



Full wwPDB EM Validation Report ⓘ

Sep 16, 2026 – 03:10 pm BST

PDB ID : 9SL7 / pdb_00009sl7
EMDB ID : EMD-53676
Title : Model of M. pneumoniae 70S transertion-like (stable RNAP)
Authors : Dobbs, J.M.; Mahamid, J.
Deposited on : 2025-09-03
Resolution : 26.70 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.dev133
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

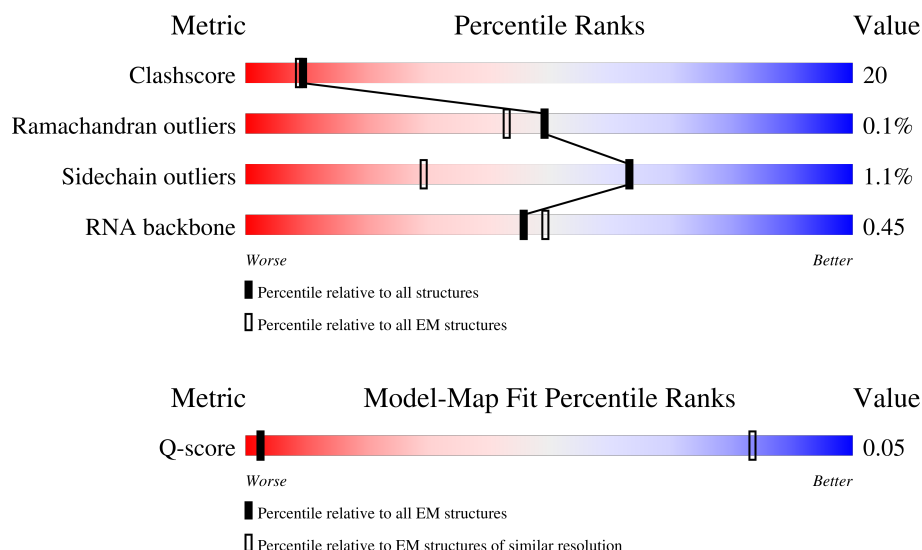
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 26.70 Å.

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



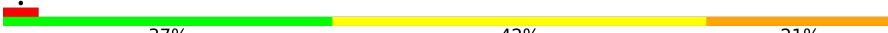
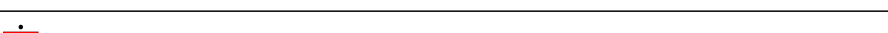
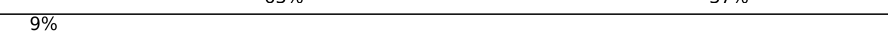
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	6 (26.50 - 27.20)

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

Mol	Chain	Length	Quality of chain
1	0	47	 70% 30%
2	1	59	 69% 31%
3	2	37	 41% 59%

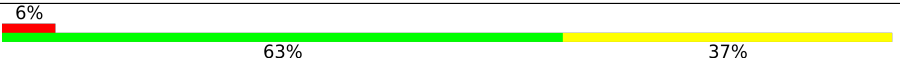
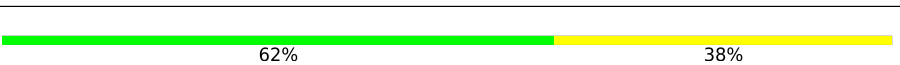
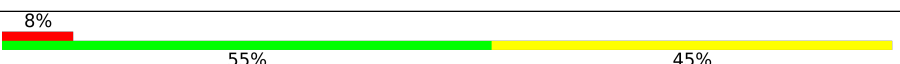
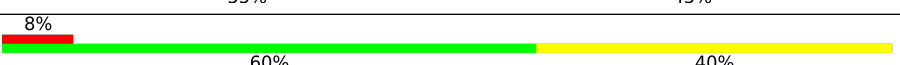
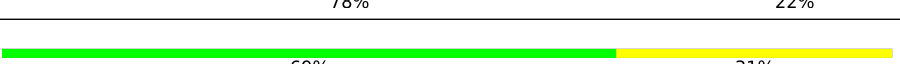
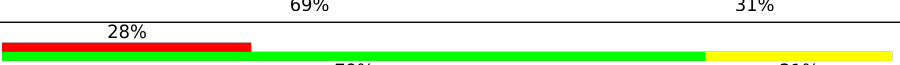
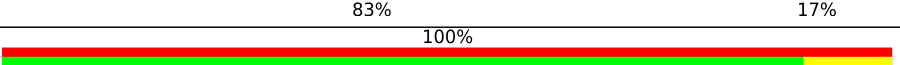
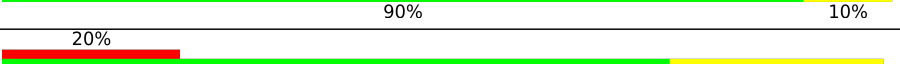
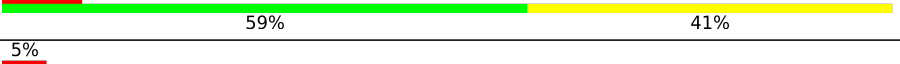
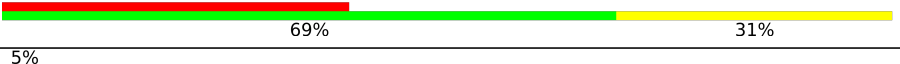
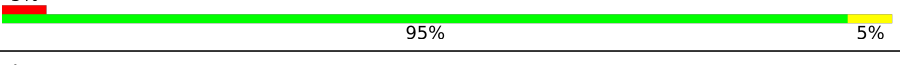
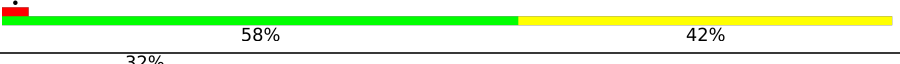
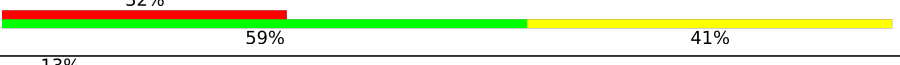
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Mol	Chain	Length	Quality of chain
4	3	2878	
5	4	105	
6	5	1493	
7	6	327	
7	AB	327	
8	7	76	
9	8	944	
10	9	1391	
11	A	240	
12	AA	89	
13	AC	366	
14	AD	32	
15	AE	32	
16	AF	160	
17	B	215	
18	C	203	
19	D	153	
20	E	167	
21	F	154	
22	G	141	
23	H	128	
24	I	101	
25	J	114	
26	K	136	
27	L	118	

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Mol	Chain	Length	Quality of chain
28	M	60	
29	N	83	
30	O	80	
31	P	83	
32	Q	65	
33	R	84	
34	S	77	
35	T	53	
36	U	161	
37	V	29	
37	W	29	
37	X	29	
37	Y	29	
38	Z	1276	
39	a	285	
40	b	229	
41	c	210	
42	d	175	
43	e	176	
44	f	145	
45	h	128	
46	i	144	
47	j	122	
48	k	148	
49	l	136	

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Mol	Chain	Length	Quality of chain
50	m	119	 58%42%
51	n	116	 69%28%
52	o	115	 54%46%
53	p	114	 52%48%
54	q	99	 54%46%
55	r	139	 53%47%
56	s	92	 65%35%
57	t	111	 71%29%
58	u	86	 69%31%
59	v	63	 46%54%
60	w	108	 64%29%7%
61	x	44	 82%18%
62	y	56	 64%30%5%
63	z	50	 62%38%

2 Entry composition

There are 63 unique types of molecules in this entry. The entry contains 184921 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Large ribosomal subunit protein bL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 5 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 6 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

- Molecule 7 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	308	Total	C	N	O	S	0	0
			2421	1550	407	454	10		
7	AB	312	Total	C	N	O	S	0	0
			2452	1571	412	459	10		

- Molecule 8 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

- Molecule 9 is a protein called SecDF.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	8	899	Total	C	N	O	S	0	0
			7063	4595	1165	1293	10		

- Molecule 10 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	9	1391	Total	C	N	O	S	0	0
			10948	6905	1892	2114	37		

- Molecule 11 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 12 is a protein called Probable DNA-directed RNA polymerase subunit delta.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AA	89	Total	C	N	O	S	0	0
			770	505	122	140	3		

- Molecule 13 is a protein called Transcription termination/antitermination protein NusA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AC	366	Total	C	N	O	S	0	0
			2884	1834	479	562	9		

- Molecule 14 is a DNA chain called DNA chain A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AD	32	Total	C	N	O	P	0	0
			663	317	124	190	32		

- Molecule 15 is a DNA chain called DNA chain B.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AE	32	Total	C	N	O	P	0	0
			649	313	110	194	32		

- Molecule 16 is a protein called Transcription termination/antitermination protein NusG.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AF	160	Total	C	N	O	S	0	0
			1277	821	220	233	3		

- Molecule 17 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 18 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 19 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 20 is a protein called Small ribosomal subunit protein bS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 21 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 22 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 23 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 24 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 25 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 26 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 27 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	L	118	Total	C	N	O	0	0
			951	594	191	166		

- Molecule 28 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 29 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 30 is a protein called Small ribosomal subunit protein bS16.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 31 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	P	83	Total	C	N	O		0	0
			675	425	135	115			

- Molecule 32 is a protein called Small ribosomal subunit protein bS18.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 33 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 34 is a protein called Small ribosomal subunit protein bS20.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	S	77	Total	C	N	O		0	0
			629	383	135	111			

- Molecule 35 is a protein called Small ribosomal subunit protein bS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

- Molecule 36 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	U	161	Total	C	N	O	S	0	0
			1239	796	213	225	5		

- Molecule 37 is a protein called Large ribosomal subunit protein bL12.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	V	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
37	W	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
37	X	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
37	Y	29	Total	C	N	O	S	0	0
			232	146	34	50	2		

- Molecule 38 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Z	1276	Total	C	N	O	S	0	0
			10085	6431	1752	1872	30		

- Molecule 39 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

- Molecule 40 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

- Molecule 41 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

- Molecule 42 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

- Molecule 43 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	e	176	Total	C	N	O	S	0	0
			1396	899	247	250			

- Molecule 44 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	f	145	Total	C	N	O	S	0	0
			1160	746	204	207	3		

- Molecule 45 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	h	128	Total	C	N	O	S	0	0
			959	616	160	177	6		

- Molecule 46 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	i	144	Total	C	N	O	S	0	0
			1164	737	213	209	5		

- Molecule 47 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	j	122	Total	C	N	O	S	0	0
			944	595	178	167	4		

- Molecule 48 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	k	148	Total	C	N	O	0	0
			1153	731	226	196		

- Molecule 49 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	l	136	Total	C	N	O	S	0	0
			1079	694	196	182	7		

- Molecule 50 is a protein called Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 51 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 52 is a protein called Large ribosomal subunit protein bL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 53 is a protein called Large ribosomal subunit protein bL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	p	114	Total	C	N	O	S	0	0
			947	603	188	154	2		

- Molecule 54 is a protein called Large ribosomal subunit protein bL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 55 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 56 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 57 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

- Molecule 58 is a protein called Large ribosomal subunit protein bL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

- Molecule 59 is a protein called Large ribosomal subunit protein bL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

- Molecule 60 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	w	100	Total	C	N	O	S	0	0
			818	517	153	148			

- Molecule 61 is a protein called Large ribosomal subunit protein bL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

- Molecule 62 is a protein called Large ribosomal subunit protein bL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

- Molecule 63 is a protein called Large ribosomal subunit protein bL33A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

3 Residue-property plots

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

- Molecule 1: Large ribosomal subunit protein bL34



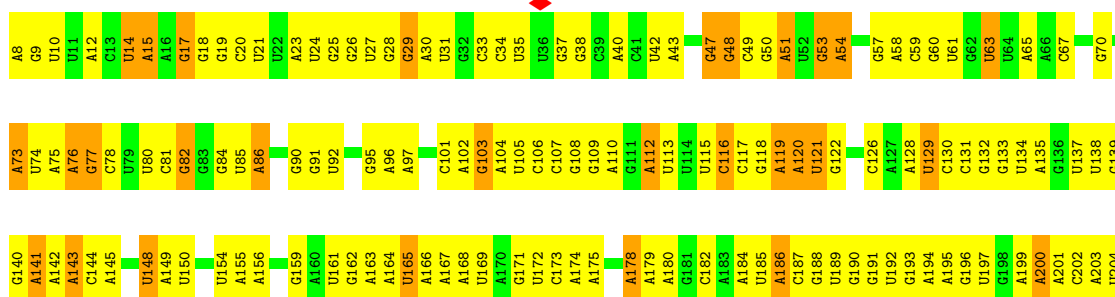
- Molecule 2: 50S ribosomal protein L35



- Molecule 3: 50S ribosomal protein L36



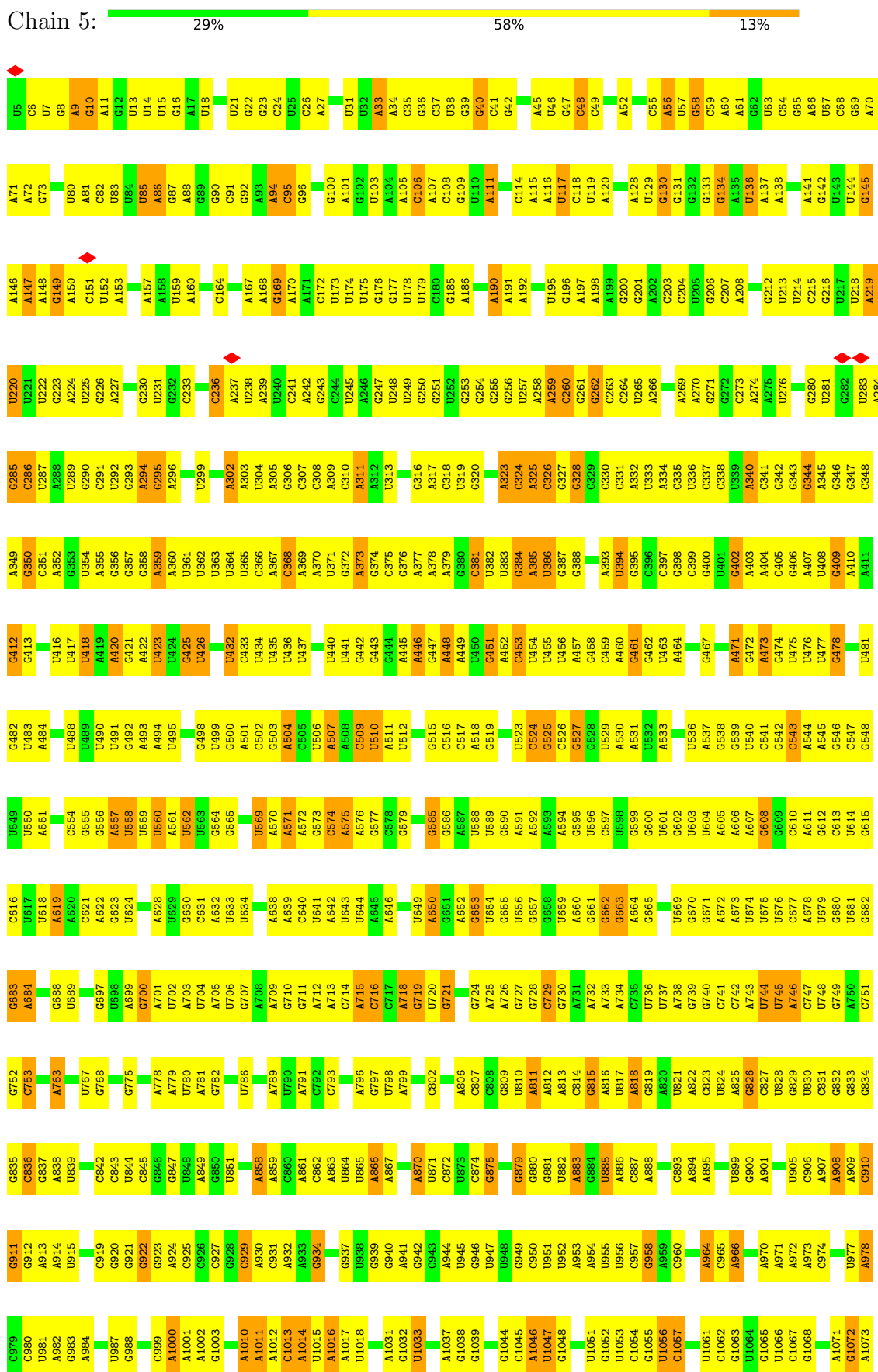
- Molecule 4: 23S ribosomal RNA

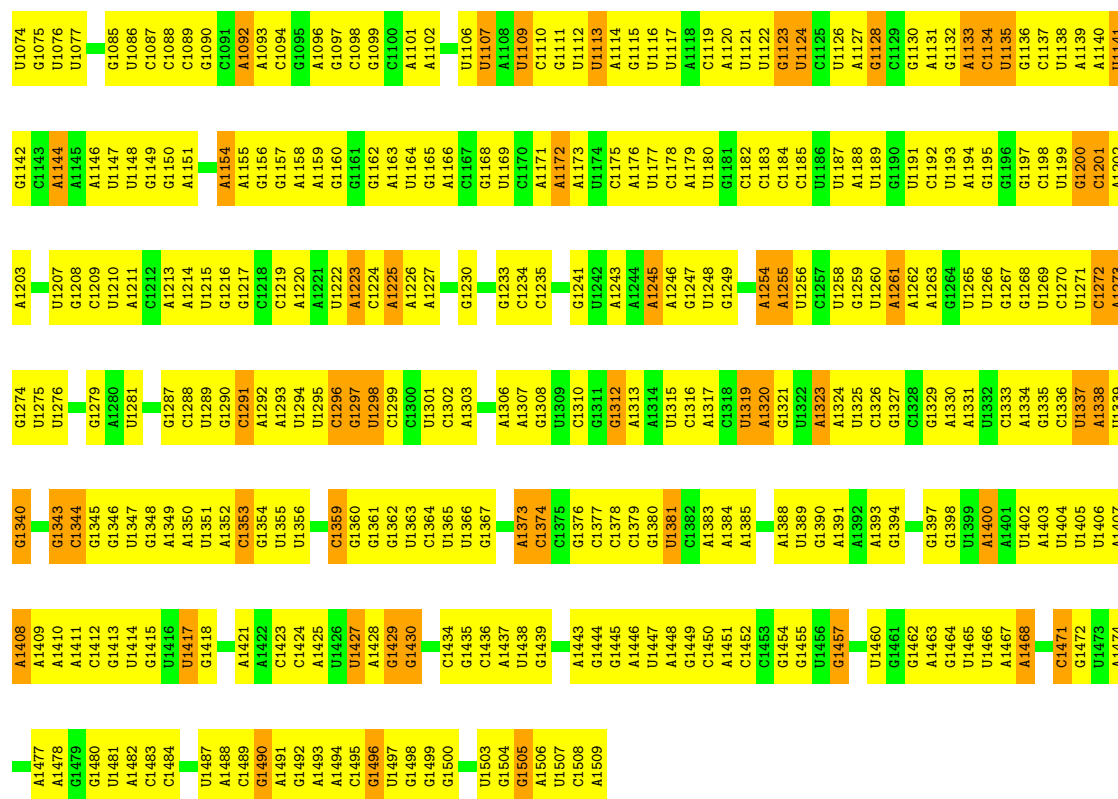


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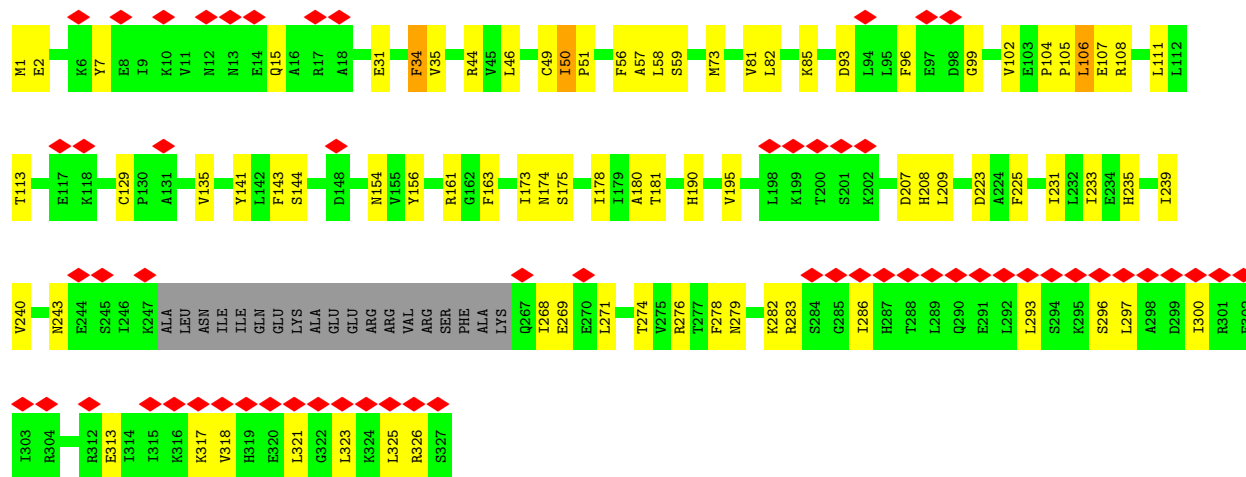
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	A1271				C1552	C1632	C1706	A1769	A1836	G1913	C1990	A2061	G2122	
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Chain 5:



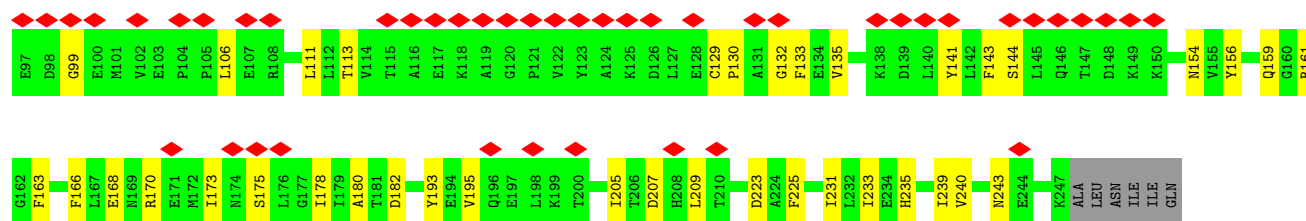


• Molecule 7: DNA-directed RNA polymerase subunit alpha

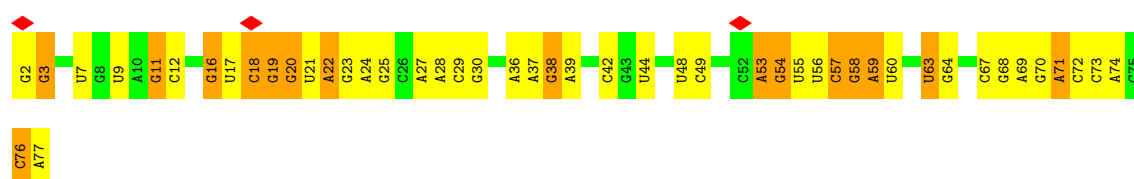


• Molecule 7: DNA-directed RNA polymerase subunit alpha

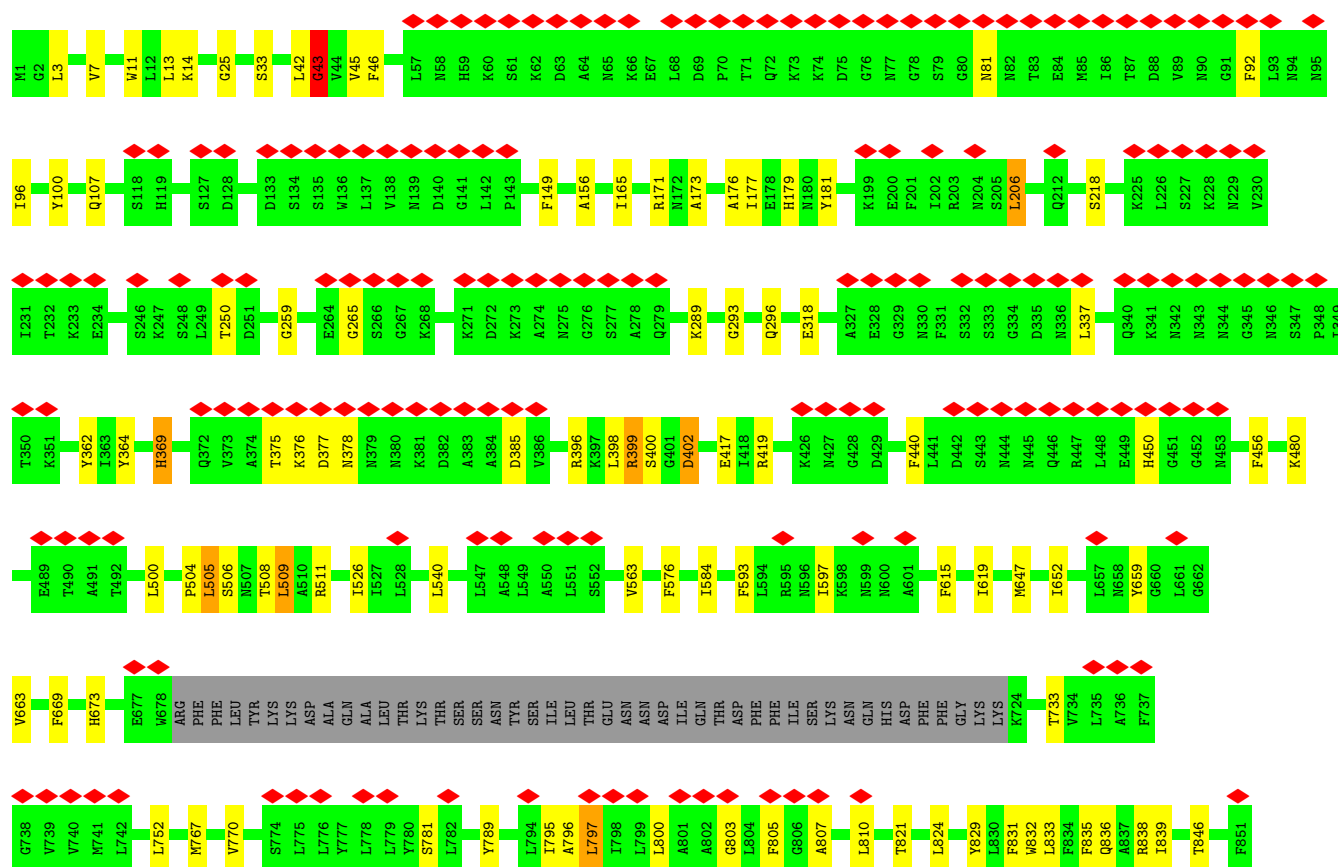
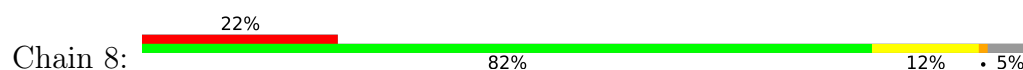


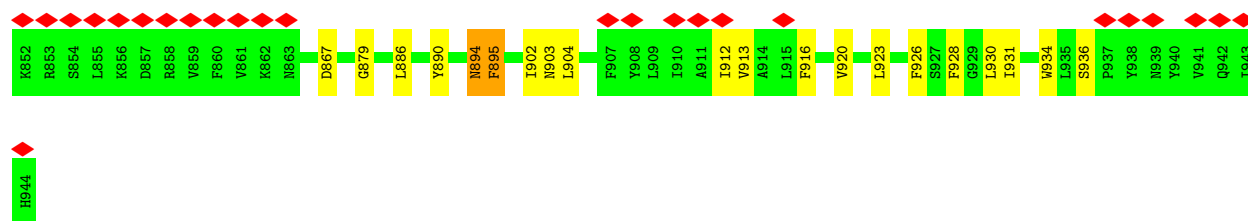


• Molecule 8: tRNA-Phe

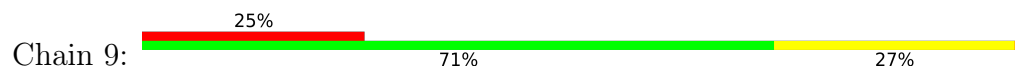


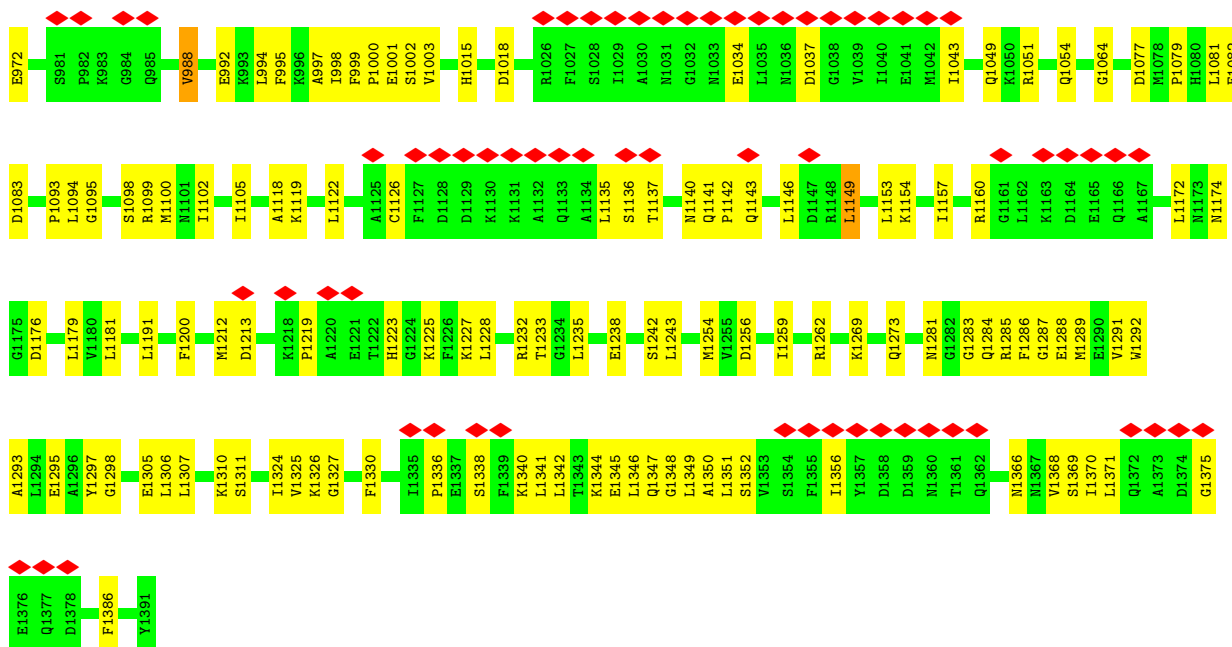
• Molecule 9: SecDF



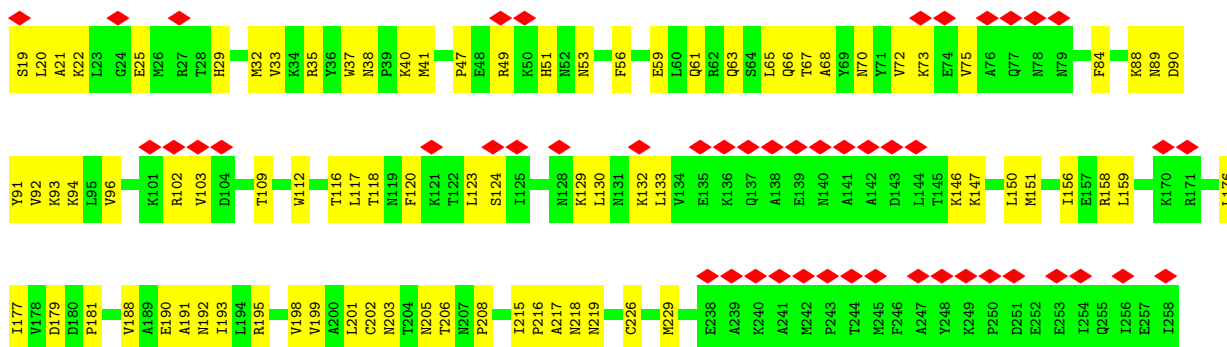


• Molecule 10: DNA-directed RNA polymerase subunit beta

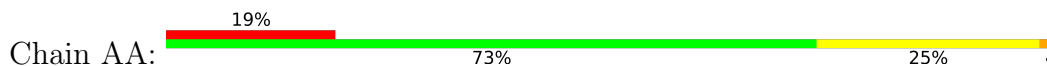




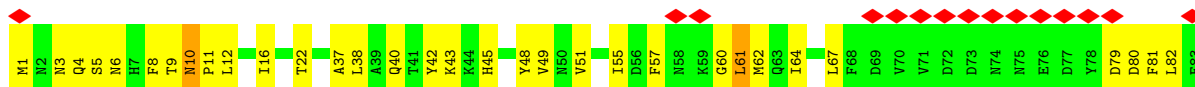
• Molecule 11: Small ribosomal subunit protein uS2

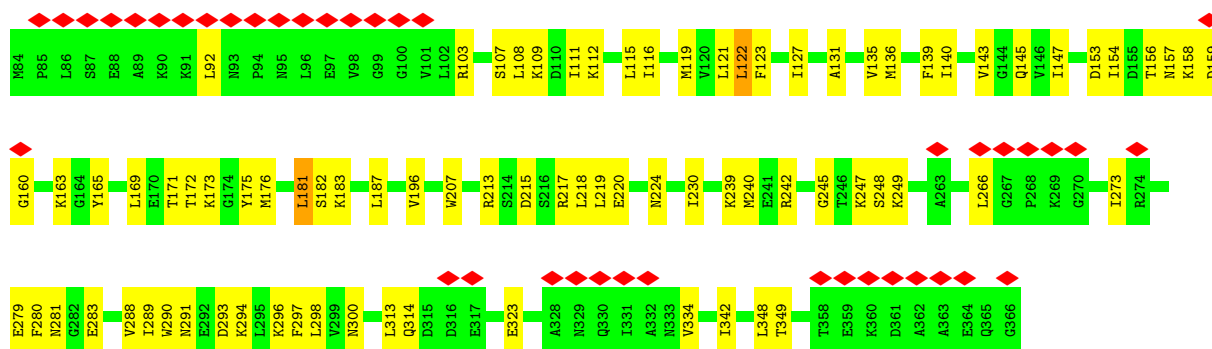


• Molecule 12: Probable DNA-directed RNA polymerase subunit delta



• Molecule 13: Transcription termination/antitermination protein NusA

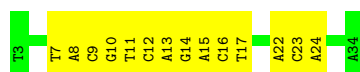




- Molecule 14: DNA chain A



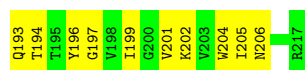
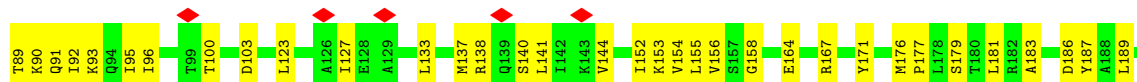
- Molecule 15: DNA chain B



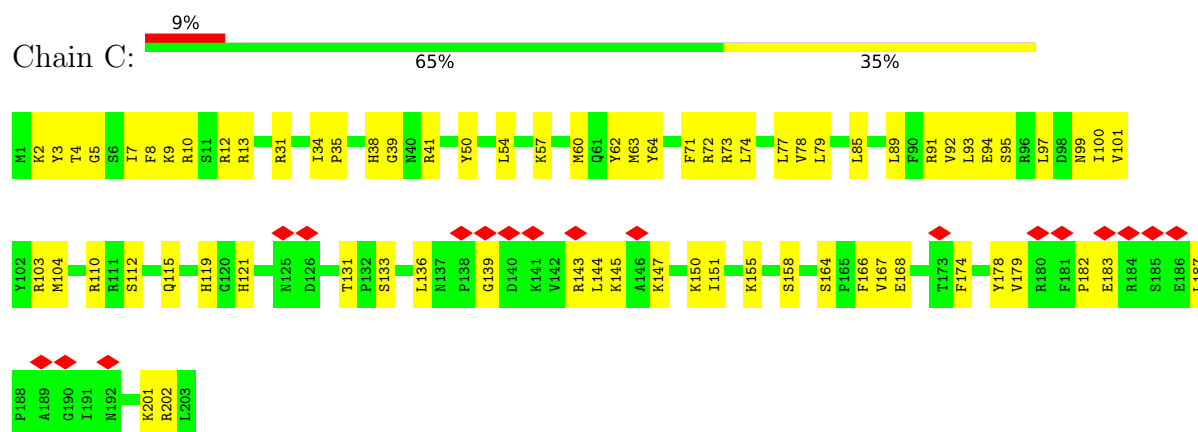
- Molecule 16: Transcription termination/antitermination protein NusG



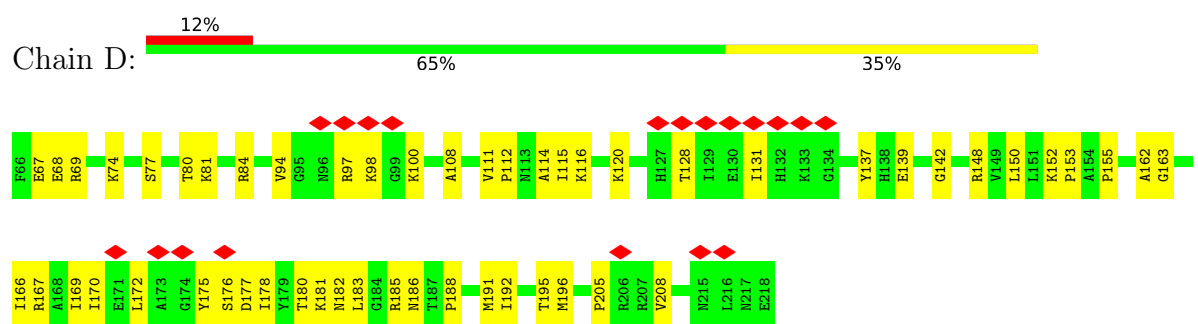
- Molecule 17: Small ribosomal subunit protein uS3



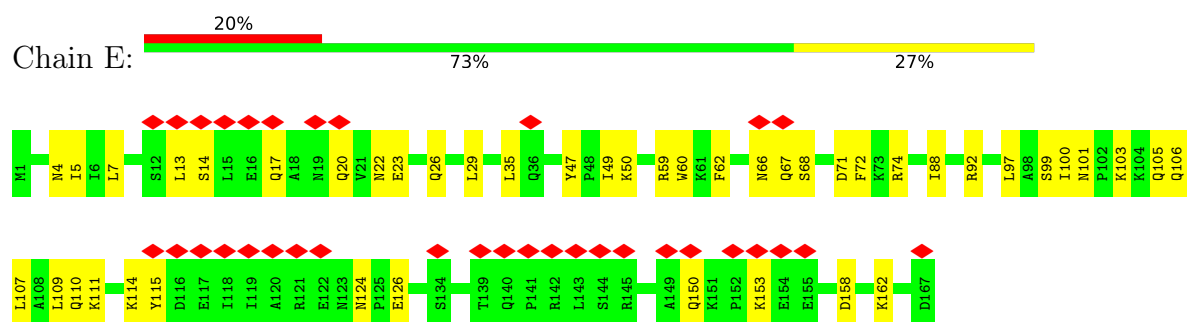
- Molecule 18: Small ribosomal subunit protein uS4



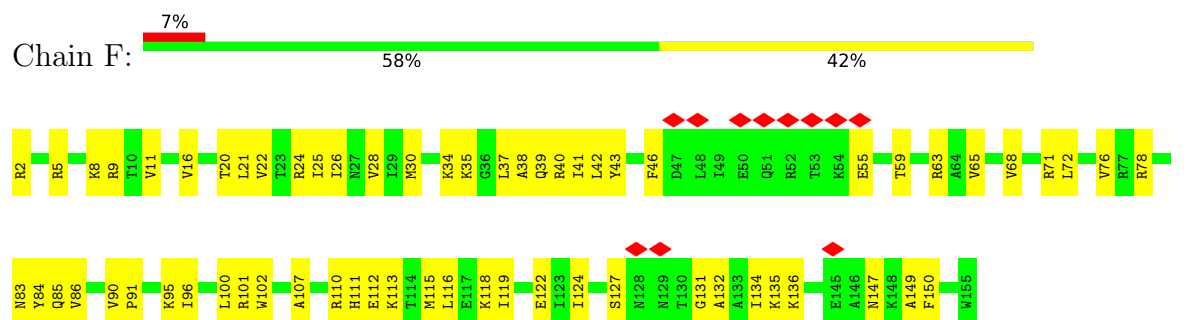
- Molecule 19: Small ribosomal subunit protein uS5



- Molecule 20: Small ribosomal subunit protein bS6

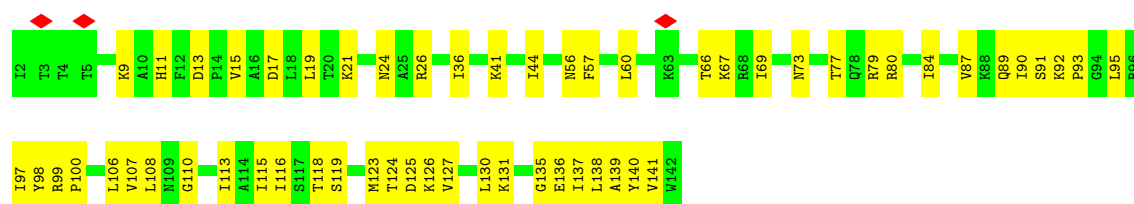


- Molecule 21: Small ribosomal subunit protein uS7



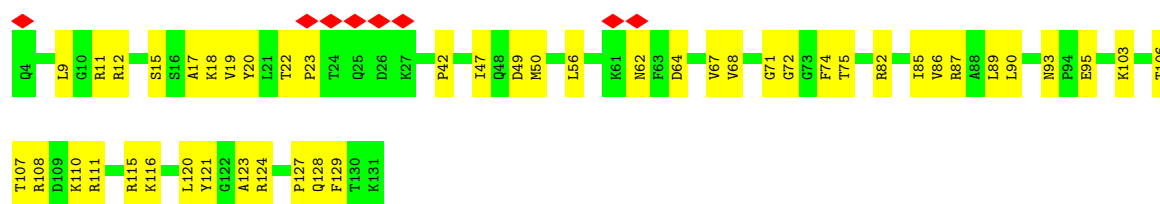
- Molecule 22: Small ribosomal subunit protein uS8

Chain G: 



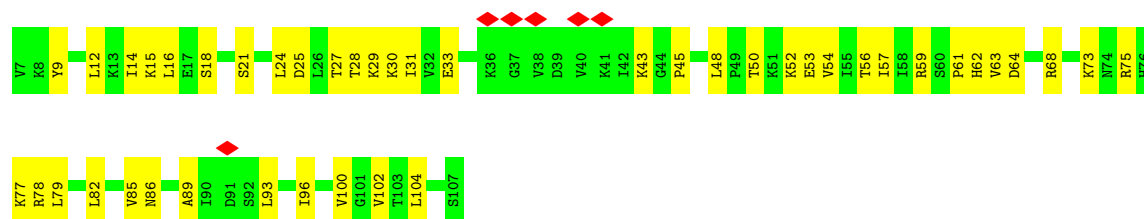
- Molecule 23: Small ribosomal subunit protein uS9

Chain H: 



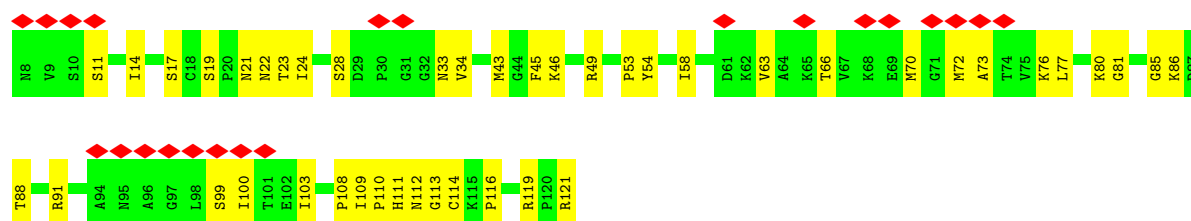
- Molecule 24: Small ribosomal subunit protein uS10

Chain I: 



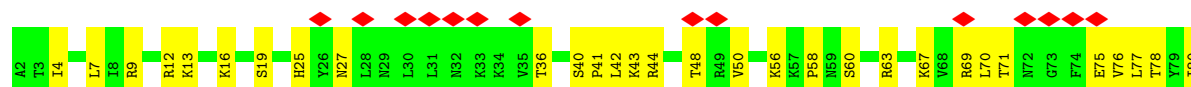
- Molecule 25: Small ribosomal subunit protein uS11

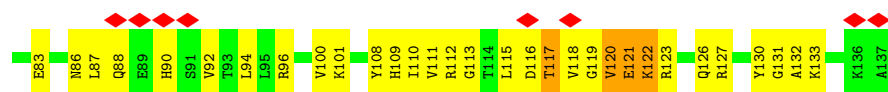
Chain J: 



- Molecule 26: Small ribosomal subunit protein uS12

Chain K: 





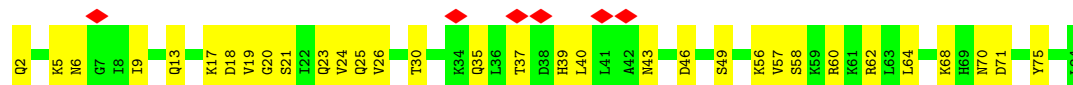
- Molecule 27: Small ribosomal subunit protein uS13



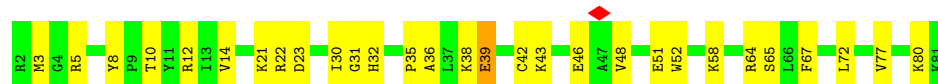
- Molecule 28: Small ribosomal subunit protein uS14



- Molecule 29: Small ribosomal subunit protein uS15



- Molecule 30: Small ribosomal subunit protein bS16



- Molecule 31: Small ribosomal subunit protein uS17

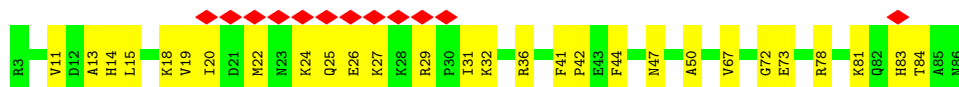


- Molecule 32: Small ribosomal subunit protein bS18

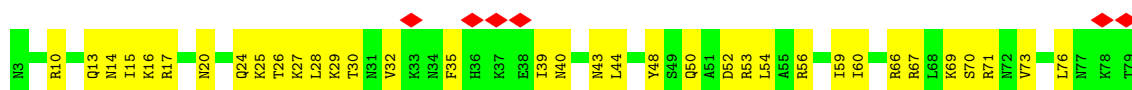




- Molecule 33: Small ribosomal subunit protein uS19



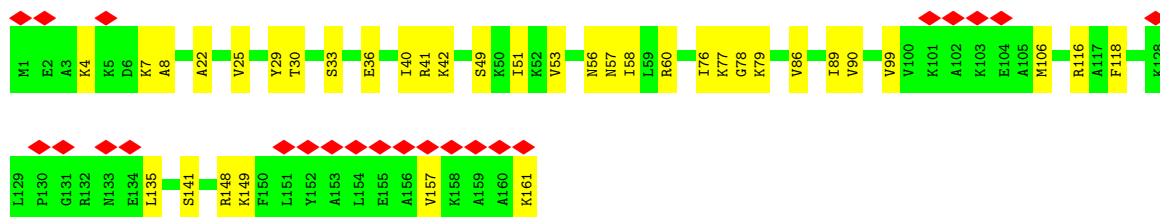
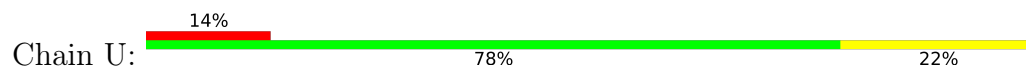
- Molecule 34: Small ribosomal subunit protein bS20



- Molecule 35: Small ribosomal subunit protein bS21



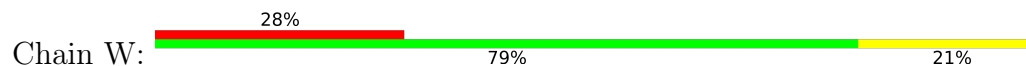
- Molecule 36: 50S ribosomal protein L10

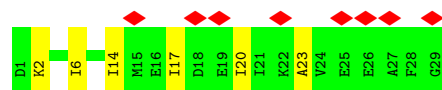


- Molecule 37: Large ribosomal subunit protein bL12

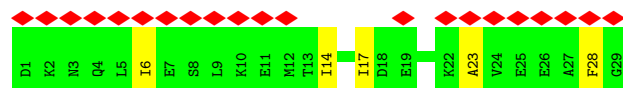
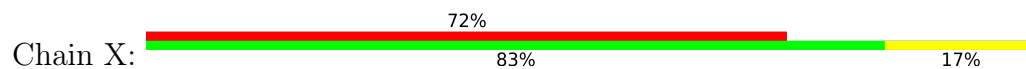


- Molecule 37: Large ribosomal subunit protein bL12

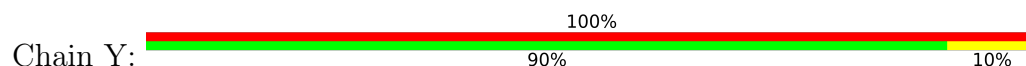




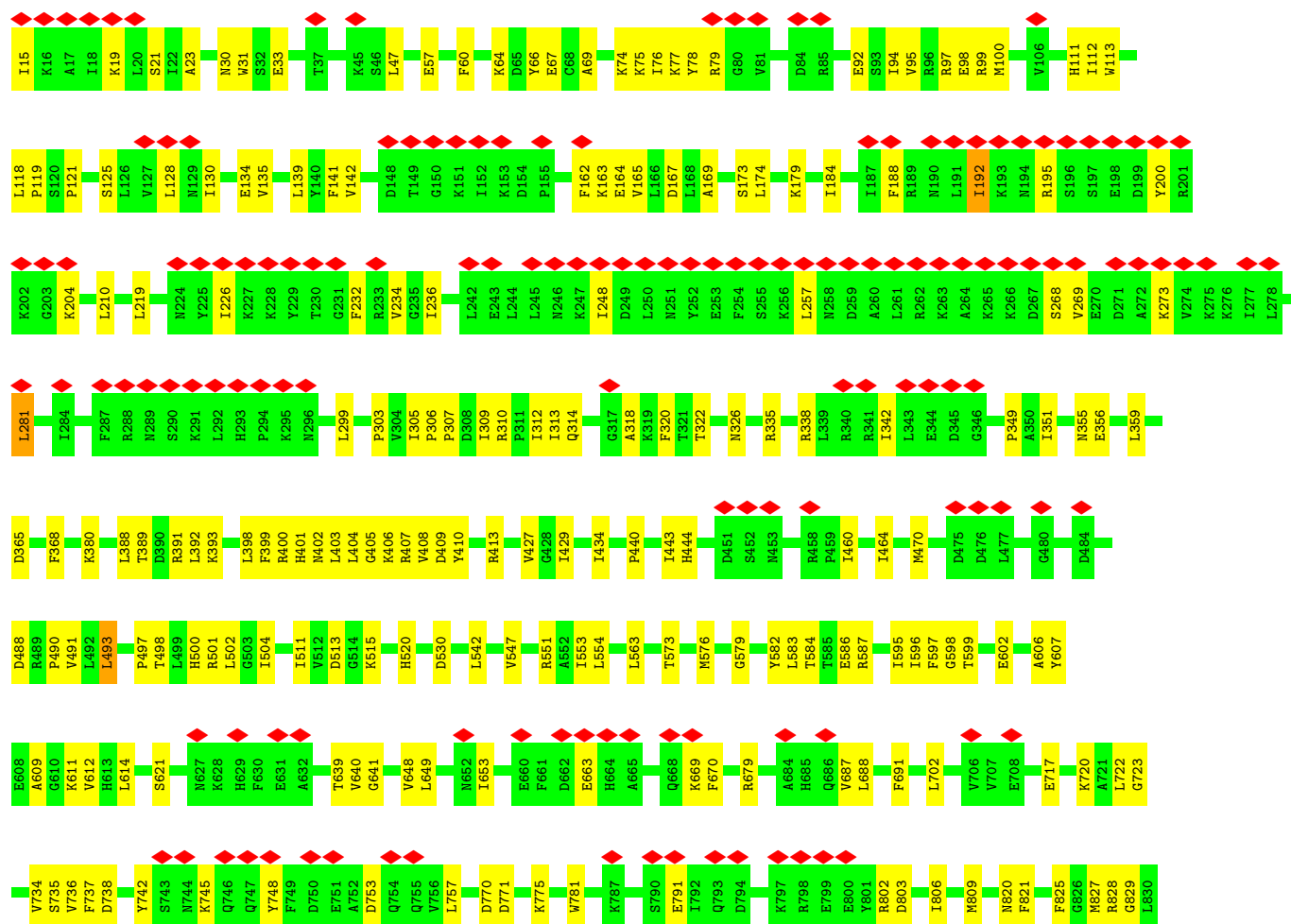
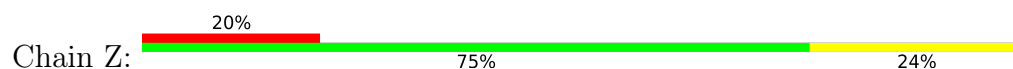
- Molecule 37: Large ribosomal subunit protein bL12

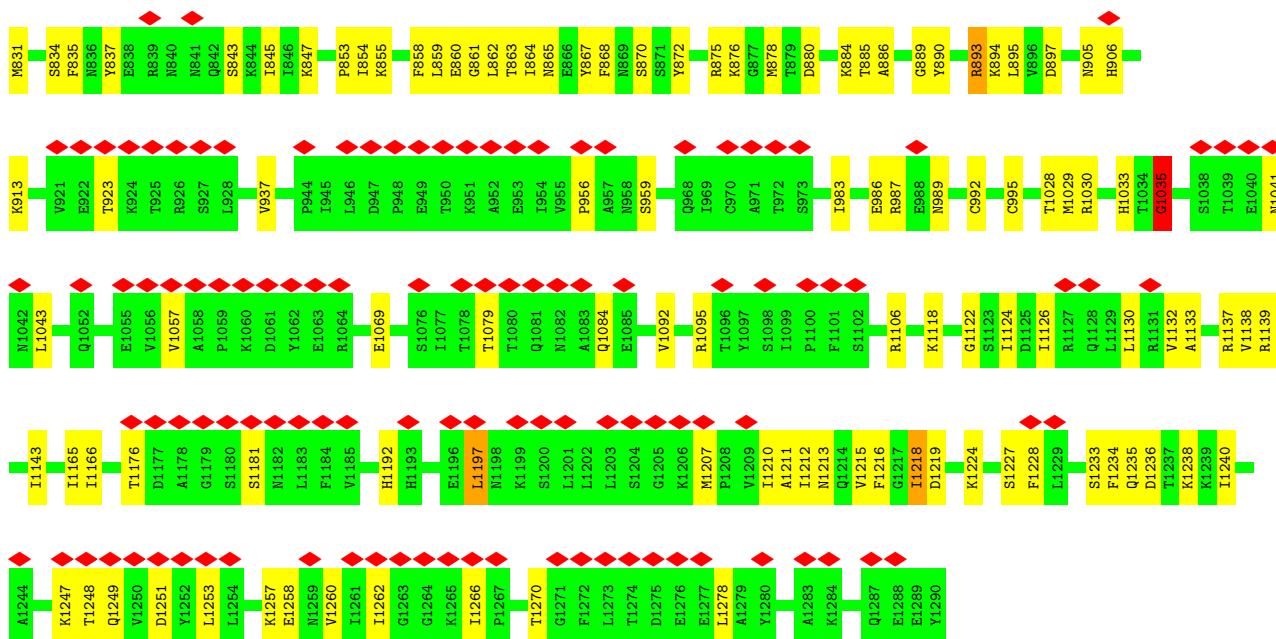


- Molecule 37: Large ribosomal subunit protein bL12

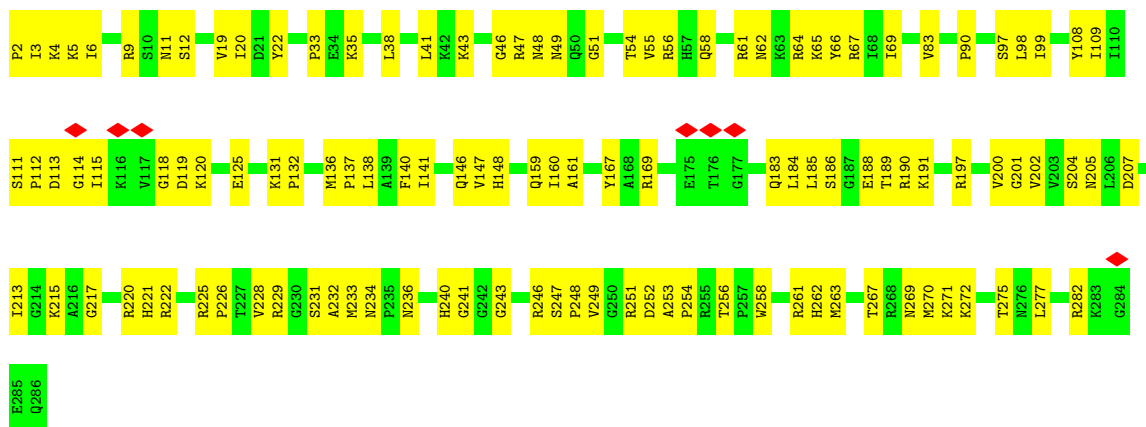


- Molecule 38: DNA-directed RNA polymerase subunit beta'

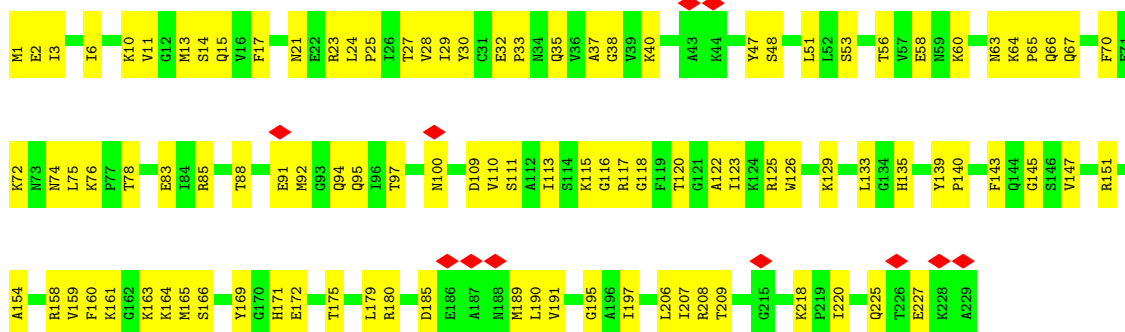




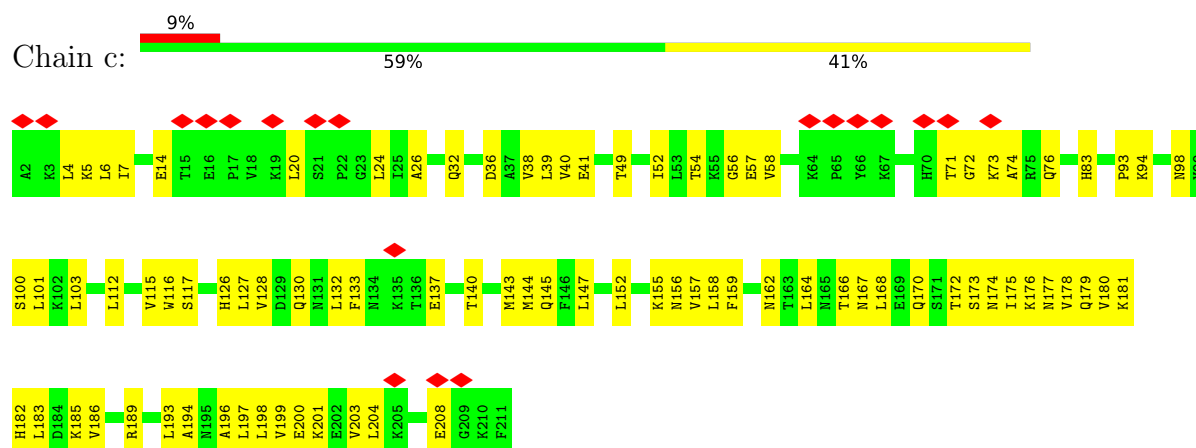
• Molecule 39: Large ribosomal subunit protein uL2



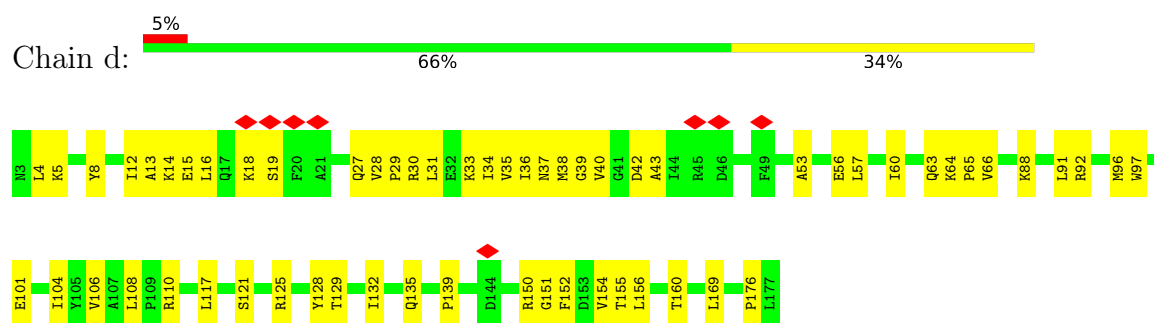
• Molecule 40: Large ribosomal subunit protein uL3



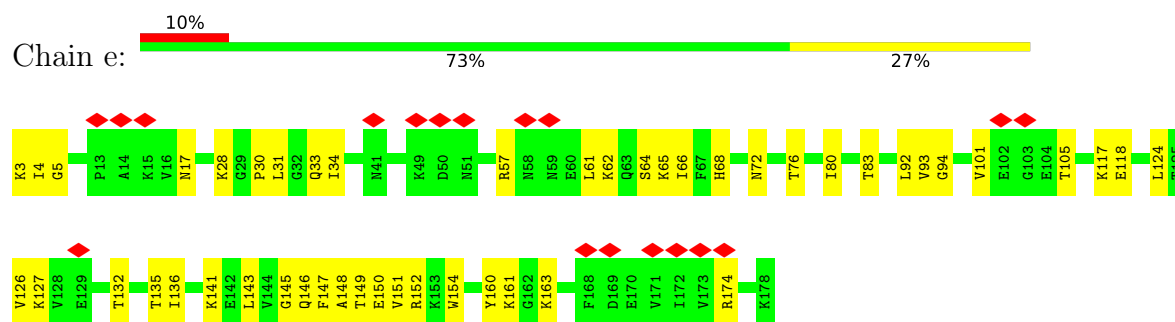
- Molecule 41: Large ribosomal subunit protein uL4



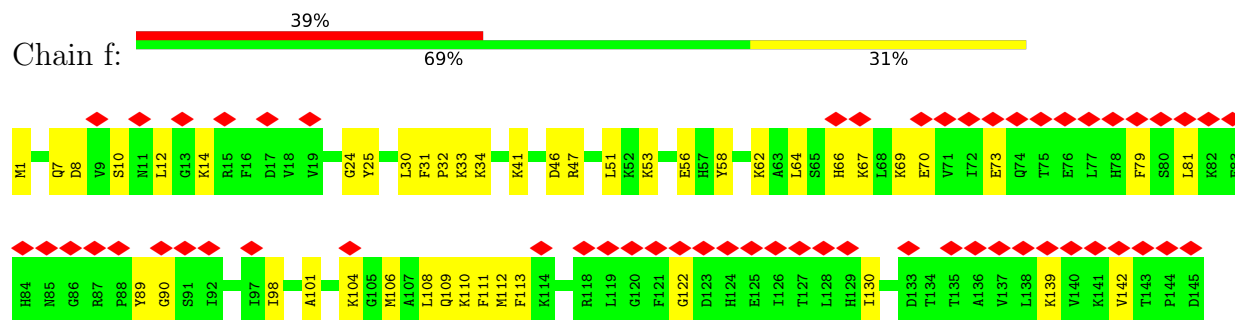
- Molecule 42: Large ribosomal subunit protein uL5



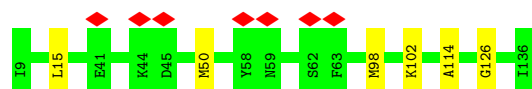
- Molecule 43: Large ribosomal subunit protein uL6



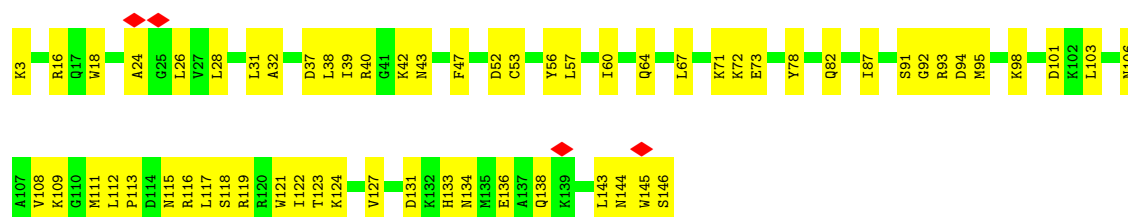
- Molecule 44: Large ribosomal subunit protein bL9



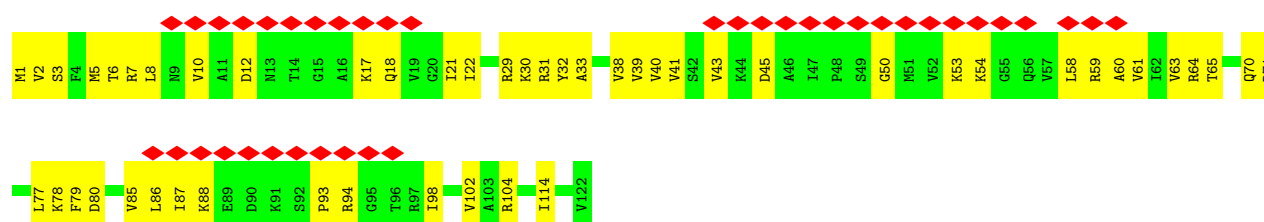
- Molecule 45: Large ribosomal subunit protein uL11



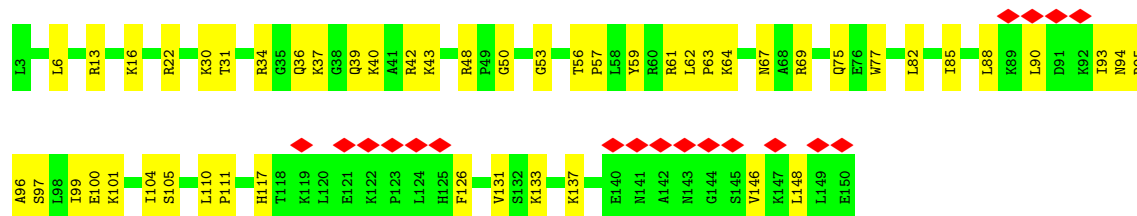
- Molecule 46: Large ribosomal subunit protein uL13



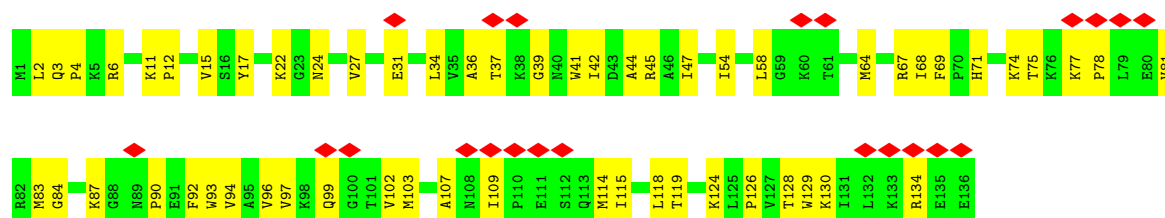
- Molecule 47: 50S ribosomal protein L14



- Molecule 48: Large ribosomal subunit protein uL15



- Molecule 49: Large ribosomal subunit protein uL16



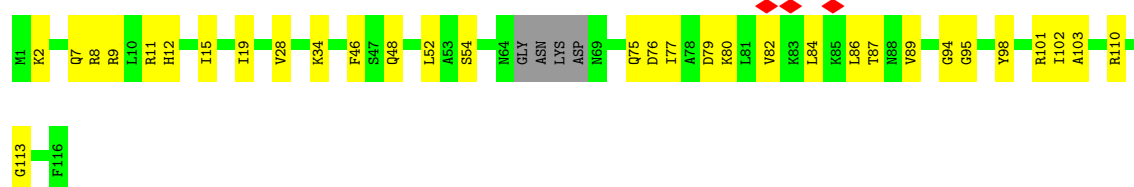
- Molecule 50: Large ribosomal subunit protein bL17

Chain m:  58% 42%



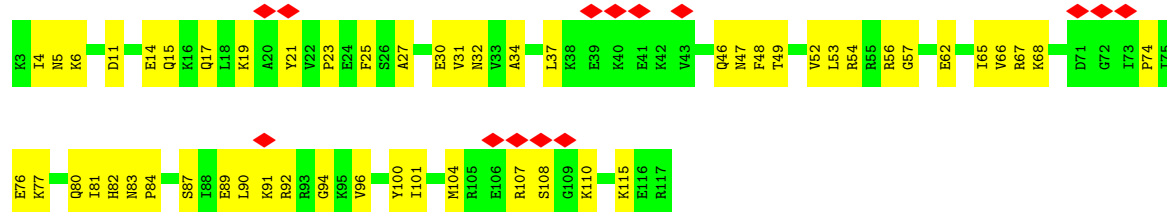
- Molecule 51: Large ribosomal subunit protein uL18

