:m:9:LEU:HD12	1.97	0.46
25:E:24:LEU:HD21	25:E:208:ASN:CB	2.46	0.46
26:F:44:ASN:CG	48:A:2537:C:O4'	2.59	0.46
26:F:64:LEU:HD12	26:F:72:PRO:CB	2.46	0.46
41:U:83:ILE:CD1	48:A:1456:G:C4	2.97	0.46
48:A:2059:G:H1	48:A:2122:U:H3	1.64	0.46
48:A:2288:C:H2'	48:A:2289:C:C6	2.51	0.46
1:a:429:U:O4'	1:a:430:A:H8	1.99	0.45
1:a:1232:A:H2'	1:a:1233:A:O4'	2.16	0.45
1:a:1478:G:C2	1:a:1479:U:C4	3.04	0.45
1:a:1486:A:H2	1:a:1489:G:N1	2.09	0.45
2:c:11:ARG:HH11	2:c:182:ILE:HB	1.81	0.45
5:h:14:LEU:O	5:h:18:ASN:HB2	2.16	0.45
15:v:16:C:O2'	15:v:61:U:H4'	2.16	0.45
15:v:51:U:H2'	15:v:52:C:H6	1.80	0.45
17:b:17:GLY:H	17:b:38:ILE:HG12	1.81	0.45
23:C:73:ASP:HA	23:C:119:SER:HB3	1.98	0.45
24:D:34:ASN:HD21	24:D:54:TYR:HB2	1.80	0.45
35:O:29:PHE:HE2	35:O:51:LEU:HD13	1.79	0.45
36:P:43:SER:HB2	47:B:28:A:OP1	2.16	0.45
37:Q:58:PHE:HD1	37:Q:75:VAL:HG22	1.82	0.45
41:U:58:ASN:HB3	48:A:1456:G:H1'	1.97	0.45
48:A:377:C:H2'	48:A:378:G:H8	1.81	0.45
48:A:1595:G:H5'	48:A:1596:C:C1'	2.46	0.45
48:A:1596:C:O2'	48:A:1597:G:C8	2.65	0.45
48:A:2070:A:H2'	48:A:2071:A:C8	2.51	0.45
52:4:16:GLU:HA	52:4:20:HIS:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:85:C:H4’	1:a:86:G:C8	2.51	0.45
1:a:642:C:H2’	1:a:643:A:C8	2.51	0.45
1:a:1122:U:H2’	1:a:1123:G:H8	1.81	0.45
1:a:1175:U:O4	2:c:1:MET:HA	2.16	0.45
1:a:1478:G:O5’	1:a:1478:G:H8	2.00	0.45
2:c:42:LEU:HB3	2:c:46:LEU:HD22	1.97	0.45
3:e:174:ARG:HB2	3:e:177:GLU:HG2	1.98	0.45
11:q:42:ASP:OD1	11:q:55:THR:OG1	2.25	0.45
25:E:140:SER:O	25:E:144:PHE:HB3	2.17	0.45
26:F:33:MET:N	26:F:35:ILE:HG13	2.32	0.45
26:F:99:ARG:HD3	47:B:45:G:O4’	2.16	0.45
30:J:80:LEU:HD13	30:J:110:ILE:HG23	1.97	0.45
38:R:77:ASN:HD22	48:A:1270:G:H21	1.64	0.45
41:U:14:PRO:HA	41:U:31:PHE:HA	1.98	0.45
43:W:78:ALA:HB1	43:W:97:LEU:HB3	1.99	0.45
47:B:83:C:C5’	49:1:52:HIS:CE1	2.99	0.45
48:A:314:G:O2’	48:A:321:G:O2’	2.35	0.45
48:A:1040:U:H2’	48:A:1041:A:C8	2.52	0.45
48:A:1611:A:HO2’	48:A:1612:U:H5’	1.79	0.45
1:a:1035:A:O2’	2:c:156:ARG:NH2	2.45	0.45
1:a:1278:C:OP1	20:m:44:ARG:NH2	2.49	0.45
1:a:1337:A:H2’	1:a:1338:G:C8	2.51	0.45
1:a:1436:G:H3’	1:a:1436:G:OP2	2.17	0.45
2:c:63:VAL:HG12	2:c:98:VAL:HA	1.97	0.45
2:c:139:SER:O	2:c:142:ARG:HB2	2.16	0.45
4:g:51:ARG:HB2	4:g:58:PRO:HG3	1.99	0.45
18:d:165:TRP:CD2	18:d:181:PRO:HB3	2.51	0.45
19:f:20:ALA:O	19:f:24:GLU:HB2	2.15	0.45
23:C:221:VAL:HG21	48:A:897:A:C8	2.51	0.45
27:G:3:ARG:NH1	48:A:2975:G:OP2	2.43	0.45
30:J:40:PHE:HZ	30:J:58:VAL:HG11	1.81	0.45
31:K:114:LEU:HD23	31:K:117:GLN:HE21	1.81	0.45
33:M:61:LEU:HD12	54:6:14:PHE:HZ	1.81	0.45
35:O:16:HIS:C	35:O:16:HIS:ND1	2.73	0.45
35:O:26:THR:CG2	35:O:75:VAL:HG21	2.46	0.45
48:A:605:G:OP2	51:3:14:ARG:NH2	2.49	0.45
48:A:1414:G:N1	48:A:1858:A:OP2	2.36	0.45
48:A:1570:C:C4	48:A:1602:U:O2	2.69	0.45
1:a:846:A:P	3:e:115:ALA:O	2.74	0.45
1:a:1324:C:O2’	6:i:146:GLN:HB2	2.15	0.45
1:a:1333:U:O4’	4:g:33:GLU:OE1	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:53:ASP:HB3	2:c:68:HIS:HB2	1.99	0.45
7:j:57:LYS:O	7:j:58:TYR:CD2	2.69	0.45
25:E:145:LEU:HA	25:E:148:LEU:CD1	2.38	0.45
35:O:38:GLU:OE2	35:O:99:LYS:NZ	2.50	0.45
36:P:43:SER:OG	47:B:29:C:OP2	2.19	0.45
42:V:4:HIS:ND1	42:V:96:ARG:CZ	2.67	0.45
48:A:273:A:H61	48:A:314:G:H1'	1.81	0.45
48:A:805:C:O2'	48:A:895:G:OP1	2.27	0.45
48:A:2515:U:H2'	48:A:2516:U:C6	2.51	0.45
1:a:71:C:H2'	1:a:72:G:C8	2.52	0.45
15:v:24:C:H2'	15:v:25:U:C6	2.52	0.45
23:C:143:HIS:ND1	23:C:194:GLY:O	2.39	0.45
24:D:155:ALA:CB	48:A:2277:G:H5'	2.47	0.45
24:D:155:ALA:CB	48:A:2277:G:H5"	2.46	0.45
25:E:124:ILE:H	25:E:124:ILE:HG13	1.48	0.45
26:F:44:ASN:ND2	26:F:45:MET:H	2.14	0.45
43:W:6:ASN:ND2	43:W:6:ASN:C	2.75	0.45
47:B:5:C:OP1	47:B:61:C:O2'	2.23	0.45
47:B:22:A:H8	47:B:22:A:O5'	1.99	0.45
1:a:256:U:H2'	1:a:257:G:H8	1.82	0.45
1:a:1185:A:H2'	1:a:1186:U:O4'	2.16	0.45
15:v:1:C:H2'	15:v:2:G:H8	1.82	0.45
18:d:188:VAL:HG22	18:d:189:PRO:HD2	1.99	0.45
29:I:49:TYR:HD1	29:I:80:ALA:HB2	1.81	0.45
31:K:76:ARG:HG2	31:K:76:ARG:O	2.17	0.45
42:V:96:ARG:CZ	42:V:96:ARG:CB	2.94	0.45
43:W:83:LEU:HD12	43:W:92:ILE:HD12	1.95	0.45
43:W:101:GLN:CB	43:W:104:GLU:CB	2.88	0.45
48:A:1515:C:N4	48:A:1516:G:O6	2.50	0.45
52:4:19:LYS:HD2	52:4:44:ASN:CG	2.39	0.45
1:a:655:A:C2	8:k:127:HIS:NE2	2.84	0.45
1:a:701:G:C8	12:r:62:ARG:NH2	2.83	0.45
1:a:730:C:O2'	10:o:22:THR:N	2.49	0.45
1:a:1097:G:C2'	6:i:126:ARG:NH1	2.75	0.45
1:a:1221:U:H1'	4:g:38:LEU:HD22	1.99	0.45
1:a:1323:U:H2'	1:a:1324:C:H6	1.82	0.45
2:c:133:MET:C	2:c:135:LYS:N	2.73	0.45
3:e:179:ALA:HB2	3:e:189:VAL:CG2	2.36	0.45
9:l:58:THR:C	9:l:60:GLN:H	2.24	0.45
25:E:144:PHE:CE1	25:E:148:LEU:CD1	2.97	0.45
27:G:165:TYR:HB2	27:G:168:GLU:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:N:124:LYS:HD2	48:A:2708:G:H1'	1.99	0.45
35:O:116:VAL:HB	35:O:118:GLU:HB3	1.98	0.45
48:A:1560:U:O2	48:A:1561:C:C5	2.70	0.45
48:A:1574:G:C2'	48:A:1575:A:H8	2.27	0.45
48:A:2585:U:P	54:6:24:ARG:HH12	2.35	0.45
55:7:7:VAL:CG1	55:7:36:GLN:HB2	2.47	0.45
1:a:439:U:O2	18:d:115:HIS:CE1	2.67	0.45
1:a:476:A:H5'	1:a:477:G:OP2	2.16	0.45
1:a:504:G:H2'	1:a:505:C:C6	2.51	0.45
1:a:976:A:N7	1:a:1197:U:H4'	2.31	0.45
1:a:1436:G:H3'	1:a:1436:G:P	2.57	0.45
17:b:54:TYR:OH	17:b:223:GLU:OE1	2.29	0.45
23:C:63:ARG:NH1	48:A:1788:G:OP2	2.50	0.45
25:E:9:THR:HG22	25:E:128:THR:CG2	2.47	0.45
26:F:6:LYS:CE	26:F:6:LYS:N	2.79	0.45
48:A:1411:G:OP1	48:A:2933:G:O2'	2.26	0.45
49:1:8:GLN:HG2	49:1:31:ILE:HA	1.99	0.45
1:a:965:A:H1'	1:a:1029:U:O2	2.17	0.45
2:c:10:PHE:HD2	2:c:11:ARG:HH21	1.64	0.45
18:d:11:LYS:HD3	18:d:58:PHE:HB3	1.98	0.45
18:d:31:TYR:HA	18:d:32:PRO:HD3	1.87	0.45
19:f:77:ARG:NH2	23:C:126:LYS:HA	2.31	0.45
26:F:26:GLU:OE1	26:F:27:PHE:CE2	2.70	0.45
30:J:114:LYS:HA	30:J:117:ASP:HB3	1.98	0.45
35:O:9:ARG:CD	35:O:14:SER:HB3	2.47	0.45
41:U:83:ILE:HD13	48:A:1456:G:C4	2.51	0.45
42:V:47:VAL:C	42:V:56:SER:CA	2.86	0.45
43:W:38:TYR:CD2	43:W:38:TYR:O	2.70	0.45
43:W:124:VAL:HG12	43:W:181:VAL:HG22	1.99	0.45
47:B:79:A:N1	47:B:94:G:O6	2.49	0.45
48:A:1580:A:N1	48:A:1592:G:N9	2.55	0.45
48:A:1976:A:O2'	48:A:2938:G:O2'	2.32	0.45
49:1:15:ALA:HB3	49:1:20:ARG:HG3	1.98	0.45
1:a:948:G:N2	6:i:149:LYS:HE3	2.32	0.45
1:a:1221:U:C2	4:g:42:ILE:CD1	3.00	0.45
4:g:151:PHE:CZ	8:k:65:ARG:CG	2.99	0.45
5:h:8:ALA:O	5:h:12:THR:OG1	2.30	0.45
6:i:55:LEU:HD21	6:i:68:ILE:HD11	1.98	0.45
25:E:151:ASN:O	25:E:152:LYS:CB	2.57	0.45
34:N:60:ARG:NE	48:A:1194:C:P	2.89	0.45
34:N:74:LEU:HD12	34:N:94:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:O:20:LEU:HD23	35:O:20:LEU:O	2.17	0.45
36:P:88:ILE:O	36:P:92:ALA:CB	2.65	0.45
48:A:2:A:H2'	48:A:3:A:C8	2.52	0.45
48:A:1573:U:O2	48:A:1575:A:C6	2.70	0.45
1:a:47:C:OP1	21:p:14:ARG:NE	2.48	0.44
1:a:1312:U:C2'	1:a:1313:G:H5'	2.46	0.44
6:i:135:LYS:HB2	6:i:138:LEU:HD12	1.99	0.44
7:j:26:VAL:O	7:j:30:THR:CB	2.65	0.44
15:v:6:G:H1	15:v:68:C:H42	1.63	0.44
20:m:4:LEU:HG	20:m:5:VAL:HG23	1.99	0.44
27:G:60:ARG:HA	27:G:63:ARG:HH21	1.82	0.44
32:L:71:ARG:NH2	32:L:105:GLU:HG3	2.32	0.44
40:T:7:PHE:O	40:T:7:PHE:CD1	2.70	0.44
42:V:77:ASP:OD1	42:V:77:ASP:N	2.49	0.44
48:A:961:U:O2'	48:A:963:U:O4	2.32	0.44
48:A:1296:G:H2'	48:A:1297:G:C8	2.52	0.44
48:A:1562:C:O2'	48:A:1563:A:C8	2.71	0.44
48:A:1754:G:C6	48:A:1759:A:N1	2.85	0.44
48:A:3070:G:H4'	48:A:3071:A:H5'	1.99	0.44
50:2:41:CYS:CB	50:2:44:PHE:CZ	2.86	0.44
50:2:41:CYS:O	50:2:44:PHE:CE2	2.70	0.44
50:2:60:ARG:NH1	50:2:64:ARG:CZ	2.78	0.44
52:4:20:HIS:CD2	52:4:20:HIS:O	2.71	0.44
1:a:185:G:H1	1:a:203:U:H3	1.64	0.44
1:a:350:G:OP1	14:t:3:ASN:N	2.51	0.44
1:a:703:U:O2'	1:a:704:G:P	2.75	0.44
3:e:135:ALA:HB1	3:e:162:VAL:HG23	1.97	0.44
6:i:40:ARG:CZ	6:i:84:TYR:HD2	2.28	0.44
8:k:96:LYS:HG3	8:k:97:GLY:H	1.82	0.44
26:F:29:TYR:CD2	26:F:34:GLN:OE1	2.70	0.44
26:F:32:VAL:CG2	47:B:55:G:H4'	2.46	0.44
31:K:5:THR:CG2	48:A:624:G:H4'	2.47	0.44
34:N:108:TYR:CD2	34:N:110:ASP:OD1	2.70	0.44
35:O:4:PRO:HG2	48:A:3094:A:C2	2.51	0.44
36:P:37:ARG:HD2	36:P:103:ASP:HB2	1.99	0.44
39:S:76:HIS:HE1	39:S:85:HIS:CD2	2.35	0.44
43:W:98:LEU:C	43:W:98:LEU:CD2	2.90	0.44
48:A:944:A:C8	48:A:2472:C:H5'	2.53	0.44
48:A:1563:A:H61	48:A:1607:C:N4	2.15	0.44
48:A:1564:A:C2'	48:A:1565:A:C5'	2.86	0.44
48:A:1597:G:C5	48:A:1598:U:H5	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:2007:C:OP2	48:A:2045:G:N1	2.46	0.44
50:2:41:CYS:CA	50:2:43:PRO:HD2	2.47	0.44
52:4:15:CYS:HB3	52:4:20:HIS:H	1.81	0.44
52:4:19:LYS:O	52:4:20:HIS:CG	2.70	0.44
55:7:7:VAL:HG22	55:7:36:GLN:NE2	2.32	0.44
1:a:31:G:H2'	1:a:32:G:O4'	2.17	0.44
1:a:85:C:H4'	1:a:86:G:H8	1.82	0.44
1:a:100:G:C2'	1:a:101:G:H5"	2.46	0.44
1:a:655:A:N3	8:k:127:HIS:CD2	2.85	0.44
1:a:1059:G:H2'	1:a:1060:A:C8	2.52	0.44
1:a:1303:U:H1'	13:s:73:GLU:OE2	2.17	0.44
2:c:156:ARG:HE	2:c:193:PHE:HB3	1.80	0.44
15:v:55:U:C2'	15:v:56:U:C5'	2.94	0.44
22:u:26:VAL:HG11	48:A:2157:G:O3'	2.17	0.44
26:F:120:ASP:O	26:F:122:ARG:HD3	2.17	0.44
35:O:72:ASP:O	35:O:76:VAL:HG23	2.18	0.44
35:O:80:PHE:O	35:O:84:GLY:CA	2.65	0.44
41:U:58:ASN:HB2	41:U:83:ILE:HG12	1.99	0.44
48:A:325:U:O4	48:A:450:G:O6	2.36	0.44
1:a:67:C:H5'	1:a:68:G:OP2	2.17	0.44
1:a:104:A:H62	14:t:10:ARG:HH21	1.55	0.44
1:a:404:G:OP1	18:d:114:SER:OG	2.36	0.44
1:a:419:C:C2	1:a:425:G:N2	2.85	0.44
1:a:951:A:OP1	7:j:57:LYS:NZ	2.46	0.44
14:t:4:ILE:CD1	14:t:8:ILE:CG1	2.90	0.44
19:f:30:ILE:HD11	19:f:75:LEU:HB2	1.99	0.44
25:E:7:VAL:O	25:E:14:THR:CA	2.55	0.44
25:E:131:VAL:O	25:E:133:GLY:N	2.49	0.44
26:F:11:LEU:CD2	26:F:108:ASP:N	2.80	0.44
32:L:76:TYR:HB2	37:Q:72:THR:HB	1.98	0.44
34:N:60:ARG:NH1	48:A:1194:C:OP2	2.49	0.44
35:O:48:ALA:O	35:O:52:ILE:HG13	2.18	0.44
36:P:108:THR:CB	47:B:47:A:O2'	2.64	0.44
47:B:34:G:O2'	47:B:35:G:C5	2.70	0.44
48:A:1921:G:H2'	48:A:1922:G:C8	2.53	0.44
48:A:2339:G:H3'	48:A:2340:A:H8	1.83	0.44
1:a:1400:A:H5'	22:u:31:LEU:HD21	1.98	0.44
15:v:21:U:H6	15:v:21:U:O5'	2.01	0.44
17:b:164:VAL:HA	17:b:186:ILE:HG22	2.00	0.44
35:O:33:ARG:HB2	35:O:114:GLU:HG2	2.00	0.44
35:O:52:ILE:HD12	35:O:94:TYR:CB	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:254:G:H4'	48:A:472:C:H4'	1.99	0.44
48:A:681:C:H2'	48:A:682:A:C8	2.53	0.44
48:A:1537:U:H2'	48:A:1538:G:H8	1.82	0.44
48:A:1586:C:H2'	48:A:1587:G:O4'	2.18	0.44
1:a:409:G:H2'	1:a:410:G:O4'	2.18	0.44
1:a:827:U:O5'	1:a:827:U:H6	2.01	0.44
1:a:858:A:H4'	5:h:15:ARG:HH12	1.78	0.44
1:a:928:A:O2'	1:a:1315:A:N3	2.48	0.44
1:a:1341:C:H3'	16:n:35:ARG:NH2	2.33	0.44
11:q:9:TYR:CD2	11:q:9:TYR:O	2.70	0.44
23:C:256:ARG:O	48:A:2014:G:O3'	2.34	0.44
26:F:34:GLN:HG3	47:B:57:U:C1'	2.44	0.44
27:G:108:LEU:HD13	27:G:153:ARG:HG2	1.98	0.44
34:N:39:HIS:HB3	34:N:99:PRO:HD3	1.99	0.44
35:O:20:LEU:C	35:O:20:LEU:CD2	2.85	0.44
35:O:25:ALA:O	35:O:29:PHE:CD2	2.70	0.44
46:Z:44:ASN:ND2	48:A:58:G:OP1	2.50	0.44
48:A:130:C:H2'	48:A:131:A:C8	2.53	0.44
48:A:478:A:H4'	48:A:479:A:H5'	1.98	0.44
48:A:569:G:O2'	48:A:594:U:O4	2.35	0.44
48:A:742:G:O2'	48:A:2575:G:OP1	2.36	0.44
48:A:895:G:O2'	48:A:898:A:N6	2.51	0.44
1:a:323:U:C5'	14:t:21:ASN:HD22	2.26	0.44
1:a:664:U:C1'	8:k:49:ASN:ND2	2.80	0.44
1:a:673:G:O2'	4:g:81:GLY:O	2.33	0.44
3:e:103:GLY:HA2	3:e:201:SER:HB3	1.99	0.44
6:i:37:VAL:HG21	6:i:99:LEU:HD12	1.99	0.44
7:j:47:ASN:HB2	7:j:67:MET:HB3	1.99	0.44
17:b:211:ALA:O	17:b:214:THR:OG1	2.28	0.44
18:d:186:ILE:HG22	18:d:188:VAL:HB	2.00	0.44
23:C:51:THR:HG21	23:C:54:LYS:CE	2.47	0.44
24:D:60:ARG:HH22	48:A:3055:G:H5'	1.82	0.44
25:E:24:LEU:HD23	25:E:208:ASN:OD1	2.17	0.44
31:K:112:ASN:OD1	48:A:650:G:OP1	2.31	0.44
32:L:4:GLN:HE22	48:A:2176:A:H61	1.66	0.44
37:Q:50:GLN:HB2	37:Q:57:THR:HG22	1.99	0.44
38:R:26:GLY:O	38:R:30:ARG:NH1	2.51	0.44
47:B:19:G:N2	47:B:64:G:H1	1.99	0.44
48:A:176:G:H3'	48:A:177:G:H8	1.83	0.44
48:A:1159:C:H2'	48:A:1160:G:H8	1.82	0.44
48:A:2238:A:H2'	48:A:2239:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:2375:G:H2'	48:A:2376:G:C8	2.52	0.44
48:A:2616:A:H5"	54:6:28:ASN:ND2	2.33	0.44
1:a:613:G:H2'	1:a:614:C:C6	2.53	0.44
1:a:1197:U:H5"	16:n:5:ALA:CB	2.46	0.44
2:c:67:ILE:HD11	2:c:102:ILE:HG12	2.00	0.44
5:h:8:ALA:O	5:h:12:THR:CB	2.66	0.44
15:v:57:C:C1'	26:F:80:SER:O	2.66	0.44
19:f:53:ALA:O	19:f:55:HIS:ND1	2.50	0.44
24:D:157:PRO:HD2	24:D:158:GLY:H	1.82	0.44
25:E:121:ASN:ND2	33:M:3:VAL:HG23	2.33	0.44
25:E:171:ASN:ND2	25:E:171:ASN:O	2.51	0.44
26:F:6:LYS:N	26:F:6:LYS:HE3	2.32	0.44
35:O:46:PRO:HG2	35:O:47:TYR:N	2.32	0.44
35:O:68:LYS:HB2	48:A:2932:G:H5'	1.99	0.44
37:Q:49:ARG:NE	37:Q:56:GLU:OE2	2.50	0.44
40:T:7:PHE:N	40:T:8:PRO:CD	2.81	0.44
42:V:100:THR:O	42:V:101:ASN:HB2	2.17	0.44
44:X:15:ASP:CB	48:A:2487:C:N4	2.75	0.44
48:A:1593:U:H2'	48:A:1594:G:OP1	2.17	0.44
1:a:265:G:O2'	1:a:266:G:O5'	2.30	0.44
1:a:1169:A:C4'	16:n:60:SER:HG	2.22	0.44
1:a:1278:C:H5"	20:m:44:ARG:HH22	1.81	0.44
2:c:128:ALA:N	3:e:19:ARG:HD3	2.33	0.44
12:r:57:CYS:SG	12:r:60:HIS:ND1	2.84	0.44
15:v:54:G:C6	15:v:55:U:O4	2.70	0.44
23:C:37:LEU:CD2	23:C:62:TYR:CD1	3.01	0.44
26:F:56:LEU:O	26:F:59:GLY:N	2.51	0.44
32:L:93:PRO:HD2	32:L:113:LYS:HD3	2.00	0.44
35:O:117:ARG:CG	35:O:118:GLU:N	2.73	0.44
41:U:94:ASP:C	41:U:96:PHE:N	2.75	0.44
42:V:99:LYS:HA	42:V:99:LYS:HD2	1.64	0.44
43:W:14:ASN:OD1	43:W:14:ASN:N	2.48	0.44
48:A:351:G:N2	48:A:444:U:O4	2.40	0.44
48:A:621:U:H2'	48:A:622:C:C6	2.53	0.44
48:A:1525:U:H2'	48:A:1526:A:C8	2.53	0.44
48:A:1525:U:H2'	48:A:1526:A:H8	1.83	0.44
48:A:1612:U:O5'	48:A:1612:U:H6	1.99	0.44
48:A:2325:U:O4	48:A:2410:A:N1	2.51	0.44
1:a:397:A:H5'	1:a:398:C:OP1	2.18	0.43
1:a:613:G:H2'	1:a:614:C:H6	1.83	0.43
1:a:959:A:N6	1:a:1205:U:O5'	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1060:A:H4'	3:e:46:VAL:CG1	2.48	0.43
1:a:1421:G:OP1	14:t:29:ARG:HD3	2.18	0.43
4:g:31:LEU:HD23	4:g:33:GLU:HA	2.00	0.43
6:i:133:ARG:HG3	16:n:61:TRP:HE1	1.82	0.43
7:j:24:LYS:NZ	7:j:90:ILE:O	2.46	0.43
12:r:20:CYS:SG	12:r:21:VAL:N	2.92	0.43
17:b:141:LYS:O	17:b:145:GLU:HB2	2.18	0.43
19:f:77:ARG:HH22	23:C:126:LYS:CB	2.30	0.43
24:D:159:ARG:HG3	24:D:159:ARG:H	1.57	0.43
29:I:57:VAL:HA	29:I:60:ALA:HB3	2.00	0.43
34:N:108:TYR:CE2	34:N:110:ASP:OD1	2.70	0.43
42:V:97:ILE:CD1	42:V:104:ASP:HA	2.48	0.43
44:X:64:PRO:CB	48:A:759:G:H1	2.18	0.43
48:A:286:G:H21	48:A:287:A:H62	1.66	0.43
48:A:947:U:H2'	48:A:948:G:H8	1.83	0.43
48:A:1570:C:O2'	48:A:1571:C:P	2.75	0.43
48:A:1575:A:C8	48:A:1575:A:OP2	2.70	0.43
48:A:2323:G:H2'	48:A:2324:A:H8	1.83	0.43
1:a:264:U:C4	1:a:265:G:C5	3.06	0.43
1:a:404:G:O2'	1:a:478:A:N1	2.48	0.43
1:a:495:G:C5	1:a:496:U:C5	3.06	0.43
1:a:1271:A:H2'	1:a:1272:G:H5'	2.00	0.43
11:q:41:GLU:OE2	11:q:54:ARG:NH1	2.51	0.43
20:m:67:GLU:O	20:m:71:ARG:CG	2.66	0.43
26:F:32:VAL:CG2	47:B:55:G:C5'	2.96	0.43
31:K:5:THR:HG21	48:A:624:G:O3'	2.18	0.43
40:T:41:ASP:OD2	51:3:38:LYS:HB2	2.17	0.43
44:X:75:ARG:NE	48:A:2558:C:N4	2.63	0.43
46:Z:48:ARG:HD2	48:A:58:G:OP1	2.18	0.43
47:B:89:C:P	47:B:89:C:C6	3.09	0.43
48:A:196:A:H2	48:A:2658:A:H62	1.67	0.43
48:A:891:G:N2	48:A:2465:A:OP1	2.51	0.43
48:A:1551:U:H3'	48:A:1552:A:H8	1.83	0.43
48:A:1551:U:C4	48:A:1619:U:O4	2.71	0.43
48:A:1576:C:O2	48:A:1577:C:C4	2.71	0.43
52:4:19:LYS:O	52:4:21:ARG:NH2	2.51	0.43
1:a:104:A:H61	14:t:10:ARG:NH2	2.04	0.43
1:a:413:G:H2'	1:a:428:G:H21	1.83	0.43
1:a:505:C:OP1	9:l:86:ARG:HD3	2.19	0.43
1:a:519:A:H2'	1:a:520:G:H8	1.80	0.43
1:a:1425:G:H5'	1:a:1426:C:C5	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:i:40:ARG:NH2	6:i:84:TYR:HD2	2.15	0.43
19:f:5:GLU:HB3	19:f:91:LEU:HD12	1.99	0.43
23:C:97:TYR:CD2	23:C:101:GLU:HG3	2.51	0.43
25:E:77:GLY:N	48:A:789:G:H5"	2.33	0.43
25:E:83:GLN:H	25:E:83:GLN:HG2	1.42	0.43
25:E:118:ARG:NH2	25:E:189:LEU:HA	2.34	0.43
26:F:9:PRO:HG2	26:F:12:LYS:HE3	2.00	0.43
26:F:185:LYS:O	26:F:185:LYS:HG3	2.18	0.43
29:I:48:THR:N	29:I:81:PHE:O	2.47	0.43