Chain n:  69% 28%



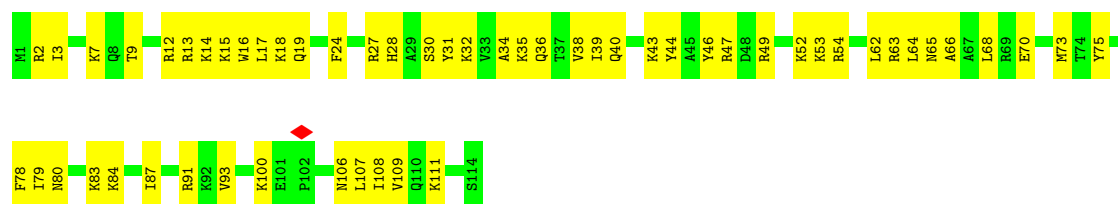
- Molecule 52: Large ribosomal subunit protein bL19

Chain o:  12% 54% 46%



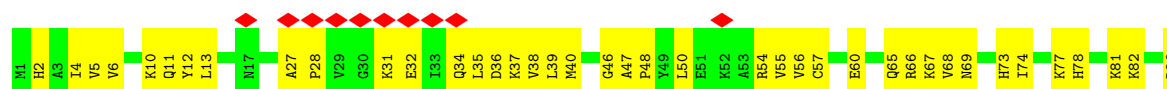
- Molecule 53: Large ribosomal subunit protein bL20

Chain p:  52% 48%



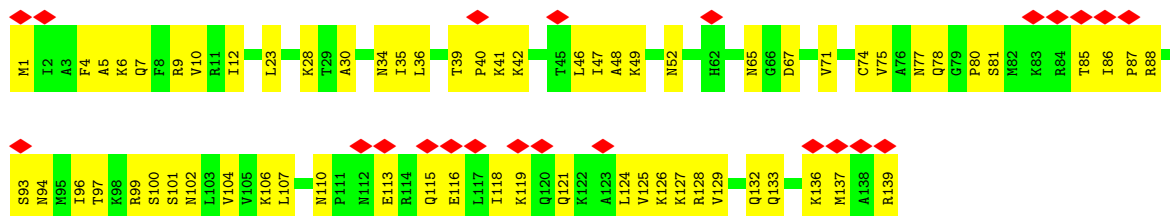
- Molecule 54: Large ribosomal subunit protein bL21

Chain q:  10% 54% 46%





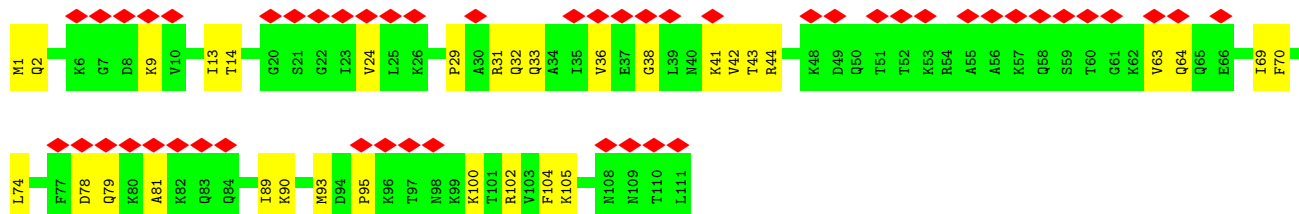
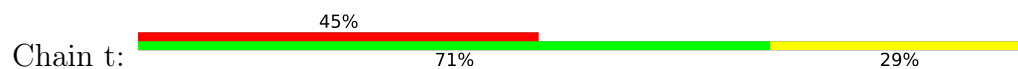
- Molecule 55: Large ribosomal subunit protein uL22



- Molecule 56: Large ribosomal subunit protein uL23



- Molecule 57: 50S ribosomal protein L24



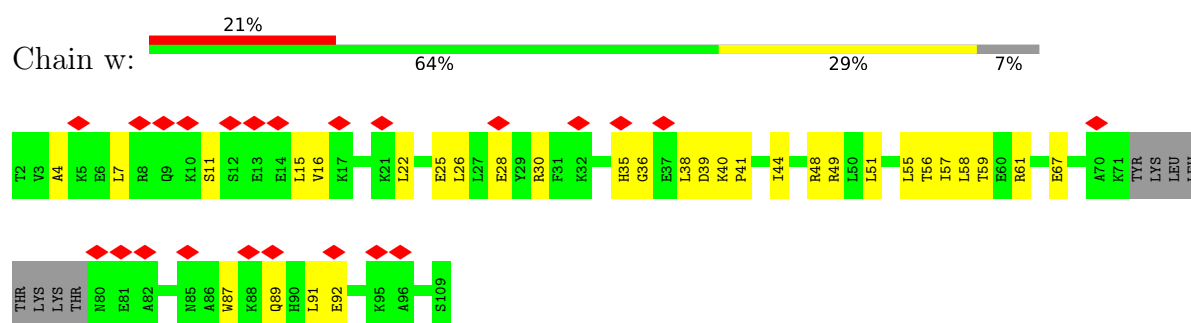
- Molecule 58: Large ribosomal subunit protein bL27



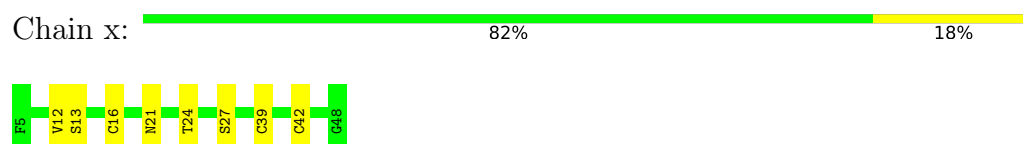
- Molecule 59: Large ribosomal subunit protein bL28



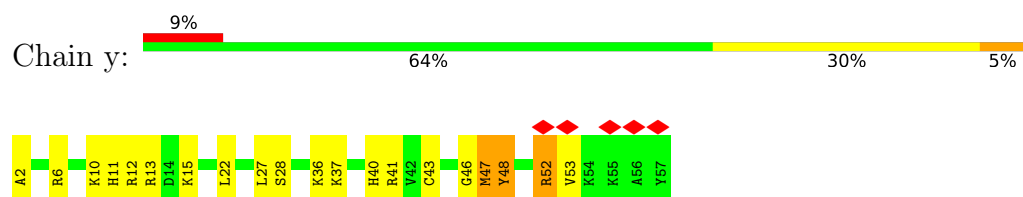
- Molecule 60: Large ribosomal subunit protein uL29



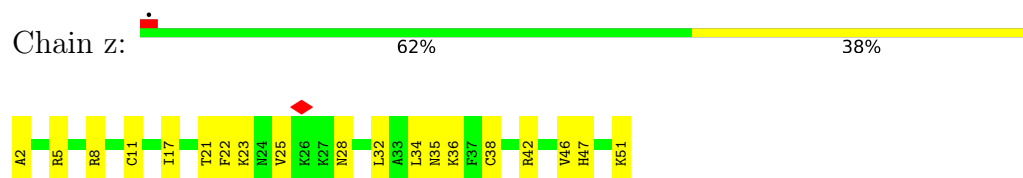
- Molecule 61: Large ribosomal subunit protein bL31



- Molecule 62: Large ribosomal subunit protein bL32



- Molecule 63: Large ribosomal subunit protein bL33A



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	119	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	120	Depositor
Minimum defocus (nm)	2500	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.526	Depositor
Minimum map value	-0.717	Depositor
Average map value	0.018	Depositor
Map value standard deviation	0.134	Depositor
Recommended contour level	0.162	Depositor
Map size (Å)	500.0, 500.0, 500.0	wwPDB
Map dimensions	100, 100, 100	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	5.0, 5.0, 5.0	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.14	0/383	0.38	0/504
2	1	0.19	0/484	0.54	0/637
3	2	0.17	0/306	0.45	0/401
4	3	0.10	0/69073	0.23	0/107710
5	4	0.11	0/2505	0.28	0/3902
6	5	0.10	0/35768	0.23	0/55764
7	6	0.68	0/2458	1.00	0/3313
7	AB	0.69	0/2490	1.00	0/3355
8	7	0.11	0/1808	0.28	0/2817
9	8	0.75	0/7216	1.28	12/9795 (0.1%)
10	9	0.70	0/11124	1.06	0/15014
11	A	0.15	0/1954	0.44	0/2642
12	AA	0.69	0/792	1.05	0/1065
13	AC	0.70	0/2922	1.01	0/3944
14	AD	0.47	0/745	0.61	1/1149 (0.1%)
15	AE	0.65	1/725 (0.1%)	0.75	2/1115 (0.2%)
16	AF	0.71	0/1298	1.00	0/1752
17	B	0.18	0/1721	0.49	0/2323
18	C	0.17	0/1691	0.49	0/2267
19	D	0.19	0/1188	0.52	1/1593 (0.1%)
20	E	0.17	0/1384	0.48	2/1867 (0.1%)
21	F	0.19	0/1266	0.56	1/1700 (0.1%)
22	G	0.18	0/1126	0.53	0/1517
23	H	0.17	0/1044	0.47	0/1395
24	I	0.20	0/820	0.58	1/1103 (0.1%)
25	J	0.16	0/844	0.44	0/1136
26	K	0.28	0/1094	0.60	2/1468 (0.1%)
27	L	0.19	0/962	0.50	0/1289
28	M	0.19	0/483	0.51	0/643
29	N	0.15	0/679	0.49	1/907 (0.1%)
30	O	0.18	0/659	0.57	1/885 (0.1%)
31	P	0.15	0/684	0.42	0/913
32	Q	0.20	0/545	0.60	0/730
33	R	0.16	0/698	0.49	0/936

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
34	S	0.18	0/631	0.46	0/838
35	T	0.20	0/475	0.56	0/621
36	U	0.68	0/1254	1.10	0/1677
37	V	0.65	0/232	1.16	2/307 (0.7%)
37	W	0.60	0/232	1.10	0/307
37	X	0.65	0/232	1.04	0/307
37	Y	0.64	0/232	1.07	0/307
38	Z	0.71	0/10259	1.06	2/13846 (0.0%)
39	a	0.16	0/2267	0.43	0/3044
40	b	0.17	0/1795	0.51	0/2412
41	c	0.19	0/1671	0.51	1/2246 (0.0%)
42	d	0.16	0/1409	0.44	0/1894
43	e	0.15	0/1420	0.43	0/1912
44	f	0.20	0/1183	0.56	2/1587 (0.1%)
45	h	0.16	0/968	0.43	0/1298
46	i	0.16	0/1186	0.46	0/1592
47	j	0.17	0/953	0.47	0/1275
48	k	0.17	0/1170	0.46	0/1559
49	l	0.18	0/1104	0.48	0/1481
50	m	0.22	0/973	0.58	0/1309
51	n	0.19	0/897	0.53	0/1198
52	o	0.17	0/948	0.50	0/1262
53	p	0.20	0/961	0.48	0/1278
54	q	0.18	0/828	0.56	0/1111
55	r	0.18	0/1077	0.52	0/1441
56	s	0.17	0/732	0.52	1/988 (0.1%)
57	t	0.15	0/879	0.45	0/1165
58	u	0.16	0/665	0.43	0/884
59	v	0.23	0/519	0.53	0/695
60	w	0.18	0/826	0.48	0/1104
61	x	0.17	0/353	0.40	0/474
62	y	0.32	0/457	0.67	0/601
63	z	0.15	0/412	0.48	0/547
All	All	0.34	1/198139 (0.0%)	0.56	32/290118 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	8	0	4

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Mol	Chain	#Chirality outliers	#Planarity outliers
10	9	0	1
22	G	0	1
25	J	0	1
30	O	0	1
38	Z	0	1
All	All	0	9

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	AE	22	DA	O3'-P	-15.35	1.38	1.61

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	AE	22	DA	P-O3'-C3'	14.71	142.26	120.20
14	AD	17	DT	P-O3'-C3'	8.52	132.99	120.20
9	8	42	LEU	CA-C-N	8.34	137.76	121.41
9	8	42	LEU	C-N-CA	8.34	137.76	121.41
15	AE	22	DA	O3'-P-O5'	-8.26	91.62	104.00
21	F	16	VAL	N-CA-C	-6.73	107.31	113.71
20	E	162	LYS	CA-C-N	6.29	133.56	121.54
20	E	162	LYS	C-N-CA	6.29	133.56	121.54
9	8	509	LEU	N-CA-C	6.24	119.06	111.82
26	K	122	LYS	N-CA-C	-6.24	105.25	112.86
9	8	402	ASP	CA-CB-CG	6.21	118.81	112.60
9	8	43	GLY	N-CA-C	6.21	127.89	113.18
19	D	155	PRO	CA-N-CD	-6.17	103.37	112.00
9	8	895	PHE	CA-CB-CG	6.08	119.88	113.80
38	Z	1035	GLY	CA-C-N	6.08	129.00	121.83
38	Z	1035	GLY	C-N-CA	6.08	129.00	121.83
30	O	39	GLU	N-CA-C	-6.07	103.81	110.91
9	8	369	HIS	CB-CG-CD2	-5.78	123.69	131.20
37	V	28	PHE	CA-C-N	5.74	132.03	121.70
37	V	28	PHE	C-N-CA	5.74	132.03	121.70
29	N	19	VAL	N-CA-C	-5.62	107.26	112.43
26	K	117	THR	CB-CA-C	5.59	119.82	109.54
9	8	894	ASN	CA-CB-CG	-5.53	107.07	112.60
9	8	867	ASP	CA-CB-CG	5.51	118.11	112.60
9	8	506	SER	N-CA-C	5.48	120.08	113.17
9	8	563	VAL	CA-CB-CG1	5.43	119.63	110.40
44	f	69	LYS	CA-C-N	-5.24	112.85	120.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	f	69	LYS	C-N-CA	-5.24	112.85	120.29
56	s	6	VAL	N-CA-C	-5.17	107.67	112.43
41	c	93	PRO	N-CD-CG	-5.12	95.52	103.20
9	8	296	GLN	OE1-CD-NE2	-5.11	117.49	122.60
24	I	96	ILE	N-CA-C	-5.06	108.90	113.71

There are no chirality outliers.

All (9) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	8	362	TYR	Sidechain
9	8	399	ARG	Peptide
9	8	419	ARG	Sidechain
9	8	450	HIS	Peptide
10	9	858	TYR	Sidechain
22	G	108	LEU	Peptide
25	J	111	HIS	Peptide
30	O	39	GLU	Peptide
38	Z	893	ARG	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	10	0
2	1	477	0	530	23	0
3	2	304	0	350	16	0
4	3	61664	0	30953	1930	0
5	4	2239	0	1137	65	0
6	5	31943	0	16058	910	0
7	6	2421	0	2495	139	0
7	AB	2452	0	2522	223	0
8	7	1618	0	821	44	0
9	8	7063	0	7119	60	0
10	9	10948	0	11063	1047	0
11	A	1921	0	1973	60	0
12	AA	770	0	739	52	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	AC	2884	0	2938	436	0
14	AD	663	0	361	82	0
15	AE	649	0	364	102	0
16	AF	1277	0	1328	92	0
17	B	1698	0	1765	63	0
18	C	1660	0	1719	67	0
19	D	1173	0	1267	34	0
20	E	1362	0	1377	41	0
21	F	1246	0	1308	53	0
22	G	1110	0	1221	60	0
23	H	1028	0	1094	35	0
24	I	809	0	894	37	0
25	J	829	0	855	39	0
26	K	1076	0	1170	48	0
27	L	951	0	1014	35	0
28	M	474	0	509	24	0
29	N	673	0	730	29	0
30	O	646	0	677	24	0
31	P	675	0	728	25	0
32	Q	535	0	562	22	0
33	R	682	0	691	25	0
34	S	629	0	681	34	0
35	T	471	0	522	18	0
36	U	1239	0	1301	127	0
37	V	232	0	237	9	0
37	W	232	0	237	8	0
37	X	232	0	237	10	0
37	Y	232	0	237	7	0
38	Z	10085	0	10375	841	0
39	a	2225	0	2301	104	0
40	b	1762	0	1808	90	0
41	c	1644	0	1731	70	0
42	d	1388	0	1469	46	0
43	e	1396	0	1481	33	0
44	f	1160	0	1172	34	0
45	h	959	0	1039	9	0
46	i	1164	0	1192	52	0
47	j	944	0	1019	44	0
48	k	1153	0	1256	46	0
49	l	1079	0	1134	49	0
50	m	958	0	1011	40	0
51	n	889	0	952	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
52	o	938	0	1008	47	0
53	p	947	0	1028	68	0
54	q	811	0	858	39	0
55	r	1068	0	1150	56	0
56	s	720	0	803	20	0
57	t	872	0	972	18	0
58	u	657	0	695	22	0
59	v	513	0	560	30	0
60	w	818	0	870	21	0
61	x	344	0	333	4	0
62	y	452	0	472	21	0
63	z	408	0	440	15	0
All	All	184921	0	139342	6242	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 20.

All (6242) 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)
4:3:1081:A:C4	36:U:7:LYS:HD3	1.25	1.68
10:9:999:PHE:CZ	13:AC:108:LEU:HD23	1.23	1.67
7:6:107:GLU:HG3	7:AB:319:HIS:CD2	1.30	1.66
10:9:1342:LEU:CD1	38:Z:392:LEU:CD2	1.79	1.61
10:9:999:PHE:CE1	13:AC:108:LEU:HD23	1.28	1.60
10:9:998:ILE:HG22	13:AC:108:LEU:CD2	1.19	1.58
13:AC:157:ASN:C	38:Z:76:ILE:CD1	1.75	1.58
13:AC:290:TRP:HE1	13:AC:293:ASP:CB	1.07	1.58
10:9:1344:LYS:HG3	38:Z:309:ILE:CD1	1.26	1.57
10:9:1306:LEU:CD2	38:Z:408:VAL:HG21	1.33	1.55
10:9:1342:LEU:CB	38:Z:398:LEU:CD2	1.84	1.55
13:AC:290:TRP:CZ3	13:AC:296:LYS:NZ	1.74	1.52
10:9:956:ARG:HG3	7:AB:296:SER:CB	1.34	1.51
10:9:995:PHE:CE1	13:AC:119:MET:SD	2.03	1.50
13:AC:239:LYS:HZ3	13:AC:294:LYS:CG	1.24	1.49
10:9:1342:LEU:HD12	38:Z:392:LEU:CD2	1.35	1.48
10:9:1344:LYS:HD2	38:Z:306:PRO:CD	1.43	1.47
4:3:1118:U:C5'	36:U:41:ARG:CD	1.82	1.46
13:AC:215:ASP:CG	13:AC:217:ARG:NH2	1.68	1.46
10:9:998:ILE:HG21	13:AC:62:MET:CE	1.42	1.46
7:6:175:SER:H	7:AB:324:LYS:NZ	1.05	1.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:998:ILE:CG2	13:AC:62:MET:HE2	1.45	1.45
10:9:1342:LEU:HB2	38:Z:398:LEU:CD2	0.97	1.44
7:6:107:GLU:CG	7:AB:319:HIS:CD2	2.01	1.43
13:AC:158:LYS:CA	38:Z:76:ILE:HD11	1.43	1.43
10:9:956:ARG:CG	7:AB:296:SER:CB	1.97	1.43
10:9:1342:LEU:CB	38:Z:398:LEU:HD23	1.43	1.42
10:9:1371:LEU:CD1	38:Z:95:VAL:HG13	0.94	1.42
10:9:658:PRO:HG3	38:Z:868:PHE:CD2	1.52	1.41
10:9:998:ILE:CG2	13:AC:62:MET:CE	1.94	1.41
10:9:997:ALA:C	13:AC:8:PHE:CE1	1.98	1.41
10:9:1310:LYS:CB	38:Z:409:ASP:H	1.35	1.40
13:AC:290:TRP:NE1	13:AC:293:ASP:CB	1.72	1.39
10:9:1289:MET:HE3	15:AE:15:DA:C5'	1.52	1.39
4:3:1081:A:C4	36:U:7:LYS:CD	2.04	1.39
10:9:998:ILE:CA	13:AC:8:PHE:HZ	1.36	1.38
4:3:1142:G:C4'	36:U:78:GLY:N	1.84	1.38
10:9:1348:GLY:C	38:Z:388:LEU:CD1	1.96	1.38
10:9:998:ILE:CG2	13:AC:108:LEU:CD2	1.99	1.38
10:9:956:ARG:HG3	7:AB:296:SER:CA	1.54	1.37
7:6:105:PRO:CG	7:AB:320:GLU:HA	1.55	1.37
10:9:998:ILE:HA	13:AC:8:PHE:CZ	1.57	1.37
10:9:1310:LYS:HB3	38:Z:409:ASP:N	1.16	1.37
13:AC:196:VAL:HG11	13:AC:217:ARG:NH1	1.36	1.37
15:AE:14:DG:C8	38:Z:886:ALA:HA	1.57	1.36
10:9:1310:LYS:HD3	38:Z:409:ASP:O	1.21	1.36
13:AC:158:LYS:N	38:Z:76:ILE:HD11	1.04	1.36
10:9:956:ARG:CG	7:AB:296:SER:HB3	1.53	1.36
4:3:1118:U:H5''	36:U:41:ARG:CD	1.39	1.35
13:AC:290:TRP:CH2	13:AC:296:LYS:NZ	1.95	1.35
10:9:999:PHE:CE1	13:AC:42:TYR:OH	1.68	1.34
13:AC:290:TRP:NE1	13:AC:293:ASP:HB2	1.31	1.34
10:9:994:LEU:CD1	13:AC:12:LEU:HD11	1.58	1.33
10:9:649:HIS:CD2	38:Z:837:TYR:CZ	2.16	1.33
4:3:1088:A:C2	36:U:79:LYS:HE3	1.63	1.32
10:9:216:ALA:C	14:AD:20:DG:H2'	1.54	1.32
38:Z:876:LYS:HG3	38:Z:1030:ARG:NH1	1.43	1.32
10:9:1371:LEU:HD12	38:Z:95:VAL:CG1	0.85	1.31
13:AC:239:LYS:NZ	13:AC:294:LYS:HG3	1.41	1.31
10:9:999:PHE:CZ	13:AC:108:LEU:CD2	2.09	1.31
10:9:1287:GLY:HA3	15:AE:16:DC:OP1	1.30	1.31
10:9:1349:LEU:HA	38:Z:368:PHE:CD1	1.62	1.31

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:994:LEU:CD1	13:AC:12:LEU:CD1	2.07	1.31
13:AC:131:ALA:O	13:AC:171:THR:HB	1.23	1.31
4:3:1142:G:H4'	36:U:78:GLY:N	1.01	1.31
13:AC:131:ALA:O	13:AC:171:THR:CB	1.79	1.31
7:AB:283:ARG:NH1	13:AC:81:PHE:HB2	1.41	1.30
10:9:356:ARG:NH1	16:AF:113:ASN:HB2	1.46	1.30
10:9:1349:LEU:HD23	38:Z:368:PHE:CA	1.61	1.30
13:AC:158:LYS:N	38:Z:76:ILE:CD1	1.86	1.30
13:AC:290:TRP:CD1	13:AC:293:ASP:HB3	1.67	1.30
13:AC:157:ASN:O	38:Z:76:ILE:CG1	1.78	1.30
10:9:1269:LYS:CE	38:Z:313:ILE:HG23	1.62	1.29
7:6:175:SER:H	7:AB:324:LYS:CE	1.27	1.29
10:9:1342:LEU:CD1	38:Z:392:LEU:HD22	1.48	1.29
10:9:1349:LEU:HD21	38:Z:368:PHE:O	1.21	1.29
4:3:1142:G:C1'	36:U:78:GLY:HA2	1.62	1.29
10:9:170:LYS:N	14:AD:25:DC:H1'	1.46	1.29
13:AC:156:THR:CG2	38:Z:77:LYS:HA	1.49	1.29
10:9:999:PHE:CE1	13:AC:108:LEU:CD2	2.16	1.28
10:9:1344:LYS:CG	38:Z:309:ILE:CD1	2.09	1.28
10:9:175:ARG:NH2	14:AD:26:DT:C6	2.02	1.28
10:9:1352:SER:OG	38:Z:31:TRP:CZ2	1.86	1.28
13:AC:183:LYS:HD2	13:AC:245:GLY:CA	1.63	1.28
10:9:1289:MET:SD	15:AE:15:DA:C4'	2.22	1.28
10:9:649:HIS:CD2	38:Z:837:TYR:OH	1.86	1.27
10:9:997:ALA:C	13:AC:8:PHE:HE1	1.37	1.27
4:3:1142:G:O4'	36:U:78:GLY:C	1.78	1.27
4:3:1081:A:O2'	36:U:7:LYS:NZ	1.67	1.27
7:6:106:LEU:CB	7:AB:319:HIS:HE1	1.46	1.26
10:9:1344:LYS:O	38:Z:305:ILE:HG21	1.32	1.26
7:AB:82:LEU:HD22	38:Z:598:GLY:N	1.45	1.26
13:AC:196:VAL:HG11	13:AC:217:ARG:CZ	1.65	1.26
10:9:1345:GLU:OE2	38:Z:391:ARG:CB	1.84	1.26
10:9:1371:LEU:HD11	38:Z:92:GLU:O	1.24	1.26
13:AC:157:ASN:O	38:Z:76:ILE:HG12	1.16	1.26
15:AE:23:DC:N1	38:Z:380:LYS:HB3	1.47	1.26
10:9:1002:SER:O	13:AC:112:LYS:HG2	1.17	1.25
7:6:175:SER:N	7:AB:324:LYS:NZ	1.76	1.25
10:9:1306:LEU:O	38:Z:408:VAL:HG12	1.36	1.25
10:9:999:PHE:HB3	13:AC:108:LEU:O	1.25	1.25
10:9:1306:LEU:CD2	38:Z:408:VAL:CG2	2.15	1.25
13:AC:288:VAL:HG21	13:AC:297:PHE:CD2	1.69	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1289:MET:CE	15:AE:15:DA:H5'	1.67	1.25
15:AE:17:DT:H4'	38:Z:413:ARG:NH1	1.51	1.24
13:AC:290:TRP:CE3	13:AC:296:LYS:NZ	2.03	1.24
10:9:956:ARG:CA	7:AB:296:SER:HB3	1.67	1.23
10:9:956:ARG:CB	7:AB:296:SER:HB3	1.66	1.23
10:9:998:ILE:O	13:AC:108:LEU:CD1	1.83	1.23
10:9:1285:ARG:HB3	15:AE:17:DT:P	1.73	1.23
4:3:1142:G:C4'	36:U:78:GLY:CA	2.17	1.23
12:AA:42:LYS:HE3	22:G:123:MET:CE	1.68	1.23
15:AE:10:DG:C4'	38:Z:119:PRO:HD3	1.68	1.23
10:9:1344:LYS:HE3	38:Z:306:PRO:CG	1.67	1.23
38:Z:876:LYS:CG	38:Z:1030:ARG:NH1	1.99	1.23
13:AC:215:ASP:CB	13:AC:217:ARG:NH2	2.01	1.23
13:AC:135:VAL:CG2	13:AC:171:THR:OG1	1.87	1.22
10:9:1289:MET:CG	15:AE:15:DA:H4'	1.68	1.22
10:9:1306:LEU:CB	38:Z:408:VAL:HG11	1.68	1.22
12:AA:42:LYS:CE	22:G:123:MET:HE1	1.69	1.22
10:9:1352:SER:CB	38:Z:31:TRP:HH2	1.53	1.21
10:9:1352:SER:OG	38:Z:31:TRP:HZ2	1.19	1.21
13:AC:156:THR:OG1	38:Z:76:ILE:HG23	1.36	1.21
4:3:1118:U:C5'	36:U:41:ARG:HD3	1.52	1.21
7:AB:82:LEU:HD22	38:Z:598:GLY:CA	1.70	1.21
10:9:1344:LYS:CG	38:Z:309:ILE:HD12	1.69	1.21
10:9:1307:LEU:CA	38:Z:406:LYS:HD2	1.71	1.20
10:9:1371:LEU:CG	38:Z:95:VAL:HG13	1.70	1.20
10:9:1269:LYS:HD2	38:Z:313:ILE:CG2	1.69	1.20
10:9:175:ARG:NH2	14:AD:26:DT:C2	2.07	1.20
10:9:1289:MET:CE	15:AE:14:DG:H2''	1.71	1.20
10:9:649:HIS:CD2	38:Z:837:TYR:CE1	2.29	1.20
10:9:1352:SER:CB	38:Z:31:TRP:CH2	2.24	1.20
4:3:1119:A:C4	36:U:53:VAL:HG21	1.76	1.19
13:AC:215:ASP:CG	13:AC:217:ARG:CZ	2.14	1.19
10:9:999:PHE:CB	13:AC:108:LEU:O	1.89	1.19
10:9:1269:LYS:CD	38:Z:313:ILE:HG23	1.72	1.19
7:6:175:SER:N	7:AB:324:LYS:HZ3	1.33	1.19
15:AE:13:DA:H4'	38:Z:890:TYR:CD1	1.55	1.19
4:3:1081:A:C5	36:U:7:LYS:CD	2.12	1.19
7:6:106:LEU:HB3	7:AB:319:HIS:CE1	1.77	1.18
10:9:1344:LYS:CD	38:Z:306:PRO:HD2	1.71	1.18
7:6:105:PRO:HG3	7:AB:320:GLU:CA	1.71	1.17
10:9:998:ILE:C	13:AC:108:LEU:HD13	1.67	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:216:ALA:HB1	14:AD:20:DG:C8	1.80	1.17
10:9:1344:LYS:O	38:Z:305:ILE:CG2	1.91	1.17
10:9:1105:ILE:CG2	38:Z:736:VAL:HG23	1.74	1.17
10:9:1347:GLN:OE1	38:Z:100:MET:SD	2.02	1.17
13:AC:153:ASP:OD1	38:Z:77:LYS:NZ	1.75	1.17
4:3:1141:U:O2'	36:U:79:LYS:HA	1.42	1.17
13:AC:156:THR:HG21	38:Z:77:LYS:CA	1.73	1.17
15:AE:17:DT:C4'	38:Z:413:ARG:NH1	2.07	1.17
10:9:1344:LYS:CD	38:Z:306:PRO:CD	2.24	1.16
10:9:634:GLY:HA2	14:AD:24:DT:C7	1.76	1.16
10:9:649:HIS:NE2	38:Z:837:TYR:CE1	2.12	1.16
36:U:42:LYS:HE2	45:h:114:ALA:N	1.58	1.15
10:9:1348:GLY:C	38:Z:388:LEU:HD13	1.71	1.15
10:9:1348:GLY:CA	38:Z:388:LEU:CD1	2.24	1.15
10:9:998:ILE:O	13:AC:108:LEU:HD13	1.37	1.15
10:9:1269:LYS:CD	38:Z:313:ILE:HG12	1.76	1.15
10:9:1342:LEU:HB2	38:Z:398:LEU:HD21	1.15	1.15
4:3:1142:G:C4'	36:U:78:GLY:H	1.48	1.15
4:3:1118:U:H5'	36:U:41:ARG:CD	1.66	1.14
7:6:106:LEU:CB	7:AB:319:HIS:CE1	2.30	1.14
10:9:1352:SER:CA	38:Z:31:TRP:HH2	1.59	1.14
15:AE:10:DG:H4'	38:Z:119:PRO:HD3	1.17	1.14
13:AC:157:ASN:C	38:Z:76:ILE:HD11	1.45	1.14
10:9:175:ARG:NH2	14:AD:26:DT:C5	2.13	1.14
10:9:1273:GLN:NE2	38:Z:402:ASN:HD22	1.44	1.14
7:6:175:SER:N	7:AB:324:LYS:CE	1.83	1.14
13:AC:135:VAL:HG23	13:AC:171:THR:OG1	0.96	1.14
7:6:107:GLU:CD	7:AB:319:HIS:CD2	2.25	1.14
7:6:174:ASN:HD22	7:AB:324:LYS:N	1.11	1.14
10:9:814:LEU:HD23	10:9:858:TYR:CZ	1.83	1.14
10:9:1371:LEU:CD2	38:Z:94:ILE:HG22	1.78	1.14
13:AC:153:ASP:OD2	38:Z:75:LYS:NZ	1.81	1.13
10:9:1289:MET:SD	15:AE:15:DA:H4'	1.82	1.13
12:AA:42:LYS:N	22:G:127:VAL:HB	1.47	1.13
14:AD:17:DT:H5''	16:AF:118:THR:HG22	1.14	1.13
4:3:1142:G:OP1	36:U:56:ASN:HB2	1.48	1.13
7:6:175:SER:N	7:AB:324:LYS:HE2	1.49	1.13
10:9:647:ASP:HB2	38:Z:835:PHE:CZ	1.84	1.13
13:AC:183:LYS:CD	13:AC:245:GLY:HA2	1.77	1.13
10:9:1344:LYS:CE	38:Z:306:PRO:HG2	1.78	1.13
10:9:1348:GLY:HA3	38:Z:388:LEU:CD1	1.78	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1289:MET:SD	15:AE:15:DA:O4'	2.06	1.12
10:9:1349:LEU:CD2	38:Z:368:PHE:O	1.97	1.12
14:AD:16:DG:H4'	16:AF:16:SER:HB2	1.30	1.12
10:9:998:ILE:CG2	13:AC:108:LEU:HD22	1.64	1.12
10:9:1348:GLY:O	38:Z:368:PHE:CE1	2.01	1.12
6:5:1331:A:N6	6:5:1340:G:H1	1.44	1.12
7:6:279:ASN:OD1	13:AC:314:GLN:OE1	1.67	1.12
10:9:175:ARG:NH2	14:AD:26:DT:C4	2.18	1.12
10:9:1269:LYS:NZ	38:Z:313:ILE:HG23	1.64	1.12
10:9:1349:LEU:CD2	38:Z:368:PHE:HA	1.79	1.11
10:9:1371:LEU:HD12	38:Z:95:VAL:HG11	1.19	1.11
10:9:997:ALA:C	13:AC:8:PHE:CZ	2.28	1.11
10:9:1306:LEU:HB3	38:Z:408:VAL:HG11	1.16	1.11
10:9:1345:GLU:HA	38:Z:388:LEU:HD22	1.30	1.11
10:9:1349:LEU:CD2	38:Z:368:PHE:CA	2.28	1.11
37:W:14:ILE:HD11	37:X:17:ILE:HG13	1.31	1.11
10:9:998:ILE:CA	13:AC:8:PHE:CZ	2.22	1.10
10:9:1344:LYS:HD2	38:Z:306:PRO:HD3	1.32	1.10
10:9:1345:GLU:OE2	38:Z:391:ARG:HB3	1.44	1.10
15:AE:14:DG:H5'	38:Z:890:TYR:CB	1.81	1.10
10:9:170:LYS:H	14:AD:25:DC:C1'	1.64	1.10
10:9:1307:LEU:HA	38:Z:406:LYS:HD2	1.33	1.10
10:9:1306:LEU:HD23	38:Z:408:VAL:CB	1.82	1.10
15:AE:23:DC:C6	38:Z:380:LYS:CB	2.31	1.10
10:9:1352:SER:HA	38:Z:31:TRP:CH2	1.86	1.09
18:C:168:GLU:HG2	38:Z:30:ASN:ND2	1.66	1.09
18:C:168:GLU:HG2	38:Z:30:ASN:HD21	1.01	1.09
36:U:42:LYS:CE	45:h:114:ALA:N	1.97	1.09
4:3:1081:A:C5	36:U:7:LYS:HD2	1.76	1.09
4:3:1142:G:C3'	36:U:78:GLY:H	1.65	1.09
7:6:174:ASN:ND2	7:AB:324:LYS:H	1.49	1.09
10:9:356:ARG:NH1	16:AF:109:ARG:O	1.85	1.09
10:9:175:ARG:NH2	14:AD:26:DT:N1	1.99	1.09
10:9:998:ILE:HD13	13:AC:62:MET:HE1	1.18	1.09
7:6:174:ASN:ND2	7:AB:324:LYS:N	1.93	1.09
10:9:1285:ARG:CB	15:AE:17:DT:P	2.41	1.09
10:9:1287:GLY:CA	15:AE:16:DC:OP1	2.01	1.09
13:AC:157:ASN:C	38:Z:76:ILE:HD13	1.58	1.09
10:9:1348:GLY:HA3	38:Z:388:LEU:HD11	1.23	1.08
7:AB:304:ARG:NH1	13:AC:48:TYR:CZ	2.22	1.08
13:AC:196:VAL:CG1	13:AC:217:ARG:NH1	2.15	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AF:137:ASP:OD2	38:Z:349:PRO:HB3	1.51	1.08
4:3:1142:G:H4'	36:U:78:GLY:CA	1.76	1.08
10:9:901:ASN:ND2	10:9:1232:ARG:HH12	1.49	1.08
10:9:998:ILE:CG2	13:AC:108:LEU:HD21	1.78	1.08
10:9:356:ARG:HH11	16:AF:113:ASN:CB	1.67	1.08
10:9:998:ILE:HG21	13:AC:62:MET:HE1	1.11	1.08
13:AC:183:LYS:HD2	13:AC:245:GLY:HA2	1.08	1.08
10:9:1001:GLU:H	13:AC:109:LYS:HG2	1.14	1.08
10:9:1342:LEU:HD11	38:Z:392:LEU:HD22	1.09	1.08
15:AE:10:DG:H4'	38:Z:119:PRO:CD	1.82	1.08
15:AE:13:DA:H4'	38:Z:890:TYR:CG	1.78	1.08
4:3:1807:C:H42	4:3:1824:G:N2	1.51	1.07
15:AE:23:DC:C6	38:Z:380:LYS:HB3	1.66	1.07
10:9:628:ILE:HD11	10:9:673:LEU:HD12	1.34	1.07
10:9:1348:GLY:CA	38:Z:388:LEU:HD11	1.81	1.07
13:AC:139:PHE:CE2	13:AC:147:ILE:HD11	1.89	1.07
4:3:1081:A:N3	36:U:7:LYS:HD3	1.68	1.07
13:AC:239:LYS:HB2	13:AC:293:ASP:N	1.70	1.07
10:9:217:VAL:N	14:AD:20:DG:H2'	1.68	1.07
10:9:1002:SER:O	13:AC:112:LYS:CG	2.03	1.07
10:9:1352:SER:HB2	38:Z:23:ALA:HB2	1.07	1.07
7:AB:283:ARG:HH11	13:AC:81:PHE:HB2	0.92	1.07
13:AC:156:THR:CG2	38:Z:77:LYS:CA	2.29	1.07
13:AC:156:THR:CB	38:Z:76:ILE:HG23	1.71	1.07
16:AF:108:TRP:HE1	16:AF:112:ARG:CZ	1.67	1.07
38:Z:400:ARG:NH2	38:Z:1234:PHE:O	1.85	1.07
12:AA:42:LYS:O	22:G:126:LYS:HB2	1.52	1.06
10:9:523:ASP:OD2	38:Z:837:TYR:CD1	2.07	1.06
4:3:1142:G:C4'	36:U:78:GLY:O	2.03	1.06
10:9:998:ILE:HD13	13:AC:62:MET:CE	1.86	1.06
10:9:1105:ILE:HG22	38:Z:736:VAL:HG23	1.09	1.06
15:AE:23:DC:C2	38:Z:380:LYS:HB3	1.90	1.05
13:AC:156:THR:OG1	38:Z:76:ILE:CG2	2.05	1.05
14:AD:29:DC:H5''	38:Z:1057:VAL:HG22	1.37	1.05
6:5:1136:G:H1	6:5:1151:A:N6	1.53	1.05
10:9:217:VAL:CA	14:AD:20:DG:H2''	1.74	1.05
10:9:829:ASN:O	10:9:848:LYS:CE	2.05	1.05
13:AC:213:ARG:O	13:AC:218:LEU:HB2	1.56	1.05
13:AC:290:TRP:NE1	13:AC:293:ASP:HB3	1.48	1.05
7:6:173:ILE:HG22	7:AB:324:LYS:NZ	1.71	1.04
10:9:1311:SER:HB2	38:Z:407:ARG:O	1.55	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1348:GLY:O	38:Z:368:PHE:HE1	1.33	1.04
13:AC:158:LYS:HA	38:Z:76:ILE:HD11	1.37	1.04
10:9:216:ALA:CB	14:AD:20:DG:C8	2.39	1.04
10:9:997:ALA:O	13:AC:8:PHE:CE1	2.10	1.04
7:6:161:ARG:NH1	7:AB:2:GLU:O	1.90	1.04
10:9:994:LEU:HD11	13:AC:12:LEU:HD11	1.05	1.04
10:9:1269:LYS:HD2	38:Z:313:ILE:CG1	1.87	1.04
10:9:1349:LEU:HD23	38:Z:368:PHE:HA	1.04	1.04
10:9:658:PRO:CG	38:Z:868:PHE:CD2	2.41	1.04
10:9:998:ILE:CG2	13:AC:108:LEU:CD1	2.34	1.04
7:AB:86:GLN:NE2	38:Z:599:THR:CG2	2.21	1.04
7:6:107:GLU:OE1	7:AB:319:HIS:HD2	1.40	1.03
10:9:1289:MET:HG3	15:AE:15:DA:H4'	1.37	1.03
13:AC:158:LYS:CA	38:Z:76:ILE:CD1	2.32	1.03
14:AD:17:DT:C5'	16:AF:118:THR:HG22	1.87	1.03
38:Z:890:TYR:CE1	38:Z:894:LYS:HE3	1.92	1.03
4:3:1119:A:N9	36:U:53:VAL:HG21	1.72	1.03
4:3:1807:C:N4	4:3:1824:G:H22	1.56	1.03
6:5:684:A:H62	6:5:700:G:N2	1.55	1.03
10:9:998:ILE:N	13:AC:8:PHE:CZ	2.26	1.03
4:3:1142:G:O4'	36:U:78:GLY:CA	2.06	1.03
38:Z:876:LYS:HG2	38:Z:1030:ARG:HH11	1.19	1.03
4:3:1119:A:N1	36:U:29:TYR:CE2	2.27	1.03
10:9:1341:LEU:HD12	38:Z:309:ILE:HG23	1.41	1.03
10:9:216:ALA:C	14:AD:20:DG:C2'	2.32	1.02
10:9:1093:PRO:HB2	38:Z:734:VAL:HG23	1.41	1.02
6:5:661:G:H1	6:5:738:A:N6	1.55	1.02
10:9:1307:LEU:CD2	38:Z:406:LYS:HG3	1.88	1.02
10:9:1352:SER:CB	38:Z:23:ALA:HB2	1.87	1.02
7:6:279:ASN:CG	13:AC:314:GLN:OE1	2.02	1.02
10:9:997:ALA:CB	13:AC:8:PHE:CE1	2.43	1.02
10:9:998:ILE:HG22	13:AC:108:LEU:CG	1.88	1.02
10:9:1341:LEU:HD12	38:Z:309:ILE:CG2	1.90	1.01
10:9:175:ARG:NH2	14:AD:26:DT:N3	2.08	1.01
10:9:997:ALA:CA	13:AC:8:PHE:HE1	1.72	1.01
10:9:1325:VAL:CG1	38:Z:464:ILE:CG2	2.38	1.01
13:AC:183:LYS:HD3	13:AC:280:PHE:O	1.59	1.01
13:AC:215:ASP:OD2	13:AC:217:ARG:NH2	1.93	1.01
4:3:1142:G:H5'	36:U:78:GLY:O	1.60	1.01
10:9:94:ILE:HG23	10:9:135:LEU:HD12	1.43	1.01
10:9:953:ALA:O	7:AB:326:ARG:HD3	1.60	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:956:ARG:HA	7:AB:296:SER:HB3	1.39	1.01
10:9:1269:LYS:HD3	38:Z:313:ILE:HG12	1.39	1.01
10:9:1297:TYR:OH	38:Z:504:ILE:O	1.77	1.01
10:9:1341:LEU:CD1	38:Z:309:ILE:HG23	1.89	1.01
10:9:1001:GLU:N	13:AC:109:LYS:HG2	1.74	1.01
13:AC:131:ALA:C	13:AC:171:THR:HB	1.85	1.01
13:AC:196:VAL:HG11	13:AC:217:ARG:NH2	1.76	1.01
15:AE:14:DG:C5'	38:Z:890:TYR:HB2	1.91	1.01
6:5:69:G:H1	6:5:86:A:H61	1.06	1.00
10:9:408:LEU:HD23	10:9:410:CYS:O	1.59	1.00
10:9:997:ALA:CB	13:AC:8:PHE:HE1	1.73	1.00
13:AC:1:MET:HE3	13:AC:92:LEU:O	1.61	1.00
15:AE:14:DG:H5'	38:Z:890:TYR:HB2	1.04	1.00
4:3:192:U:H3	4:3:212:G:H1	1.10	1.00
13:AC:291:ASN:H	13:AC:296:LYS:CB	1.75	1.00
10:9:1325:VAL:CG1	38:Z:464:ILE:HG21	1.91	1.00
13:AC:139:PHE:CZ	13:AC:147:ILE:HD11	1.97	1.00
13:AC:160:GLY:HA3	38:Z:79:ARG:HB3	1.43	1.00
10:9:999:PHE:CA	13:AC:108:LEU:HB3	1.92	1.00
10:9:1371:LEU:CD1	38:Z:92:GLU:O	2.10	1.00
36:U:42:LYS:HE2	45:h:114:ALA:H	1.12	1.00
10:9:729:ILE:HG21	10:9:734:ILE:HD11	1.39	1.00
13:AC:183:LYS:NZ	13:AC:245:GLY:O	1.93	1.00
10:9:1306:LEU:HD22	38:Z:408:VAL:HG21	1.00	1.00
13:AC:215:ASP:C	13:AC:217:ARG:H	1.48	1.00
14:AD:29:DC:H5''	38:Z:1057:VAL:CG2	1.92	1.00
10:9:217:VAL:CA	14:AD:20:DG:C2'	2.39	0.99
6:5:460:A:H2	6:5:467:G:H1	1.06	0.99
10:9:217:VAL:HA	14:AD:20:DG:H2''	1.41	0.99
15:AE:13:DA:C4'	38:Z:890:TYR:CD1	2.42	0.99
15:AE:17:DT:C4'	38:Z:413:ARG:HH12	1.71	0.99
4:3:226:A:N6	4:3:236:G:C2	2.30	0.99
10:9:1345:GLU:OE2	38:Z:391:ARG:HB2	1.55	0.99
13:AC:239:LYS:CE	13:AC:294:LYS:HG3	1.93	0.99
4:3:629:G:H1	4:3:696:U:H3	1.02	0.99
4:3:1089:A:H1'	36:U:30:THR:HG23	1.44	0.99
4:3:1142:G:C2'	36:U:78:GLY:HA2	1.92	0.99
10:9:1344:LYS:HD2	38:Z:306:PRO:HD2	1.02	0.99
4:3:1141:U:N3	36:U:79:LYS:HE2	1.77	0.99
10:9:998:ILE:O	13:AC:6:ASN:ND2	1.96	0.99
10:9:1306:LEU:HD22	38:Z:408:VAL:CG2	1.81	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1142:G:OP1	36:U:56:ASN:CB	2.08	0.99
10:9:998:ILE:HG23	13:AC:108:LEU:HD11	1.43	0.99
10:9:956:ARG:HG3	7:AB:296:SER:HA	1.41	0.99
10:9:1310:LYS:CD	38:Z:409:ASP:O	2.10	0.99
13:AC:111:ILE:HD13	13:AC:119:MET:HE1	1.45	0.99
16:AF:124:SER:HB3	38:Z:142:VAL:HG13	1.41	0.99
10:9:999:PHE:CE2	13:AC:108:LEU:CD2	2.45	0.99
6:5:290:G:H1	6:5:299:U:H3	1.08	0.99
10:9:1306:LEU:C	38:Z:408:VAL:HG12	1.86	0.98
40:b:185:ASP:O	40:b:189:MET:HA	1.63	0.98
4:3:204:U:H3	4:3:254:G:H1	1.05	0.98
10:9:998:ILE:CD1	13:AC:62:MET:HE1	1.93	0.98
10:9:1102:ILE:HD11	38:Z:858:PHE:C	1.87	0.98
36:U:42:LYS:CE	45:h:114:ALA:H	1.62	0.98
13:AC:196:VAL:CG1	13:AC:217:ARG:HH12	1.75	0.98
6:5:684:A:N6	6:5:700:G:H21	1.60	0.98
7:6:106:LEU:HB3	7:AB:319:HIS:HE1	0.85	0.98
10:9:163:MET:HE2	10:9:514:ILE:HD12	1.45	0.98
10:9:999:PHE:CE2	13:AC:108:LEU:HD23	1.99	0.98
10:9:1349:LEU:CD2	38:Z:368:PHE:C	2.37	0.98
13:AC:290:TRP:CD2	13:AC:296:LYS:HD2	1.97	0.98
7:6:107:GLU:HG3	7:AB:319:HIS:NE2	1.77	0.98
10:9:649:HIS:HD2	38:Z:837:TYR:OH	1.37	0.98
10:9:1306:LEU:HD23	38:Z:408:VAL:CG2	1.89	0.98
10:9:999:PHE:HE1	13:AC:42:TYR:OH	1.40	0.97
10:9:1094:LEU:HD23	38:Z:809:MET:SD	2.03	0.97
4:3:1142:G:C1'	36:U:78:GLY:CA	2.42	0.97
4:3:1807:C:H42	4:3:1824:G:H22	1.03	0.97
10:9:956:ARG:CA	7:AB:296:SER:CB	2.42	0.97
13:AC:289:ILE:O	13:AC:300:ASN:ND2	1.97	0.97
9:8:156:ALA:HB2	9:8:165:ILE:HD12	1.43	0.97
10:9:258:VAL:HG12	10:9:268:VAL:HG11	1.45	0.97
13:AC:158:LYS:HA	38:Z:76:ILE:CD1	1.93	0.97
13:AC:215:ASP:CB	13:AC:217:ARG:HE	1.77	0.97
16:AF:137:ASP:CG	38:Z:349:PRO:HG3	1.89	0.97
10:9:772:GLU:O	38:Z:862:LEU:N	1.97	0.97
13:AC:239:LYS:NZ	13:AC:294:LYS:CG	2.09	0.97
6:5:779:A:H62	6:5:797:G:N2	1.63	0.96
10:9:1325:VAL:HG11	38:Z:464:ILE:HG21	1.43	0.96
4:3:1089:A:H1'	36:U:30:THR:CG2	1.94	0.96
4:3:1764:U:C2	4:3:1769:A:N6	2.32	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:633:G:H1	4:3:692:U:H3	1.03	0.96
10:9:956:ARG:CG	7:AB:296:SER:HB2	1.91	0.96
10:9:1344:LYS:CE	38:Z:306:PRO:CG	2.40	0.96
6:5:319:U:H3	6:5:323:A:H62	1.07	0.96
10:9:1200:PHE:CE2	38:Z:864:ILE:HD13	2.00	0.96
4:3:2695:U:H3	4:3:2730:G:H1	1.06	0.96
13:AC:157:ASN:O	38:Z:76:ILE:CD1	1.99	0.96
13:AC:290:TRP:CD1	13:AC:293:ASP:CB	2.34	0.96
10:9:1342:LEU:CA	38:Z:398:LEU:CD2	2.42	0.96
10:9:634:GLY:HA2	14:AD:24:DT:H72	1.46	0.96
10:9:814:LEU:HD23	10:9:858:TYR:OH	1.66	0.96
10:9:1352:SER:HB2	38:Z:31:TRP:CH2	1.99	0.96
10:9:1289:MET:HE1	15:AE:14:DG:H2''	1.45	0.95
10:9:376:ARG:NH2	14:AD:20:DG:N7	2.13	0.95
10:9:1349:LEU:N	38:Z:388:LEU:HD13	1.80	0.95
7:AB:268:ILE:HD11	7:AB:286:ILE:HG22	1.47	0.95
10:9:956:ARG:HA	7:AB:296:SER:CB	1.94	0.95
10:9:998:ILE:HA	13:AC:8:PHE:HZ	0.80	0.95
10:9:1293:ALA:HB2	38:Z:498:THR:HG21	1.47	0.95
38:Z:687:VAL:HG11	38:Z:802:ARG:HH22	1.31	0.95
4:3:1142:G:C5'	36:U:78:GLY:O	2.13	0.95
7:6:268:ILE:HD11	7:6:286:ILE:HG22	1.49	0.95
10:9:998:ILE:HG23	13:AC:108:LEU:CD1	1.95	0.95
13:AC:139:PHE:CE1	13:AC:147:ILE:HG13	2.00	0.95
4:3:900:G:N2	4:3:903:A:H61	1.64	0.95
4:3:1142:G:O4'	36:U:78:GLY:O	1.83	0.95
10:9:995:PHE:CD1	13:AC:119:MET:SD	2.59	0.95
10:9:1307:LEU:CB	38:Z:406:LYS:HD2	1.95	0.95
4:3:418:G:H1	4:3:430:U:H3	1.07	0.95
10:9:775:ASP:OD1	38:Z:828:ARG:NH2	1.99	0.95
4:3:1118:U:H5'	36:U:41:ARG:HD2	1.47	0.95
7:6:107:GLU:CG	7:AB:319:HIS:HD2	1.80	0.95
10:9:1324:ILE:HD13	38:Z:440:PRO:HG3	1.49	0.94
10:9:1348:GLY:C	38:Z:388:LEU:HD12	1.92	0.94
10:9:1371:LEU:HD23	38:Z:94:ILE:HG22	1.48	0.94
10:9:997:ALA:O	13:AC:8:PHE:CZ	2.19	0.94
10:9:1325:VAL:HG13	38:Z:464:ILE:HG23	1.47	0.94
13:AC:215:ASP:OD1	13:AC:217:ARG:CZ	2.15	0.94
16:AF:137:ASP:OD2	38:Z:349:PRO:CB	2.16	0.94
10:9:1003:VAL:HG22	13:AC:116:ILE:HD11	1.47	0.94
10:9:997:ALA:HB1	13:AC:8:PHE:CE1	2.01	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:725:G:H1	4:3:807:U:H3	1.09	0.94
10:9:219:GLU:HG3	14:AD:21:DC:N4	1.83	0.94
10:9:1307:LEU:HD22	38:Z:406:LYS:HG3	1.47	0.94
10:9:1344:LYS:CG	38:Z:309:ILE:HD13	1.95	0.94
4:3:2035:U:H3	4:3:2040:A:N6	1.67	0.93
10:9:1000:PRO:HD2	13:AC:6:ASN:HD21	1.32	0.93
10:9:1306:LEU:HB3	38:Z:408:VAL:CG1	1.98	0.93
7:AB:283:ARG:HH11	13:AC:81:PHE:CB	1.79	0.93
37:X:6:ILE:HD11	37:Y:23:ALA:HB1	1.49	0.93
6:5:63:U:H3	6:5:90:G:H1	1.15	0.93
4:3:1142:G:H1'	36:U:78:GLY:HA2	1.46	0.93
6:5:1405:U:H3	6:5:1445:G:H1	1.02	0.93
4:3:1142:G:O2'	36:U:78:GLY:HA2	1.67	0.93
4:3:2299:U:H3	4:3:2349:G:H1	0.94	0.93
7:6:99:GLY:O	7:AB:1:MET:N	2.01	0.93
13:AC:196:VAL:HG11	13:AC:217:ARG:HH12	1.10	0.93
7:AB:82:LEU:HD22	38:Z:597:PHE:C	1.94	0.93
13:AC:182:SER:HB3	13:AC:280:PHE:CE1	2.03	0.93
38:Z:427:VAL:HG21	38:Z:493:LEU:HD11	1.48	0.93
6:5:518:A:H62	6:5:527:G:H21	1.15	0.92
10:9:567:GLY:HA3	16:AF:31:LYS:HE2	1.48	0.92
15:AE:14:DG:H1'	38:Z:889:GLY:HA3	1.49	0.92
4:3:1088:A:H2	36:U:79:LYS:HE3	1.18	0.92
7:6:173:ILE:HG22	7:AB:324:LYS:HZ2	1.28	0.92
10:9:60:LYS:HD3	10:9:64:ASP:OD1	1.68	0.92
10:9:829:ASN:O	10:9:848:LYS:HE3	1.67	0.92
10:9:1352:SER:HB2	38:Z:23:ALA:CB	1.99	0.92
10:9:998:ILE:HG23	13:AC:62:MET:HE2	0.95	0.92
15:AE:14:DG:C8	38:Z:886:ALA:CA	2.50	0.92
15:AE:17:DT:H4'	38:Z:413:ARG:HH11	1.28	0.92
10:9:995:PHE:CZ	13:AC:119:MET:SD	2.61	0.92
10:9:998:ILE:CA	13:AC:108:LEU:HD13	1.97	0.92
10:9:1349:LEU:HG	38:Z:388:LEU:HB2	1.51	0.92
13:AC:215:ASP:HB3	13:AC:217:ARG:HE	1.33	0.92
10:9:1371:LEU:CD1	38:Z:95:VAL:CG1	1.79	0.92
13:AC:239:LYS:HZ3	13:AC:294:LYS:CB	1.83	0.92
4:3:1027:U:H3	4:3:1198:G:H1	1.10	0.92
10:9:1366:ASN:ND2	38:Z:100:MET:HB2	1.85	0.92
7:6:269:GLU:OE1	7:6:282:LYS:NZ	2.03	0.91
10:9:1348:GLY:CA	38:Z:388:LEU:HD13	1.93	0.91
10:9:1349:LEU:HD21	38:Z:368:PHE:C	1.95	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:131:ALA:O	13:AC:171:THR:OG1	1.88	0.91
13:AC:215:ASP:OD1	13:AC:217:ARG:NE	2.02	0.91
4:3:1142:G:C4'	36:U:78:GLY:C	2.34	0.91
42:d:132:ILE:O	42:d:151:GLY:HA3	1.70	0.91
4:3:1141:U:C2	36:U:79:LYS:HE2	2.04	0.91
4:3:2061:A:H62	4:3:2585:A:H61	1.11	0.91
7:6:271:LEU:O	7:6:317:LYS:HE2	1.70	0.91
10:9:1310:LYS:CB	38:Z:409:ASP:N	2.09	0.91
10:9:1342:LEU:CD1	38:Z:392:LEU:HD23	1.96	0.91
10:9:45:LEU:O	10:9:75:ARG:NH2	2.04	0.91
10:9:1273:GLN:HE22	38:Z:402:ASN:HD22	1.16	0.91
10:9:1342:LEU:HD13	38:Z:392:LEU:CD2	1.99	0.91
13:AC:239:LYS:HZ3	13:AC:294:LYS:HG3	0.76	0.91
10:9:169:LEU:HD13	10:9:193:VAL:HG11	1.50	0.91
10:9:1351:LEU:HD11	38:Z:113:TRP:CZ3	2.05	0.91
10:9:1370:ILE:HG22	38:Z:94:ILE:HG21	1.53	0.91
13:AC:291:ASN:H	13:AC:296:LYS:HB3	1.33	0.91
10:9:999:PHE:HA	13:AC:108:LEU:HB3	1.51	0.91
10:9:999:PHE:CD1	13:AC:108:LEU:HD23	2.04	0.91
13:AC:183:LYS:HG2	13:AC:281:ASN:CB	2.01	0.91
10:9:994:LEU:HD13	13:AC:12:LEU:CD1	2.01	0.90
10:9:998:ILE:O	13:AC:108:LEU:CB	2.19	0.90
10:9:1370:ILE:HD12	38:Z:97:ARG:HD3	1.52	0.90
38:Z:775:LYS:HE3	38:Z:845:ILE:HD13	1.53	0.90
49:l:68:ILE:HD11	49:l:103:MET:HB2	1.51	0.90
4:3:1801:U:H3	4:3:1832:G:H1	1.18	0.90
10:9:1338:SER:O	38:Z:398:LEU:HD11	1.70	0.90
10:9:1370:ILE:HD13	38:Z:94:ILE:HD11	1.54	0.90
10:9:729:ILE:CG2	10:9:734:ILE:HD11	2.01	0.90
7:AB:82:LEU:CD2	38:Z:598:GLY:N	2.34	0.90
13:AC:1:MET:CE	13:AC:92:LEU:O	2.19	0.90
10:9:1342:LEU:HD12	38:Z:392:LEU:HD21	0.90	0.90
4:3:742:G:H1	4:3:759:U:H3	1.08	0.90
4:3:1142:G:H4'	36:U:77:LYS:C	1.97	0.90
10:9:1349:LEU:HD23	38:Z:368:PHE:CB	2.01	0.90
10:9:1366:ASN:ND2	38:Z:31:TRP:O	2.04	0.90
4:3:80:U:H3	4:3:109:G:H1	0.95	0.90
4:3:1118:U:H5''	36:U:41:ARG:HD3	1.09	0.90
6:5:1390:G:H1	6:5:1460:U:H3	1.19	0.90
10:9:1269:LYS:CD	38:Z:313:ILE:CG1	2.47	0.90
10:9:1371:LEU:HD12	38:Z:95:VAL:CB	2.01	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:245:U:H3	6:5:271:G:H1	1.16	0.90
7:6:107:GLU:OE1	7:AB:319:HIS:CD2	2.23	0.90
38:Z:488:ASP:HB3	38:Z:551:ARG:HH22	1.37	0.90
10:9:1289:MET:CE	15:AE:15:DA:O4'	2.20	0.89
10:9:1352:SER:CA	38:Z:31:TRP:CH2	2.43	0.89
10:9:1345:GLU:HA	38:Z:388:LEU:CD2	2.02	0.89
10:9:994:LEU:HD12	13:AC:12:LEU:CD1	1.98	0.89
10:9:1105:ILE:HG22	38:Z:736:VAL:CG2	2.01	0.89
10:9:994:LEU:HD13	13:AC:12:LEU:HD12	1.52	0.89
10:9:997:ALA:HB1	13:AC:8:PHE:CD1	2.07	0.89
7:6:107:GLU:N	7:AB:319:HIS:CE1	2.40	0.89
13:AC:215:ASP:HB3	13:AC:217:ARG:NE	1.86	0.89
7:6:7:TYR:OH	7:AB:235:HIS:O	1.89	0.89
10:9:1371:LEU:CG	38:Z:94:ILE:HG22	2.03	0.89
10:9:170:LYS:H	14:AD:25:DC:H1'	1.10	0.89
13:AC:290:TRP:CG	13:AC:296:LYS:HD2	2.07	0.89
4:3:413:G:H1	4:3:435:U:H3	1.18	0.89
16:AF:23:VAL:HG21	16:AF:44:VAL:HG23	1.53	0.89
4:3:1081:A:H61	36:U:8:ALA:N	1.70	0.89
7:6:235:HIS:O	7:AB:7:TYR:OH	1.91	0.89
10:9:1349:LEU:HG	38:Z:388:LEU:CB	2.03	0.89
7:6:174:ASN:HD22	7:AB:324:LYS:H	0.97	0.89
10:9:1347:GLN:HB3	38:Z:100:MET:HE1	1.53	0.89
4:3:1088:A:N1	36:U:79:LYS:HE3	1.88	0.88
14:AD:19:DT:H2''	14:AD:21:DC:H4'	1.54	0.88
10:9:1345:GLU:CA	38:Z:388:LEU:HD22	2.03	0.88
15:AE:23:DC:C2	38:Z:380:LYS:CB	2.52	0.88
6:5:826:G:H1	6:5:851:U:H3	1.17	0.88
10:9:1269:LYS:HB2	38:Z:313:ILE:CD1	2.03	0.88
4:3:2360:A:H62	4:3:2373:G:H21	1.14	0.88
6:5:590:G:H1	6:5:644:U:H3	1.20	0.88
10:9:567:GLY:HA3	16:AF:31:LYS:CE	2.02	0.88
13:AC:215:ASP:C	13:AC:217:ARG:N	2.30	0.88
13:AC:215:ASP:HB3	13:AC:217:ARG:NH2	1.87	0.88
4:3:1088:A:C2	36:U:79:LYS:CE	2.55	0.88
10:9:402:ARG:HD3	10:9:510:TYR:CE2	2.08	0.88
10:9:779:ALA:CB	38:Z:867:TYR:OH	2.22	0.88
10:9:999:PHE:CD1	13:AC:108:LEU:CD2	2.57	0.88
10:9:1349:LEU:CA	38:Z:368:PHE:CD1	2.54	0.88
18:C:168:GLU:CD	38:Z:30:ASN:OD1	2.17	0.88
4:3:2090:G:H1	4:3:2244:U:H3	1.21	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:253:G:H1	6:5:265:U:H3	1.19	0.88
10:9:956:ARG:HG2	7:AB:296:SER:HB2	1.54	0.88
10:9:1306:LEU:HD23	38:Z:408:VAL:HB	1.52	0.88
10:9:1344:LYS:HG3	38:Z:309:ILE:HD13	1.51	0.88
4:3:1494:U:H3	4:3:1550:G:H1	1.16	0.87
7:6:2:GLU:O	7:AB:161:ARG:NH1	2.06	0.87
4:3:1118:U:H5'	36:U:41:ARG:HD3	1.37	0.87
4:3:2035:U:H3	4:3:2040:A:H62	0.89	0.87
6:5:779:A:H62	6:5:797:G:H21	1.17	0.87
10:9:1306:LEU:CB	38:Z:408:VAL:CG1	2.52	0.87
10:9:1347:GLN:OE1	38:Z:100:MET:CE	2.22	0.87
13:AC:135:VAL:HG23	13:AC:171:THR:HG1	1.11	0.87
4:3:442:G:H1	4:3:457:U:H3	1.18	0.87
4:3:1119:A:C1'	36:U:53:VAL:HB	2.04	0.87
10:9:634:GLY:HA2	14:AD:24:DT:H73	1.55	0.87
12:AA:5:TYR:CE2	12:AA:48:LEU:HD23	2.10	0.87
40:b:40:LYS:O	40:b:48:SER:HA	1.74	0.86
4:3:1071:G:H1	4:3:1154:U:H3	0.88	0.86
10:9:1289:MET:CE	15:AE:15:DA:C4'	2.53	0.86
37:X:23:ALA:HB1	37:Y:6:ILE:HD11	1.55	0.86
4:3:163:A:H62	4:3:169:U:H3	1.21	0.86
7:6:279:ASN:ND2	13:AC:314:GLN:OE1	2.08	0.86
10:9:779:ALA:HB2	38:Z:867:TYR:OH	1.74	0.86
10:9:998:ILE:HG22	13:AC:108:LEU:CD1	2.01	0.86
10:9:1347:GLN:O	38:Z:303:PRO:HG2	1.74	0.86
10:9:1366:ASN:HD21	38:Z:100:MET:HB2	1.38	0.86
13:AC:183:LYS:HD2	13:AC:245:GLY:HA3	1.58	0.86
13:AC:160:GLY:HA3	38:Z:79:ARG:CB	2.05	0.86
16:AF:78:ASP:OD1	16:AF:81:ARG:HB2	1.75	0.86
38:Z:488:ASP:O	38:Z:551:ARG:NH2	2.07	0.86
6:5:779:A:N6	6:5:797:G:H21	1.73	0.86
7:6:108:ARG:HH21	7:AB:316:LYS:CE	1.88	0.86
13:AC:153:ASP:OD1	38:Z:77:LYS:CE	2.23	0.86
10:9:1371:LEU:HG	38:Z:94:ILE:CG2	2.04	0.86
7:AB:283:ARG:HD3	13:AC:49:VAL:HG21	1.58	0.86
10:9:1269:LYS:HB2	38:Z:313:ILE:HD11	1.58	0.86
10:9:1342:LEU:CA	38:Z:398:LEU:HD22	2.05	0.86
4:3:739:G:HO2'	4:3:761:G:H1	0.88	0.85
13:AC:215:ASP:CB	13:AC:217:ARG:NE	2.39	0.85
10:9:523:ASP:OD2	38:Z:837:TYR:HD1	1.50	0.85
10:9:814:LEU:CD2	10:9:858:TYR:CZ	2.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:o:92:ARG:HD3	52:o:115:LYS:HE3	1.58	0.85
10:9:999:PHE:CG	13:AC:108:LEU:O	2.09	0.85
10:9:998:ILE:N	13:AC:8:PHE:HZ	1.69	0.85
10:9:1306:LEU:CA	38:Z:408:VAL:CG1	2.55	0.85
10:9:1102:ILE:HD11	38:Z:859:LEU:N	1.91	0.85
15:AE:14:DG:C1'	38:Z:889:GLY:HA3	2.06	0.85
16:AF:108:TRP:NE1	16:AF:112:ARG:CZ	2.39	0.85
10:9:1371:LEU:HD11	38:Z:95:VAL:HG13	1.54	0.85
38:Z:876:LYS:HG3	38:Z:1030:ARG:HH12	1.06	0.85
10:9:1325:VAL:HG12	38:Z:464:ILE:HD13	1.58	0.85
14:AD:15:DT:H3'	16:AF:95:ARG:HH22	1.39	0.85
6:5:365:U:H3	6:5:388:G:H1	1.20	0.85
10:9:1324:ILE:HD12	38:Z:410:TYR:OH	1.76	0.85
7:6:82:LEU:HD13	10:9:794:LYS:HE3	1.59	0.84
10:9:356:ARG:CZ	16:AF:109:ARG:O	2.25	0.84
10:9:1344:LYS:HE3	38:Z:306:PRO:HG2	0.86	0.84
13:AC:249:LYS:HB2	13:AC:297:PHE:CE1	2.10	0.84
4:3:1119:A:H1'	36:U:53:VAL:HB	1.59	0.84
10:9:953:ALA:O	7:AB:326:ARG:CD	2.24	0.84
10:9:658:PRO:HB3	38:Z:868:PHE:CE2	2.13	0.84
10:9:1225:LYS:NZ	38:Z:738:ASP:OD1	2.10	0.84
10:9:1342:LEU:CB	38:Z:398:LEU:HD21	1.78	0.84
4:3:2810:A:N7	4:3:2895:A:N6	2.24	0.84
10:9:1352:SER:HA	38:Z:31:TRP:HH2	1.25	0.84
10:9:567:GLY:CA	16:AF:31:LYS:HE2	2.08	0.84
4:3:61:U:H3	4:3:70:G:H1	0.87	0.84
6:5:1112:U:H3	6:5:1128:G:H1	0.86	0.84
15:AE:12:DC:H4'	38:Z:1235:GLN:OE1	1.78	0.84
4:3:2534:G:H1	4:3:2545:U:H3	0.84	0.84
10:9:998:ILE:CG2	13:AC:108:LEU:HD13	2.06	0.84
38:Z:905:ASN:ND2	38:Z:989:ASN:O	2.09	0.84
10:9:1289:MET:HE3	15:AE:15:DA:C4'	2.08	0.84
10:9:1289:MET:CE	15:AE:14:DG:C2'	2.56	0.84
10:9:1293:ALA:CB	38:Z:498:THR:HG21	2.07	0.84
10:9:1368:VAL:O	38:Z:98:GLU:HB2	1.78	0.83
16:AF:43:ARG:NH1	16:AF:159:THR:O	2.10	0.83
4:3:1142:G:OP1	36:U:56:ASN:CG	2.20	0.83
5:4:5:G:OP1	51:n:9:ARG:NH1	2.10	0.83
10:9:772:GLU:HB2	38:Z:862:LEU:O	1.78	0.83
10:9:994:LEU:CD1	13:AC:12:LEU:HD12	1.99	0.83
14:AD:16:DG:C4'	16:AF:16:SER:HB2	2.09	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1081:A:N7	36:U:7:LYS:HD2	1.91	0.83
6:5:134:G:H1	6:5:160:A:H61	1.26	0.83
12:AA:42:LYS:H	22:G:127:VAL:HB	1.38	0.83
13:AC:196:VAL:CG1	13:AC:217:ARG:CZ	2.54	0.83
14:AD:29:DC:C5'	38:Z:1057:VAL:HG13	2.08	0.83
7:6:173:ILE:CG2	7:AB:324:LYS:NZ	2.40	0.83
10:9:1259:ILE:HD12	38:Z:515:LYS:HB3	1.61	0.83
38:Z:488:ASP:HB3	38:Z:551:ARG:NH2	1.92	0.83
51:n:7:GLN:HG3	51:n:11:ARG:HH21	1.44	0.83
7:6:107:GLU:CD	7:AB:319:HIS:HD2	1.70	0.83
10:9:1306:LEU:CD2	38:Z:408:VAL:HG11	2.07	0.83
10:9:647:ASP:CB	38:Z:835:PHE:CZ	2.60	0.83
10:9:1093:PRO:CB	38:Z:734:VAL:HG23	2.08	0.83
7:AB:271:LEU:O	7:AB:317:LYS:HE2	1.79	0.83
44:f:112:MET:HE3	44:f:130:ILE:HG23	1.59	0.83
4:3:2851:U:H3	4:3:2873:G:H1	1.25	0.83
6:5:579:G:H5'	29:N:58:SER:HB2	1.59	0.83
10:9:523:ASP:OD2	38:Z:837:TYR:CE1	2.31	0.83
10:9:729:ILE:HG21	10:9:734:ILE:CD1	2.09	0.83
12:AA:42:LYS:N	22:G:127:VAL:CB	2.38	0.83
7:AB:85:LYS:HD3	38:Z:602:GLU:OE1	1.78	0.83
13:AC:182:SER:HB3	13:AC:280:PHE:HE1	1.44	0.83
10:9:998:ILE:HG22	13:AC:108:LEU:HD22	0.83	0.83
13:AC:158:LYS:HA	38:Z:66:TYR:CE2	2.11	0.83
14:AD:17:DT:H2''	14:AD:18:DG:C8	2.14	0.83
4:3:2405:G:H1	4:3:2427:U:H3	1.25	0.83
13:AC:215:ASP:CG	13:AC:217:ARG:NE	2.36	0.83
10:9:217:VAL:N	14:AD:20:DG:C2'	2.40	0.82
10:9:1342:LEU:CG	38:Z:398:LEU:HD23	2.08	0.82
7:AB:205:ILE:HD11	38:Z:513:ASP:OD2	1.79	0.82
10:9:1310:LYS:HE2	38:Z:410:TYR:HB2	1.59	0.82
10:9:1325:VAL:CG1	38:Z:464:ILE:HG23	2.07	0.82
10:9:355:LEU:HD12	10:9:372:LEU:HD22	1.62	0.82
10:9:394:SER:HA	10:9:489:ILE:HD11	1.60	0.82
10:9:1269:LYS:HD2	38:Z:313:ILE:CB	2.08	0.82
10:9:1289:MET:HE3	15:AE:15:DA:H5'	0.83	0.82
12:AA:78:PHE:CE2	38:Z:1095:ARG:NH1	2.47	0.82
13:AC:239:LYS:CB	13:AC:293:ASP:N	2.42	0.82
4:3:313:G:N2	4:3:394:C:O2	2.13	0.82
10:9:169:LEU:HD23	14:AD:25:DC:N3	1.95	0.82
10:9:995:PHE:HE1	13:AC:38:LEU:CD2	1.92	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1269:LYS:NZ	38:Z:313:ILE:CG2	2.42	0.82
13:AC:249:LYS:CB	13:AC:297:PHE:CE1	2.46	0.82
4:3:1119:A:N9	36:U:53:VAL:CG2	2.43	0.82
16:AF:124:SER:CB	38:Z:142:VAL:HG13	2.08	0.82
4:3:1142:G:O2'	36:U:78:GLY:CA	2.27	0.82
10:9:176:LYS:HE3	15:AE:9:DC:C5	2.14	0.82
10:9:1293:ALA:HB2	38:Z:498:THR:CG2	2.09	0.82
52:o:80:GLN:HG3	52:o:83:ASN:HB2	1.61	0.82
7:AB:283:ARG:NH1	13:AC:81:PHE:CB	2.36	0.82
13:AC:139:PHE:CZ	13:AC:147:ILE:CD1	2.62	0.82
8:7:2:G:N2	8:7:73:C:O2	2.13	0.81
8:7:2:G:N1	8:7:73:C:N3	2.28	0.81
10:9:141:VAL:HG11	10:9:613:LEU:HD22	1.61	0.81
10:9:170:LYS:NZ	14:AD:25:DC:O5'	2.13	0.81
10:9:1306:LEU:HD21	38:Z:408:VAL:HG21	1.60	0.81
7:AB:296:SER:HA	7:AB:326:ARG:O	1.80	0.81
13:AC:215:ASP:HB3	13:AC:217:ARG:CZ	2.09	0.81
14:AD:32:DA:H5''	38:Z:121:PRO:HD3	1.63	0.81
37:V:23:ALA:HB1	37:W:6:ILE:HD11	1.63	0.81
10:9:1307:LEU:CD2	38:Z:406:LYS:CG	2.58	0.81
10:9:1311:SER:CB	38:Z:407:ARG:O	2.27	0.81
7:AB:86:GLN:NE2	38:Z:599:THR:HG22	1.95	0.81
10:9:999:PHE:HA	13:AC:108:LEU:CB	2.09	0.81
12:AA:42:LYS:O	22:G:126:LYS:CB	2.24	0.81
13:AC:290:TRP:CD2	13:AC:296:LYS:NZ	2.46	0.81
10:9:953:ALA:HA	7:AB:294:SER:O	1.79	0.81
10:9:1289:MET:HE1	15:AE:14:DG:C2'	2.09	0.81
4:3:900:G:N2	4:3:903:A:N6	2.29	0.81
4:3:1119:A:C2	36:U:29:TYR:CE2	2.67	0.81
10:9:1285:ARG:HB3	15:AE:17:DT:OP2	1.79	0.81
7:AB:168:GLU:OE1	38:Z:611:LYS:NZ	2.14	0.81
7:AB:205:ILE:CD1	38:Z:513:ASP:OD2	2.28	0.81
50:m:26:LEU:HD21	50:m:67:LEU:HD11	1.62	0.81
10:9:1346:LEU:CD2	38:Z:392:LEU:HD11	2.09	0.81
7:AB:264:PHE:HB3	7:AB:290:GLN:HB2	1.63	0.81
12:AA:58:GLU:HG2	38:Z:1213:ASN:HD21	1.44	0.81
13:AC:143:VAL:C	13:AC:145:GLN:HG2	2.06	0.81
13:AC:196:VAL:HG21	13:AC:217:ARG:CZ	2.11	0.81
22:G:56:ASN:HB2	22:G:73:ASN:HD22	1.46	0.81
46:i:32:ALA:HB1	46:i:111:MET:HE1	1.63	0.81
10:9:1288:GLU:OE1	38:Z:893:ARG:NH2	2.14	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:998:ILE:CG2	13:AC:62:MET:HE1	1.84	0.80
10:9:1307:LEU:HD23	38:Z:406:LYS:CG	2.11	0.80
10:9:901:ASN:HD21	10:9:1232:ARG:HH12	1.28	0.80
10:9:1289:MET:HG3	15:AE:15:DA:C4'	2.10	0.80
13:AC:111:ILE:CD1	13:AC:119:MET:HE1	2.11	0.80
10:9:1350:ALA:HB2	38:Z:368:PHE:HZ	1.44	0.80
4:3:1054:U:O2'	4:3:1056:A:N7	2.14	0.80
7:AB:283:ARG:NH2	13:AC:79:ASP:OD2	2.15	0.80
4:3:900:G:H21	4:3:903:A:N6	1.78	0.80
6:5:69:G:H1	6:5:86:A:N6	1.79	0.80
6:5:661:G:H1	6:5:738:A:H61	0.84	0.80
10:9:218:ARG:HH22	16:AF:126:ARG:HG2	1.45	0.80
10:9:1000:PRO:CD	13:AC:6:ASN:HD21	1.94	0.80
15:AE:12:DC:O3'	38:Z:890:TYR:OH	1.98	0.80
4:3:1382:A:H62	4:3:1405:G:H21	1.30	0.80
10:9:170:LYS:N	14:AD:25:DC:C1'	2.28	0.80
10:9:1345:GLU:CD	38:Z:391:ARG:CB	2.54	0.80
10:9:1370:ILE:CD1	38:Z:97:ARG:HD3	2.10	0.80
29:N:35:GLN:HG2	29:N:39:HIS:HE1	1.46	0.80
10:9:288:ARG:HB3	10:9:298:ARG:NH2	1.97	0.80
13:AC:183:LYS:HG2	13:AC:281:ASN:HB2	1.63	0.80
13:AC:290:TRP:CE2	13:AC:296:LYS:HD2	2.15	0.80
25:J:17:SER:HB2	25:J:80:LYS:HE3	1.63	0.80
4:3:1492:G:H5''	4:3:1493:A:H5'	1.64	0.79
4:3:2570:U:H3	4:3:2574:A:H62	1.25	0.79
10:9:1350:ALA:HB2	38:Z:368:PHE:CZ	2.17	0.79
38:Z:923:THR:OG1	38:Z:1106:ARG:NH2	2.15	0.79
10:9:1370:ILE:CD1	38:Z:94:ILE:CG1	2.60	0.79
4:3:186:A:N1	4:3:219:G:O6	2.16	0.79
4:3:2799:U:O4	4:3:2895:A:C6	2.36	0.79
10:9:216:ALA:O	14:AD:20:DG:C2'	2.22	0.79
10:9:1371:LEU:HG	38:Z:94:ILE:HG22	1.62	0.79
10:9:1310:LYS:HA	38:Z:409:ASP:HB2	1.62	0.79
13:AC:215:ASP:CB	13:AC:217:ARG:CZ	2.54	0.79
4:3:329:G:H1	4:3:377:U:H3	1.28	0.79
4:3:1305:G:N3	50:m:20:GLN:NE2	2.30	0.79
10:9:258:VAL:CG1	10:9:268:VAL:HG11	2.13	0.79
52:o:34:ALA:HA	52:o:46:GLN:O	1.83	0.79
10:9:1368:VAL:O	38:Z:98:GLU:CB	2.31	0.79
11:A:191:ALA:HB1	11:A:198:VAL:HG21	1.65	0.79
13:AC:5:SER:HB2	13:AC:61:LEU:CD2	2.13	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AF:55:PHE:HB3	16:AF:62:LEU:HD12	1.63	0.79
6:5:1136:G:H1	6:5:1151:A:H61	0.80	0.78
4:3:454:G:H2'	4:3:455:G:H8	1.47	0.78
4:3:2143:G:H1	4:3:2162:U:H3	1.31	0.78
10:9:649:HIS:HD2	38:Z:837:TYR:CZ	1.91	0.78
4:3:1141:U:C2	36:U:79:LYS:CE	2.63	0.78
4:3:1937:G:HO2'	4:3:1975:G:H1	1.31	0.78
4:3:1118:U:C5'	36:U:41:ARG:HD2	2.02	0.78
13:AC:183:LYS:HG2	13:AC:281:ASN:HB3	1.63	0.78
10:9:356:ARG:NH1	16:AF:113:ASN:CB	2.35	0.78
10:9:648:VAL:HB	38:Z:872:TYR:CD1	2.19	0.78
10:9:658:PRO:HG3	38:Z:868:PHE:CE2	2.17	0.78
10:9:995:PHE:HE1	13:AC:119:MET:SD	2.02	0.78
10:9:1346:LEU:CD2	38:Z:392:LEU:CD1	2.62	0.78
14:AD:19:DT:C2'	14:AD:21:DC:H4'	2.13	0.78
38:Z:669:LYS:HE3	38:Z:670:PHE:CZ	2.18	0.78
10:9:412:LEU:HD13	10:9:471:LEU:HD11	1.63	0.78
10:9:1297:TYR:CZ	38:Z:504:ILE:O	2.35	0.78
10:9:1310:LYS:HB3	38:Z:408:VAL:C	2.05	0.78
10:9:1310:LYS:HG2	38:Z:409:ASP:HB2	1.62	0.78
7:AB:82:LEU:CD2	38:Z:598:GLY:CA	2.60	0.78
4:3:2570:U:H3	4:3:2574:A:N6	1.82	0.78
10:9:1289:MET:CE	15:AE:15:DA:C5'	2.39	0.78
10:9:444:ILE:HG22	10:9:446:PHE:CD1	2.19	0.78
10:9:653:TYR:CE2	38:Z:865:ASN:OD1	2.36	0.78
4:3:358:A:N6	4:3:372:G:H21	1.82	0.77
10:9:1269:LYS:HZ3	38:Z:313:ILE:HA	1.48	0.77
7:AB:86:GLN:HE21	38:Z:599:THR:CG2	1.96	0.77
21:F:115:MET:HG3	21:F:118:LYS:HE2	1.64	0.77
10:9:1324:ILE:CD1	38:Z:410:TYR:OH	2.32	0.77
10:9:1306:LEU:CD2	38:Z:408:VAL:CB	2.53	0.77
14:AD:29:DC:H5''	38:Z:1057:VAL:CG1	2.14	0.77
6:5:732:A:H2'	6:5:733:A:H8	1.49	0.77
8:7:12:C:O2	8:7:25:G:N2	2.17	0.77
10:9:264:PHE:HZ	10:9:342:ARG:HG2	1.47	0.77
10:9:999:PHE:CE2	13:AC:108:LEU:HD22	2.19	0.77
10:9:1324:ILE:HD13	38:Z:440:PRO:CG	2.15	0.77
10:9:1346:LEU:HD21	38:Z:392:LEU:CD1	2.15	0.77
16:AF:47:GLU:HB2	16:AF:92:LEU:HD12	1.67	0.77
41:c:54:THR:HG22	41:c:57:GLU:HG3	1.66	0.77
4:3:2175:U:N3	4:3:2179:A:C8	2.53	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:169:LEU:C	14:AD:25:DC:H1'	2.09	0.77
10:9:653:TYR:HE2	38:Z:865:ASN:OD1	1.66	0.77
10:9:901:ASN:ND2	10:9:1232:ARG:NH1	2.30	0.77
10:9:1307:LEU:HD23	38:Z:406:LYS:HG3	1.67	0.77
10:9:1349:LEU:O	38:Z:111:HIS:NE2	2.18	0.77
13:AC:156:THR:HG21	38:Z:77:LYS:HA	0.79	0.77
13:AC:290:TRP:CD2	13:AC:296:LYS:CD	2.68	0.77
16:AF:44:VAL:HG22	16:AF:97:ILE:HG22	1.66	0.77
49:l:74:LYS:HB2	49:l:92:PHE:HB2	1.65	0.77
4:3:2116:U:OP1	4:3:2156:G:N2	2.17	0.77
40:b:110:VAL:HG11	40:b:197:ILE:HD12	1.67	0.77
6:5:603:U:H3	6:5:630:G:H1	1.33	0.77
6:5:655:G:O6	6:5:744:U:C2	2.38	0.77
10:9:658:PRO:HG3	38:Z:868:PHE:HD2	0.97	0.77
42:d:31:LEU:HD11	42:d:156:LEU:HB3	1.66	0.77
7:6:190:HIS:HE1	10:9:1083:ASP:O	1.67	0.77
10:9:1286:PHE:HB3	38:Z:406:LYS:O	1.85	0.77
10:9:1350:ALA:CB	38:Z:368:PHE:CZ	2.68	0.77
19:D:192:ILE:HG22	19:D:196:MET:HE1	1.67	0.77
20:E:59:ARG:HH22	32:Q:54:ILE:HD13	1.50	0.77
50:m:46:ASP:HB2	50:m:97:TYR:HD1	1.50	0.77
52:o:25:PHE:HE1	52:o:31:VAL:HG21	1.47	0.77
52:o:27:ALA:HB3	52:o:96:VAL:HG21	1.66	0.77
58:u:86:PHE:O	58:u:92:LYS:HB2	1.85	0.77
7:6:105:PRO:CB	7:AB:320:GLU:HA	2.15	0.76
10:9:1344:LYS:C	38:Z:305:ILE:HG21	2.10	0.76
4:3:2189:U:H2'	4:3:2190:G:H8	1.50	0.76
6:5:1381:U:O2	6:5:1492:G:N2	2.18	0.76
10:9:185:GLU:HG2	10:9:195:LEU:HD21	1.66	0.76
10:9:998:ILE:O	13:AC:108:LEU:HD12	1.84	0.76
10:9:1306:LEU:CA	38:Z:408:VAL:HG12	2.15	0.76
13:AC:156:THR:HG23	38:Z:77:LYS:CB	2.16	0.76
54:q:65:GLN:HB3	54:q:87:GLN:HB3	1.67	0.76
6:5:319:U:O4	6:5:323:A:N7	2.19	0.76
10:9:995:PHE:CE1	13:AC:38:LEU:HD21	2.21	0.76
13:AC:183:LYS:HE2	13:AC:281:ASN:HB3	1.67	0.76
15:AE:12:DC:H5''	38:Z:1235:GLN:HB2	1.66	0.76
4:3:186:A:H2	4:3:219:G:H1	1.29	0.76
4:3:2590:G:N2	4:3:2591:G:N2	2.34	0.76
4:3:2683:G:H5''	47:j:31:ARG:HH12	1.51	0.76
10:9:1291:VAL:HG21	38:Z:404:LEU:O	1.83	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1310:LYS:CA	38:Z:409:ASP:H	1.97	0.76
15:AE:10:DG:O4'	38:Z:119:PRO:HD3	1.84	0.76
15:AE:13:DA:C4'	38:Z:890:TYR:CG	2.59	0.76
24:I:48:LEU:HB3	24:I:77:LYS:HE2	1.66	0.76
39:a:119:ASP:OD2	39:a:120:LYS:N	2.18	0.76
10:9:998:ILE:HG23	13:AC:62:MET:CE	1.82	0.76
4:3:1446:G:H22	4:3:1612:U:H5''	1.50	0.76
10:9:618:PRO:HA	10:9:814:LEU:HD12	1.66	0.76
10:9:1346:LEU:HD21	38:Z:392:LEU:HD13	1.66	0.76
13:AC:111:ILE:HD13	13:AC:119:MET:CE	2.15	0.76
4:3:1785:U:H3	4:3:1792:A:H62	1.33	0.76
12:AA:5:TYR:CE2	12:AA:48:LEU:CD2	2.68	0.76
12:AA:5:TYR:OH	12:AA:51:ARG:HB2	1.86	0.76
12:AA:42:LYS:HE3	22:G:123:MET:HE1	0.84	0.76
52:o:30:GLU:HB3	52:o:92:ARG:HB2	1.67	0.76
4:3:2291:U:O2	4:3:2333:G:O6	2.04	0.76
39:a:233:MET:SD	39:a:234:ASN:N	2.55	0.76
6:5:1331:A:N1	6:5:1340:G:N2	2.33	0.76
6:5:36:G:H4'	26:K:131:GLY:HA2	1.66	0.75
12:AA:31:TRP:HE1	22:G:130:LEU:HD11	1.52	0.75
13:AC:157:ASN:CA	38:Z:76:ILE:HD13	2.15	0.75
13:AC:247:LYS:HE2	13:AC:348:LEU:HD11	1.67	0.75
37:V:6:ILE:HD11	37:W:23:ALA:HB1	1.68	0.75
4:3:2019:G:H4'	55:r:96:ILE:HD11	1.67	0.75
7:6:106:LEU:C	7:AB:319:HIS:CE1	2.64	0.75
10:9:374:CYS:CB	10:9:459:VAL:CG1	2.63	0.75
10:9:1102:ILE:CD1	38:Z:859:LEU:HA	2.16	0.75
7:AB:86:GLN:HE21	38:Z:599:THR:HG23	1.50	0.75
13:AC:45:HIS:HB3	13:AC:115:LEU:HD21	1.67	0.75
6:5:619:A:O2'	18:C:73:ARG:NH2	2.20	0.75
13:AC:183:LYS:CD	13:AC:245:GLY:CA	2.48	0.75
13:AC:288:VAL:HG21	13:AC:297:PHE:HD2	1.46	0.75
13:AC:290:TRP:CZ2	13:AC:296:LYS:NZ	2.38	0.75
14:AD:29:DC:H5''	38:Z:1057:VAL:HG13	1.67	0.75
10:9:428:VAL:HG23	10:9:431:GLU:OE2	1.86	0.75
13:AC:176:MET:HE1	13:AC:187:LEU:HD11	1.68	0.75
15:AE:11:DT:H4'	38:Z:1236:ASP:OD1	1.86	0.75
4:3:1830:G:H5''	39:a:55:VAL:HG21	1.66	0.75
4:3:2088:U:H3	4:3:2247:G:H1	1.33	0.75
10:9:998:ILE:N	13:AC:8:PHE:CE1	2.51	0.75
10:9:1287:GLY:HA3	15:AE:16:DC:P	2.27	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AB:82:LEU:CD2	38:Z:597:PHE:C	2.58	0.75
4:3:1541:A:O2'	4:3:1590:U:O2'	2.03	0.75
6:5:833:G:H1	6:5:844:U:H3	0.79	0.75
7:6:107:GLU:CG	7:AB:319:HIS:CG	2.69	0.75
10:9:1273:GLN:CD	38:Z:402:ASN:HD22	1.95	0.75
10:9:1002:SER:OG	13:AC:108:LEU:O	2.05	0.75
10:9:1341:LEU:HD13	38:Z:309:ILE:HG23	1.69	0.75
4:3:1764:U:N3	4:3:1769:A:C6	2.55	0.75
4:3:2736:U:HO2'	4:3:2737:G:H8	1.33	0.75
6:5:711:G:H2'	6:5:712:A:H8	1.51	0.75
6:5:1295:U:H3'	6:5:1296:C:H2'	1.68	0.75
9:8:800:LEU:CD1	9:8:839:ILE:HD11	2.17	0.75
10:9:658:PRO:CG	38:Z:868:PHE:CE2	2.69	0.75
10:9:998:ILE:HD13	13:AC:62:MET:SD	2.26	0.75
10:9:1289:MET:HE3	15:AE:14:DG:H2''	1.66	0.75
50:m:42:GLN:HE21	50:m:100:VAL:HG11	1.52	0.74
4:3:1141:U:H3	36:U:79:LYS:HE2	1.50	0.74
4:3:1392:G:N2	4:3:1395:A:OP2	2.19	0.74
4:3:2645:U:H3	4:3:2784:A:H62	1.35	0.74
6:5:41:C:H2'	6:5:42:G:H8	1.53	0.74
6:5:1138:U:H3	6:5:1149:G:H1	1.35	0.74
38:Z:835:PHE:HB2	38:Z:837:TYR:CE2	2.22	0.74
10:9:613:LEU:HD23	10:9:615:HIS:NE2	2.03	0.74
7:6:293:LEU:HD11	7:6:323:LEU:HD13	1.68	0.74
12:AA:88:MET:HB3	38:Z:1212:ILE:CD1	2.18	0.74
8:7:12:C:N3	8:7:25:G:N1	2.35	0.74
10:9:1342:LEU:CD1	38:Z:392:LEU:HD21	1.75	0.74
7:6:276:ARG:CZ	13:AC:323:GLU:OE1	2.36	0.74
7:6:276:ARG:NH1	13:AC:323:GLU:OE1	2.20	0.74
10:9:218:ARG:NH2	16:AF:126:ARG:HG2	2.03	0.74
10:9:408:LEU:HD12	10:9:427:LEU:HD11	1.68	0.74
41:c:175:ILE:HG22	41:c:177:ASN:H	1.52	0.74
4:3:219:G:N2	4:3:468:A:N1	2.35	0.74
4:3:421:A:N6	4:3:424:G:OP2	2.20	0.74
4:3:1081:A:H61	36:U:8:ALA:H	1.35	0.74
4:3:2360:A:H62	4:3:2373:G:N2	1.86	0.74
6:5:600:G:H1	6:5:633:U:H3	1.33	0.74
12:AA:5:TYR:HE2	12:AA:48:LEU:HD23	1.50	0.74
14:AD:29:DC:C5'	38:Z:1057:VAL:CG1	2.65	0.74
17:B:152:ILE:HD12	17:B:205:ILE:HD12	1.70	0.74
10:9:131:THR:HG21	10:9:600:ILE:HD12	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:5:SER:HB2	13:AC:61:LEU:HD21	1.70	0.74
16:AF:108:TRP:HE1	16:AF:112:ARG:NH2	1.85	0.74
4:3:675:U:H3	4:3:685:G:H1	1.35	0.74
6:5:317:A:N1	6:5:328:G:O6	2.21	0.74
10:9:46:ASP:HA	10:9:75:ARG:HH22	1.51	0.74
27:L:34:LEU:HA	27:L:39:ILE:HD12	1.69	0.74
6:5:715:A:H61	32:Q:94:ARG:HH22	1.36	0.74
7:6:105:PRO:CG	7:AB:320:GLU:CA	2.48	0.74
20:E:158:ASP:HB2	22:G:80:ARG:HH11	1.52	0.74
10:9:1273:GLN:NE2	38:Z:402:ASN:ND2	2.30	0.73
10:9:1344:LYS:HB3	38:Z:305:ILE:HB	1.68	0.73
13:AC:288:VAL:HB	13:AC:300:ASN:HD22	1.52	0.73
4:3:2589:G:N2	4:3:2589:G:OP2	2.22	0.73
10:9:1344:LYS:HG3	38:Z:309:ILE:HD12	0.74	0.73
57:t:69:ILE:HD12	57:t:74:LEU:HD21	1.70	0.73
4:3:161:U:H3	4:3:171:G:H1	1.33	0.73
4:3:2223:C:H2'	4:3:2224:A:H8	1.52	0.73
7:6:107:GLU:CD	7:AB:319:HIS:CG	2.66	0.73
22:G:92:LYS:HB2	22:G:95:LEU:HB2	1.68	0.73
10:9:1349:LEU:N	38:Z:388:LEU:CD1	2.43	0.73
13:AC:135:VAL:CG2	13:AC:171:THR:HG1	1.85	0.73
16:AF:94:GLY:O	38:Z:338:ARG:NH2	2.21	0.73
1:0:24:THR:HG23	1:0:27:GLY:H	1.54	0.73
10:9:402:ARG:HD3	10:9:510:TYR:CD2	2.23	0.73
10:9:1344:LYS:CE	38:Z:306:PRO:CD	2.64	0.73
57:t:38:GLY:H	57:t:41:LYS:HE2	1.54	0.73
4:3:2820:G:N3	4:3:2887:A:O2'	2.20	0.73
6:5:1136:G:N2	6:5:1151:A:N1	2.35	0.73
10:9:412:LEU:HD13	10:9:471:LEU:CD1	2.17	0.73
11:A:90:ASP:HB2	11:A:94:LYS:HE2	1.70	0.73
18:C:168:GLU:OE2	38:Z:30:ASN:OD1	2.07	0.73
6:5:21:U:O2'	6:5:571:A:N6	2.21	0.73
6:5:807:C:O2'	6:5:894:A:N6	2.20	0.73
4:3:2332:U:H3	4:3:2339:G:H1	1.34	0.73
14:AD:15:DT:H3'	16:AF:95:ARG:NH2	2.04	0.73
51:n:76:ASP:OD1	51:n:77:ILE:N	2.21	0.73
4:3:1803:U:H3	4:3:1830:G:H1	1.37	0.73
10:9:998:ILE:HG21	13:AC:108:LEU:HD21	1.68	0.73
11:A:176:LEU:HD21	11:A:198:VAL:HG22	1.70	0.73
13:AC:239:LYS:HD2	13:AC:293:ASP:HA	1.70	0.73
4:3:247:U:N3	4:3:259:A:C8	2.56	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:40:U:H4'	42:d:64:LYS:HB2	1.70	0.73
6:5:111:A:OP1	6:5:603:U:O2'	2.07	0.73
6:5:170:A:O2'	6:5:220:U:OP1	2.06	0.73
12:AA:78:PHE:CZ	38:Z:1095:ARG:CZ	2.72	0.73
21:F:55:GLU:OE2	21:F:59:THR:OG1	2.05	0.73
38:Z:771:ASP:HB3	38:Z:845:ILE:HD12	1.71	0.73
4:3:898:A:O2'	5:4:76:A:N3	2.22	0.72
6:5:518:A:H62	6:5:527:G:N2	1.86	0.72
6:5:1224:C:N3	6:5:1262:A:N7	2.37	0.72
7:6:173:ILE:CG2	7:AB:324:LYS:HZ2	2.01	0.72
7:6:173:ILE:HG22	7:AB:324:LYS:HZ1	1.52	0.72
13:AC:131:ALA:CA	13:AC:171:THR:HB	2.19	0.72
10:9:1348:GLY:O	38:Z:368:PHE:CD1	2.41	0.72
4:3:1832:G:OP2	39:a:56:ARG:NH2	2.22	0.72
10:9:1289:MET:HG3	15:AE:15:DA:C5'	2.19	0.72
38:Z:895:LEU:HD22	38:Z:1165:ILE:HD13	1.70	0.72