31:K:18:ILE:HD13	31:K:18:ILE:HG21	1.80	0.43
35:O:79:LEU:C	35:O:79:LEU:CD2	2.86	0.43
36:P:43:SER:HB3	36:P:46:HIS:H	1.83	0.43
43:W:80:THR:HG21	43:W:83:LEU:CD2	2.48	0.43
48:A:1439:G:H3'	48:A:1440:C:H4'	2.00	0.43
48:A:1583:U:C2	48:A:1584:U:O4	2.71	0.43
48:A:1590:G:C6	48:A:1591:U:O4	2.70	0.43
49:1:19:GLN:HG2	49:1:50:VAL:HG12	1.98	0.43
1:a:203:U:H2'	1:a:204:A:C8	2.52	0.43
1:a:251:G:N1	1:a:266:G:C6	2.87	0.43
1:a:502:C:N4	9:l:50:ARG:NH1	2.65	0.43
1:a:946:A:HO2'	7:j:57:LYS:HD3	1.78	0.43
1:a:1080:C:C5	17:b:95:ARG:NH2	2.86	0.43
1:a:1148:U:H2'	1:a:1148:U:OP1	2.18	0.43
7:j:26:VAL:O	7:j:30:THR:HB	2.18	0.43
10:o:8:LYS:HG3	10:o:31:LEU:HD22	2.00	0.43
12:r:39:ARG:HH12	12:r:78:PRO:HD3	1.83	0.43
13:s:9:PRO:CG	13:s:40:ILE:HD11	2.48	0.43
13:s:20:ASP:O	13:s:23:ASN:OD1	2.36	0.43
16:n:21:TYR:HE2	16:n:23:ARG:HE	1.65	0.43
23:C:35:ARG:CZ	23:C:35:ARG:CB	2.92	0.43
35:O:33:ARG:CD	35:O:114:GLU:HG2	2.44	0.43
40:T:18:ARG:HH12	48:A:1436:C:H2'	1.84	0.43
42:V:4:HIS:CD2	42:V:96:ARG:NH1	2.86	0.43
42:V:83:VAL:CG1	42:V:96:ARG:CG	2.95	0.43
43:W:37:LEU:CD2	43:W:47:LEU:HD11	2.48	0.43
47:B:84:C:C5	47:B:85:C:N3	2.86	0.43
47:B:89:C:C5	47:B:89:C:OP2	2.70	0.43
48:A:76:C:O2'	48:A:428:A:N3	2.48	0.43
48:A:1189:G:O2'	48:A:1207:G:OP2	2.35	0.43
48:A:1478:C:O2'	48:A:2026:A:N3	2.51	0.43
48:A:2515:U:OP1	48:A:2604:U:O2'	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:3022:G:H2'	48:A:3023:G:C8	2.53	0.43
1:a:806:C:H5'	5:h:13:ARG:CZ	2.49	0.43
1:a:963:U:H5'	16:n:21:TYR:CE1	2.54	0.43
3:e:59:THR:HA	3:e:76:GLY:O	2.18	0.43
6:i:89:GLY:O	6:i:95:GLN:NE2	2.45	0.43
14:t:28:LEU:HD22	14:t:58:LEU:HD23	1.99	0.43
26:F:40:LYS:HG2	26:F:164:VAL:HB	2.00	0.43
31:K:37:ARG:NH1	48:A:1125:C:OP1	2.46	0.43
33:M:51:GLU:OE2	54:6:57:ARG:NE	2.49	0.43
39:S:26:LYS:NZ	48:A:1281:G:O3'	2.51	0.43
43:W:102:ARG:HH21	43:W:138:LEU:CD2	2.22	0.43
43:W:105:LYS:NZ	43:W:136:GLU:N	2.66	0.43
46:Z:62:ARG:NH2	46:Z:66:LEU:HB2	2.29	0.43
46:Z:63:GLU:O	46:Z:64:ARG:C	2.62	0.43
48:A:241:A:H61	48:A:255:A:H5"	1.83	0.43
48:A:325:U:H2'	48:A:326:A:C8	2.52	0.43
1:a:20:A:H4'	3:e:47:SER:H	1.82	0.43
1:a:144:G:H2'	1:a:145:G:C8	2.53	0.43
1:a:532:U:H4'	9:l:83:ARG:HD3	2.00	0.43
1:a:588:A:C2	1:a:589:A:H1'	2.53	0.43
8:k:43:ILE:CD1	8:k:51:ILE:HD13	2.17	0.43
20:m:23:TYR:CD2	20:m:70:LEU:HB3	2.53	0.43
26:F:34:GLN:HB2	47:B:57:U:O4'	2.18	0.43
26:F:182:PHE:HA	26:F:183:PRO:HD3	1.89	0.43
29:I:57:VAL:O	29:I:61:ALA:N	2.51	0.43
34:N:59:LYS:C	34:N:60:ARG:CG	2.90	0.43
34:N:111:GLU:C	34:N:111:GLU:CD	2.86	0.43
36:P:44:ALA:O	36:P:77:LYS:NZ	2.44	0.43
40:T:35:SER:O	40:T:39:ALA:N	2.51	0.43
41:U:4:ILE:CD1	41:U:4:ILE:N	2.82	0.43
42:V:28:PRO:HG3	48:A:82:G:O3'	2.19	0.43
45:Y:34:GLN:OE1	48:A:2452:G:N2	2.44	0.43
48:A:334:G:H2'	48:A:335:G:H8	1.84	0.43
48:A:1000:C:H2'	48:A:1001:C:H5"	2.00	0.43
48:A:2422:A:N1	48:A:2450:C:N4	2.64	0.43
53:5:22:ARG:O	53:5:26:ARG:CD	2.58	0.43
1:a:350:G:OP1	14:t:3:ASN:CG	2.62	0.43
1:a:965:A:H5'	1:a:966:C:OP2	2.18	0.43
1:a:1081:A:N7	17:b:171:ILE:HG23	2.33	0.43
1:a:1260:A:H5"	7:j:9:ARG:HH12	1.84	0.43
2:c:41:LEU:HD23	2:c:90:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:g:107:PHE:CE2	4:g:137:ARG:HG3	2.54	0.43
13:s:9:PRO:CG	13:s:40:ILE:CD1	2.96	0.43
15:v:55:U:H2'	15:v:56:U:C5'	2.49	0.43
23:C:58:HIS:CE1	48:A:1788:G:H21	2.28	0.43
24:D:143:ALA:HB1	48:A:1875:U:H4'	2.00	0.43
24:D:151:ILE:HD11	24:D:166:MET:HE3	1.99	0.43
25:E:103:PRO:HD2	25:E:106:MET:HE3	2.00	0.43
27:G:35:LEU:HD13	27:G:76:LEU:HD22	2.00	0.43
27:G:61:ARG:O	27:G:65:LEU:CB	2.67	0.43
31:K:13:ARG:NH2	31:K:121:LYS:HZ3	2.13	0.43
31:K:77:HIS:CD2	31:K:77:HIS:C	2.97	0.43
33:M:61:LEU:HD12	54:6:14:PHE:CZ	2.52	0.43
48:A:334:G:H1	48:A:347:U:H3	1.66	0.43
48:A:1566:A:H1'	48:A:1605:G:N1	2.23	0.43
48:A:1598:U:O4	48:A:1601:G:O6	2.36	0.43
48:A:2163:U:OP1	48:A:2828:U:O2'	2.29	0.43
48:A:2879:G:O2'	48:A:2888:G:O6	2.35	0.43
48:A:3012:U:O2'	48:A:3030:A:N3	2.39	0.43
50:2:60:ARG:CG	50:2:60:ARG:NH1	2.81	0.43
1:a:951:A:H61	6:i:150:ARG:NH2	2.15	0.43
1:a:1414:C:P	37:Q:106:LYS:HZ1	2.31	0.43
1:a:1515:A:H8	1:a:1515:A:O5'	2.01	0.43
4:g:148:ASN:N	4:g:148:ASN:ND2	2.65	0.43
8:k:127:HIS:O	8:k:127:HIS:ND1	2.52	0.43
19:f:44:GLY:HA2	19:f:59:ILE:HA	2.00	0.43
22:u:11:ARG:HG2	22:u:11:ARG:HH11	1.84	0.43
23:C:241:SER:N	48:A:2195:U:O2	2.52	0.43
25:E:103:PRO:HG3	48:A:773:G:O2'	2.18	0.43
32:L:8:LEU:HD22	32:L:84:ALA:HB2	2.01	0.43
41:U:4:ILE:O	41:U:5:THR:HB	2.18	0.43
41:U:83:ILE:HD11	48:A:1456:G:H21	1.63	0.43
43:W:21:LYS:O	43:W:25:ARG:HG2	2.19	0.43
46:Z:44:ASN:O	46:Z:47:LEU:N	2.51	0.43
48:A:181:A:N3	48:A:521:C:O2'	2.47	0.43
48:A:1581:C:C2'	48:A:1582:C:H6	2.30	0.43
48:A:2374:U:H2'	48:A:2375:G:H8	1.81	0.43
48:A:2510:A:N6	52:4:25:THR:OG1	2.52	0.43
48:A:2616:A:H5"	54:6:28:ASN:HD22	1.84	0.43
1:a:256:U:H2'	1:a:257:G:C8	2.54	0.43
1:a:828:G:C6	1:a:829:G:C6	3.06	0.43
1:a:1493:C:OP1	22:u:8:ARG:NH2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:t:5:LYS:HB2	14:t:5:LYS:HE3	1.94	0.43
20:m:79:ARG:HA	20:m:82:ILE:HG22	2.00	0.43
24:D:185:VAL:HG22	24:D:192:LEU:HG	2.01	0.43
26:F:64:LEU:HD12	26:F:72:PRO:HB2	2.00	0.43
41:U:68:ARG:CG	41:U:69:THR:H	2.31	0.43
42:V:97:ILE:HD13	42:V:103:LYS:O	2.16	0.43
43:W:54:PHE:HE2	43:W:92:ILE:HG21	1.84	0.43
43:W:77:LEU:HD13	43:W:100:VAL:CB	2.49	0.43
46:Z:57:VAL:O	46:Z:61:LEU:HG	2.19	0.43
48:A:802:C:OP1	53:5:9:GLN:HG3	2.19	0.43
48:A:947:U:H2'	48:A:948:G:C8	2.53	0.43
48:A:1581:C:N4	48:A:1590:G:N3	2.66	0.43
48:A:1586:C:O5'	48:A:1586:C:C6	2.70	0.43
52:4:35:ARG:HA	52:4:35:ARG:HD2	1.80	0.43
1:a:104:A:N6	14:t:10:ARG:CZ	2.82	0.43
1:a:207:G:C5'	14:t:52:HIS:CE1	2.97	0.43
2:c:147:LYS:HB3	2:c:203:TYR:HD2	1.84	0.43
14:t:8:ILE:O	14:t:11:ILE:N	2.52	0.43
15:v:9:G:N2	15:v:47:A:OP2	2.50	0.43
16:n:14:PRO:HG3	16:n:20:ALA:HB2	2.01	0.43
25:E:9:THR:HG22	25:E:128:THR:HG23	2.01	0.43
26:F:32:VAL:O	26:F:35:ILE:HD11	2.19	0.43
31:K:15:TRP:CE3	31:K:55:ILE:HD11	2.54	0.43
43:W:62:GLY:C	43:W:63:THR:HG23	2.44	0.43
43:W:105:LYS:NZ	43:W:136:GLU:CG	2.76	0.43
48:A:1581:C:O2'	48:A:1582:C:H6	2.02	0.43
48:A:1621:C:H2'	48:A:1622:G:H8	1.83	0.43
48:A:2176:A:N3	48:A:2784:C:O2'	2.46	0.43
48:A:2467:U:H2'	48:A:2468:U:C6	2.54	0.43
1:a:352:C:O2	1:a:355:C:N4	2.49	0.42
1:a:1040:U:C5'	7:j:53:ARG:O	2.66	0.42
1:a:1097:G:H2'	6:i:126:ARG:HH12	1.83	0.42
2:c:122:GLN:HE22	2:c:135:LYS:NZ	2.16	0.42
12:r:21:VAL:O	12:r:25:LYS:CB	2.67	0.42
19:f:77:ARG:NH2	23:C:126:LYS:HB2	2.33	0.42
20:m:74:VAL:C	20:m:76:ALA:N	2.76	0.42
25:E:14:THR:CG2	25:E:15:ASP:H	2.15	0.42
36:P:88:ILE:O	36:P:92:ALA:HB2	2.19	0.42
43:W:113:LEU:HD12	43:W:113:LEU:HA	1.85	0.42
47:B:27:A:H2'	47:B:28:A:H8	1.83	0.42
53:5:40:LYS:O	53:5:40:LYS:HG3	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:10:G:O6	3:e:124:ALA:C	2.61	0.42
1:a:67:C:H6	1:a:67:C:H5"	1.84	0.42
1:a:485:G:C8	1:a:515:A:C4	3.08	0.42
1:a:647:G:O2'	10:o:49:ASP:O	2.37	0.42
1:a:653:G:H1	1:a:697:C:H42	1.68	0.42
1:a:730:C:H1'	10:o:22:THR:O	2.18	0.42
1:a:895:A:H4'	1:a:896:A:O5'	2.18	0.42
6:i:47:GLN:O	6:i:82:ASP:HB3	2.19	0.42
7:j:54:SER:C	7:j:56:HIS:N	2.77	0.42
23:C:23:GLU:OE2	23:C:23:GLU:HA	2.18	0.42
24:D:7:LEU:HG	24:D:207:VAL:HG22	2.01	0.42
26:F:44:ASN:HB2	48:A:2537:C:C1'	2.48	0.42
48:A:1106:A:H3'	49:1:11:SER:HB2	2.00	0.42
48:A:1512:U:OP2	48:A:1513:C:N4	2.44	0.42
48:A:1621:C:H2'	48:A:1622:G:C8	2.54	0.42
50:2:60:ARG:CD	50:2:61:PHE:N	2.83	0.42
1:a:129:C:C5'	14:t:70:ASN:OD1	2.67	0.42
1:a:206:G:HO2'	14:t:52:HIS:HE2	1.55	0.42
1:a:408:G:H4'	18:d:104:ARG:HD3	2.02	0.42
1:a:980:G:H1	1:a:1023:U:H3	1.65	0.42
1:a:1408:A:H2'	1:a:1409:A:O4'	2.19	0.42
5:h:18:ASN:ND2	5:h:74:ILE:O	2.52	0.42
15:v:62:C:H2'	15:v:63:C:H6	1.84	0.42
15:v:73:A:H2'	15:v:74:A:O4'	2.19	0.42
15:v:76:C:O2'	48:A:2288:C:C5'	2.68	0.42
17:b:114:LEU:HD21	17:b:145:GLU:HG3	2.01	0.42
29:I:51:VAL:N	48:A:1202:A:OP1	2.51	0.42
40:T:6:GLU:C	40:T:8:PRO:CD	2.85	0.42
42:V:86:ARG:CB	42:V:97:ILE:CG1	2.89	0.42
43:W:37:LEU:HD22	43:W:69:LEU:HD13	2.01	0.42
48:A:210:G:OP2	53:5:28:ARG:NH2	2.51	0.42
48:A:658:U:O2'	48:A:924:G:OP2	2.37	0.42
48:A:1174:G:H4'	48:A:1204:A:H8	1.84	0.42
48:A:1570:C:N4	48:A:1602:U:C2	2.56	0.42
48:A:1574:G:C6	48:A:1599:U:C5'	2.65	0.42
48:A:1791:A:H2'	48:A:1792:A:C8	2.54	0.42
49:1:23:LEU:HD11	49:1:53:LEU:HD22	2.00	0.42
52:4:19:LYS:CB	52:4:21:ARG:NH2	2.73	0.42
1:a:648:A:O2'	10:o:46:HIS:HB3	2.19	0.42
1:a:1138:A:H62	1:a:1159:G:H21	1.67	0.42
1:a:1206:U:H1'	13:s:78:ARG:HD3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1209:C:OP1	20:m:108:ARG:CZ	2.67	0.42
1:a:1353:G:C5'	6:i:34:GLU:CD	2.91	0.42
2:c:141:MET:SD	2:c:149:ILE:HG22	2.59	0.42
5:h:25:VAL:O	5:h:61:VAL:HA	2.20	0.42
5:h:106:ILE:HD12	5:h:115:ASP:HA	2.02	0.42
6:i:41:LEU:HD12	6:i:82:ASP:C	2.44	0.42
7:j:9:ARG:HH21	7:j:71:LYS:HD3	1.84	0.42
8:k:43:ILE:CG1	8:k:51:ILE:CG1	2.98	0.42
25:E:3:LEU:O	25:E:4:LYS:HG3	2.20	0.42
26:F:56:LEU:N	26:F:56:LEU:HD23	2.34	0.42
26:F:70:GLN:HE21	47:B:43:C:H4'	1.80	0.42
26:F:146:HIS:CE1	50:2:35:VAL:HG23	2.53	0.42
27:G:151:ARG:HH21	48:A:2968:G:H4'	1.84	0.42
30:J:59:GLU:HB3	30:J:71:ALA:HB3	2.00	0.42
41:U:38:ASN:OD1	41:U:38:ASN:N	2.46	0.42
43:W:133:ILE:HD11	43:W:144:LEU:HD11	2.00	0.42
47:B:85:C:O2	47:B:86:U:N3	2.52	0.42
1:a:905:A:H2'	1:a:906:C:O4'	2.19	0.42
1:a:1019:U:H2'	1:a:1020:G:O4'	2.20	0.42
1:a:1099:C:OP2	6:i:31:ARG:NH2	2.52	0.42
1:a:1311:G:H5'	20:m:29:ARG:HG3	2.00	0.42
1:a:1478:G:H1'	48:A:2136:A:O2'	2.19	0.42
25:E:176:HIS:CE1	48:A:708:G:O6	2.73	0.42
26:F:183:PRO:O	26:F:184:PHE:CE2	2.55	0.42
31:K:93:LEU:HG	31:K:100:VAL:HG21	2.01	0.42
40:T:7:PHE:N	40:T:8:PRO:HD3	2.34	0.42
47:B:18:C:C2	47:B:19:G:C8	3.08	0.42
48:A:760:U:H2'	48:A:761:G:C8	2.55	0.42
48:A:832:G:H3'	48:A:833:A:H8	1.83	0.42
48:A:2539:G:H2'	48:A:2540:G:C8	2.54	0.42
1:a:335:C:H2'	1:a:336:A:C8	2.55	0.42
1:a:349:A:H2'	1:a:350:G:O4'	2.18	0.42
1:a:511:U:OP1	1:a:511:U:H4'	2.20	0.42
1:a:1088:G:H5'	2:c:176:HIS:ND1	2.34	0.42
1:a:1130:C:H2'	1:a:1131:G:C8	2.54	0.42
1:a:1421:G:P	14:t:29:ARG:HD3	2.58	0.42
2:c:141:MET:HE1	2:c:170:GLU:C	2.44	0.42
23:C:67:PHE:HB3	23:C:153:ALA:HB3	2.01	0.42
23:C:132:PRO:HD2	23:C:135:ASN:ND2	2.35	0.42
24:D:154:CYS:CA	48:A:2798:G:O2'	2.61	0.42
25:E:176:HIS:HE1	48:A:708:G:O6	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:G:160:GLY:HA3	27:G:164:ARG:HH21	1.84	0.42
31:K:15:TRP:H	31:K:15:TRP:HD1	1.64	0.42
32:L:90:ASP:HB3	32:L:91:ASN:H	1.62	0.42
41:U:45:ALA:O	41:U:49:ILE:HG12	2.20	0.42
43:W:146:VAL:HG21	43:W:157:ILE:HG21	2.01	0.42
48:A:249:C:OP2	48:A:2618:C:O2'	2.33	0.42
48:A:1291:G:N2	48:A:1292:U:O3'	2.52	0.42
48:A:1898:U:N3	48:A:1981:U:OP2	2.47	0.42
48:A:2814:A:H2'	48:A:2815:C:C6	2.55	0.42
1:a:136:G:O2'	11:q:6:GLY:C	2.63	0.42
1:a:426:U:H5'	1:a:427:U:OP2	2.19	0.42
1:a:614:C:H2'	1:a:615:G:C8	2.54	0.42
1:a:645:G:C8	1:a:713:G:C2	3.08	0.42
1:a:698:A:C8	8:k:127:HIS:HB2	2.54	0.42
1:a:827:U:H2'	1:a:828:G:H5'	2.02	0.42
1:a:1194:A:N6	1:a:1196:G:N3	2.68	0.42
1:a:1216:U:H2'	1:a:1217:A:O4'	2.19	0.42
1:a:1221:U:H1'	4:g:38:LEU:CD2	2.49	0.42
1:a:1287:G:O2'	1:a:1288:A:H8	1.97	0.42
1:a:1295:U:H2'	1:a:1296:C:C6	2.55	0.42
1:a:1494:C:H2'	1:a:1495:G:C8	2.54	0.42
3:e:120:MET:O	3:e:150:ALA:HA	2.20	0.42
6:i:37:VAL:HG11	6:i:99:LEU:HA	2.01	0.42
8:k:51:ILE:HG13	8:k:52:ALA:N	2.35	0.42
11:q:32:MET:HE2	11:q:32:MET:HB3	1.76	0.42
45:Y:28:ARG:NH1	45:Y:30:ASN:OD1	2.53	0.42
48:A:1678:U:H3	48:A:2926:A:H61	1.68	0.42
1:a:384:G:H2'	1:a:385:C:C6	2.54	0.42
1:a:755:G:H2'	1:a:756:G:O4'	2.19	0.42
1:a:914:C:C5	4:g:3:ARG:HD3	2.55	0.42
1:a:1209:C:O3'	20:m:116:THR:HG23	2.19	0.42
2:c:133:MET:C	2:c:135:LYS:H	2.28	0.42
5:h:53:ASP:OD1	5:h:58:LYS:NZ	2.48	0.42
14:t:4:ILE:CG2	14:t:7:GLN:N	2.74	0.42
24:D:51:GLN:HE21	24:D:81:VAL:HG11	1.84	0.42
26:F:47:VAL:HG23	26:F:92:ILE:HG22	2.02	0.42
31:K:73:PHE:CE1	31:K:88:THR:HG22	2.54	0.42
34:N:21:ALA:HB2	34:N:98:LYS:HB2	2.02	0.42
34:N:34:ILE:HD13	34:N:34:ILE:HG21	1.87	0.42
34:N:108:TYR:HB3	34:N:114:ALA:HB2	2.01	0.42
35:O:83:ILE:O	35:O:86:PHE:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:P:90:GLU:O	36:P:94:ALA:CB	2.68	0.42
41:U:21:TYR:HA	41:U:24:ILE:HG12	2.00	0.42
47:B:33:C:H2'	47:B:34:G:O4'	2.20	0.42
47:B:85:C:C6	47:B:85:C:C3'	3.02	0.42
48:A:973:G:O2'	48:A:2492:A:O2'	2.31	0.42
48:A:1007:G:H2'	48:A:1008:G:H8	1.83	0.42
48:A:1573:U:H1'	48:A:1574:G:OP1	2.20	0.42
48:A:1595:G:H5'	48:A:1596:C:N1	2.33	0.42
1:a:555:G:O2'	1:a:801:G:OP2	2.32	0.42
1:a:664:U:C4'	8:k:49:ASN:HD22	2.31	0.42
1:a:730:C:C2'	10:o:22:THR:O	2.67	0.42
1:a:747:A:H2'	1:a:748:A:O4'	2.20	0.42
1:a:964:U:C2	1:a:965:A:C6	3.07	0.42
1:a:1472:G:H2'	1:a:1473:A:H8	1.84	0.42
4:g:71:PRO:HA	4:g:142:HIS:HE1	1.85	0.42
8:k:44:THR:HG23	8:k:49:ASN:C	2.45	0.42
15:v:76:C:O2'	48:A:2288:C:H5"	2.20	0.42
23:C:44:ASN:OD1	23:C:44:ASN:N	2.50	0.42
23:C:98:LEU:HD22	23:C:98:LEU:H	1.84	0.42
25:E:189:LEU:HD13	33:M:9:LEU:HD11	2.02	0.42
26:F:56:LEU:CD2	26:F:56:LEU:N	2.83	0.42
31:K:7:LYS:HG3	48:A:626:G:OP1	2.20	0.42
34:N:61:GLY:C	34:N:108:TYR:CE1	2.95	0.42
34:N:134:ARG:HD3	43:W:129:ASN:HD21	1.85	0.42
41:U:94:ASP:C	41:U:96:PHE:H	2.21	0.42
48:A:49:A:OP2	48:A:114:G:N1	2.50	0.42
48:A:150:C:H2'	48:A:151:A:C8	2.55	0.42
48:A:406:A:N6	48:A:420:G:O2'	2.50	0.42
48:A:1243:G:OP1	55:7:22:ARG:NH1	2.53	0.42
48:A:1584:U:C6	48:A:1584:U:C3'	3.03	0.42
48:A:1690:A:H2'	48:A:1691:A:C8	2.55	0.42
48:A:2136:A:N7	48:A:2142:A:N1	2.68	0.42
48:A:2482:U:O2'	48:A:2651:C:OP2	2.35	0.42
48:A:2497:A:H2'	48:A:2498:A:C8	2.55	0.42
48:A:2643:U:H4'	52:4:24:ILE:HD13	2.01	0.42
1:a:262:G:H5'	14:t:68:HIS:CG	2.54	0.42
1:a:1132:U:O4'	7:j:41:PRO:CB	2.66	0.42
7:j:8:ILE:HG23	7:j:98:VAL:HG13	2.01	0.42
12:r:39:ARG:HA	12:r:42:ILE:HG12	2.02	0.42
14:t:4:ILE:HG12	14:t:8:ILE:CG1	2.47	0.42
24:D:47:TYR:HH	48:A:2860:U:HO2'	1.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:F:32:VAL:HG12	26:F:33:MET:N	2.34	0.42
26:F:47:VAL:CG2	26:F:48:GLY:H	2.31	0.42
26:F:121:PHE:CD2	26:F:121:PHE:O	2.72	0.42
41:U:6:ASP:CG	46:Z:23:ARG:HG3	2.44	0.42
42:V:72:MET:HE3	48:A:383:U:H5'	2.01	0.42
45:Y:37:ARG:HB3	45:Y:46:LYS:HD3	2.01	0.42
48:A:1565:A:H2	48:A:1606:G:C4	2.35	0.42
48:A:1597:G:O2'	48:A:1598:U:P	2.78	0.42
48:A:2693:A:N6	48:A:2705:G:O2'	2.51	0.42
1:a:12:A:H5'	3:e:131:ILE:HG22	2.02	0.41
1:a:101:G:H2'	1:a:102:C:O4'	2.20	0.41
1:a:604:U:H2'	1:a:605:G:H8	1.85	0.41
1:a:640:U:H2'	1:a:641:G:O4'	2.20	0.41
1:a:765:G:C6	1:a:766:G:N7	2.88	0.41
1:a:1082:A:O2'	1:a:1083:C:H5'	2.19	0.41
1:a:1359:U:O4	4:g:9:LYS:NZ	2.49	0.41
1:a:1478:G:C2	1:a:1479:U:N3	2.88	0.41
2:c:186:LEU:HA	2:c:198:VAL:O	2.20	0.41
9:l:31:ARG:HA	9:l:81:LEU:HA	2.01	0.41
15:v:9:G:H21	15:v:46:G:H3'	1.85	0.41
22:u:25:ARG:HD3	22:u:29:ARG:NH2	2.35	0.41
25:E:78:SER:OG	25:E:79:THR:N	2.53	0.41
41:U:94:ASP:O	41:U:95:LEU:HB3	2.19	0.41
43:W:40:HIS:ND1	43:W:40:HIS:O	2.53	0.41
48:A:13:G:H5"	51:3:14:ARG:HB3	2.00	0.41
48:A:1665:U:H2'	48:A:1666:A:C8	2.54	0.41
48:A:2665:C:OP2	48:A:2810:U:O2'	2.37	0.41
1:a:105:A:C6	1:a:326:G:C6	3.08	0.41
1:a:509:G:H5'	1:a:510:G:OP2	2.20	0.41
1:a:586:G:H5"	1:a:587:A:H5'	2.02	0.41
1:a:1435:U:H4'	1:a:1436:G:O5'	2.19	0.41
1:a:1480:C:H2'	1:a:1481:G:O4'	2.20	0.41
11:q:72:ASP:OD1	11:q:97:ALA:N	2.51	0.41
19:f:29:VAL:HA	19:f:32:LYS:HE2	2.02	0.41
20:m:22:ILE:HD12	20:m:25:ILE:HD12	2.02	0.41
23:C:25:THR:HG1	23:C:81:HIS:HD1	0.52	0.41
23:C:125:ILE:HG23	23:C:193:VAL:HG11	2.01	0.41
26:F:57:ILE:O	26:F:61:ILE:HG13	2.21	0.41
26:F:138:GLY:HA3	48:A:2529:A:C5'	2.27	0.41
32:L:109:LYS:HB2	32:L:109:LYS:HE3	1.74	0.41
33:M:49:MET:HB2	33:M:58:HIS:CE1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:V:2:LYS:CD	42:V:83:VAL:HB	2.49	0.41
48:A:1854:U:H2'	48:A:1855:A:H8	1.85	0.41
48:A:2255:A:N3	48:A:2679:G:O2'	2.45	0.41
50:2:41:CYS:O	50:2:44:PHE:CD2	2.73	0.41