2:1:20:LYS:HZ3	4:3:666:G:H5''	1.55	0.72
4:3:1956:G:H2'	4:3:1957:G:C8	2.23	0.72
10:9:814:LEU:CD2	10:9:858:TYR:CE2	2.72	0.72
4:3:1119:A:H1'	36:U:53:VAL:CB	2.19	0.72
4:3:1489:G:H2'	4:3:1490:G:C8	2.24	0.72
10:9:673:LEU:HD23	10:9:677:ALA:HB3	1.71	0.72
10:9:1307:LEU:HA	38:Z:406:LYS:CD	2.14	0.72
16:AF:108:TRP:NE1	16:AF:112:ARG:NE	2.37	0.72
38:Z:1133:ALA:HB1	38:Z:1137:ARG:HD3	1.72	0.72
10:9:613:LEU:HD23	10:9:615:HIS:HE2	1.54	0.72
10:9:1336:PRO:HG2	38:Z:406:LYS:HZ3	1.55	0.72
10:9:1349:LEU:HA	38:Z:368:PHE:CE1	2.22	0.72
13:AC:290:TRP:CD1	13:AC:296:LYS:HD2	2.23	0.72
31:P:22:ALA:HB3	31:P:47:ALA:O	1.90	0.72
6:5:739:G:OP1	29:N:56:LYS:NZ	2.22	0.72
10:9:1351:LEU:CD1	38:Z:113:TRP:CZ3	2.73	0.72
13:AC:290:TRP:HE1	13:AC:293:ASP:HB2	0.55	0.72
21:F:102:TRP:CD1	21:F:136:LYS:HZ2	2.07	0.72
10:9:999:PHE:CD2	13:AC:108:LEU:HD22	2.24	0.72
10:9:1341:LEU:CD1	38:Z:309:ILE:CG2	2.58	0.72
10:9:998:ILE:CG1	13:AC:62:MET:CE	2.68	0.72
55:r:126:LYS:HA	55:r:129:VAL:HG22	1.71	0.72
10:9:1285:ARG:CB	15:AE:17:DT:OP2	2.37	0.71
32:Q:81:MET:HE3	32:Q:85:HIS:HE1	1.54	0.71
4:3:51:A:N7	4:3:121:U:O4	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1070:U:H3	4:3:1155:G:H1	1.37	0.71
4:3:1262:G:H2'	4:3:1263:G:C8	2.26	0.71
10:9:217:VAL:HA	14:AD:20:DG:C2'	2.10	0.71
13:AC:143:VAL:C	13:AC:145:GLN:CG	2.43	0.71
47:j:70:GLN:NE2	47:j:71:ARG:O	2.23	0.71
4:3:1385:U:H3	4:3:1402:G:H1	1.37	0.71
6:5:1193:U:H2'	6:5:1194:A:H8	1.54	0.71
9:8:800:LEU:CD2	9:8:920:VAL:HG22	2.20	0.71
13:AC:291:ASN:H	13:AC:296:LYS:CG	1.79	0.71
17:B:155:LEU:HD23	17:B:202:LYS:HD2	1.70	0.71
60:w:57:ILE:O	60:w:61:ARG:NH1	2.22	0.71
4:3:638:A:H62	4:3:660:U:H3	1.37	0.71
6:5:460:A:H2	6:5:467:G:N1	1.87	0.71
10:9:1126:CYS:O	10:9:1154:LYS:HE2	1.90	0.71
10:9:1307:LEU:O	38:Z:406:LYS:CD	2.38	0.71
10:9:1344:LYS:CG	38:Z:306:PRO:HD2	2.20	0.71
10:9:1370:ILE:CD1	38:Z:94:ILE:HG12	2.20	0.71
26:K:86:ASN:OD1	26:K:88:GLN:NE2	2.23	0.71
33:R:27:LYS:HZ1	33:R:47:ASN:HD22	1.38	0.71
4:3:598:G:H1	4:3:609:U:H3	1.38	0.71
6:5:1217:G:H1	6:5:1269:U:H3	1.38	0.71
16:AF:108:TRP:CZ3	16:AF:130:PRO:HB3	2.26	0.71
4:3:1081:A:C8	36:U:7:LYS:HD2	2.25	0.71
10:9:1306:LEU:CD2	38:Z:408:VAL:CG1	2.69	0.71
13:AC:135:VAL:HG21	13:AC:172:THR:HG22	1.71	0.71
13:AC:242:ARG:HG3	13:AC:248:SER:OG	1.91	0.71
17:B:176:MET:HE2	17:B:204:TRP:HB3	1.71	0.71
4:3:2695:U:O2	4:3:2730:G:N2	2.23	0.71
7:6:106:LEU:CA	7:AB:319:HIS:CE1	2.74	0.71
10:9:168:GLN:O	14:AD:25:DC:C2'	2.38	0.71
13:AC:288:VAL:HG21	13:AC:297:PHE:CE2	2.23	0.71
4:3:2572:A:N6	4:3:2655:U:O2'	2.24	0.71
7:6:108:ARG:NH2	7:AB:316:LYS:CE	2.54	0.71
25:J:100:ILE:HG23	35:T:8:ASN:HD21	1.55	0.71
41:c:183:LEU:HG	41:c:203:VAL:HG11	1.72	0.71
56:s:60:ARG:O	56:s:77:LEU:HA	1.90	0.71
4:3:990:G:H1	4:3:999:U:H3	1.36	0.71
6:5:1413:G:N2	6:5:1438:U:O2	2.24	0.71
4:3:250:U:H3	4:3:256:G:H1	1.39	0.71
4:3:1661:A:H2'	4:3:1662:G:H8	1.54	0.71
9:8:43:GLY:HA3	9:8:46:PHE:CE2	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:8:PHE:O	13:AC:60:GLY:HA3	1.91	0.71
31:P:68:PRO:HB3	31:P:74:ARG:HG2	1.73	0.71
59:v:34:GLN:HE22	59:v:55:LEU:HD11	1.54	0.71
4:3:1083:A:H1'	4:3:1147:G:H21	1.56	0.70
4:3:1090:G:H4'	36:U:33:SER:HA	1.73	0.70
10:9:265:LEU:HD11	10:9:335:MET:HE3	1.73	0.70
10:9:1003:VAL:HG13	13:AC:116:ILE:CD1	2.21	0.70
10:9:1200:PHE:CE2	38:Z:864:ILE:CD1	2.74	0.70
22:G:115:ILE:HB	22:G:138:LEU:HB2	1.73	0.70
32:Q:78:ASN:HB3	32:Q:82:HIS:HB2	1.72	0.70
4:3:1143:U:C4	4:3:1144:C:N4	2.58	0.70
4:3:2061:A:H62	4:3:2585:A:N6	1.85	0.70
15:AE:14:DG:N7	38:Z:886:ALA:HA	2.04	0.70
52:o:62:GLU:HB3	52:o:81:ILE:HD12	1.72	0.70
4:3:226:A:N6	4:3:236:G:N2	2.39	0.70
4:3:313:G:N1	4:3:394:C:N3	2.37	0.70
4:3:2799:U:C4	4:3:2895:A:N1	2.60	0.70
10:9:216:ALA:HB3	14:AD:20:DG:C8	2.25	0.70
7:AB:166:PHE:CE2	38:Z:679:ARG:NH2	2.60	0.70
4:3:2010:A:N3	50:m:2:SER:N	2.39	0.70
10:9:952:ASP:CB	7:AB:295:LYS:HD3	2.21	0.70
10:9:1344:LYS:O	38:Z:305:ILE:HG22	1.88	0.70
34:S:13:GLN:HA	34:S:16:LYS:HE2	1.72	0.70
6:5:1316:C:H2'	6:5:1317:A:C8	2.27	0.70
7:6:106:LEU:HB2	7:AB:319:HIS:CE1	2.25	0.70
10:9:998:ILE:CD1	13:AC:62:MET:CE	2.59	0.70
10:9:1003:VAL:CG2	13:AC:116:ILE:HD11	2.21	0.70
13:AC:131:ALA:HA	13:AC:171:THR:HB	1.74	0.70
13:AC:135:VAL:N	13:AC:171:THR:OG1	2.24	0.70
60:w:57:ILE:HG22	60:w:61:ARG:HH22	1.55	0.70
4:3:2360:A:N6	4:3:2373:G:H21	1.90	0.70
6:5:885:U:O2	6:5:901:A:N7	2.25	0.70
10:9:374:CYS:CB	10:9:459:VAL:HG11	2.22	0.70
15:AE:14:DG:H5'	38:Z:890:TYR:CA	2.21	0.70
5:4:28:C:O2'	5:4:55:A:N1	2.25	0.70
6:5:688:G:N7	25:J:21:ASN:ND2	2.40	0.70
10:9:1306:LEU:CA	38:Z:408:VAL:HG11	2.18	0.70
10:9:1307:LEU:HB3	38:Z:406:LYS:HD2	1.71	0.70
13:AC:183:LYS:O	13:AC:279:GLU:O	2.10	0.70
4:3:1081:A:N9	36:U:7:LYS:HD3	1.99	0.70
4:3:1807:C:O2'	39:a:159:GLN:NE2	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:821:U:O2	22:G:11:HIS:NE2	2.25	0.70
10:9:1000:PRO:CD	13:AC:6:ASN:ND2	2.54	0.70
13:AC:290:TRP:CE2	13:AC:296:LYS:NZ	2.59	0.70
4:3:487:C:N4	4:3:490:A:OP2	2.25	0.70
4:3:1119:A:C2	36:U:29:TYR:CZ	2.80	0.70
10:9:999:PHE:CB	13:AC:108:LEU:C	2.65	0.70
45:h:15:LEU:HA	45:h:50:MET:HA	1.73	0.70
4:3:638:A:N6	4:3:661:G:C6	2.58	0.70
4:3:1446:G:O2'	4:3:1613:A:N6	2.21	0.70
6:5:684:A:H62	6:5:700:G:H21	0.78	0.70
13:AC:159:ASP:CG	38:Z:79:ARG:HH22	1.98	0.70
13:AC:160:GLY:CA	38:Z:79:ARG:CB	2.69	0.70
19:D:169:ILE:HD11	19:D:192:ILE:HD12	1.74	0.70
58:u:84:GLN:OE1	58:u:94:ARG:NH2	2.25	0.70
6:5:1046:A:N7	6:5:1175:C:N4	2.40	0.69
7:AB:82:LEU:HD22	38:Z:598:GLY:HA2	1.69	0.69
13:AC:196:VAL:HG11	13:AC:217:ARG:HH22	1.56	0.69
13:AC:196:VAL:CG1	13:AC:217:ARG:NH2	2.52	0.69
2:1:36:LYS:HG3	2:1:40:HIS:HE1	1.57	0.69
2:1:36:LYS:O	2:1:40:HIS:ND1	2.25	0.69
4:3:1553:G:N2	4:3:1577:A:OP2	2.24	0.69
7:6:108:ARG:HH21	7:AB:316:LYS:HE3	1.57	0.69
10:9:561:ALA:HB1	10:9:585:LEU:HD11	1.74	0.69
10:9:999:PHE:CE2	13:AC:111:ILE:HD12	2.27	0.69
13:AC:160:GLY:CA	38:Z:79:ARG:HB3	2.20	0.69
4:3:631:A:H2'	4:3:632:A:H8	1.57	0.69
4:3:1738:G:H2'	4:3:1739:G:C8	2.27	0.69
4:3:1764:U:N3	4:3:1769:A:N6	2.39	0.69
6:5:134:G:H1	6:5:160:A:N6	1.89	0.69
6:5:1162:G:N2	28:M:60:SER:OG	2.25	0.69
10:9:999:PHE:CE1	13:AC:108:LEU:CG	2.69	0.69
13:AC:182:SER:CB	13:AC:280:PHE:HE1	2.05	0.69
15:AE:10:DG:H4'	38:Z:119:PRO:N	2.07	0.69
16:AF:27:LYS:HE3	16:AF:42:VAL:O	1.93	0.69
25:J:116:PRO:HD2	35:T:35:HIS:HB2	1.74	0.69
4:3:358:A:H62	4:3:372:G:N2	1.90	0.69
4:3:782:U:H2'	55:r:88:ARG:HH21	1.56	0.69
4:3:849:C:H2'	4:3:850:G:H8	1.55	0.69
4:3:2455:G:H21	4:3:2457:U:H3'	1.56	0.69
4:3:2536:U:H3	4:3:2543:G:H1	1.40	0.69
6:5:1106:U:H3	6:5:1160:G:H1	1.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:185:GLU:HG2	10:9:195:LEU:CD2	2.21	0.69
12:AA:42:LYS:HD2	22:G:124:THR:O	1.93	0.69
17:B:127:ILE:HD12	17:B:133:LEU:HD22	1.73	0.69
29:N:35:GLN:HG2	29:N:39:HIS:CE1	2.27	0.69
44:f:47:ARG:HH22	44:f:51:LEU:HB2	1.57	0.69
2:1:39:ARG:NH2	4:3:2359:G:O6	2.25	0.69
13:AC:247:LYS:HE2	13:AC:348:LEU:CD1	2.23	0.69
59:v:4:LYS:O	59:v:6:GLN:NE2	2.26	0.69
4:3:703:A:H2'	4:3:705:A:H62	1.57	0.69
10:9:176:LYS:HD2	15:AE:8:DA:H2'	1.74	0.69
10:9:998:ILE:O	13:AC:108:LEU:HB2	1.92	0.69
10:9:1346:LEU:HD23	38:Z:392:LEU:HD11	1.74	0.69
7:AB:283:ARG:HD3	13:AC:49:VAL:CG2	2.23	0.69
17:B:93:LYS:HA	17:B:96:ILE:HG22	1.73	0.69
49:l:39:GLY:HA2	49:l:97:VAL:O	1.92	0.69
4:3:1418:U:O4	4:3:1423:A:N7	2.26	0.69
10:9:94:ILE:CG2	10:9:135:LEU:HD12	2.21	0.69
10:9:956:ARG:HG3	7:AB:296:SER:HB3	1.21	0.69
21:F:43:TYR:HA	21:F:46:PHE:HD2	1.58	0.69
4:3:1141:U:O2'	36:U:79:LYS:CA	2.34	0.69
10:9:998:ILE:CD1	13:AC:62:MET:SD	2.81	0.69
10:9:1001:GLU:CA	13:AC:109:LYS:HG2	2.13	0.69
10:9:1306:LEU:C	38:Z:408:VAL:CG1	2.65	0.69
14:AD:16:DG:H4'	16:AF:16:SER:CB	2.17	0.69
14:AD:17:DT:H4'	14:AD:18:DG:OP1	1.93	0.69
58:u:35:LEU:HD13	58:u:54:GLN:HA	1.75	0.69
3:2:27:CYS:SG	3:2:28:LYS:N	2.66	0.69
4:3:1099:C:N4	4:3:1105:A:OP1	2.22	0.69
6:5:70:A:H2'	6:5:71:A:H8	1.57	0.69
6:5:249:U:H3	6:5:269:A:H61	1.41	0.69
10:9:1371:LEU:HG	38:Z:94:ILE:HG23	1.74	0.69
12:AA:64:TYR:HB3	12:AA:88:MET:HE1	1.74	0.69
38:Z:884:LYS:HG2	38:Z:1029:MET:HG3	1.75	0.69
3:2:3:VAL:HG12	3:2:35:ARG:HB3	1.75	0.69
4:3:2574:A:H4'	4:3:2575:G:H5''	1.74	0.69
10:9:644:ASP:O	38:Z:835:PHE:CE1	2.45	0.69
10:9:1352:SER:OG	38:Z:31:TRP:CH2	2.28	0.69
7:AB:82:LEU:CD1	38:Z:621:SER:HB2	2.23	0.69
26:K:67:LYS:HE3	26:K:75:GLU:HG3	1.74	0.69
38:Z:128:LEU:HD23	38:Z:248:ILE:HD11	1.75	0.69
47:j:86:LEU:HB3	47:j:94:ARG:HD2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:420:A:H62	4:3:425:U:H3	1.40	0.68
7:6:105:PRO:CB	7:AB:320:GLU:CA	2.70	0.68
10:9:995:PHE:HE1	13:AC:38:LEU:HD21	1.56	0.68
7:AB:73:MET:HE3	7:AB:143:PHE:CD2	2.28	0.68
4:3:1089:A:H1'	36:U:30:THR:HG22	1.75	0.68
4:3:2754:U:H5''	43:e:141:LYS:HE2	1.75	0.68
4:3:226:A:C6	4:3:236:G:N2	2.61	0.68
4:3:640:U:H3	4:3:658:G:H1	1.40	0.68
4:3:895:G:OP2	58:u:58:ARG:NH1	2.26	0.68
4:3:1081:A:C2'	36:U:7:LYS:NZ	2.55	0.68
4:3:2661:U:O2	4:3:2676:G:C2	2.46	0.68
6:5:1150:G:H2'	6:5:1151:A:H8	1.58	0.68
13:AC:139:PHE:CE1	13:AC:147:ILE:CG1	2.74	0.68
4:3:193:G:H1	4:3:209:G:HO2'	1.40	0.68
4:3:1043:C:H3'	4:3:1044:C:H2'	1.74	0.68
4:3:1141:U:N3	36:U:79:LYS:CE	2.56	0.68
4:3:1379:C:O2'	4:3:1605:A:O2'	2.12	0.68
4:3:1554:A:OP2	4:3:1576:G:N2	2.27	0.68
6:5:742:C:H2'	6:5:743:A:C8	2.28	0.68
10:9:956:ARG:HA	7:AB:296:SER:OG	1.92	0.68
39:a:3:ILE:HD11	39:a:207:ASP:HB3	1.76	0.68
44:f:7:GLN:NE2	44:f:8:ASP:OD1	2.26	0.68
4:3:1067:A:N1	4:3:1157:G:O6	2.27	0.68
6:5:294:A:O2'	6:5:295:G:O5'	2.09	0.68
6:5:1164:U:H5''	17:B:10:LEU:HD11	1.75	0.68
10:9:1105:ILE:CG2	38:Z:736:VAL:CG2	2.63	0.68
18:C:168:GLU:CG	38:Z:30:ASN:ND2	2.53	0.68
47:j:63:VAL:HG23	47:j:64:ARG:HG3	1.73	0.68
6:5:1077:U:H3	6:5:1090:G:H22	1.40	0.68
6:5:1224:C:O2	6:5:1262:A:N6	2.27	0.68
10:9:219:GLU:HG3	14:AD:21:DC:H42	1.58	0.68
16:AF:57:LEU:HD12	16:AF:80:ASP:HA	1.74	0.68
4:3:2570:U:O4	4:3:2574:A:N7	2.26	0.68
10:9:390:ARG:CD	10:9:496:ASN:O	2.41	0.68
13:AC:175:TYR:HB2	13:AC:207:TRP:HB3	1.76	0.68
40:b:158:ARG:NH1	40:b:159:VAL:O	2.27	0.68
57:t:93:MET:HG3	57:t:95:PRO:HD3	1.75	0.68
4:3:733:C:H4'	4:3:769:A:H61	1.59	0.68
4:3:1700:G:H4'	47:j:6:THR:HG23	1.75	0.68
4:3:2020:A:H1'	55:r:94:ASN:HD21	1.59	0.68
4:3:2124:A:O2'	4:3:2126:A:OP2	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:273:C:H5''	31:P:44:LYS:HE2	1.75	0.68
10:9:269:ASP:OD2	10:9:342:ARG:NE	2.21	0.68
10:9:638:ARG:HH21	10:9:666:ASN:ND2	1.92	0.68
10:9:1310:LYS:HA	38:Z:409:ASP:CB	2.23	0.68
26:K:86:ASN:HD22	26:K:118:VAL:H	1.39	0.68
41:c:159:PHE:HB2	41:c:180:VAL:HG22	1.76	0.68
4:3:2521:A:OP1	40:b:164:LYS:NZ	2.27	0.68
6:5:662:G:O6	6:5:721:G:O6	2.12	0.68
7:AB:82:LEU:HD13	38:Z:598:GLY:HA2	1.75	0.68
13:AC:239:LYS:HD3	13:AC:294:LYS:N	2.09	0.68
4:3:1295:A:H61	4:3:2020:A:H3'	1.60	0.67
4:3:2321:C:H2'	4:3:2322:G:H8	1.60	0.67
4:3:2655:U:H2'	4:3:2656:G:H8	1.58	0.67
5:4:22:G:O2'	5:4:25:A:N6	2.28	0.67
10:9:1349:LEU:HD11	38:Z:389:THR:N	2.09	0.67
13:AC:9:THR:C	13:AC:11:PRO:HD2	2.19	0.67
21:F:86:VAL:HG22	21:F:150:PHE:HB3	1.76	0.67
36:U:42:LYS:HE2	45:h:114:ALA:C	2.19	0.67
4:3:2096:U:H3	4:3:2238:G:H1	1.41	0.67
6:5:201:G:H1	6:5:214:U:H3	1.42	0.67
13:AC:165:TYR:CE2	13:AC:181:LEU:HD11	2.30	0.67
22:G:118:THR:HA	22:G:135:GLY:HA3	1.76	0.67
34:S:35:PHE:HE1	34:S:44:LEU:HB2	1.59	0.67
34:S:52:ASP:O	34:S:56:ARG:NH2	2.27	0.67
40:b:3:ILE:HG23	40:b:209:THR:HB	1.76	0.67
43:e:101:VAL:HG21	43:e:126:VAL:HG21	1.75	0.67
60:w:38:LEU:HD23	60:w:40:LYS:H	1.59	0.67
6:5:1213:A:N6	6:5:1275:U:N3	2.41	0.67
13:AC:165:TYR:HE2	13:AC:181:LEU:HD11	1.59	0.67
15:AE:10:DG:H4'	38:Z:118:LEU:C	2.19	0.67
38:Z:884:LYS:CG	38:Z:1029:MET:HG3	2.25	0.67
4:3:1187:C:H5''	53:p:79:ILE:HD13	1.76	0.67
4:3:2291:U:O4	4:3:2292:A:N6	2.27	0.67
13:AC:248:SER:OG	13:AC:283:GLU:OE1	2.10	0.67
19:D:163:GLY:O	19:D:167:ARG:N	2.25	0.67
6:5:289:U:OP1	6:5:608:G:N2	2.28	0.67
10:9:658:PRO:CB	38:Z:868:PHE:CE2	2.77	0.67
34:S:16:LYS:O	34:S:20:ASN:ND2	2.27	0.67
54:q:36:ASP:HA	54:q:54:ARG:HE	1.59	0.67
6:5:1245:A:H2'	6:5:1246:A:H8	1.59	0.67
6:5:1265:U:H4'	23:H:42:PRO:HB3	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:174:ASN:C	7:AB:324:LYS:HZ3	1.98	0.67
15:AE:12:DC:C5'	38:Z:1235:GLN:HB2	2.25	0.67
52:o:32:ASN:HB3	52:o:91:LYS:HZ1	1.59	0.67
55:r:36:LEU:HD21	55:r:47:ILE:HG13	1.76	0.67
4:3:590:U:OP1	46:i:116:ARG:NH2	2.27	0.67
7:6:105:PRO:HG3	7:AB:320:GLU:HA	0.75	0.67
4:3:2455:G:N2	4:3:2458:A:OP2	2.28	0.67
10:9:214:ARG:NH2	14:AD:22:DA:C6	2.63	0.67
10:9:1002:SER:N	13:AC:109:LYS:HA	2.10	0.67
12:AA:13:LYS:HE2	12:AA:17:GLU:OE1	1.95	0.67
4:3:411:U:H3	4:3:437:A:H62	1.42	0.67
4:3:2749:A:H62	4:3:2771:G:H21	1.41	0.67
7:6:34:PHE:HE2	7:AB:49:CYS:HG	1.40	0.67
10:9:1102:ILE:HD11	38:Z:859:LEU:CA	2.25	0.67
18:C:74:LEU:HD23	18:C:77:LEU:HD21	1.77	0.67
4:3:1616:G:O2'	4:3:1619:A:N3	2.28	0.67
6:5:460:A:C2	6:5:467:G:N1	2.55	0.67
10:9:998:ILE:O	13:AC:108:LEU:CG	2.42	0.67
10:9:1349:LEU:CA	38:Z:368:PHE:CE1	2.78	0.67
51:n:8:ARG:HG2	51:n:95:GLY:HA3	1.77	0.67
62:y:47:MET:HG3	62:y:52:ARG:HB2	1.74	0.67
6:5:350:G:N2	6:5:384:G:O2'	2.28	0.66
6:5:1012:A:OP2	6:5:1013:C:N4	2.28	0.66
10:9:170:LYS:NZ	14:AD:25:DC:C5'	2.57	0.66
10:9:649:HIS:CD2	38:Z:837:TYR:HE1	2.07	0.66
13:AC:156:THR:HG23	38:Z:77:LYS:HB3	1.76	0.66
43:e:4:ILE:O	43:e:72:ASN:ND2	2.28	0.66
4:3:857:U:O4	4:3:858:A:N6	2.28	0.66
4:3:1119:A:C1'	36:U:53:VAL:CB	2.73	0.66
10:9:1307:LEU:O	38:Z:406:LYS:HD3	1.95	0.66
10:9:1370:ILE:HD13	38:Z:94:ILE:CD1	2.22	0.66
27:L:8:ASP:OD1	27:L:9:ILE:N	2.27	0.66
40:b:56:THR:HA	40:b:78:THR:HA	1.77	0.66
13:AC:153:ASP:OD2	38:Z:75:LYS:CD	2.44	0.66
13:AC:291:ASN:N	13:AC:296:LYS:HB3	2.08	0.66
15:AE:10:DG:C4'	38:Z:119:PRO:CD	2.52	0.66
20:E:97:LEU:HG	20:E:99:SER:H	1.60	0.66
23:H:9:LEU:H	23:H:87:ARG:HD2	1.61	0.66
39:a:43:LYS:NZ	39:a:62:ASN:O	2.29	0.66
47:j:87:ILE:HA	47:j:93:PRO:HA	1.78	0.66
4:3:1023:C:O2'	4:3:1036:A:N3	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1232:U:H2'	4:3:1233:A:H8	1.61	0.66
4:3:2732:A:OP1	40:b:117:ARG:NH2	2.22	0.66
6:5:423:U:OP1	18:C:31:ARG:NH2	2.29	0.66
10:9:998:ILE:HA	13:AC:8:PHE:CE2	2.24	0.66
13:AC:156:THR:CG2	38:Z:77:LYS:CB	2.73	0.66
20:E:66:ASN:OD1	20:E:67:GLN:NE2	2.25	0.66
47:j:80:ASP:OD2	52:o:67:ARG:NH2	2.29	0.66
4:3:840:G:H5''	48:k:42:ARG:HG3	1.78	0.66
4:3:1092:A:OP2	4:3:1124:G:N1	2.23	0.66
6:5:871:U:OP1	22:G:92:LYS:NZ	2.29	0.66
39:a:83:VAL:HB	39:a:118:GLY:H	1.60	0.66
41:c:140:THR:HA	41:c:143:MET:HE2	1.78	0.66
4:3:648:G:H22	41:c:185:LYS:HG3	1.61	0.66
4:3:1141:U:H1'	36:U:79:LYS:HG2	1.77	0.66
6:5:460:A:N1	6:5:467:G:O6	2.28	0.66
6:5:786:U:N3	6:5:789:A:OP2	2.28	0.66
7:6:300:ILE:HD12	7:6:325:LEU:HD13	1.77	0.66
10:9:374:CYS:HB2	10:9:459:VAL:CG1	2.24	0.66
10:9:780:LEU:HD22	38:Z:878:MET:HE1	1.76	0.66
10:9:952:ASP:CB	7:AB:295:LYS:CD	2.74	0.66
10:9:956:ARG:CG	7:AB:296:SER:HA	2.21	0.66
10:9:1305:GLU:OE1	10:9:1310:LYS:HE3	1.96	0.66
38:Z:890:TYR:CE1	38:Z:894:LYS:CE	2.76	0.66
40:b:185:ASP:O	40:b:189:MET:CA	2.42	0.66
47:j:10:VAL:HG12	47:j:12:ASP:H	1.59	0.66
7:6:268:ILE:CD1	7:6:286:ILE:HG22	2.24	0.66
38:Z:828:ARG:NH1	38:Z:870:SER:HB2	2.09	0.66
53:p:16:TRP:HA	53:p:19:GLN:HE22	1.60	0.66
3:2:14:CYS:HA	3:2:27:CYS:HB2	1.77	0.66
7:6:173:ILE:CG2	7:AB:324:LYS:HZ1	2.06	0.66
10:9:907:ASP:OD2	10:9:1099:ARG:NH2	2.27	0.66
10:9:1347:GLN:CD	38:Z:100:MET:HE2	2.21	0.66
38:Z:77:LYS:HE3	38:Z:78:TYR:CZ	2.31	0.66
50:m:42:GLN:HA	50:m:45:LEU:HD12	1.77	0.66
4:3:1187:C:H2'	4:3:1188:C:H6	1.61	0.66
10:9:945:ARG:HH22	7:AB:298:ALA:CB	2.07	0.66
10:9:1310:LYS:HB3	38:Z:409:ASP:CA	2.23	0.66
11:A:59:GLU:O	11:A:63:GLN:NE2	2.29	0.66
7:AB:268:ILE:CD1	7:AB:286:ILE:HG22	2.22	0.66
39:a:38:LEU:HD11	39:a:65:LYS:HB3	1.78	0.66
6:5:1503:U:OP2	35:T:43:ARG:NH2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:356:ARG:CZ	16:AF:109:ARG:C	2.62	0.66
10:9:1306:LEU:O	38:Z:408:VAL:CG1	2.30	0.66
38:Z:1234:PHE:CD1	38:Z:1235:GLN:HG2	2.31	0.66
61:x:12:VAL:HB	61:x:27:SER:HB2	1.77	0.66
4:3:2315:G:N1	42:d:39:GLY:O	2.29	0.65
5:4:29:C:OP1	42:d:30:ARG:NH1	2.29	0.65
6:5:683:G:O2'	6:5:700:G:N2	2.29	0.65
10:9:1307:LEU:HD22	38:Z:406:LYS:CG	2.24	0.65
10:9:1338:SER:CB	38:Z:402:ASN:HB3	2.26	0.65
10:9:1349:LEU:CG	38:Z:388:LEU:HB2	2.25	0.65
10:9:1371:LEU:CG	38:Z:94:ILE:CG2	2.71	0.65
4:3:1476:C:H2'	4:3:1477:A:H8	1.60	0.65
6:5:673:A:H1'	25:J:110:PRO:HB3	1.79	0.65
10:9:390:ARG:HD3	10:9:496:ASN:O	1.95	0.65
10:9:412:LEU:CD1	10:9:471:LEU:CD1	2.74	0.65
10:9:772:GLU:CB	38:Z:862:LEU:O	2.43	0.65
10:9:956:ARG:O	7:AB:296:SER:CB	2.44	0.65
10:9:1338:SER:HB3	38:Z:402:ASN:HB3	1.77	0.65
13:AC:139:PHE:CE1	13:AC:147:ILE:CD1	2.79	0.65
17:B:133:LEU:HB3	17:B:137:MET:HE1	1.77	0.65
24:I:12:LEU:HB3	24:I:82:LEU:HB2	1.77	0.65
38:Z:1069:GLU:HB2	38:Z:1095:ARG:NH1	2.10	0.65
4:3:620:G:H1	48:k:34:ARG:HH21	1.44	0.65
4:3:2104:A:H2'	4:3:2105:G:C8	2.32	0.65
4:3:2266:C:O2'	4:3:2435:C:OP2	2.13	0.65
10:9:1342:LEU:HA	38:Z:398:LEU:HD22	1.78	0.65
50:m:46:ASP:HB2	50:m:97:TYR:CD1	2.32	0.65
59:v:4:LYS:HG2	59:v:11:GLY:HA2	1.78	0.65
3:2:31:LYS:NZ	4:3:2535:C:O2'	2.30	0.65
4:3:287:G:H22	59:v:63:ARG:HH22	1.44	0.65
4:3:816:A:OP2	39:a:225:ARG:NH2	2.30	0.65
4:3:1837:C:H2'	4:3:1838:A:H8	1.58	0.65
4:3:2070:C:N4	4:3:2509:C:O2	2.29	0.65
10:9:649:HIS:HD2	38:Z:837:TYR:CE1	2.07	0.65
18:C:168:GLU:HG2	38:Z:30:ASN:CG	2.22	0.65
4:3:625:G:H2'	4:3:626:A:H8	1.62	0.65
4:3:1355:C:N3	4:3:1681:G:N2	2.44	0.65
4:3:2676:G:H2'	4:3:2677:A:H8	1.61	0.65
4:3:2828:C:H3'	4:3:2829:G:H21	1.62	0.65
4:3:1414:C:H2'	4:3:1415:A:C8	2.31	0.65
4:3:2641:A:O2'	40:b:66:GLN:NE2	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1225:A:H4'	23:H:71:GLY:HA2	1.78	0.65
7:6:107:GLU:CD	7:AB:319:HIS:CB	2.69	0.65
10:9:307:LEU:HD12	10:9:334:LEU:HD13	1.78	0.65
10:9:1306:LEU:CG	38:Z:408:VAL:HG11	2.25	0.65
32:Q:67:TYR:HE1	35:T:5:GLU:HA	1.61	0.65
36:U:42:LYS:HE2	45:h:114:ALA:CA	2.27	0.65
40:b:110:VAL:HG21	40:b:179:LEU:HD22	1.78	0.65
4:3:515:A:H1'	4:3:517:G:H5'	1.78	0.65
4:3:713:C:H2'	4:3:714:G:H8	1.61	0.65
4:3:2035:U:O4	4:3:2040:A:N7	2.29	0.65
6:5:133:G:H2'	6:5:134:G:C8	2.32	0.65
6:5:376:G:N2	6:5:379:A:OP2	2.25	0.65
10:9:216:ALA:HB1	14:AD:20:DG:H8	1.51	0.65
10:9:1307:LEU:HD23	38:Z:406:LYS:CB	2.27	0.65
27:L:87:ARG:HG3	27:L:97:VAL:HG13	1.78	0.65
33:R:32:LYS:HA	33:R:50:ALA:HB3	1.79	0.65
13:AC:183:LYS:O	13:AC:280:PHE:HA	1.97	0.65
13:AC:215:ASP:C	13:AC:217:ARG:HE	2.04	0.65
39:a:251:ARG:HH21	39:a:254:PRO:HA	1.61	0.65
40:b:139:TYR:CG	40:b:140:PRO:HD3	2.31	0.65
41:c:158:LEU:HD11	41:c:181:LYS:HG3	1.78	0.65
50:m:70:THR:HG23	50:m:72:LEU:H	1.62	0.65
50:m:117:GLN:HE22	50:m:119:THR:HG22	1.62	0.65
4:3:49:C:HO2'	4:3:54:A:HO2'	1.43	0.65
4:3:1081:A:N9	36:U:7:LYS:CD	2.58	0.65
6:5:1224:C:O2'	23:H:72:GLY:O	2.14	0.65
48:k:62:LEU:HD12	48:k:63:PRO:HD2	1.78	0.65
4:3:155:A:H2'	4:3:156:A:C8	2.32	0.64
4:3:2017:G:H5''	55:r:42:LYS:HB2	1.79	0.64
10:9:1223:HIS:HB3	38:Z:737:PHE:HB2	1.79	0.64
44:f:101:ALA:HA	44:f:106:MET:HE2	1.79	0.64
56:s:8:LEU:HB3	56:s:30:VAL:HG13	1.79	0.64
4:3:354:C:O2	41:c:174:ASN:ND2	2.30	0.64
4:3:1128:G:N2	4:3:1134:G:O6	2.30	0.64
4:3:1729:G:H4'	39:a:9:ARG:HG3	1.79	0.64
4:3:2499:U:H5'	4:3:2578:A:H5''	1.79	0.64
4:3:2812:U:H1'	4:3:2813:A:H2'	1.80	0.64
10:9:356:ARG:HH11	16:AF:113:ASN:HB2	0.71	0.64
10:9:374:CYS:HB3	10:9:459:VAL:CG1	2.27	0.64
10:9:1098:SER:HA	38:Z:820:ASN:ND2	2.11	0.64
10:9:1285:ARG:HB2	15:AE:17:DT:P	2.37	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1067:A:H2	4:3:1157:G:H1	1.44	0.64
4:3:1292:A:H61	4:3:2024:C:H42	1.44	0.64
4:3:1807:C:N3	4:3:1824:G:N1	2.42	0.64
4:3:2592:U:O2'	8:7:77:A:N6	2.30	0.64
6:5:1414:U:OP1	34:S:29:LYS:NZ	2.29	0.64
10:9:1273:GLN:HE22	38:Z:402:ASN:ND2	1.94	0.64
10:9:1307:LEU:HD23	38:Z:406:LYS:HB2	1.79	0.64
15:AE:12:DC:H2''	38:Z:890:TYR:OH	1.96	0.64
38:Z:906:HIS:HB2	38:Z:987:ARG:HE	1.63	0.64
40:b:48:SER:O	40:b:85:ARG:NH1	2.29	0.64
46:i:73:GLU:HG3	46:i:93:ARG:HD2	1.79	0.64
4:3:1737:G:H2'	4:3:1738:G:C8	2.33	0.64
4:3:1920:A:H62	6:5:1468:A:H1'	1.63	0.64
4:3:2321:C:O4'	42:d:37:ASN:ND2	2.31	0.64
12:AA:53:TYR:CE1	12:AA:57:LEU:HD12	2.33	0.64
16:AF:10:TRP:HB3	16:AF:133:LEU:HD12	1.79	0.64
44:f:79:PHE:HB2	44:f:142:VAL:HG12	1.79	0.64
51:n:2:LYS:HD2	51:n:7:GLN:HB2	1.79	0.64
4:3:512:G:N2	4:3:515:A:N7	2.46	0.64
4:3:700:U:H2'	4:3:701:A:H8	1.61	0.64
4:3:1086:G:H4'	4:3:2760:C:H1'	1.79	0.64
4:3:1141:U:H3	36:U:79:LYS:CE	2.10	0.64
4:3:1511:C:N4	4:3:1512:A:N6	2.46	0.64
4:3:2745:G:H2'	4:3:2746:A:C8	2.32	0.64
6:5:33:A:H61	6:5:550:U:H3	1.46	0.64
7:6:1:MET:N	7:AB:99:GLY:O	2.20	0.64
10:9:1269:LYS:HD2	38:Z:313:ILE:HG21	1.76	0.64
10:9:1345:GLU:CD	38:Z:391:ARG:HB3	2.22	0.64
10:9:1349:LEU:CD2	38:Z:368:PHE:CB	2.70	0.64
42:d:34:ILE:HG13	42:d:96:MET:HE3	1.78	0.64
4:3:312:U:H2'	4:3:313:G:C8	2.32	0.64
4:3:1016:A:N6	4:3:1171:G:OP2	2.31	0.64
6:5:736:U:OP1	29:N:2:GLN:NE2	2.30	0.64
6:5:1429:G:H2'	6:5:1430:G:H8	1.63	0.64
7:6:276:ARG:HD2	13:AC:323:GLU:OE1	1.98	0.64
10:9:444:ILE:CG2	10:9:446:PHE:CD1	2.80	0.64
10:9:956:ARG:HG2	7:AB:296:SER:CB	2.06	0.64
10:9:1342:LEU:HB2	38:Z:398:LEU:HD23	0.65	0.64
16:AF:137:ASP:CG	38:Z:349:PRO:CG	2.69	0.64
4:3:1685:G:H4'	50:m:36:LYS:HD2	1.79	0.64
6:5:213:U:OP1	6:5:461:G:N2	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:998:ILE:HG21	13:AC:108:LEU:CD2	2.19	0.64
38:Z:897:ASP:OD2	38:Z:1234:PHE:CD2	2.51	0.64
56:s:52:PRO:HA	56:s:85:LEU:HD13	1.77	0.64
4:3:452:U:H3	4:3:2415:A:H61	1.46	0.64
4:3:1081:A:H2	36:U:58:ILE:CD1	2.11	0.64
4:3:2626:A:O2'	40:b:158:ARG:NH1	2.26	0.64
4:3:2697:C:OP2	4:3:2699:C:N4	2.31	0.64
6:5:316:G:H2'	6:5:317:A:C8	2.33	0.64
6:5:1497:U:H2'	6:5:1498:G:H8	1.61	0.64
13:AC:139:PHE:CE2	13:AC:147:ILE:CD1	2.73	0.64
13:AC:289:ILE:C	13:AC:300:ASN:HD21	2.01	0.64
38:Z:1069:GLU:OE2	38:Z:1095:ARG:NH1	2.26	0.64
39:a:254:PRO:O	39:a:261:ARG:NH1	2.31	0.64
44:f:7:GLN:HB2	44:f:34:LYS:HG2	1.79	0.64
6:5:749:G:H1'	6:5:751:C:H41	1.63	0.64
6:5:1436:C:H2'	6:5:1437:A:C8	2.33	0.64
7:6:107:GLU:N	7:AB:319:HIS:ND1	2.40	0.64
11:A:47:PRO:HB2	11:A:49:ARG:HH12	1.62	0.64
7:AB:82:LEU:HB3	38:Z:598:GLY:HA3	1.80	0.64
13:AC:183:LYS:HB3	13:AC:280:PHE:C	2.23	0.64
22:G:19:LEU:HD22	22:G:87:VAL:HG11	1.79	0.64
36:U:40:ILE:HG22	36:U:51:ILE:HD11	1.79	0.64
3:2:11:CYS:SG	3:2:12:LYS:N	2.71	0.64
4:3:2588:U:H2'	4:3:2589:G:C4	2.33	0.64
7:6:269:GLU:HG3	7:6:278:PHE:CE2	2.33	0.64
10:9:628:ILE:HD11	10:9:673:LEU:CD1	2.17	0.64
10:9:956:ARG:CG	7:AB:296:SER:CA	2.50	0.64
10:9:1297:TYR:CE2	38:Z:501:ARG:O	2.51	0.64
10:9:1352:SER:CB	38:Z:31:TRP:CZ2	2.65	0.64
12:AA:88:MET:HB3	38:Z:1212:ILE:HD11	1.78	0.64
39:a:38:LEU:HD21	39:a:65:LYS:HD3	1.78	0.64
1:0:12:ARG:NH1	4:3:500:U:O2'	2.31	0.63
4:3:356:A:OP1	41:c:173:SER:OG	2.15	0.63
4:3:919:C:H2'	4:3:920:G:H8	1.63	0.63
10:9:1149:LEU:HD11	10:9:1181:LEU:HD23	1.79	0.63
10:9:1200:PHE:HE2	38:Z:864:ILE:HD13	1.61	0.63
10:9:1295:GLU:OE1	38:Z:1260:VAL:HG21	1.99	0.63
23:H:19:VAL:HG12	23:H:67:VAL:HG22	1.80	0.63
46:i:24:ALA:HA	46:i:64:GLN:HE21	1.63	0.63
4:3:892:G:H2'	4:3:893:A:H8	1.62	0.63
4:3:1010:G:OP2	54:q:77:LYS:NZ	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1119:A:C8	36:U:53:VAL:HG21	2.33	0.63
4:3:1230:U:H2'	4:3:1231:G:C8	2.33	0.63
4:3:1491:G:H2'	4:3:1492:G:C8	2.33	0.63
4:3:1722:U:O2'	4:3:1734:A:N7	2.30	0.63
4:3:2145:A:H2'	4:3:2146:A:H8	1.63	0.63
10:9:1002:SER:H	13:AC:109:LYS:HA	1.62	0.63
17:B:22:TRP:H	28:M:54:PRO:HG3	1.63	0.63
4:3:1734:A:H3'	4:3:1735:A:H8	1.64	0.63
4:3:2691:C:H41	4:3:2735:G:H21	1.47	0.63
10:9:376:ARG:CZ	14:AD:20:DG:N7	2.61	0.63
10:9:988:VAL:HG12	10:9:992:GLU:OE2	1.99	0.63
10:9:1297:TYR:HE2	38:Z:504:ILE:HB	1.63	0.63
41:c:144:MET:HE1	41:c:147:LEU:HD23	1.80	0.63
2:1:10:ARG:NH1	48:k:62:LEU:O	2.31	0.63
4:3:552:C:OP1	62:y:13:ARG:NH1	2.31	0.63
4:3:1028:C:OP1	53:p:46:TYR:OH	2.12	0.63
4:3:1872:U:N3	4:3:1882:G:N1	2.46	0.63
4:3:2789:A:H5''	4:3:2790:A:H5'	1.79	0.63
6:5:96:G:H5''	30:O:21:LYS:HA	1.79	0.63
10:9:999:PHE:CZ	13:AC:42:TYR:CE2	2.86	0.63
19:D:68:GLU:H	19:D:94:VAL:HG23	1.64	0.63
2:1:10:ARG:NH1	48:k:59:TYR:O	2.31	0.63
4:3:1119:A:C8	36:U:53:VAL:CG2	2.81	0.63
5:4:37:A:O2'	5:4:44:A:N1	2.32	0.63
6:5:87:G:H2'	6:5:88:A:H8	1.63	0.63
6:5:311:A:O2'	6:5:326:C:O2'	2.15	0.63
6:5:1110:C:H2'	6:5:1111:G:H8	1.62	0.63
10:9:342:ARG:HH11	10:9:345:LYS:HD3	1.63	0.63
10:9:1371:LEU:N	38:Z:94:ILE:HG23	2.13	0.63
41:c:71:THR:HG22	41:c:73:LYS:H	1.64	0.63
4:3:2081:U:O2'	4:3:2605:G:O2'	2.16	0.63
6:5:709:A:H2'	6:5:710:G:C8	2.34	0.63
9:8:800:LEU:HD12	9:8:839:ILE:HD11	1.80	0.63
10:9:168:GLN:O	14:AD:25:DC:C1'	2.47	0.63
10:9:1269:LYS:HZ2	38:Z:313:ILE:HG23	1.62	0.63
46:i:106:ASN:HA	46:i:109:LYS:HG2	1.81	0.63
4:3:1020:G:H5''	4:3:1021:C:H5	1.64	0.63
4:3:1418:U:H3	4:3:1423:A:N6	1.97	0.63
5:4:58:C:H2'	5:4:59:A:H8	1.63	0.63
6:5:1213:A:N6	6:5:1275:U:C2	2.67	0.63
7:6:269:GLU:HG3	7:6:278:PHE:HE2	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1100:MET:HB3	38:Z:858:PHE:CD2	2.34	0.63
13:AC:183:LYS:CD	13:AC:280:PHE:O	2.43	0.63
16:AF:108:TRP:HZ3	16:AF:130:PRO:HB3	1.64	0.63
29:N:35:GLN:O	29:N:39:HIS:ND1	2.32	0.63
58:u:35:LEU:HD11	58:u:55:ARG:HH11	1.64	0.63
4:3:86:A:OP2	4:3:103:G:N2	2.31	0.63
4:3:1119:A:O4'	36:U:53:VAL:HB	1.98	0.63
4:3:1511:C:N4	4:3:1512:A:H62	1.96	0.63
4:3:1702:A:H62	4:3:1998:U:H3	1.45	0.63
4:3:2299:U:H1'	4:3:2382:A:H1'	1.80	0.63
6:5:265:U:H2'	6:5:266:A:H8	1.63	0.63
10:9:952:ASP:HB2	7:AB:295:LYS:HD3	1.81	0.63
10:9:1366:ASN:ND2	38:Z:100:MET:CB	2.58	0.63
23:H:22:THR:O	23:H:64:ASP:HB3	1.97	0.63
52:o:4:ILE:O	52:o:6:LYS:NZ	2.32	0.63
4:3:85:U:H4'	57:t:2:GLN:HE22	1.63	0.63
4:3:1166:G:O2'	4:3:2032:G:O2'	2.14	0.63
4:3:1446:G:N1	4:3:1612:U:OP2	2.32	0.63
4:3:1748:U:N3	4:3:1751:A:N7	2.47	0.63
6:5:403:A:H2'	6:5:404:A:C8	2.34	0.63
6:5:500:G:H5''	26:K:126:GLN:HA	1.81	0.63
10:9:772:GLU:C	38:Z:862:LEU:H	2.02	0.63
10:9:1306:LEU:HA	38:Z:408:VAL:CG1	2.27	0.63
17:B:57:GLU:O	17:B:67:VAL:HA	1.98	0.63
21:F:76:VAL:HG12	21:F:85:GLN:HE22	1.64	0.63
4:3:1034:A:H5''	53:p:83:LYS:HZ3	1.64	0.62
4:3:1204:A:N6	4:3:1212:C:N3	2.46	0.62
6:5:518:A:N6	6:5:527:G:H21	1.93	0.62
6:5:940:G:N2	6:5:1308:G:O2'	2.32	0.62
10:9:661:THR:O	10:9:780:LEU:HD11	1.99	0.62
10:9:1298:GLY:HA2	38:Z:1266:ILE:HD11	1.79	0.62
10:9:1307:LEU:HB3	38:Z:406:LYS:CE	2.28	0.62
13:AC:220:GLU:HB2	13:AC:240:MET:HE1	1.81	0.62
26:K:115:LEU:HB3	26:K:117:THR:HG22	1.81	0.62
4:3:1323:A:H2'	4:3:1324:A:C8	2.34	0.62
10:9:999:PHE:CD2	13:AC:108:LEU:CD2	2.81	0.62
10:9:1223:HIS:C	38:Z:737:PHE:CD2	2.77	0.62
18:C:57:LYS:O	18:C:60:MET:HG3	1.98	0.62
39:a:113:ASP:HB3	39:a:202:VAL:HG23	1.81	0.62
39:a:138:LEU:HD23	39:a:141:ILE:HD12	1.81	0.62
6:5:416:U:C2	6:5:421:G:C2	2.87	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:732:A:OP1	32:Q:91:LYS:NZ	2.30	0.62
10:9:614:ASP:H	10:9:624:ASN:HD22	1.47	0.62
11:A:146:LYS:O	11:A:150:LEU:HB2	1.99	0.62
7:AB:283:ARG:NH1	13:AC:79:ASP:OD1	2.32	0.62
27:L:15:ILE:HG21	27:L:39:ILE:HG21	1.81	0.62
38:Z:687:VAL:HG11	38:Z:802:ARG:NH2	2.08	0.62
4:3:631:A:H2'	4:3:632:A:C8	2.33	0.62
4:3:782:U:H3	4:3:2021:A:H1'	1.64	0.62
4:3:2436:G:H5''	4:3:2437:G:H5'	1.80	0.62
4:3:2590:G:N2	4:3:2591:G:H22	1.95	0.62
6:5:1261:A:H2'	6:5:1262:A:C8	2.33	0.62
6:5:1302:C:H5''	27:L:28:SER:HB3	1.82	0.62
10:9:205:GLU:O	10:9:252:ARG:CZ	2.47	0.62
10:9:1336:PRO:CG	38:Z:406:LYS:HZ3	2.12	0.62
17:B:153:LYS:NZ	17:B:154:VAL:O	2.32	0.62
19:D:192:ILE:O	19:D:195:THR:OG1	2.16	0.62
4:3:614:C:OP1	53:p:30:SER:OG	2.17	0.62
4:3:1043:C:H4'	46:i:113:PRO:HD3	1.82	0.62
4:3:1712:A:O2'	4:3:1997:C:O2'	2.16	0.62
4:3:2757:A:H1'	43:e:66:ILE:HG12	1.82	0.62
5:4:12:U:H2'	5:4:13:G:H21	1.64	0.62
5:4:79:U:H2'	5:4:80:G:C4	2.34	0.62
6:5:320:G:N1	6:5:323:A:OP2	2.29	0.62
6:5:1448:A:H2'	6:5:1449:G:C8	2.34	0.62
10:9:995:PHE:CE1	13:AC:38:LEU:CD2	2.78	0.62
10:9:1102:ILE:HD12	38:Z:859:LEU:HA	1.80	0.62
15:AE:12:DC:H5''	38:Z:1235:GLN:CB	2.29	0.62
4:3:1306:G:H2'	4:3:1307:G:H8	1.64	0.62
4:3:1367:G:H5''	56:s:15:LYS:HD2	1.80	0.62
4:3:1999:G:H22	4:3:2003:C:H1'	1.64	0.62
4:3:2321:C:H2'	4:3:2322:G:C8	2.34	0.62
4:3:2859:U:H2'	4:3:2860:A:H8	1.64	0.62
6:5:831:C:H2'	6:5:832:G:C8	2.35	0.62
6:5:1213:A:N6	6:5:1275:U:H3	1.96	0.62
9:8:831:PHE:CE1	9:8:913:VAL:HG11	2.34	0.62
21:F:147:ASN:HB2	21:F:150:PHE:HD2	1.62	0.62
33:R:19:VAL:HG21	33:R:44:PHE:HE1	1.64	0.62
34:S:66:ARG:HA	34:S:69:LYS:HE2	1.82	0.62
38:Z:19:LYS:HE3	38:Z:1248:THR:HG22	1.80	0.62
54:q:39:LEU:HA	54:q:50:LEU:HG	1.81	0.62
4:3:201:A:N6	4:3:2438:A:O2'	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:389:C:H2'	4:3:390:A:C8	2.35	0.62
4:3:603:G:H1'	4:3:1019:A:N1	2.14	0.62
4:3:611:A:H2'	4:3:2025:C:H5''	1.81	0.62
4:3:2307:G:H1	4:3:2325:U:H3	1.45	0.62
10:9:100:LEU:HD13	10:9:591:ILE:CD1	2.30	0.62
10:9:363:GLU:HG2	10:9:379:ARG:NH1	2.14	0.62
24:I:9:TYR:HB3	24:I:85:VAL:HB	1.82	0.62
42:d:106:VAL:HG11	42:d:139:PRO:HD3	1.81	0.62
5:4:40:U:O2	42:d:63:GLN:NE2	2.33	0.62
6:5:1288:C:H2'	6:5:1289:U:H6	1.64	0.62
9:8:781:SER:HB2	9:8:789:TYR:CE1	2.34	0.62
10:9:1351:LEU:HD11	38:Z:113:TRP:CE3	2.34	0.62
34:S:48:TYR:CE1	34:S:69:LYS:HD2	2.35	0.62
57:t:90:LYS:NZ	57:t:104:PHE:O	2.33	0.62
6:5:670:G:H2'	6:5:671:G:C8	2.34	0.62
10:9:90:LYS:NZ	10:9:1034:GLU:HB3	2.15	0.62
10:9:227:THR:HG21	10:9:254:LEU:HG	1.82	0.62
10:9:628:ILE:CD1	10:9:673:LEU:HD12	2.22	0.62
10:9:1310:LYS:CA	38:Z:409:ASP:HB2	2.29	0.62
10:9:1344:LYS:HG3	38:Z:309:ILE:HD11	1.67	0.62
38:Z:742:TYR:HE1	38:Z:745:LYS:HB3	1.64	0.62
40:b:10:LYS:HD3	40:b:197:ILE:HB	1.80	0.62
4:3:1287:C:OP1	41:c:73:LYS:NZ	2.31	0.62
4:3:1700:G:O2'	47:j:5:MET:O	2.16	0.62
4:3:2195:U:H2'	4:3:2196:G:H8	1.64	0.62
4:3:2528:C:H2'	4:3:2529:C:C6	2.34	0.62
10:9:1095:GLY:O	10:9:1099:ARG:HD2	2.00	0.62
7:AB:293:LEU:HD11	7:AB:323:LEU:HD13	1.81	0.62
16:AF:124:SER:HB3	38:Z:142:VAL:CG1	2.25	0.62
18:C:78:VAL:HG11	18:C:89:LEU:HB3	1.81	0.62
4:3:686:C:H2'	4:3:687:G:H8	1.65	0.61
4:3:1382:A:H62	4:3:1405:G:N2	1.94	0.61
4:3:2031:C:H2'	4:3:2032:G:H8	1.65	0.61
4:3:2735:G:H2'	4:3:2736:U:C6	2.35	0.61
6:5:831:C:H2'	6:5:832:G:H8	1.65	0.61
6:5:1330:A:H2'	6:5:1331:A:H8	1.64	0.61
6:5:1507:U:OP2	6:5:1509:A:N6	2.33	0.61
10:9:1212:MET:SD	38:Z:737:PHE:HZ	2.23	0.61
13:AC:239:LYS:NZ	13:AC:294:LYS:CD	2.63	0.61
41:c:54:THR:H	41:c:57:GLU:HB2	1.63	0.61
4:3:163:A:N7	4:3:169:U:O4	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2090:G:N2	4:3:2244:U:O2	2.32	0.61
5:4:4:G:O6	5:4:105:A:N6	2.33	0.61
6:5:474:G:H2'	6:5:475:U:C6	2.35	0.61
6:5:655:G:O6	6:5:744:U:O2	2.19	0.61
10:9:647:ASP:HB3	38:Z:835:PHE:CE2	2.35	0.61
10:9:1336:PRO:CG	38:Z:406:LYS:NZ	2.63	0.61
10:9:1349:LEU:HA	38:Z:368:PHE:CG	2.30	0.61
11:A:201:LEU:HD12	11:A:217:ALA:HB3	1.83	0.61
4:3:31:U:O2'	53:p:7:LYS:NZ	2.32	0.61
4:3:638:A:C6	4:3:661:G:C6	2.88	0.61
4:3:1462:A:O2'	4:3:1463:G:O5'	2.18	0.61
4:3:1794:A:OP1	39:a:246:ARG:NH2	2.33	0.61
6:5:305:A:O2'	6:5:605:A:N1	2.32	0.61
50:m:60:ARG:HA	50:m:63:VAL:HG22	1.82	0.61
53:p:9:THR:O	53:p:13:ARG:HG3	2.01	0.61
4:3:205:C:OP1	59:v:18:ARG:NH2	2.30	0.61
4:3:485:A:H1'	53:p:2:ARG:NH1	2.15	0.61
4:3:2144:C:H2'	4:3:2145:A:H8	1.65	0.61
4:3:2645:U:O4	4:3:2784:A:N7	2.33	0.61
5:4:31:G:O6	5:4:48:A:N6	2.33	0.61
6:5:397:C:O3'	18:C:73:ARG:NH2	2.33	0.61
46:i:47:PHE:HB3	53:p:63:ARG:HD3	1.83	0.61
50:m:34:THR:HB	50:m:37:LYS:HG3	1.82	0.61
4:3:896:U:H2'	4:3:897:A:H8	1.64	0.61
4:3:1476:C:H2'	4:3:1477:A:C8	2.35	0.61
4:3:2469:A:N1	4:3:2498:G:N2	2.48	0.61
4:3:2644:U:HO2'	40:b:47:TYR:HH	1.49	0.61
6:5:838:A:OP2	20:E:105:GLN:NE2	2.33	0.61
10:9:1356:ILE:O	38:Z:15:ILE:HG23	2.01	0.61
12:AA:68:ARG:HH21	38:Z:1207:MET:HB2	1.65	0.61
7:AB:304:ARG:O	13:AC:81:PHE:CZ	2.54	0.61
4:3:729:U:H3	4:3:803:G:H1	1.46	0.61
4:3:742:G:O6	4:3:759:U:O4	2.19	0.61
10:9:1345:GLU:O	38:Z:388:LEU:HD22	2.01	0.61
16:AF:93:LEU:O	38:Z:338:ARG:NH2	2.33	0.61
17:B:153:LYS:HB3	17:B:204:TRP:HB2	1.82	0.61
53:p:108:ILE:HA	53:p:111:LYS:HE2	1.82	0.61
57:t:44:ARG:HG3	57:t:63:VAL:HB	1.83	0.61
4:3:33:C:O2'	4:3:1268:U:OP1	2.17	0.61
4:3:869:U:H2'	4:3:870:A:C8	2.35	0.61
4:3:2057:C:H2'	4:3:2058:G:C4	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:12:U:OP2	5:4:68:C:O2'	2.19	0.61
6:5:185:G:O2'	31:P:67:ARG:NH2	2.33	0.61
6:5:319:U:H3	6:5:323:A:N6	1.89	0.61
6:5:870:A:O3'	22:G:89:GLN:NE2	2.34	0.61
6:5:1115:G:N2	6:5:1116:U:O4	2.33	0.61
10:9:30:GLN:HG3	10:9:676:PHE:CE1	2.36	0.61
17:B:38:GLU:HA	17:B:41:ARG:HG3	1.83	0.61
49:l:54:ILE:O	49:l:58:LEU:HB2	2.01	0.61
55:r:115:GLN:HA	55:r:118:ILE:HD12	1.81	0.61
4:3:1702:A:N7	4:3:1998:U:O4	2.34	0.61
6:5:394:U:H2'	6:5:395:G:H8	1.65	0.61
9:8:767:MET:HE1	9:8:805:PHE:CZ	2.36	0.61
10:9:952:ASP:HB3	7:AB:295:LYS:HD3	1.82	0.61
11:A:32:MET:SD	11:A:203:ASN:ND2	2.71	0.61
4:3:1012:G:H2'	4:3:1013:G:H8	1.66	0.61
4:3:2093:U:H2'	4:3:2094:A:C8	2.36	0.61
4:3:2855:A:N3	50:m:58:ASN:ND2	2.48	0.61
5:4:16:G:O6	5:4:63:U:O2	2.18	0.61
7:6:107:GLU:CD	7:AB:319:HIS:HB2	2.25	0.61
10:9:998:ILE:C	13:AC:108:LEU:HB3	2.25	0.61
11:A:96:VAL:HA	11:A:229:MET:HE1	1.81	0.61
13:AC:5:SER:HB2	13:AC:61:LEU:HD23	1.82	0.61
26:K:120:VAL:HG23	26:K:132:ALA:HB2	1.82	0.61
4:3:26:G:N2	55:r:78:GLN:OE1	2.34	0.61
4:3:204:U:O4	4:3:254:G:N2	2.26	0.61
6:5:358:G:OP1	26:K:44:ARG:NH1	2.34	0.61
6:5:893:C:H3'	6:5:894:A:C8	2.36	0.61
10:9:998:ILE:CG1	13:AC:62:MET:HE1	2.30	0.61
10:9:1102:ILE:HD11	38:Z:859:LEU:HA	1.81	0.61
16:AF:31:LYS:HA	16:AF:36:ASP:OD1	1.99	0.61
26:K:50:VAL:HG21	26:K:87:LEU:HD13	1.82	0.61
49:l:34:LEU:HD11	49:l:129:TRP:HB2	1.83	0.61
4:3:1142:G:C2'	36:U:78:GLY:CA	2.67	0.60
4:3:2385:A:H1'	51:n:110:ARG:HH22	1.65	0.60
6:5:70:A:H2'	6:5:71:A:C8	2.36	0.60
6:5:94:A:N7	6:5:320:G:N2	2.47	0.60
6:5:576:A:O2'	6:5:725:A:N3	2.33	0.60
6:5:1241:G:N1	6:5:1245:A:N6	2.49	0.60
7:6:113:THR:HG22	7:6:154:ASN:OD1	1.99	0.60
10:9:796:TYR:HA	10:9:883:ASN:HD22	1.66	0.60
10:9:863:LEU:CD1	10:9:878:ASP:OD2	2.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1307:LEU:C	38:Z:406:LYS:HD2	2.26	0.60
10:9:1349:LEU:C	38:Z:368:PHE:CE1	2.78	0.60
13:AC:8:PHE:N	13:AC:60:GLY:O	2.30	0.60
15:AE:13:DA:OP1	38:Z:890:TYR:HE2	1.84	0.60
24:I:27:THR:HG21	24:I:102:VAL:HG21	1.82	0.60
4:3:869:U:O4	4:3:980:C:N4	2.35	0.60
4:3:1141:U:C1'	36:U:79:LYS:HG2	2.27	0.60
4:3:2274:A:N6	4:3:2281:A:OP2	2.34	0.60
6:5:565:G:N7	26:K:12:ARG:NH1	2.45	0.60
7:6:107:GLU:OE2	7:AB:319:HIS:CB	2.49	0.60
10:9:271:GLU:OE2	10:9:342:ARG:NH1	2.34	0.60
10:9:288:ARG:HB3	10:9:298:ARG:HH22	1.66	0.60
10:9:1269:LYS:CD	38:Z:313:ILE:CG2	2.41	0.60
16:AF:65:SER:OG	16:AF:67:LYS:HG3	2.01	0.60
17:B:90:LYS:HA	17:B:93:LYS:HZ3	1.65	0.60
57:t:31:ARG:HG3	57:t:33:GLN:HG2	1.83	0.60
4:3:1619:A:H2'	4:3:1620:A:C8	2.36	0.60
6:5:1166:A:OP2	17:B:3:GLN:NE2	2.35	0.60
10:9:794:LYS:O	10:9:891:GLN:NE2	2.33	0.60
10:9:1001:GLU:CB	13:AC:109:LYS:HB3	2.31	0.60
10:9:1310:LYS:CG	38:Z:409:ASP:HB2	2.30	0.60
13:AC:153:ASP:OD2	38:Z:75:LYS:CE	2.48	0.60
22:G:97:ILE:HG23	22:G:99:ARG:HH22	1.66	0.60
26:K:27:ASN:OD1	26:K:36:THR:OG1	2.20	0.60
49:l:39:GLY:N	49:l:99:GLN:OE1	2.35	0.60
51:n:34:LYS:HD3	51:n:102:ILE:HD11	1.83	0.60
2:1:9:LYS:NZ	4:3:253:C:O2	2.32	0.60
10:9:1371:LEU:N	38:Z:94:ILE:CG2	2.63	0.60
12:AA:42:LYS:O	22:G:126:LYS:C	2.43	0.60
18:C:99:ASN:HA	18:C:110:ARG:HG2	1.81	0.60
18:C:139:GLY:N	18:C:178:TYR:O	2.34	0.60
38:Z:880:ASP:OD2	38:Z:1030:ARG:HD2	2.00	0.60
38:Z:884:LYS:HZ3	38:Z:1028:THR:HA	1.66	0.60
40:b:117:ARG:HD2	40:b:169:TYR:HD2	1.65	0.60
4:3:672:G:H4'	4:3:674:G:H4'	1.84	0.60
4:3:2032:G:H2'	4:3:2033:G:H8	1.67	0.60
6:5:659:U:H3	6:5:740:G:H1	1.48	0.60
10:9:1135:LEU:HD23	10:9:1146:LEU:HD22	1.83	0.60
26:K:60:SER:O	26:K:63:ARG:NH1	2.35	0.60
47:j:98:ILE:HG12	47:j:114:ILE:HG23	1.82	0.60
49:l:75:THR:HG22	49:l:90:PRO:HG3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:y:27:LEU:HD12	62:y:28:SER:H	1.67	0.60
4:3:2829:G:N2	4:3:2829:G:OP2	2.31	0.60
6:5:983:G:H21	6:5:1012:A:H8	1.49	0.60
6:5:1003:G:O6	6:5:1018:U:C4	2.54	0.60
6:5:1241:G:N1	6:5:1245:A:C6	2.69	0.60
13:AC:290:TRP:HE1	13:AC:293:ASP:CG	2.02	0.60
14:AD:16:DG:C5'	16:AF:16:SER:HB2	2.31	0.60
37:X:6:ILE:HD11	37:Y:23:ALA:CB	2.27	0.60
46:i:98:LYS:HA	46:i:98:LYS:HE3	1.83	0.60
4:3:142:A:O2'	4:3:1436:C:O2'	2.18	0.60
4:3:2133:A:N6	4:3:2180:U:OP2	2.35	0.60
4:3:2720:C:OP1	4:3:2722:G:O2'	2.18	0.60
4:3:2822:C:H2'	4:3:2823:A:C8	2.36	0.60
6:5:1112:U:O2	6:5:1128:G:N2	2.28	0.60
6:5:1200:G:H2'	27:L:103:ARG:HH22	1.64	0.60
10:9:956:ARG:C	7:AB:296:SER:CB	2.74	0.60
13:AC:196:VAL:HG21	13:AC:217:ARG:NE	2.16	0.60
13:AC:219:LEU:HD23	13:AC:240:MET:SD	2.42	0.60
16:AF:149:SER:HB2	16:AF:156:VAL:HG23	1.82	0.60
23:H:12:ARG:O	23:H:15:SER:HB2	2.02	0.60
42:d:104:ILE:HG22	42:d:108:LEU:HD12	1.83	0.60
4:3:918:G:N2	4:3:932:U:O2'	2.27	0.60
4:3:1208:A:H2'	4:3:1209:U:H4'	1.83	0.60
4:3:1764:U:C2	4:3:1769:A:C6	2.89	0.60
4:3:2754:U:O2	4:3:2766:A:N6	2.33	0.60
5:4:11:A:OP2	58:u:90:GLN:NE2	2.34	0.60
6:5:195:U:H2'	6:5:196:G:C8	2.37	0.60
10:9:1269:LYS:HZ2	38:Z:313:ILE:CG2	2.15	0.60
39:a:213:ILE:HG23	39:a:222:ARG:HH22	1.66	0.60
4:3:764:G:N2	39:a:12:SER:O	2.34	0.60
4:3:1081:A:N6	36:U:4:LYS:O	2.35	0.60
6:5:1115:G:H4'	24:I:43:LYS:HD2	1.82	0.60
39:a:125:GLU:OE1	44:f:89:TYR:OH	2.19	0.60
40:b:180:ARG:NH1	40:b:218:LYS:O	2.31	0.60
4:3:1093:U:H3	4:3:1115:G:H1	1.50	0.60
4:3:2603:G:N2	4:3:2606:A:OP2	2.35	0.60
8:7:53:A:H4'	49:l:6:ARG:HH12	1.67	0.60
10:9:65:ARG:HB3	10:9:562:ASP:OD1	2.01	0.60
10:9:997:ALA:HB1	13:AC:8:PHE:HD1	1.66	0.60
7:AB:304:ARG:NH1	13:AC:48:TYR:CE1	2.70	0.60
4:3:95:G:H2'	4:3:96:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:559:C:O2'	4:3:589:A:OP1	2.19	0.59
4:3:869:U:H2'	4:3:870:A:H8	1.67	0.59
4:3:1261:U:H2'	4:3:1262:G:C8	2.37	0.59
6:5:65:G:H5''	6:5:378:A:H61	1.67	0.59
6:5:68:C:H2'	6:5:69:G:C8	2.36	0.59
6:5:215:C:N4	6:5:216:G:O6	2.35	0.59
10:9:1349:LEU:HG	38:Z:388:LEU:HB3	1.81	0.59
36:U:161:LYS:HE3	37:Y:17:ILE:HD11	1.84	0.59
39:a:190:ARG:NH1	39:a:191:LYS:O	2.35	0.59
4:3:1305:G:H2'	4:3:1306:G:C8	2.36	0.59
4:3:1414:C:H2'	4:3:1415:A:H8	1.65	0.59
4:3:2092:U:H3	4:3:2242:G:H1	1.50	0.59
6:5:689:U:O4	25:J:21:ASN:ND2	2.33	0.59
15:AE:11:DT:C4'	38:Z:1236:ASP:OD1	2.50	0.59
24:I:61:PRO:HA	28:M:41:ARG:HH12	1.67	0.59
4:3:746:G:H2'	4:3:747:A:H8	1.67	0.59
4:3:1418:U:N3	4:3:1423:A:N6	2.51	0.59
4:3:1588:A:H2'	4:3:1589:A:C8	2.38	0.59
4:3:2376:C:H2'	4:3:2377:A:H8	1.67	0.59
6:5:435:U:H4'	18:C:119:HIS:HB3	1.83	0.59
6:5:893:C:H3'	6:5:894:A:H8	1.67	0.59
6:5:941:A:H2'	6:5:942:G:C8	2.38	0.59
10:9:170:LYS:HZ2	14:AD:25:DC:H5'	1.67	0.59
10:9:175:ARG:CZ	14:AD:26:DT:C6	2.83	0.59
13:AC:182:SER:HB3	13:AC:280:PHE:CD1	2.36	0.59
18:C:64:TYR:CZ	18:C:93:LEU:HB3	2.36	0.59
28:M:6:LEU:HD13	28:M:23:ARG:HD3	1.83	0.59
41:c:32:GLN:NE2	41:c:36:ASP:OD2	2.35	0.59
46:i:117:LEU:O	46:i:121:TRP:N	2.34	0.59
4:3:53:G:H21	4:3:119:A:H62	1.48	0.59
4:3:1495:A:OP2	4:3:1548:A:N6	2.35	0.59
6:5:1130:G:H2'	6:5:1131:A:H8	1.67	0.59
6:5:1407:A:H5''	52:o:110:LYS:HG3	1.83	0.59
10:9:71:LYS:HE3	10:9:101:GLU:OE2	2.02	0.59
10:9:863:LEU:CD1	10:9:878:ASP:CG	2.76	0.59
10:9:1269:LYS:CE	38:Z:313:ILE:CG2	2.58	0.59
16:AF:94:GLY:C	38:Z:338:ARG:NH2	2.60	0.59
20:E:49:ILE:HG23	20:E:50:LYS:H	1.67	0.59
38:Z:669:LYS:HE3	38:Z:670:PHE:CE2	2.37	0.59
39:a:269:ASN:O	39:a:272:LYS:NZ	2.35	0.59
41:c:172:THR:HA	41:c:178:VAL:HG23	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1436:C:H2'	4:3:1437:A:H8	1.67	0.59
4:3:2253:U:H5''	4:3:2254:G:H5'	1.84	0.59
4:3:2604:U:O2'	4:3:2605:G:OP1	2.20	0.59
4:3:2812:U:H5'	4:3:2895:A:C8	2.38	0.59
9:8:25:GLY:C	9:8:652:ILE:HD11	2.27	0.59
9:8:25:GLY:CA	9:8:652:ILE:HD11	2.32	0.59
10:9:539:ILE:HG22	10:9:543:LEU:HD12	1.85	0.59
10:9:1297:TYR:CZ	38:Z:501:ARG:O	2.56	0.59
10:9:1325:VAL:HG11	38:Z:464:ILE:CG2	2.15	0.59
21:F:41:ILE:HD12	21:F:116:LEU:HD21	1.85	0.59
36:U:149:LYS:NZ	37:V:29:GLY:O	2.35	0.59
38:Z:876:LYS:HG2	38:Z:1030:ARG:NH1	1.81	0.59
41:c:7:ILE:HD11	41:c:126:HIS:HB2	1.84	0.59
41:c:128:VAL:HG13	41:c:132:LEU:HD21	1.85	0.59
44:f:81:LEU:HD21	44:f:90:GLY:HA3	1.85	0.59
54:q:95:VAL:HG13	54:q:96:ARG:HG3	1.85	0.59
4:3:8:A:H2'	4:3:9:G:C8	2.37	0.59
6:5:48:C:N4	6:5:356:G:O6	2.35	0.59
6:5:677:C:H2'	6:5:678:A:H8	1.68	0.59
6:5:1062:C:H2'	6:5:1063:G:H8	1.68	0.59
10:9:779:ALA:HB3	38:Z:867:TYR:OH	2.02	0.59
10:9:952:ASP:HB2	7:AB:295:LYS:CE	2.27	0.59
10:9:1223:HIS:O	38:Z:737:PHE:CD2	2.56	0.59
10:9:1330:PHE:CZ	38:Z:542:LEU:HD13	2.38	0.59
7:AB:175:SER:OG	7:AB:178:ILE:HD12	2.02	0.59
15:AE:14:DG:C4'	38:Z:890:TYR:N	2.65	0.59
16:AF:108:TRP:NE1	16:AF:112:ARG:NH2	2.49	0.59
39:a:61:ARG:HH21	39:a:64:ARG:HE	1.49	0.59
4:3:28:G:O6	4:3:29:G:N2	2.36	0.59
4:3:593:C:O2'	53:p:47:ARG:NH2	2.35	0.59
4:3:1298:A:H62	4:3:2019:G:H21	1.49	0.59
6:5:810:U:OP2	6:5:813:A:N6	2.36	0.59
6:5:1397:G:H2'	6:5:1398:G:H8	1.66	0.59
10:9:264:PHE:CZ	10:9:342:ARG:HG2	2.34	0.59
13:AC:239:LYS:CD	13:AC:294:LYS:H	2.16	0.59
51:n:54:SER:O	51:n:80:LYS:NZ	2.36	0.59
4:3:1081:A:C2	36:U:7:LYS:HD3	2.34	0.59
4:3:1142:G:O2'	36:U:78:GLY:N	2.36	0.59
4:3:2704:U:H2'	4:3:2705:G:H8	1.68	0.59
6:5:433:C:H2'	6:5:434:U:C6	2.38	0.59
6:5:727:G:O2'	6:5:811:A:N6	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:934:G:H4'	21:F:101:ARG:HH22	1.68	0.59
6:5:1225:A:H2'	6:5:1226:A:C8	2.38	0.59
10:9:89:SER:HA	10:9:146:GLY:HA3	1.84	0.59
10:9:131:THR:HG21	10:9:600:ILE:CD1	2.32	0.59
10:9:169:LEU:HD11	10:9:187:LEU:CD1	2.33	0.59
10:9:647:ASP:CB	38:Z:835:PHE:CE2	2.85	0.59
10:9:1307:LEU:CA	38:Z:406:LYS:CD	2.64	0.59
17:B:90:LYS:HD3	17:B:93:LYS:HZ1	1.68	0.59
18:C:145:LYS:HD3	18:C:147:LYS:HE2	1.85	0.59
21:F:149:ALA:HB3	25:J:49:ARG:NH1	2.18	0.59
27:L:107:ARG:HG3	27:L:110:LYS:HB2	1.84	0.59
41:c:116:TRP:HZ2	41:c:186:VAL:HG21	1.67	0.59
60:w:16:VAL:HG21	60:w:67:GLU:HB3	1.85	0.59
2:1:21:ARG:NH1	2:1:22:LYS:O	2.36	0.59
2:1:36:LYS:HG3	2:1:40:HIS:CE1	2.38	0.59
3:2:24:ARG:NH1	4:3:2750:A:OP2	2.32	0.59
4:3:615:G:H2'	4:3:616:G:H8	1.67	0.59
4:3:872:C:N4	4:3:978:G:O6	2.35	0.59
4:3:1345:G:H2'	4:3:1346:G:H8	1.67	0.59
4:3:2031:C:H2'	4:3:2032:G:C8	2.38	0.59
6:5:621:C:O2	30:O:5:ARG:NH2	2.36	0.59
30:O:5:ARG:HB2	30:O:8:TYR:HB3	1.85	0.59
38:Z:100:MET:SD	38:Z:306:PRO:HD3	2.43	0.59
4:3:734:A:H62	4:3:768:G:H21	1.51	0.59
4:3:1103:G:O2'	4:3:1131:A:N3	2.36	0.59
10:9:100:LEU:HD13	10:9:591:ILE:HD11	1.85	0.59