53:5:15:ARG:NH1	53:5:47:ALA:HB1	2.35	0.41
53:5:38:ARG:CA	53:5:45:LEU:HD21	2.50	0.41
1:a:184:U:O3'	14:t:84:ASN:ND2	2.53	0.41
1:a:269:U:H2'	1:a:270:A:C8	2.55	0.41
1:a:484:C:C2	1:a:522:G:N2	2.88	0.41
1:a:1135:G:H2'	1:a:1136:A:H8	1.85	0.41
1:a:1197:U:H2'	1:a:1198:C:C6	2.55	0.41
1:a:1248:U:O2'	1:a:1249:G:O5'	2.39	0.41
1:a:1258:C:H2'	1:a:1260:A:H8	1.85	0.41
1:a:1410:C:H2'	1:a:1411:A:C8	2.56	0.41
1:a:1417:A:H2'	1:a:1418:G:O4'	2.20	0.41
2:c:147:LYS:HB3	2:c:203:TYR:CD2	2.56	0.41
11:q:26:TYR:HE1	11:q:73:ARG:HG3	1.84	0.41
18:d:60:TYR:CD2	18:d:89:LEU:HG	2.55	0.41
23:C:177:MET:HE2	23:C:183:ARG:HB3	2.02	0.41
24:D:178:GLN:NE2	48:A:2995:U:O2'	2.37	0.41
25:E:143:THR:O	25:E:147:THR:HB	2.20	0.41
35:O:116:VAL:C	35:O:118:GLU:HB2	2.44	0.41
39:S:92:GLN:HE22	48:A:1281:G:H21	1.67	0.41
42:V:89:ASP:O	42:V:91:THR:N	2.53	0.41
43:W:29:ARG:HH12	47:B:90:G:H4'	1.85	0.41
46:Z:13:LEU:HD11	46:Z:17:GLU:CD	2.44	0.41
47:B:34:G:N1	47:B:44:C:C4	2.88	0.41
50:2:64:ARG:O	50:2:66:GLY:N	2.53	0.41
52:4:19:LYS:HB2	52:4:21:ARG:CZ	2.48	0.41
1:a:178:A:C2	1:a:209:A:C4	3.08	0.41
1:a:690:G:H5"	19:f:54:LYS:NZ	2.35	0.41
3:e:142:CYS:SG	3:e:143:ALA:N	2.93	0.41
4:g:1:MET:HB2	4:g:7:ALA:HB2	2.02	0.41
11:q:40:LEU:O	11:q:56:THR:HA	2.21	0.41
24:D:124:ALA:HB3	24:D:129:ARG:HG3	2.02	0.41
30:J:90:GLY:HA2	30:J:99:VAL:HG11	2.01	0.41
36:P:68:ALA:HA	36:P:71:ARG:HB2	2.01	0.41
37:Q:57:THR:OG1	37:Q:73:PHE:O	2.24	0.41
40:T:95:ARG:HG3	40:T:101:PHE:CD2	2.55	0.41
43:W:8:PRO:O	43:W:8:PRO:HG2	2.19	0.41
47:B:27:A:H2'	47:B:28:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:600:A:H2	48:A:674:U:H4'	1.86	0.41
49:1:50:VAL:O	49:1:54:VAL:HG22	2.19	0.41
55:7:4:ASN:O	55:7:36:GLN:HA	2.20	0.41
1:a:21:U:H2'	1:a:22:C:C6	2.56	0.41
1:a:324:G:P	14:t:21:ASN:HD21	2.43	0.41
1:a:642:C:OP2	19:f:95:LYS:NZ	2.47	0.41
1:a:688:C:H2'	1:a:689:A:C8	2.55	0.41
1:a:956:A:OP1	16:n:32:SER:HB2	2.20	0.41
1:a:1363:U:O2'	1:a:1364:U:OP2	2.37	0.41
1:a:1485:C:OP2	1:a:1488:G:O2'	2.28	0.41
8:k:43:ILE:CG1	8:k:51:ILE:HD11	2.32	0.41
10:o:54:ARG:HH21	10:o:54:ARG:HD2	1.69	0.41
10:o:63:ARG:NH1	48:A:830:A:C4'	2.80	0.41
23:C:118:GLU:O	23:C:129:ASN:HB2	2.20	0.41
25:E:155:LEU:HA	25:E:155:LEU:HD12	1.84	0.41
25:E:155:LEU:HD11	25:E:178:ILE:HD11	2.01	0.41
32:L:9:LYS:O	32:L:83:ALA:HA	2.20	0.41
37:Q:28:HIS:ND1	37:Q:41:VAL:HG12	2.36	0.41
37:Q:99:LEU:HD11	37:Q:109:ILE:HD11	2.02	0.41
41:U:46:ILE:HD13	41:U:46:ILE:HA	1.86	0.41
44:X:15:ASP:CA	48:A:2486:U:O4	2.68	0.41
47:B:88:C:C3'	47:B:88:C:C6	3.03	0.41
48:A:1627:U:H2'	48:A:1628:A:H8	1.86	0.41
48:A:2593:A:H2'	48:A:2594:G:H8	1.85	0.41
48:A:2781:G:H2'	48:A:2782:C:C6	2.56	0.41
1:a:196:G:H2'	1:a:197:G:C8	2.55	0.41
1:a:454:C:OP1	21:p:72:ALA:HB2	2.21	0.41
1:a:664:U:H4'	8:k:49:ASN:ND2	2.35	0.41
1:a:832:U:H2'	1:a:833:C:C6	2.55	0.41
1:a:847:A:H2'	1:a:848:C:C6	2.55	0.41
1:a:1054:G:O2'	1:a:1081:A:N1	2.51	0.41
1:a:1384:G:C6	1:a:1385:C:C2	3.09	0.41
1:a:1423:U:H2'	1:a:1424:G:O4'	2.21	0.41
9:l:107:VAL:HB	9:l:117:TYR:HB3	2.02	0.41
23:C:58:HIS:HE1	48:A:1788:G:N2	2.12	0.41
24:D:27:THR:OG1	24:D:196:GLY:O	2.28	0.41
42:V:30:ARG:HD2	42:V:32:LYS:HD2	2.02	0.41
46:Z:48:ARG:CG	48:A:58:G:OP1	2.68	0.41
48:A:442:U:H2'	48:A:443:C:C6	2.56	0.41
48:A:1086:C:H2'	48:A:1087:G:H8	1.86	0.41
48:A:1098:A:N3	48:A:2261:U:O2'	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1578:G:H22	48:A:1592:G:H1'	1.86	0.41
48:A:1761:G:H2'	48:A:1762:C:C6	2.56	0.41
55:7:35:ARG:CG	55:7:36:GLN:N	2.82	0.41
1:a:10:G:O6	3:e:124:ALA:CB	2.67	0.41
1:a:20:A:O2'	3:e:46:VAL:HG13	2.21	0.41
1:a:262:G:C5'	14:t:68:HIS:HB2	2.50	0.41
1:a:1248:U:O2'	1:a:1249:G:C8	2.71	0.41
2:c:142:ARG:NE	2:c:143:GLN:OE1	2.51	0.41
3:e:19:ARG:H	18:d:40:ARG:HH11	1.69	0.41
10:o:64:ARG:HH11	48:A:830:A:P	2.44	0.41
14:t:15:GLU:O	14:t:18:ARG:HG3	2.21	0.41
23:C:33:LEU:O	23:C:35:ARG:N	2.54	0.41
31:K:15:TRP:O	31:K:16:TYR:CD1	2.74	0.41
31:K:27:ARG:HG3	31:K:27:ARG:NH1	2.33	0.41
36:P:77:LYS:HB3	36:P:112:ARG:HD3	2.01	0.41
40:T:117:ARG:HA	40:T:117:ARG:HD2	1.78	0.41
43:W:37:LEU:HA	43:W:97:LEU:O	2.21	0.41
47:B:79:A:N1	47:B:94:G:C6	2.88	0.41
48:A:844:G:H5'	48:A:845:C:H5"	2.01	0.41
48:A:1118:A:OP2	48:A:1273:G:N1	2.37	0.41
48:A:1551:U:O4	48:A:1618:C:N4	2.54	0.41
48:A:1576:C:O2'	48:A:1577:C:P	2.79	0.41
48:A:1580:A:N7	48:A:1592:G:C6	2.89	0.41
48:A:2643:U:H4'	52:4:24:ILE:HG21	2.02	0.41
49:1:49:THR:HG22	49:1:50:VAL:HG13	2.03	0.41
50:2:26:SER:OG	50:2:27:THR:N	2.53	0.41
50:2:38:CYS:SG	50:2:40:GLN:OE1	2.79	0.41
1:a:11:G:H5'	3:e:149:LEU:HD11	2.02	0.41
1:a:63:A:C2	1:a:354:G:C8	3.09	0.41
1:a:264:U:O2	11:q:81:PRO:HG2	2.21	0.41
1:a:310:G:H5"	21:p:32:ARG:HB2	2.03	0.41
1:a:715:G:HO2'	19:f:89:LYS:NZ	2.13	0.41
1:a:1169:A:C1'	16:n:60:SER:OG	2.69	0.41
8:k:43:ILE:CG1	8:k:51:ILE:CD1	2.92	0.41
14:t:4:ILE:HG21	14:t:8:ILE:CD1	2.49	0.41
17:b:154:MET:HG3	17:b:156:LYS:H	1.86	0.41
21:p:97:GLU:HA	21:p:98:PRO:HD3	1.96	0.41
23:C:19:SER:O	23:C:21:PHE:CD2	2.74	0.41
23:C:260:PRO:O	23:C:263:PRO:HG3	2.21	0.41
24:D:49:ALA:HA	24:D:86:LEU:H	1.85	0.41
25:E:76:GLN:HE22	25:E:83:GLN:NE2	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:H:24:GLY:O	28:H:28:ASN:HB2	2.21	0.41
35:O:99:LYS:HE2	48:A:3037:C:H5"	2.02	0.41
35:O:117:ARG:N	35:O:117:ARG:HD3	2.22	0.41
39:S:6:ILE:O	39:S:39:VAL:HG13	2.21	0.41
43:W:85:VAL:HB	43:W:86:HIS:H	1.66	0.41
48:A:1561:C:N4	48:A:1562:C:N4	2.60	0.41
48:A:1586:C:H2'	48:A:1587:G:C4'	2.50	0.41
48:A:1595:G:H5'	48:A:1596:C:O4'	2.20	0.41
48:A:2457:U:H2'	48:A:2458:G:C8	2.55	0.41
52:4:33:PRO:O	52:4:34:ASP:CB	2.69	0.41
1:a:84:U:H3'	1:a:85:C:C5	2.55	0.41
1:a:251:G:C4	1:a:266:G:N7	2.89	0.41
1:a:486:G:H2'	1:a:487:C:C6	2.56	0.41
1:a:804:U:H2'	1:a:805:A:C8	2.56	0.41
1:a:1184:C:OP1	16:n:2:ALA:CB	2.60	0.41
1:a:1270:A:C2	1:a:1271:A:C4	3.09	0.41
2:c:7:PRO:HA	2:c:10:PHE:HB3	2.03	0.41
2:c:46:LEU:HD23	2:c:51:ILE:HD13	2.03	0.41
2:c:150:ARG:HE	2:c:167:PHE:HE1	1.68	0.41
3:e:27:GLY:O	3:e:28:ARG:HG3	2.21	0.41
12:r:76:LEU:HD21	19:f:60:TYR:CE1	2.56	0.41
13:s:40:ILE:HD11	50:2:64:ARG:NH1	2.24	0.41
15:v:7:G:O2'	15:v:50:G:C5'	2.68	0.41
18:d:55:LYS:O	18:d:59:SER:OG	2.26	0.41
23:C:54:LYS:NZ	48:A:2032:A:P	2.94	0.41
26:F:47:VAL:HG21	26:F:92:ILE:C	2.45	0.41
30:J:16:GLN:HG2	30:J:55:VAL:HG12	2.02	0.41
31:K:1:MET:HE2	48:A:642:G:OP1	2.20	0.41
31:K:27:ARG:CG	31:K:27:ARG:NH1	2.82	0.41
31:K:142:ILE:CG2	31:K:143:LYS:N	2.75	0.41
41:U:10:ILE:N	41:U:10:ILE:CD1	2.78	0.41
43:W:63:THR:C	43:W:64:ASN:CG	2.88	0.41
43:W:99:VAL:HG12	43:W:101:GLN:H	1.86	0.41
43:W:105:LYS:HZ3	43:W:136:GLU:HG3	1.85	0.41
43:W:118:ALA:HB1	43:W:122:THR:HG21	2.02	0.41
44:X:26:PHE:N	44:X:29:GLN:HE21	2.12	0.41
47:B:15:U:H3'	47:B:16:A:H8	1.86	0.41
47:B:85:C:C2	47:B:86:U:C4	3.09	0.41
48:A:159:A:N3	48:A:2431:C:O2'	2.48	0.41
48:A:210:G:P	53:5:28:ARG:HH22	2.43	0.41
48:A:256:A:H2'	48:A:257:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:1565:A:H2	48:A:1606:G:N9	2.19	0.41
48:A:1579:C:O2'	48:A:1580:A:P	2.79	0.41
48:A:1580:A:N1	48:A:1592:G:H1'	2.34	0.41
48:A:1688:G:N2	48:A:1748:A:H1'	2.36	0.41
48:A:2364:C:H2'	48:A:2365:A:C8	2.55	0.41
1:a:228:A:H2'	1:a:229:U:O4'	2.20	0.41
1:a:859:C:H6	1:a:859:C:O5'	2.04	0.41
1:a:1081:A:C8	17:b:171:ILE:HG23	2.56	0.41
1:a:1082:A:H2'	1:a:1083:C:C6	2.56	0.41
25:E:24:LEU:HD21	25:E:208:ASN:HB3	2.01	0.41
26:F:56:LEU:HD23	26:F:57:ILE:H	1.85	0.41
36:P:50:GLN:NE2	47:B:7:G:N3	2.51	0.41
47:B:20:G:H2'	47:B:21:C:H6	1.81	0.41
47:B:37:C:H2'	47:B:38:C:O4'	2.21	0.41
48:A:937:U:H2'	48:A:938:G:C8	2.56	0.41
48:A:1624:U:O2'	48:A:1625:G:H8	2.04	0.41
48:A:1704:U:H2'	48:A:1705:C:C6	2.56	0.41
48:A:2043:C:O2'	48:A:2195:U:OP2	2.38	0.41
48:A:2701:U:O4	55:7:10:ILE:HG12	2.21	0.41
50:2:41:CYS:HB2	50:2:44:PHE:HZ	1.74	0.41
1:a:407:A:C2	1:a:436:C:C2	3.09	0.40
1:a:498:C:C5	1:a:509:G:H3'	2.57	0.40
1:a:727:U:H2'	1:a:728:A:O4'	2.21	0.40
1:a:914:C:C6	4:g:3:ARG:HD3	2.56	0.40
1:a:1324:C:O2'	6:i:146:GLN:CB	2.69	0.40
3:e:21:ASP:N	18:d:40:ARG:NH2	2.69	0.40
7:j:49:TYR:HE2	16:n:37:PHE:CE2	2.37	0.40
14:t:3:ASN:C	14:t:4:ILE:HG13	2.46	0.40
15:v:19:G:H1'	15:v:59:A:C2	2.56	0.40
23:C:56:GLY:HA3	48:A:807:C:P	2.61	0.40
26:F:34:GLN:HA	47:B:57:U:H1'	2.01	0.40
26:F:51:ALA:C	26:F:85:LYS:HZ2	1.89	0.40
31:K:65:SER:OG	48:A:1259:U:OP2	2.35	0.40
31:K:134:ALA:O	31:K:135:GLN:CG	2.69	0.40
35:O:77:HIS:CD2	48:A:1674:G:H2'	2.46	0.40
46:Z:5:THR:HG23	46:Z:6:THR:N	2.25	0.40
48:A:969:C:H2'	48:A:970:G:H8	1.86	0.40
48:A:1224:G:H2'	48:A:1225:G:H8	1.86	0.40
48:A:1590:G:N1	48:A:1591:U:C5	2.88	0.40
48:A:1591:U:O2	48:A:1591:U:C2'	2.69	0.40
48:A:1598:U:O2'	48:A:1599:U:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:A:2096:G:H2'	48:A:2097:G:H8	1.86	0.40
52:4:34:ASP:OD1	52:4:35:ARG:HG2	2.20	0.40
1:a:310:G:OP2	21:p:28:ARG:NH1	2.54	0.40
1:a:491:C:O2'	1:a:514:U:H1'	2.20	0.40
1:a:703:U:HO2'	1:a:704:G:P	2.44	0.40
1:a:723:G:H2'	1:a:724:C:H6	1.86	0.40
1:a:1087:C:OP1	2:c:174:PRO:HD3	2.22	0.40
1:a:1452:A:H2'	1:a:1453:A:C8	2.56	0.40
3:e:205:ALA:O	3:e:209:ALA:CB	2.69	0.40
15:v:65:G:H2'	15:v:66:C:O4'	2.20	0.40
17:b:140:GLU:O	17:b:144:LEU:HB3	2.21	0.40
33:M:82:ASP:O	33:M:86:ALA:CB	2.70	0.40
35:O:64:ARG:NH1	48:A:1675:U:O2	2.55	0.40
36:P:26:ARG:HH12	36:P:54:ASP:CG	2.30	0.40
41:U:83:ILE:HD12	48:A:1456:G:N1	2.28	0.40
44:X:80:ILE:O	44:X:80:ILE:HG22	2.20	0.40
48:A:1501:C:H2'	48:A:1502:G:C8	2.56	0.40
48:A:1573:U:O2	48:A:1573:U:C2'	2.69	0.40
48:A:1611:A:N1	48:A:1612:U:C4	2.89	0.40
48:A:1633:U:H2'	48:A:1634:C:C6	2.56	0.40
48:A:1805:G:H2'	48:A:1806:A:H8	1.86	0.40
1:a:234:C:H4'	11:q:81:PRO:HG3	2.03	0.40
1:a:498:C:H5	1:a:509:G:H3'	1.85	0.40
1:a:1231:A:O3'	6:i:89:GLY:HA2	2.21	0.40
1:a:1414:C:H5"	37:Q:106:LYS:HE3	2.03	0.40
1:a:1452:A:H2'	1:a:1453:A:H8	1.85	0.40
2:c:91:GLU:HG2	2:c:98:VAL:H	1.85	0.40
2:c:137:ILE:O	2:c:138:GLN:C	2.65	0.40
2:c:149:ILE:HA	2:c:201:TRP:O	2.21	0.40
6:i:108:ILE:HD11	6:i:124:LEU:HD13	2.04	0.40
6:i:112:PRO:O	6:i:115:ARG:HB3	2.21	0.40
10:o:57:LEU:HD21	48:A:830:A:C6	2.56	0.40
14:t:4:ILE:CG2	14:t:5:LYS:N	2.83	0.40
17:b:69:PHE:HB3	17:b:80:ILE:HG23	2.03	0.40
20:m:70:LEU:HD22	20:m:70:LEU:HA	1.88	0.40
21:p:5:ILE:HG12	21:p:22:VAL:HG22	2.03	0.40
25:E:14:THR:CG2	25:E:15:ASP:N	2.73	0.40
34:N:106:LEU:HD12	34:N:118:LEU:HG	2.03	0.40
35:O:44:LEU:HD23	35:O:113:ILE:CD1	2.50	0.40
40:T:6:GLU:O	40:T:7:PHE:CB	2.70	0.40
40:T:54:VAL:HG22	40:T:110:ILE:HD13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:W:140:ILE:HA	43:W:141:PRO:HD3	1.89	0.40
46:Z:66:LEU:HD12	46:Z:66:LEU:HA	1.87	0.40
48:A:2644:C:OP1	54:6:34:GLU:CG	2.70	0.40
48:A:2649:A:H4'	48:A:2650:A:H5"	2.03	0.40
52:4:39:LYS:HA	52:4:50:PRO:HA	2.04	0.40
54:6:58:ILE:HD13	54:6:58:ILE:HA	1.98	0.40
1:a:124:G:H5"	11:q:18:GLY:O	2.21	0.40
1:a:129:C:H5"	14:t:70:ASN:OD1	2.21	0.40
1:a:304:U:O2'	1:a:305:G:H5'	2.22	0.40
1:a:355:C:H2'	1:a:356:A:O4'	2.21	0.40
1:a:403:C:OP1	18:d:128:PRO:HG2	2.22	0.40
1:a:605:G:H2'	1:a:606:U:H6	1.86	0.40
1:a:927:G:C2	1:a:928:A:C8	3.10	0.40
1:a:1038:G:H5'	2:c:188:GLU:OE2	2.21	0.40
1:a:1163:G:H3'	1:a:1164:U:H5'	2.03	0.40
1:a:1164:U:H5"	1:a:1164:U:H6	1.87	0.40
1:a:1488:G:OP1	1:a:1491:A:H4'	2.21	0.40
7:j:12:ALA:HB2	7:j:96:VAL:HG22	2.04	0.40
15:v:74:A:C1'	44:X:5:LYS:N	2.84	0.40
20:m:66:VAL:O	20:m:70:LEU:HB2	2.21	0.40
23:C:161:VAL:HG13	23:C:178:PRO:HB3	2.02	0.40
27:G:110:TYR:HD1	48:A:2891:C:H1'	1.85	0.40
31:K:75:TYR:H	31:K:75:TYR:HD1	1.68	0.40
35:O:96:ARG:HH21	35:O:96:ARG:HD3	1.75	0.40
41:U:4:ILE:CG1	46:Z:58:TYR:HE1	2.34	0.40
42:V:45:THR:OG1	42:V:57:GLY:O	2.27	0.40
43:W:100:VAL:O	43:W:101:GLN:CB	2.70	0.40
45:Y:48:ARG:HH12	48:A:2424:C:P	2.45	0.40
48:A:242:G:O2'	48:A:254:G:O6	2.29	0.40
48:A:323:C:H42	48:A:453:U:H3	1.69	0.40
48:A:683:G:H1'	54:6:2:PRO:HD2	2.02	0.40
48:A:845:C:OP1	48:A:1992:U:O2'	2.27	0.40
48:A:860:G:H21	48:A:865:A:H61	1.70	0.40
48:A:937:U:H2'	48:A:938:G:H8	1.87	0.40
48:A:996:G:H3'	48:A:997:G:H8	1.86	0.40
48:A:1597:G:C2	48:A:1598:U:C6	3.01	0.40
48:A:2350:G:H2'	48:A:2351:A:C8	2.56	0.40
53:5:14:ARG:HH11	53:5:14:ARG:HD2	1.76	0.40
1:a:10:G:O6	3:e:124:ALA:HB1	2.18	0.40
1:a:24:U:H2'	1:a:25:G:O4'	2.21	0.40
1:a:350:G:OP1	14:t:3:ASN:HB3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:375:U:H5"	21:p:69:PRO:HG3	2.04	0.40
1:a:526:G:H4'	1:a:528:G:O3'	2.22	0.40
1:a:655:A:C4	8:k:127:HIS:NE2	2.90	0.40
1:a:672:U:O4	8:k:37:ASN:CG	2.64	0.40
1:a:1066:U:O5'	1:a:1066:U:H6	2.05	0.40
1:a:1120:G:H4'	1:a:1121:G:H5'	2.03	0.40
2:c:143:GLN:HB3	2:c:144:PRO:CD	2.52	0.40
2:c:150:ARG:HB3	2:c:201:TRP:HB2	2.03	0.40
20:m:67:GLU:CA	20:m:71:ARG:HD2	2.51	0.40
20:m:72:ARG:O	20:m:72:ARG:CG	2.69	0.40
25:E:34:MET:HE3	25:E:189:LEU:HD11	2.03	0.40
26:F:76:ARG:HH12	47:B:41:U:H3	1.68	0.40
31:K:14:SER:O	31:K:52:ASP:CG	2.65	0.40
34:N:17:GLN:HB3	34:N:96:ASN:HD21	1.85	0.40
38:R:48:ARG:NH1	48:A:652:C:O2'	2.55	0.40
44:X:11:ARG:O	44:X:12:ASN:CB	2.70	0.40
48:A:1573:U:O2'	48:A:1574:G:P	2.79	0.40
48:A:1598:U:O2	48:A:1598:U:C2'	2.69	0.40
48:A:2106:A:H3'	48:A:2107:G:H5"	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	c	208/275 (76%)	176 (85%)	24 (12%)	8 (4%)	2 15
3	e	196/214 (92%)	176 (90%)	19 (10%)	1 (0%)	25 54
4	g	154/156 (99%)	144 (94%)	9 (6%)	1 (1%)	22 50
5	h	128/132 (97%)	119 (93%)	8 (6%)	1 (1%)	16 44
6	i	124/150 (83%)	113 (91%)	11 (9%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
7	j	95/101 (94%)	82 (86%)	10 (10%)	3 (3%)	3 18
8	k	115/138 (83%)	103 (90%)	10 (9%)	2 (2%)	7 28
9	l	120/124 (97%)	94 (78%)	25 (21%)	1 (1%)	16 44
10	o	85/89 (96%)	81 (95%)	4 (5%)	0	100 100
11	q	90/98 (92%)	78 (87%)	12 (13%)	0	100 100
12	r	62/84 (74%)	55 (89%)	7 (11%)	0	100 100
13	s	76/93 (82%)	65 (86%)	9 (12%)	2 (3%)	4 22
14	t	82/86 (95%)	77 (94%)	5 (6%)	0	100 100
16	n	58/61 (95%)	53 (91%)	5 (9%)	0	100 100
17	b	226/277 (82%)	212 (94%)	14 (6%)	0	100 100
18	d	198/201 (98%)	185 (93%)	12 (6%)	1 (0%)	25 54
19	f	94/96 (98%)	90 (96%)	4 (4%)	0	100 100
20	m	114/124 (92%)	98 (86%)	15 (13%)	1 (1%)	14 41
21	p	111/156 (71%)	104 (94%)	7 (6%)	0	100 100
22	u	30/33 (91%)	28 (93%)	2 (7%)	0	100 100
23	C	271/278 (98%)	233 (86%)	32 (12%)	6 (2%)	5 24
24	D	212/217 (98%)	197 (93%)	13 (6%)	2 (1%)	14 41
25	E	205/215 (95%)	179 (87%)	20 (10%)	6 (3%)	3 19
26	F	179/187 (96%)	160 (89%)	16 (9%)	3 (2%)	7 28
27	G	174/179 (97%)	166 (95%)	8 (5%)	0	100 100
28	H	149/151 (99%)	139 (93%)	9 (6%)	1 (1%)	19 47
29	I	124/175 (71%)	118 (95%)	6 (5%)	0	100 100
30	J	131/142 (92%)	118 (90%)	13 (10%)	0	100 100
31	K	145/147 (99%)	132 (91%)	10 (7%)	3 (2%)	5 24
32	L	119/122 (98%)	103 (87%)	13 (11%)	3 (2%)	4 22
33	M	143/147 (97%)	128 (90%)	15 (10%)	0	100 100
34	N	132/138 (96%)	113 (86%)	19 (14%)	0	100 100
35	O	115/199 (58%)	98 (85%)	12 (10%)	5 (4%)	2 14
36	P	124/127 (98%)	119 (96%)	5 (4%)	0	100 100
37	Q	111/113 (98%)	102 (92%)	9 (8%)	0	100 100
38	R	122/129 (95%)	120 (98%)	2 (2%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
39	S	100/103 (97%)	94 (94%)	5 (5%)	1 (1%)	13 39
40	T	112/153 (73%)	103 (92%)	6 (5%)	3 (3%)	4 21
41	U	92/100 (92%)	74 (80%)	12 (13%)	6 (6%)	1 7
42	V	93/105 (89%)	83 (89%)	8 (9%)	2 (2%)	5 24
43	W	186/215 (86%)	171 (92%)	10 (5%)	5 (3%)	4 21
44	X	80/88 (91%)	59 (74%)	15 (19%)	6 (8%)	1 5
45	Y	61/64 (95%)	57 (93%)	4 (7%)	0	100 100
46	Z	61/77 (79%)	56 (92%)	1 (2%)	4 (7%)	1 7
49	1	58/61 (95%)	53 (91%)	5 (9%)	0	100 100
50	2	64/75 (85%)	59 (92%)	4 (6%)	1 (2%)	8 29
51	3	52/57 (91%)	51 (98%)	1 (2%)	0	100 100
52	4	48/55 (87%)	41 (85%)	5 (10%)	2 (4%)	2 14
53	5	43/47 (92%)	41 (95%)	2 (5%)	0	100 100
54	6	61/64 (95%)	54 (88%)	7 (12%)	0	100 100
55	7	35/37 (95%)	33 (94%)	1 (3%)	1 (3%)	3 19
56	8	21/24 (88%)	20 (95%)	1 (5%)	0	100 100
All	All	5989/6679 (90%)	5407 (90%)	501 (8%)	81 (1%)	12 31

All (81) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	c	137	ILE
2	c	138	GLN
2	c	143	GLN
2	c	144	PRO
2	c	145	ASN
4	g	154	TYR
8	k	116	VAL
23	C	58	HIS
23	C	145	VAL
23	C	262	LYS
24	D	155	ALA
25	E	94	LYS
25	E	152	LYS
26	F	32	VAL
26	F	47	VAL

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Mol	Chain	Res	Type
31	K	142	ILE
32	L	91	ASN
32	L	92	ASP
35	O	81	ALA
35	O	89	ASP
40	T	7	PHE
40	T	118	PRO
41	U	68	ARG
43	W	83	LEU
46	Z	10	LEU
52	4	34	ASP
2	c	63	VAL
2	c	134	ARG
3	e	186	ILE
5	h	56	VAL
13	s	10	PHE
13	s	11	VAL
23	C	34	VAL
23	C	146	GLU
24	D	158	GLY
25	E	65	PRO
26	F	142	GLN
31	K	140	PHE
35	O	15	SER
35	O	82	GLU
41	U	75	LYS
43	W	39	GLY
43	W	63	THR
44	X	12	ASN
44	X	16	SER
44	X	17	ALA
55	7	35	ARG
2	c	139	SER
9	l	59	SER
31	K	2	PRO
32	L	93	PRO
41	U	67	LYS
43	W	85	VAL
46	Z	65	GLU
7	j	56	HIS
8	k	36	PHE
18	d	189	PRO