15:AE:12:DC:C4'	38:Z:1235:GLN:OE1	2.51	0.59
4:3:788:G:H2'	4:3:789:A:H8	1.68	0.58
6:5:448:A:N6	6:5:478:G:OP2	2.36	0.58
6:5:823:C:O2	22:G:24:ASN:ND2	2.33	0.58
6:5:1344:C:OP1	23:H:116:LYS:N	2.28	0.58
9:8:916:PHE:O	9:8:920:VAL:HG23	2.03	0.58
10:9:68:ILE:HD12	10:9:554:LEU:HD21	1.85	0.58
21:F:24:ARG:NH2	21:F:96:ILE:HD12	2.17	0.58
23:H:120:LEU:HD13	23:H:124:ARG:HA	1.85	0.58
52:o:53:LEU:HB3	52:o:101:ILE:O	2.03	0.58
62:y:12:ARG:HA	62:y:15:LYS:HG2	1.83	0.58
4:3:192:U:O4	4:3:212:G:O6	2.21	0.58
4:3:784:A:N7	4:3:1652:A:N6	2.52	0.58
4:3:1833:G:O2'	4:3:1978:U:OP2	2.21	0.58
6:5:287:U:N3	6:5:306:G:C6	2.71	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1384:A:H2'	6:5:1385:A:H8	1.67	0.58
7:6:105:PRO:HB3	7:AB:320:GLU:CA	2.34	0.58
11:A:61:GLN:NE2	11:A:216:PRO:O	2.34	0.58
18:C:168:GLU:CD	38:Z:30:ASN:CG	2.71	0.58
20:E:4:ASN:HB2	20:E:88:ILE:HB	1.85	0.58
20:E:5:ILE:HG12	20:E:62:PHE:HE1	1.68	0.58
4:3:1332:A:N1	4:3:1659:C:N4	2.50	0.58
4:3:2676:G:H2'	4:3:2677:A:C8	2.38	0.58
4:3:2700:C:H2'	4:3:2701:A:H8	1.67	0.58
6:5:164:C:OP2	34:S:53:ARG:NH1	2.33	0.58
6:5:369:A:H61	6:5:387:G:H1'	1.69	0.58
6:5:1406:U:H3	6:5:1444:G:H1	1.49	0.58
10:9:1336:PRO:HG2	38:Z:406:LYS:NZ	2.17	0.58
11:A:21:ALA:HB2	11:A:65:LEU:HD23	1.85	0.58
7:AB:35:VAL:HG21	7:AB:207:ASP:HB3	1.85	0.58
13:AC:135:VAL:HG22	13:AC:169:LEU:O	2.04	0.58
15:AE:14:DG:H4'	38:Z:889:GLY:C	2.28	0.58
50:m:81:HIS:CE1	50:m:85:LYS:HD3	2.39	0.58
3:2:10:ILE:HD12	3:2:32:HIS:HA	1.84	0.58
4:3:499:G:N2	4:3:502:A:OP2	2.33	0.58
4:3:947:A:H62	49:l:12:PRO:HA	1.69	0.58
4:3:2299:U:O4	4:3:2349:G:O6	2.20	0.58
4:3:2655:U:H2'	4:3:2656:G:C8	2.38	0.58
6:5:663:G:O6	6:5:737:U:O2	2.21	0.58
6:5:704:U:H2'	6:5:705:A:C8	2.38	0.58
6:5:1326:C:H2'	6:5:1327:G:C8	2.38	0.58
10:9:585:LEU:CD2	10:9:590:LEU:HD21	2.34	0.58
10:9:644:ASP:O	38:Z:835:PHE:CZ	2.57	0.58
10:9:998:ILE:HG21	13:AC:62:MET:HE3	1.69	0.58
10:9:1297:TYR:HB3	38:Z:554:LEU:HD21	1.86	0.58
41:c:112:LEU:O	41:c:116:TRP:HD1	1.86	0.58
4:3:489:A:N3	4:3:493:A:O2'	2.36	0.58
4:3:1909:C:H5''	39:a:249:VAL:HG11	1.85	0.58
4:3:2294:A:H1'	4:3:2295:A:C5	2.38	0.58
6:5:573:G:H4'	6:5:574:C:H5''	1.85	0.58
6:5:680:G:O6	6:5:705:A:N6	2.35	0.58
6:5:1068:G:N2	6:5:1071:A:OP2	2.36	0.58
6:5:1208:G:O2'	6:5:1340:G:OP1	2.22	0.58
6:5:1245:A:HO2'	6:5:1287:G:HO2'	1.52	0.58
10:9:182:TYR:CD1	10:9:514:ILE:HG22	2.39	0.58
21:F:24:ARG:HH22	21:F:96:ILE:HD12	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:d:42:ASP:OD1	42:d:43:ALA:N	2.37	0.58
2:1:35:THR:HA	2:1:38:LYS:HB2	1.84	0.58
4:3:1301:G:H22	4:3:1649:C:H42	1.51	0.58
4:3:2032:G:H2'	4:3:2033:G:C8	2.39	0.58
6:5:540:U:OP1	18:C:9:LYS:NZ	2.30	0.58
6:5:1089:C:OP2	11:A:158:ARG:NH2	2.37	0.58
6:5:1329:G:H2'	6:5:1330:A:H8	1.69	0.58
10:9:44:PHE:HA	10:9:48:ASP:HB2	1.85	0.58
10:9:171:LEU:HD13	10:9:212:LEU:CD2	2.33	0.58
10:9:1223:HIS:O	38:Z:737:PHE:HD2	1.84	0.58
10:9:1269:LYS:CB	38:Z:313:ILE:CD1	2.80	0.58
10:9:1297:TYR:CE2	38:Z:504:ILE:O	2.56	0.58
10:9:1344:LYS:CD	38:Z:306:PRO:HD3	2.14	0.58
10:9:1346:LEU:HD23	38:Z:392:LEU:CD1	2.33	0.58
7:AB:163:PHE:CZ	38:Z:606:ALA:HB2	2.39	0.58
13:AC:136:MET:O	13:AC:140:ILE:HB	2.02	0.58
22:G:97:ILE:HG23	22:G:99:ARG:NH2	2.17	0.58
4:3:70:G:N2	4:3:76:A:O4'	2.35	0.58
4:3:1172:G:H21	46:i:111:MET:HA	1.68	0.58
6:5:519:G:N7	26:K:63:ARG:NH2	2.51	0.58
6:5:1141:U:HO2'	6:5:1142:G:H8	1.49	0.58
10:9:1347:GLN:CD	38:Z:100:MET:CE	2.75	0.58
10:9:1349:LEU:CD2	38:Z:368:PHE:HB3	2.34	0.58
14:AD:25:DC:H3'	14:AD:26:DT:C5'	2.33	0.58
17:B:50:ASN:O	17:B:52:GLN:NE2	2.36	0.58
38:Z:429:ILE:HD11	38:Z:491:VAL:HG21	1.86	0.58
38:Z:884:LYS:NZ	38:Z:1028:THR:HA	2.19	0.58
43:e:57:ARG:HG3	43:e:68:HIS:HD2	1.69	0.58
62:y:27:LEU:HD11	62:y:36:LYS:HE3	1.84	0.58
4:3:247:U:C2	4:3:259:A:N7	2.71	0.58
4:3:333:A:H2'	4:3:334:A:C4	2.38	0.58
4:3:2794:U:H5''	40:b:72:LYS:HD2	1.86	0.58
4:3:2814:A:H2'	4:3:2815:G:O4'	2.04	0.58
6:5:22:G:H2'	6:5:23:G:C8	2.38	0.58
6:5:715:A:H5''	6:5:716:C:H5	1.69	0.58
6:5:834:G:H2'	6:5:835:G:C8	2.39	0.58
6:5:1388:A:H2	6:5:1462:G:H22	1.52	0.58
8:7:63:U:H2'	8:7:64:G:C8	2.39	0.58
10:9:634:GLY:CA	14:AD:24:DT:H72	2.27	0.58
10:9:659:ILE:O	10:9:780:LEU:CD1	2.51	0.58
10:9:999:PHE:CG	13:AC:108:LEU:CD2	2.87	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1307:LEU:HB3	38:Z:406:LYS:CD	2.32	0.58
10:9:1310:LYS:HD3	38:Z:409:ASP:C	2.20	0.58
10:9:1342:LEU:HD13	38:Z:392:LEU:HD23	1.71	0.58
7:AB:141:TYR:OH	7:AB:144:SER:HB2	2.03	0.58
38:Z:488:ASP:C	38:Z:551:ARG:HH21	2.12	0.58
38:Z:1216:PHE:CE1	38:Z:1224:LYS:NZ	2.70	0.58
41:c:128:VAL:HG21	41:c:198:LEU:HB2	1.85	0.58
59:v:52:THR:HA	59:v:55:LEU:HD12	1.86	0.58
4:3:61:U:O4	4:3:70:G:O6	2.20	0.58
4:3:1316:U:O2'	4:3:1681:G:N2	2.35	0.58
6:5:373:A:H2'	6:5:374:G:H8	1.69	0.58
6:5:473:A:O2'	6:5:474:G:O4'	2.14	0.58
6:5:885:U:H2'	6:5:886:A:H8	1.67	0.58
9:8:797:LEU:HD12	9:8:836:GLN:HE22	1.69	0.58
10:9:1100:MET:HB3	38:Z:858:PHE:CE2	2.39	0.58
10:9:1310:LYS:HA	38:Z:409:ASP:CG	2.29	0.58
11:A:93:LYS:NZ	11:A:109:THR:O	2.36	0.58
15:AE:12:DC:C5'	38:Z:1235:GLN:OE1	2.52	0.58
21:F:11:VAL:HG23	21:F:20:THR:HB	1.85	0.58
46:i:144:ASN:OD1	46:i:145:TRP:N	2.37	0.58
4:3:529:G:H4'	55:r:6:LYS:HB2	1.86	0.58
4:3:1081:A:C2'	36:U:7:LYS:HZ2	2.16	0.58
4:3:1294:G:N1	4:3:2021:A:OP2	2.35	0.58
6:5:661:G:N2	6:5:738:A:N1	2.42	0.58
50:m:46:ASP:HA	50:m:49:ILE:HD12	1.85	0.58
4:3:590:U:H2'	4:3:591:G:C8	2.38	0.57
4:3:713:C:H2'	4:3:714:G:C8	2.38	0.57
4:3:1191:A:OP1	53:p:53:LYS:NZ	2.33	0.57
4:3:2481:U:OP1	4:3:2537:G:N2	2.34	0.57
4:3:2847:C:H2'	4:3:2848:A:H8	1.69	0.57
6:5:585:G:N1	6:5:751:C:OP2	2.37	0.57
6:5:1343:G:O3'	23:H:115:ARG:NH1	2.36	0.57
9:8:396:ARG:HD2	9:8:399:ARG:HH21	1.69	0.57
10:9:952:ASP:HB2	7:AB:295:LYS:CD	2.34	0.57
10:9:956:ARG:O	7:AB:296:SER:HB2	2.04	0.57
10:9:999:PHE:N	13:AC:108:LEU:HB3	2.18	0.57
10:9:1102:ILE:HD11	38:Z:858:PHE:O	2.02	0.57
25:J:81:GLY:O	25:J:86:LYS:NZ	2.26	0.57
30:O:48:VAL:HG23	30:O:52:TRP:CZ3	2.38	0.57
59:v:27:ARG:NH1	59:v:28:LYS:O	2.37	0.57
4:3:697:U:H2'	4:3:698:A:H8	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1019:A:O2'	4:3:1020:G:O4'	2.20	0.57
4:3:1093:U:O2	4:3:1115:G:N2	2.37	0.57
4:3:1445:U:H2'	4:3:1446:G:O4'	2.04	0.57
4:3:2447:A:N6	8:7:77:A:OP2	2.37	0.57
4:3:2552:G:H2'	4:3:2553:G:C8	2.38	0.57
6:5:966:A:O2'	6:5:1340:G:O2'	2.16	0.57
6:5:1241:G:C2	6:5:1245:A:C6	2.93	0.57
10:9:945:ARG:HH12	7:AB:298:ALA:HB1	1.68	0.57
10:9:1269:LYS:HD2	38:Z:313:ILE:CD1	2.34	0.57
11:A:91:TYR:HE1	11:A:226:CYS:HB3	1.69	0.57
7:AB:82:LEU:HB3	38:Z:598:GLY:CA	2.35	0.57
22:G:60:LEU:HB2	22:G:69:ILE:HG13	1.84	0.57
28:M:14:PRO:HG3	28:M:20:ALA:HB2	1.86	0.57
38:Z:770:ASP:OD2	38:Z:847:LYS:NZ	2.36	0.57
41:c:152:LEU:HD22	41:c:155:LYS:HG3	1.86	0.57
52:o:34:ALA:HB3	52:o:87:SER:HB2	1.85	0.57
58:u:84:GLN:NE2	58:u:85:LYS:O	2.36	0.57
4:3:286:A:O2'	4:3:288:A:N7	2.34	0.57
4:3:740:A:O2'	39:a:9:ARG:NH2	2.37	0.57
4:3:799:A:H5''	39:a:217:GLY:HA2	1.87	0.57
4:3:839:A:OP2	48:k:43:LYS:NZ	2.37	0.57
4:3:2290:G:HO2'	63:z:2:ALA:N	2.03	0.57
6:5:416:U:N3	6:5:421:G:N1	2.52	0.57
6:5:1329:G:H2'	6:5:1330:A:C8	2.40	0.57
36:U:40:ILE:CG2	36:U:51:ILE:HD11	2.33	0.57
47:j:59:ARG:O	47:j:94:ARG:NH1	2.31	0.57
50:m:42:GLN:NE2	50:m:100:VAL:HG11	2.19	0.57
4:3:247:U:O2	4:3:259:A:N7	2.37	0.57
4:3:633:G:O6	4:3:692:U:O4	2.21	0.57
4:3:640:U:O4	4:3:658:G:O6	2.22	0.57
4:3:1032:A:O5'	53:p:91:ARG:NH2	2.36	0.57
4:3:1702:A:N6	4:3:1998:U:H3	2.03	0.57
4:3:1768:G:O6	4:3:1769:A:N6	2.37	0.57
4:3:1837:C:H2'	4:3:1838:A:C8	2.38	0.57
4:3:2021:A:H2'	4:3:2022:A:C4	2.40	0.57
6:5:1326:C:H2'	6:5:1327:G:H8	1.69	0.57
7:6:107:GLU:OE1	7:AB:315:ILE:HG22	2.04	0.57
10:9:1122:LEU:HD21	10:9:1149:LEU:CD2	2.35	0.57
10:9:1369:SER:OG	38:Z:95:VAL:HG12	2.04	0.57
53:p:13:ARG:O	53:p:17:LEU:HD23	2.05	0.57
4:3:90:G:H2'	4:3:91:G:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:522:C:H2'	4:3:523:A:C8	2.39	0.57
4:3:752:C:H3'	4:3:753:A:H8	1.68	0.57
4:3:1207:U:O2	4:3:1208:A:N6	2.36	0.57
4:3:1286:G:N2	41:c:83:HIS:O	2.35	0.57
7:6:296:SER:HA	7:6:326:ARG:O	2.04	0.57
9:8:92:PHE:CZ	9:8:96:ILE:HD11	2.40	0.57
10:9:177:ARG:NH1	10:9:221:ALA:H	2.03	0.57
10:9:636:ILE:HD13	10:9:645:ILE:HG21	1.85	0.57
10:9:851:ARG:NH1	10:9:855:ASN:OD1	2.38	0.57
10:9:1342:LEU:N	38:Z:398:LEU:CD2	2.67	0.57
10:9:1347:GLN:CB	38:Z:100:MET:HE1	2.28	0.57
11:A:35:ARG:HE	11:A:37:TRP:HE1	1.52	0.57
16:AF:124:SER:CB	38:Z:142:VAL:CG1	2.82	0.57
24:I:24:LEU:O	24:I:28:THR:HG23	2.04	0.57
30:O:77:VAL:HG23	30:O:80:LYS:HE3	1.84	0.57
4:3:159:G:O6	4:3:174:A:N6	2.38	0.57
4:3:1316:U:H5	4:3:1354:U:H3	1.52	0.57
4:3:2154:A:H2'	4:3:2155:G:C8	2.39	0.57
4:3:2781:C:H2'	4:3:2782:A:H8	1.69	0.57
6:5:732:A:H2'	6:5:733:A:C8	2.37	0.57
6:5:927:C:OP2	21:F:2:ARG:N	2.37	0.57
10:9:638:ARG:HH21	10:9:666:ASN:HD21	1.53	0.57
10:9:1269:LYS:HZ3	38:Z:313:ILE:CA	2.17	0.57
18:C:63:MET:HE2	18:C:63:MET:HA	1.87	0.57
19:D:69:ARG:HE	19:D:172:LEU:HD21	1.69	0.57
22:G:106:LEU:HB2	22:G:110:GLY:HA2	1.87	0.57
26:K:56:LYS:HG3	26:K:58:PRO:HD2	1.86	0.57
4:3:657:A:OP2	48:k:105:SER:OG	2.20	0.57
4:3:846:U:H2'	48:k:22:ARG:HA	1.86	0.57
4:3:1248:A:H2'	4:3:1249:A:C8	2.39	0.57
4:3:2141:A:OP2	4:3:2164:G:N2	2.38	0.57
4:3:2745:G:H2'	4:3:2746:A:H8	1.69	0.57
6:5:262:G:OP1	6:5:262:G:N2	2.37	0.57
6:5:359:A:N1	26:K:40:SER:OG	2.38	0.57
6:5:1214:A:H62	6:5:1273:A:H62	1.51	0.57
10:9:640:ASP:OD1	14:AD:26:DT:H5'	2.05	0.57
10:9:692:ILE:HD11	10:9:753:ILE:HB	1.87	0.57
15:AE:10:DG:H4'	38:Z:118:LEU:O	2.04	0.57
26:K:42:LEU:HD23	26:K:94:LEU:HD21	1.87	0.57
26:K:92:VAL:HG22	26:K:115:LEU:HD21	1.85	0.57
47:j:104:ARG:HH12	52:o:37:LEU:HD13	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:m:32:GLU:N	50:m:32:GLU:OE2	2.34	0.57
4:3:1391:U:O2'	4:3:1816:A:N3	2.34	0.57
4:3:2381:G:H2'	4:3:2382:A:H8	1.70	0.57
6:5:146:A:H2'	6:5:147:A:C4	2.39	0.57
6:5:170:A:H61	6:5:195:U:H3	1.52	0.57
6:5:372:G:H2'	6:5:373:A:H8	1.69	0.57
6:5:558:U:H4'	6:5:559:U:H3'	1.86	0.57
6:5:779:A:N6	6:5:797:G:N2	2.38	0.57
6:5:833:G:O6	6:5:844:U:O4	2.22	0.57
7:6:49:CYS:HG	7:AB:34:PHE:HE2	1.53	0.57
9:8:25:GLY:HA3	9:8:652:ILE:HD11	1.87	0.57
31:P:20:LYS:HB2	31:P:48:HIS:HB2	1.86	0.57
33:R:36:ARG:HA	33:R:72:GLY:HA3	1.87	0.57
41:c:130:GLN:HA	41:c:133:PHE:CE1	2.39	0.57
4:3:312:U:H2'	4:3:313:G:H8	1.68	0.57
4:3:1081:A:H2	36:U:58:ILE:HD13	1.69	0.57
4:3:1754:U:H2'	4:3:1755:A:H8	1.69	0.57
6:5:60:A:H3'	6:5:327:G:H22	1.70	0.57
6:5:509:C:O2	18:C:38:HIS:NE2	2.38	0.57
6:5:1389:U:H2'	6:5:1390:G:H8	1.70	0.57
7:6:240:VAL:HG21	7:AB:233:ILE:HD12	1.86	0.57
10:9:394:SER:HA	10:9:489:ILE:CD1	2.34	0.57
10:9:953:ALA:O	7:AB:326:ARG:NE	2.24	0.57
11:A:67:THR:HA	11:A:70:ASN:HD21	1.70	0.57
33:R:29:ARG:HH11	33:R:47:ASN:HB3	1.69	0.57
39:a:185:LEU:HD23	39:a:186:SER:N	2.20	0.57
49:l:39:GLY:CA	49:l:97:VAL:O	2.52	0.57
4:3:2484:A:H2	4:3:2489:G:H1	1.53	0.57
6:5:664:A:H2'	6:5:665:G:C8	2.40	0.57
6:5:768:G:O6	6:5:806:A:N6	2.38	0.57
10:9:998:ILE:C	13:AC:6:ASN:HD22	2.09	0.57
10:9:1344:LYS:CB	38:Z:309:ILE:HD13	2.35	0.57
18:C:155:LYS:O	18:C:158:SER:OG	2.19	0.57
49:l:41:TRP:HB3	49:l:94:VAL:HG11	1.87	0.57
49:l:44:ALA:O	49:l:47:ILE:N	2.38	0.57
4:3:29:G:OP1	4:3:1289:G:O2'	2.22	0.56
4:3:552:C:H5''	62:y:13:ARG:HH12	1.70	0.56
4:3:1180:U:H2'	4:3:1181:A:C8	2.40	0.56
5:4:104:C:H2'	5:4:105:A:C8	2.40	0.56
6:5:680:G:H21	25:J:33:ASN:HA	1.70	0.56
6:5:1051:U:H2'	6:5:1052:G:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:107:GLU:H	7:AB:319:HIS:CG	2.23	0.56
10:9:1001:GLU:H	13:AC:109:LYS:CG	2.03	0.56
10:9:1325:VAL:HG13	38:Z:443:ILE:HG21	1.87	0.56
11:A:147:LYS:HB3	11:A:151:MET:HE1	1.87	0.56
12:AA:73:ARG:NH1	38:Z:1132:VAL:O	2.28	0.56
15:AE:14:DG:C2	38:Z:885:THR:HG22	2.40	0.56
38:Z:584:THR:HG21	38:Z:691:PHE:CD2	2.39	0.56
39:a:262:HIS:ND1	39:a:263:MET:SD	2.78	0.56
55:r:81:SER:HG	55:r:97:THR:HG1	1.52	0.56
2:1:10:ARG:HD3	48:k:64:LYS:HA	1.88	0.56
4:3:26:G:H2'	4:3:27:U:C6	2.40	0.56
4:3:164:A:H3'	4:3:165:U:H2'	1.88	0.56
4:3:1141:U:H2'	4:3:1142:G:H8	1.70	0.56
4:3:1289:G:H2'	4:3:1290:G:C8	2.40	0.56
6:5:354:U:H2'	6:5:355:A:H8	1.70	0.56
6:5:672:A:H61	6:5:712:A:H61	1.51	0.56
7:6:163:PHE:HB2	10:9:917:LYS:HE2	1.87	0.56
10:9:245:LYS:NZ	10:9:472:ASP:OD2	2.39	0.56
7:AB:304:ARG:NH1	13:AC:48:TYR:CE2	2.67	0.56
13:AC:49:VAL:HG21	13:AC:81:PHE:HB3	1.87	0.56
33:R:41:PHE:CG	33:R:42:PRO:HD2	2.40	0.56
38:Z:781:TRP:CD2	38:Z:853:PRO:HG3	2.40	0.56
46:i:3:LYS:N	54:q:12:TYR:OH	2.38	0.56
3:2:36:GLN:OE1	4:3:1159:C:O2'	2.22	0.56
4:3:154:U:H2'	4:3:155:A:C8	2.40	0.56
4:3:1081:A:N6	36:U:8:ALA:N	2.50	0.56
4:3:1764:U:H5'	4:3:1765:G:H5''	1.87	0.56
4:3:2577:G:H2'	4:3:2578:A:C8	2.41	0.56
6:5:18:U:H5''	19:D:74:LYS:HE2	1.87	0.56
6:5:145:G:N2	6:5:148:A:OP2	2.36	0.56
6:5:145:G:N1	6:5:149:G:N7	2.54	0.56
6:5:556:G:OP2	6:5:557:A:O2'	2.23	0.56
6:5:748:U:H2'	6:5:749:G:O4'	2.05	0.56
6:5:1197:G:OP2	6:5:1296:C:N4	2.39	0.56
7:6:161:ARG:NH2	7:AB:31:GLU:OE1	2.37	0.56
10:9:381:ARG:NH2	10:9:551:GLU:OE2	2.38	0.56
10:9:450:ILE:HD11	10:9:505:ILE:HD12	1.86	0.56
10:9:829:ASN:O	10:9:848:LYS:NZ	2.37	0.56
10:9:972:GLU:CD	10:9:1015:HIS:HD1	2.13	0.56
10:9:1000:PRO:HD2	13:AC:6:ASN:ND2	2.10	0.56
11:A:192:ASN:O	11:A:195:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:9:ILE:HG13	12:AA:55:ASP:HB3	1.87	0.56
7:AB:85:LYS:HD3	38:Z:602:GLU:CD	2.29	0.56
7:AB:268:ILE:HD12	7:AB:286:ILE:O	2.05	0.56
32:Q:81:MET:O	32:Q:85:HIS:ND1	2.37	0.56
37:W:17:ILE:HG13	37:X:14:ILE:HD11	1.88	0.56
39:a:147:VAL:HG22	39:a:200:VAL:HG12	1.86	0.56
40:b:143:PHE:HD2	40:b:145:GLY:H	1.52	0.56
43:e:105:THR:HG21	43:e:117:LYS:HE3	1.85	0.56
63:z:23:LYS:NZ	63:z:28:ASN:O	2.39	0.56
4:3:711:A:HO2'	4:3:2450:C:HO2'	1.53	0.56
4:3:1796:A:OP2	39:a:229:ARG:NH1	2.38	0.56
4:3:2521:A:H2'	4:3:2522:U:C6	2.41	0.56
4:3:2663:G:N1	4:3:2673:A:OP2	2.32	0.56
6:5:1393:A:N6	6:5:1457:G:O2'	2.39	0.56
7:6:15:GLN:NE2	10:9:1160:ARG:HG2	2.21	0.56
10:9:571:ASN:HB3	10:9:577:ILE:HD11	1.88	0.56
48:k:31:THR:HG21	48:k:36:GLN:HE22	1.70	0.56
4:3:164:A:H62	4:3:168:A:H61	1.53	0.56
4:3:2332:U:O4	4:3:2339:G:O6	2.24	0.56
4:3:2684:G:H2'	4:3:2685:A:C8	2.41	0.56
6:5:1288:C:H2'	6:5:1289:U:C6	2.40	0.56
9:8:800:LEU:HD21	9:8:920:VAL:HG22	1.87	0.56
10:9:1093:PRO:HB2	38:Z:734:VAL:CG2	2.27	0.56
11:A:130:LEU:HD12	11:A:159:LEU:HD22	1.86	0.56
13:AC:183:LYS:CG	13:AC:281:ASN:HB3	2.33	0.56
24:I:53:GLU:HB2	24:I:73:LYS:HB3	1.86	0.56
38:Z:587:ARG:NH1	38:Z:803:ASP:OD2	2.39	0.56
44:f:104:LYS:HB2	44:f:106:MET:HE1	1.85	0.56
50:m:106:ARG:HG2	50:m:108:GLY:H	1.70	0.56
56:s:74:LEU:O	56:s:76:LYS:NZ	2.37	0.56
4:3:410:G:H4'	4:3:411:U:O5'	2.04	0.56
4:3:500:U:O2'	4:3:501:G:OP1	2.23	0.56
4:3:1543:U:H2'	4:3:1544:G:H8	1.68	0.56
5:4:11:A:H1'	5:4:13:G:H2'	1.86	0.56
6:5:207:C:H3'	6:5:208:A:C8	2.41	0.56
6:5:1193:U:H2'	6:5:1194:A:C8	2.40	0.56
6:5:1287:G:H2'	6:5:1288:C:H6	1.71	0.56
10:9:1342:LEU:CD1	38:Z:398:LEU:HD23	2.35	0.56
38:Z:586:GLU:HG2	38:Z:639:THR:HG21	1.88	0.56
43:e:30:PRO:HG2	43:e:31:LEU:HD12	1.88	0.56
44:f:64:LEU:HD23	44:f:67:LYS:HZ1	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:l:64:MET:N	49:l:64:MET:SD	2.79	0.56
4:3:78:C:OP1	60:w:49:ARG:NH1	2.38	0.56
4:3:1853:G:H2'	4:3:1854:A:C4	2.41	0.56
4:3:2716:U:H2'	4:3:2717:G:H8	1.70	0.56
6:5:880:G:H1	6:5:905:U:H3	1.53	0.56
6:5:1202:A:OP2	27:L:110:LYS:NZ	2.32	0.56
6:5:1224:C:N4	6:5:1262:A:OP2	2.33	0.56
8:7:67:C:H2'	8:7:68:G:H8	1.71	0.56
9:8:838:ARG:NH2	9:8:879:GLY:HA3	2.21	0.56
10:9:356:ARG:HD2	16:AF:113:ASN:HD22	1.70	0.56
21:F:115:MET:HA	21:F:118:LYS:HG2	1.86	0.56
27:L:34:LEU:HD21	27:L:41:PRO:HD3	1.86	0.56
49:l:4:PRO:HG3	49:l:69:PHE:HE2	1.71	0.56
4:3:2409:U:H3	4:3:2423:G:H1	1.52	0.56
4:3:2580:A:OP2	40:b:151:ARG:N	2.29	0.56
4:3:2781:C:H2'	4:3:2782:A:C8	2.41	0.56
4:3:2798:A:H5''	4:3:2799:U:C6	2.41	0.56
6:5:621:C:H2'	6:5:622:A:H8	1.70	0.56
6:5:641:U:H2'	6:5:642:A:H8	1.71	0.56
10:9:211:ILE:HD13	10:9:229:LEU:HD22	1.88	0.56
10:9:814:LEU:HD21	10:9:858:TYR:CE2	2.41	0.56
17:B:11:ARG:HH22	17:B:183:ALA:HB3	1.70	0.56
4:3:1245:G:O3'	53:p:7:LYS:NZ	2.38	0.56
4:3:2088:U:O4	4:3:2247:G:O6	2.22	0.56
4:3:2556:C:OP1	47:j:29:ARG:NH2	2.39	0.56
7:AB:113:THR:HG22	7:AB:154:ASN:OD1	2.05	0.56
23:H:116:LYS:HE2	23:H:123:ALA:HA	1.86	0.56
36:U:135:LEU:CD1	37:V:14:ILE:HG23	2.36	0.56
38:Z:501:ARG:CZ	38:Z:563:LEU:HD21	2.35	0.56
38:Z:607:TYR:CE2	38:Z:614:LEU:HG	2.41	0.56
47:j:88:LYS:HB3	47:j:94:ARG:HG2	1.88	0.56
52:o:92:ARG:HD3	52:o:115:LYS:CE	2.32	0.56
4:3:220:A:H2'	4:3:221:A:H8	1.69	0.56
4:3:1016:A:C2	4:3:1171:G:H4'	2.41	0.56
4:3:1326:C:H2'	4:3:1327:G:C8	2.41	0.56
4:3:2826:G:O2'	4:3:2828:C:OP2	2.22	0.56
6:5:711:G:H2'	6:5:712:A:C8	2.35	0.56
6:5:1051:U:H5''	24:I:59:ARG:HB3	1.88	0.56
7:6:46:LEU:HD23	7:6:50:ILE:HD11	1.87	0.56
10:9:115:LYS:HG2	10:9:126:ASP:OD1	2.06	0.56
10:9:1136:SER:HB2	10:9:1143:GLN:OE1	2.07	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1370:ILE:HG22	38:Z:94:ILE:CG2	2.26	0.56
4:3:517:G:H1	4:3:544:U:H3	1.52	0.55
4:3:1159:C:H3'	4:3:1160:G:C8	2.41	0.55
4:3:1784:U:H2'	4:3:1785:U:C6	2.40	0.55
4:3:2094:A:H2'	4:3:2095:A:C8	2.40	0.55
4:3:2175:U:C2	4:3:2179:A:N7	2.74	0.55
4:3:2323:U:O2	42:d:125:ARG:NH1	2.38	0.55
4:3:2335:A:H2'	4:3:2336:A:C8	2.41	0.55
4:3:2706:U:H2'	4:3:2707:A:C8	2.40	0.55
5:4:11:A:N6	5:4:67:G:O2'	2.39	0.55
6:5:145:G:O2'	6:5:147:A:N6	2.39	0.55
6:5:576:A:H2'	6:5:577:G:H8	1.71	0.55
6:5:1281:U:O3'	27:L:109:ARG:NH1	2.39	0.55
8:7:18:C:H4'	8:7:19:G:H5''	1.87	0.55
10:9:715:ALA:HB2	10:9:750:ILE:HD13	1.88	0.55
12:AA:78:PHE:CZ	38:Z:1095:ARG:NH1	2.74	0.55
16:AF:17:VAL:HG12	16:AF:18:LYS:H	1.71	0.55
17:B:11:ARG:HD3	17:B:181:LEU:HA	1.88	0.55
19:D:188:PRO:O	19:D:192:ILE:HG12	2.06	0.55
31:P:48:HIS:CE1	31:P:69:LEU:HD11	2.41	0.55
33:R:81:LYS:NZ	33:R:84:THR:O	2.31	0.55
38:Z:434:ILE:HD12	38:Z:511:ILE:HG12	1.88	0.55
48:k:77:TRP:CZ3	48:k:111:PRO:HB2	2.42	0.55
4:3:432:G:H5'	59:v:13:LEU:HB2	1.87	0.55
4:3:697:U:H2'	4:3:698:A:C8	2.41	0.55
4:3:892:G:H2'	4:3:893:A:C8	2.41	0.55
4:3:1141:U:C2'	36:U:79:LYS:HA	2.35	0.55
4:3:2750:A:H2'	4:3:2751:C:C6	2.41	0.55
5:4:60:C:H2'	5:4:61:A:H8	1.70	0.55
6:5:1213:A:N7	6:5:1275:U:O4	2.39	0.55
6:5:1226:A:H2'	6:5:1227:A:C8	2.42	0.55
10:9:403:ILE:HD12	10:9:427:LEU:HD13	1.88	0.55
10:9:761:VAL:HG13	38:Z:864:ILE:HD11	1.88	0.55
13:AC:8:PHE:O	13:AC:60:GLY:CA	2.54	0.55
15:AE:14:DG:C5'	38:Z:890:TYR:CA	2.84	0.55
40:b:6:ILE:HG22	40:b:207:ILE:HB	1.87	0.55
49:l:15:VAL:HG11	49:l:96:VAL:HG11	1.87	0.55
55:r:71:VAL:HA	55:r:107:LEU:HD13	1.88	0.55
3:2:7:VAL:HG12	3:2:34:GLN:HG3	1.87	0.55
4:3:1261:U:H2'	4:3:1262:G:H8	1.71	0.55
4:3:1942:G:N2	4:3:1971:G:O5'	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2769:G:H2'	4:3:2770:U:C6	2.42	0.55
4:3:2802:C:H41	4:3:2807:G:H4'	1.70	0.55
6:5:416:U:N3	6:5:421:G:C6	2.74	0.55
6:5:1138:U:H2'	6:5:1139:A:H8	1.72	0.55
10:9:94:ILE:HG23	10:9:135:LEU:CD1	2.28	0.55
10:9:999:PHE:CZ	13:AC:42:TYR:HE2	2.23	0.55
10:9:1306:LEU:HD22	38:Z:408:VAL:HG11	1.86	0.55
16:AF:38:GLU:OE2	16:AF:104:SER:OG	2.23	0.55
17:B:186:ASP:OD1	17:B:187:TYR:N	2.39	0.55
26:K:80:ILE:HG12	26:K:112:ARG:HH11	1.71	0.55
40:b:125:ARG:HD2	40:b:126:TRP:NE1	2.21	0.55
57:t:29:PRO:O	57:t:32:GLN:NE2	2.39	0.55
4:3:902:U:N3	4:3:941:C:OP2	2.39	0.55
4:3:1645:C:H2'	4:3:1646:G:C8	2.42	0.55
11:A:22:LYS:HB3	11:A:25:GLU:HB3	1.88	0.55
13:AC:176:MET:HE1	13:AC:187:LEU:CD1	2.35	0.55
13:AC:196:VAL:CG1	13:AC:217:ARG:HH22	2.19	0.55
30:O:12:ARG:HH22	30:O:23:ASP:HB2	1.71	0.55
31:P:50:GLU:OE1	31:P:76:ARG:NH1	2.39	0.55
38:Z:488:ASP:C	38:Z:551:ARG:NH2	2.65	0.55
39:a:4:LYS:NZ	39:a:5:LYS:O	2.35	0.55
39:a:243:GLY:HA3	39:a:247:SER:HB3	1.88	0.55
41:c:24:LEU:HD21	41:c:208:GLU:HA	1.88	0.55
4:3:116:C:O2'	4:3:128:A:O2'	2.21	0.55
4:3:611:A:OP1	4:3:1285:U:O2'	2.25	0.55
4:3:1549:U:H3'	4:3:1550:G:H8	1.71	0.55
4:3:2514:U:OP2	4:3:2584:G:N1	2.37	0.55
6:5:172:C:O2'	34:S:73:VAL:HG11	2.07	0.55
6:5:412:G:H2'	6:5:413:G:H8	1.71	0.55
6:5:461:G:O6	6:5:462:G:N2	2.39	0.55
9:8:770:VAL:HG13	9:8:832:TRP:CE2	2.41	0.55
10:9:169:LEU:HD23	14:AD:25:DC:C2	2.42	0.55
10:9:307:LEU:CD1	10:9:334:LEU:HD13	2.36	0.55
10:9:390:ARG:HD2	10:9:496:ASN:O	2.05	0.55
10:9:644:ASP:O	38:Z:835:PHE:HE1	1.88	0.55
10:9:648:VAL:O	38:Z:835:PHE:HE2	1.89	0.55
10:9:952:ASP:HB3	7:AB:295:LYS:CD	2.37	0.55
10:9:1105:ILE:HG21	38:Z:736:VAL:HG23	1.82	0.55
10:9:1369:SER:OG	38:Z:95:VAL:HA	2.06	0.55
11:A:202:CYS:HG	11:A:206:THR:HG1	1.45	0.55
7:AB:305:ASN:HB3	13:AC:80:ASP:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:l:2:LEU:HB3	49:l:69:PHE:HE1	1.72	0.55
52:o:21:TYR:CE2	52:o:23:PRO:HG3	2.41	0.55
53:p:91:ARG:HD3	54:q:11:GLN:HB3	1.89	0.55
55:r:1:MET:N	55:r:113:GLU:OE1	2.39	0.55
4:3:254:G:H2'	4:3:255:A:C8	2.41	0.55
4:3:1963:U:H2'	4:3:1964:C:H5'	1.87	0.55
4:3:2176:G:N1	4:3:2179:A:OP2	2.39	0.55
6:5:536:U:H2'	6:5:537:A:C8	2.42	0.55
6:5:1330:A:H2'	6:5:1331:A:C8	2.40	0.55
6:5:1397:G:H2'	6:5:1398:G:C8	2.41	0.55
7:6:34:PHE:HE2	7:AB:49:CYS:SG	2.30	0.55
25:J:70:MET:HB2	25:J:72:MET:HE1	1.89	0.55
41:c:140:THR:O	41:c:144:MET:N	2.36	0.55
4:3:764:G:N2	39:a:12:SER:OG	2.38	0.55
4:3:886:U:H3	4:3:964:A:H61	1.52	0.55
4:3:939:U:H2'	4:3:940:A:H8	1.71	0.55
4:3:1382:A:N6	4:3:1405:G:H21	2.00	0.55
4:3:2080:C:H5''	39:a:236:ASN:HB2	1.89	0.55
4:3:2828:C:H3'	4:3:2829:G:N2	2.21	0.55
6:5:1102:A:N6	17:B:179:SER:OG	2.39	0.55
6:5:1261:A:N3	6:5:1327:G:O2'	2.32	0.55
7:6:107:GLU:OE2	7:AB:319:HIS:HB2	2.07	0.55
7:6:233:ILE:HD12	7:AB:240:VAL:HG21	1.88	0.55
10:9:419:LEU:HD21	10:9:422:LYS:HG3	1.88	0.55
10:9:1340:LYS:NZ	10:9:1370:ILE:CG1	2.70	0.55
10:9:1370:ILE:HD12	38:Z:94:ILE:CG1	2.35	0.55
13:AC:43:LYS:HA	13:AC:48:TYR:O	2.06	0.55
16:AF:140:ASN:OD1	16:AF:150:VAL:HG21	2.07	0.55
18:C:139:GLY:H	18:C:179:VAL:HA	1.71	0.55
26:K:48:THR:HA	26:K:90:HIS:CE1	2.42	0.55
28:M:42:LEU:O	28:M:45:ARG:N	2.36	0.55
30:O:10:THR:HA	30:O:35:PRO:HD2	1.89	0.55
35:T:20:ARG:O	35:T:23:LEU:HG	2.06	0.55
53:p:12:ARG:HA	53:p:15:LYS:HG2	1.88	0.55
54:q:28:PRO:HD2	54:q:31:LYS:HE3	1.88	0.55
4:3:61:U:O2	4:3:70:G:N2	2.38	0.55
4:3:945:U:O2'	49:l:71:HIS:NE2	2.39	0.55
4:3:1203:G:H2'	4:3:1204:A:H8	1.71	0.55
4:3:1249:A:N3	55:r:128:ARG:NH2	2.55	0.55
4:3:1529:U:H2'	4:3:1530:G:C8	2.41	0.55
6:5:144:U:O2	6:5:149:G:O6	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:149:G:H2'	6:5:150:A:C8	2.42	0.55
6:5:295:G:H2'	6:5:296:A:C4	2.42	0.55
6:5:540:U:O2'	18:C:13:ARG:NH1	2.40	0.55
6:5:748:U:H3'	6:5:749:G:C8	2.42	0.55
18:C:10:ARG:HD3	18:C:62:TYR:CE2	2.42	0.55
38:Z:897:ASP:OD2	38:Z:1234:PHE:HD2	1.88	0.55
4:3:477:U:H2'	4:3:478:G:C8	2.42	0.55
4:3:552:C:OP2	62:y:10:LYS:NZ	2.37	0.55
5:4:58:C:H2'	5:4:59:A:C8	2.41	0.55
6:5:257:U:OP2	34:S:67:ARG:NH2	2.40	0.55
6:5:265:U:H2'	6:5:266:A:C8	2.42	0.55
10:9:709:GLU:HG3	10:9:714:ILE:CD1	2.37	0.55
10:9:1347:GLN:HB3	38:Z:100:MET:CE	2.31	0.55
12:AA:55:ASP:OD1	38:Z:913:LYS:NZ	2.30	0.55
15:AE:11:DT:O3'	38:Z:1236:ASP:OD1	2.25	0.55
41:c:166:THR:O	41:c:170:GLN:HB2	2.06	0.55
42:d:14:LYS:HB2	42:d:18:LYS:NZ	2.21	0.55
44:f:122:GLY:N	44:f:142:VAL:O	2.39	0.55
4:3:941:C:H2'	4:3:942:A:C8	2.42	0.55
4:3:1805:U:H3'	39:a:282:ARG:HH22	1.72	0.55
4:3:1923:A:N6	6:5:1383:A:O2'	2.40	0.55
4:3:2832:G:H2'	4:3:2833:A:H8	1.70	0.55
6:5:14:U:H3	6:5:909:A:H62	1.54	0.55
6:5:536:U:H2'	6:5:537:A:H8	1.72	0.55
10:9:398:ARG:NH2	10:9:494:ASP:OD2	2.40	0.55
10:9:998:ILE:HA	13:AC:108:LEU:HD13	1.86	0.55
10:9:999:PHE:HB3	13:AC:108:LEU:C	2.18	0.55
13:AC:183:LYS:CE	13:AC:281:ASN:HB3	2.37	0.55
56:s:13:THR:H	56:s:16:VAL:HB	1.71	0.55
4:3:139:G:H2'	4:3:140:G:C8	2.43	0.54
4:3:226:A:C6	4:3:236:G:C2	2.95	0.54
4:3:1027:U:O4	4:3:1198:G:O6	2.25	0.54
4:3:1253:G:N7	54:q:67:LYS:NZ	2.47	0.54
4:3:2259:G:H2'	4:3:2260:G:H8	1.71	0.54
4:3:2691:C:OP1	52:o:56:ARG:NH1	2.39	0.54
6:5:375:C:H2'	6:5:376:G:C8	2.42	0.54
12:AA:78:PHE:CZ	38:Z:1095:ARG:NH2	2.75	0.54
4:3:425:U:H4'	4:3:426:U:OP2	2.06	0.54
4:3:799:A:N3	39:a:220:ARG:NH1	2.55	0.54
4:3:1450:G:H1	4:3:1610:U:H3	1.55	0.54
4:3:1978:U:H1'	39:a:248:PRO:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2382:A:H2'	4:3:2383:G:C8	2.42	0.54
4:3:2591:G:H2'	4:3:2592:U:C6	2.42	0.54
6:5:136:U:H3	6:5:157:A:H62	1.56	0.54
10:9:219:GLU:HG3	14:AD:21:DC:H41	1.72	0.54
10:9:1297:TYR:CG	38:Z:554:LEU:CD2	2.90	0.54
10:9:1350:ALA:HB3	38:Z:368:PHE:CE2	2.42	0.54
38:Z:876:LYS:CG	38:Z:1030:ARG:HH11	1.76	0.54
42:d:4:LEU:HD22	42:d:101:GLU:HB2	1.90	0.54
47:j:8:LEU:O	47:j:18:GLN:NE2	2.40	0.54
4:3:2823:A:O2'	4:3:2825:A:N7	2.35	0.54
6:5:319:U:O2'	34:S:17:ARG:NH2	2.40	0.54
6:5:1054:C:OP2	6:5:1055:G:O2'	2.23	0.54
10:9:1235:LEU:HD21	7:AB:44:ARG:HH12	1.73	0.54
10:9:1273:GLN:CD	38:Z:402:ASN:ND2	2.64	0.54
10:9:1348:GLY:O	38:Z:388:LEU:CD1	2.52	0.54
38:Z:21:SER:HB3	38:Z:1248:THR:HG23	1.89	0.54
4:3:51:A:N7	4:3:121:U:C4	2.76	0.54
4:3:401:G:O2'	4:3:402:A:OP1	2.25	0.54
4:3:1480:A:O2'	4:3:2710:G:O6	2.21	0.54
4:3:2054:C:H2'	4:3:2055:A:H8	1.71	0.54
4:3:2493:G:OP2	49:l:45:ARG:NH2	2.40	0.54
6:5:684:A:N1	6:5:697:G:O2'	2.36	0.54
6:5:1003:G:C6	6:5:1018:U:N3	2.76	0.54
6:5:1241:G:C2	6:5:1245:A:N1	2.76	0.54
10:9:148:GLU:OE2	10:9:615:HIS:CE1	2.60	0.54
10:9:943:ILE:HD13	10:9:1043:ILE:CD1	2.37	0.54
11:A:117:LEU:N	11:A:190:GLU:OE1	2.41	0.54
13:AC:135:VAL:CB	13:AC:171:THR:OG1	2.55	0.54
36:U:90:VAL:HG21	37:V:14:ILE:HG21	1.89	0.54
38:Z:192:ILE:O	38:Z:195:ARG:HG3	2.07	0.54
4:3:370:C:H2'	4:3:371:C:C6	2.43	0.54
4:3:389:C:H2'	4:3:390:A:H8	1.71	0.54
4:3:714:G:H2'	4:3:715:G:H8	1.73	0.54
4:3:1416:G:H2'	4:3:1417:G:C8	2.42	0.54
4:3:2393:C:H2'	4:3:2394:A:C8	2.42	0.54
4:3:2704:U:H2'	4:3:2705:G:C8	2.41	0.54
5:4:55:A:H4'	42:d:27:GLN:NE2	2.21	0.54
6:5:541:C:H2'	6:5:542:G:H8	1.72	0.54
6:5:951:U:H3	6:5:1200:G:H1	1.55	0.54
6:5:957:C:H2'	6:5:958:G:C8	2.43	0.54
6:5:1384:A:H2'	6:5:1385:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:170:LYS:HZ2	14:AD:25:DC:C5'	2.20	0.54
10:9:907:ASP:CG	10:9:1099:ARG:HH22	2.15	0.54
18:C:91:ARG:HG3	18:C:182:PRO:HD2	1.89	0.54
36:U:116:ARG:HG3	36:U:118:PHE:CE2	2.42	0.54
51:n:87:THR:OG1	51:n:113:GLY:O	2.25	0.54
4:3:408:G:O2'	4:3:460:G:OP1	2.24	0.54
4:3:802:U:H2'	4:3:803:G:H8	1.72	0.54
4:3:2417:G:H2'	4:3:2418:G:C8	2.43	0.54
6:5:448:A:H62	6:5:478:G:H5'	1.70	0.54
10:9:906:GLU:OE2	38:Z:530:ASP:HB3	2.07	0.54
10:9:999:PHE:HZ	13:AC:42:TYR:HE2	1.53	0.54
13:AC:154:ILE:O	38:Z:77:LYS:HB3	2.06	0.54
20:E:23:GLU:HA	20:E:26:GLN:HG2	1.88	0.54
26:K:19:SER:HB3	26:K:25:HIS:HE2	1.71	0.54
46:i:133:HIS:CE1	46:i:136:GLU:HG3	2.43	0.54
2:1:11:PHE:HE2	48:k:59:TYR:HB3	1.72	0.54
4:3:1717:C:H2'	4:3:1718:C:C6	2.43	0.54
4:3:2294:A:N6	63:z:21:THR:OG1	2.39	0.54
4:3:2840:U:H2'	4:3:2841:A:C8	2.42	0.54
6:5:612:G:H1	6:5:624:U:H3	1.56	0.54
10:9:649:HIS:CG	38:Z:837:TYR:OH	2.56	0.54
11:A:32:MET:O	11:A:53:ASN:ND2	2.32	0.54
13:AC:183:LYS:HB3	13:AC:280:PHE:CA	2.38	0.54
22:G:15:VAL:O	22:G:19:LEU:HG	2.07	0.54
34:S:10:ARG:HD3	34:S:13:GLN:HE21	1.71	0.54
34:S:14:ASN:OD1	34:S:15:ILE:HD12	2.07	0.54
39:a:64:ARG:NH1	39:a:90:PRO:O	2.41	0.54
39:a:69:ILE:HG23	39:a:109:ILE:HA	1.89	0.54
48:k:126:PHE:HB2	48:k:146:VAL:HG22	1.90	0.54
52:o:57:GLY:HA3	52:o:62:GLU:HG2	1.90	0.54
54:q:27:ALA:HB1	54:q:31:LYS:HZ1	1.72	0.54
4:3:700:U:H2'	4:3:701:A:C8	2.42	0.54
4:3:1845:C:H4'	4:3:1846:A:H5'	1.90	0.54
4:3:2682:A:H4'	47:j:30:LYS:HD3	1.88	0.54
5:4:3:U:H2'	5:4:4:G:H8	1.73	0.54
6:5:1109:U:OP2	23:H:11:ARG:NH1	2.36	0.54
6:5:1302:C:H2'	6:5:1303:A:C8	2.43	0.54
8:7:23:G:H2'	8:7:24:A:H8	1.72	0.54
10:9:1345:GLU:C	38:Z:388:LEU:HD22	2.31	0.54
18:C:34:ILE:HD11	18:C:39:GLY:HA3	1.88	0.54
29:N:46:ASP:O	29:N:49:SER:OG	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:b:161:LYS:NZ	46:i:82:GLN:HG3	2.23	0.54
4:3:30:A:H2'	4:3:31:U:C6	2.43	0.54
4:3:59:C:H2'	4:3:60:G:C8	2.43	0.54
4:3:96:A:H2'	4:3:97:A:C8	2.43	0.54
4:3:1046:A:H5''	53:p:65:ASN:ND2	2.23	0.54
4:3:2025:C:H2'	4:3:2026:A:H8	1.73	0.54
7:6:268:ILE:HD12	7:6:286:ILE:O	2.08	0.54
13:AC:45:HIS:CB	13:AC:115:LEU:HD21	2.37	0.54
13:AC:139:PHE:CZ	13:AC:147:ILE:CG1	2.90	0.54
19:D:142:GLY:O	19:D:148:ARG:HA	2.08	0.54
30:O:12:ARG:HH12	30:O:23:ASP:C	2.16	0.54
38:Z:488:ASP:CB	38:Z:551:ARG:NH2	2.70	0.54
4:3:452:U:H3	4:3:2415:A:N6	2.04	0.54
4:3:1081:A:C2	36:U:58:ILE:CD1	2.91	0.54
4:3:2826:G:OP1	40:b:118:GLY:N	2.41	0.54
6:5:372:G:H2'	6:5:373:A:C8	2.42	0.54
13:AC:157:ASN:OD1	13:AC:163:LYS:HB2	2.07	0.54
13:AC:290:TRP:CZ3	13:AC:296:LYS:HZ2	1.45	0.54
41:c:127:LEU:HD12	41:c:199:VAL:HG23	1.89	0.54
42:d:29:PRO:HD2	42:d:169:LEU:HD11	1.88	0.54
48:k:67:ASN:ND2	48:k:69:ARG:O	2.40	0.54
4:3:144:C:H2'	4:3:145:A:C8	2.43	0.53
4:3:1754:U:H2'	4:3:1755:A:C8	2.43	0.53
4:3:2695:U:O4	4:3:2730:G:O6	2.25	0.53
4:3:2697:C:H5'	4:3:2876:G:H22	1.73	0.53
6:5:1225:A:H2	6:5:1345:G:H1'	1.72	0.53
10:9:1001:GLU:CB	13:AC:109:LYS:CB	2.53	0.53
10:9:1094:LEU:CD2	38:Z:809:MET:SD	2.87	0.53
29:N:6:ASN:HA	29:N:9:ILE:HG12	1.90	0.53
38:Z:162:PHE:CE1	38:Z:163:LYS:HE3	2.43	0.53
40:b:122:ALA:N	40:b:166:SER:OG	2.40	0.53
54:q:32:GLU:OE2	54:q:56:VAL:HG12	2.08	0.53
4:3:17:G:O6	4:3:560:U:O2	2.26	0.53
4:3:725:G:O2'	39:a:47:ARG:NH2	2.42	0.53
4:3:732:G:H2'	4:3:733:C:C6	2.43	0.53
4:3:1807:C:N4	4:3:1824:G:N2	2.26	0.53
4:3:2031:C:H5''	40:b:158:ARG:HD3	1.91	0.53
4:3:2631:G:O5'	4:3:2830:A:O2'	2.26	0.53
4:3:2822:C:H2'	4:3:2823:A:H8	1.73	0.53
6:5:369:A:H2'	6:5:370:A:H8	1.74	0.53
6:5:939:G:N2	6:5:1313:A:OP2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:283:ARG:CZ	13:AC:313:LEU:O	2.56	0.53
9:8:149:PHE:CE2	9:8:173:ALA:HB1	2.43	0.53
10:9:1371:LEU:HD23	38:Z:94:ILE:CG2	2.29	0.53
13:AC:40:GLN:OE1	13:AC:122:LEU:HD21	2.08	0.53
13:AC:153:ASP:OD1	38:Z:77:LYS:CD	2.55	0.53
16:AF:137:ASP:CB	38:Z:349:PRO:HG3	2.38	0.53
38:Z:1233:SER:OG	38:Z:1257:LYS:HE2	2.09	0.53
39:a:97:SER:HB3	39:a:111:SER:HB3	1.89	0.53
46:i:26:LEU:HB3	46:i:31:LEU:HD23	1.89	0.53
46:i:42:LYS:HE3	53:p:62:LEU:HD11	1.89	0.53
2:1:20:LYS:NZ	4:3:666:G:H5''	2.22	0.53
4:3:241:C:H2'	4:3:242:G:H8	1.73	0.53
4:3:2351:U:O2'	4:3:2381:G:O2'	2.23	0.53
4:3:2587:U:H2'	4:3:2588:U:C6	2.43	0.53
4:3:2885:U:H2'	4:3:2886:A:H8	1.74	0.53
6:5:448:A:H3'	30:O:38:LYS:HE3	1.90	0.53
8:7:19:G:H4'	8:7:20:G:OP1	2.08	0.53
8:7:67:C:H2'	8:7:68:G:C8	2.42	0.53
10:9:30:GLN:HG3	10:9:676:PHE:HE1	1.73	0.53
10:9:1102:ILE:CD1	38:Z:859:LEU:CA	2.82	0.53
17:B:123:LEU:O	17:B:127:ILE:HG12	2.07	0.53
18:C:143:ARG:NH2	18:C:144:LEU:O	2.41	0.53
25:J:85:GLY:O	25:J:88:THR:OG1	2.17	0.53
40:b:13:MET:HA	40:b:27:THR:HA	1.90	0.53
47:j:77:LEU:HD13	52:o:77:LYS:HB2	1.89	0.53
4:3:740:A:OP2	4:3:761:G:N2	2.42	0.53
4:3:1079:U:O2'	4:3:1146:A:N1	2.41	0.53
4:3:2350:C:H2'	4:3:2351:U:C6	2.44	0.53
4:3:2857:C:H2'	4:3:2858:A:C8	2.44	0.53
6:5:331:C:H2'	6:5:332:A:H8	1.73	0.53
6:5:510:U:H2'	6:5:511:A:H8	1.72	0.53
6:5:1113:U:H2'	6:5:1114:A:C8	2.43	0.53
7:6:271:LEU:HD22	7:6:321:LEU:HD11	1.90	0.53
10:9:825:LYS:HE3	10:9:835:GLU:OE2	2.08	0.53
33:R:25:GLN:O	33:R:26:GLU:HG3	2.08	0.53
34:S:35:PHE:CE1	34:S:44:LEU:HB2	2.42	0.53
48:k:75:GLN:OE1	48:k:77:TRP:NE1	2.42	0.53
4:3:523:A:C6	4:3:529:G:N1	2.77	0.53
4:3:974:C:N4	4:3:975:G:O6	2.42	0.53
4:3:982:G:H2'	4:3:983:A:C8	2.44	0.53
4:3:1142:G:C3'	36:U:78:GLY:N	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1224:G:N7	48:k:16:LYS:NZ	2.56	0.53
4:3:1633:C:H2'	4:3:1634:A:C8	2.44	0.53
4:3:2195:U:H2'	4:3:2196:G:C8	2.43	0.53
4:3:2206:A:H1'	44:f:30:LEU:HD21	1.91	0.53
4:3:2706:U:H2'	4:3:2707:A:H8	1.74	0.53
6:5:169:G:N2	6:5:219:A:O2'	2.41	0.53
6:5:219:A:H2'	6:5:220:U:O4'	2.09	0.53
6:5:1345:G:H2'	6:5:1346:G:H8	1.73	0.53
10:9:406:LYS:HE3	10:9:518:ILE:HG12	1.90	0.53
18:C:94:GLU:HG3	18:C:187:LEU:HD13	1.91	0.53
38:Z:586:GLU:HG2	38:Z:639:THR:CG2	2.38	0.53
52:o:32:ASN:HA	52:o:49:THR:HA	1.90	0.53
4:3:163:A:H2'	4:3:164:A:C8	2.44	0.53
4:3:223:A:N6	4:3:464:A:OP2	2.40	0.53
4:3:269:A:N6	4:3:315:A:O4'	2.42	0.53
4:3:999:U:O2'	4:3:2258:G:O6	2.26	0.53
4:3:1184:U:H2'	4:3:1185:U:C6	2.43	0.53
4:3:1463:G:H2'	4:3:1464:G:H8	1.73	0.53
4:3:2018:U:H2'	4:3:2019:G:O4'	2.09	0.53
4:3:2102:U:H5''	44:f:12:LEU:HD21	1.90	0.53
4:3:2798:A:N1	4:3:2897:G:C6	2.77	0.53
7:6:35:VAL:HG21	7:6:207:ASP:CB	2.38	0.53
7:6:283:ARG:NH2	13:AC:313:LEU:O	2.41	0.53
10:9:997:ALA:CB	13:AC:8:PHE:CD1	2.81	0.53
10:9:1289:MET:SD	15:AE:15:DA:C1'	2.96	0.53
10:9:1310:LYS:O	38:Z:409:ASP:N	2.42	0.53
10:9:1370:ILE:HD12	38:Z:94:ILE:HG12	1.91	0.53
10:9:1370:ILE:HD13	38:Z:94:ILE:CG1	2.35	0.53
13:AC:49:VAL:CG2	13:AC:81:PHE:HB3	2.38	0.53
13:AC:139:PHE:CZ	13:AC:147:ILE:HG13	2.43	0.53
20:E:13:LEU:HB3	20:E:17:GLN:HE21	1.73	0.53
20:E:22:ASN:O	20:E:26:GLN:NE2	2.41	0.53
27:L:55:ALA:O	27:L:58:ASN:HB2	2.08	0.53
38:Z:775:LYS:HE3	38:Z:845:ILE:CD1	2.32	0.53
38:Z:983:ILE:HG21	38:Z:1139:ARG:HD3	1.91	0.53
48:k:131:VAL:HG22	48:k:148:LEU:HD11	1.90	0.53
2:1:37:GLN:NE2	4:3:2371:U:OP2	2.40	0.53
4:3:2126:A:O2'	4:3:2127:G:H5'	2.08	0.53
4:3:2285:G:H5''	49:l:11:LYS:HD2	1.91	0.53
4:3:2383:G:N2	4:3:2386:A:OP2	2.23	0.53
4:3:2494:C:H2'	4:3:2495:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2694:A:H2'	4:3:2695:U:H6	1.74	0.53
6:5:681:U:H2'	6:5:682:G:C8	2.44	0.53
6:5:881:G:N1	6:5:905:U:C2	2.77	0.53
6:5:1156:G:H4'	6:5:1157:G:H5'	1.89	0.53
6:5:1350:A:H4'	21:F:28:VAL:HG12	1.91	0.53
7:6:141:TYR:OH	7:6:144:SER:HB2	2.08	0.53
7:6:223:ASP:OD1	7:AB:243:ASN:ND2	2.41	0.53
8:7:29:C:H2'	8:7:30:G:H8	1.74	0.53
10:9:627:ARG:HD3	10:9:670:ILE:CG2	2.39	0.53
10:9:1000:PRO:HD3	13:AC:6:ASN:ND2	2.23	0.53
10:9:1212:MET:SD	38:Z:737:PHE:CZ	3.02	0.53
10:9:1348:GLY:O	38:Z:388:LEU:HD12	2.08	0.53
13:AC:239:LYS:NZ	13:AC:294:LYS:CB	2.60	0.53
16:AF:55:PHE:CB	16:AF:62:LEU:HD12	2.37	0.53
19:D:177:ASP:N	19:D:177:ASP:OD1	2.42	0.53
26:K:69:ARG:HD2	26:K:70:LEU:O	2.09	0.53
30:O:31:GLY:HA3	30:O:43:LYS:O	2.08	0.53
46:i:106:ASN:HA	46:i:109:LYS:HE2	1.91	0.53
47:j:2:VAL:HG23	47:j:33:ALA:HB3	1.89	0.53
52:o:32:ASN:HD21	52:o:47:ASN:HB3	1.74	0.53
55:r:136:LYS:O	55:r:139:ARG:NH2	2.39	0.53
4:3:129:U:H2'	4:3:130:C:C6	2.43	0.53
4:3:499:G:N2	4:3:501:G:H3'	2.24	0.53
4:3:1012:G:H2'	4:3:1013:G:C8	2.44	0.53
4:3:1119:A:C8	36:U:53:VAL:HG23	2.44	0.53
6:5:407:A:N6	6:5:426:U:O5'	2.41	0.53
6:5:650:A:C5	22:G:67:LYS:HG2	2.44	0.53
6:5:742:C:H2'	6:5:743:A:H8	1.74	0.53
10:9:953:ALA:CA	7:AB:294:SER:O	2.53	0.53
10:9:1368:VAL:O	38:Z:98:GLU:HB3	2.07	0.53
26:K:67:LYS:HD3	26:K:77:LEU:HD23	1.91	0.53
28:M:10:GLN:NE2	28:M:21:TYR:O	2.42	0.53
43:e:92:LEU:N	43:e:132:THR:O	2.39	0.53
4:3:155:A:H2'	4:3:156:A:H8	1.74	0.53
4:3:313:G:N2	4:3:394:C:C2	2.75	0.53
4:3:1187:C:H5'	53:p:79:ILE:HG21	1.90	0.53
4:3:1262:G:H2'	4:3:1263:G:H8	1.74	0.53
4:3:1370:A:N6	4:3:1636:U:O2	2.41	0.53
4:3:2855:A:H3'	4:3:2856:G:H8	1.73	0.53
5:4:104:C:H2'	5:4:105:A:H8	1.72	0.53
6:5:612:G:N2	6:5:624:U:O2	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:836:C:H2'	6:5:837:G:C4	2.44	0.53
10:9:479:ASN:HB3	10:9:481:ASP:OD1	2.08	0.53
13:AC:156:THR:HG23	38:Z:77:LYS:CA	2.28	0.53
18:C:166:PHE:CD2	18:C:167:VAL:HG13	2.44	0.53
24:I:21:SER:O	24:I:25:ASP:N	2.35	0.53
4:3:1119:A:C1'	36:U:53:VAL:CG2	2.87	0.53
4:3:2098:U:O2'	59:v:34:GLN:NE2	2.41	0.53
6:5:7:U:O2'	6:5:294:A:N3	2.42	0.53
6:5:675:U:H2'	6:5:676:U:H6	1.73	0.53
10:9:94:ILE:CG2	10:9:135:LEU:CD1	2.87	0.53
10:9:1160:ARG:HD2	10:9:1176:ASP:OD1	2.08	0.53
10:9:1310:LYS:CB	38:Z:409:ASP:HB2	2.39	0.53
10:9:1338:SER:O	38:Z:398:LEU:HD21	2.09	0.53
10:9:1371:LEU:HB2	38:Z:95:VAL:CG1	2.39	0.53
21:F:21:LEU:O	21:F:24:ARG:HG2	2.09	0.53
21:F:91:PRO:O	21:F:95:LYS:HG3	2.09	0.53
4:3:686:C:H2'	4:3:687:G:C8	2.44	0.52
4:3:733:C:H5''	4:3:734:A:H5'	1.91	0.52
4:3:1081:A:O3'	36:U:57:ASN:ND2	2.42	0.52
4:3:1142:G:H4'	36:U:78:GLY:H	1.01	0.52
4:3:1262:G:H1'	55:r:128:ARG:HG2	1.90	0.52
4:3:1764:U:O4	4:3:1769:A:N7	2.42	0.52
4:3:2885:U:H2'	4:3:2886:A:C8	2.44	0.52
6:5:47:G:O2'	6:5:361:U:H1'	2.09	0.52
6:5:1287:G:H2'	6:5:1288:C:C6	2.44	0.52
6:5:1436:C:H2'	6:5:1437:A:H8	1.71	0.52
8:7:54:G:N1	8:7:63:U:N3	2.57	0.52
9:8:107:GLN:OE1	9:8:176:ALA:HB1	2.09	0.52
10:9:1002:SER:N	13:AC:109:LYS:CA	2.72	0.52
10:9:1225:LYS:NZ	38:Z:738:ASP:CG	2.67	0.52
13:AC:239:LYS:CD	13:AC:294:LYS:N	2.70	0.52
20:E:5:ILE:HG12	20:E:62:PHE:CE1	2.44	0.52
23:H:23:PRO:HB3	23:H:62:ASN:O	2.09	0.52
49:l:31:GLU:H	49:l:107:ALA:HB2	1.74	0.52
51:n:7:GLN:HG3	51:n:11:ARG:NH2	2.20	0.52
4:3:300:G:H2'	4:3:301:G:C8	2.44	0.52
4:3:355:A:O2'	4:3:374:A:N3	2.41	0.52
4:3:599:U:OP1	54:q:78:HIS:NE2	2.42	0.52
4:3:2743:U:H2'	4:3:2744:A:C8	2.45	0.52
6:5:36:G:H2'	6:5:37:C:C6	2.43	0.52
6:5:320:G:H5'	34:S:17:ARG:HH22	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:412:G:H2'	6:5:413:G:C8	2.44	0.52
6:5:879:G:H2'	6:5:880:G:H8	1.74	0.52
6:5:1114:A:N6	6:5:1127:A:H61	2.07	0.52
10:9:216:ALA:CB	14:AD:20:DG:N7	2.72	0.52
10:9:998:ILE:C	13:AC:108:LEU:CD1	2.52	0.52
10:9:1081:LEU:HD21	10:9:1243:LEU:HD21	1.91	0.52
10:9:1325:VAL:HG12	38:Z:464:ILE:CD1	2.34	0.52
26:K:76:VAL:HG21	26:K:108:TYR:HE1	1.74	0.52
46:i:67:LEU:HB2	46:i:72:LYS:HG3	1.92	0.52
49:l:115:ILE:O	49:l:119:THR:HG23	2.08	0.52
51:n:11:ARG:NH1	51:n:95:GLY:O	2.42	0.52
54:q:28:PRO:O	54:q:31:LYS:NZ	2.41	0.52
4:3:57:G:H2'	4:3:58:A:C8	2.45	0.52
4:3:73:A:H4'	4:3:74:U:H3'	1.91	0.52
4:3:762:A:OP2	4:3:1459:A:O2'	2.25	0.52
4:3:2372:C:H4'	58:u:72:THR:HG21	1.91	0.52
5:4:95:G:H2'	5:4:96:G:H8	1.74	0.52
6:5:560:U:O2	26:K:13:LYS:N	2.42	0.52
6:5:941:A:OP2	27:L:113:ARG:NH1	2.42	0.52
6:5:944:A:O2'	6:5:966:A:N6	2.42	0.52
7:6:111:LEU:HD21	7:6:156:TYR:CE1	2.45	0.52
20:E:153:LYS:HA	22:G:56:ASN:HD21	1.74	0.52
25:J:73:ALA:O	25:J:99:SER:OG	2.27	0.52
25:J:100:ILE:HG12	25:J:103:ILE:HD11	1.91	0.52
29:N:21:SER:OG	29:N:23:GLN:OE1	2.27	0.52
36:U:135:LEU:HD11	37:V:14:ILE:HG23	1.91	0.52
60:w:15:LEU:HD22	60:w:58:LEU:HD21	1.90	0.52
4:3:86:A:N6	4:3:101:C:O4'	2.42	0.52
4:3:670:G:H2'	4:3:671:C:C6	2.45	0.52
4:3:894:G:H21	4:3:2276:A:H3'	1.75	0.52
4:3:935:U:H2'	4:3:936:G:C8	2.45	0.52
4:3:1649:C:OP2	4:3:1651:C:N4	2.43	0.52
4:3:1872:U:O4	4:3:1882:G:O6	2.28	0.52
4:3:2083:U:O5'	4:3:2246:G:N2	2.42	0.52
4:3:2609:C:H2'	4:3:2611:G:C8	2.44	0.52
6:5:621:C:H2'	6:5:622:A:C8	2.45	0.52
6:5:909:A:H2'	6:5:911:G:H5''	1.90	0.52
6:5:923:G:O2'	6:5:1508:C:OP1	2.26	0.52
6:5:939:G:N1	6:5:1312:G:OP2	2.34	0.52
6:5:1039:G:H5''	28:M:2:ALA:HA	1.92	0.52
6:5:1267:G:H2'	6:5:1268:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:998:ILE:C	13:AC:108:LEU:CB	2.81	0.52
10:9:1348:GLY:C	38:Z:388:LEU:HD11	2.01	0.52
11:A:120:PHE:O	11:A:124:SER:N	2.36	0.52
12:AA:35:VAL:CG1	22:G:131:LYS:NZ	2.72	0.52
7:AB:300:ILE:HD12	7:AB:325:LEU:HD13	1.90	0.52
17:B:89:THR:HA	17:B:92:ILE:HG12	1.90	0.52
23:H:93:ASN:ND2	23:H:95:GLU:OE2	2.42	0.52
24:I:28:THR:CG2	24:I:78:ARG:HG2	2.39	0.52
38:Z:64:LYS:HD2	38:Z:67:GLU:OE2	2.09	0.52
49:l:3:GLN:OE1	49:l:4:PRO:HD2	2.10	0.52
49:l:77:LYS:HG3	49:l:81:VAL:HG11	1.91	0.52
55:r:115:GLN:CD	55:r:115:GLN:H	2.17	0.52
4:3:220:A:H2'	4:3:221:A:C8	2.44	0.52
4:3:347:C:H2'	4:3:348:A:C8	2.44	0.52
4:3:513:A:O2'	4:3:514:A:OP1	2.27	0.52
4:3:567:U:H4'	4:3:568:G:C8	2.44	0.52
4:3:869:U:O2'	4:3:2366:A:H1'	2.09	0.52
4:3:893:A:H2'	4:3:894:G:C8	2.44	0.52
4:3:1280:G:P	48:k:22:ARG:HE	2.33	0.52
6:5:610:C:H2'	6:5:611:A:H8	1.74	0.52
6:5:1178:C:H2'	6:5:1179:A:C8	2.45	0.52
6:5:1219:C:H2'	6:5:1220:A:C8	2.44	0.52
6:5:1266:U:OP2	21:F:40:ARG:NH2	2.42	0.52
8:7:2:G:N2	8:7:74:A:N7	2.58	0.52
10:9:648:VAL:O	38:Z:835:PHE:CE2	2.63	0.52
10:9:829:ASN:O	10:9:848:LYS:HE2	2.03	0.52
10:9:1118:ALA:HB1	10:9:1191:LEU:O	2.10	0.52
10:9:1306:LEU:HD23	38:Z:408:VAL:CG1	2.32	0.52
12:AA:35:VAL:HG11	22:G:131:LYS:NZ	2.24	0.52
19:D:139:GLU:OE1	19:D:152:LYS:HB2	2.09	0.52
24:I:25:ASP:O	24:I:29:LYS:HG2	2.10	0.52
38:Z:753:ASP:OD2	38:Z:855:LYS:NZ	2.43	0.52
38:Z:884:LYS:HE2	38:Z:1029:MET:HG3	1.91	0.52
39:a:136:MET:HE2	39:a:140:PHE:HB2	1.92	0.52
41:c:194:ALA:C	41:c:196:ALA:H	2.16	0.52
46:i:78:TYR:HB3	46:i:87:ILE:HD12	1.91	0.52
49:l:44:ALA:HA	49:l:47:ILE:HD12	1.91	0.52
4:3:274:A:OP2	4:3:294:G:N1	2.42	0.52
4:3:723:U:H2'	4:3:724:A:H8	1.74	0.52
4:3:2646:G:O2'	4:3:2647:A:N7	2.41	0.52
6:5:34:A:H2'	6:5:35:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:561:A:H2'	6:5:565:G:C8	2.45	0.52
6:5:649:U:O4	6:5:749:G:O2'	2.21	0.52
6:5:655:G:C6	6:5:746:A:C6	2.98	0.52
6:5:675:U:H2'	6:5:676:U:C6	2.44	0.52
6:5:1203:A:OP2	27:L:107:ARG:NH2	2.41	0.52
6:5:1312:G:H2'	6:5:1313:A:C4	2.44	0.52
10:9:667:ILE:HD11	38:Z:875:ARG:HG3	1.92	0.52
10:9:998:ILE:CB	13:AC:62:MET:CE	2.81	0.52
10:9:998:ILE:CB	13:AC:62:MET:HE1	2.40	0.52
19:D:67:GLU:HG2	19:D:97:ARG:HH11	1.75	0.52
19:D:191:MET:O	19:D:195:THR:HG23	2.09	0.52
23:H:49:ASP:OD1	23:H:50:MET:N	2.41	0.52
28:M:47:LEU:HD12	28:M:52:ALA:HB2	1.91	0.52
38:Z:335:ARG:NH1	38:Z:359:LEU:HD13	2.24	0.52
58:u:62:GLY:N	58:u:95:VAL:O	2.42	0.52
4:3:21:U:OP1	53:p:28:HIS:NE2	2.43	0.52
4:3:316:C:O2'	4:3:392:A:N1	2.38	0.52
4:3:379:A:N3	4:3:381:A:N6	2.58	0.52
4:3:1106:G:O2'	4:3:1124:G:OP2	2.28	0.52
4:3:2409:U:O4	4:3:2423:G:O6	2.27	0.52
6:5:250:G:H2'	6:5:251:G:H8	1.74	0.52
6:5:306:G:H2'	6:5:307:C:C6	2.45	0.52
6:5:599:G:O6	6:5:634:U:O2	2.28	0.52
6:5:724:G:N2	6:5:727:G:OP2	2.37	0.52
7:6:108:ARG:NH2	7:AB:316:LYS:HE2	2.24	0.52
8:7:68:G:H2'	8:7:69:A:H8	1.75	0.52
10:9:999:PHE:CZ	13:AC:42:TYR:CZ	2.98	0.52
13:AC:183:LYS:HB3	13:AC:280:PHE:O	2.09	0.52
13:AC:224:ASN:OD1	13:AC:230:ILE:HG22	2.10	0.52
20:E:97:LEU:HD23	20:E:100:ILE:HB	1.92	0.52
34:S:25:LYS:O	34:S:28:LEU:HG	2.10	0.52
41:c:57:GLU:OE1	41:c:94:LYS:NZ	2.43	0.52
57:t:24:VAL:HA	57:t:36:VAL:HG22	1.92	0.52
4:3:453:U:H2'	4:3:454:G:C8	2.45	0.52
6:5:1112:U:O4	6:5:1128:G:O6	2.28	0.52
6:5:1176:A:H4'	6:5:1177:U:H5''	1.91	0.52
10:9:994:LEU:HD12	13:AC:12:LEU:HD13	1.87	0.52
12:AA:58:GLU:HG2	38:Z:1213:ASN:ND2	2.19	0.52
7:AB:35:VAL:HG21	7:AB:207:ASP:CB	2.40	0.52
7:AB:86:GLN:CD	38:Z:599:THR:CG2	2.81	0.52
13:AC:239:LYS:HE2	13:AC:294:LYS:HG3	1.89	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:J:22:ASN:OD1	25:J:23:THR:N	2.43	0.52
40:b:165:MET:HE3	40:b:166:SER:H	1.75	0.52
48:k:48:ARG:HG2	48:k:50:GLY:H	1.74	0.52
4:3:134:U:H2'	4:3:135:A:C8	2.45	0.52
4:3:494:G:HO2'	4:3:505:G:H1	1.58	0.52
4:3:1862:A:N6	4:3:1863:G:O6	2.43	0.52
6:5:63:U:O2'	6:5:375:C:O2	2.28	0.52
6:5:519:G:C6	6:5:527:G:N1	2.78	0.52
6:5:1139:A:H2'	6:5:1140:A:H8	1.75	0.52
10:9:76:THR:HG22	10:9:125:VAL:HG21	1.91	0.52
10:9:1292:TRP:CZ2	38:Z:893:ARG:HG3	2.45	0.52
11:A:72:VAL:HA	11:A:75:VAL:HG12	1.92	0.52
12:AA:5:TYR:OH	12:AA:48:LEU:HA	2.10	0.52
12:AA:35:VAL:HG12	22:G:131:LYS:HZ1	1.74	0.52
12:AA:42:LYS:CB	22:G:126:LYS:HG3	2.26	0.52
14:AD:17:DT:C2'	14:AD:18:DG:C8	2.92	0.52
21:F:107:ALA:HA	21:F:122:GLU:CD	2.35	0.52
21:F:124:ILE:O	21:F:127:SER:OG	2.27	0.52
38:Z:393:LYS:HE3	38:Z:1238:LYS:HB2	1.92	0.52
59:v:57:THR:O	59:v:61:HIS:ND1	2.42	0.52
4:3:142:A:H2	4:3:1628:G:H21	1.58	0.52
4:3:454:G:H2'	4:3:455:G:C8	2.37	0.52
4:3:669:A:O2'	4:3:2412:A:OP1	2.24	0.52
4:3:1088:A:N1	36:U:79:LYS:CE	2.67	0.52
4:3:1846:A:H1'	4:3:1934:A:C8	2.45	0.52
4:3:2376:C:H2'	4:3:2377:A:C8	2.45	0.52
4:3:2700:C:H2'	4:3:2701:A:C8	2.45	0.52
5:4:103:C:H2'	5:4:104:C:C6	2.45	0.52
6:5:753:C:OP2	29:N:62:ARG:NH2	2.41	0.52
6:5:1031:A:H2'	6:5:1032:G:C8	2.45	0.52
8:7:2:G:O6	8:7:73:C:N4	2.42	0.52
8:7:7:U:H3	8:7:68:G:H1	1.57	0.52
10:9:999:PHE:CZ	13:AC:42:TYR:OH	2.31	0.52
11:A:90:ASP:OD1	11:A:91:TYR:N	2.43	0.52
16:AF:78:ASP:OD2	16:AF:81:ARG:NH2	2.37	0.52
22:G:26:ARG:HG3	22:G:84:ILE:HG23	1.92	0.52
34:S:50:GLN:HA	34:S:53:ARG:HD2	1.91	0.52
52:o:67:ARG:HE	52:o:74:PRO:HB2	1.73	0.52
4:3:163:A:N6	4:3:169:U:H3	2.00	0.51
4:3:616:G:OP1	53:p:13:ARG:NH2	2.43	0.51
4:3:1511:C:H2'	4:3:1512:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1691:U:H4'	40:b:139:TYR:HD2	1.75	0.51
4:3:2353:G:H1'	4:3:2389:A:H2'	1.91	0.51
5:4:95:G:H2'	5:4:96:G:C8	2.45	0.51
6:5:1003:G:N1	6:5:1018:U:N3	2.58	0.51
10:9:1285:ARG:NH2	38:Z:401:HIS:ND1	2.57	0.51
13:AC:156:THR:O	38:Z:76:ILE:HD13	2.10	0.51
38:Z:342:ILE:CD1	38:Z:356:GLU:HG3	2.40	0.51
41:c:26:ALA:N	41:c:117:SER:OG	2.42	0.51
53:p:65:ASN:OD1	53:p:75:TYR:HB2	2.11	0.51
56:s:36:SER:OG	56:s:37:LYS:N	2.43	0.51
63:z:35:ASN:HB3	63:z:46:VAL:HG22	1.92	0.51
2:1:36:LYS:O	2:1:39:ARG:HD3	2.10	0.51
4:3:299:A:H2'	4:3:300:G:C8	2.45	0.51
4:3:632:A:H2'	4:3:633:G:H8	1.75	0.51
4:3:1292:A:OP1	55:r:99:ARG:NH1	2.44	0.51
4:3:1364:A:OP1	56:s:66:ARG:NH1	2.43	0.51
4:3:2104:A:H2'	4:3:2105:G:H8	1.75	0.51
6:5:65:G:H4'	6:5:66:A:H3'	1.91	0.51
6:5:190:A:H2'	6:5:191:A:O4'	2.10	0.51
6:5:250:G:H2'	6:5:251:G:C8	2.44	0.51
6:5:251:G:H5''	31:P:20:LYS:HE2	1.91	0.51
6:5:519:G:C6	6:5:527:G:C2	2.97	0.51
6:5:713:A:H1'	25:J:113:GLY:HA2	1.92	0.51
10:9:659:ILE:O	10:9:780:LEU:HD13	2.09	0.51
10:9:1344:LYS:HB2	38:Z:309:ILE:HG21	1.92	0.51
13:AC:290:TRP:CE2	13:AC:296:LYS:CD	2.89	0.51
19:D:162:ALA:HB1	19:D:166:ILE:HG22	1.93	0.51
29:N:70:ASN:OD1	29:N:71:ASP:N	2.44	0.51
4:3:300:G:H2'	4:3:301:G:H8	1.76	0.51
4:3:674:G:H2'	4:3:675:U:H6	1.74	0.51
4:3:808:U:H4'	39:a:51:GLY:HA3	1.92	0.51
4:3:1029:A:OP1	53:p:49:ARG:NE	2.42	0.51
4:3:1032:A:H2'	4:3:1033:A:H8	1.75	0.51
4:3:2269:C:H2'	4:3:2270:U:H6	1.74	0.51
4:3:2659:U:H2'	4:3:2660:C:C6	2.45	0.51
4:3:2892:U:H2'	4:3:2893:C:H6	1.75	0.51
6:5:537:A:H2'	6:5:538:G:C8	2.45	0.51
6:5:832:G:H2'	6:5:833:G:H8	1.76	0.51
6:5:842:C:H2'	6:5:843:C:C6	2.45	0.51
6:5:1248:U:H2'	6:5:1249:G:O4'	2.10	0.51
10:9:450:ILE:CD1	10:9:505:ILE:HD12	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:139:PHE:CD1	13:AC:147:ILE:HD12	2.45	0.51
18:C:168:GLU:CG	38:Z:30:ASN:OD1	2.58	0.51
33:R:22:MET:O	33:R:27:LYS:N	2.35	0.51
39:a:131:LYS:HD2	39:a:132:PRO:HD2	1.92	0.51
39:a:147:VAL:HA	39:a:200:VAL:HA	1.91	0.51
51:n:28:VAL:HG13	51:n:89:VAL:HG12	1.91	0.51
61:x:16:CYS:HB3	61:x:21:ASN:HB3	1.91	0.51
4:3:680:A:H2'	4:3:682:A:N7	2.24	0.51
4:3:815:G:H21	4:3:818:A:H61	1.56	0.51
4:3:2249:A:H2'	4:3:2250:G:C8	2.45	0.51
4:3:2668:A:O2'	4:3:2669:G:H8	1.93	0.51
6:5:331:C:H2'	6:5:332:A:C8	2.46	0.51
6:5:736:U:O2'	29:N:39:HIS:HD2	1.93	0.51
7:6:243:ASN:ND2	7:AB:223:ASP:OD1	2.44	0.51
8:7:55:U:O2	8:7:59:A:N7	2.43	0.51
10:9:356:ARG:HH12	16:AF:113:ASN:H	1.59	0.51
10:9:945:ARG:HH22	7:AB:298:ALA:HB1	1.75	0.51
12:AA:5:TYR:HE2	12:AA:48:LEU:CD2	2.15	0.51
7:AB:129:CYS:SG	7:AB:135:VAL:HG23	2.50	0.51
13:AC:249:LYS:HB2	13:AC:297:PHE:HE1	1.72	0.51
13:AC:290:TRP:CE2	13:AC:296:LYS:CE	2.94	0.51
17:B:42:ASN:O	17:B:46:VAL:HG22	2.10	0.51
38:Z:47:LEU:HD21	38:Z:320:PHE:HZ	1.75	0.51
38:Z:67:GLU:HG2	38:Z:74:LYS:HG2	1.92	0.51
60:w:51:LEU:O	60:w:55:LEU:HD23	2.11	0.51
61:x:13:SER:HA	61:x:24:THR:HB	1.91	0.51
4:3:784:A:H61	4:3:788:G:H21	1.57	0.51
4:3:1543:U:H2'	4:3:1544:G:C8	2.45	0.51
4:3:1816:A:H2'	4:3:1817:A:C8	2.46	0.51
4:3:2843:G:O6	4:3:2882:U:O2	2.27	0.51
6:5:662:G:H1'	6:5:730:G:H5'	1.92	0.51
6:5:1201:C:H4'	33:R:81:LYS:HD3	1.91	0.51
10:9:1269:LYS:HB2	38:Z:313:ILE:HD13	1.87	0.51
10:9:1371:LEU:HB2	38:Z:95:VAL:HG12	1.92	0.51
13:AC:159:ASP:OD1	38:Z:79:ARG:NH2	2.44	0.51
13:AC:239:LYS:HD2	13:AC:293:ASP:CA	2.39	0.51
17:B:11:ARG:NH1	17:B:177:PRO:O	2.43	0.51
20:E:71:ASP:N	20:E:71:ASP:OD1	2.43	0.51
48:k:93:ILE:HD13	48:k:126:PHE:HE1	1.75	0.51
4:3:1119:A:C5	36:U:53:VAL:HG21	2.39	0.51
4:3:1455:A:H2	39:a:35:LYS:HD3	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1475:C:H1'	4:3:1577:A:H2	1.76	0.51
4:3:1662:G:H2'	4:3:1663:G:H8	1.75	0.51
4:3:1917:G:H2'	4:3:1918:U:C6	2.45	0.51
4:3:2311:G:N3	42:d:129:THR:HG21	2.25	0.51
4:3:2339:G:H2'	4:3:2340:U:O4'	2.11	0.51
5:4:38:U:H1'	5:4:43:A:H62	1.74	0.51
6:5:1065:G:H2'	6:5:1066:U:H6	1.76	0.51
6:5:1483:C:H2'	6:5:1484:C:H6	1.75	0.51
10:9:649:HIS:NE2	38:Z:837:TYR:CZ	2.53	0.51
12:AA:68:ARG:NH2	38:Z:1207:MET:HB2	2.25	0.51
13:AC:43:LYS:HG3	13:AC:49:VAL:HA	1.91	0.51
39:a:136:MET:HA	39:a:197:ARG:HH21	1.76	0.51
50:m:28:TYR:OH	50:m:71:ASN:OD1	2.26	0.51
4:3:793:C:H2'	4:3:794:G:H8	1.76	0.51
4:3:990:G:N2	4:3:999:U:O2	2.29	0.51
4:3:1756:A:H2'	4:3:1757:G:C8	2.45	0.51
4:3:2892:U:H2'	4:3:2893:C:C6	2.45	0.51
6:5:1417:U:H2'	6:5:1418:G:H8	1.75	0.51
8:7:63:U:H2'	8:7:64:G:H8	1.73	0.51
10:9:570:ILE:CG2	10:9:574:GLY:HA2	2.41	0.51
10:9:953:ALA:C	7:AB:326:ARG:HD3	2.35	0.51
38:Z:1253:LEU:HD13	38:Z:1262:ILE:HD13	1.91	0.51
39:a:229:ARG:HH21	39:a:232:ALA:HB2	1.74	0.51
40:b:117:ARG:HD2	40:b:169:TYR:CD2	2.46	0.51
46:i:3:LYS:N	54:q:12:TYR:HH	2.08	0.51
63:z:8:ARG:HD3	63:z:17:ILE:HG23	1.93	0.51
4:3:67:C:O2'	4:3:492:C:N3	2.35	0.51
4:3:715:G:OP2	4:3:811:G:N1	2.44	0.51
4:3:960:A:H2'	4:3:961:U:C6	2.45	0.51
4:3:1088:A:H2	36:U:79:LYS:CE	2.06	0.51
4:3:1201:A:H2'	4:3:1202:A:H8	1.74	0.51
4:3:1315:A:N6	50:m:109:ASP:OD2	2.38	0.51
4:3:2145:A:H2'	4:3:2146:A:C8	2.44	0.51
4:3:2555:U:H2'	4:3:2556:C:C6	2.46	0.51
4:3:2744:A:H2'	4:3:2745:G:H8	1.74	0.51
4:3:2841:A:H2'	4:3:2842:G:H8	1.76	0.51
5:4:59:A:O2'	5:4:60:C:OP1	2.28	0.51
6:5:554:C:H2'	6:5:555:G:C8	2.45	0.51
6:5:1124:U:H4'	23:H:18:LYS:HD2	1.93	0.51
6:5:1222:U:H2'	6:5:1223:A:H8	1.74	0.51
6:5:1359:C:H2'	6:5:1360:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:23:G:H2'	8:7:24:A:C8	2.46	0.51
10:9:807:LYS:HE3	10:9:811:ASP:OD2	2.11	0.51
11:A:32:MET:HE3	11:A:33:VAL:HG22	1.92	0.51
19:D:176:SER:OG	19:D:177:ASP:OD1	2.28	0.51
24:I:45:PRO:HB3	24:I:78:ARG:HD2	1.93	0.51
32:Q:43:PHE:HB2	32:Q:82:HIS:ND1	2.26	0.51
32:Q:57:LEU:O	32:Q:61:LYS:HG2	2.10	0.51
34:S:53:ARG:HA	34:S:56:ARG:HH22	1.76	0.51
38:Z:19:LYS:HE3	38:Z:1248:THR:CG2	2.40	0.51
42:d:33:LYS:HD3	42:d:92:ARG:HH11	1.76	0.51
43:e:118:GLU:OE2	43:e:154:TRP:NE1	2.38	0.51
55:r:124:LEU:O	55:r:127:LYS:HG2	2.11	0.51
4:3:1024:A:N1	4:3:1025:G:N2	2.59	0.51
4:3:1305:G:C6	4:3:1322:A:C6	2.99	0.51
4:3:1347:A:H2'	4:3:1348:C:C6	2.46	0.51
4:3:1866:G:N1	4:3:1891:A:N7	2.59	0.51
4:3:2321:C:H5'	42:d:88:LYS:HE2	1.93	0.51
4:3:2478:G:O6	4:3:2489:G:N2	2.43	0.51
4:3:2622:A:O4'	62:y:2:ALA:N	2.43	0.51
4:3:2744:A:H2'	4:3:2745:G:C8	2.46	0.51
5:4:3:U:OP1	5:4:59:A:O2'	2.29	0.51
5:4:76:A:C6	5:4:77:G:C6	2.99	0.51
6:5:1065:G:H2'	6:5:1066:U:C6	2.45	0.51
6:5:1230:G:N7	6:5:1254:A:N6	2.59	0.51
7:6:73:MET:HE3	7:6:143:PHE:CD2	2.46	0.51
9:8:179:HIS:CD2	9:8:293:GLY:HA2	2.46	0.51
9:8:576:PHE:CE2	9:8:890:TYR:CD2	2.99	0.51
10:9:374:CYS:HB2	10:9:459:VAL:HG13	1.92	0.51
10:9:956:ARG:HG2	7:AB:327:SER:C	2.35	0.51
10:9:1305:GLU:OE1	38:Z:542:LEU:HG	2.11	0.51
10:9:1370:ILE:CG2	38:Z:94:ILE:CG2	2.89	0.51
11:A:133:LEU:HB3	11:A:156:ILE:HD11	1.92	0.51
7:AB:269:GLU:HG3	7:AB:278:PHE:HE2	1.76	0.51
13:AC:139:PHE:CG	13:AC:147:ILE:HD12	2.46	0.51
24:I:28:THR:HG22	24:I:78:ARG:HG2	1.93	0.51
27:L:54:VAL:O	27:L:58:ASN:N	2.41	0.51
41:c:116:TRP:CZ2	41:c:186:VAL:HG21	2.46	0.51
52:o:92:ARG:HB3	52:o:115:LYS:HD2	1.93	0.51
4:3:49:C:O2'	4:3:54:A:O2'	2.26	0.51
4:3:192:U:H5''	59:v:14:TYR:CD1	2.46	0.51
4:3:522:C:H2'	4:3:523:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:606:G:O6	4:3:2036:G:O2'	2.24	0.51
4:3:966:U:H2'	4:3:967:U:C6	2.46	0.51
4:3:1081:A:C8	36:U:7:LYS:CD	2.89	0.51
4:3:1164:A:O2'	4:3:2523:C:O2'	2.19	0.51
4:3:2097:A:N6	4:3:2238:G:O6	2.44	0.51
4:3:2332:U:N3	4:3:2339:G:N1	2.45	0.51
6:5:500:G:H2'	6:5:501:A:C8	2.46	0.51
6:5:1331:A:H61	6:5:1340:G:H1	0.64	0.51
10:9:219:GLU:CG	14:AD:21:DC:N4	2.67	0.51
10:9:774:ASP:O	38:Z:867:TYR:HE2	1.94	0.51
19:D:167:ARG:HA	19:D:170:ILE:HG22	1.93	0.51
38:Z:167:ASP:O	38:Z:173:SER:HA	2.11	0.51
38:Z:1043:LEU:HD21	38:Z:1122:GLY:HA2	1.93	0.51
51:n:8:ARG:NH1	51:n:9:ARG:HE	2.09	0.51
52:o:48:PHE:HE2	52:o:66:VAL:HG13	1.74	0.51
4:3:148:U:H2'	4:3:149:A:C8	2.46	0.50
4:3:1073:A:H2'	4:3:1074:A:C8	2.46	0.50
4:3:1290:G:H2'	4:3:1291:C:C6	2.46	0.50
4:3:2235:A:H5''	39:a:271:LYS:HE3	1.93	0.50
4:3:2561:G:N2	4:3:2591:G:H21	2.09	0.50
4:3:2845:U:H2'	4:3:2846:A:H8	1.75	0.50
6:5:318:C:H2'	6:5:319:U:C6	2.46	0.50
6:5:510:U:H2'	6:5:511:A:C8	2.46	0.50
6:5:603:U:O2	6:5:630:G:N2	2.37	0.50
6:5:1156:G:H1'	6:5:1157:G:C4	2.46	0.50
10:9:1347:GLN:OE1	38:Z:100:MET:HE2	2.08	0.50
11:A:88:LYS:HB2	11:A:92:VAL:HG12	1.93	0.50
7:AB:35:VAL:CG1	7:AB:195:VAL:HG22	2.40	0.50
14:AD:17:DT:H5''	16:AF:118:THR:CG2	2.09	0.50
21:F:63:ARG:NE	21:F:127:SER:O	2.44	0.50
34:S:53:ARG:HA	34:S:56:ARG:NH2	2.25	0.50
38:Z:1118:LYS:HE2	38:Z:1124:ILE:HG13	1.93	0.50
40:b:63:ASN:HB3	40:b:66:GLN:OE1	2.11	0.50
46:i:101:ASP:HB2	46:i:127:VAL:HG13	1.94	0.50
55:r:9:ARG:H	55:r:102:ASN:HA	1.76	0.50
63:z:5:ARG:HB2	63:z:22:PHE:HB3	1.93	0.50
4:3:192:U:O2	4:3:212:G:N2	2.36	0.50
4:3:385:U:H2'	4:3:386:U:C6	2.47	0.50
4:3:673:A:OP1	48:k:117:HIS:HB2	2.11	0.50
4:3:1224:G:H2'	4:3:1225:A:C8	2.47	0.50
4:3:2312:G:H1	4:3:2320:U:H3	1.57	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:58:G:H2'	6:5:59:C:C6	2.46	0.50
6:5:441:U:H2'	6:5:442:G:C8	2.46	0.50
6:5:590:G:H2'	6:5:591:A:H8	1.77	0.50
6:5:650:A:N6	22:G:66:THR:O	2.44	0.50
6:5:1497:U:OP1	25:J:121:ARG:NH2	2.29	0.50
9:8:647:MET:HE1	9:8:833:LEU:HD13	1.91	0.50
10:9:162:TYR:HA	10:9:522:ASP:OD2	2.12	0.50
10:9:1018:ASP:O	10:9:1049:GLN:HG2	2.11	0.50
10:9:1262:ARG:HD2	10:9:1281:ASN:O	2.12	0.50
7:AB:111:LEU:HD21	7:AB:156:TYR:CE1	2.46	0.50
7:AB:269:GLU:HG3	7:AB:278:PHE:CE2	2.47	0.50
13:AC:55:ILE:HG12	13:AC:62:MET:HG3	1.92	0.50
4:3:14:U:O4	4:3:2634:C:O2'	2.30	0.50
4:3:130:C:H2'	4:3:131:C:C6	2.47	0.50
4:3:725:G:H4'	39:a:225:ARG:HH22	1.77	0.50
4:3:1260:U:O2'	55:r:132:GLN:OE1	2.26	0.50
4:3:1691:U:H2'	4:3:1692:A:C8	2.47	0.50
4:3:1834:U:H2'	4:3:1835:G:O4'	2.12	0.50
6:5:57:U:N3	6:5:58:G:O6	2.44	0.50
6:5:283:U:H2'	6:5:284:A:C8	2.47	0.50
6:5:435:U:O2'	6:5:437:U:O4	2.29	0.50
6:5:506:U:O2	6:5:507:A:N6	2.45	0.50
6:5:937:G:H1	6:5:1315:U:H3	1.60	0.50
6:5:1175:C:OP1	6:5:1176:A:O2'	2.24	0.50
10:9:1003:VAL:CG1	13:AC:116:ILE:CD1	2.89	0.50
11:A:181:PRO:HB3	11:A:188:VAL:HG11	1.92	0.50
15:AE:23:DC:C6	38:Z:380:LYS:HB2	2.40	0.50
38:Z:33:GLU:HG3	38:Z:99:ARG:HE	1.76	0.50
4:3:325:G:H1	4:3:383:U:H3	1.58	0.50
4:3:609:U:H2'	4:3:610:G:C8	2.47	0.50
4:3:904:C:H42	4:3:949:C:H1'	1.76	0.50
4:3:1104:A:H5''	4:3:1105:A:C8	2.47	0.50
4:3:1176:U:H4'	4:3:1177:A:O4'	2.12	0.50
4:3:1187:C:C5'	53:p:79:ILE:HG21	2.41	0.50
4:3:1820:U:O2'	4:3:1821:G:OP1	2.25	0.50
4:3:2017:G:H2'	4:3:2018:U:C6	2.46	0.50
4:3:2061:A:N6	4:3:2585:A:H61	1.93	0.50
4:3:2072:C:H2'	4:3:2073:C:H6	1.76	0.50
4:3:2093:U:H2'	4:3:2094:A:H8	1.73	0.50
4:3:2144:C:H2'	4:3:2145:A:C8	2.44	0.50
4:3:2297:G:N2	4:3:2354:A:OP1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2843:G:H2'	4:3:2844:U:C6	2.47	0.50
6:5:671:G:H2'	6:5:672:A:H8	1.77	0.50
6:5:830:U:H3	6:5:847:G:H1	1.59	0.50
6:5:1096:A:H2'	6:5:1097:G:H8	1.77	0.50
6:5:1147:U:H2'	6:5:1148:U:C6	2.47	0.50
6:5:1222:U:H2'	6:5:1223:A:C8	2.46	0.50
10:9:381:ARG:HH22	10:9:551:GLU:CD	2.20	0.50
10:9:648:VAL:HG12	38:Z:872:TYR:CE1	2.46	0.50
11:A:89:ASN:OD1	11:A:90:ASP:N	2.40	0.50
7:AB:170:ARG:HH22	38:Z:679:ARG:HH12	1.59	0.50
16:AF:137:ASP:OD2	38:Z:349:PRO:CG	2.60	0.50
28:M:3:LYS:HG3	28:M:4:LYS:HD3	1.93	0.50
60:w:55:LEU:O	60:w:59:THR:HG23	2.11	0.50
4:3:590:U:H2'	4:3:591:G:H8	1.77	0.50
4:3:1196:U:H2'	4:3:1197:G:C8	2.47	0.50
4:3:1609:U:H2'	4:3:1610:U:C6	2.47	0.50
4:3:2494:C:H2'	4:3:2495:A:C8	2.47	0.50
4:3:2602:C:N4	4:3:2603:G:O6	2.44	0.50
4:3:2743:U:H2'	4:3:2744:A:H8	1.77	0.50
6:5:441:U:H2'	6:5:442:G:H8	1.76	0.50
6:5:631:C:H2'	6:5:632:A:C8	2.46	0.50
6:5:1219:C:H2'	6:5:1220:A:H8	1.76	0.50
7:6:31:GLU:OE1	7:AB:161:ARG:NH2	2.43	0.50
7:6:34:PHE:CE2	7:AB:49:CYS:SG	3.03	0.50
15:AE:14:DG:C5'	38:Z:890:TYR:CB	2.67	0.50
19:D:181:LYS:NZ	19:D:182:ASN:O	2.40	0.50
39:a:213:ILE:HD13	39:a:222:ARG:HH12	1.77	0.50
42:d:14:LYS:HB2	42:d:18:LYS:HZ3	1.77	0.50
52:o:54:ARG:HG3	52:o:100:TYR:CE1	2.45	0.50
4:3:663:A:N3	4:3:672:G:N2	2.59	0.50
4:3:918:G:H22	4:3:932:U:HO2'	1.53	0.50
4:3:1416:G:H2'	4:3:1417:G:H8	1.77	0.50
4:3:2213:A:H2'	4:3:2214:A:C8	2.47	0.50
4:3:2301:C:H2'	4:3:2302:C:C6	2.46	0.50
4:3:2352:U:H2'	63:z:34:LEU:HD22	1.92	0.50
4:3:2799:U:N3	4:3:2810:A:N6	2.60	0.50
6:5:442:G:H2'	6:5:443:G:C8	2.47	0.50
10:9:101:GLU:HG2	10:9:110:ILE:HG23	1.93	0.50
10:9:618:PRO:HA	10:9:814:LEU:CD1	2.39	0.50
11:A:29:HIS:CD2	11:A:56:PHE:HB2	2.45	0.50
7:AB:271:LEU:HD22	7:AB:321:LEU:HD11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AE:10:DG:H5''	38:Z:118:LEU:CB	2.42	0.50
15:AE:14:DG:N2	38:Z:497:PRO:HG3	2.26	0.50
25:J:119:ARG:HB2	35:T:34:TYR:HB2	1.93	0.50
30:O:14:VAL:HA	30:O:30:ILE:HD13	1.93	0.50
41:c:145:GLN:NE2	41:c:145:GLN:O	2.45	0.50
55:r:124:LEU:O	55:r:128:ARG:HG3	2.12	0.50
3:2:15:LYS:NZ	3:2:16:ILE:O	2.37	0.50
4:3:866:G:O2'	48:k:39:GLN:OE1	2.22	0.50
4:3:1222:A:H2'	4:3:1223:C:C6	2.47	0.50
4:3:1306:G:H2'	4:3:1307:G:C8	2.46	0.50
4:3:1838:A:H2'	4:3:1839:C:C6	2.46	0.50
4:3:2405:G:N2	4:3:2427:U:O2	2.36	0.50
6:5:649:U:H1'	6:5:650:A:C8	2.47	0.50
6:5:654:U:O2'	29:N:25:GLN:NE2	2.43	0.50
6:5:882:U:H3'	6:5:883:A:H8	1.76	0.50
7:6:49:CYS:SG	7:AB:34:PHE:HE2	2.34	0.50
8:7:36:A:H2'	8:7:37:A:C8	2.47	0.50
10:9:567:GLY:HA2	16:AF:31:LYS:HE2	1.92	0.50
12:AA:53:TYR:CE1	12:AA:57:LEU:CD1	2.95	0.50
7:AB:85:LYS:NZ	38:Z:602:GLU:OE1	2.37	0.50
13:AC:157:ASN:O	38:Z:76:ILE:HD11	1.89	0.50
26:K:94:LEU:HD22	26:K:111:VAL:HB	1.94	0.50
29:N:20:GLY:HA2	29:N:25:GLN:HE22	1.77	0.50
37:X:23:ALA:CB	37:Y:6:ILE:HD11	2.35	0.50
38:Z:113:TRP:CD1	38:Z:1238:LYS:HE3	2.47	0.50
38:Z:427:VAL:HG21	38:Z:493:LEU:CD1	2.32	0.50
40:b:30:TYR:OH	40:b:32:GLU:OE2	2.23	0.50
55:r:49:LYS:HA	55:r:52:ASN:HD21	1.75	0.50
4:3:482:G:H5'	53:p:2:ARG:NH2	2.27	0.50
4:3:655:G:H3'	4:3:656:G:H21	1.77	0.50
4:3:1461:A:H2'	4:3:1462:A:C8	2.47	0.50
4:3:2412:A:O3'	48:k:69:ARG:NH2	2.45	0.50
4:3:2635:G:O2'	4:3:2789:A:N1	2.36	0.50
4:3:2794:U:H2'	4:3:2795:C:C6	2.47	0.50
4:3:2849:G:H2'	4:3:2850:G:C8	2.47	0.50
5:4:31:G:N2	5:4:34:U:O4	2.45	0.50
6:5:319:U:O3'	34:S:17:ARG:NH2	2.44	0.50
6:5:704:U:H2'	6:5:705:A:H8	1.77	0.50
6:5:1303:A:OP1	27:L:27:LEU:N	2.29	0.50
10:9:37:GLN:HG3	10:9:150:PHE:CZ	2.46	0.50
10:9:1342:LEU:N	38:Z:398:LEU:HD21	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:1344:LYS:CB	38:Z:309:ILE:CD1	2.87	0.50
7:AB:173:ILE:HD12	7:AB:180:ALA:HB2	1.92	0.50
15:AE:17:DT:C5'	38:Z:413:ARG:NH1	2.72	0.50
32:Q:58:GLU:O	32:Q:62:ARG:HG3	2.12	0.50
39:a:56:ARG:NH1	39:a:228:VAL:O	2.45	0.50
57:t:9:LYS:HB2	57:t:79:GLN:HE21	1.77	0.50
63:z:32:LEU:HD21	63:z:34:LEU:HD12	1.94	0.50
4:3:322:A:H2'	4:3:323:A:C8	2.47	0.50
4:3:352:C:H2'	4:3:353:G:C8	2.46	0.50
4:3:859:G:H21	4:3:2366:A:N6	2.09	0.50
4:3:984:C:H2'	4:3:985:A:H8	1.76	0.50
4:3:1028:C:H2'	4:3:1029:A:H8	1.77	0.50
4:3:1437:A:H2'	4:3:1438:G:C8	2.47	0.50
4:3:1451:A:H2'	4:3:1452:G:H8	1.76	0.50
4:3:1511:C:H42	4:3:1512:A:N6	2.10	0.50
4:3:1730:C:H4'	39:a:11:ASN:OD1	2.12	0.50
4:3:1934:A:H2'	4:3:1935:A:C8	2.47	0.50
4:3:2100:G:N7	4:3:2233:A:H2'	2.26	0.50
4:3:2268:C:H2'	4:3:2269:C:C6	2.47	0.50
4:3:2331:G:O2'	4:3:2332:U:H5'	2.11	0.50
6:5:91:C:H2'	6:5:92:G:C8	2.47	0.50
6:5:385:A:H3'	6:5:386:U:C6	2.46	0.50
6:5:714:C:H4'	25:J:112:ASN:OD1	2.12	0.50
6:5:843:C:H2'	6:5:844:U:H6	1.77	0.50
6:5:1051:U:H2'	6:5:1052:G:C8	2.47	0.50
6:5:1353:C:H5''	21:F:5:ARG:HH12	1.77	0.50
7:6:163:PHE:CB	10:9:917:LYS:HE2	2.41	0.50
9:8:540:LEU:HD23	9:8:669:PHE:CZ	2.47	0.50
10:9:770:PHE:HB3	10:9:773:ASN:HD22	1.75	0.50
10:9:1291:VAL:HG21	38:Z:405:GLY:HA2	1.94	0.50
10:9:1297:TYR:CD1	38:Z:554:LEU:HD23	2.47	0.50
10:9:1349:LEU:HD22	38:Z:368:PHE:HB3	1.94	0.50
18:C:72:ARG:HH12	18:C:202:ARG:HH21	1.59	0.50
21:F:132:ALA:O	21:F:135:LYS:NZ	2.45	0.50
25:J:119:ARG:HH12	35:T:36:LEU:HD13	1.76	0.50
38:Z:742:TYR:CE1	38:Z:745:LYS:HB3	2.45	0.50
38:Z:835:PHE:HB2	38:Z:837:TYR:CZ	2.47	0.50
39:a:252:ASP:N	39:a:252:ASP:OD1	2.44	0.50
47:j:43:VAL:HG13	47:j:54:LYS:HA	1.94	0.50
48:k:13:ARG:HD2	48:k:13:ARG:O	2.12	0.50
4:3:133:G:H2'	4:3:134:U:H6	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:200:A:H61	4:3:866:G:H21	1.60	0.49
4:3:694:U:H2'	4:3:695:G:H8	1.77	0.49
4:3:769:A:H3'	4:3:770:A:H8	1.76	0.49
4:3:931:G:H2'	4:3:932:U:H4'	1.94	0.49
4:3:945:U:OP1	49:l:22:LYS:HG3	2.12	0.49
4:3:1009:A:H5'	4:3:1219:U:H1'	1.94	0.49
4:3:1119:A:C2	36:U:29:TYR:OH	2.64	0.49
4:3:1959:A:N3	47:j:22:ILE:HD11	2.27	0.49
4:3:2477:A:H2'	4:3:2478:G:O4'	2.12	0.49
6:5:318:C:H2'	6:5:319:U:H6	1.76	0.49
6:5:601:U:H2'	6:5:602:G:C8	2.47	0.49
6:5:679:U:H2'	6:5:680:G:H8	1.77	0.49
6:5:1098:C:OP1	17:B:176:MET:N	2.39	0.49
8:7:76:C:H3'	8:7:77:A:H8	1.77	0.49
10:9:90:LYS:HZ2	10:9:1034:GLU:HB3	1.76	0.49
10:9:661:THR:HG21	38:Z:875:ARG:CZ	2.42	0.49
10:9:913:GLU:CD	10:9:917:LYS:HE3	2.36	0.49
10:9:933:CYS:SG	10:9:941:GLU:O	2.70	0.49
13:AC:291:ASN:HB3	13:AC:296:LYS:HG2	1.93	0.49
16:AF:108:TRP:CZ3	16:AF:120:ILE:HD12	2.47	0.49
38:Z:595:ILE:HD12	38:Z:612:VAL:HG22	1.93	0.49
2:1:26:THR:HG22	2:1:41:LEU:HD22	1.94	0.49
4:3:199:A:H61	4:3:202:C:H3'	1.76	0.49
4:3:343:A:H1'	4:3:363:G:C2	2.47	0.49
4:3:572:G:N2	4:3:590:U:O4	2.45	0.49
4:3:815:G:O2'	4:3:817:A:N7	2.45	0.49
4:3:1246:U:H2'	4:3:1247:C:C6	2.48	0.49
4:3:1784:U:H2'	4:3:1785:U:H6	1.77	0.49
4:3:2575:G:H2'	4:3:2576:A:C8	2.47	0.49
6:5:85:U:O2	6:5:86:A:N6	2.42	0.49
6:5:442:G:H2'	6:5:443:G:H8	1.77	0.49
6:5:1052:G:O6	6:5:1172:A:N6	2.45	0.49
9:8:369:HIS:NE2	9:8:396:ARG:CZ	2.75	0.49
9:8:835:PHE:CE1	9:8:920:VAL:HG21	2.47	0.49
10:9:709:GLU:HG3	10:9:714:ILE:HD11	1.94	0.49
12:AA:64:TYR:CZ	38:Z:1210:ILE:CD1	2.95	0.49
13:AC:290:TRP:CD1	13:AC:293:ASP:N	2.81	0.49
21:F:35:LYS:O	21:F:38:ALA:N	2.45	0.49
40:b:185:ASP:HB3	40:b:190:LEU:H	1.76	0.49
47:j:50:GLY:O	47:j:53:LYS:NZ	2.41	0.49
49:l:24:ASN:OD1	49:l:67:ARG:NH1	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:m:102:LYS:HG2	62:y:48:TYR:HE1	1.77	0.49
51:n:8:ARG:HH12	51:n:9:ARG:HE	1.60	0.49
52:o:67:ARG:NH1	52:o:76:GLU:OE1	2.45	0.49
54:q:68:VAL:H	54:q:86:ARG:HH11	1.59	0.49
4:3:410:G:O5'	59:v:60:LYS:NZ	2.36	0.49
4:3:772:C:N4	4:3:773:G:O6	2.45	0.49
4:3:1176:U:O2	4:3:1177:A:N6	2.45	0.49
4:3:1710:A:H2'	4:3:1711:A:O4'	2.13	0.49
6:5:818:A:H2'	6:5:819:G:C8	2.46	0.49
6:5:1408:A:N7	6:5:1443:A:N6	2.60	0.49
8:7:38:G:H3'	8:7:39:A:H8	1.76	0.49
10:9:614:ASP:HA	10:9:854:GLN:NE2	2.27	0.49
10:9:636:ILE:CD1	10:9:645:ILE:HG21	2.42	0.49
10:9:1352:SER:HG	38:Z:31:TRP:HZ2	0.53	0.49
16:AF:74:TRP:CZ2	16:AF:84:LYS:HD2	2.46	0.49
17:B:13:GLY:O	28:M:57:LYS:NZ	2.46	0.49
18:C:145:LYS:HG2	18:C:147:LYS:H	1.76	0.49
25:J:53:PRO:HB2	25:J:88:THR:HG21	1.94	0.49
38:Z:47:LEU:HD21	38:Z:320:PHE:CZ	2.47	0.49
41:c:4:LEU:HB3	41:c:20:LEU:HD21	1.93	0.49
48:k:94:ASN:HD21	48:k:96:ALA:HB3	1.77	0.49
54:q:57:CYS:HA	54:q:94:VAL:HA	1.93	0.49
55:r:12:ILE:HD11	55:r:46:LEU:HD13	1.93	0.49
4:3:485:A:H1'	53:p:2:ARG:HH12	1.76	0.49
4:3:511:U:H4'	4:3:545:C:H5''	1.94	0.49
4:3:986:G:H2'	4:3:987:U:H6	1.77	0.49
4:3:987:U:H2'	4:3:988:G:C8	2.47	0.49
4:3:1081:A:H61	36:U:7:LYS:C	2.00	0.49
4:3:1436:C:H2'	4:3:1437:A:C8	2.48	0.49
4:3:2100:G:H2'	4:3:2101:A:H8	1.78	0.49
4:3:2378:G:H2'	4:3:2379:G:C8	2.47	0.49
6:5:357:G:H2'	6:5:358:G:O4'	2.13	0.49
8:7:12:C:N4	8:7:25:G:O6	2.43	0.49
10:9:166:LYS:HE3	10:9:178:VAL:HG11	1.94	0.49
10:9:1342:LEU:H	38:Z:398:LEU:HD21	1.77	0.49
13:AC:290:TRP:NE1	13:AC:296:LYS:HD2	2.27	0.49
26:K:40:SER:OG	26:K:42:LEU:O	2.30	0.49
28:M:23:ARG:O	28:M:25:GLN:NE2	2.45	0.49
38:Z:192:ILE:HA	38:Z:200:TYR:CE2	2.48	0.49
38:Z:310:ARG:HD2	38:Z:326:ASN:OD1	2.12	0.49
63:z:8:ARG:HD3	63:z:17:ILE:HD12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:155:A:C6	4:3:178:A:N1	2.80	0.49
4:3:768:G:H3'	4:3:796:A:H61	1.78	0.49
4:3:1378:C:N4	4:3:1379:C:N4	2.60	0.49
4:3:2118:U:C2	4:3:2125:U:H4'	2.47	0.49
4:3:2694:A:H2'	4:3:2695:U:C6	2.47	0.49
6:5:141:A:H2'	6:5:142:G:H8	1.77	0.49
6:5:249:U:H3	6:5:269:A:N6	2.08	0.49
6:5:823:C:O2'	22:G:21:LYS:NZ	2.30	0.49
6:5:977:U:H5'	6:5:978:A:C8	2.48	0.49
6:5:1197:G:OP1	6:5:1295:U:O2'	2.26	0.49
8:7:70:G:H2'	8:7:71:A:C8	2.47	0.49
9:8:831:PHE:CZ	9:8:913:VAL:HG21	2.47	0.49
10:9:171:LEU:HD12	10:9:195:LEU:HD12	1.94	0.49
10:9:1344:LYS:HB2	38:Z:309:ILE:HD13	1.95	0.49
15:AE:14:DG:O4'	38:Z:889:GLY:HA3	2.11	0.49
28:M:24:CYS:HB2	28:M:40:CYS:H	1.77	0.49
53:p:79:ILE:HD11	53:p:83:LYS:HZ2	1.77	0.49
4:3:1292:A:N6	4:3:2024:C:H42	2.10	0.49
4:3:1393:A:O3'	59:v:4:LYS:NZ	2.46	0.49
4:3:1833:G:H2'	4:3:1834:U:C6	2.47	0.49
4:3:2599:C:H2'	4:3:2600:G:C8	2.47	0.49
5:4:27:A:O2'	5:4:56:A:N1	2.41	0.49
6:5:259:A:C8	6:5:260:C:H5	2.29	0.49
6:5:293:G:N2	6:5:295:G:OP1	2.46	0.49
6:5:308:C:H2'	6:5:309:A:C8	2.47	0.49
6:5:939:G:N2	6:5:1312:G:H3'	2.28	0.49
6:5:966:A:HO2'	6:5:1340:G:HO2'	1.55	0.49
6:5:1138:U:H2'	6:5:1139:A:C8	2.48	0.49
6:5:1183:C:H2'	6:5:1184:C:H6	1.78	0.49
6:5:1323:A:H3'	6:5:1324:A:H8	1.78	0.49
6:5:1377:C:H2'	6:5:1378:C:O4'	2.13	0.49
10:9:1352:SER:HB2	38:Z:31:TRP:HH2	1.40	0.49
11:A:38:ASN:OD1	11:A:40:LYS:HG2	2.13	0.49
20:E:101:ASN:C	20:E:103:LYS:H	2.20	0.49
35:T:22:SER:HA	35:T:25:ILE:HG12	1.95	0.49
35:T:27:ARG:O	35:T:31:ARG:NH1	2.46	0.49
39:a:112:PRO:HD2	39:a:115:ILE:HD13	1.93	0.49
39:a:113:ASP:OD1	39:a:114:GLY:N	2.46	0.49
41:c:127:LEU:HD21	41:c:201:LYS:HB3	1.95	0.49
53:p:73:MET:HE1	53:p:78:PHE:HB2	1.94	0.49
4:3:202:C:O2'	4:3:203:A:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1080:A:H5''	4:3:1082:A:O4'	2.12	0.49
4:3:1282:G:H21	53:p:32:LYS:HA	1.77	0.49
4:3:1389:G:H2'	4:3:1390:C:H6	1.77	0.49
4:3:1982:G:H2'	4:3:1983:U:O4'	2.13	0.49
4:3:2039:G:H1'	40:b:154:ALA:H	1.76	0.49
6:5:885:U:H2'	6:5:886:A:C8	2.48	0.49
6:5:1135:U:O4'	6:5:1157:G:N2	2.46	0.49
6:5:1213:A:OP1	6:5:1310:C:N4	2.45	0.49
6:5:1316:C:H4'	23:H:129:PHE:HB3	1.93	0.49
6:5:1425:A:H2'	6:5:1427:U:H3	1.78	0.49
7:6:35:VAL:HG21	7:6:207:ASP:HB3	1.95	0.49
10:9:634:GLY:CA	14:AD:24:DT:C7	2.69	0.49
20:E:13:LEU:HD12	20:E:17:GLN:HE22	1.77	0.49
36:U:22:ALA:HB3	36:U:86:VAL:O	2.12	0.49
38:Z:821:PHE:HB3	38:Z:825:PHE:CZ	2.48	0.49
46:i:72:LYS:HA	46:i:92:GLY:HA3	1.95	0.49
48:k:95:ARG:NH1	48:k:110:LEU:O	2.46	0.49
4:3:15:A:N6	4:3:561:A:OP2	2.37	0.49
4:3:24:U:H2'	4:3:25:G:C8	2.47	0.49
4:3:116:C:H2'	4:3:117:C:H6	1.77	0.49
4:3:474:U:H2'	4:3:475:A:C8	2.47	0.49
4:3:606:G:N2	4:3:2038:A:OP1	2.40	0.49
4:3:1190:A:O3'	53:p:54:ARG:NH2	2.42	0.49
4:3:1389:G:H2'	4:3:1390:C:C6	2.47	0.49
4:3:2078:A:H2'	4:3:2079:G:C8	2.48	0.49
4:3:2123:A:N7	4:3:2169:G:O2'	2.46	0.49
4:3:2561:G:H21	4:3:2590:G:H21	1.61	0.49
4:3:2580:A:H5''	4:3:2582:G:H4'	1.94	0.49
6:5:673:A:H2'	6:5:674:U:H6	1.77	0.49
6:5:885:U:C2	6:5:901:A:N7	2.80	0.49
6:5:1123:G:OP1	23:H:20:TYR:OH	2.29	0.49
6:5:1214:A:H62	6:5:1273:A:N6	2.10	0.49
7:6:276:ARG:CD	13:AC:323:GLU:OE1	2.61	0.49
10:9:161:ILE:HG13	10:9:393:VAL:HG22	1.95	0.49
10:9:950:VAL:HB	10:9:955:LYS:HE3	1.94	0.49
10:9:1307:LEU:CD2	38:Z:406:LYS:CD	2.90	0.49
13:AC:5:SER:CB	13:AC:61:LEU:HD21	2.40	0.49
16:AF:74:TRP:CZ3	16:AF:84:LYS:HB2	2.48	0.49
19:D:185:ARG:HE	19:D:186:ASN:H	1.61	0.49
22:G:11:HIS:HB3	22:G:17:ASP:OD1	2.12	0.49
25:J:14:ILE:HG23	25:J:77:LEU:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:520:HIS:NE2	38:Z:717:GLU:OE1	2.46	0.49
38:Z:663:GLU:HB3	38:Z:702:LEU:HD11	1.95	0.49
55:r:77:ASN:HB2	55:r:102:ASN:HB2	1.94	0.49
56:s:35:ALA:O	56:s:79:LYS:NZ	2.45	0.49
4:3:81:C:H2'	4:3:82:G:H8	1.77	0.49
4:3:178:A:H2'	4:3:179:A:C8	2.48	0.49
4:3:241:C:H2'	4:3:242:G:C8	2.48	0.49
4:3:2331:G:H22	4:3:2340:U:H2'	1.78	0.49
4:3:2644:U:H2'	4:3:2645:U:C6	2.48	0.49
4:3:2832:G:H2'	4:3:2833:A:C8	2.47	0.49
10:9:65:ARG:HA	10:9:105:SER:OG	2.12	0.49
17:B:8:ASN:OD1	17:B:9:GLY:N	2.44	0.49
17:B:92:ILE:HA	17:B:95:ILE:HG22	1.95	0.49
21:F:21:LEU:O	21:F:25:ILE:HG12	2.13	0.49
38:Z:906:HIS:HD2	38:Z:987:ARG:NH2	2.10	0.49
43:e:94:GLY:HA2	43:e:163:LYS:HE2	1.95	0.49
55:r:86:ILE:HD12	55:r:87:PRO:HD2	1.95	0.49
4:3:53:G:N2	4:3:119:A:H62	2.09	0.49
4:3:352:C:H2'	4:3:353:G:H8	1.78	0.49
4:3:615:G:H2'	4:3:616:G:C8	2.48	0.49
4:3:1116:U:H2'	4:3:1117:U:C6	2.48	0.49
4:3:2301:C:H2'	4:3:2302:C:H6	1.78	0.49
4:3:2840:U:H2'	4:3:2841:A:H8	1.77	0.49
6:5:432:U:H2'	6:5:433:C:H6	1.78	0.49
6:5:483:U:H2'	6:5:484:A:C8	2.47	0.49
6:5:733:A:H2'	6:5:734:A:C8	2.48	0.49
6:5:775:G:H1'	25:J:114:CYS:SG	2.53	0.49
6:5:822:A:H2'	6:5:823:C:C6	2.48	0.49
6:5:1016:A:H2'	6:5:1017:A:C8	2.48	0.49
6:5:1182:C:C4	6:5:1183:C:N4	2.80	0.49
6:5:1297:G:H2'	6:5:1298:U:O4'	2.13	0.49
7:6:107:GLU:H	7:AB:319:HIS:CE1	2.15	0.49
11:A:120:PHE:HA	11:A:123:LEU:HB2	1.93	0.49
14:AD:29:DC:C5'	38:Z:1057:VAL:CG2	2.81	0.49
16:AF:108:TRP:CZ3	16:AF:130:PRO:HG3	2.48	0.49
21:F:110:ARG:HH11	21:F:122:GLU:HG3	1.78	0.49
24:I:78:ARG:HD3	24:I:79:LEU:N	2.27	0.49
24:I:89:ALA:O	24:I:93:LEU:HG	2.12	0.49
26:K:115:LEU:HG	26:K:116:ASP:H	1.77	0.49
26:K:121:GLU:C	26:K:123:ARG:N	2.71	0.49
40:b:109:ASP:HB3	40:b:208:ARG:HE	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:c:164:LEU:HD21	41:c:182:HIS:HD2	1.78	0.49
52:o:54:ARG:NH2	52:o:65:ILE:HG13	2.28	0.49
4:3:329:G:O6	4:3:377:U:O4	2.30	0.48
4:3:853:G:N1	4:3:1219:U:OP2	2.39	0.48
4:3:1201:A:H2'	4:3:1202:A:C8	2.47	0.48
4:3:2063:G:H2'	4:3:2064:G:C8	2.48	0.48
4:3:2094:A:H2'	4:3:2095:A:H8	1.77	0.48
4:3:2324:A:H2'	4:3:2325:U:C6	2.48	0.48
4:3:2406:U:H2'	4:3:2407:G:C8	2.48	0.48
5:4:47:C:P	51:n:101:ARG:HE	2.36	0.48
6:5:223:G:H2'	6:5:224:A:H8	1.77	0.48
6:5:858:A:H2'	6:5:859:A:C8	2.47	0.48
6:5:1156:G:H1'	6:5:1157:G:C5	2.47	0.48
6:5:1214:A:H1'	6:5:1216:G:C5	2.48	0.48
6:5:1348:G:H4'	21:F:30:MET:HE3	1.94	0.48
7:6:105:PRO:HB3	7:AB:320:GLU:C	2.38	0.48
10:9:171:LEU:CD1	10:9:212:LEU:CD2	2.91	0.48
7:AB:86:GLN:CD	38:Z:599:THR:HG21	2.38	0.48
17:B:14:ILE:HG12	17:B:181:LEU:HD21	1.94	0.48
22:G:36:ILE:HA	22:G:69:ILE:HG22	1.94	0.48
23:H:86:VAL:HA	23:H:89:LEU:HG	1.94	0.48
24:I:73:LYS:NZ	24:I:75:ARG:HE	2.11	0.48
35:T:20:ARG:O	35:T:23:LEU:N	2.46	0.48
39:a:20:ILE:HB	39:a:22:TYR:CZ	2.48	0.48
40:b:165:MET:HE3	40:b:166:SER:N	2.28	0.48
41:c:6:LEU:HG	41:c:14:GLU:HG3	1.95	0.48
42:d:29:PRO:HB3	42:d:160:THR:HG23	1.94	0.48
46:i:91:SER:N	46:i:94:ASP:OD2	2.43	0.48
47:j:18:GLN:HB3	47:j:45:ASP:HB2	1.95	0.48
48:k:90:LEU:HD21	48:k:97:SER:HB2	1.94	0.48
50:m:18:VAL:O	50:m:22:VAL:HG13	2.13	0.48
54:q:4:ILE:HB	54:q:39:LEU:O	2.13	0.48
1:0:9:LYS:HG3	1:0:10:LEU:HD22	1.94	0.48
4:3:694:U:H2'	4:3:695:G:C8	2.48	0.48
4:3:849:C:H2'	4:3:850:G:C8	2.42	0.48
4:3:891:G:H2'	4:3:892:G:C8	2.48	0.48
4:3:1504:G:H1	4:3:1539:U:H3	1.60	0.48
4:3:1648:A:OP1	4:3:1651:C:N4	2.45	0.48
4:3:1653:C:N4	4:3:1654:G:O6	2.45	0.48
4:3:1736:G:H2'	4:3:1737:G:H5''	1.94	0.48
4:3:1803:U:H2'	4:3:1804:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2134:G:H2'	4:3:2135:C:C6	2.48	0.48
4:3:2315:G:N2	4:3:2319:A:O2'	2.44	0.48
4:3:2325:U:H2'	4:3:2326:G:O4'	2.13	0.48
5:4:61:A:H2'	5:4:62:G:C8	2.48	0.48
6:5:368:C:N4	6:5:384:G:OP2	2.35	0.48
6:5:905:U:H2'	6:5:906:C:C6	2.48	0.48
6:5:927:C:H42	6:5:1360:G:H1	1.58	0.48
6:5:1402:U:H2'	6:5:1403:A:C8	2.48	0.48
6:5:1425:A:O2'	6:5:1428:A:N6	2.46	0.48
10:9:1305:GLU:CD	38:Z:542:LEU:HD12	2.38	0.48
10:9:1344:LYS:HG2	38:Z:309:ILE:CD1	2.28	0.48
10:9:1349:LEU:C	38:Z:368:PHE:CZ	2.91	0.48
12:AA:57:LEU:CD2	38:Z:1211:ALA:O	2.61	0.48
12:AA:58:GLU:CG	38:Z:1213:ASN:HD21	2.22	0.48
14:AD:19:DT:H2''	14:AD:21:DC:C4'	2.37	0.48
21:F:131:GLY:HA2	21:F:134:ILE:HB	1.94	0.48
38:Z:488:ASP:CA	38:Z:551:ARG:HH21	2.26	0.48
38:Z:490:PRO:HD2	38:Z:547:VAL:HG13	1.95	0.48
39:a:146:GLN:HG3	39:a:169:ARG:HD3	1.94	0.48
47:j:29:ARG:O	47:j:31:ARG:NH1	2.43	0.48
49:l:37:THR:O	49:l:99:GLN:NE2	2.45	0.48
54:q:47:ALA:HB3	54:q:48:PRO:HD3	1.94	0.48
4:3:112:A:O2'	4:3:113:U:O4'	2.26	0.48
4:3:161:U:H2'	4:3:162:G:O4'	2.13	0.48
4:3:189:U:H2'	4:3:190:G:C8	2.49	0.48
4:3:740:A:H2'	4:3:741:A:O4'	2.13	0.48
4:3:2547:C:H2'	4:3:2548:G:C8	2.48	0.48
6:5:285:G:H2'	6:5:286:C:C6	2.48	0.48
6:5:372:G:O2'	6:5:373:A:H5'	2.13	0.48
6:5:833:G:N2	6:5:844:U:O2	2.30	0.48
6:5:1013:C:H2'	6:5:1014:A:N9	2.28	0.48
6:5:1216:G:H2'	6:5:1217:G:H8	1.78	0.48
6:5:1255:A:H3'	6:5:1256:U:H6	1.77	0.48
6:5:1321:G:C8	23:H:111:ARG:HG2	2.49	0.48
7:6:1:MET:HG3	7:AB:51:PRO:HG3	1.96	0.48
7:6:231:ILE:HG22	7:AB:34:PHE:HZ	1.78	0.48
7:6:318:VAL:HG12	7:6:323:LEU:O	2.13	0.48
10:9:211:ILE:HD13	10:9:229:LEU:CD2	2.44	0.48
10:9:475:VAL:HG13	10:9:516:SER:HB3	1.95	0.48
20:E:14:SER:H	20:E:17:GLN:HE21	1.59	0.48
20:E:17:GLN:O	20:E:20:GLN:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:V:8:SER:OG	37:V:12:MET:HE3	2.12	0.48
40:b:33:PRO:HG3	40:b:97:THR:HG22	1.95	0.48
41:c:201:LYS:HA	41:c:204:LEU:HG	1.94	0.48
4:3:224:G:H1	4:3:463:U:H3'	1.78	0.48
4:3:530:G:H5''	55:r:4:PHE:CE2	2.48	0.48
4:3:650:G:H1	41:c:185:LYS:HD2	1.78	0.48
4:3:2000:U:H5''	40:b:133:LEU:HD12	1.96	0.48
4:3:2001:C:H2'	4:3:2002:U:C6	2.48	0.48
4:3:2527:U:O2'	4:3:2529:C:OP2	2.30	0.48
4:3:2843:G:O6	4:3:2881:A:N6	2.47	0.48
6:5:34:A:H4'	6:5:360:A:N3	2.28	0.48
6:5:317:A:H2	6:5:328:G:H1	1.57	0.48
6:5:405:C:H2'	6:5:406:G:O4'	2.14	0.48
6:5:1088:C:OP1	11:A:158:ARG:NH1	2.46	0.48
6:5:1376:G:H2'	6:5:1377:C:C6	2.48	0.48
6:5:1493:A:H2'	6:5:1494:A:C4	2.49	0.48
7:6:175:SER:OG	7:6:178:ILE:HD12	2.14	0.48
10:9:997:ALA:HB3	13:AC:8:PHE:CE1	2.45	0.48
10:9:1213:ASP:OD1	10:9:1219:PRO:HD2	2.13	0.48
10:9:1289:MET:CG	15:AE:15:DA:C4'	2.54	0.48
10:9:1371:LEU:CB	38:Z:95:VAL:CG1	2.91	0.48
15:AE:11:DT:H2'	15:AE:12:DC:C6	2.49	0.48
15:AE:14:DG:N7	38:Z:886:ALA:CA	2.71	0.48
26:K:86:ASN:HD22	26:K:118:VAL:N	2.10	0.48
33:R:22:MET:HG3	33:R:27:LYS:HD2	1.94	0.48
40:b:11:VAL:HG23	40:b:28:VAL:HG23	1.94	0.48
42:d:57:LEU:HD23	42:d:65:PRO:HB3	1.96	0.48
46:i:109:LYS:HB3	46:i:122:ILE:HD12	1.95	0.48
55:r:133:GLN:HB3	55:r:137:MET:HE1	1.95	0.48
56:s:4:THR:HG21	56:s:47:VAL:HB	1.96	0.48
56:s:8:LEU:HG	56:s:9:LYS:HG3	1.95	0.48
60:w:30:ARG:HH22	60:w:44:ILE:HG12	1.78	0.48
4:3:404:C:H2'	4:3:405:C:C6	2.48	0.48
4:3:568:G:H2'	4:3:569:U:C6	2.49	0.48
4:3:669:A:N3	4:3:2411:C:H4'	2.29	0.48
4:3:845:U:C5	48:k:30:LYS:HD3	2.49	0.48
4:3:1005:G:H2'	4:3:1006:U:C6	2.49	0.48
4:3:1182:U:H2'	4:3:1183:A:C8	2.48	0.48
4:3:1545:A:H2'	4:3:1546:U:C6	2.49	0.48
4:3:1797:C:H5'	39:a:226:PRO:HB3	1.94	0.48
4:3:2495:A:H2'	4:3:2496:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1146:A:H2'	6:5:1147:U:C6	2.49	0.48
7:6:129:CYS:SG	7:6:135:VAL:HG23	2.53	0.48
7:6:274:THR:HG23	7:6:313:GLU:OE1	2.14	0.48
10:9:169:LEU:HD11	10:9:187:LEU:HD12	1.95	0.48
10:9:673:LEU:CD2	10:9:677:ALA:HB3	2.42	0.48
15:AE:13:DA:P	38:Z:890:TYR:HH	2.35	0.48
17:B:59:GLU:HG3	24:I:100:VAL:HG22	1.94	0.48
19:D:111:VAL:O	19:D:115:ILE:HG12	2.12	0.48
24:I:18:SER:HB2	24:I:102:VAL:HG12	1.94	0.48
29:N:26:VAL:O	29:N:30:THR:HG23	2.14	0.48
38:Z:312:ILE:HG12	38:Z:322:THR:HG22	1.94	0.48
39:a:125:GLU:HG3	39:a:137:PRO:HG2	1.95	0.48
39:a:183:GLN:NE2	39:a:188:GLU:O	2.46	0.48
40:b:139:TYR:CD2	40:b:140:PRO:HD3	2.49	0.48
47:j:6:THR:H	47:j:21:ILE:HG22	1.77	0.48
56:s:3:VAL:HG13	56:s:5:ASN:H	1.77	0.48
4:3:173:C:H2'	4:3:174:A:C8	2.48	0.48
4:3:638:A:C6	4:3:661:G:N1	2.82	0.48
4:3:650:G:O6	41:c:185:LYS:NZ	2.45	0.48
4:3:696:U:H2'	4:3:697:U:C6	2.48	0.48
4:3:720:A:H5''	4:3:809:A:H62	1.78	0.48
4:3:762:A:H2'	4:3:763:G:C8	2.48	0.48
4:3:1227:C:H2'	4:3:1228:G:H8	1.77	0.48
4:3:2267:G:H2'	4:3:2268:C:C6	2.49	0.48
6:5:560:U:OP1	6:5:564:G:N2	2.47	0.48
6:5:912:G:H2'	6:5:913:A:C8	2.47	0.48
7:6:44:ARG:NH1	10:9:1077:ASP:OD1	2.46	0.48
10:9:717:ILE:HG22	10:9:754:ASP:HB2	1.96	0.48
10:9:773:ASN:OD1	38:Z:861:GLY:N	2.47	0.48
13:AC:183:LYS:NZ	13:AC:245:GLY:C	2.68	0.48
16:AF:9:GLN:OE1	16:AF:132:PRO:HG3	2.13	0.48
18:C:168:GLU:CG	38:Z:30:ASN:CG	2.86	0.48
21:F:38:ALA:O	21:F:42:LEU:HD23	2.14	0.48
21:F:119:ILE:HA	21:F:122:GLU:OE1	2.12	0.48
36:U:141:SER:O	36:U:148:ARG:NH2	2.46	0.48
39:a:183:GLN:OE1	39:a:189:THR:OG1	2.31	0.48
59:v:34:GLN:NE2	59:v:55:LEU:HD11	2.27	0.48
4:3:337:U:H2'	4:3:338:G:C8	2.49	0.48
4:3:511:U:H3'	4:3:512:G:C8	2.48	0.48
4:3:1142:G:P	36:U:56:ASN:CG	2.96	0.48
4:3:1552:C:H2'	4:3:1553:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1600:A:N3	39:a:62:ASN:ND2	2.62	0.48
4:3:1801:U:O2	4:3:1832:G:N2	2.30	0.48
4:3:1987:C:H3'	4:3:1988:A:H5''	1.95	0.48
4:3:2090:G:O6	4:3:2244:U:O4	2.31	0.48
4:3:2292:A:O2'	4:3:2296:A:N1	2.32	0.48
4:3:2311:G:O2'	42:d:129:THR:OG1	2.22	0.48
4:3:2324:A:H2'	4:3:2325:U:H6	1.78	0.48
4:3:2644:U:OP1	40:b:83:GLU:HB2	2.14	0.48
4:3:2695:U:H2'	4:3:2696:G:O4'	2.14	0.48
4:3:2738:U:H2'	4:3:2739:C:C6	2.49	0.48
4:3:2825:A:H5''	40:b:116:GLY:HA3	1.95	0.48
6:5:85:U:O2'	6:5:86:A:N7	2.35	0.48
6:5:640:C:H2'	6:5:641:U:C6	2.49	0.48
6:5:643:U:H2'	6:5:644:U:C6	2.49	0.48
6:5:741:C:H2'	6:5:742:C:C6	2.49	0.48
6:5:980:C:H2'	6:5:981:U:C6	2.49	0.48
6:5:999:C:O2	6:5:1000:A:O2'	2.29	0.48
9:8:7:VAL:HG13	9:8:11:TRP:CE3	2.49	0.48
10:9:999:PHE:HB3	10:9:1002:SER:OG	2.14	0.48
10:9:1289:MET:HG3	15:AE:15:DA:H5''	1.94	0.48
7:AB:266:LYS:HG2	7:AB:270:GLU:OE2	2.12	0.48
14:AD:17:DT:C5'	16:AF:118:THR:CG2	2.76	0.48
23:H:108:ARG:NH1	23:H:110:LYS:HB3	2.29	0.48
26:K:7:LEU:HB3	31:P:35:TYR:CZ	2.49	0.48
27:L:15:ILE:HD13	27:L:39:ILE:HD13	1.96	0.48
37:W:14:ILE:HD11	37:X:17:ILE:CG1	2.22	0.48
38:Z:112:ILE:HD12	38:Z:365:ASP:HB3	1.96	0.48
38:Z:986:GLU:HA	38:Z:1192:HIS:CE1	2.48	0.48
62:y:27:LEU:HD11	62:y:36:LYS:HB3	1.95	0.48
4:3:450:C:O2'	4:3:1871:U:O2	2.32	0.48
4:3:568:G:H2'	4:3:569:U:H6	1.79	0.48
4:3:863:U:H4'	4:3:866:G:N1	2.29	0.48
4:3:1073:A:H2'	4:3:1074:A:H8	1.78	0.48
4:3:1406:A:O2'	4:3:1408:G:OP2	2.32	0.48
4:3:2338:G:H21	58:u:56:GLY:HA2	1.78	0.48
4:3:2665:A:H1'	4:3:2673:A:H61	1.78	0.48
4:3:2825:A:H2'	4:3:2826:G:O4'	2.13	0.48
6:5:149:G:H2'	6:5:150:A:H8	1.78	0.48
6:5:672:A:N6	6:5:712:A:H61	2.12	0.48
6:5:946:G:H2'	6:5:947:U:C6	2.49	0.48
6:5:1142:G:H2'	6:5:1144:A:OP2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1179:A:H2'	6:5:1180:U:O4'	2.13	0.48
9:8:795:ILE:HD12	9:8:931:ILE:HD11	1.94	0.48
10:9:648:VAL:HB	38:Z:872:TYR:HD1	1.77	0.48
10:9:1126:CYS:SG	10:9:1153:LEU:HD23	2.54	0.48
10:9:1288:GLU:OE2	38:Z:893:ARG:NH1	2.47	0.48
15:AE:10:DG:C5'	38:Z:118:LEU:HB3	2.44	0.48
16:AF:14:PRO:HD3	16:AF:121:VAL:HG23	1.96	0.48
19:D:116:LYS:HG2	19:D:120:LYS:HZ1	1.78	0.48
32:Q:64:LEU:HD23	32:Q:65:SER:O	2.14	0.48
41:c:168:LEU:HB3	41:c:180:VAL:HG21	1.96	0.48
52:o:94:GLY:HA2	52:o:115:LYS:HA	1.96	0.48
57:t:70:PHE:O	57:t:74:LEU:HD23	2.14	0.48
4:3:139:G:O6	4:3:145:A:N6	2.47	0.48
4:3:563:A:N1	46:i:119:ARG:NH1	2.62	0.48
4:3:595:U:C4	4:3:605:A:N7	2.82	0.48
4:3:759:U:H2'	4:3:760:G:O4'	2.13	0.48
4:3:987:U:H2'	4:3:988:G:H8	1.79	0.48
4:3:1115:G:H1'	45:h:126:GLY:HA3	1.95	0.48
4:3:1203:G:H2'	4:3:1204:A:C8	2.49	0.48
4:3:1354:U:HO2'	4:3:2017:G:HO2'	1.56	0.48
4:3:1374:U:N3	4:3:1375:G:N7	2.61	0.48
4:3:1775:G:H2'	4:3:1776:G:C8	2.49	0.48
4:3:1872:U:C4	4:3:1882:G:O6	2.67	0.48
4:3:2464:C:N4	4:3:2465:U:O4	2.46	0.48
4:3:2764:U:H1'	4:3:2765:A:H5''	1.96	0.48
6:5:109:G:N2	6:5:233:C:O2	2.35	0.48
6:5:386:U:H2'	6:5:387:G:C8	2.49	0.48
6:5:509:C:H4'	18:C:38:HIS:HB3	1.94	0.48
6:5:1290:G:N1	6:5:1293:A:OP2	2.44	0.48
6:5:1297:G:O2'	6:5:1336:C:H1'	2.13	0.48
7:6:190:HIS:CE1	10:9:1083:ASP:O	2.56	0.48
9:8:659:TYR:O	9:8:663:VAL:HG23	2.14	0.48
10:9:1003:VAL:HG13	13:AC:116:ILE:HD12	1.92	0.48
10:9:1269:LYS:HZ3	38:Z:313:ILE:HG23	1.68	0.48
12:AA:5:TYR:HH	12:AA:51:ARG:HB2	1.76	0.48
20:E:88:ILE:HG23	20:E:92:ARG:HE	1.79	0.48
21:F:65:VAL:HA	21:F:68:VAL:HG22	1.95	0.48
34:S:29:LYS:HA	34:S:32:VAL:HG22	1.96	0.48
40:b:35:GLN:HG2	40:b:75:LEU:HD23	1.96	0.48
47:j:78:LYS:HB2	52:o:76:GLU:HG3	1.96	0.48
4:3:144:C:H2'	4:3:145:A:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:279:U:H2'	4:3:280:A:C8	2.49	0.48
4:3:576:A:H2'	4:3:577:C:O4'	2.14	0.48
4:3:652:U:H2'	4:3:653:G:H8	1.79	0.48
4:3:674:G:H2'	4:3:675:U:C6	2.48	0.48
4:3:913:U:H2'	4:3:914:G:O4'	2.14	0.48
4:3:1034:A:OP1	53:p:83:LYS:NZ	2.42	0.48
4:3:1287:C:H2'	4:3:1288:C:C6	2.48	0.48
4:3:1305:G:H2'	4:3:1306:G:H8	1.79	0.48
4:3:1511:C:C4	4:3:1512:A:N6	2.81	0.48
4:3:1735:A:OP1	4:3:1770:A:N6	2.47	0.48
4:3:2197:U:H2'	4:3:2198:G:C8	2.49	0.48
4:3:2795:C:H1'	40:b:65:PRO:HB3	1.95	0.48
6:5:13:U:O2'	6:5:908:A:OP2	2.28	0.48
10:9:363:GLU:HG2	10:9:379:ARG:CZ	2.44	0.48
10:9:374:CYS:HB3	10:9:459:VAL:HG11	1.92	0.48
10:9:563:GLY:HA2	10:9:566:ARG:HG3	1.94	0.48
10:9:863:LEU:HD11	10:9:878:ASP:OD2	2.12	0.48
13:AC:48:TYR:HB3	13:AC:51:VAL:CG2	2.43	0.48
40:b:110:VAL:CG2	40:b:179:LEU:HD22	2.44	0.48
41:c:112:LEU:C	41:c:116:TRP:HD1	2.22	0.48
42:d:57:LEU:HA	42:d:60:ILE:HG22	1.96	0.48
44:f:10:SER:HG	44:f:14:LYS:HZ3	1.54	0.48
4:3:34:C:N4	4:3:510:G:O6	2.47	0.47
4:3:133:G:H2'	4:3:134:U:C6	2.48	0.47
4:3:246:G:N2	4:3:259:A:OP2	2.47	0.47
4:3:336:C:H2'	4:3:337:U:C6	2.49	0.47
4:3:406:C:H2'	4:3:407:U:C6	2.49	0.47
4:3:610:G:H2'	4:3:611:A:C8	2.49	0.47
4:3:771:C:H2'	4:3:772:C:C6	2.49	0.47
4:3:863:U:O2'	4:3:866:G:O6	2.30	0.47
4:3:1119:A:N1	36:U:29:TYR:HE2	2.03	0.47
4:3:1229:U:H2'	4:3:1230:U:C6	2.49	0.47
4:3:1319:C:H2'	4:3:1320:C:C6	2.49	0.47
4:3:1608:C:H2'	4:3:1609:U:C6	2.49	0.47
4:3:2146:A:H2'	4:3:2147:G:C8	2.49	0.47
4:3:2190:G:H2'	4:3:2191:G:C8	2.49	0.47
4:3:2413:G:O2'	4:3:2419:A:N6	2.47	0.47
4:3:2623:U:H2'	4:3:2624:C:C6	2.49	0.47
4:3:2852:G:H1'	4:3:2872:A:H61	1.79	0.47
4:3:2859:U:H2'	4:3:2860:A:C8	2.46	0.47
6:5:399:C:H4'	18:C:131:THR:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:926:PHE:CE1	9:8:930:LEU:HD11	2.49	0.47
10:9:169:LEU:CD2	14:AD:25:DC:N3	2.71	0.47
10:9:1051:ARG:HH11	10:9:1254:MET:CE	2.27	0.47
10:9:1051:ARG:HH11	10:9:1254:MET:HE3	1.78	0.47
10:9:1157:ILE:HG12	10:9:1172:LEU:HD11	1.96	0.47
10:9:1350:ALA:HB3	38:Z:368:PHE:CZ	2.48	0.47
11:A:179:ASP:OD1	11:A:179:ASP:N	2.47	0.47
36:U:49:SER:OG	36:U:86:VAL:HA	2.14	0.47
55:r:7:GLN:NE2	55:r:10:VAL:HB	2.29	0.47
60:w:26:LEU:HD13	60:w:48:ARG:HH12	1.78	0.47
4:3:210:U:H2'	4:3:211:A:H8	1.78	0.47
4:3:432:G:OP2	59:v:10:ARG:NH1	2.47	0.47
4:3:696:U:H2'	4:3:697:U:H6	1.78	0.47
4:3:917:G:N2	4:3:935:U:O2	2.47	0.47
4:3:941:C:H2'	4:3:942:A:H8	1.78	0.47
4:3:1376:G:O6	4:3:1377:A:N6	2.48	0.47
4:3:1400:U:H2'	4:3:1401:A:H8	1.79	0.47
4:3:2071:C:H2'	4:3:2072:C:H6	1.80	0.47
4:3:2200:U:H2'	4:3:2201:G:H8	1.79	0.47
4:3:2223:C:H2'	4:3:2224:A:C8	2.41	0.47
4:3:2420:A:H2'	4:3:2421:U:O4'	2.14	0.47
4:3:2683:G:H2'	4:3:2684:G:C8	2.49	0.47
4:3:2776:U:O4	4:3:2777:A:N6	2.47	0.47
4:3:2781:C:O2'	40:b:172:GLU:OE2	2.32	0.47
6:5:9:A:H62	18:C:201:LYS:HB3	1.78	0.47
6:5:26:C:H2'	6:5:27:A:C8	2.49	0.47
6:5:335:C:H2'	6:5:336:U:H6	1.78	0.47
6:5:838:A:C8	20:E:109:LEU:HD13	2.49	0.47
6:5:1010:A:H2'	6:5:1011:A:C8	2.48	0.47
6:5:1241:G:C6	6:5:1245:A:N6	2.82	0.47
6:5:1266:U:H2'	6:5:1267:G:C8	2.49	0.47
8:7:16:G:N2	8:7:22:A:N3	2.62	0.47
10:9:824:VAL:HG11	10:9:827:VAL:CG2	2.44	0.47
10:9:1340:LYS:NZ	10:9:1370:ILE:HG13	2.29	0.47
13:AC:266:LEU:HD23	13:AC:273:ILE:HG21	1.96	0.47
15:AE:10:DG:H5''	38:Z:118:LEU:HB3	1.96	0.47
17:B:76:PHE:O	17:B:84:ASN:ND2	2.47	0.47
20:E:7:LEU:HD21	20:E:72:PHE:HZ	1.79	0.47
20:E:106:GLN:O	20:E:110:GLN:N	2.44	0.47
31:P:13:VAL:HG13	31:P:57:ASP:HA	1.95	0.47
38:Z:806:ILE:HA	38:Z:809:MET:HE3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:b:38:GLY:HA2	40:b:92:MET:HE1	1.96	0.47
47:j:8:LEU:H	47:j:8:LEU:HD23	1.79	0.47
4:3:59:C:H2'	4:3:60:G:H8	1.79	0.47
4:3:445:C:H2'	4:3:446:A:C8	2.50	0.47
4:3:518:A:O2'	4:3:532:A:N1	2.47	0.47
4:3:587:U:H2'	4:3:588:G:O4'	2.14	0.47
4:3:650:G:H2'	4:3:651:A:C8	2.49	0.47
4:3:993:A:N6	4:3:995:A:N1	2.62	0.47
4:3:1463:G:H2'	4:3:1464:G:C8	2.49	0.47
4:3:1471:A:N6	4:3:1582:G:O6	2.47	0.47
4:3:2106:G:H22	4:3:2198:G:H1	1.62	0.47
4:3:2799:U:O4	4:3:2895:A:N1	2.45	0.47
5:4:3:U:H2'	5:4:4:G:C8	2.49	0.47
6:5:706:U:H2'	6:5:707:G:C8	2.49	0.47
6:5:1207:U:H5''	23:H:128:GLN:HB3	1.96	0.47
8:7:38:G:H3'	8:7:39:A:C8	2.50	0.47
10:9:168:GLN:HG3	10:9:524:ILE:HD13	1.95	0.47
10:9:525:ASP:HA	10:9:530:LYS:HE3	1.96	0.47
10:9:653:TYR:CE1	10:9:737:ARG:NH2	2.82	0.47
10:9:1288:GLU:OE1	38:Z:893:ARG:CZ	2.62	0.47
10:9:1344:LYS:C	38:Z:305:ILE:CG2	2.77	0.47
11:A:41:MET:HE3	11:A:208:PRO:HD3	1.96	0.47
13:AC:196:VAL:CG2	13:AC:217:ARG:CZ	2.87	0.47
21:F:149:ALA:HB3	25:J:49:ARG:HH12	1.77	0.47
22:G:9:LYS:HA	22:G:36:ILE:HD11	1.96	0.47
22:G:91:SER:OG	22:G:137:ILE:O	2.25	0.47
36:U:86:VAL:HG11	36:U:89:ILE:HD12	1.97	0.47
38:Z:827:MET:HE2	38:Z:829:GLY:HA2	1.95	0.47
41:c:128:VAL:O	41:c:200:GLU:HA	2.14	0.47
48:k:110:LEU:HD12	48:k:111:PRO:HD2	1.96	0.47
54:q:68:VAL:N	54:q:86:ARG:HH11	2.13	0.47
54:q:69:ASN:HD21	54:q:82:LYS:HE3	1.79	0.47
4:3:461:C:H2'	4:3:462:C:C6	2.49	0.47
4:3:730:G:H1	4:3:802:U:H3	1.61	0.47
4:3:1076:U:O2	4:3:1149:G:N2	2.44	0.47
4:3:1143:U:N3	4:3:1144:C:N4	2.61	0.47
4:3:1187:C:H2'	4:3:1188:C:C6	2.44	0.47
4:3:1470:C:H2'	4:3:1471:A:C8	2.49	0.47