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Mol	Chain	Res	Type
25	E	4	LYS
25	E	93	PRO
28	H	125	LYS
35	O	60	LEU
40	T	8	PRO
41	U	6	ASP
42	V	90	GLU
42	V	101	ASN
43	W	87	PRO
44	X	85	ARG
46	Z	63	GLU
52	4	7	VAL
25	E	132	GLU
41	U	5	THR
44	X	81	VAL
7	j	43	PRO
46	Z	64	ARG
23	C	36	PRO
39	S	7	VAL
41	U	10	ILE
20	m	74	VAL
50	2	42	HIS
7	j	55	PRO
44	X	80	ILE

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	c	171/212 (81%)	166 (97%)	5 (3%)	37	61
3	e	139/147 (95%)	137 (99%)	2 (1%)	62	77
4	g	132/132 (100%)	131 (99%)	1 (1%)	79	87
5	h	106/108 (98%)	106 (100%)	0	100	100
6	i	102/125 (82%)	96 (94%)	6 (6%)	16	41

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	j	88/90 (98%)	87 (99%)	1 (1%)	70 81
8	k	91/105 (87%)	90 (99%)	1 (1%)	70 81
9	l	103/105 (98%)	103 (100%)	0	100 100
10	o	75/77 (97%)	75 (100%)	0	100 100
11	q	78/83 (94%)	76 (97%)	2 (3%)	41 64
12	r	55/72 (76%)	54 (98%)	1 (2%)	54 73
13	s	69/84 (82%)	67 (97%)	2 (3%)	37 61
14	t	69/70 (99%)	67 (97%)	2 (3%)	37 61
16	n	49/50 (98%)	49 (100%)	0	100 100
17	b	191/218 (88%)	191 (100%)	0	100 100
18	d	175/176 (99%)	174 (99%)	1 (1%)	84 90
19	f	85/85 (100%)	85 (100%)	0	100 100
20	m	99/104 (95%)	94 (95%)	5 (5%)	20 46
21	p	92/118 (78%)	92 (100%)	0	100 100
22	u	30/31 (97%)	23 (77%)	7 (23%)	0 2
23	C	214/218 (98%)	204 (95%)	10 (5%)	22 49
24	D	160/163 (98%)	157 (98%)	3 (2%)	52 71
25	E	167/173 (96%)	158 (95%)	9 (5%)	18 44
26	F	150/156 (96%)	136 (91%)	14 (9%)	7 25
27	G	148/150 (99%)	147 (99%)	1 (1%)	81 88
28	H	90/116 (78%)	90 (100%)	0	100 100
29	I	89/120 (74%)	89 (100%)	0	100 100
30	J	102/108 (94%)	102 (100%)	0	100 100
31	K	120/120 (100%)	116 (97%)	4 (3%)	33 58
32	L	99/100 (99%)	97 (98%)	2 (2%)	50 70
33	M	112/114 (98%)	111 (99%)	1 (1%)	75 86
34	N	112/116 (97%)	107 (96%)	5 (4%)	23 50
35	O	96/158 (61%)	89 (93%)	7 (7%)	11 36
36	P	93/94 (99%)	93 (100%)	0	100 100
37	Q	100/100 (100%)	99 (99%)	1 (1%)	73 83
38	R	97/99 (98%)	97 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
39	S	82/83 (99%)	81 (99%)	1 (1%)	67 80
40	T	90/117 (77%)	88 (98%)	2 (2%)	47 68
41	U	82/85 (96%)	70 (85%)	12 (15%)	2 10
42	V	81/86 (94%)	71 (88%)	10 (12%)	4 14
43	W	154/168 (92%)	139 (90%)	15 (10%)	6 24
44	X	59/63 (94%)	55 (93%)	4 (7%)	13 38
45	Y	50/51 (98%)	50 (100%)	0	100 100
46	Z	58/66 (88%)	53 (91%)	5 (9%)	8 29
49	1	53/54 (98%)	52 (98%)	1 (2%)	52 71
50	2	57/63 (90%)	54 (95%)	3 (5%)	19 45
51	3	43/46 (94%)	43 (100%)	0	100 100
52	4	48/52 (92%)	38 (79%)	10 (21%)	1 2
53	5	35/36 (97%)	34 (97%)	1 (3%)	37 61
54	6	53/54 (98%)	53 (100%)	0	100 100
55	7	35/35 (100%)	32 (91%)	3 (9%)	8 29
56	8	18/19 (95%)	18 (100%)	0	100 100
All	All	4946/5375 (92%)	4786 (97%)	160 (3%)	36 59

All (160) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	c	134	ARG
2	c	135	LYS
2	c	141	MET
2	c	147	LYS
2	c	186	LEU
3	e	182	ARG
3	e	184	LEU
4	g	148	ASN
6	i	38	ARG
6	i	41	LEU
6	i	42	VAL
6	i	83	ILE
6	i	84	TYR
6	i	86	HIS
7	j	57	LYS

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Mol	Chain	Res	Type
8	k	47	GLN
11	q	8	LYS
11	q	76	LEU
12	r	74	VAL
13	s	6	LYS
13	s	29	GLN
14	t	3	ASN
14	t	8	ILE
18	d	86	LEU
20	m	70	LEU
20	m	71	ARG
20	m	72	ARG
20	m	73	GLU
20	m	75	GLN
22	u	4	VAL
22	u	6	LYS
22	u	8	ARG
22	u	10	LYS
22	u	11	ARG
22	u	24	THR
22	u	30	LYS
23	C	31	LYS
23	C	33	LEU
23	C	35	ARG
23	C	36	PRO
23	C	71	ASP
23	C	73	ASP
23	C	106	ILE
23	C	225	VAL
23	C	247	VAL
23	C	258	ARG
24	D	154	CYS
24	D	159	ARG
24	D	160	VAL
25	E	4	LYS
25	E	31	ILE
25	E	33	LEU
25	E	124	ILE
25	E	130	LEU
25	E	150	GLU
25	E	177	VAL
25	E	178	ILE

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Mol	Chain	Res	Type
25	E	201	LEU
26	F	6	LYS
26	F	10	ARG
26	F	11	LEU
26	F	32	VAL
26	F	33	MET
26	F	35	ILE
26	F	55	LYS
26	F	92	ILE
26	F	96	VAL
26	F	108	ASP
26	F	110	LEU
26	F	118	ILE
26	F	185	LYS
26	F	186	GLU
27	G	90	ILE
31	K	75	TYR
31	K	76	ARG
31	K	113	LYS
31	K	141	GLU
32	L	8	LEU
32	L	90	ASP
33	M	57	ILE
34	N	34	ILE
34	N	59	LYS
34	N	60	ARG
34	N	92	TRP
34	N	122	ILE
35	O	5	THR
35	O	14	SER
35	O	16	HIS
35	O	54	HIS
35	O	79	LEU
35	O	115	LEU
35	O	117	ARG
37	Q	32	ILE
39	S	103	LYS
40	T	6	GLU
40	T	118	PRO
41	U	9	ASP
41	U	10	ILE
41	U	12	LEU

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Mol	Chain	Res	Type
41	U	59	THR
41	U	65	LYS
41	U	67	LYS
41	U	68	ARG
41	U	77	LYS
41	U	79	THR
41	U	94	ASP
41	U	95	LEU
41	U	96	PHE
42	V	10	LEU
42	V	20	LYS
42	V	22	LYS
42	V	30	ARG
42	V	41	ILE
42	V	77	ASP
42	V	89	ASP
42	V	95	VAL
42	V	96	ARG
42	V	99	LYS
43	W	6	ASN
43	W	7	ILE
43	W	64	ASN
43	W	83	LEU
43	W	100	VAL
43	W	101	GLN
43	W	102	ARG
43	W	112	VAL
43	W	114	VAL
43	W	119	THR
43	W	131	ILE
43	W	139	SER
43	W	146	VAL
43	W	158	THR
43	W	172	SER
44	X	14	ARG
44	X	15	ASP
44	X	38	VAL
44	X	85	ARG
46	Z	5	THR
46	Z	14	THR
46	Z	47	LEU
46	Z	64	ARG

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Mol	Chain	Res	Type
46	Z	65	GLU
49	1	51	HIS
50	2	38	CYS
50	2	44	PHE
50	2	60	ARG
52	4	22	ASN
52	4	23	TYR
52	4	26	LYS
52	4	27	LYS
52	4	32	ASP
52	4	35	ARG
52	4	37	GLU
52	4	42	CYS
52	4	52	LYS
52	4	53	GLU
53	5	27	THR
55	7	20	HIS
55	7	34	GLN
55	7	35	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (130) such sidechains are listed below:

Mol	Chain	Res	Type
2	c	27	GLN
2	c	97	GLN
2	c	101	ASN
2	c	117	GLN
2	c	122	GLN
3	e	163	HIS
4	g	49	GLN
4	g	86	GLN
4	g	122	ASN
4	g	148	ASN
5	h	22	HIS
5	h	35	ASN
5	h	117	GLN
6	i	57	ASN
6	i	61	ASN
7	j	47	ASN
7	j	56	HIS
7	j	99	ASN
8	k	31	HIS

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Mol	Chain	Res	Type
8	k	37	ASN
8	k	47	GLN
8	k	49	ASN
8	k	58	HIS
8	k	78	ASN
8	k	84	GLN
8	k	86	HIS
8	k	125	GLN
9	l	46	ASN
9	l	73	ASN
9	l	77	HIS
10	o	18	HIS
10	o	42	HIS
13	s	22	GLN
13	s	29	GLN
13	s	52	HIS
14	t	3	ASN
14	t	7	GLN
14	t	21	ASN
16	n	25	ASN
16	n	31	HIS
17	b	24	ASN
17	b	167	ASN
17	b	203	ASN
18	d	49	GLN
18	d	84	ASN
19	f	80	ASN
21	p	81	GLN
23	C	38	HIS
23	C	53	HIS
23	C	58	HIS
23	C	96	HIS
23	C	130	ASN
23	C	135	ASN
23	C	205	ASN
24	D	34	ASN
24	D	80	HIS
24	D	142	GLN
25	E	35	HIS
25	E	41	GLN
25	E	83	GLN
25	E	121	ASN