4:3:1951:A:H61	4:3:2565:G:H1'	1.79	0.47
4:3:2071:C:H2'	4:3:2072:C:C6	2.49	0.47
4:3:2259:G:H2'	4:3:2260:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2388:C:H2'	4:3:2389:A:C8	2.49	0.47
4:3:2391:G:H2'	4:3:2392:U:C6	2.49	0.47
4:3:2577:G:H2'	4:3:2578:A:H8	1.78	0.47
6:5:671:G:H2'	6:5:672:A:C8	2.48	0.47
8:7:70:G:H2'	8:7:71:A:H8	1.79	0.47
9:8:45:VAL:HG13	9:8:505:LEU:HD22	1.96	0.47
11:A:68:ALA:O	11:A:72:VAL:HG13	2.13	0.47
7:AB:205:ILE:HD13	38:Z:513:ASP:OD2	2.10	0.47
15:AE:14:DG:H5'	38:Z:890:TYR:N	2.29	0.47
15:AE:17:DT:C4'	38:Z:413:ARG:HH11	1.98	0.47
16:AF:77:LEU:CD1	16:AF:83:LEU:HB2	2.44	0.47
31:P:68:PRO:HA	31:P:74:ARG:HA	1.96	0.47
33:R:19:VAL:HG21	33:R:44:PHE:CE1	2.45	0.47
40:b:15:GLN:OE1	40:b:23:ARG:NH2	2.42	0.47
44:f:58:TYR:O	44:f:62:LYS:HG2	2.15	0.47
47:j:63:VAL:HB	47:j:102:VAL:HG23	1.97	0.47
52:o:11:ASP:O	52:o:15:GLN:HG3	2.14	0.47
4:3:50:G:H22	4:3:179:A:H2'	1.79	0.47
4:3:134:U:H2'	4:3:135:A:H8	1.79	0.47
4:3:319:G:O6	4:3:390:A:N6	2.47	0.47
4:3:421:A:N6	4:3:423:C:H2'	2.30	0.47
4:3:569:U:H2'	4:3:570:C:C6	2.50	0.47
4:3:768:G:H2'	4:3:769:A:H5''	1.95	0.47
4:3:1070:U:H2'	4:3:1071:G:H8	1.78	0.47
4:3:1221:G:H2'	4:3:1222:A:C8	2.49	0.47
4:3:2043:C:H2'	4:3:2044:C:C6	2.50	0.47
4:3:2418:G:H2'	4:3:2419:A:C8	2.49	0.47
4:3:2558:G:H2'	4:3:2559:C:H6	1.80	0.47
4:3:2799:U:H3'	4:3:2896:G:N2	2.30	0.47
6:5:33:A:H2'	6:5:34:A:C8	2.48	0.47
6:5:253:G:O6	6:5:265:U:O4	2.32	0.47
6:5:337:C:H2'	6:5:338:C:C6	2.49	0.47
6:5:361:U:H5''	6:5:362:U:H5'	1.96	0.47
8:7:57:C:H3'	8:7:58:G:C8	2.49	0.47
10:9:419:LEU:HD21	10:9:422:LYS:CG	2.44	0.47
10:9:1269:LYS:CD	38:Z:313:ILE:CB	2.81	0.47
32:Q:43:PHE:HB2	32:Q:82:HIS:CG	2.50	0.47
33:R:20:ILE:O	33:R:24:LYS:HG2	2.15	0.47
40:b:160:PHE:H	40:b:163:LYS:HE2	1.80	0.47
48:k:36:GLN:OE1	48:k:37:LYS:HE3	2.14	0.47
48:k:36:GLN:HG3	48:k:37:LYS:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:w:25:GLU:HA	60:w:28:GLU:HG3	1.97	0.47
4:3:29:G:O2'	4:3:30:A:N7	2.40	0.47
4:3:499:G:H22	4:3:501:G:H3'	1.79	0.47
4:3:860:C:H4'	4:3:2436:G:C5	2.50	0.47
4:3:986:G:H2'	4:3:987:U:C6	2.50	0.47
4:3:1544:G:H2'	4:3:1545:A:H8	1.79	0.47
4:3:2843:G:H2'	4:3:2844:U:H6	1.79	0.47
6:5:309:A:H2'	6:5:310:C:C6	2.50	0.47
6:5:416:U:C2	6:5:421:G:N1	2.83	0.47
10:9:90:LYS:CE	10:9:1034:GLU:O	2.63	0.47
10:9:998:ILE:CB	13:AC:108:LEU:HD13	2.43	0.47
10:9:1001:GLU:C	13:AC:109:LYS:HB3	2.40	0.47
10:9:1082:GLU:OE1	10:9:1227:LYS:HD3	2.14	0.47
11:A:66:GLN:O	11:A:70:ASN:ND2	2.47	0.47
11:A:91:TYR:CE1	11:A:226:CYS:HB3	2.50	0.47
16:AF:128:ALA:HA	38:Z:169:ALA:HB1	1.96	0.47
27:L:42:ASP:HB3	27:L:45:VAL:HB	1.97	0.47
33:R:15:LEU:HD23	33:R:15:LEU:H	1.79	0.47
49:l:24:ASN:O	49:l:102:VAL:N	2.47	0.47
54:q:34:GLN:O	54:q:34:GLN:HG2	2.15	0.47
4:3:34:C:N4	4:3:483:A:OP2	2.48	0.47
4:3:117:C:H2'	4:3:118:G:O4'	2.13	0.47
4:3:450:C:H2'	4:3:451:A:H8	1.79	0.47
4:3:486:G:N1	4:3:490:A:OP1	2.45	0.47
4:3:597:C:H2'	4:3:598:G:C8	2.50	0.47
4:3:652:U:H2'	4:3:653:G:C8	2.50	0.47
4:3:991:G:H21	49:l:83:MET:HE2	1.78	0.47
4:3:1071:G:O6	4:3:1154:U:O4	2.31	0.47
4:3:1142:G:C2'	36:U:78:GLY:N	2.77	0.47
4:3:1298:A:H2'	4:3:1299:A:O4'	2.15	0.47
4:3:1400:U:H2'	4:3:1401:A:C8	2.50	0.47
4:3:1698:A:N3	4:3:1698:A:H2'	2.29	0.47
4:3:1764:U:N3	4:3:1769:A:C5	2.83	0.47
4:3:1767:A:H2'	4:3:1768:G:C8	2.49	0.47
4:3:2394:A:H4'	58:u:70:ASP:HA	1.97	0.47
4:3:2496:G:O2'	4:3:2497:U:H5'	2.15	0.47
4:3:2645:U:H2'	4:3:2646:G:O4'	2.15	0.47
4:3:2677:A:H2'	4:3:2678:A:C8	2.49	0.47
6:5:38:U:H2'	6:5:39:G:H8	1.80	0.47
6:5:302:A:H3'	6:5:303:A:H8	1.78	0.47
6:5:373:A:H2'	6:5:374:G:C8	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:381:C:H2'	6:5:382:U:C6	2.49	0.47
6:5:701:A:H2'	6:5:702:U:C6	2.50	0.47
6:5:718:A:H4'	6:5:719:G:C4	2.49	0.47
6:5:737:U:H2'	6:5:738:A:C8	2.50	0.47
6:5:740:G:C2	6:5:741:C:C5	3.03	0.47
6:5:744:U:H4'	6:5:745:U:H5	1.79	0.47
6:5:781:A:H2'	6:5:782:G:H8	1.80	0.47
6:5:1505:G:O2'	6:5:1506:A:O4'	2.26	0.47
7:6:35:VAL:HG13	7:6:209:LEU:HB2	1.96	0.47
9:8:829:TYR:CE1	9:8:833:LEU:HD11	2.49	0.47
10:9:1284:GLN:OE1	15:AE:17:DT:H5''	2.14	0.47
10:9:1289:MET:SD	15:AE:15:DA:C5'	2.97	0.47
10:9:1289:MET:CG	15:AE:15:DA:C5'	2.89	0.47
10:9:1370:ILE:HB	38:Z:94:ILE:CG2	2.44	0.47
13:AC:153:ASP:OD1	38:Z:77:LYS:HD3	2.15	0.47
17:B:56:VAL:HG12	17:B:69:VAL:HG12	1.97	0.47
17:B:194:THR:HG23	17:B:196:TYR:H	1.79	0.47
20:E:107:LEU:O	20:E:110:GLN:HB2	2.15	0.47
23:H:56:LEU:HD13	23:H:103:LYS:HG3	1.95	0.47
24:I:27:THR:O	24:I:31:ILE:HG12	2.14	0.47
25:J:17:SER:CB	25:J:80:LYS:HE3	2.41	0.47
28:M:23:ARG:NH1	28:M:30:ALA:HB2	2.29	0.47
39:a:98:LEU:HB2	39:a:108:TYR:CE1	2.49	0.47
40:b:1:MET:N	40:b:88:THR:H	2.11	0.47
41:c:74:ALA:O	41:c:76:GLN:NE2	2.48	0.47
47:j:85:VAL:HG13	47:j:87:ILE:HD11	1.96	0.47
53:p:91:ARG:HE	53:p:93:VAL:HG12	1.79	0.47
4:3:20:C:H2'	4:3:21:U:C6	2.49	0.47
4:3:333:A:C6	4:3:356:A:C4	3.03	0.47
4:3:411:U:O4	4:3:437:A:N7	2.48	0.47
4:3:567:U:H5''	53:p:27:ARG:NH2	2.29	0.47
4:3:629:G:N2	4:3:696:U:O2	2.38	0.47
4:3:762:A:H2'	4:3:763:G:N9	2.30	0.47
4:3:1180:U:H2'	4:3:1181:A:H8	1.79	0.47
4:3:1264:U:H2'	4:3:1265:G:O4'	2.14	0.47
4:3:1546:U:H3'	4:3:1547:G:C8	2.49	0.47
4:3:1589:A:H2'	4:3:1590:U:C6	2.49	0.47
4:3:1871:U:H3	4:3:1885:G:H1	1.62	0.47
4:3:2002:U:OP2	4:3:2003:C:O2'	2.25	0.47
4:3:2409:U:N3	4:3:2423:G:N1	2.54	0.47
4:3:2823:A:C2	4:3:2832:G:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:432:U:H2'	6:5:433:C:C6	2.50	0.47
6:5:706:U:H2'	6:5:707:G:H8	1.80	0.47
6:5:749:G:H1'	6:5:751:C:N4	2.28	0.47
6:5:822:A:H2'	6:5:823:C:H6	1.80	0.47
9:8:846:THR:HG22	9:8:928:PHE:CD1	2.50	0.47
10:9:147:ILE:HG21	10:9:612:PHE:CE1	2.50	0.47
10:9:1305:GLU:OE2	38:Z:542:LEU:HB2	2.15	0.47
17:B:41:ARG:HD2	17:B:42:ASN:N	2.29	0.47
27:L:11:ASN:OD1	27:L:12:GLN:HG2	2.15	0.47
38:Z:992:CYS:SG	38:Z:995:CYS:SG	3.13	0.47
44:f:47:ARG:NH2	44:f:51:LEU:HB2	2.28	0.47
54:q:4:ILE:HG13	54:q:40:MET:HE3	1.95	0.47
54:q:46:GLY:H	54:q:50:LEU:HD23	1.79	0.47
57:t:1:MET:HB2	57:t:100:LYS:HE2	1.97	0.47
4:3:359:G:H2'	4:3:360:G:C8	2.50	0.47
4:3:767:C:H2'	4:3:768:G:O4'	2.14	0.47
4:3:1019:A:H2'	4:3:1020:G:C4	2.50	0.47
4:3:1761:C:H2'	4:3:1762:A:C8	2.50	0.47
4:3:2476:A:H2'	4:3:2484:A:C6	2.50	0.47
4:3:2534:G:O6	4:3:2545:U:O4	2.32	0.47
4:3:2547:C:H2'	4:3:2548:G:H8	1.79	0.47
4:3:2678:A:H2'	4:3:2679:G:C8	2.50	0.47
6:5:61:A:N6	6:5:92:G:O2'	2.48	0.47
6:5:144:U:N3	6:5:145:G:N7	2.62	0.47
6:5:511:A:H2'	6:5:512:U:C6	2.50	0.47
6:5:881:G:C2	6:5:905:U:C2	3.03	0.47
6:5:919:C:H2'	6:5:920:G:C8	2.50	0.47
6:5:1245:A:H2'	6:5:1246:A:C8	2.45	0.47
10:9:179:GLN:NE2	10:9:212:LEU:HD13	2.30	0.47
10:9:785:MET:CE	10:9:1064:GLY:HA2	2.44	0.47
10:9:905:TYR:CE1	10:9:906:GLU:HG3	2.50	0.47
10:9:1242:SER:HB2	38:Z:735:SER:HB2	1.97	0.47
10:9:1345:GLU:O	38:Z:388:LEU:HB3	2.14	0.47
11:A:70:ASN:HA	11:A:73:LYS:NZ	2.30	0.47
12:AA:51:ARG:NH2	38:Z:986:GLU:OE2	2.47	0.47
7:AB:35:VAL:HG11	7:AB:195:VAL:HG22	1.97	0.47
20:E:17:GLN:HA	20:E:20:GLN:HG2	1.96	0.47
21:F:102:TRP:HD1	21:F:136:LYS:HZ2	1.58	0.47
23:H:47:ILE:O	23:H:50:MET:HE3	2.15	0.47
40:b:180:ARG:HE	40:b:220:ILE:HD12	1.79	0.47
41:c:40:VAL:HG12	41:c:101:LEU:HD13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:f:12:LEU:HB2	44:f:14:LYS:NZ	2.29	0.47
46:i:118:SER:HA	46:i:121:TRP:HB2	1.96	0.47
51:n:15:ILE:O	51:n:19:ILE:HG12	2.15	0.47
52:o:53:LEU:HD11	52:o:104:MET:HE2	1.97	0.47
1:0:34:ARG:NH2	1:0:41:GLN:O	2.41	0.47
3:2:29:THR:HB	3:2:32:HIS:CG	2.50	0.47
4:3:1000:U:H1'	4:3:2281:A:C2	2.50	0.47
4:3:1141:U:O2'	36:U:78:GLY:O	2.17	0.47
4:3:1928:G:H2'	4:3:1929:G:C8	2.50	0.47
4:3:2076:G:H2'	4:3:2077:A:C8	2.50	0.47
4:3:2627:U:H5''	40:b:161:LYS:HE2	1.97	0.47
4:3:2629:G:H2'	4:3:2630:U:O4'	2.15	0.47
4:3:2844:U:H2'	4:3:2845:U:C6	2.50	0.47
4:3:2861:G:N2	4:3:2863:G:OP2	2.47	0.47
6:5:117:U:O2'	6:5:258:A:O2'	2.26	0.47
6:5:590:G:H2'	6:5:591:A:C8	2.50	0.47
6:5:931:C:C2	6:5:932:A:C8	3.02	0.47
6:5:1343:G:H5'	23:H:116:LYS:HB3	1.96	0.47
10:9:413:HIS:CE1	10:9:419:LEU:HD12	2.50	0.47
10:9:1200:PHE:CZ	38:Z:864:ILE:HA	2.49	0.47
7:AB:85:LYS:CD	38:Z:602:GLU:OE1	2.56	0.47
17:B:90:LYS:HA	17:B:93:LYS:NZ	2.30	0.47
20:E:59:ARG:HH12	32:Q:54:ILE:HB	1.79	0.47
31:P:44:LYS:HD3	31:P:46:GLN:OE1	2.14	0.47
38:Z:125:SER:HB2	38:Z:130:ILE:O	2.15	0.47
40:b:58:GLU:HG2	40:b:60:LYS:H	1.79	0.47
42:d:35:VAL:HG12	42:d:155:THR:HG22	1.96	0.47
54:q:74:ILE:HG22	54:q:77:LYS:HG3	1.97	0.47
60:w:22:LEU:HA	60:w:25:GLU:HG3	1.96	0.47
60:w:39:ASP:O	60:w:40:LYS:HE2	2.15	0.47
62:y:28:SER:N	62:y:37:LYS:O	2.42	0.47
4:3:20:C:O2'	4:3:587:U:H5''	2.15	0.46
4:3:35:U:H3	4:3:483:A:H62	1.63	0.46
4:3:381:A:H2'	4:3:382:U:C6	2.50	0.46
4:3:448:A:H62	4:3:2420:A:H1'	1.80	0.46
4:3:615:G:H5''	53:p:13:ARG:NH2	2.30	0.46
4:3:997:G:N2	4:3:2037:A:OP1	2.48	0.46
4:3:1016:A:H2'	4:3:1017:A:C4	2.51	0.46
4:3:1032:A:H2'	4:3:1033:A:C8	2.49	0.46
4:3:1065:G:O6	4:3:1160:G:N2	2.48	0.46
4:3:1281:A:OP1	53:p:9:THR:OG1	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1604:A:H2'	4:3:1605:A:O4'	2.15	0.46
4:3:1953:U:H2'	4:3:1954:C:O4'	2.15	0.46
4:3:2845:U:H2'	4:3:2846:A:C8	2.49	0.46
6:5:408:U:H4'	6:5:409:G:H5'	1.97	0.46
6:5:732:A:H1'	32:Q:95:TYR:CE2	2.50	0.46
6:5:1139:A:H2'	6:5:1140:A:C8	2.50	0.46
6:5:1269:U:H2'	6:5:1270:C:C6	2.51	0.46
6:5:1362:G:H2'	6:5:1363:U:C6	2.50	0.46
9:8:807:ALA:HB1	9:8:912:ILE:HG21	1.96	0.46
10:9:363:GLU:CG	10:9:379:ARG:NH1	2.78	0.46
10:9:1269:LYS:CB	38:Z:313:ILE:HD11	2.38	0.46
18:C:50:TYR:CE2	18:C:54:LEU:HD11	2.49	0.46
31:P:30:PHE:CZ	31:P:41:ARG:HD3	2.50	0.46
38:Z:134:GLU:HB3	38:Z:165:VAL:HG21	1.97	0.46
38:Z:1228:PHE:CE1	38:Z:1251:ASP:HB2	2.50	0.46
42:d:117:LEU:H	42:d:176:PRO:HB2	1.79	0.46
46:i:115:ASN:OD1	46:i:116:ARG:N	2.48	0.46
52:o:31:VAL:HG13	52:o:90:LEU:HA	1.96	0.46
2:1:43:LYS:NZ	4:3:2358:U:O5'	2.48	0.46
4:3:141:A:H3'	4:3:142:A:C8	2.50	0.46
4:3:1089:A:C1'	36:U:30:THR:HG22	2.45	0.46
4:3:1475:C:H1'	4:3:1577:A:C2	2.50	0.46
4:3:1833:G:H2'	4:3:1834:U:H6	1.79	0.46
4:3:1842:G:H2'	4:3:1843:C:H6	1.81	0.46
4:3:2085:C:H2'	4:3:2086:U:C6	2.50	0.46
4:3:2200:U:H2'	4:3:2201:G:C8	2.50	0.46
4:3:2313:U:H3	42:d:150:ARG:HB2	1.80	0.46
4:3:2503:G:H2'	4:3:2504:C:C6	2.50	0.46
4:3:2506:C:O2'	4:3:2507:C:OP1	2.26	0.46
5:4:56:A:C4	5:4:57:G:C8	3.03	0.46
6:5:337:C:H2'	6:5:338:C:H6	1.81	0.46
6:5:911:G:H2'	6:5:912:G:H8	1.79	0.46
7:6:239:ILE:HG23	7:AB:225:PHE:CE1	2.49	0.46
15:AE:14:DG:C4'	38:Z:889:GLY:C	2.88	0.46
16:AF:94:GLY:O	16:AF:95:ARG:HG3	2.15	0.46
38:Z:460:ILE:HG22	38:Z:470:MET:HE1	1.97	0.46
38:Z:501:ARG:HG2	38:Z:563:LEU:HD11	1.97	0.46
38:Z:670:PHE:CE1	38:Z:688:LEU:HD11	2.50	0.46
38:Z:1176:THR:HG21	38:Z:1212:ILE:CD1	2.44	0.46
43:e:149:THR:O	43:e:152:ARG:HG2	2.15	0.46
46:i:52:ASP:OD1	46:i:121:TRP:NE1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:r:6:LYS:HD3	55:r:104:VAL:HB	1.97	0.46
55:r:28:LYS:NZ	55:r:67:ASP:O	2.42	0.46
4:3:558:C:H5''	4:3:575:C:O2'	2.16	0.46
4:3:616:G:H2'	4:3:617:C:C6	2.50	0.46
4:3:801:U:H2'	4:3:802:U:C6	2.51	0.46
4:3:1141:U:H2'	4:3:1142:G:C8	2.48	0.46
4:3:1460:G:H2'	4:3:1461:A:C8	2.50	0.46
4:3:1477:A:N6	4:3:1489:G:O6	2.48	0.46
4:3:2299:U:H2'	4:3:2300:A:C8	2.50	0.46
4:3:2609:C:H2'	4:3:2611:G:H8	1.79	0.46
5:4:47:C:OP1	51:n:101:ARG:NE	2.42	0.46
6:5:253:G:C6	6:5:266:A:C6	3.03	0.46
6:5:330:C:H2'	6:5:331:C:C6	2.49	0.46
6:5:460:A:N1	6:5:467:G:C6	2.83	0.46
6:5:929:C:N3	6:5:932:A:N6	2.63	0.46
6:5:1126:U:H2'	6:5:1127:A:C8	2.49	0.46
6:5:1319:U:O2'	6:5:1352:A:N6	2.46	0.46
6:5:1347:U:H2'	6:5:1348:G:O4'	2.16	0.46
6:5:1389:U:H2'	6:5:1390:G:C8	2.50	0.46
10:9:659:ILE:O	10:9:780:LEU:HD12	2.15	0.46
14:AD:29:DC:C5'	38:Z:1057:VAL:HG22	2.27	0.46
20:E:150:GLN:HB2	22:G:57:PHE:CE1	2.50	0.46
21:F:78:ARG:HE	21:F:83:ASN:HA	1.81	0.46
21:F:110:ARG:HG2	21:F:111:HIS:N	2.30	0.46
28:M:33:VAL:HA	28:M:40:CYS:HA	1.97	0.46
29:N:64:LEU:O	29:N:68:LYS:HG2	2.16	0.46
38:Z:500:HIS:CE1	38:Z:502:LEU:HB2	2.50	0.46
38:Z:831:MET:HE3	38:Z:854:ILE:HD12	1.97	0.46
42:d:135:GLN:HA	42:d:152:PHE:CZ	2.50	0.46
54:q:6:VAL:HA	54:q:11:GLN:HA	1.98	0.46
59:v:62:ASN:O	59:v:63:ARG:NE	2.48	0.46
4:3:252:G:O5'	4:3:253:C:H5''	2.16	0.46
4:3:464:A:H2'	4:3:464:A:N3	2.31	0.46
4:3:746:G:H2'	4:3:747:A:C8	2.49	0.46
4:3:793:C:H2'	4:3:794:G:C8	2.50	0.46
4:3:1345:G:H2'	4:3:1346:G:C8	2.48	0.46
4:3:1819:G:H2'	4:3:1820:U:H6	1.79	0.46
4:3:2708:G:H2'	4:3:2709:C:C6	2.51	0.46
6:5:146:A:N1	6:5:340:A:O2'	2.36	0.46
6:5:1011:A:H2'	6:5:1012:A:N3	2.31	0.46
6:5:1406:U:H2'	6:5:1407:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:154:ILE:O	38:Z:77:LYS:HD3	2.16	0.46
23:H:56:LEU:HD23	23:H:56:LEU:H	1.80	0.46
24:I:54:VAL:HG21	28:M:61:TRP:HH2	1.81	0.46
40:b:27:THR:HG21	40:b:197:ILE:HG12	1.98	0.46
42:d:5:LYS:HB2	42:d:97:TRP:CD1	2.50	0.46
42:d:15:GLU:O	42:d:19:SER:OG	2.17	0.46
48:k:56:THR:O	48:k:61:ARG:NH2	2.49	0.46
52:o:48:PHE:CE1	52:o:68:LYS:HB2	2.51	0.46
55:r:28:LYS:HG2	55:r:30:ALA:H	1.80	0.46
60:w:4:ALA:HA	60:w:7:LEU:HD23	1.96	0.46
4:3:61:U:O2'	4:3:76:A:OP2	2.33	0.46
4:3:78:C:H1'	60:w:56:THR:HG21	1.97	0.46
4:3:317:U:H2'	4:3:318:U:C6	2.50	0.46
4:3:1158:C:H2'	4:3:1159:C:C6	2.50	0.46
4:3:1186:A:H2'	4:3:1187:C:O4'	2.16	0.46
4:3:1219:U:H2'	4:3:1220:A:O4'	2.16	0.46
4:3:1641:A:H4'	4:3:1642:G:C8	2.51	0.46
4:3:1999:G:N2	4:3:2003:C:H1'	2.30	0.46
4:3:2189:U:H2'	4:3:2190:G:C8	2.40	0.46
4:3:2533:A:H2'	4:3:2534:G:H8	1.79	0.46
4:3:2687:A:H2'	4:3:2688:C:C6	2.50	0.46
5:4:74:G:H2'	5:4:75:U:C6	2.50	0.46
6:5:45:A:H2'	6:5:46:U:C6	2.51	0.46
6:5:366:C:H2'	6:5:367:A:C8	2.50	0.46
6:5:736:U:H2'	6:5:737:U:O4'	2.15	0.46
6:5:950:C:H2'	6:5:951:U:C2	2.50	0.46
10:9:30:GLN:CG	10:9:676:PHE:HE1	2.29	0.46
10:9:141:VAL:HG11	10:9:613:LEU:CD2	2.39	0.46
10:9:408:LEU:HD13	10:9:427:LEU:HD21	1.97	0.46
7:AB:35:VAL:HG13	7:AB:209:LEU:HB2	1.97	0.46
7:AB:57:ALA:HB2	7:AB:173:ILE:HD11	1.97	0.46
18:C:164:SER:HB2	18:C:167:VAL:HG22	1.97	0.46
30:O:32:HIS:O	30:O:42:CYS:HA	2.16	0.46
38:Z:748:TYR:OH	38:Z:791:GLU:OE1	2.24	0.46
38:Z:828:ARG:NH1	38:Z:870:SER:CB	2.76	0.46
38:Z:986:GLU:HA	38:Z:1192:HIS:HE1	1.79	0.46
39:a:6:ILE:HD11	39:a:19:VAL:HG22	1.98	0.46
44:f:73:GLU:OE2	44:f:139:LYS:NZ	2.48	0.46
4:3:86:A:H2	4:3:104:A:C5	2.33	0.46
4:3:383:U:H2'	4:3:384:G:H8	1.79	0.46
4:3:568:G:P	53:p:24:PHE:H	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:831:U:H2'	4:3:832:C:C6	2.51	0.46
4:3:886:U:H3	4:3:964:A:N6	2.13	0.46
4:3:1654:G:H2'	4:3:1655:U:C6	2.50	0.46
4:3:1702:A:H5'	47:j:5:MET:HE2	1.97	0.46
4:3:1872:U:N3	4:3:1882:G:C6	2.84	0.46
4:3:2034:G:H2'	4:3:2035:U:C6	2.51	0.46
4:3:2213:A:H2'	4:3:2214:A:H8	1.80	0.46
4:3:2570:U:N3	4:3:2574:A:N6	2.48	0.46
4:3:2684:G:H2'	4:3:2685:A:H8	1.80	0.46
6:5:37:C:H5''	26:K:133:LYS:HA	1.98	0.46
6:5:526:C:H4'	6:5:533:A:C6	2.51	0.46
6:5:797:G:N2	6:5:798:U:O4	2.48	0.46
7:6:49:CYS:SG	7:AB:34:PHE:CE2	3.07	0.46
9:8:895:PHE:HB3	9:8:903:ASN:OD1	2.16	0.46
10:9:723:ILE:CG2	10:9:727:ASN:HA	2.45	0.46
10:9:723:ILE:HG22	10:9:727:ASN:HA	1.98	0.46
11:A:112:TRP:HZ2	11:A:117:LEU:HG	1.80	0.46
15:AE:14:DG:H4'	38:Z:890:TYR:N	2.29	0.46
17:B:33:TRP:HB3	17:B:60:ARG:NH2	2.31	0.46
30:O:48:VAL:O	30:O:51:GLU:HB3	2.16	0.46
38:Z:890:TYR:CD1	38:Z:894:LYS:HE3	2.47	0.46
39:a:83:VAL:HA	39:a:99:ILE:HG13	1.97	0.46
4:3:186:A:N1	4:3:219:G:C6	2.83	0.46
4:3:214:C:H2'	4:3:215:A:C8	2.51	0.46
4:3:224:G:N1	4:3:464:A:OP2	2.48	0.46
4:3:755:C:H2'	4:3:756:A:C8	2.51	0.46
4:3:1095:U:H1'	4:3:1097:G:OP2	2.15	0.46
4:3:1709:C:H3'	4:3:1710:A:H8	1.81	0.46
4:3:1870:G:H4'	4:3:2419:A:H4'	1.96	0.46
4:3:2171:A:H5''	4:3:2180:U:O2'	2.16	0.46
4:3:2467:A:H2'	4:3:2468:U:O4'	2.16	0.46
4:3:2497:U:H2'	4:3:2498:G:C4	2.51	0.46
6:5:280:G:H2'	6:5:281:U:C6	2.51	0.46
6:5:402:G:N3	18:C:115:GLN:NE2	2.63	0.46
6:5:703:A:H2'	6:5:704:U:C6	2.50	0.46
6:5:823:C:H2'	6:5:824:U:C6	2.51	0.46
6:5:1294:U:H1'	33:R:73:GLU:HB2	1.98	0.46
6:5:1383:A:H2'	6:5:1384:A:C8	2.51	0.46
6:5:1429:G:H2'	6:5:1430:G:C8	2.48	0.46
6:5:1446:A:H2'	6:5:1447:U:C6	2.51	0.46
10:9:945:ARG:HH22	7:AB:298:ALA:HB3	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:67:LEU:HD23	13:AC:103:ARG:HG2	1.97	0.46
13:AC:123:PHE:CZ	13:AC:127:ILE:HD11	2.51	0.46
13:AC:289:ILE:N	13:AC:300:ASN:ND2	2.64	0.46
18:C:57:LYS:HA	18:C:60:MET:HG3	1.98	0.46
25:J:17:SER:OG	25:J:24:ILE:HB	2.15	0.46
25:J:63:VAL:HA	25:J:66:THR:HG22	1.97	0.46
31:P:7:LYS:HZ2	31:P:65:GLU:H	1.63	0.46
38:Z:745:LYS:NZ	38:Z:860:GLU:OE2	2.46	0.46
39:a:234:ASN:C	39:a:241:GLY:HA3	2.41	0.46
40:b:111:SER:OG	40:b:206:LEU:HB2	2.15	0.46
42:d:121:SER:HB3	42:d:128:TYR:CZ	2.51	0.46
47:j:65:THR:O	47:j:79:PHE:HB2	2.15	0.46
49:l:4:PRO:HG3	49:l:69:PHE:CE2	2.50	0.46
53:p:87:ILE:H	53:p:87:ILE:HD12	1.80	0.46
55:r:129:VAL:O	55:r:133:GLN:HG3	2.15	0.46
4:3:448:A:H3'	4:3:449:C:C6	2.51	0.46
4:3:858:A:H2'	4:3:859:G:H8	1.80	0.46
4:3:1010:G:H1'	4:3:1025:G:N2	2.31	0.46
4:3:1042:C:H2'	4:3:1043:C:C6	2.51	0.46
4:3:1380:U:H1'	4:3:1604:A:H2	1.81	0.46
4:3:1777:G:O6	4:3:1990:C:N4	2.49	0.46
4:3:1941:C:H2'	4:3:1942:G:C8	2.50	0.46
4:3:2066:A:OP1	41:c:72:GLY:N	2.49	0.46
4:3:2530:U:H1'	4:3:2572:A:H2	1.81	0.46
4:3:2731:U:OP1	40:b:115:LYS:NZ	2.37	0.46
4:3:2823:A:N1	4:3:2832:G:C6	2.84	0.46
6:5:664:A:OP1	6:5:729:C:O2'	2.26	0.46
6:5:1106:U:O2'	6:5:1107:U:H5'	2.15	0.46
6:5:1183:C:H2'	6:5:1184:C:C6	2.51	0.46
10:9:354:SER:N	14:AD:20:DG:C4	2.83	0.46
10:9:627:ARG:HD3	10:9:670:ILE:HG21	1.97	0.46
10:9:641:PRO:HD2	14:AD:26:DT:H5'	1.73	0.46
7:AB:163:PHE:HB3	38:Z:609:ALA:CB	2.46	0.46
16:AF:131:THR:HB	38:Z:351:ILE:CD1	2.46	0.46
29:N:21:SER:O	29:N:24:VAL:HG22	2.16	0.46
33:R:22:MET:HE1	33:R:31:ILE:HD13	1.97	0.46
38:Z:1033:HIS:ND1	38:Z:1041:ASN:HB3	2.31	0.46
41:c:162:ASN:N	41:c:200:GLU:OE2	2.49	0.46
51:n:46:PHE:C	51:n:48:GLN:H	2.22	0.46
55:r:34:ASN:OD1	55:r:35:ILE:N	2.45	0.46
59:v:16:ASN:HD21	59:v:25:THR:H	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1289:G:H2'	4:3:1290:G:H8	1.78	0.46
4:3:1392:G:H3'	59:v:2:ALA:HB1	1.97	0.46
4:3:1634:A:N6	4:3:1635:G:O6	2.49	0.46
4:3:1730:C:H2'	4:3:1731:G:O4'	2.15	0.46
4:3:2110:U:H2'	4:3:2111:U:O2	2.16	0.46
4:3:2591:G:O2'	4:3:2592:U:O4'	2.18	0.46
4:3:2866:A:H2'	4:3:2867:U:C6	2.51	0.46
6:5:874:C:H5''	26:K:9:ARG:NH1	2.31	0.46
6:5:922:G:H1	6:5:1365:U:H3	1.64	0.46
6:5:1010:A:H5''	33:R:14:HIS:ND1	2.31	0.46
6:5:1066:U:H2'	6:5:1067:C:C6	2.51	0.46
6:5:1184:C:H2'	6:5:1185:C:C6	2.51	0.46
10:9:1238:GLU:OE2	38:Z:582:TYR:OH	2.32	0.46
10:9:1292:TRP:CH2	38:Z:893:ARG:HG3	2.51	0.46
10:9:1352:SER:HG	38:Z:31:TRP:CH2	1.74	0.46
13:AC:158:LYS:CA	38:Z:66:TYR:CE2	2.90	0.46
13:AC:183:LYS:CD	13:AC:281:ASN:HB3	2.46	0.46
38:Z:1079:THR:HG22	38:Z:1084:GLN:HG2	1.97	0.46
40:b:120:THR:HG21	40:b:169:TYR:HB2	1.98	0.46
46:i:38:LEU:HD23	46:i:57:LEU:HD22	1.97	0.46
53:p:91:ARG:HH21	53:p:93:VAL:HG11	1.81	0.46
53:p:107:LEU:O	53:p:111:LYS:HG3	2.16	0.46
54:q:5:VAL:HG22	54:q:38:VAL:HG23	1.97	0.46
54:q:37:LYS:HB2	54:q:37:LYS:HE3	1.75	0.46
4:3:173:C:H2'	4:3:174:A:H8	1.80	0.46
4:3:845:U:OP2	48:k:30:LYS:HE2	2.16	0.46
4:3:1081:A:C2	36:U:7:LYS:CD	2.97	0.46
4:3:1798:A:C2	4:3:1836:A:H4'	2.51	0.46
4:3:1819:G:H2'	4:3:1820:U:C6	2.51	0.46
4:3:2651:G:H2'	4:3:2652:U:O4'	2.16	0.46
4:3:2856:G:H2'	4:3:2857:C:H6	1.81	0.46
6:5:290:G:OP1	6:5:608:G:O2'	2.34	0.46
6:5:319:U:H4'	34:S:17:ARG:HD3	1.98	0.46
6:5:1325:U:H2'	6:5:1326:C:C6	2.51	0.46
10:9:1001:GLU:CA	13:AC:109:LYS:CG	2.53	0.46
10:9:1200:PHE:CD1	38:Z:862:LEU:O	2.69	0.46
7:AB:82:LEU:HD12	38:Z:621:SER:HB2	1.97	0.46
13:AC:215:ASP:CA	13:AC:217:ARG:HE	2.27	0.46
16:AF:131:THR:HB	38:Z:351:ILE:HD11	1.97	0.46
24:I:62:HIS:CD2	24:I:63:VAL:HG23	2.51	0.46
27:L:19:LEU:HD12	27:L:25:ILE:HG21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:S:40:ASN:OD1	34:S:43:ASN:ND2	2.49	0.46
47:j:17:LYS:HE3	47:j:45:ASP:HB3	1.97	0.46
59:v:18:ARG:HB3	59:v:22:LYS:HA	1.98	0.46
4:3:8:A:H2'	4:3:9:G:H8	1.77	0.45
4:3:498:C:N4	4:3:499:G:O6	2.49	0.45
4:3:715:G:H2'	4:3:716:G:H8	1.81	0.45
4:3:756:A:H2'	4:3:757:A:H8	1.81	0.45
4:3:1091:G:N1	4:3:1137:C:OP2	2.48	0.45
4:3:1371:G:N3	4:3:1371:G:H2'	2.31	0.45
4:3:1372:U:H4'	4:3:1412:A:C5	2.51	0.45
4:3:1954:C:H2'	4:3:1955:G:H8	1.78	0.45
4:3:2496:G:H2'	4:3:2497:U:C6	2.51	0.45
5:4:78:C:H3'	5:4:79:U:C2	2.51	0.45
6:5:72:A:H2'	6:5:73:G:C8	2.51	0.45
6:5:416:U:O2	6:5:421:G:C2	2.68	0.45
6:5:649:U:H1'	6:5:650:A:H8	1.80	0.45
6:5:732:A:H1'	32:Q:95:TYR:CD2	2.51	0.45
6:5:1320:A:H2'	21:F:9:ARG:HE	1.80	0.45
7:6:175:SER:H	7:AB:324:LYS:HZ1	1.38	0.45
10:9:1149:LEU:HD11	10:9:1181:LEU:CD2	2.45	0.45
7:AB:283:ARG:NH2	13:AC:82:LEU:CD1	2.79	0.45
22:G:56:ASN:HB2	22:G:73:ASN:ND2	2.23	0.45
22:G:118:THR:OG1	22:G:119:SER:N	2.49	0.45
31:P:20:LYS:HD2	31:P:48:HIS:HB2	1.98	0.45
38:Z:1219:ASP:HB3	38:Z:1235:GLN:HE22	1.81	0.45
41:c:130:GLN:HA	41:c:133:PHE:CD1	2.51	0.45
58:u:38:LYS:N	58:u:51:ILE:O	2.44	0.45
4:3:625:G:H2'	4:3:626:A:C8	2.47	0.45
4:3:704:G:N3	4:3:704:G:H2'	2.32	0.45
4:3:774:A:H1'	4:3:775:C:H5	1.81	0.45
4:3:851:U:H2'	4:3:852:C:C6	2.51	0.45
4:3:990:G:H2'	4:3:991:G:C8	2.51	0.45
4:3:1453:U:H3'	4:3:1454:G:C8	2.51	0.45
4:3:1505:G:H2'	4:3:1506:U:C6	2.51	0.45
4:3:1688:A:H62	4:3:2012:A:H2	1.63	0.45
4:3:2106:G:H2'	4:3:2107:A:H8	1.81	0.45
4:3:2381:G:H2'	4:3:2382:A:C8	2.50	0.45
4:3:2568:G:H2'	4:3:2569:A:C8	2.51	0.45
4:3:2582:G:H2'	4:3:2583:U:C6	2.51	0.45
4:3:2681:G:H2'	4:3:2682:A:C8	2.51	0.45
4:3:2835:G:O3'	4:3:2838:G:N2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:93:U:H2'	5:4:94:A:C8	2.50	0.45
6:5:224:A:H2'	6:5:225:U:C6	2.51	0.45
6:5:236:C:H2'	6:5:237:A:C8	2.51	0.45
6:5:1294:U:N3	6:5:1295:U:O4	2.49	0.45
6:5:1379:C:H2'	6:5:1380:G:C8	2.51	0.45
10:9:176:LYS:HD3	15:AE:7:DT:H2''	1.97	0.45
10:9:658:PRO:CB	38:Z:868:PHE:CD2	2.99	0.45
10:9:848:LYS:HD3	10:9:859:ASN:OD1	2.16	0.45
10:9:1310:LYS:HB3	38:Z:408:VAL:CA	2.46	0.45
10:9:1371:LEU:CD1	38:Z:95:VAL:CB	2.78	0.45
10:9:1371:LEU:CG	38:Z:95:VAL:CG1	2.57	0.45
14:AD:29:DC:H5''	38:Z:1057:VAL:CB	2.45	0.45
17:B:18:TRP:CD1	28:M:54:PRO:HA	2.50	0.45
21:F:22:VAL:O	21:F:26:ILE:HG12	2.17	0.45
24:I:16:LEU:HD21	24:I:78:ARG:HG3	1.98	0.45
24:I:86:ASN:O	24:I:89:ALA:N	2.46	0.45
32:Q:81:MET:HA	32:Q:84:ARG:NH2	2.31	0.45
38:Z:299:LEU:CD1	38:Z:368:PHE:HE2	2.29	0.45
38:Z:501:ARG:HG2	38:Z:563:LEU:CD1	2.46	0.45
39:a:125:GLU:HB2	44:f:89:TYR:HE1	1.82	0.45
56:s:53:LEU:HD11	56:s:86:PRO:HA	1.98	0.45
62:y:43:CYS:SG	62:y:46:GLY:N	2.90	0.45
4:3:1061:A:H2'	4:3:1062:A:H8	1.81	0.45
4:3:1292:A:OP2	55:r:99:ARG:NH2	2.49	0.45
4:3:1390:C:H2'	4:3:1391:U:H6	1.81	0.45
4:3:1813:C:OP1	39:a:258:TRP:NE1	2.49	0.45
4:3:1842:G:H2'	4:3:1843:C:C6	2.51	0.45
4:3:1848:U:C2	4:3:1849:G:C8	3.04	0.45
4:3:1872:U:O2	4:3:1882:G:N2	2.49	0.45
4:3:2078:A:H2'	4:3:2079:G:H8	1.81	0.45
4:3:2268:C:H2'	4:3:2269:C:H6	1.81	0.45
4:3:2269:C:H2'	4:3:2270:U:C6	2.51	0.45
4:3:2483:C:H42	4:3:2537:G:N2	2.14	0.45
5:4:105:A:H2'	5:4:106:A:C8	2.51	0.45
6:5:264:C:H2'	6:5:265:U:C6	2.50	0.45
6:5:403:A:H2'	6:5:404:A:H8	1.79	0.45
6:5:462:G:O2'	6:5:463:U:O4'	2.14	0.45
6:5:503:G:H2'	6:5:504:A:C8	2.50	0.45
6:5:1047:U:H2'	6:5:1048:G:H8	1.81	0.45
6:5:1223:A:H2'	6:5:1224:C:C6	2.51	0.45
6:5:1360:G:H2'	6:5:1361:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1361:G:H2'	6:5:1362:G:H8	1.81	0.45
7:6:1:MET:HE3	7:AB:51:PRO:HD3	1.97	0.45
8:7:2:G:N2	8:7:73:C:C2	2.78	0.45
9:8:831:PHE:CE2	9:8:913:VAL:HG21	2.52	0.45
10:9:395:ARG:O	10:9:401:GLU:HG3	2.17	0.45
10:9:409:ALA:O	10:9:423:LYS:HE3	2.17	0.45
10:9:998:ILE:CG2	13:AC:108:LEU:CG	2.68	0.45
10:9:1283:GLY:O	38:Z:407:ARG:NH1	2.50	0.45
7:AB:82:LEU:HD13	38:Z:621:SER:HB2	1.96	0.45
15:AE:23:DC:H2'	15:AE:24:DA:C8	2.51	0.45
18:C:89:LEU:HA	18:C:92:VAL:HG22	1.98	0.45
31:P:25:GLN:OE1	31:P:42:HIS:HB2	2.16	0.45
38:Z:164:GLU:OE1	38:Z:179:LYS:NZ	2.49	0.45
39:a:191:LYS:HB2	39:a:277:LEU:HD12	1.98	0.45
4:3:77:G:OP1	60:w:49:ARG:NH2	2.50	0.45
4:3:342:G:N2	4:3:513:A:OP1	2.46	0.45
4:3:477:U:H2'	4:3:478:G:H8	1.82	0.45
4:3:897:A:H62	4:3:953:G:H21	1.63	0.45
4:3:1127:C:H2'	4:3:1128:G:O4'	2.16	0.45
4:3:1167:U:C5	46:i:78:TYR:HB2	2.51	0.45
4:3:1202:A:H2'	4:3:1203:G:C8	2.52	0.45
4:3:1457:A:H2'	4:3:1458:A:C8	2.51	0.45
4:3:1544:G:C2	4:3:1545:A:C5	3.05	0.45
4:3:1826:A:H1'	4:3:1828:A:C5	2.52	0.45
4:3:1830:G:OP1	39:a:58:GLN:NE2	2.49	0.45
4:3:1955:G:C2'	4:3:1956:G:H5'	2.46	0.45
4:3:2275:A:N6	4:3:2280:U:C2	2.85	0.45
4:3:2277:A:C4	4:3:2278:G:C8	3.05	0.45
4:3:2524:U:H2'	4:3:2525:C:C6	2.52	0.45
4:3:2656:G:H2'	4:3:2657:C:C6	2.52	0.45
4:3:2699:C:H2'	4:3:2700:C:H6	1.81	0.45
4:3:2701:A:H2'	4:3:2702:G:H8	1.81	0.45
6:5:238:U:H2'	6:5:280:G:H22	1.82	0.45
6:5:255:G:OP2	34:S:71:ARG:HD3	2.15	0.45
6:5:473:A:H2'	6:5:474:G:C8	2.52	0.45
6:5:538:G:H2'	6:5:539:G:C8	2.51	0.45
6:5:875:G:OP1	26:K:9:ARG:NH1	2.50	0.45
6:5:879:G:H2'	6:5:880:G:C8	2.51	0.45
9:8:171:ARG:HH12	9:8:318:GLU:CD	2.24	0.45
10:9:1310:LYS:HG2	38:Z:409:ASP:CB	2.40	0.45
10:9:1348:GLY:C	38:Z:368:PHE:CE1	2.88	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:A:202:CYS:SG	11:A:206:THR:OG1	2.62	0.45
19:D:108:ALA:HB3	19:D:114:ALA:HB2	1.98	0.45
40:b:70:PHE:O	40:b:74:ASN:N	2.45	0.45
47:j:30:LYS:O	47:j:31:ARG:HG2	2.16	0.45
50:m:106:ARG:HB2	50:m:113:MET:HE1	1.98	0.45
54:q:27:ALA:HB1	54:q:31:LYS:NZ	2.31	0.45
4:3:109:G:H1'	4:3:380:A:H61	1.80	0.45
4:3:341:G:N1	4:3:344:A:OP2	2.35	0.45
4:3:491:A:H2	4:3:509:G:H5'	1.81	0.45
4:3:892:G:H4'	58:u:83:TYR:CD2	2.52	0.45
4:3:1039:G:H2'	4:3:1040:U:C6	2.52	0.45
4:3:1070:U:H5''	43:e:62:LYS:HE2	1.98	0.45
4:3:1108:A:H2'	4:3:1109:G:O4'	2.17	0.45
4:3:1544:G:H2'	4:3:1545:A:C8	2.51	0.45
4:3:2157:A:H2'	4:3:2158:C:C6	2.51	0.45
4:3:2330:A:H3'	4:3:2331:G:H8	1.82	0.45
4:3:2515:C:H2'	4:3:2516:G:O4'	2.17	0.45
4:3:2604:U:HO2'	4:3:2605:G:P	2.39	0.45
4:3:2780:U:H2'	4:3:2781:C:C6	2.52	0.45
5:4:57:G:C5	5:4:58:C:C5	3.05	0.45
6:5:137:A:H3'	6:5:138:A:H8	1.81	0.45
6:5:394:U:H2'	6:5:395:G:C8	2.48	0.45
6:5:403:A:H4'	18:C:112:SER:HA	1.99	0.45
6:5:446:A:H2'	6:5:447:G:O4'	2.16	0.45
6:5:742:C:H5''	6:5:845:C:O2'	2.16	0.45
6:5:767:U:H1'	6:5:894:A:H2	1.81	0.45
6:5:934:G:O2'	21:F:101:ARG:NH1	2.47	0.45
6:5:1003:G:C6	6:5:1018:U:C4	3.04	0.45
6:5:1116:U:O2'	6:5:1117:U:O5'	2.26	0.45
6:5:1414:U:P	34:S:29:LYS:HZ1	2.35	0.45
11:A:102:ARG:HE	11:A:103:VAL:HG13	1.81	0.45
18:C:144:LEU:HB3	18:C:174:PHE:HB3	1.97	0.45
26:K:113:GLY:HA2	26:K:119:GLY:HA2	1.99	0.45
30:O:58:LYS:HB3	30:O:64:ARG:NH1	2.32	0.45
33:R:15:LEU:HA	33:R:18:LYS:NZ	2.32	0.45
39:a:146:GLN:O	39:a:201:GLY:N	2.39	0.45
46:i:18:TRP:NE1	46:i:138:GLN:HE21	2.14	0.45
46:i:108:VAL:O	46:i:112:LEU:HD23	2.15	0.45
47:j:1:MET:HE1	47:j:32:TYR:HB3	1.97	0.45
53:p:79:ILE:HD11	53:p:83:LYS:NZ	2.32	0.45
59:v:39:LYS:HB3	59:v:64:LEU:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:84:G:H2'	4:3:85:U:C6	2.52	0.45
4:3:562:C:O2	46:i:119:ARG:NH2	2.49	0.45
4:3:780:G:O2'	4:3:783:G:H1'	2.16	0.45
4:3:794:G:H2'	4:3:795:G:H8	1.81	0.45
4:3:843:G:H2'	4:3:844:G:C8	2.52	0.45
4:3:975:G:H2'	4:3:976:C:C6	2.51	0.45
4:3:1037:A:H3'	4:3:1038:G:H8	1.82	0.45
4:3:1171:G:H2'	4:3:1172:G:H8	1.82	0.45
4:3:1243:A:H2'	4:3:1244:A:O4'	2.17	0.45
4:3:1390:C:H2'	4:3:1391:U:C6	2.52	0.45
4:3:1661:A:H2'	4:3:1662:G:C8	2.43	0.45
4:3:1709:C:H3'	4:3:1710:A:C8	2.51	0.45
4:3:1749:A:O2'	4:3:1750:A:O4'	2.18	0.45
4:3:1841:U:H5''	4:3:1842:G:H5''	1.99	0.45
4:3:2100:G:H2'	4:3:2101:A:C8	2.51	0.45
4:3:2106:G:N2	4:3:2198:G:H1	2.15	0.45
4:3:2269:C:H1'	4:3:2396:A:H1'	1.99	0.45
4:3:2395:U:H1'	58:u:55:ARG:HG2	1.99	0.45
4:3:2472:G:H2'	4:3:2473:C:H6	1.82	0.45
4:3:2799:U:H3	4:3:2810:A:N6	2.14	0.45
6:5:597:C:H5''	22:G:100:PRO:HA	1.98	0.45
6:5:660:A:H61	6:5:739:G:H1	1.64	0.45
10:9:1370:ILE:CD1	38:Z:94:ILE:HG13	2.46	0.45
11:A:112:TRP:CZ2	11:A:116:THR:HB	2.51	0.45
13:AC:183:LYS:HB3	13:AC:280:PHE:HA	1.99	0.45
18:C:7:ILE:HG13	18:C:8:PHE:CD1	2.52	0.45
19:D:80:THR:OG1	19:D:81:LYS:N	2.50	0.45
26:K:96:ARG:HH22	26:K:130:TYR:HE1	1.65	0.45
32:Q:93:ALA:O	32:Q:97:ALA:N	2.49	0.45
38:Z:687:VAL:CG1	38:Z:802:ARG:HH22	2.16	0.45
49:l:109:ILE:O	49:l:114:MET:HE2	2.16	0.45
52:o:107:ARG:HD3	52:o:108:SER:O	2.16	0.45
54:q:81:LYS:HD3	54:q:81:LYS:HA	1.69	0.45
4:3:719:G:C6	4:3:809:A:H1'	2.51	0.45
4:3:877:G:H2'	4:3:878:A:C8	2.52	0.45
4:3:1468:U:H2'	4:3:1469:C:O4'	2.16	0.45
4:3:1557:G:H21	4:3:1573:A:H62	1.65	0.45
4:3:1758:C:H2'	4:3:1759:C:C6	2.52	0.45
4:3:2322:G:H2'	4:3:2323:U:C6	2.51	0.45
4:3:2330:A:H2'	4:3:2331:G:O4'	2.17	0.45
4:3:2712:C:C2	4:3:2713:A:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:85:A:O2'	5:4:86:G:O4'	2.32	0.45
6:5:69:G:N2	6:5:86:A:N1	2.48	0.45
6:5:94:A:O2'	6:5:95:C:H5'	2.16	0.45
6:5:106:C:H41	6:5:231:U:H3'	1.82	0.45
6:5:402:G:O6	6:5:403:A:N6	2.50	0.45
6:5:501:A:H2'	6:5:502:C:C6	2.52	0.45
6:5:643:U:H2'	6:5:644:U:H6	1.80	0.45
6:5:1351:U:H2'	6:5:1352:A:H8	1.82	0.45
10:9:1001:GLU:N	13:AC:109:LYS:HE2	2.32	0.45
10:9:1297:TYR:CE2	38:Z:504:ILE:HB	2.47	0.45
16:AF:96:TYR:OH	38:Z:355:ASN:ND2	2.50	0.45
21:F:90:VAL:HG13	21:F:95:LYS:HG2	1.99	0.45
32:Q:61:LYS:NZ	32:Q:99:VAL:HG12	2.32	0.45
33:R:41:PHE:CD1	33:R:42:PRO:HD2	2.52	0.45
40:b:35:GLN:HE22	40:b:76:LYS:HB2	1.82	0.45
41:c:40:VAL:HG11	41:c:103:LEU:HD23	1.98	0.45
43:e:145:GLY:O	43:e:149:THR:HG23	2.16	0.45
51:n:2:LYS:HD3	51:n:2:LYS:HA	1.74	0.45
54:q:10:LYS:HD3	54:q:10:LYS:HA	1.75	0.45
55:r:115:GLN:HB3	55:r:119:LYS:NZ	2.31	0.45
59:v:4:LYS:HG2	59:v:12:PRO:HD3	1.99	0.45
4:3:8:A:H1'	46:i:138:GLN:OE1	2.17	0.45
4:3:195:A:H2'	4:3:196:G:C8	2.52	0.45
4:3:648:G:N2	41:c:185:LYS:HG3	2.30	0.45
4:3:958:C:H2'	4:3:959:C:C6	2.52	0.45
4:3:1475:C:H2'	4:3:1476:C:O4'	2.16	0.45
4:3:2054:C:H2'	4:3:2055:A:C8	2.51	0.45
6:5:152:U:H2'	6:5:153:A:C8	2.52	0.45
6:5:606:A:H3'	6:5:607:A:H8	1.82	0.45
6:5:669:U:H2'	6:5:670:G:C8	2.51	0.45
6:5:744:U:H4'	6:5:745:U:C5	2.51	0.45
6:5:1447:U:H2'	6:5:1448:A:C8	2.51	0.45
8:7:30:G:H5''	27:L:118:ASN:CG	2.42	0.45
7:AB:67:PHE:CE1	38:Z:596:ILE:CD1	2.99	0.45
13:AC:139:PHE:CD2	13:AC:147:ILE:CD1	2.99	0.45
13:AC:239:LYS:NZ	13:AC:294:LYS:HB2	2.32	0.45
13:AC:298:LEU:HA	13:AC:349:THR:HG21	1.97	0.45
17:B:11:ARG:HG2	17:B:181:LEU:HD12	1.99	0.45
19:D:148:ARG:HB2	19:D:183:LEU:HB2	1.98	0.45
24:I:63:VAL:HG12	24:I:64:ASP:H	1.81	0.45
33:R:81:LYS:HG3	33:R:83:HIS:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:S:27:LYS:O	34:S:30:THR:OG1	2.34	0.45
40:b:14:SER:HB2	52:o:14:GLU:OE1	2.17	0.45
40:b:208:ARG:HD2	40:b:209:THR:N	2.32	0.45
51:n:28:VAL:HG11	51:n:86:LEU:HD13	1.99	0.45
55:r:88:ARG:HG3	55:r:94:ASN:HB2	1.97	0.45
4:3:513:A:H2'	4:3:514:A:C8	2.51	0.45
4:3:1101:U:O2	4:3:1108:A:N6	2.50	0.45
4:3:1300:C:OP1	4:3:1301:G:H5'	2.17	0.45
4:3:1462:A:O2'	4:3:1463:G:H8	1.99	0.45
4:3:1600:A:H1'	39:a:62:ASN:HD22	1.80	0.45
4:3:1820:U:HO2'	4:3:1821:G:P	2.38	0.45
4:3:2002:U:H2'	4:3:2003:C:C5	2.52	0.45
4:3:2126:A:H2	4:3:2176:G:H21	1.65	0.45
4:3:2303:U:C2	4:3:2346:G:N1	2.85	0.45
4:3:2372:C:H2'	4:3:2373:G:C8	2.51	0.45
4:3:2447:A:H1'	4:3:2595:A:OP1	2.17	0.45
6:5:223:G:H2'	6:5:224:A:C8	2.52	0.45
6:5:490:U:H2'	6:5:491:U:C6	2.52	0.45
6:5:733:A:H2'	6:5:734:A:H8	1.81	0.45
6:5:1032:G:H2'	6:5:1033:U:C6	2.52	0.45
6:5:1168:G:H2'	6:5:1169:U:H6	1.82	0.45
6:5:1203:A:OP1	27:L:107:ARG:NH1	2.39	0.45
6:5:1258:U:H2'	6:5:1259:G:C8	2.52	0.45
6:5:1390:G:H2'	6:5:1391:A:H8	1.82	0.45
7:6:283:ARG:NH1	13:AC:313:LEU:O	2.50	0.45
8:7:3:G:H1'	58:u:20:GLY:HA3	1.99	0.45
10:9:1310:LYS:HA	38:Z:409:ASP:OD2	2.17	0.45
10:9:1338:SER:HB3	38:Z:402:ASN:CB	2.46	0.45
18:C:74:LEU:HA	18:C:77:LEU:HG	1.99	0.45
23:H:106:THR:HG23	23:H:107:THR:HG23	1.99	0.45
31:P:30:PHE:HZ	31:P:41:ARG:HD3	1.82	0.45
43:e:148:ALA:HA	43:e:151:VAL:HG22	1.99	0.45
46:i:37:ASP:OD2	46:i:43:ASN:ND2	2.49	0.45
46:i:95:MET:HE2	46:i:103:LEU:HB2	1.99	0.45
54:q:35:LEU:HB3	54:q:55:VAL:HG23	1.99	0.45
4:3:289:U:H2'	4:3:290:A:C8	2.52	0.45
4:3:405:C:H2'	4:3:406:C:C6	2.52	0.45
4:3:853:G:H21	4:3:1220:A:H62	1.64	0.45
4:3:873:G:H2'	4:3:874:U:C6	2.52	0.45
4:3:874:U:H2'	4:3:875:G:C8	2.52	0.45
4:3:899:A:H2'	4:3:900:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1065:G:H5''	49:l:129:TRP:HH2	1.81	0.45
4:3:1349:C:H2'	4:3:1350:A:C8	2.51	0.45
4:3:1447:A:O2'	4:3:1448:U:H5''	2.17	0.45
4:3:1513:A:H2'	4:3:1514:U:C6	2.52	0.45
4:3:1778:G:H2'	4:3:1779:G:C8	2.52	0.45
4:3:2810:A:C8	4:3:2895:A:N6	2.83	0.45
6:5:747:C:H5'	29:N:17:LYS:HE3	1.98	0.45
6:5:949:G:H3'	6:5:950:C:C5	2.52	0.45
6:5:1072:G:H2'	6:5:1073:A:C8	2.52	0.45
6:5:1114:A:N6	6:5:1127:A:N6	2.65	0.45
10:9:661:THR:HG21	38:Z:875:ARG:NE	2.31	0.45
10:9:999:PHE:CZ	13:AC:64:ILE:CD1	3.00	0.45
10:9:1340:LYS:HZ2	10:9:1370:ILE:CG1	2.29	0.45
7:AB:168:GLU:CD	38:Z:611:LYS:NZ	2.75	0.45
13:AC:291:ASN:N	13:AC:296:LYS:CG	2.41	0.45
14:AD:15:DT:C3'	16:AF:95:ARG:NH2	2.76	0.45
18:C:2:LYS:HG3	18:C:3:TYR:HD1	1.82	0.45
22:G:21:LYS:HA	22:G:21:LYS:HD2	1.68	0.45
32:Q:70:ILE:HD12	32:Q:90:LEU:HD21	1.99	0.45
34:S:50:GLN:NE2	34:S:54:LEU:HD23	2.32	0.45
38:Z:781:TRP:CE3	38:Z:853:PRO:HG3	2.52	0.45
38:Z:1130:LEU:HD22	38:Z:1215:VAL:HG23	1.98	0.45
40:b:1:MET:CE	40:b:2:GLU:HG2	2.46	0.45
40:b:64:LYS:O	40:b:67:GLN:HG2	2.16	0.45
51:n:79:ASP:O	51:n:82:VAL:HG22	2.16	0.45
54:q:67:LYS:HA	54:q:86:ARG:HE	1.82	0.45
4:3:57:G:H2'	4:3:58:A:H8	1.81	0.44
4:3:174:A:H2'	4:3:175:A:H8	1.82	0.44
4:3:297:G:H1	4:3:440:C:H5	1.65	0.44
4:3:991:G:H4'	49:l:87:LYS:HE3	1.99	0.44
4:3:1149:G:O2'	4:3:1150:U:H5'	2.18	0.44
4:3:1703:A:H8	47:j:5:MET:HG2	1.80	0.44
4:3:2023:U:H2'	4:3:2024:C:O4'	2.17	0.44
4:3:2265:U:H2'	4:3:2266:C:C6	2.52	0.44
4:3:2850:G:H2'	4:3:2851:U:H6	1.82	0.44
5:4:4:G:C6	5:4:105:A:N6	2.86	0.44
6:5:304:U:H2'	6:5:305:A:C8	2.52	0.44
6:5:519:G:C5	6:5:527:G:N2	2.85	0.44
6:5:887:C:H2'	6:5:888:A:O4'	2.17	0.44
6:5:1464:G:H2'	6:5:1465:U:C6	2.52	0.44
8:7:68:G:H2'	8:7:69:A:C8	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:404:TYR:HA	10:9:432:ILE:HD11	1.99	0.44
10:9:648:VAL:C	38:Z:835:PHE:HE2	2.25	0.44
10:9:1160:ARG:NH1	10:9:1176:ASP:OD2	2.50	0.44
10:9:1342:LEU:N	38:Z:398:LEU:HD22	2.29	0.44
7:AB:82:LEU:HD21	38:Z:597:PHE:C	2.42	0.44
7:AB:283:ARG:HH12	13:AC:79:ASP:CG	2.25	0.44
13:AC:249:LYS:HB3	13:AC:297:PHE:CE1	2.10	0.44
13:AC:290:TRP:CZ2	13:AC:296:LYS:CE	3.00	0.44
17:B:60:ARG:HG2	17:B:65:VAL:HA	1.99	0.44
18:C:147:LYS:O	18:C:150:LYS:NZ	2.49	0.44
20:E:35:LEU:HD12	20:E:60:TRP:CD1	2.51	0.44
20:E:88:ILE:HG23	20:E:92:ARG:NE	2.32	0.44
21:F:71:ARG:HG3	21:F:72:LEU:HD22	1.99	0.44
25:J:46:LYS:HE2	25:J:46:LYS:HB2	1.89	0.44
27:L:26:GLY:O	27:L:30:SER:OG	2.28	0.44
40:b:227:GLU:OE1	40:b:227:GLU:N	2.51	0.44
55:r:85:THR:OG1	55:r:93:SER:OG	2.35	0.44
4:3:984:C:H2'	4:3:985:A:C8	2.52	0.44
4:3:1001:C:H2'	4:3:1002:A:C8	2.53	0.44
4:3:1229:U:H2'	4:3:1230:U:H6	1.83	0.44
4:3:1364:A:H2'	4:3:1365:G:C8	2.53	0.44
4:3:1408:G:H2'	4:3:1409:G:H8	1.82	0.44
4:3:1596:U:H2'	4:3:1597:U:C6	2.51	0.44
4:3:1756:A:H2'	4:3:1757:G:H8	1.81	0.44
4:3:1785:U:H2'	4:3:1786:U:O2	2.18	0.44
4:3:1839:C:H2'	4:3:1840:C:C6	2.51	0.44
4:3:1843:C:H2'	4:3:1844:C:C6	2.52	0.44
4:3:2754:U:H5''	43:e:141:LYS:HB3	1.99	0.44
4:3:2852:G:H1'	4:3:2872:A:N6	2.32	0.44
5:4:77:G:H2'	5:4:78:C:H1'	1.98	0.44
6:5:255:G:H2'	6:5:256:G:C8	2.53	0.44
6:5:256:G:O6	34:S:71:ARG:NH1	2.50	0.44
6:5:911:G:H2'	6:5:912:G:C8	2.51	0.44
6:5:1438:U:H2'	6:5:1439:G:C8	2.52	0.44
7:6:44:ARG:NH1	10:9:1232:ARG:HA	2.32	0.44
9:8:615:PHE:CE1	9:8:619:ILE:HD12	2.52	0.44
10:9:17:THR:H	10:9:1140:ASN:HD21	1.65	0.44
10:9:614:ASP:HA	10:9:854:GLN:HE22	1.82	0.44
10:9:1269:LYS:HD2	38:Z:313:ILE:HD13	1.99	0.44
10:9:1350:ALA:N	38:Z:368:PHE:CZ	2.86	0.44
13:AC:156:THR:N	38:Z:76:ILE:CG2	2.77	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:B:141:LEU:HA	17:B:144:VAL:HG22	1.98	0.44
18:C:41:ARG:HH21	18:C:41:ARG:HG2	1.81	0.44
19:D:137:TYR:O	19:D:153:PRO:HG3	2.17	0.44
38:Z:135:VAL:HG12	38:Z:139:LEU:HD12	1.99	0.44
38:Z:583:LEU:O	38:Z:641:GLY:HA3	2.16	0.44
41:c:176:LYS:C	41:c:179:GLN:HE22	2.23	0.44
43:e:127:LYS:HB2	43:e:135:THR:HB	1.98	0.44
57:t:41:LYS:HD2	57:t:64:GLN:HB3	1.99	0.44
63:z:11:CYS:HA	63:z:47:HIS:ND1	2.33	0.44
4:3:306:G:H2'	4:3:307:C:C6	2.51	0.44
4:3:387:U:H2'	4:3:388:U:C6	2.52	0.44
4:3:731:A:H2'	4:3:732:G:C8	2.53	0.44
4:3:858:A:N6	4:3:870:A:H61	2.15	0.44
4:3:868:C:H2'	4:3:869:U:C6	2.53	0.44
4:3:1308:A:H2'	4:3:1309:G:H8	1.83	0.44
4:3:1535:A:H2'	4:3:1536:C:O4'	2.16	0.44
4:3:1687:G:OP1	4:3:2826:G:N1	2.50	0.44
4:3:1692:A:H2'	4:3:1693:U:C6	2.53	0.44
4:3:2002:U:H3'	4:3:2003:C:H2'	2.00	0.44
4:3:2087:G:H2'	4:3:2088:U:H6	1.82	0.44
4:3:2701:A:H2'	4:3:2702:G:C8	2.53	0.44
4:3:2823:A:C6	4:3:2832:G:N1	2.86	0.44
6:5:108:C:H5''	6:5:307:C:H1'	1.99	0.44
6:5:176:G:H2'	6:5:177:G:C8	2.52	0.44
6:5:409:G:H1'	6:5:425:G:H21	1.81	0.44
6:5:619:A:OP2	6:5:619:A:H8	2.00	0.44
6:5:623:G:H4'	30:O:32:HIS:HE2	1.82	0.44
6:5:678:A:H2'	6:5:679:U:H6	1.83	0.44
6:5:909:A:O2'	6:5:910:C:H5'	2.18	0.44
6:5:939:G:N2	6:5:1312:G:H8	2.16	0.44
6:5:964:A:H2'	6:5:965:C:C6	2.52	0.44
6:5:1089:C:H2'	6:5:1090:G:C8	2.51	0.44
6:5:1154:A:H5''	23:H:107:THR:HA	2.00	0.44
7:6:57:ALA:HB2	7:6:173:ILE:HD11	1.98	0.44
9:8:181:TYR:CD1	9:8:289:LYS:HE2	2.52	0.44
10:9:98:ALA:HB2	10:9:130:LEU:HD11	1.98	0.44
10:9:816:MET:HB3	10:9:877:ALA:HB3	1.99	0.44
11:A:193:ILE:O	11:A:195:ARG:NH2	2.48	0.44
18:C:100:ILE:HG13	18:C:136:LEU:HG	1.98	0.44
24:I:57:ILE:HD12	28:M:41:ARG:HB2	2.00	0.44
38:Z:257:LEU:HB3	38:Z:281:LEU:HD12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:1126:ILE:HG23	38:Z:1138:VAL:HG13	1.99	0.44
46:i:143:LEU:HG	46:i:146:SER:HB3	1.99	0.44
50:m:117:GLN:HG2	62:y:53:VAL:HG21	2.00	0.44
52:o:90:LEU:C	52:o:91:LYS:HD3	2.42	0.44
4:3:27:U:H4'	55:r:80:PRO:HD3	1.98	0.44
4:3:832:C:H2'	4:3:833:C:C6	2.52	0.44
4:3:892:G:H4'	58:u:83:TYR:HD2	1.83	0.44
4:3:1028:C:H2'	4:3:1029:A:C8	2.53	0.44
4:3:1344:U:H2'	4:3:1345:G:C8	2.53	0.44
4:3:1457:A:H2'	4:3:1458:A:H8	1.81	0.44
4:3:2028:G:OP1	62:y:11:HIS:NE2	2.50	0.44
4:3:2599:C:H2'	4:3:2600:G:H8	1.81	0.44
4:3:2656:G:H2'	4:3:2657:C:H6	1.82	0.44
6:5:613:C:H2'	6:5:614:U:H6	1.82	0.44
6:5:881:G:N1	6:5:905:U:N3	2.66	0.44
9:8:364:TYR:CE1	9:8:399:ARG:NH1	2.85	0.44
10:9:168:GLN:O	14:AD:25:DC:H2''	2.18	0.44
10:9:392:LYS:NZ	10:9:529:ASN:HA	2.33	0.44
10:9:1079:PRO:HB2	10:9:1228:LEU:HD21	2.00	0.44
10:9:1307:LEU:C	38:Z:406:LYS:CD	2.89	0.44
17:B:35:ILE:HG12	28:M:25:GLN:HB2	2.00	0.44
41:c:156:ASN:O	41:c:194:ALA:HA	2.16	0.44
44:f:98:ILE:HD13	44:f:108:LEU:HD12	1.99	0.44
49:l:36:ALA:N	49:l:103:MET:HE1	2.33	0.44
4:3:455:G:C4	4:3:456:G:C8	3.05	0.44
4:3:810:G:H4'	4:3:811:G:H5'	1.99	0.44
4:3:858:A:H2'	4:3:859:G:C8	2.52	0.44
4:3:898:A:O3'	5:4:76:A:O2'	2.26	0.44
4:3:1954:C:H2'	4:3:1955:G:C8	2.53	0.44
4:3:2073:C:H2'	4:3:2074:G:C8	2.52	0.44
4:3:2382:A:H2'	4:3:2383:G:H8	1.82	0.44
4:3:2749:A:H62	4:3:2771:G:N2	2.10	0.44
4:3:2858:A:H2'	4:3:2859:U:C6	2.53	0.44
6:5:14:U:H3'	6:5:15:U:C6	2.52	0.44
6:5:80:U:H2'	6:5:81:A:C8	2.53	0.44
6:5:335:C:H2'	6:5:336:U:C6	2.51	0.44
6:5:371:U:H2'	6:5:372:G:C8	2.53	0.44
6:5:433:C:O2'	18:C:151:ILE:HG12	2.18	0.44
6:5:839:U:H1'	32:Q:45:ALA:HB2	1.99	0.44
6:5:1405:U:O2	6:5:1445:G:N2	2.34	0.44
7:6:276:ARG:HG3	13:AC:313:LEU:HD22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:9:648:VAL:HB	38:Z:872:TYR:CE1	2.52	0.44
10:9:1200:PHE:CD1	38:Z:864:ILE:N	2.85	0.44
16:AF:78:ASP:OD1	16:AF:81:ARG:CB	2.58	0.44
18:C:12:ARG:HG2	18:C:35:PRO:HD3	1.99	0.44
21:F:37:LEU:O	21:F:41:ILE:HG12	2.18	0.44
22:G:41:LYS:HA	22:G:44:ILE:HG12	2.00	0.44
29:N:37:THR:HA	29:N:40:LEU:HG	2.00	0.44
38:Z:314:GLN:HE21	38:Z:318:ALA:HA	1.80	0.44
52:o:5:ASN:C	52:o:6:LYS:HD3	2.43	0.44
4:3:118:G:OP2	4:3:120:A:O2'	2.25	0.44
4:3:815:G:H5''	39:a:225:ARG:NH2	2.33	0.44
4:3:1343:C:H2'	4:3:1344:U:C6	2.52	0.44
4:3:1369:U:OP1	4:3:1636:U:O2'	2.27	0.44
4:3:1725:G:O6	4:3:1731:G:N2	2.51	0.44
4:3:2334:U:O2'	4:3:2335:A:N7	2.51	0.44
5:4:59:A:H2'	5:4:60:C:H6	1.83	0.44
5:4:70:G:H21	5:4:94:A:H62	1.65	0.44
6:5:763:A:N7	6:5:810:U:O4	2.50	0.44
6:5:1114:A:H2'	6:5:1115:G:C8	2.53	0.44
6:5:1132:G:N2	6:5:1154:A:C2	2.86	0.44
6:5:1348:G:H5''	21:F:35:LYS:HE3	1.99	0.44
6:5:1463:A:H2'	6:5:1464:G:C8	2.53	0.44
10:9:1345:GLU:CD	38:Z:391:ARG:HB2	2.29	0.44
10:9:1349:LEU:HD11	38:Z:389:THR:CA	2.48	0.44
7:AB:67:PHE:HE1	38:Z:596:ILE:CD1	2.30	0.44
18:C:95:SER:O	18:C:95:SER:OG	2.35	0.44
21:F:78:ARG:HH11	21:F:84:TYR:N	2.15	0.44
22:G:90:ILE:HG12	22:G:139:ALA:HA	2.00	0.44
24:I:56:THR:O	24:I:68:ARG:NH1	2.51	0.44
29:N:9:ILE:O	29:N:13:GLN:HG3	2.18	0.44
31:P:14:LYS:HD2	31:P:15:SER:OG	2.17	0.44
36:U:25:VAL:CG2	36:U:89:ILE:HD11	2.48	0.44
41:c:54:THR:HG23	41:c:56:GLY:H	1.83	0.44
41:c:112:LEU:O	41:c:115:VAL:HG12	2.18	0.44
42:d:106:VAL:O	42:d:110:ARG:HB2	2.17	0.44
55:r:65:ASN:ND2	55:r:67:ASP:OD2	2.50	0.44
4:3:535:G:N1	4:3:538:A:OP2	2.42	0.44
4:3:616:G:H2'	4:3:617:C:H6	1.82	0.44
4:3:745:U:H2'	4:3:746:G:C8	2.53	0.44
4:3:1317:C:H2'	4:3:1318:U:C6	2.53	0.44
4:3:1830:G:H2'	4:3:1831:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2070:C:O2'	8:7:77:A:H5''	2.17	0.44
4:3:2891:C:H2'	4:3:2892:U:H6	1.83	0.44
6:5:10:G:H2'	6:5:11:A:C8	2.53	0.44
6:5:492:G:H2'	6:5:494:A:H8	1.83	0.44
6:5:523:U:H5''	26:K:101:LYS:NZ	2.33	0.44
6:5:596:U:H2'	6:5:597:C:C6	2.53	0.44
6:5:826:G:N2	6:5:851:U:O2	2.35	0.44
6:5:865:U:O2'	6:5:866:A:OP1	2.34	0.44
6:5:1098:C:C2	6:5:1099:G:C8	3.05	0.44
6:5:1194:A:H2'	6:5:1195:G:H8	1.83	0.44
7:6:108:ARG:HH21	7:AB:316:LYS:NZ	2.16	0.44
10:9:177:ARG:NH1	10:9:221:ALA:O	2.51	0.44
10:9:998:ILE:HG12	13:AC:62:MET:CE	2.47	0.44
10:9:1126:CYS:O	10:9:1154:LYS:CE	2.64	0.44
10:9:1289:MET:HE3	15:AE:14:DG:C2'	2.36	0.44
10:9:1340:LYS:NZ	10:9:1370:ILE:HG12	2.32	0.44
7:AB:283:ARG:HH22	13:AC:82:LEU:HD12	1.83	0.44
13:AC:156:THR:H	38:Z:76:ILE:CG2	2.30	0.44
17:B:18:TRP:O	17:B:21:ARG:NH1	2.50	0.44
18:C:3:TYR:HD2	18:C:5:GLY:H	1.66	0.44
19:D:131:ILE:HD13	19:D:175:TYR:CE2	2.53	0.44
25:J:11:SER:OG	25:J:76:LYS:NZ	2.50	0.44
25:J:119:ARG:HH22	35:T:36:LEU:HD13	1.82	0.44
27:L:90:ARG:HG2	27:L:95:LEU:HB2	2.00	0.44
31:P:7:LYS:O	31:P:64:VAL:HG12	2.18	0.44
35:T:28:LEU:HA	35:T:31:ARG:NH2	2.33	0.44
44:f:33:LYS:HE3	44:f:109:GLN:NE2	2.33	0.44
55:r:116:GLU:N	55:r:116:GLU:OE1	2.50	0.44
56:s:16:VAL:HA	56:s:19:ASN:HD22	1.83	0.44
62:y:40:HIS:O	62:y:41:ARG:HD2	2.18	0.44
4:3:565:C:O2'	4:3:567:U:O4	2.32	0.44