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Mol	Chain	Res	Type
25	E	184	ASN
25	E	202	ASN
26	F	28	ASN
26	F	44	ASN
26	F	134	ASN
26	F	142	GLN
26	F	146	HIS
26	F	169	ASN
27	G	22	GLN
27	G	66	HIS
28	H	118	GLN
28	H	137	HIS
28	H	147	ASN
30	J	33	HIS
30	J	119	ASN
31	K	47	ASN
31	K	96	HIS
31	K	103	ASN
31	K	132	HIS
31	K	135	GLN
32	L	4	GLN
32	L	91	ASN
33	M	58	HIS
33	M	69	ASN
33	M	76	GLN
33	M	127	ASN
34	N	96	ASN
35	O	16	HIS
35	O	77	HIS
36	P	41	ASN
36	P	50	GLN
38	R	39	GLN
38	R	41	HIS
39	S	67	HIS
39	S	76	HIS
39	S	85	HIS
39	S	90	HIS
39	S	92	GLN
40	T	67	ASN
40	T	68	ASN
41	U	27	ASN
41	U	58	ASN

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Mol	Chain	Res	Type
43	W	6	ASN
43	W	46	HIS
43	W	91	ASN
43	W	101	GLN
43	W	126	GLN
43	W	161	GLN
44	X	46	HIS
44	X	79	ASN
45	Y	22	HIS
46	Z	44	ASN
46	Z	52	GLN
49	1	8	GLN
49	1	42	GLN
49	1	48	ASN
49	1	51	HIS
50	2	20	HIS
50	2	40	GLN
52	4	48	HIS
52	4	49	GLN
52	4	51	HIS
53	5	11	ASN
53	5	19	HIS
54	6	7	HIS
54	6	28	ASN
54	6	31	HIS
54	6	35	HIS
56	8	17	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1504/1528 (98%)	394 (26%)	0
15	v	76/77 (98%)	18 (23%)	0
47	B	116/118 (98%)	31 (26%)	1 (0%)
48	A	3096/3120 (99%)	793 (25%)	45 (1%)
All	All	4792/4843 (98%)	1236 (25%)	46 (0%)

All (1236) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	11	G

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Mol	Chain	Res	Type
1	a	12	A
1	a	13	G
1	a	26	G
1	a	36	A
1	a	43	G
1	a	45	G
1	a	48	G
1	a	51	C
1	a	52	U
1	a	53	U
1	a	54	A
1	a	55	A
1	a	59	A
1	a	62	C
1	a	67	C
1	a	68	G
1	a	77	G
1	a	81	C
1	a	82	U
1	a	83	U
1	a	85	C
1	a	87	G
1	a	92	A
1	a	93	C
1	a	94	U
1	a	101	G
1	a	112	A
1	a	113	G
1	a	116	A
1	a	117	C
1	a	118	A
1	a	123	G
1	a	128	U
1	a	136	G
1	a	139	C
1	a	160	C
1	a	170	U
1	a	174	G
1	a	179	C
1	a	180	A
1	a	181	C
1	a	192	G

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Mol	Chain	Res	Type
1	a	194	A
1	a	201	G
1	a	210	A
1	a	211	A
1	a	213	C
1	a	214	U
1	a	215	U
1	a	216	U
1	a	217	U
1	a	218	G
1	a	226	G
1	a	242	U
1	a	243	A
1	a	245	C
1	a	247	G
1	a	251	G
1	a	262	G
1	a	266	G
1	a	267	C
1	a	279	A
1	a	280	C
1	a	281	G
1	a	283	C
1	a	289	G
1	a	301	G
1	a	314	C
1	a	319	G
1	a	321	A
1	a	329	A
1	a	332	G
1	a	338	A
1	a	344	A
1	a	345	C
1	a	350	G
1	a	351	G
1	a	352	C
1	a	353	A
1	a	354	G
1	a	356	A
1	a	367	U
1	a	372	C
1	a	373	A

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Mol	Chain	Res	Type
1	a	382	A
1	a	390	U
1	a	392	C
1	a	397	A
1	a	398	C
1	a	406	G
1	a	411	A
1	a	414	A
1	a	415	C
1	a	421	U
1	a	422	C
1	a	423	G
1	a	424	G
1	a	426	U
1	a	427	U
1	a	428	G
1	a	429	U
1	a	430	A
1	a	434	C
1	a	436	C
1	a	438	U
1	a	450	G
1	a	451	A
1	a	452	A
1	a	453	G
1	a	454	C
1	a	456	C
1	a	457	A
1	a	458	A
1	a	459	G
1	a	461	G
1	a	464	G
1	a	465	G
1	a	466	U
1	a	477	G
1	a	478	A
1	a	479	A
1	a	482	A
1	a	484	C
1	a	485	G
1	a	486	G
1	a	491	C

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Mol	Chain	Res	Type
1	a	496	U
1	a	497	G
1	a	498	C
1	a	499	C
1	a	505	C
1	a	507	G
1	a	509	G
1	a	511	U
1	a	512	A
1	a	513	A
1	a	515	A
1	a	519	A
1	a	520	G
1	a	525	C
1	a	527	A
1	a	539	A
1	a	542	U
1	a	544	C
1	a	552	A
1	a	553	A
1	a	554	A
1	a	556	A
1	a	557	G
1	a	612	U
1	a	613	G
1	a	629	G
1	a	633	A
1	a	641	G
1	a	645	G
1	a	666	U
1	a	667	A
1	a	668	G
1	a	680	G
1	a	682	A
1	a	683	G
1	a	700	C
1	a	701	G
1	a	702	G
1	a	703	U
1	a	704	G
1	a	711	G
1	a	713	G

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Mol	Chain	Res	Type
1	a	728	A
1	a	729	A
1	a	735	G
1	a	757	A
1	a	761	A
1	a	764	A
1	a	765	G
1	a	771	G
1	a	772	A
1	a	773	U
1	a	774	A
1	a	779	G
1	a	782	A
1	a	789	G
1	a	793	U
1	a	794	A
1	a	795	A
1	a	797	C
1	a	799	G
1	a	800	U
1	a	808	A
1	a	818	U
1	a	821	C
1	a	822	U
1	a	828	G
1	a	835	G
1	a	840	G
1	a	841	U
1	a	865	C
1	a	884	G
1	a	895	A
1	a	896	A
1	a	908	G
1	a	909	G
1	a	913	C
1	a	914	C
1	a	915	G
1	a	916	C
1	a	917	A
1	a	921	G
1	a	930	C
1	a	932	U

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Mol	Chain	Res	Type
1	a	940	A
1	a	942	U
1	a	943	U
1	a	945	G
1	a	947	U
1	a	948	G
1	a	950	A
1	a	951	A
1	a	953	G
1	a	954	C
1	a	955	G
1	a	956	A
1	a	957	A
1	a	959	A
1	a	971	G
1	a	973	U
1	a	974	U
1	a	975	G
1	a	982	A
1	a	984	A
1	a	986	G
1	a	987	A
1	a	988	C
1	a	992	G
1	a	996	G
1	a	999	A
1	a	1000	U
1	a	1003	C
1	a	1007	U
1	a	1008	C
1	a	1010	C
1	a	1011	U
1	a	1013	G
1	a	1014	U
1	a	1020	G
1	a	1021	U
1	a	1022	G
1	a	1024	G
1	a	1025	C
1	a	1028	G
1	a	1033	G
1	a	1034	C

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Mol	Chain	Res	Type
1	a	1036	U
1	a	1045	U
1	a	1047	A
1	a	1048	G
1	a	1054	G
1	a	1064	G
1	a	1074	G
1	a	1075	U
1	a	1079	G
1	a	1081	A
1	a	1085	A
1	a	1104	G
1	a	1108	C
1	a	1110	A
1	a	1112	C
1	a	1115	G
1	a	1116	U
1	a	1117	U
1	a	1118	A
1	a	1120	G
1	a	1123	G
1	a	1128	C
1	a	1129	U
1	a	1132	U
1	a	1133	G
1	a	1138	A
1	a	1140	U
1	a	1141	G
1	a	1147	G
1	a	1149	C
1	a	1150	A
1	a	1152	C
1	a	1162	G
1	a	1164	U
1	a	1165	G
1	a	1171	G
1	a	1172	A
1	a	1176	C
1	a	1177	A
1	a	1178	A
1	a	1181	C
1	a	1182	A

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Mol	Chain	Res	Type
1	a	1183	U
1	a	1193	U
1	a	1194	A
1	a	1206	U
1	a	1207	C
1	a	1217	A
1	a	1219	A
1	a	1231	A
1	a	1233	A
1	a	1235	G
1	a	1238	U
1	a	1239	G
1	a	1241	G
1	a	1242	A
1	a	1248	U
1	a	1249	G
1	a	1251	G
1	a	1254	G
1	a	1255	G
1	a	1261	A
1	a	1265	U
1	a	1266	U
1	a	1267	U
1	a	1268	C
1	a	1269	A
1	a	1272	G
1	a	1281	A
1	a	1282	G
1	a	1283	U
1	a	1284	U
1	a	1285	C
1	a	1287	G
1	a	1298	G
1	a	1299	C
1	a	1300	A
1	a	1301	A
1	a	1302	C
1	a	1305	G
1	a	1313	G
1	a	1320	G
1	a	1322	G
1	a	1327	U

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Mol	Chain	Res	Type
1	a	1328	A
1	a	1329	G
1	a	1335	G
1	a	1343	G
1	a	1344	C
1	a	1345	A
1	a	1346	A
1	a	1347	C
1	a	1351	G
1	a	1353	G
1	a	1357	A
1	a	1363	U
1	a	1364	U
1	a	1381	A
1	a	1382	C
1	a	1383	C
1	a	1385	C
1	a	1389	U
1	a	1402	G
1	a	1406	G
1	a	1407	U
1	a	1424	G
1	a	1425	G
1	a	1426	C
1	a	1429	A
1	a	1430	A
1	a	1434	U
1	a	1435	U
1	a	1436	G
1	a	1438	G
1	a	1459	G
1	a	1460	A
1	a	1466	G
1	a	1468	U
1	a	1471	G
1	a	1476	A
1	a	1478	G
1	a	1481	G
1	a	1482	U
1	a	1483	A
1	a	1486	A
1	a	1487	A

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Mol	Chain	Res	Type
1	a	1488	G
1	a	1490	U
1	a	1491	A
1	a	1492	G
1	a	1501	G
1	a	1502	A
1	a	1503	A
1	a	1504	G
1	a	1511	C
1	a	1512	U
1	a	1513	G
1	a	1514	G
1	a	1516	U
1	a	1517	C
1	a	1518	A
15	v	7	G
15	v	9	G
15	v	14	A
15	v	16	C
15	v	17	C
15	v	18	U
15	v	19	G
15	v	20	G
15	v	21	U
15	v	22	A
15	v	23	G
15	v	55	U
15	v	60	A
15	v	61	U
15	v	62	C
15	v	68	C
15	v	76	C
15	v	77	A
47	B	4	A
47	B	5	C
47	B	7	G
47	B	10	G
47	B	12	C
47	B	13	C
47	B	24	G
47	B	25	G
47	B	26	A

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Mol	Chain	Res	Type
47	B	30	G
47	B	34	G
47	B	35	G
47	B	37	C
47	B	40	A
47	B	41	U
47	B	44	C
47	B	45	G
47	B	47	A
47	B	52	G
47	B	53	A
47	B	56	C
47	B	66	C
47	B	67	A
47	B	68	G
47	B	85	C
47	B	86	U
47	B	88	C
47	B	90	G
47	B	102	A
47	B	106	C
47	B	113	G
48	A	7	U
48	A	11	A
48	A	12	G
48	A	20	G
48	A	29	C
48	A	31	U
48	A	32	G
48	A	33	G
48	A	52	G
48	A	58	G
48	A	59	G
48	A	60	A
48	A	68	A
48	A	71	A
48	A	72	G
48	A	77	G
48	A	80	G
48	A	81	A
48	A	88	A
48	A	89	A

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Mol	Chain	Res	Type
48	A	90	C
48	A	93	A
48	A	94	G
48	A	98	U
48	A	99	G
48	A	115	A
48	A	117	U
48	A	122	A
48	A	125	C
48	A	128	G
48	A	136	U
48	A	143	G
48	A	161	U
48	A	164	A
48	A	173	U
48	A	175	G
48	A	180	A
48	A	186	G
48	A	195	A
48	A	198	A
48	A	203	A
48	A	205	U
48	A	212	A
48	A	214	G
48	A	215	A
48	A	220	A
48	A	221	A
48	A	227	A
48	A	229	U
48	A	230	G
48	A	231	U
48	A	237	C
48	A	245	G
48	A	248	G
48	A	250	G
48	A	264	G
48	A	265	A
48	A	272	A
48	A	274	C
48	A	275	C
48	A	279	U
48	A	283	U

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Mol	Chain	Res	Type
48	A	285	U
48	A	286	G
48	A	287	A
48	A	288	U
48	A	291	C
48	A	292	G
48	A	296	A
48	A	297	G
48	A	299	G
48	A	300	G
48	A	301	U
48	A	302	U
48	A	303	G
48	A	305	G
48	A	309	G
48	A	314	G
48	A	315	U
48	A	317	G
48	A	318	U
48	A	319	G
48	A	322	A
48	A	323	C
48	A	326	A
48	A	327	U
48	A	329	U
48	A	330	U
48	A	331	U
48	A	336	C
48	A	337	U
48	A	338	C
48	A	346	C
48	A	351	G
48	A	352	G
48	A	357	U
48	A	358	G
48	A	361	A
48	A	364	A
48	A	366	G
48	A	370	U
48	A	384	G
48	A	393	U
48	A	404	A

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Mol	Chain	Res	Type
48	A	412	A
48	A	416	C
48	A	417	C
48	A	424	G
48	A	425	U
48	A	427	A
48	A	434	G
48	A	438	U
48	A	445	U
48	A	446	G
48	A	449	G
48	A	450	G
48	A	452	G
48	A	453	U
48	A	454	U
48	A	459	A
48	A	460	G
48	A	468	G
48	A	471	C
48	A	472	C
48	A	474	G
48	A	489	A
48	A	491	U
48	A	493	U
48	A	498	G
48	A	505	C
48	A	509	U
48	A	512	G
48	A	530	G
48	A	543	U
48	A	544	U
48	A	547	U
48	A	555	G
48	A	561	G
48	A	562	G
48	A	566	A
48	A	567	A
48	A	568	A
48	A	569	G
48	A	585	G
48	A	589	A
48	A	591	G

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Mol	Chain	Res	Type
48	A	592	A
48	A	594	U
48	A	595	A
48	A	596	C
48	A	605	G
48	A	617	U
48	A	618	C
48	A	619	C
48	A	620	G
48	A	639	C
48	A	640	G
48	A	641	U
48	A	642	G
48	A	643	G
48	A	644	G
48	A	647	G
48	A	649	U
48	A	655	G
48	A	665	G
48	A	666	A
48	A	667	A
48	A	678	A
48	A	679	G
48	A	684	G
48	A	685	G
48	A	689	U
48	A	696	A
48	A	706	G
48	A	707	G
48	A	708	G
48	A	709	U
48	A	712	G
48	A	721	A
48	A	725	A
48	A	728	G
48	A	730	G
48	A	731	A
48	A	740	A
48	A	747	A
48	A	753	A
48	A	757	G
48	A	758	A

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Mol	Chain	Res	Type
48	A	760	U
48	A	763	G
48	A	765	G
48	A	766	G
48	A	768	G
48	A	769	U
48	A	770	A
48	A	774	G
48	A	784	G
48	A	785	A
48	A	794	G
48	A	801	U
48	A	830	A
48	A	832	G
48	A	838	G
48	A	845	C
48	A	862	U
48	A	863	G
48	A	868	C
48	A	871	A
48	A	872	G
48	A	878	G
48	A	879	A
48	A	880	G
48	A	890	G
48	A	891	G
48	A	897	A
48	A	899	G
48	A	904	A
48	A	908	A
48	A	915	U
48	A	917	A
48	A	919	A
48	A	920	G
48	A	921	C
48	A	927	C
48	A	942	U
48	A	944	A
48	A	945	G
48	A	960	G
48	A	961	U
48	A	966	U

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Mol	Chain	Res	Type
48	A	971	G
48	A	973	G
48	A	974	G
48	A	975	U
48	A	981	U
48	A	982	A
48	A	994	A
48	A	995	U
48	A	996	G
48	A	1001	C
48	A	1002	C
48	A	1003	A
48	A	1007	G
48	A	1009	U
48	A	1011	A
48	A	1012	C
48	A	1013	U
48	A	1014	G
48	A	1016	C
48	A	1022	C
48	A	1025	A
48	A	1029	C
48	A	1030	C
48	A	1042	A
48	A	1044	U
48	A	1046	C
48	A	1047	A
48	A	1048	A
48	A	1049	G
48	A	1058	A
48	A	1062	A
48	A	1063	G
48	A	1068	C
48	A	1070	G
48	A	1074	A
48	A	1076	A
48	A	1078	G
48	A	1085	G
48	A	1091	A
48	A	1092	G
48	A	1098	A
48	A	1100	C

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Mol	Chain	Res	Type
48	A	1101	A
48	A	1107	G
48	A	1114	G
48	A	1130	C
48	A	1131	G
48	A	1140	G
48	A	1141	U
48	A	1143	G
48	A	1144	A
48	A	1151	U
48	A	1163	A
48	A	1164	A
48	A	1169	A
48	A	1171	C
48	A	1173	G
48	A	1175	A
48	A	1178	U
48	A	1181	G
48	A	1184	U
48	A	1185	A
48	A	1186	G
48	A	1187	A
48	A	1188	A
48	A	1189	G
48	A	1190	C
48	A	1191	A
48	A	1192	G
48	A	1201	G
48	A	1202	A
48	A	1205	G
48	A	1206	A
48	A	1207	G
48	A	1209	G
48	A	1212	U
48	A	1213	A
48	A	1215	U
48	A	1216	A
48	A	1224	G
48	A	1229	A
48	A	1230	G
48	A	1232	G
48	A	1233	A

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Mol	Chain	Res	Type
48	A	1237	U
48	A	1238	G
48	A	1239	C
48	A	1240	G
48	A	1244	A
48	A	1246	A
48	A	1250	U
48	A	1251	A
48	A	1253	C
48	A	1260	C
48	A	1261	A
48	A	1270	G
48	A	1275	A
48	A	1292	U
48	A	1293	G
48	A	1303	U
48	A	1325	U
48	A	1332	G
48	A	1335	G
48	A	1343	G
48	A	1344	A
48	A	1345	G
48	A	1347	G
48	A	1353	G
48	A	1362	A
48	A	1363	G
48	A	1365	G
48	A	1368	A
48	A	1369	A
48	A	1371	G
48	A	1372	C
48	A	1386	G
48	A	1389	U
48	A	1404	C
48	A	1409	C
48	A	1415	A
48	A	1416	A
48	A	1417	A
48	A	1440	C
48	A	1444	U
48	A	1448	C
48	A	1456	G

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Mol	Chain	Res	Type
48	A	1462	G
48	A	1465	C
48	A	1467	U
48	A	1480	A
48	A	1493	A
48	A	1494	U
48	A	1499	A
48	A	1501	C
48	A	1507	G
48	A	1510	A
48	A	1521	C
48	A	1522	G
48	A	1529	U
48	A	1531	C
48	A	1532	G
48	A	1533	U
48	A	1534	C
48	A	1539	A
48	A	1540	U
48	A	1546	A
48	A	1549	G
48	A	1550	G
48	A	1551	U
48	A	1552	A
48	A	1553	C
48	A	1554	U
48	A	1555	A
48	A	1556	A
48	A	1561	C
48	A	1562	C
48	A	1563	A
48	A	1564	A
48	A	1565	A
48	A	1566	A
48	A	1567	C
48	A	1568	C
48	A	1569	A
48	A	1570	C
48	A	1571	C
48	A	1572	G
48	A	1573	U
48	A	1574	G

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Mol	Chain	Res	Type
48	A	1575	A
48	A	1576	C
48	A	1577	C
48	A	1578	G
48	A	1579	C
48	A	1580	A
48	A	1581	C
48	A	1582	C
48	A	1584	U
48	A	1585	U
48	A	1586	C
48	A	1587	G
48	A	1588	G
48	A	1589	G
48	A	1590	G
48	A	1591	U
48	A	1592	G
48	A	1593	U
48	A	1594	G
48	A	1595	G
48	A	1596	C
48	A	1597	G
48	A	1598	U
48	A	1599	U
48	A	1600	G
48	A	1601	G
48	A	1602	U
48	A	1604	G
48	A	1605	G
48	A	1606	G
48	A	1611	A
48	A	1625	G
48	A	1629	G
48	A	1630	U
48	A	1632	G
48	A	1633	U
48	A	1636	A
48	A	1637	G
48	A	1638	C
48	A	1639	G
48	A	1640	A
48	A	1641	U

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Mol	Chain	Res	Type
48	A	1642	G
48	A	1648	A
48	A	1649	C
48	A	1654	G
48	A	1658	G
48	A	1672	C
48	A	1674	G
48	A	1676	G
48	A	1678	U
48	A	1679	A
48	A	1680	A
48	A	1681	U
48	A	1688	G
48	A	1703	G
48	A	1710	A
48	A	1711	G
48	A	1713	U
48	A	1715	A
48	A	1717	U
48	A	1721	U
48	A	1724	G
48	A	1727	A
48	A	1728	U
48	A	1731	A
48	A	1737	A
48	A	1744	A
48	A	1748	A
48	A	1753	C
48	A	1754	G
48	A	1767	U
48	A	1768	C
48	A	1769	G
48	A	1774	U
48	A	1778	A
48	A	1780	G
48	A	1786	G
48	A	1787	A
48	A	1789	A
48	A	1792	A
48	A	1798	U
48	A	1803	A
48	A	1813	C

Continued on next page...

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Mol	Chain	Res	Type
48	A	1826	A
48	A	1836	A
48	A	1837	G
48	A	1845	G
48	A	1852	A
48	A	1863	G
48	A	1864	U
48	A	1866	C
48	A	1869	G
48	A	1870	U
48	A	1871	G
48	A	1872	A
48	A	1878	G
48	A	1887	A
48	A	1892	G
48	A	1893	C
48	A	1903	C
48	A	1906	U
48	A	1916	A
48	A	1917	G
48	A	1933	G
48	A	1958	C
48	A	1967	G
48	A	1973	C
48	A	1974	A
48	A	1975	A
48	A	1981	U
48	A	1990	A
48	A	1998	C
48	A	1999	U
48	A	2017	C
48	A	2018	G
48	A	2026	A
48	A	2028	G
48	A	2033	U
48	A	2046	A
48	A	2052	G
48	A	2062	G
48	A	2064	A
48	A	2074	G
48	A	2075	G
48	A	2083	A

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Mol	Chain	Res	Type
48	A	2085	C
48	A	2086	U
48	A	2088	C
48	A	2089	C
48	A	2090	U
48	A	2091	U
48	A	2092	U
48	A	2093	G
48	A	2094	G
48	A	2095	G
48	A	2096	G
48	A	2106	A
48	A	2107	G
48	A	2111	U
48	A	2112	U
48	A	2118	C
48	A	2120	A
48	A	2130	G
48	A	2131	G
48	A	2137	A
48	A	2138	C
48	A	2139	U
48	A	2140	A
48	A	2142	A
48	A	2151	A
48	A	2153	G
48	A	2154	G
48	A	2160	A
48	A	2161	A
48	A	2163	U
48	A	2167	U
48	A	2179	U
48	A	2190	A
48	A	2191	C
48	A	2194	A
48	A	2195	U
48	A	2196	G
48	A	2206	C
48	A	2215	U
48	A	2217	U
48	A	2221	A
48	A	2244	A

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Mol	Chain	Res	Type
48	A	2247	A
48	A	2251	G
48	A	2255	A
48	A	2256	G
48	A	2257	A
48	A	2263	G
48	A	2267	C
48	A	2276	G
48	A	2279	C
48	A	2280	G
48	A	2284	A
48	A	2285	G
48	A	2286	A
48	A	2299	C
48	A	2315	U
48	A	2316	G
48	A	2317	G
48	A	2319	G
48	A	2320	C
48	A	2322	C
48	A	2323	G
48	A	2325	U
48	A	2328	G
48	A	2334	U
48	A	2335	G
48	A	2337	A
48	A	2338	G
48	A	2339	G
48	A	2340	A
48	A	2341	U
48	A	2342	A
48	A	2343	G
48	A	2346	G
48	A	2348	G
48	A	2349	A
48	A	2351	A
48	A	2353	U
48	A	2354	G
48	A	2355	U
48	A	2356	G
48	A	2357	A
48	A	2362	C

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Mol	Chain	Res	Type
48	A	2368	C
48	A	2371	G
48	A	2380	G
48	A	2382	G
48	A	2383	U
48	A	2384	C
48	A	2385	G
48	A	2386	U
48	A	2387	U
48	A	2388	G
48	A	2390	U
48	A	2392	A
48	A	2393	A
48	A	2394	A
48	A	2395	U
48	A	2396	A
48	A	2404	G
48	A	2407	C
48	A	2408	G
48	A	2409	U
48	A	2410	A
48	A	2411	U
48	A	2413	G
48	A	2414	G
48	A	2418	U
48	A	2421	A
48	A	2427	G
48	A	2433	U
48	A	2434	A
48	A	2436	A
48	A	2446	G
48	A	2449	A
48	A	2462	G
48	A	2463	G
48	A	2467	U
48	A	2473	U
48	A	2476	G
48	A	2490	A
48	A	2502	A
48	A	2506	G
48	A	2507	C
48	A	2510	A

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Mol	Chain	Res	Type
48	A	2511	A
48	A	2512	A
48	A	2529	A
48	A	2531	G
48	A	2532	G
48	A	2545	G
48	A	2546	A
48	A	2549	G
48	A	2551	A
48	A	2558	C
48	A	2559	A
48	A	2567	U
48	A	2571	C
48	A	2574	C
48	A	2578	A
48	A	2582	A
48	A	2585	U
48	A	2586	G
48	A	2596	G
48	A	2601	A
48	A	2607	G
48	A	2608	G
48	A	2609	A
48	A	2612	A
48	A	2614	U
48	A	2615	G
48	A	2616	A
48	A	2626	U
48	A	2627	C
48	A	2630	A
48	A	2631	G
48	A	2640	G
48	A	2643	U
48	A	2647	U
48	A	2648	C
48	A	2649	A
48	A	2650	A
48	A	2651	C
48	A	2653	G
48	A	2654	A
48	A	2655	U
48	A	2659	A

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Mol	Chain	Res	Type
48	A	2665	C
48	A	2669	G
48	A	2671	G
48	A	2672	A
48	A	2673	U
48	A	2676	C
48	A	2677	A
48	A	2682	G
48	A	2694	G
48	A	2698	C
48	A	2700	A
48	A	2702	A
48	A	2705	G
48	A	2715	U
48	A	2718	G
48	A	2726	G
48	A	2729	G
48	A	2737	G
48	A	2742	A
48	A	2744	C
48	A	2753	G
48	A	2758	A
48	A	2759	G
48	A	2786	U
48	A	2788	A
48	A	2790	A
48	A	2791	G
48	A	2793	G
48	A	2796	A
48	A	2797	C
48	A	2798	G
48	A	2802	G
48	A	2810	U
48	A	2826	A
48	A	2827	G
48	A	2833	U
48	A	2837	U
48	A	2839	U
48	A	2853	C
48	A	2860	U
48	A	2865	G
48	A	2866	A

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Mol	Chain	Res	Type
48	A	2870	C
48	A	2876	C
48	A	2878	A
48	A	2887	G
48	A	2893	G
48	A	2897	G
48	A	2906	U
48	A	2908	U
48	A	2913	U
48	A	2915	C
48	A	2926	A
48	A	2936	C
48	A	2938	G
48	A	2942	G
48	A	2950	C
48	A	2956	G
48	A	2957	A
48	A	2963	U
48	A	2968	G
48	A	2972	A
48	A	2975	G
48	A	2976	C
48	A	2977	A
48	A	2982	A
48	A	2985	G
48	A	2989	A
48	A	2990	A
48	A	2993	U
48	A	3002	A
48	A	3004	C
48	A	3005	A
48	A	3009	U
48	A	3011	C
48	A	3014	A
48	A	3015	C
48	A	3021	A
48	A	3022	G
48	A	3023	G
48	A	3029	U
48	A	3039	C
48	A	3042	A
48	A	3045	C

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Mol	Chain	Res	Type
48	A	3047	A
48	A	3056	A
48	A	3057	U
48	A	3070	G
48	A	3082	U
48	A	3088	C
48	A	3093	A
48	A	3094	A
48	A	3095	C
48	A	3101	C
48	A	3105	C
48	A	3106	C
48	A	3107	G
48	A	3112	A
48	A	3113	A
48	A	3114	A
48	A	3115	A

All (46) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
47	B	66	C
48	A	84	U
48	A	89	A
48	A	97	U
48	A	316	U
48	A	336	C
48	A	357	U
48	A	445	U
48	A	456	C
48	A	567	A
48	A	974	G
48	A	980	C
48	A	981	U
48	A	1002	C
48	A	1010	U
48	A	1084	U
48	A	1117	U
48	A	1186	G
48	A	1564	A
48	A	1565	A
48	A	1566	A

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Mol	Chain	Res	Type
48	A	1567	C
48	A	1571	C
48	A	1572	G
48	A	1573	U
48	A	1574	G
48	A	1575	A
48	A	1576	C
48	A	1577	C
48	A	1578	G
48	A	1579	C
48	A	1580	A
48	A	1581	C
48	A	1590	G
48	A	1591	U
48	A	1592	G
48	A	1596	C
48	A	1597	G
48	A	1598	U
48	A	1599	U
48	A	1730	U
48	A	2085	C
48	A	2088	C
48	A	2094	G
48	A	2350	G
48	A	2381	A

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 (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

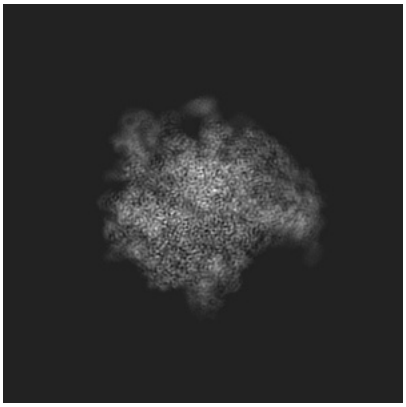
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-6920. These allow visual inspection of the internal detail of the map and identification of artifacts.

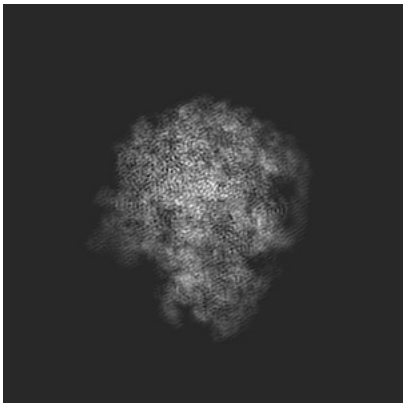
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

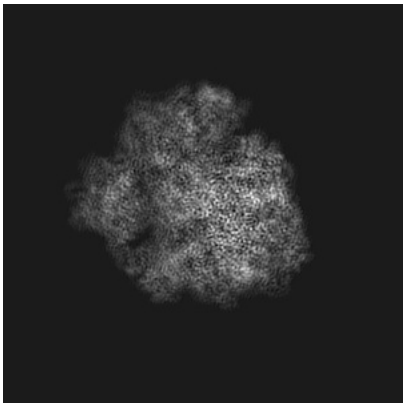
6.1.1 Primary map



X



Y

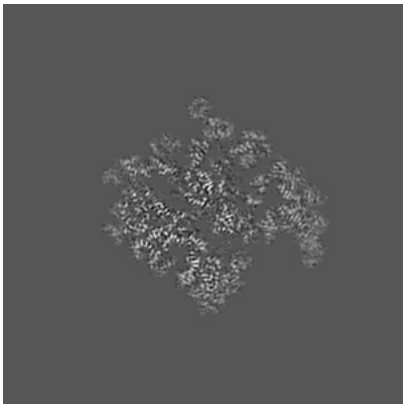


Z

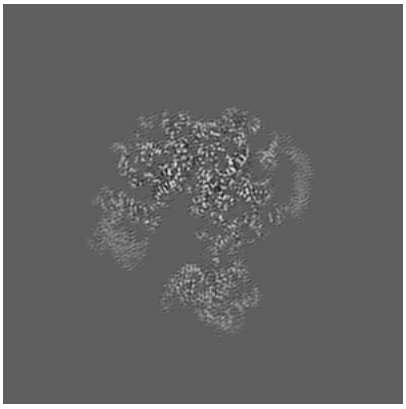
The images above show the map projected in three orthogonal directions.

6.2 Central slices

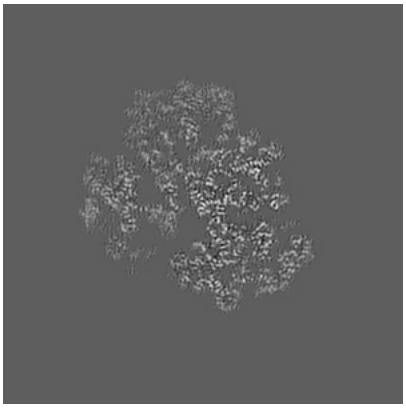
6.2.1 Primary map



X Index: 200



Y Index: 200

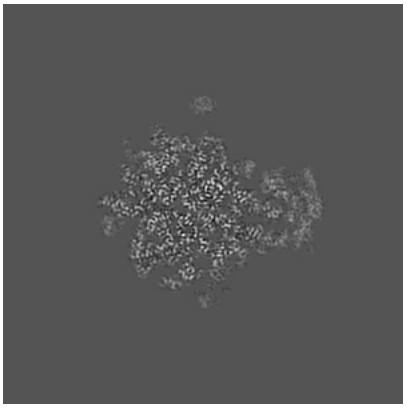


Z Index: 200

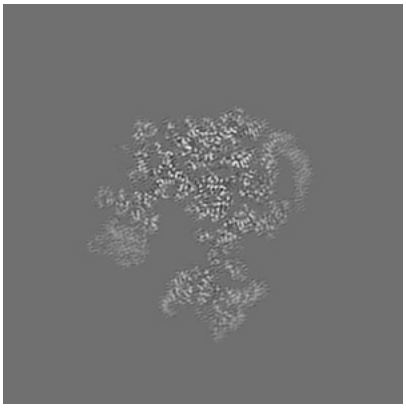
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

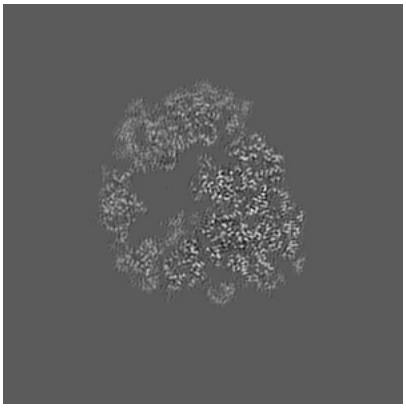
6.3.1 Primary map



X Index: 215



Y Index: 206

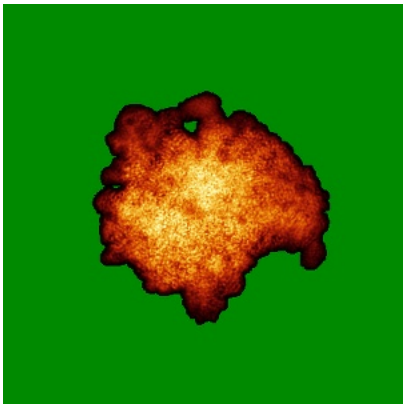


Z Index: 183

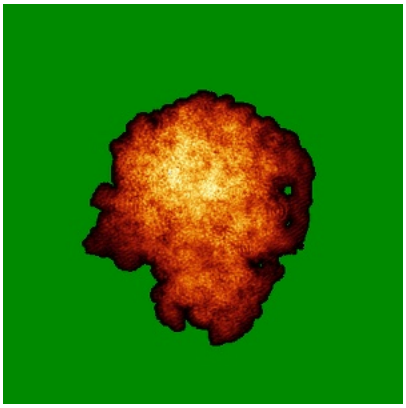
The images above show the largest variance slices of the map in three orthogonal directions.

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

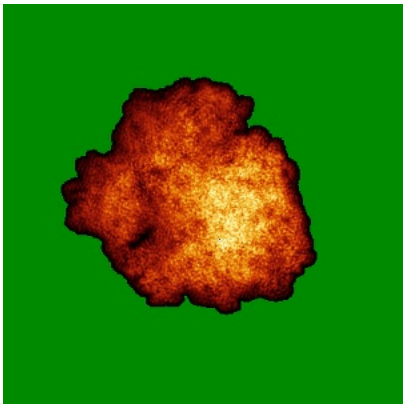
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.07. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

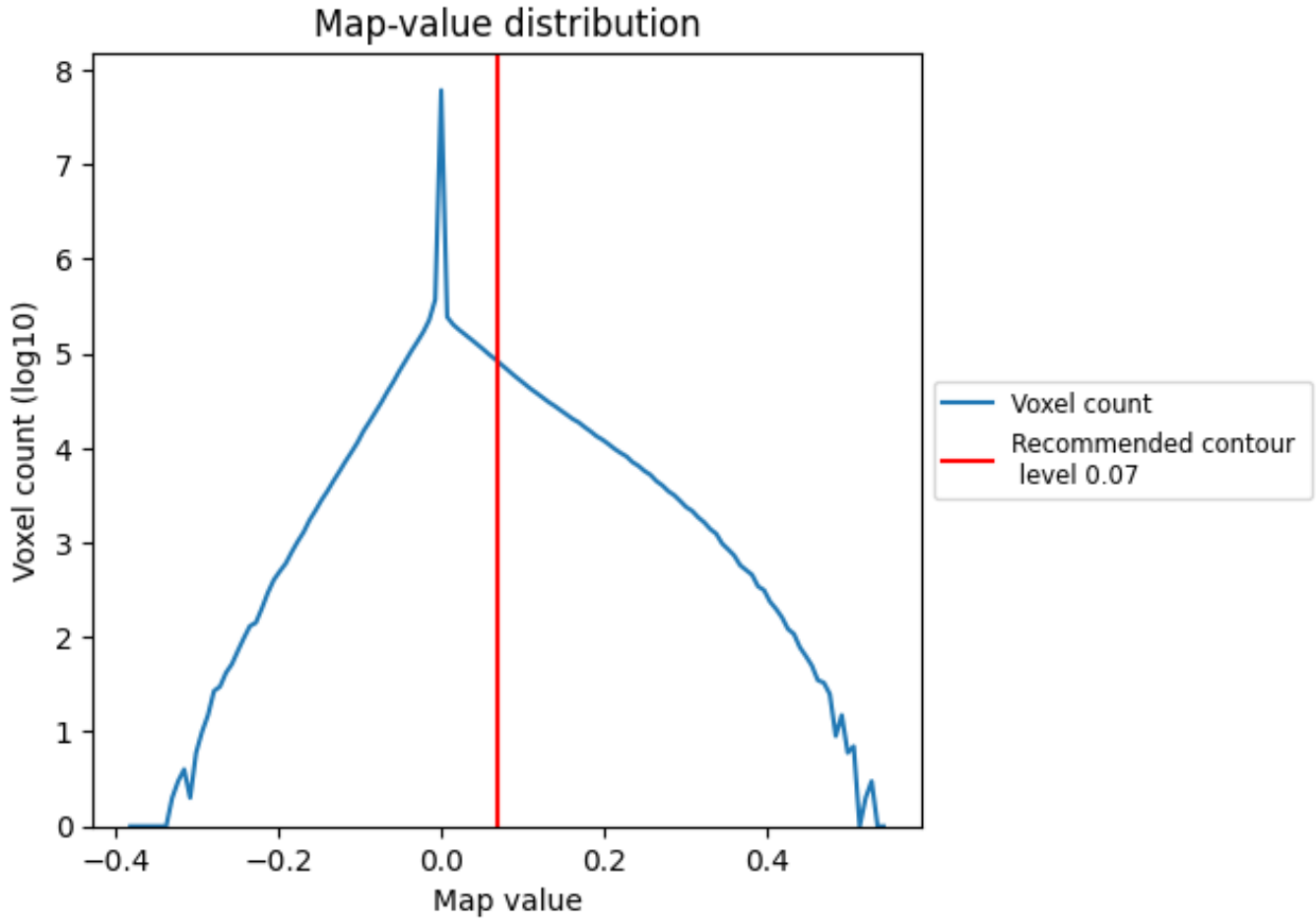
6.6 Mask visualisation (i)

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

7 Map analysis

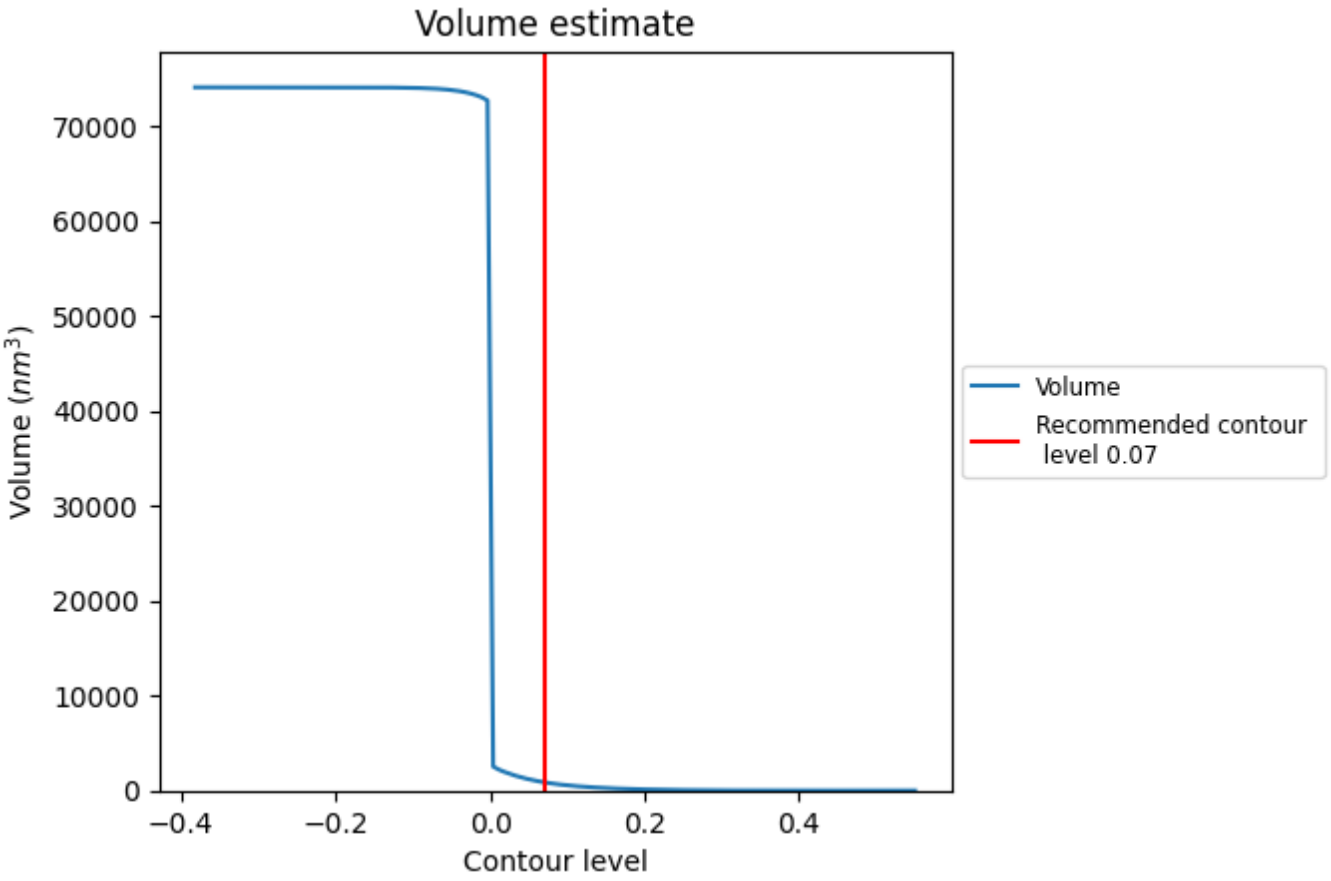
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

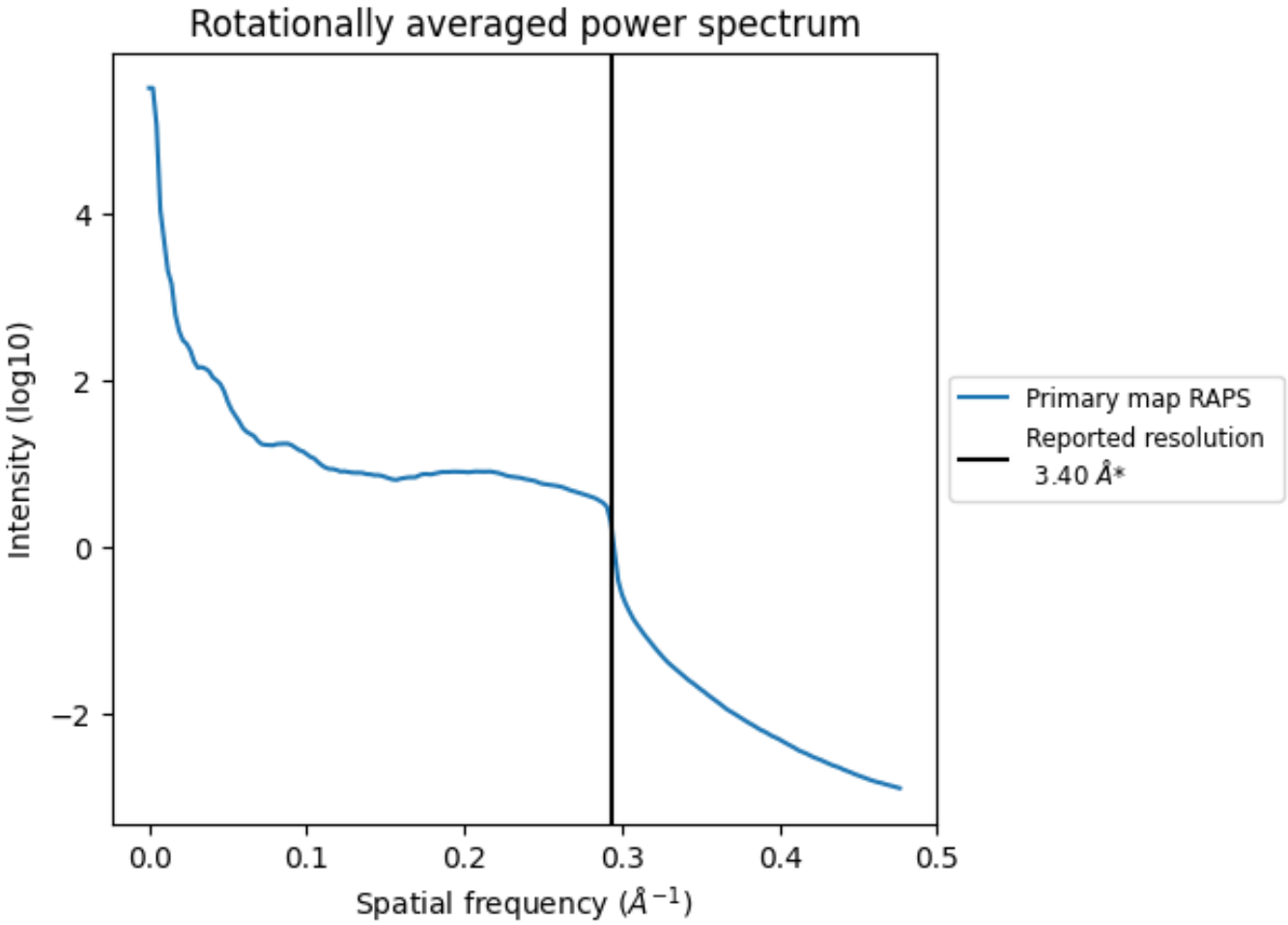
7.2 Volume estimate



The volume at the recommended contour level is 871 nm^3; this corresponds to an approximate mass of 787 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

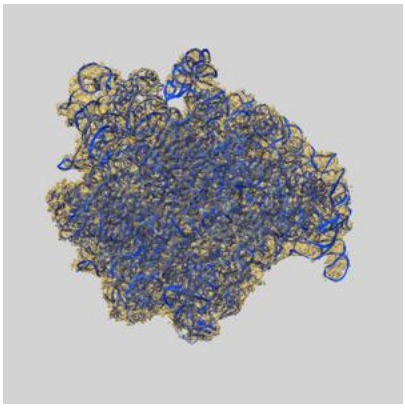
8 Fourier-Shell correlation (i)

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

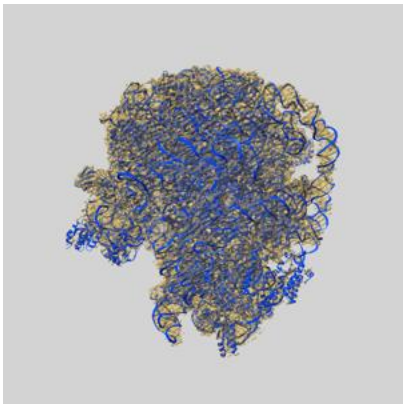
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-6920 and PDB model 5ZEB. Per-residue inclusion information can be found in section 3 on page 14.

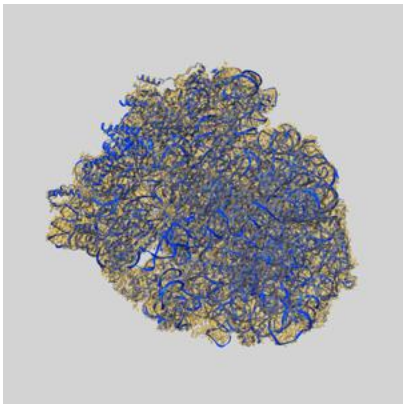
9.1 Map-model overlay



X



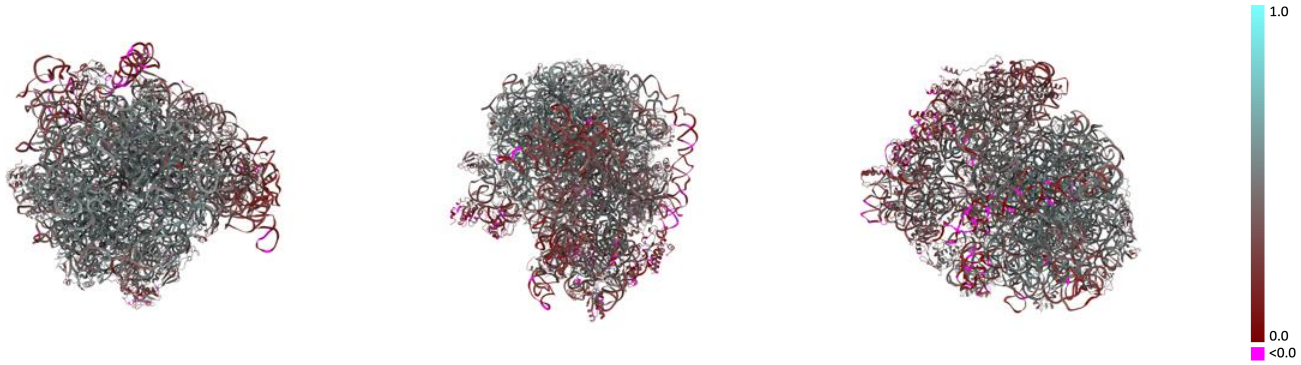
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.07 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

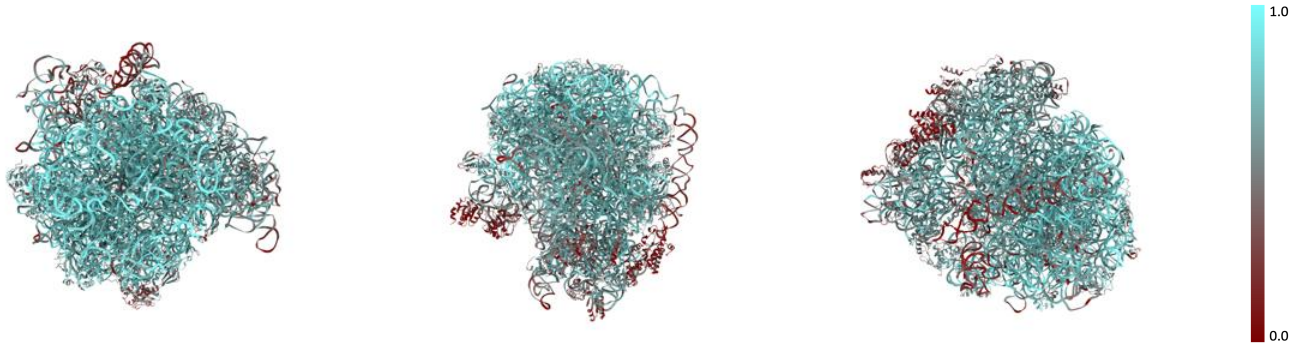
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

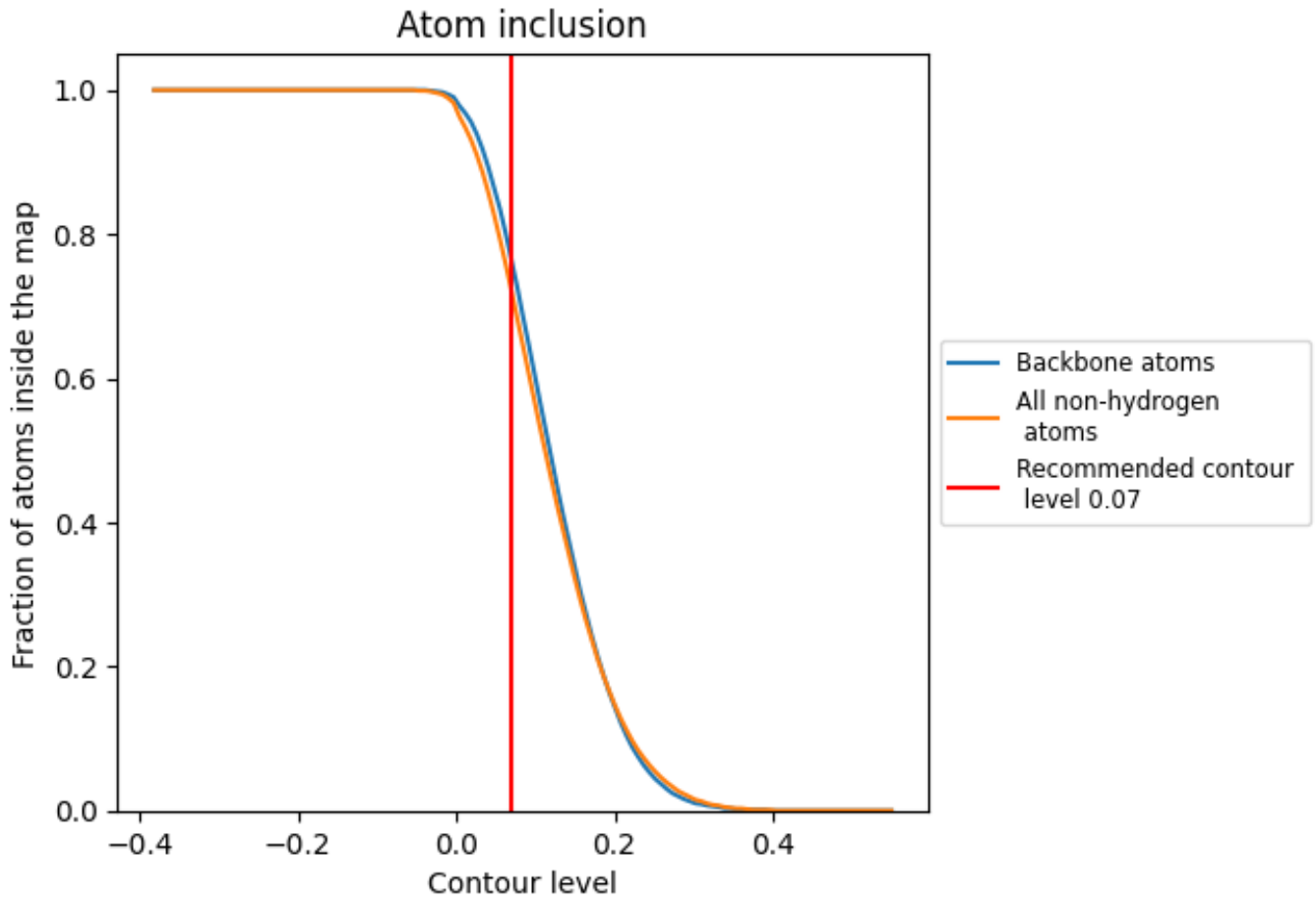
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.07).

9.4 Atom inclusion (i)



At the recommended contour level, 76% of all backbone atoms, 72% 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 (0.07) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7200	0.4150
1	0.7090	0.4820
2	0.4670	0.2940
3	0.7310	0.4870
4	0.6900	0.4390
5	0.7760	0.5240
6	0.8040	0.5320
7	0.7830	0.5100
8	0.6980	0.5040
A	0.8090	0.4590
B	0.7450	0.4000
C	0.7680	0.5110
D	0.7600	0.4990
E	0.7170	0.4590
F	0.6500	0.4210
G	0.5800	0.3830
H	0.4160	0.3470
I	0.0730	0.1380
J	0.0980	0.1370
K	0.7540	0.5000
L	0.7230	0.4840
M	0.7100	0.4630
N	0.7410	0.5010
O	0.7650	0.4870
P	0.7100	0.4510
Q	0.6760	0.4500
R	0.7850	0.5020
S	0.7180	0.4950
T	0.7510	0.5120
U	0.7050	0.4680
V	0.6250	0.4400
W	0.5320	0.3570
X	0.7410	0.4930
Y	0.7060	0.4800
Z	0.6660	0.4120

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Chain	Atom inclusion	Q-score
a	0.7230	0.3610
b	0.1100	0.1740
c	0.5060	0.3440
d	0.3890	0.2660
e	0.5280	0.3480
f	0.5590	0.3710
g	0.5470	0.3400
h	0.6780	0.4170
i	0.6000	0.3650
j	0.4710	0.3300
k	0.5980	0.3630
l	0.5360	0.3630
m	0.5720	0.3610
n	0.6950	0.4410
o	0.6840	0.4230
p	0.4700	0.3130
q	0.5280	0.3410
r	0.5910	0.3640
s	0.5470	0.3320
t	0.5450	0.3150
u	0.4240	0.3470
v	0.5860	0.3080