4:3:595:U:H2'	4:3:605:A:C1'	2.48	0.44
4:3:727:C:H2'	4:3:728:A:C8	2.53	0.44
4:3:764:G:O4'	39:a:215:LYS:NZ	2.49	0.44
4:3:1307:G:H2'	4:3:1308:A:C8	2.53	0.44
4:3:1597:U:H2'	4:3:1598:U:C6	2.52	0.44
4:3:1695:G:H4'	4:3:2720:C:O2	2.17	0.44
4:3:1775:G:H2'	4:3:1776:G:H8	1.82	0.44
4:3:1992:C:H2'	4:3:1993:U:C6	2.53	0.44
4:3:2113:U:O2	4:3:2191:G:N2	2.51	0.44
4:3:2127:G:N3	4:3:2127:G:H2'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2643:A:O2'	40:b:83:GLU:OE2	2.32	0.44
4:3:2677:A:H2'	4:3:2678:A:H8	1.83	0.44
4:3:2736:U:O2'	4:3:2737:G:H8	1.95	0.44
4:3:2799:U:H3'	4:3:2896:G:H21	1.82	0.44
4:3:2861:G:O2'	4:3:2863:G:N7	2.46	0.44
6:5:287:U:N3	6:5:306:G:N1	2.66	0.44
6:5:324:C:H4'	6:5:325:A:H5''	2.00	0.44
6:5:346:G:O2'	6:5:347:G:O4'	2.33	0.44
6:5:434:U:O2'	18:C:121:HIS:NE2	2.45	0.44
6:5:912:G:H2'	6:5:913:A:H8	1.81	0.44
6:5:1012:A:O2'	6:5:1192:C:O2'	2.33	0.44
6:5:1487:U:H3	6:5:1498:G:H1	1.64	0.44
10:9:607:HIS:HE1	10:9:609:LEU:HD12	1.83	0.44
10:9:647:ASP:HB2	38:Z:835:PHE:HZ	1.68	0.44
10:9:943:ILE:HD13	10:9:1043:ILE:HD11	2.00	0.44
10:9:999:PHE:HZ	13:AC:64:ILE:CD1	2.31	0.44
15:AE:12:DC:C2'	38:Z:890:TYR:OH	2.65	0.44
38:Z:576:MET:SD	38:Z:720:LYS:HG3	2.58	0.44
40:b:29:ILE:HB	40:b:191:VAL:HG13	2.00	0.44
43:e:93:VAL:HG13	43:e:163:LYS:HA	2.00	0.44
44:f:25:TYR:CE2	44:f:30:LEU:HB2	2.53	0.44
48:k:99:ILE:HG13	48:k:100:GLU:N	2.33	0.44
3:2:15:LYS:HA	3:2:15:LYS:HD2	1.81	0.44
4:3:107:C:H2'	4:3:108:G:C8	2.53	0.44
4:3:137:U:H2'	4:3:138:U:C6	2.53	0.44
4:3:280:A:H2'	4:3:281:U:C6	2.53	0.44
4:3:498:C:H2'	4:3:499:G:C8	2.53	0.44
4:3:1050:A:N6	4:3:1183:A:H61	2.15	0.44
4:3:1172:G:N2	46:i:111:MET:HA	2.31	0.44
4:3:1368:U:O2	4:3:1636:U:H5''	2.18	0.44
4:3:1460:G:N2	4:3:1596:U:O2	2.50	0.44
4:3:1640:G:H4'	4:3:1642:G:N1	2.33	0.44
4:3:2074:G:H3'	4:3:2075:U:H4'	1.99	0.44
4:3:2179:A:H1'	4:3:2180:U:C5	2.53	0.44
4:3:2267:G:H2'	4:3:2268:C:H6	1.83	0.44
4:3:2893:C:H2'	4:3:2894:G:O4'	2.17	0.44
6:5:276:U:C2	31:P:41:ARG:HA	2.53	0.44
6:5:571:A:O2'	6:5:572:A:O4'	2.26	0.44
6:5:656:U:H2'	6:5:657:G:C8	2.53	0.44
6:5:712:A:H2'	6:5:713:A:C8	2.52	0.44
6:5:747:C:H4'	29:N:18:ASP:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:11:G:N2	8:7:27:A:HI1'	2.33	0.44
9:8:399:ARG:NH2	9:8:417:GLU:OE2	2.51	0.44
10:9:945:ARG:NH1	7:AB:298:ALA:HB1	2.32	0.44
10:9:1326:LYS:HG2	38:Z:464:ILE:HD11	2.00	0.44
10:9:1330:PHE:CZ	38:Z:542:LEU:CD1	3.01	0.44
7:AB:82:LEU:CD1	38:Z:598:GLY:HA2	2.47	0.44
26:K:100:VAL:HG13	26:K:109:HIS:HE1	1.83	0.44
40:b:161:LYS:HG2	46:i:82:GLN:HG2	2.00	0.44
42:d:40:VAL:HG23	42:d:150:ARG:CZ	2.48	0.44
44:f:1:MET:N	44:f:24:GLY:HA2	2.33	0.44
47:j:21:ILE:HD11	47:j:39:VAL:HB	1.99	0.44
55:r:81:SER:OG	55:r:97:THR:OG1	2.23	0.44
61:x:39:CYS:H	61:x:42:CYS:HB2	1.82	0.44
62:y:40:HIS:C	62:y:41:ARG:HD2	2.42	0.44
3:2:4:ARG:HB3	4:3:2474:C:OP1	2.18	0.43
4:3:481:C:O3'	53:p:2:ARG:NH2	2.51	0.43
4:3:609:U:O2'	4:3:610:G:H5'	2.18	0.43
4:3:730:G:H2'	4:3:731:A:C8	2.53	0.43
4:3:755:C:H2'	4:3:756:A:H8	1.82	0.43
4:3:1320:C:H2'	4:3:1321:C:C6	2.53	0.43
4:3:1337:G:H2'	4:3:1338:G:C8	2.53	0.43
4:3:1440:U:H2'	4:3:1441:A:C8	2.52	0.43
4:3:1451:A:H2'	4:3:1452:G:C8	2.53	0.43
4:3:2001:C:H2'	4:3:2002:U:C5	2.52	0.43
4:3:2348:U:H2'	4:3:2349:G:H8	1.83	0.43
4:3:2639:G:H2'	4:3:2640:A:C8	2.52	0.43
4:3:2730:G:H2'	4:3:2731:U:C6	2.53	0.43
4:3:2780:U:H4'	40:b:175:THR:HG21	1.99	0.43
6:5:317:A:N1	6:5:328:G:C6	2.85	0.43
6:5:404:A:H2'	6:5:405:C:C6	2.53	0.43
6:5:591:A:H2'	6:5:592:A:C8	2.52	0.43
6:5:914:A:H2'	6:5:915:U:C6	2.53	0.43
7:6:107:GLU:OE2	7:AB:316:LYS:HA	2.18	0.43
7:6:276:ARG:NE	13:AC:323:GLU:OE1	2.50	0.43
10:9:998:ILE:CG1	13:AC:8:PHE:CZ	3.01	0.43
12:AA:42:LYS:CB	22:G:126:LYS:CG	2.93	0.43
13:AC:43:LYS:HE3	13:AC:49:VAL:HG13	2.00	0.43
24:I:63:VAL:HG12	24:I:64:ASP:N	2.33	0.43
29:N:5:LYS:O	29:N:9:ILE:HG23	2.18	0.43
37:W:14:ILE:CD1	37:X:17:ILE:HG13	2.23	0.43
40:b:123:ILE:H	40:b:123:ILE:HD12	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:e:57:ARG:NH1	43:e:64:SER:OG	2.50	0.43
43:e:147:PHE:HA	43:e:150:GLU:CD	2.42	0.43
48:k:6:LEU:HD23	48:k:6:LEU:H	1.83	0.43
59:v:51:SER:O	59:v:54:THR:OG1	2.30	0.43
60:w:35:HIS:CG	60:w:36:GLY:H	2.36	0.43
4:3:40:A:H1'	41:c:49:THR:HB	2.00	0.43
4:3:42:U:H2'	4:3:43:A:C8	2.52	0.43
4:3:433:A:H2'	4:3:434:G:H8	1.83	0.43
4:3:481:C:H2'	4:3:482:G:C8	2.54	0.43
4:3:929:G:H2'	4:3:930:C:C6	2.52	0.43
4:3:1077:G:H2'	4:3:1078:C:C6	2.53	0.43
4:3:1255:G:O2'	4:3:1256:A:O5'	2.33	0.43
4:3:1310:U:H2'	4:3:1311:G:C8	2.53	0.43
4:3:1741:G:H2'	4:3:1742:C:C6	2.53	0.43
4:3:1857:G:H2'	4:3:1858:U:C6	2.53	0.43
4:3:2041:C:H2'	4:3:2042:A:C8	2.53	0.43
4:3:2080:C:H2'	4:3:2081:U:C6	2.53	0.43
4:3:2258:G:H22	49:l:84:GLY:HA3	1.83	0.43
4:3:2332:U:O2	4:3:2339:G:N2	2.47	0.43
6:5:59:C:H42	6:5:351:C:N4	2.16	0.43
6:5:604:U:H5''	6:5:605:A:H5'	2.00	0.43
6:5:818:A:H2'	6:5:819:G:H8	1.83	0.43
6:5:949:G:H21	6:5:1202:A:N6	2.16	0.43
6:5:980:C:H2'	6:5:981:U:H6	1.83	0.43
15:AE:17:DT:C5'	38:Z:413:ARG:HH11	2.31	0.43
20:E:71:ASP:HA	20:E:74:ARG:NE	2.34	0.43
38:Z:184:ILE:HD12	38:Z:210:LEU:CD1	2.47	0.43
38:Z:648:VAL:HG21	38:Z:722:LEU:CD1	2.49	0.43
42:d:40:VAL:HA	42:d:150:ARG:NH1	2.33	0.43
52:o:52:VAL:HA	52:o:65:ILE:O	2.18	0.43
53:p:14:LYS:HE2	53:p:14:LYS:HB2	1.72	0.43
54:q:54:ARG:HB2	54:q:98:VAL:HG22	1.99	0.43
4:3:47:G:H5''	4:3:48:G:OP1	2.17	0.43
4:3:344:A:H1'	4:3:346:G:N7	2.33	0.43
4:3:725:G:H2'	4:3:726:U:C6	2.53	0.43
4:3:1065:G:H2'	4:3:1066:G:C8	2.53	0.43
4:3:1213:U:H2'	4:3:1214:U:C6	2.53	0.43
4:3:1459:A:H2'	4:3:1460:G:C8	2.52	0.43
4:3:1758:C:H2'	4:3:1759:C:H6	1.83	0.43
4:3:2258:G:N2	49:l:84:GLY:HA3	2.33	0.43
4:3:2673:A:H2'	4:3:2674:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2702:G:H2'	4:3:2703:U:C6	2.53	0.43
6:5:343:G:H2'	6:5:344:G:O4'	2.18	0.43
6:5:418:U:H5''	6:5:420:A:H2	1.83	0.43
6:5:499:U:H2'	6:5:500:G:C8	2.53	0.43
6:5:798:U:C2	6:5:799:A:C8	3.06	0.43
6:5:843:C:H2'	6:5:844:U:C6	2.54	0.43
6:5:862:C:H2'	6:5:863:A:O4'	2.17	0.43
6:5:1003:G:N1	6:5:1018:U:C2	2.86	0.43
6:5:1366:U:H2'	6:5:1367:G:C8	2.53	0.43
6:5:1482:A:H2'	6:5:1483:C:O4'	2.18	0.43
7:6:34:PHE:HZ	7:AB:231:ILE:HG22	1.82	0.43
7:6:225:PHE:CE1	7:AB:239:ILE:HG23	2.54	0.43
10:9:465:SER:HB2	10:9:500:THR:HB	2.00	0.43
10:9:1327:GLY:HA3	38:Z:444:HIS:ND1	2.33	0.43
17:B:123:LEU:HD21	17:B:140:SER:HB2	1.99	0.43
26:K:43:LYS:HA	26:K:43:LYS:HD2	1.74	0.43
38:Z:57:GLU:OE2	38:Z:69:ALA:HB2	2.17	0.43
41:c:137:GLU:HA	41:c:167:ASN:HD22	1.84	0.43
42:d:117:LEU:HB2	42:d:176:PRO:HG2	2.00	0.43
43:e:161:LYS:HA	43:e:174:ARG:HH12	1.83	0.43
50:m:17:THR:O	50:m:21:GLN:OE1	2.36	0.43
4:3:9:G:H2'	4:3:10:U:C6	2.53	0.43
4:3:109:G:H2'	4:3:110:A:C8	2.52	0.43
4:3:683:G:H2'	4:3:684:A:H8	1.83	0.43
4:3:990:G:H2'	4:3:991:G:H8	1.84	0.43
4:3:1030:U:OP1	53:p:52:LYS:NZ	2.35	0.43
4:3:1278:G:C5	53:p:2:ARG:HB2	2.53	0.43
4:3:1454:G:H2'	4:3:1455:A:N7	2.33	0.43
4:3:1541:A:H3'	4:3:1542:G:H8	1.83	0.43
4:3:1691:U:O3'	40:b:139:TYR:HB2	2.19	0.43
4:3:2024:C:O3'	62:y:6:ARG:NH1	2.51	0.43
4:3:2087:G:H2'	4:3:2088:U:C6	2.53	0.43
4:3:2138:U:H4'	4:3:2140:G:N7	2.34	0.43
4:3:2566:C:H2'	4:3:2567:C:C6	2.53	0.43
4:3:2669:G:H2'	4:3:2670:A:C8	2.54	0.43
6:5:60:A:N6	6:5:327:G:H1'	2.33	0.43
6:5:137:A:C2	6:5:138:A:H1'	2.53	0.43
6:5:203:C:H2'	6:5:204:C:C6	2.54	0.43
6:5:519:G:O6	6:5:527:G:N1	2.51	0.43
6:5:1214:A:H1'	6:5:1216:G:C4	2.53	0.43
6:5:1224:C:H42	6:5:1262:A:H8	1.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1233:G:H2'	6:5:1234:C:C6	2.53	0.43
6:5:1423:C:H2'	6:5:1424:C:C6	2.54	0.43
6:5:1471:C:H2'	6:5:1472:G:C8	2.54	0.43
6:5:1499:G:H2'	6:5:1500:G:H8	1.83	0.43
7:6:173:ILE:HD12	7:6:180:ALA:HB2	1.98	0.43
10:9:943:ILE:HD13	10:9:1043:ILE:HD12	1.99	0.43
10:9:998:ILE:HG12	13:AC:8:PHE:CE2	2.54	0.43
11:A:132:LYS:HE2	11:A:132:LYS:HB3	1.83	0.43
13:AC:153:ASP:OD2	38:Z:75:LYS:HD2	2.16	0.43
13:AC:175:TYR:HB2	13:AC:207:TRP:CB	2.44	0.43
19:D:77:SER:OG	19:D:84:ARG:HD3	2.19	0.43
31:P:11:GLY:HA3	31:P:26:VAL:HG12	2.00	0.43
38:Z:226:ILE:HG22	38:Z:232:PHE:HB3	1.99	0.43
39:a:61:ARG:NH2	39:a:64:ARG:HE	2.16	0.43
39:a:204:SER:OG	39:a:205:ASN:N	2.50	0.43
43:e:147:PHE:HA	43:e:150:GLU:OE2	2.18	0.43
4:3:349:G:H2'	4:3:350:C:C6	2.53	0.43
4:3:591:G:H2'	4:3:592:G:H8	1.83	0.43
4:3:766:C:H2'	4:3:767:C:C6	2.53	0.43
4:3:897:A:C2	5:4:76:A:H2	2.37	0.43
4:3:942:A:H2'	4:3:943:A:O4'	2.18	0.43
4:3:944:U:OP1	49:l:24:ASN:N	2.35	0.43
4:3:1231:G:H2'	4:3:1232:U:C6	2.53	0.43
4:3:1263:G:H2'	4:3:1264:U:H6	1.83	0.43
4:3:1470:C:H2'	4:3:1471:A:H8	1.82	0.43
4:3:1578:A:H2'	4:3:1579:G:O4'	2.18	0.43
4:3:1585:A:N3	4:3:1585:A:H2'	2.34	0.43
4:3:1619:A:H2'	4:3:1620:A:H8	1.83	0.43
4:3:1701:G:H5''	47:j:7:ARG:NH1	2.33	0.43
4:3:1869:G:H2'	4:3:1870:G:C8	2.53	0.43
4:3:2222:C:H2'	4:3:2223:C:O4'	2.19	0.43
4:3:2463:G:H2'	4:3:2464:C:C6	2.53	0.43
6:5:118:C:H2'	6:5:119:U:C6	2.54	0.43
6:5:386:U:H2'	6:5:387:G:H8	1.83	0.43
6:5:672:A:H61	6:5:712:A:N6	2.14	0.43
6:5:1002:A:H3'	6:5:1003:G:H8	1.83	0.43
6:5:1201:C:OP2	27:L:90:ARG:NH1	2.46	0.43
7:6:35:VAL:HG21	7:6:207:ASP:HB2	2.00	0.43
10:9:62:PRO:HG2	10:9:559:THR:HG23	2.00	0.43
10:9:163:MET:HG3	10:9:510:TYR:CD1	2.53	0.43
10:9:1325:VAL:HG22	38:Z:443:ILE:CD1	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:A:67:THR:HA	11:A:70:ASN:ND2	2.33	0.43
13:AC:45:HIS:CB	13:AC:115:LEU:CD2	2.96	0.43
13:AC:157:ASN:C	38:Z:76:ILE:CG1	2.46	0.43
13:AC:173:LYS:HB2	13:AC:207:TRP:HZ3	1.83	0.43
13:AC:183:LYS:NZ	13:AC:245:GLY:CA	2.82	0.43
17:B:77:LEU:HD12	17:B:78:ILE:HG12	2.00	0.43
17:B:158:GLY:HA3	17:B:199:ILE:HG13	2.00	0.43
18:C:103:ARG:HG3	18:C:166:PHE:HZ	1.83	0.43
19:D:166:ILE:H	19:D:166:ILE:HD12	1.83	0.43
24:I:62:HIS:CG	24:I:63:VAL:H	2.36	0.43
27:L:17:ILE:O	27:L:20:THR:OG1	2.32	0.43
39:a:98:LEU:HB2	39:a:108:TYR:HE1	1.84	0.43
48:k:34:ARG:NH1	48:k:40:LYS:O	2.46	0.43
51:n:12:HIS:ND1	51:n:94:GLY:HA2	2.34	0.43
53:p:34:ALA:O	53:p:38:VAL:HG23	2.18	0.43
57:t:13:ILE:HG13	57:t:14:THR:N	2.32	0.43
60:w:87:TRP:O	60:w:91:LEU:HG	2.18	0.43
4:3:675:U:H2'	4:3:676:U:H6	1.83	0.43
4:3:870:A:C6	4:3:871:G:C6	3.06	0.43
4:3:1057:G:N7	46:i:71:LYS:HD3	2.34	0.43
4:3:1171:G:H2'	4:3:1172:G:C8	2.53	0.43
4:3:1408:G:H2'	4:3:1409:G:C8	2.54	0.43
4:3:2025:C:H2'	4:3:2026:A:C8	2.51	0.43
4:3:2534:G:N2	4:3:2545:U:O2	2.37	0.43
4:3:2639:G:H2'	4:3:2640:A:H8	1.83	0.43
4:3:2855:A:O2'	50:m:61:ARG:NH1	2.52	0.43
6:5:111:A:H8	6:5:111:A:OP2	2.01	0.43
6:5:781:A:H2'	6:5:782:G:C8	2.53	0.43
6:5:944:A:H2'	6:5:945:U:C6	2.54	0.43
6:5:1306:A:H2'	6:5:1307:A:O4'	2.19	0.43
6:5:1454:G:H2'	6:5:1455:G:C8	2.54	0.43
10:9:76:THR:CG2	10:9:125:VAL:HG21	2.48	0.43
10:9:304:TYR:CE2	10:9:335:MET:HE2	2.54	0.43
10:9:385:LEU:O	10:9:389:GLY:HA3	2.19	0.43
10:9:1118:ALA:CB	10:9:1191:LEU:O	2.67	0.43
10:9:1342:LEU:HD13	38:Z:398:LEU:HD23	1.99	0.43
11:A:37:TRP:CD1	11:A:37:TRP:H	2.37	0.43
13:AC:131:ALA:HA	13:AC:171:THR:CB	2.46	0.43
16:AF:108:TRP:CZ3	16:AF:130:PRO:CB	2.99	0.43
20:E:13:LEU:HB3	20:E:17:GLN:NE2	2.32	0.43
34:S:24:GLN:HA	34:S:27:LYS:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:579:GLY:HA3	38:Z:723:GLY:O	2.19	0.43
39:a:132:PRO:HA	39:a:200:VAL:HG23	2.00	0.43
40:b:17:PHE:HZ	40:b:21:ASN:HD22	1.66	0.43
40:b:97:THR:OG1	40:b:100:ASN:OD1	2.36	0.43
46:i:40:ARG:HA	46:i:121:TRP:CZ3	2.53	0.43
47:j:22:ILE:HG22	47:j:40:VAL:C	2.43	0.43
47:j:22:ILE:HG22	47:j:40:VAL:O	2.19	0.43
49:l:67:ARG:HB2	49:l:103:MET:HA	2.00	0.43
4:3:482:G:H5'	53:p:2:ARG:HH21	1.83	0.43
4:3:762:A:H2'	4:3:763:G:C4	2.54	0.43
4:3:1764:U:C4	4:3:1769:A:N7	2.87	0.43
4:3:1805:U:H5'	39:a:267:THR:HB	2.01	0.43
4:3:2009:U:H5'	50:m:9:LYS:HB2	2.00	0.43
4:3:2363:C:O3'	58:u:38:LYS:NZ	2.52	0.43
4:3:2764:U:H4'	4:3:2765:A:OP1	2.18	0.43
5:4:16:G:O6	5:4:63:U:C2	2.70	0.43
6:5:212:G:H2'	6:5:213:U:C6	2.53	0.43
6:5:409:G:O3'	6:5:425:G:N2	2.51	0.43
6:5:575:A:H2'	6:5:576:A:C8	2.53	0.43
6:5:610:C:H2'	6:5:611:A:C8	2.53	0.43
6:5:927:C:H5''	21:F:2:ARG:N	2.33	0.43
6:5:1164:U:OP1	28:M:58:LYS:NZ	2.42	0.43
6:5:1364:C:H2'	6:5:1365:U:C6	2.53	0.43
10:9:773:ASN:OD1	38:Z:861:GLY:CA	2.67	0.43
10:9:1342:LEU:HD11	38:Z:392:LEU:CD2	1.85	0.43
11:A:129:LYS:O	11:A:133:LEU:HD23	2.19	0.43
11:A:218:ASN:OD1	11:A:219:ASN:N	2.51	0.43
12:AA:5:TYR:CZ	12:AA:48:LEU:HD23	2.53	0.43
12:AA:57:LEU:HD21	38:Z:1211:ALA:H	1.84	0.43
13:AC:16:ILE:HD12	13:AC:57:PHE:HE1	1.84	0.43
16:AF:74:TRP:CH2	16:AF:84:LYS:HD2	2.53	0.43
16:AF:93:LEU:HD11	16:AF:98:TYR:OH	2.19	0.43
29:N:57:VAL:HG23	29:N:60:ARG:NH1	2.34	0.43
38:Z:835:PHE:CB	38:Z:837:TYR:CZ	3.02	0.43
42:d:16:LEU:HA	42:d:19:SER:OG	2.18	0.43
44:f:110:LYS:HB3	44:f:110:LYS:HE3	1.85	0.43
44:f:110:LYS:HD2	44:f:113:PHE:CE2	2.54	0.43
59:v:14:TYR:CE2	59:v:28:LYS:HB2	2.53	0.43
4:3:105:U:H2'	4:3:106:C:H5'	2.01	0.43
4:3:852:C:H2'	4:3:853:G:O4'	2.18	0.43
4:3:1019:A:H2'	4:3:1020:G:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1439:U:H3	4:3:1625:G:H1	1.66	0.43
4:3:1829:U:H2'	4:3:1830:G:H8	1.84	0.43
4:3:2022:A:H8	4:3:2023:U:C5	2.37	0.43
4:3:2384:A:H2'	4:3:2385:A:O4'	2.19	0.43
4:3:2478:G:H2'	4:3:2479:A:H8	1.83	0.43
4:3:2681:G:H2'	4:3:2682:A:H8	1.82	0.43
6:5:175:U:H3	6:5:190:A:H61	1.67	0.43
6:5:222:U:H2'	6:5:223:G:C8	2.53	0.43
6:5:292:U:H1'	6:5:554:C:H1'	2.01	0.43
6:5:451:G:H5'	30:O:65:SER:HB2	2.01	0.43
6:5:524:C:C4	6:5:525:G:H1'	2.54	0.43
6:5:1208:G:H2'	6:5:1209:C:C6	2.54	0.43
6:5:1373:A:H4'	6:5:1374:C:O5'	2.17	0.43
9:8:43:GLY:CA	9:8:46:PHE:CE2	3.01	0.43
10:9:141:VAL:CG1	10:9:613:LEU:HD22	2.42	0.43
10:9:356:ARG:NH1	16:AF:110:ILE:O	2.41	0.43
10:9:814:LEU:CD2	10:9:858:TYR:OH	2.53	0.43
10:9:906:GLU:OE2	38:Z:530:ASP:CB	2.66	0.43
10:9:999:PHE:CG	13:AC:108:LEU:HD22	2.52	0.43
7:AB:130:PRO:HG2	7:AB:133:PHE:CD2	2.54	0.43
7:AB:166:PHE:CE1	38:Z:595:ILE:HG12	2.54	0.43
13:AC:158:LYS:HG2	38:Z:66:TYR:HE2	1.83	0.43
21:F:30:MET:SD	21:F:34:LYS:N	2.92	0.43
25:J:80:LYS:HD3	25:J:108:PRO:HD3	2.00	0.43
27:L:57:ARG:HA	27:L:60:ALA:HB3	2.00	0.43
39:a:33:PRO:HG3	39:a:67:ARG:NH1	2.34	0.43
39:a:253:ALA:O	39:a:261:ARG:NH2	2.43	0.43
40:b:37:ALA:HB3	40:b:51:LEU:HD22	2.01	0.43
43:e:33:GLN:NE2	43:e:34:ILE:O	2.52	0.43
43:e:126:VAL:HG12	43:e:136:ILE:HD13	2.00	0.43
46:i:16:ARG:HD2	46:i:56:TYR:CZ	2.53	0.43
60:w:89:GLN:O	60:w:92:GLU:HG2	2.18	0.43
4:3:347:C:H2'	4:3:348:A:H8	1.84	0.43
4:3:491:A:C2	4:3:509:G:H5'	2.54	0.43
4:3:552:C:H2'	4:3:553:A:H8	1.84	0.43
4:3:659:C:H2'	4:3:660:U:C6	2.54	0.43
4:3:666:G:N1	4:3:670:G:O6	2.51	0.43
4:3:912:A:H2'	4:3:913:U:C6	2.54	0.43
4:3:1173:G:H2'	4:3:1174:G:O4'	2.19	0.43
4:3:1458:A:H2'	4:3:1459:A:C8	2.54	0.43
4:3:1959:A:C4	47:j:22:ILE:HD11	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2183:U:H2'	4:3:2184:A:C8	2.53	0.43
4:3:2231:A:H2'	4:3:2232:G:O4'	2.19	0.43
4:3:2237:U:H2'	4:3:2238:G:H8	1.83	0.43
4:3:2623:U:H2'	4:3:2624:C:H6	1.83	0.43
4:3:2819:C:H2'	4:3:2820:G:H8	1.83	0.43
6:5:82:C:H2'	6:5:83:U:C6	2.54	0.43
6:5:290:G:H2'	6:5:291:C:H6	1.84	0.43
6:5:455:U:H3	6:5:472:G:H22	1.66	0.43
6:5:880:G:H2'	6:5:881:G:C8	2.54	0.43
6:5:1267:G:H2'	6:5:1268:G:C8	2.53	0.43
6:5:1315:U:H2'	6:5:1316:C:C5	2.54	0.43
9:8:14:LYS:HG2	9:8:615:PHE:CE1	2.53	0.43
9:8:803:GLY:HA3	9:8:916:PHE:CZ	2.53	0.43
10:9:15:THR:HG21	10:9:863:LEU:HD23	1.99	0.43
7:AB:86:GLN:NE2	38:Z:599:THR:HG23	2.08	0.43
17:B:24:ALA:HB3	17:B:30:THR:HG22	2.01	0.43
17:B:92:ILE:O	17:B:96:ILE:N	2.52	0.43
20:E:111:LYS:O	20:E:115:TYR:N	2.51	0.43
25:J:109:ILE:HG23	35:T:32:HIS:ND1	2.34	0.43
33:R:19:VAL:HA	33:R:22:MET:HG2	2.01	0.43
36:U:161:LYS:HE3	37:Y:17:ILE:CD1	2.47	0.43
37:X:6:ILE:CD1	37:Y:23:ALA:HB1	2.35	0.43
41:c:36:ASP:HA	41:c:39:LEU:HD12	2.01	0.43
57:t:90:LYS:HG2	57:t:105:LYS:HE2	2.00	0.43
4:3:428:U:H2'	4:3:429:U:C6	2.54	0.43
4:3:552:C:H2'	4:3:553:A:C8	2.54	0.43
4:3:659:C:H2'	4:3:660:U:C5	2.54	0.43
4:3:756:A:H2'	4:3:757:A:C8	2.53	0.43
4:3:963:U:O2	4:3:964:A:C8	2.71	0.43
4:3:1314:A:H1'	4:3:1316:U:OP1	2.19	0.43
4:3:1315:A:H8	50:m:106:ARG:NH1	2.16	0.43
4:3:1369:U:H4'	56:s:58:LEU:HG	2.00	0.43
4:3:1475:C:H2'	4:3:1476:C:C6	2.54	0.43
4:3:1920:A:N6	6:5:1468:A:H1'	2.32	0.43
4:3:2092:U:O3'	39:a:270:MET:HE1	2.18	0.43
4:3:2798:A:H5''	4:3:2799:U:H6	1.83	0.43
4:3:2874:C:H2'	4:3:2875:U:C6	2.54	0.43
5:4:40:U:C5	42:d:66:VAL:HG21	2.54	0.43
6:5:87:G:H2'	6:5:88:A:C8	2.49	0.43
6:5:290:G:H2'	6:5:291:C:C6	2.54	0.43
6:5:621:C:H1'	30:O:5:ARG:CZ	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:681:U:O2	25:J:34:VAL:HG12	2.19	0.43
6:5:719:G:C8	6:5:721:G:H1'	2.53	0.43
6:5:1016:A:H2'	6:5:1017:A:H8	1.83	0.43
6:5:1056:U:H1'	6:5:1057:C:H5	1.84	0.43
6:5:1113:U:H2'	6:5:1114:A:H8	1.84	0.43
10:9:824:VAL:CG1	10:9:827:VAL:HG23	2.49	0.43
10:9:1223:HIS:O	38:Z:737:PHE:HB2	2.18	0.43
10:9:1340:LYS:HZ2	10:9:1370:ILE:HG13	1.84	0.43
7:AB:32:SER:HA	7:AB:207:ASP:OD2	2.19	0.43
7:AB:163:PHE:O	38:Z:611:LYS:HE3	2.19	0.43
7:AB:168:GLU:CD	38:Z:611:LYS:HZ2	2.26	0.43
17:B:103:ASP:N	17:B:103:ASP:OD1	2.52	0.43
21:F:100:LEU:HD12	21:F:101:ARG:N	2.34	0.43
33:R:11:VAL:HG22	33:R:13:ALA:H	1.84	0.43
38:Z:1235:GLN:O	38:Z:1240:ILE:HD12	2.19	0.43
39:a:167:TYR:HE1	39:a:169:ARG:HD3	1.84	0.43
40:b:147:VAL:O	40:b:163:LYS:NZ	2.52	0.43
55:r:48:ALA:O	55:r:52:ASN:ND2	2.52	0.43
62:y:52:ARG:HE	62:y:52:ARG:HB3	1.74	0.43
3:2:9:PRO:HB3	3:2:14:CYS:HB2	2.01	0.42
4:3:500:U:HO2'	4:3:501:G:P	2.42	0.42
4:3:597:C:H2'	4:3:598:G:H8	1.82	0.42
4:3:667:A:N1	4:3:2424:C:H4'	2.33	0.42
4:3:714:G:H2'	4:3:715:G:C8	2.52	0.42
4:3:847:C:H5''	4:3:1280:G:O2'	2.19	0.42
4:3:867:G:H1'	48:k:53:GLY:HA2	2.01	0.42
4:3:1070:U:H2'	4:3:1071:G:C8	2.53	0.42
4:3:1489:G:C6	4:3:1490:G:C6	3.07	0.42
4:3:1536:C:H2'	4:3:1537:A:C8	2.53	0.42
4:3:1672:C:H1'	4:3:2706:U:O2'	2.19	0.42
4:3:2072:C:H2'	4:3:2073:C:C6	2.52	0.42
4:3:2345:G:H2'	4:3:2345:G:N3	2.33	0.42
5:4:69:C:OP1	58:u:89:LYS:NZ	2.39	0.42
5:4:90:G:H2'	5:4:91:A:O4'	2.19	0.42
6:5:253:G:O6	6:5:266:A:N6	2.52	0.42
6:5:253:G:H2'	6:5:254:G:C8	2.53	0.42
6:5:576:A:H2'	6:5:577:G:C8	2.53	0.42
6:5:779:A:OP1	6:5:1496:G:N2	2.42	0.42
22:G:77:THR:HG22	22:G:79:ARG:H	1.84	0.42
22:G:107:VAL:HG13	22:G:140:TYR:HB3	2.01	0.42
25:J:43:MET:HE3	25:J:45:PHE:HE1	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:488:ASP:CA	38:Z:551:ARG:NH2	2.82	0.42
38:Z:1227:SER:HB2	38:Z:1258:GLU:OE1	2.19	0.42
44:f:41:LYS:HB2	44:f:46:ASP:HB2	2.01	0.42
44:f:67:LYS:HA	44:f:70:GLU:CD	2.44	0.42
49:l:27:VAL:HG13	49:l:134:ARG:HG3	2.00	0.42
53:p:66:ALA:O	53:p:70:GLU:HG3	2.19	0.42
55:r:5:ALA:O	55:r:104:VAL:HA	2.19	0.42
59:v:18:ARG:HA	59:v:23:THR:O	2.19	0.42
2:1:36:LYS:C	2:1:40:HIS:HD1	2.23	0.42
4:3:29:G:N2	4:3:547:G:O2'	2.46	0.42
4:3:82:G:N2	4:3:328:A:N3	2.66	0.42
4:3:226:A:C5	4:3:236:G:N2	2.86	0.42
4:3:493:A:H4'	4:3:494:G:H4'	2.02	0.42
4:3:500:U:H2'	4:3:501:G:C8	2.54	0.42
4:3:1249:A:H1'	55:r:128:ARG:HH22	1.83	0.42
4:3:1255:G:O2'	4:3:1256:A:O4'	2.34	0.42
4:3:1363:C:H2'	4:3:1364:A:C8	2.54	0.42
4:3:1399:G:OP1	39:a:49:ASN:ND2	2.52	0.42
4:3:1974:U:H2'	4:3:1975:G:O4'	2.19	0.42
4:3:2519:U:H5'	40:b:129:LYS:NZ	2.34	0.42
4:3:2522:U:H2'	4:3:2523:C:C6	2.54	0.42
4:3:2728:U:H2'	4:3:2729:A:O4'	2.19	0.42
4:3:2800:U:O2	4:3:2800:U:H2'	2.18	0.42
6:5:273:C:H2'	6:5:274:A:C8	2.54	0.42
6:5:652:A:H2'	6:5:653:G:O4'	2.19	0.42
6:5:1451:A:H2'	6:5:1452:C:C6	2.54	0.42
6:5:1490:G:H2'	6:5:1491:A:C8	2.53	0.42
10:9:524:ILE:O	10:9:530:LYS:HE3	2.19	0.42
10:9:774:ASP:O	38:Z:867:TYR:CE2	2.71	0.42
10:9:1119:LYS:NZ	10:9:1174:ASN:OD1	2.50	0.42
10:9:1200:PHE:HD1	38:Z:862:LEU:O	2.02	0.42
26:K:70:LEU:HG	26:K:71:THR:H	1.85	0.42
26:K:76:VAL:HG21	26:K:108:TYR:CE1	2.53	0.42
38:Z:269:VAL:HG11	38:Z:273:LYS:HD3	2.01	0.42
38:Z:399:PHE:HA	38:Z:403:LEU:HD12	2.00	0.42
41:c:98:ASN:ND2	41:c:100:SER:OG	2.52	0.42
44:f:66:HIS:O	44:f:70:GLU:OE1	2.38	0.42
46:i:39:ILE:HD11	46:i:121:TRP:HB3	2.00	0.42
46:i:47:PHE:HA	46:i:53:CYS:SG	2.58	0.42
47:j:38:VAL:HA	47:j:61:VAL:HG22	1.99	0.42
48:k:104:ILE:HG13	48:k:105:SER:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:p:13:ARG:HA	53:p:31:TYR:HE1	1.85	0.42
59:v:13:LEU:HB3	59:v:29:TRP:HB2	2.01	0.42
4:3:563:A:OP1	46:i:116:ARG:NH1	2.53	0.42
4:3:597:C:O2'	4:3:1283:A:N1	2.41	0.42
4:3:904:C:H2'	4:3:905:U:O4'	2.19	0.42
4:3:1082:A:O2'	4:3:1083:A:O5'	2.36	0.42
4:3:1142:G:C1'	36:U:78:GLY:C	2.76	0.42
4:3:1155:G:H2'	4:3:1156:C:C6	2.54	0.42
4:3:1270:C:H2'	4:3:1271:A:H8	1.83	0.42
4:3:1598:U:H2'	4:3:1599:C:O4'	2.19	0.42
4:3:1647:A:H61	4:3:1651:C:H2'	1.83	0.42
4:3:1921:C:H3'	4:3:1922:U:H6	1.84	0.42
4:3:2797:C:N4	4:3:2798:A:N6	2.66	0.42
6:5:1092:A:H4'	6:5:1093:A:O5'	2.19	0.42
6:5:1272:C:C6	21:F:113:LYS:HD2	2.54	0.42
6:5:1488:A:H2'	6:5:1489:C:C6	2.54	0.42
7:6:35:VAL:CG1	7:6:195:VAL:HG22	2.50	0.42
7:6:51:PRO:HG3	7:AB:1:MET:SD	2.60	0.42
7:6:81:VAL:HG13	7:6:181:THR:HG22	2.01	0.42
7:6:300:ILE:HD11	7:6:325:LEU:HD22	2.01	0.42
9:8:584:ILE:HG12	9:8:838:ARG:NH2	2.34	0.42
10:9:648:VAL:CG1	38:Z:872:TYR:CE1	3.02	0.42
10:9:1051:ARG:NH1	10:9:1254:MET:HE3	2.34	0.42
10:9:1269:LYS:HZ3	38:Z:313:ILE:CG2	2.28	0.42
11:A:68:ALA:HB2	11:A:215:ILE:HD11	2.01	0.42
12:AA:42:LYS:HE3	22:G:127:VAL:HG13	2.01	0.42
14:AD:19:DT:C2'	14:AD:21:DC:C4'	2.92	0.42
29:N:57:VAL:HG23	29:N:60:ARG:CZ	2.49	0.42
35:T:20:ARG:HA	35:T:23:LEU:HG	2.01	0.42
49:l:114:MET:O	49:l:118:LEU:HD23	2.20	0.42
51:n:75:GLN:O	51:n:79:ASP:N	2.39	0.42
51:n:98:TYR:CE1	51:n:103:ALA:HA	2.54	0.42
52:o:89:GLU:HG2	52:o:91:LYS:NZ	2.34	0.42
53:p:64:LEU:O	53:p:68:LEU:HG	2.18	0.42
55:r:125:VAL:O	55:r:128:ARG:HB2	2.19	0.42
63:z:35:ASN:HA	63:z:46:VAL:HA	2.00	0.42
3:2:20:HIS:O	3:2:22:ILE:HD12	2.19	0.42
4:3:164:A:OP2	4:3:165:U:O2'	2.35	0.42
4:3:309:A:N3	4:3:311:G:N1	2.66	0.42
4:3:1084:C:C2	4:3:1085:A:C8	3.07	0.42
4:3:1095:U:O4'	4:3:1097:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1211:U:H2'	4:3:1212:C:O4'	2.19	0.42
4:3:1299:A:H61	4:3:2018:U:H3	1.67	0.42
4:3:1367:G:H3'	56:s:60:ARG:HH12	1.82	0.42
4:3:1433:U:H2'	4:3:1434:U:H6	1.84	0.42
4:3:1482:U:O4'	50:m:60:ARG:NH1	2.39	0.42
4:3:1881:C:H2'	4:3:1882:G:C8	2.54	0.42
4:3:2056:A:H2'	4:3:2057:C:C6	2.55	0.42
4:3:2551:G:H21	4:3:2654:U:H5''	1.84	0.42
4:3:2668:A:O2'	4:3:2669:G:O5'	2.30	0.42
4:3:2795:C:H2'	4:3:2796:C:C6	2.54	0.42
6:5:203:C:H2'	6:5:204:C:H6	1.84	0.42
6:5:360:A:C8	6:5:361:U:C5	3.07	0.42
6:5:494:A:H5'	6:5:495:U:OP2	2.19	0.42
6:5:671:G:H5'	20:E:47:TYR:CE1	2.55	0.42
6:5:780:U:H2'	6:5:781:A:H8	1.84	0.42
6:5:1061:U:H2'	6:5:1062:C:C6	2.54	0.42
10:9:376:ARG:NH2	14:AD:20:DG:C8	2.55	0.42
10:9:911:ILE:HB	10:9:915:LEU:HD12	2.00	0.42
7:AB:95:LEU:HD11	7:AB:132:GLY:HA3	2.01	0.42
7:AB:166:PHE:HE1	38:Z:595:ILE:HG12	1.84	0.42
7:AB:280:CYS:SG	13:AC:81:PHE:HE2	2.43	0.42
17:B:31:ALA:HA	17:B:34:LEU:HG	2.00	0.42
18:C:57:LYS:O	18:C:60:MET:N	2.48	0.42
24:I:48:LEU:HD23	24:I:48:LEU:HA	1.88	0.42
30:O:48:VAL:HG23	30:O:52:TRP:HZ3	1.81	0.42
38:Z:188:PHE:CE2	38:Z:204:LYS:HB2	2.54	0.42
39:a:256:THR:HG23	39:a:262:HIS:HB2	2.02	0.42
42:d:53:ALA:O	42:d:56:GLU:HG3	2.18	0.42
44:f:53:LYS:HA	44:f:56:GLU:HG2	2.00	0.42
50:m:49:ILE:O	50:m:53:LYS:HG3	2.19	0.42
52:o:48:PHE:CE2	52:o:66:VAL:HG13	2.54	0.42
53:p:80:ASN:HD22	53:p:84:LYS:HE3	1.84	0.42
55:r:74:CYS:SG	55:r:75:VAL:N	2.92	0.42
57:t:89:ILE:HG21	57:t:102:ARG:HB3	2.02	0.42
58:u:37:ALA:HA	58:u:52:TYR:HD2	1.83	0.42
2:1:15:LYS:HB3	4:3:687:G:H5''	2.01	0.42
3:2:19:ARG:HA	4:3:2764:U:H5''	2.00	0.42
4:3:200:A:N7	48:k:39:GLN:NE2	2.67	0.42
4:3:228:A:H62	4:3:455:G:HO2'	1.67	0.42
4:3:430:U:H2'	4:3:431:U:C6	2.54	0.42
4:3:1061:A:H2'	4:3:1062:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1301:G:H22	4:3:1649:C:N4	2.16	0.42
4:3:1455:A:C2	39:a:35:LYS:HD3	2.54	0.42
4:3:1611:C:H2'	4:3:1612:U:C6	2.55	0.42
4:3:1720:C:H3'	4:3:1721:G:H8	1.85	0.42
4:3:1737:G:C6	4:3:1738:G:C6	3.07	0.42
4:3:2174:G:H2'	4:3:2175:U:C6	2.54	0.42
4:3:2238:G:H2'	4:3:2239:U:C6	2.53	0.42
4:3:2782:A:H2'	4:3:2783:A:O4'	2.19	0.42
5:4:14:U:H2'	5:4:15:C:C6	2.55	0.42
6:5:173:U:H2'	6:5:174:U:C6	2.54	0.42
6:5:176:G:O6	6:5:190:A:N6	2.52	0.42
6:5:451:G:H2'	6:5:451:G:N3	2.35	0.42
6:5:453:C:H2'	6:5:454:U:C6	2.54	0.42
6:5:899:U:H2'	6:5:900:G:O4'	2.20	0.42
6:5:1182:C:H2'	6:5:1183:C:C6	2.55	0.42
6:5:1320:A:H62	6:5:1349:A:H3'	1.83	0.42
8:7:28:A:H2'	8:7:29:C:C6	2.54	0.42
9:8:838:ARG:HH22	9:8:879:GLY:HA3	1.83	0.42
10:9:945:ARG:NH2	7:AB:298:ALA:CB	2.80	0.42
11:A:70:ASN:HA	11:A:73:LYS:HZ3	1.84	0.42
13:AC:10:ASN:N	13:AC:11:PRO:HD2	2.35	0.42
16:AF:108:TRP:CE3	16:AF:120:ILE:HD12	2.54	0.42
20:E:49:ILE:HG23	20:E:50:LYS:N	2.32	0.42
22:G:113:ILE:HB	22:G:141:VAL:HB	2.01	0.42
26:K:121:GLU:C	26:K:123:ARG:H	2.26	0.42
27:L:16:GLU:OE2	27:L:17:ILE:HG23	2.20	0.42
38:Z:1143:ILE:HG13	38:Z:1166:ILE:CD1	2.50	0.42
39:a:136:MET:CE	39:a:140:PHE:HB2	2.49	0.42
39:a:148:HIS:HB2	39:a:161:ALA:O	2.19	0.42
40:b:1:MET:SD	40:b:3:ILE:HD12	2.59	0.42
40:b:24:LEU:HD12	40:b:25:PRO:HD2	2.02	0.42
40:b:165:MET:HE3	40:b:166:SER:HB2	2.02	0.42
41:c:189:ARG:O	41:c:193:LEU:N	2.50	0.42
43:e:146:GLN:O	43:e:149:THR:OG1	2.20	0.42
50:m:9:LYS:HD3	50:m:13:TRP:CZ3	2.53	0.42
50:m:54:VAL:HB	50:m:59:ASN:HD22	1.84	0.42
52:o:21:TYR:HE2	52:o:23:PRO:HG3	1.84	0.42
54:q:60:GLU:CD	54:q:92:LEU:HA	2.45	0.42
55:r:39:THR:HG22	55:r:41:LYS:HG2	2.01	0.42
56:s:7:LEU:HD23	56:s:31:VAL:HG12	2.01	0.42
56:s:41:LYS:HG3	56:s:42:LEU:HD22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:15:LYS:HD2	4:3:687:G:H5''	2.02	0.42
4:3:101:C:H4'	4:3:103:G:C5	2.54	0.42
4:3:325:G:C6	4:3:384:G:C6	3.07	0.42
4:3:524:G:O2'	55:r:49:LYS:NZ	2.35	0.42
4:3:675:U:O4	4:3:685:G:O6	2.38	0.42
4:3:815:G:H21	4:3:818:A:N6	2.17	0.42
4:3:1041:C:H2'	4:3:1042:C:C6	2.54	0.42
4:3:1163:G:H1'	4:3:1164:A:C8	2.54	0.42
4:3:1446:G:N2	4:3:1612:U:H5''	2.28	0.42
4:3:1501:U:H2'	4:3:1502:A:O4'	2.19	0.42
4:3:1656:A:H2'	4:3:1657:G:O4'	2.19	0.42
4:3:2472:G:H2'	4:3:2473:C:C6	2.55	0.42
4:3:2718:C:H2'	4:3:2719:A:C8	2.54	0.42
4:3:2800:U:H3'	4:3:2801:U:C5	2.54	0.42
6:5:214:U:H2'	6:5:215:C:C6	2.54	0.42
6:5:358:G:O2'	6:5:359:A:N7	2.46	0.42
6:5:446:A:O2'	30:O:36:ALA:O	2.34	0.42
6:5:831:C:H5''	32:Q:80:GLN:HB2	2.01	0.42
6:5:872:C:H5''	22:G:93:PRO:O	2.20	0.42
6:5:924:A:H2'	6:5:925:C:C6	2.55	0.42
6:5:1013:C:H2'	6:5:1014:A:C8	2.55	0.42
6:5:1055:G:H1'	6:5:1165:G:N2	2.34	0.42
6:5:1434:C:H2'	6:5:1435:G:H8	1.84	0.42
9:8:593:PHE:CZ	9:8:597:ILE:HD11	2.55	0.42
10:9:999:PHE:HZ	13:AC:42:TYR:CE2	2.29	0.42
10:9:1306:LEU:HD22	38:Z:408:VAL:CG1	2.42	0.42
10:9:1371:LEU:HD11	38:Z:95:VAL:HG22	2.01	0.42
12:AA:42:LYS:HD3	22:G:125:ASP:O	2.20	0.42
12:AA:76:MET:HE1	12:AA:84:ILE:HD12	2.02	0.42
17:B:58:ILE:HG13	17:B:67:VAL:HG12	2.00	0.42
18:C:100:ILE:O	18:C:104:MET:HG2	2.20	0.42
27:L:57:ARG:HA	27:L:57:ARG:HD3	1.90	0.42
34:S:59:ILE:HG13	34:S:60:ILE:N	2.34	0.42
38:Z:232:PHE:CE1	38:Z:234:VAL:HG13	2.55	0.42
38:Z:612:VAL:HG11	38:Z:640:VAL:HG21	2.02	0.42
39:a:46:GLY:O	39:a:54:THR:OG1	2.28	0.42
44:f:31:PHE:HD1	44:f:111:PHE:CD1	2.37	0.42
53:p:13:ARG:HA	53:p:31:TYR:CE1	2.54	0.42
53:p:35:LYS:O	53:p:39:ILE:HG12	2.19	0.42
4:3:17:G:H2'	4:3:18:G:O4'	2.19	0.42
4:3:107:C:H2'	4:3:108:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:243:U:H2'	4:3:244:G:O4'	2.20	0.42
4:3:355:A:N3	41:c:170:GLN:NE2	2.50	0.42
4:3:358:A:P	41:c:176:LYS:HE2	2.59	0.42
4:3:534:U:H2'	4:3:535:G:O4'	2.19	0.42
4:3:788:G:H2'	4:3:789:A:C8	2.50	0.42
4:3:837:A:H2'	4:3:838:U:C6	2.54	0.42
4:3:915:A:C6	4:3:937:A:C8	3.07	0.42
4:3:1138:A:H2'	4:3:1139:C:O4'	2.19	0.42
4:3:1230:U:H1'	53:p:3:ILE:HD11	2.01	0.42
4:3:1702:A:N7	4:3:1998:U:C4	2.87	0.42
4:3:1842:G:O6	4:3:1937:G:N2	2.53	0.42
4:3:2562:U:H2'	4:3:2563:U:H6	1.84	0.42
4:3:2841:A:C4	4:3:2842:G:C8	3.08	0.42
4:3:2849:G:H2'	4:3:2850:G:H8	1.83	0.42
6:5:56:A:H2'	6:5:57:U:O4'	2.19	0.42
6:5:63:U:H2'	6:5:64:C:C6	2.55	0.42
6:5:206:G:H2'	6:5:208:A:OP2	2.20	0.42
6:5:387:G:OP1	30:O:22:ARG:NH2	2.53	0.42
6:5:500:G:OP1	26:K:127:ARG:N	2.52	0.42
6:5:511:A:H2'	6:5:512:U:H6	1.85	0.42
6:5:974:C:H2'	6:5:974:C:O2	2.19	0.42
6:5:1052:G:C6	6:5:1053:U:C4	3.07	0.42
6:5:1261:A:H2'	6:5:1262:A:H8	1.81	0.42
9:8:767:MET:HE1	9:8:805:PHE:CE1	2.55	0.42
9:8:838:ARG:NH2	9:8:879:GLY:CA	2.82	0.42
10:9:20:TYR:CE1	10:9:22:GLY:HA3	2.55	0.42
11:A:177:ILE:HD13	11:A:199:VAL:HG13	2.01	0.42
23:H:121:TYR:CE2	23:H:127:PRO:HB3	2.55	0.42
28:M:4:LYS:HA	28:M:7:LYS:HD3	2.02	0.42
36:U:60:ARG:NH2	36:U:76:ILE:O	2.49	0.42
43:e:143:LEU:O	43:e:146:GLN:HG3	2.20	0.42
47:j:58:LEU:HD23	47:j:94:ARG:NE	2.35	0.42
48:k:133:LYS:O	48:k:137:LYS:HG2	2.19	0.42
50:m:38:ALA:O	50:m:41:THR:N	2.52	0.42
53:p:40:GLN:HG3	53:p:44:TYR:CZ	2.55	0.42
54:q:5:VAL:N	54:q:11:GLN:OE1	2.53	0.42
55:r:125:VAL:O	55:r:129:VAL:HG13	2.20	0.42
57:t:42:VAL:HG22	57:t:43:THR:H	1.84	0.42
1:0:22:MET:O	1:0:28:ARG:NH1	2.53	0.42
4:3:23:A:H2'	4:3:24:U:C6	2.55	0.42
4:3:594:G:H4'	53:p:47:ARG:HH12	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:745:U:H2'	4:3:746:G:H8	1.85	0.42
4:3:1392:G:H2'	4:3:1394:A:OP2	2.20	0.42
4:3:1429:G:H2'	4:3:1430:U:C6	2.53	0.42
4:3:1523:C:H2'	4:3:1524:C:H6	1.85	0.42
4:3:1635:G:H2'	4:3:1636:U:C6	2.54	0.42
4:3:1766:A:H2'	4:3:1767:A:C8	2.54	0.42
4:3:1860:A:H2'	4:3:1861:A:O4'	2.20	0.42
4:3:1960:A:O2'	4:3:2567:C:O2'	2.27	0.42
4:3:1974:U:H3'	4:3:1975:G:H8	1.85	0.42
4:3:2034:G:H2'	4:3:2035:U:H6	1.84	0.42
4:3:2120:G:H2'	4:3:2121:A:O4'	2.20	0.42
4:3:2229:C:H2'	4:3:2230:A:C8	2.55	0.42
6:5:150:A:H2'	6:5:151:C:C6	2.54	0.42
6:5:191:A:H2'	6:5:192:A:C8	2.55	0.42
6:5:543:C:C2	6:5:544:A:C8	3.08	0.42
6:5:569:U:H5'	6:5:816:A:C5	2.55	0.42
6:5:778:A:H2	6:5:1489:C:H4'	1.83	0.42
6:5:779:A:N6	6:5:797:G:C2	2.86	0.42
6:5:946:G:OP2	27:L:101:ARG:NH2	2.49	0.42
6:5:1046:A:H62	6:5:1175:C:N4	2.18	0.42
6:5:1051:U:OP1	24:I:59:ARG:NH1	2.53	0.42
7:6:56:PHE:CE1	7:6:156:TYR:HB3	2.55	0.42
7:6:108:ARG:NH2	7:AB:316:LYS:NZ	2.67	0.42
9:8:100:TYR:CE1	9:8:177:ILE:HG23	2.55	0.42
10:9:767:LEU:HD21	10:9:808:ILE:HD12	2.01	0.42
10:9:1122:LEU:HD21	10:9:1149:LEU:HD23	2.01	0.42
10:9:1324:ILE:CD1	38:Z:410:TYR:CZ	3.03	0.42
13:AC:4:GLN:OE1	13:AC:107:SER:HB2	2.20	0.42
13:AC:288:VAL:CG2	13:AC:297:PHE:CE2	2.98	0.42
16:AF:137:ASP:OD2	38:Z:349:PRO:CA	2.66	0.42
17:B:65:VAL:HG12	17:B:100:THR:HB	2.01	0.42
18:C:60:MET:HE1	18:C:71:PHE:HE1	1.83	0.42
19:D:178:ILE:HG23	19:D:180:THR:HG23	2.01	0.42
27:L:70:ARG:NH2	27:L:74:ALA:HB2	2.35	0.42
29:N:18:ASP:OD1	29:N:18:ASP:N	2.50	0.42
37:V:19:GLU:HB3	37:W:2:LYS:HD3	2.02	0.42
38:Z:806:ILE:HG22	38:Z:821:PHE:CE1	2.55	0.42
39:a:48:ASN:OD1	39:a:49:ASN:N	2.52	0.42
39:a:183:GLN:NE2	39:a:184:LEU:O	2.36	0.42
42:d:36:ILE:HD13	42:d:154:VAL:HG12	2.02	0.42
43:e:5:GLY:HA2	43:e:72:ASN:HD22	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:e:76:THR:O	43:e:80:ILE:HG12	2.19	0.42
43:e:80:ILE:HA	43:e:83:THR:HG22	2.02	0.42
56:s:24:THR:HG1	56:s:26:LYS:HZ2	1.63	0.42
63:z:51:LYS:H	63:z:51:LYS:HG2	1.69	0.42
4:3:270:G:H2'	4:3:271:G:H8	1.84	0.42
4:3:435:U:H2'	4:3:436:G:O4'	2.20	0.42
4:3:680:A:H2'	4:3:682:A:C8	2.55	0.42
4:3:1176:U:OP2	46:i:71:LYS:NZ	2.39	0.42
4:3:1737:G:H2'	4:3:1738:G:H8	1.80	0.42
4:3:1836:A:H3'	4:3:1837:C:C6	2.54	0.42
4:3:1853:G:N2	4:3:1902:C:C2	2.88	0.42
4:3:2294:A:H8	4:3:2295:A:N6	2.18	0.42
4:3:2348:U:H2'	4:3:2349:G:C8	2.55	0.42
4:3:2520:C:H2'	4:3:2521:A:O4'	2.20	0.42
4:3:2558:G:H2'	4:3:2559:C:C6	2.55	0.42
4:3:2578:A:H2'	4:3:2579:U:C6	2.55	0.42
4:3:2596:A:N6	4:3:2615:G:O6	2.53	0.42
4:3:2657:C:H2'	4:3:2658:U:C6	2.54	0.42
4:3:2750:A:H2'	4:3:2751:C:H6	1.83	0.42
4:3:2847:C:H2'	4:3:2848:A:C8	2.52	0.42
5:4:1:U:H2'	5:4:2:U:O4'	2.20	0.42
5:4:76:A:N6	5:4:89:A:H1'	2.35	0.42
6:5:320:G:N1	6:5:323:A:N7	2.68	0.42
6:5:368:C:O2'	6:5:383:U:O4	2.36	0.42
6:5:458:G:H2'	6:5:459:C:C6	2.55	0.42
6:5:498:G:H2'	6:5:499:U:O4'	2.20	0.42
6:5:1087:C:H2'	6:5:1088:C:C6	2.55	0.42
6:5:1247:G:H2'	6:5:1248:U:C6	2.54	0.42
10:9:100:LEU:CD1	10:9:591:ILE:CD1	2.97	0.42
16:AF:137:ASP:HB3	38:Z:349:PRO:HG3	2.02	0.42
17:B:176:MET:SD	17:B:206:ASN:HB2	2.60	0.42
19:D:205:PRO:HA	19:D:208:VAL:HG22	2.02	0.42
23:H:15:SER:OG	23:H:72:GLY:HA3	2.20	0.42
24:I:16:LEU:HA	24:I:104:LEU:HA	2.01	0.42
25:J:88:THR:O	25:J:91:ARG:HB2	2.20	0.42
33:R:27:LYS:HG3	33:R:29:ARG:HD3	2.02	0.42
39:a:272:LYS:HB2	39:a:275:THR:HG23	2.02	0.42
41:c:157:VAL:HB	41:c:159:PHE:CE1	2.55	0.42
43:e:17:ASN:OD1	43:e:28:LYS:HB3	2.20	0.42
44:f:32:PRO:HG2	44:f:111:PHE:HZ	1.84	0.42
47:j:21:ILE:HA	47:j:41:VAL:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:j:60:ALA:HB2	47:j:86:LEU:HD13	2.02	0.42
49:l:34:LEU:HD12	49:l:130:LYS:O	2.20	0.42
60:w:11:SER:O	60:w:11:SER:OG	2.31	0.42
4:3:172:U:H2'	4:3:173:C:C6	2.54	0.42
4:3:228:A:N6	4:3:455:G:O2'	2.48	0.42
4:3:462:C:H2'	4:3:463:U:C6	2.55	0.42
4:3:637:U:C6	48:k:88:LEU:HD13	2.55	0.42
4:3:867:G:H2'	4:3:868:C:C6	2.55	0.42
4:3:928:G:H2'	4:3:929:G:C8	2.55	0.42
4:3:985:A:C6	4:3:1005:G:C6	3.08	0.42
4:3:1046:A:H5''	53:p:65:ASN:HD22	1.85	0.42
4:3:1714:U:H2'	4:3:1715:A:O4'	2.20	0.42
4:3:1783:G:C2	4:3:1796:A:C2	3.08	0.42
4:3:1991:U:H2'	4:3:1992:C:C6	2.55	0.42
4:3:2148:U:H2'	4:3:2149:U:C6	2.55	0.42
4:3:2254:G:H2'	4:3:2255:A:C8	2.55	0.42
4:3:2726:G:H4'	52:o:100:TYR:CE2	2.55	0.42
5:4:4:G:H5'	5:4:25:A:H2	1.84	0.42
6:5:287:U:C4	6:5:306:G:C6	3.08	0.42
6:5:404:A:H2'	6:5:405:C:H6	1.85	0.42
6:5:741:C:H2'	6:5:742:C:H6	1.84	0.42
6:5:838:A:H4'	20:E:106:GLN:HG2	2.00	0.42
6:5:880:G:H2'	6:5:881:G:H8	1.85	0.42
6:5:951:U:H2'	6:5:952:U:C6	2.54	0.42
6:5:1355:U:O2'	21:F:2:ARG:NH1	2.53	0.42
6:5:1376:G:H2'	6:5:1377:C:H6	1.85	0.42
8:7:54:G:C2	8:7:63:U:C2	3.07	0.42
9:8:396:ARG:HD2	9:8:399:ARG:NH2	2.33	0.42
10:9:90:LYS:HZ1	10:9:1034:GLU:HB3	1.83	0.42
10:9:566:ARG:HH22	10:9:582:LYS:HG2	1.85	0.42
17:B:164:GLU:OE1	17:B:167:ARG:NE	2.35	0.42
20:E:26:GLN:HE22	20:E:60:TRP:HZ2	1.67	0.42
28:M:21:TYR:OH	28:M:23:ARG:NH1	2.49	0.42
38:Z:1247:LYS:HE3	38:Z:1249:GLN:OE1	2.20	0.42
46:i:121:TRP:CD1	46:i:124:LYS:HZ3	2.38	0.42
55:r:104:VAL:HG13	55:r:106:LYS:NZ	2.34	0.42
4:3:51:A:C5	4:3:121:U:O4	2.73	0.41
4:3:194:A:N6	4:3:211:A:H1'	2.35	0.41
4:3:224:G:H22	4:3:463:U:H2'	1.84	0.41
4:3:1307:G:H2'	4:3:1308:A:H8	1.83	0.41
4:3:1558:A:H3'	4:3:1570:A:H61	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1885:G:H2'	4:3:1886:C:C6	2.55	0.41
4:3:2175:U:O2	4:3:2179:A:N7	2.53	0.41
4:3:2196:G:H2'	4:3:2197:U:C6	2.55	0.41
4:3:2608:A:H2'	4:3:2609:C:C6	2.55	0.41
5:4:61:A:H2'	5:4:62:G:H8	1.85	0.41
6:5:10:G:H2'	6:5:11:A:H8	1.85	0.41
6:5:260:C:H2'	6:5:261:G:O4'	2.20	0.41
6:5:400:G:N3	6:5:400:G:H2'	2.35	0.41
6:5:622:A:H2'	6:5:623:G:C8	2.55	0.41
6:5:710:G:H2'	6:5:711:G:C8	2.55	0.41
6:5:861:A:H2'	6:5:862:C:H6	1.84	0.41
6:5:951:U:H2'	6:5:952:U:N1	2.35	0.41
6:5:1402:U:H2'	6:5:1403:A:H8	1.84	0.41
9:8:526:ILE:HG23	9:8:886:LEU:HD22	2.02	0.41
9:8:890:TYR:CE2	9:8:894:ASN:ND2	2.87	0.41
10:9:374:CYS:HB3	10:9:459:VAL:HG12	2.00	0.41
10:9:626:ARG:NH2	10:9:674:ALA:O	2.53	0.41
10:9:772:GLU:O	38:Z:861:GLY:HA2	2.20	0.41
10:9:1269:LYS:HE3	38:Z:313:ILE:HG23	1.82	0.41
10:9:1341:LEU:HD11	38:Z:391:ARG:NH1	2.35	0.41
11:A:19:SER:OG	11:A:20:LEU:N	2.51	0.41
12:AA:35:VAL:CG1	22:G:131:LYS:HZ1	2.33	0.41
17:B:138:ARG:HD2	17:B:138:ARG:HA	1.89	0.41
20:E:110:GLN:O	20:E:114:LYS:HG2	2.19	0.41
26:K:41:PRO:C	26:K:42:LEU:HD12	2.45	0.41
40:b:91:GLU:HB2	40:b:94:GLN:NE2	2.35	0.41
55:r:23:LEU:HD11	62:y:22:LEU:HG	2.01	0.41
1:0:12:ARG:HG3	1:0:44:VAL:HG11	2.00	0.41
4:3:19:G:H4'	53:p:24:PHE:CE1	2.55	0.41
4:3:116:C:H2'	4:3:117:C:C6	2.54	0.41
4:3:239:U:O4	4:3:240:C:N4	2.54	0.41
4:3:568:G:OP1	53:p:24:PHE:N	2.48	0.41
4:3:771:C:H2'	4:3:772:C:H6	1.85	0.41
4:3:849:C:O2'	4:3:850:G:H5'	2.19	0.41
4:3:993:A:C6	4:3:995:A:N1	2.88	0.41
4:3:1055:A:N6	4:3:1176:U:O2'	2.49	0.41
4:3:1167:U:H2'	4:3:1168:A:C5	2.55	0.41
4:3:1437:A:H2'	4:3:1438:G:H8	1.84	0.41
4:3:1840:C:H2'	4:3:1841:U:C6	2.55	0.41
4:3:1867:G:H2'	4:3:1868:A:H8	1.85	0.41
4:3:1958:U:H2'	4:3:1960:A:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2155:G:H2'	4:3:2156:G:C8	2.55	0.41
4:3:2419:A:H2'	4:3:2420:A:C8	2.54	0.41
6:5:16:G:O2'	19:D:84:ARG:NH2	2.53	0.41
6:5:1291:C:H3'	6:5:1292:A:C8	2.56	0.41
7:6:85:LYS:NZ	10:9:919:ASP:OD2	2.52	0.41
10:9:356:ARG:NH1	16:AF:113:ASN:H	2.18	0.41
10:9:1122:LEU:HD11	10:9:1149:LEU:HD23	2.02	0.41
17:B:153:LYS:NZ	17:B:171:TYR:O	2.39	0.41
19:D:100:LYS:HA	19:D:128:THR:HA	2.02	0.41
24:I:15:LYS:HD3	24:I:79:LEU:HD11	2.02	0.41
24:I:78:ARG:HD3	24:I:79:LEU:H	1.85	0.41
31:P:71:ALA:O	31:P:72:THR:OG1	2.35	0.41
38:Z:895:LEU:HD23	38:Z:1218:ILE:HG21	2.02	0.41
46:i:52:ASP:OD1	46:i:53:CYS:N	2.52	0.41
49:l:77:LYS:HD3	49:l:78:PRO:HD2	2.02	0.41
50:m:101:LEU:HD13	62:y:48:TYR:HB3	2.02	0.41
53:p:14:LYS:C	53:p:18:LYS:HZ3	2.28	0.41
53:p:49:ARG:HA	53:p:52:LYS:HE2	2.02	0.41
59:v:35:PRO:HB3	59:v:49:LEU:HD22	2.02	0.41
59:v:58:LEU:CD1	59:v:63:ARG:HB2	2.50	0.41
4:3:23:A:O2'	55:r:121:GLN:OE1	2.29	0.41
4:3:163:A:N3	4:3:2216:U:O2'	2.42	0.41
4:3:280:A:H2'	4:3:281:U:H6	1.85	0.41
4:3:355:A:O4'	41:c:170:GLN:NE2	2.46	0.41
4:3:645:C:H2'	4:3:646:A:C8	2.54	0.41
4:3:657:A:C5	4:3:658:G:H1'	2.55	0.41
4:3:851:U:H2'	4:3:852:C:H6	1.85	0.41
4:3:1251:G:OP1	54:q:66:ARG:NH1	2.46	0.41
4:3:1280:G:OP1	48:k:22:ARG:NH1	2.47	0.41
4:3:1790:U:C2	4:3:2595:A:N6	2.88	0.41
4:3:1801:U:H2'	4:3:1802:C:C6	2.55	0.41
4:3:1878:A:H2'	4:3:1879:A:O4'	2.20	0.41
4:3:1954:C:C2	4:3:1955:G:C8	3.08	0.41
4:3:2373:G:H4'	58:u:74:PHE:CZ	2.55	0.41
4:3:2491:C:N3	49:l:124:LYS:NZ	2.55	0.41
4:3:2630:U:H2'	4:3:2631:G:C8	2.55	0.41
4:3:2649:G:H2'	4:3:2650:A:C8	2.56	0.41
4:3:2788:U:H5''	46:i:123:THR:HB	2.02	0.41
4:3:2803:G:H8	4:3:2805:A:H4'	1.85	0.41
5:4:76:A:H2'	5:4:77:G:C8	2.54	0.41
6:5:174:U:H2'	6:5:175:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:311:A:H4'	6:5:313:U:OP2	2.19	0.41
6:5:675:U:O2	6:5:710:G:N2	2.52	0.41
6:5:981:U:H2'	6:5:982:A:C8	2.56	0.41
6:5:1052:G:C6	6:5:1172:A:C6	3.08	0.41
6:5:1413:G:H2'	6:5:1414:U:C6	2.55	0.41
10:9:258:VAL:CG1	10:9:268:VAL:CG1	2.94	0.41
10:9:655:ARG:NH2	10:9:709:GLU:OE2	2.46	0.41
10:9:1233:THR:HA	7:AB:40:ASN:ND2	2.35	0.41
10:9:1297:TYR:CD1	38:Z:554:LEU:CD2	3.03	0.41
7:AB:300:ILE:HD11	7:AB:325:LEU:HD22	2.01	0.41
16:AF:23:VAL:CG2	16:AF:44:VAL:HG23	2.38	0.41
17:B:156:VAL:HG22	17:B:201:VAL:HG12	2.01	0.41
19:D:150:LEU:HD12	19:D:150:LEU:HA	1.83	0.41
20:E:29:LEU:HD22	20:E:68:SER:OG	2.20	0.41
25:J:54:TYR:CZ	25:J:58:ILE:HD11	2.55	0.41
27:L:9:ILE:HD13	27:L:53:PHE:CZ	2.55	0.41
34:S:70:SER:HA	34:S:73:VAL:HG12	2.01	0.41
38:Z:60:PHE:CD1	38:Z:307:PRO:HD3	2.55	0.41
38:Z:573:THR:H	38:Z:576:MET:HE3	1.85	0.41
38:Z:649:LEU:HB3	38:Z:653:ILE:CD1	2.51	0.41
40:b:25:PRO:O	40:b:195:GLY:N	2.51	0.41
40:b:33:PRO:HB2	40:b:95:GLN:HB3	2.01	0.41
41:c:4:LEU:HD12	41:c:5:LYS:H	1.86	0.41
52:o:49:THR:HG22	52:o:68:LYS:HE3	2.02	0.41
53:p:91:ARG:CD	54:q:11:GLN:HB3	2.50	0.41
63:z:38:CYS:O	63:z:42:ARG:N	2.53	0.41
4:3:149:A:H2'	4:3:150:U:O4'	2.21	0.41
4:3:190:G:H2'	4:3:191:G:C8	2.55	0.41
4:3:217:A:H2'	4:3:218:G:C8	2.55	0.41
4:3:525:A:N6	4:3:1312:A:N1	2.69	0.41
4:3:983:A:H2'	4:3:984:C:C6	2.56	0.41
4:3:1142:G:OP1	36:U:56:ASN:ND2	2.53	0.41
4:3:1309:G:H2'	4:3:1310:U:C6	2.55	0.41
4:3:1707:U:H5	40:b:135:HIS:HE1	1.68	0.41
4:3:2007:U:H2'	4:3:2008:A:C8	2.55	0.41
4:3:2129:U:H2'	4:3:2130:A:C8	2.56	0.41
4:3:2545:U:H2'	4:3:2546:U:C6	2.55	0.41
6:5:226:G:H2'	6:5:227:A:C8	2.55	0.41
6:5:421:G:H2'	6:5:422:A:H8	1.86	0.41
6:5:618:U:C2	18:C:133:SER:HB2	2.56	0.41
6:5:950:C:H2'	6:5:951:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1137:C:H2'	6:5:1138:U:H6	1.84	0.41
6:5:1178:C:H2'	6:5:1179:A:H8	1.85	0.41
6:5:1262:A:H2'	6:5:1263:A:C8	2.55	0.41
6:5:1301:U:H2'	6:5:1302:C:C6	2.55	0.41
10:9:185:GLU:HG2	10:9:195:LEU:HD23	2.01	0.41
10:9:349:HIS:CE1	16:AF:109:ARG:NH2	2.88	0.41
10:9:772:GLU:HB2	38:Z:862:LEU:N	2.35	0.41
13:AC:42:TYR:CE2	13:AC:111:ILE:HD11	2.56	0.41
13:AC:196:VAL:CB	13:AC:217:ARG:CZ	2.99	0.41
17:B:65:VAL:HG11	17:B:96:ILE:HG12	2.02	0.41
18:C:4:THR:HG21	18:C:62:TYR:CE1	2.55	0.41
18:C:79:LEU:HA	18:C:85:LEU:HD11	2.02	0.41
32:Q:82:HIS:O	32:Q:86:VAL:HG22	2.21	0.41
34:S:20:ASN:O	34:S:24:GLN:OE1	2.39	0.41
39:a:2:PRO:HB2	39:a:3:ILE:H	1.61	0.41
39:a:62:ASN:HD21	39:a:221:HIS:CD2	2.39	0.41
39:a:215:LYS:HG3	39:a:217:GLY:H	1.85	0.41
40:b:113:ILE:HD11	40:b:171:HIS:CD2	2.56	0.41
41:c:52:ILE:HD12	41:c:52:ILE:HA	1.95	0.41
42:d:34:ILE:O	42:d:91:LEU:HD23	2.20	0.41
48:k:57:PRO:O	48:k:61:ARG:HG3	2.20	0.41
48:k:101:LYS:HA	48:k:101:LYS:HD2	1.82	0.41
2:1:11:PHE:CE2	48:k:59:TYR:HB3	2.52	0.41
4:3:377:U:H2'	4:3:378:G:C8	2.55	0.41
4:3:476:G:H2'	4:3:477:U:H6	1.86	0.41
4:3:612:G:H5'	4:3:2024:C:H3'	2.02	0.41
4:3:688:U:H5''	4:3:689:U:H5'	2.02	0.41
4:3:738:U:H3'	4:3:739:G:C8	2.55	0.41
4:3:1041:C:H2'	4:3:1042:C:C5	2.56	0.41
4:3:1588:A:O2'	4:3:1589:A:P	2.79	0.41
4:3:1676:G:H2'	4:3:1677:G:C8	2.55	0.41
4:3:1738:G:C6	4:3:1739:G:C6	3.08	0.41
4:3:1806:G:N2	39:a:160:ILE:HG23	2.34	0.41
4:3:1894:U:H2'	4:3:1895:G:O4'	2.20	0.41
4:3:1995:G:C2	4:3:1996:A:C5	3.09	0.41
4:3:1997:C:H2'	4:3:1998:U:C6	2.55	0.41
4:3:2846:A:H2'	4:3:2847:C:C6	2.55	0.41
6:5:294:A:H2'	6:5:295:G:C8	2.56	0.41
6:5:874:C:H2'	6:5:875:G:C8	2.56	0.41
6:5:957:C:H2'	6:5:958:G:H8	1.86	0.41
6:5:1198:C:P	33:R:78:ARG:HH11	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1337:U:O5'	6:5:1338:A:H5'	2.21	0.41
7:6:44:ARG:HH11	10:9:1232:ARG:HA	1.86	0.41
10:9:134:PRO:HG2	10:9:604:PHE:CD2	2.56	0.41
10:9:212:LEU:HD12	10:9:223:ILE:HG12	2.01	0.41
10:9:907:ASP:OD1	10:9:1099:ARG:NH1	2.40	0.41
10:9:999:PHE:CE1	13:AC:42:TYR:CZ	2.88	0.41
11:A:177:ILE:CD1	11:A:199:VAL:HG13	2.51	0.41
17:B:193:GLN:NE2	17:B:194:THR:O	2.53	0.41
18:C:89:LEU:O	18:C:93:LEU:HD23	2.20	0.41
21:F:111:HIS:ND1	21:F:112:GLU:HG3	2.36	0.41
23:H:17:ALA:HA	23:H:68:VAL:O	2.21	0.41
26:K:83:GLU:O	26:K:112:ARG:NH2	2.52	0.41
35:T:11:LEU:HG	35:T:12:GLU:HG2	2.03	0.41
38:Z:876:LYS:CG	38:Z:1030:ARG:HH12	1.86	0.41
39:a:41:LEU:HD23	39:a:66:TYR:HB3	2.02	0.41
40:b:58:GLU:HG2	40:b:60:LYS:HB2	2.02	0.41
53:p:32:LYS:O	53:p:36:GLN:HG3	2.21	0.41
4:3:178:A:O2'	4:3:179:A:O4'	2.16	0.41
4:3:196:G:H2'	4:3:197:U:O4'	2.21	0.41
4:3:257:C:H2'	4:3:258:G:O4'	2.21	0.41
4:3:267:A:H2'	4:3:268:C:C6	2.55	0.41
4:3:386:U:H2'	4:3:387:U:C6	2.55	0.41
4:3:638:A:C5	4:3:661:G:C2	3.08	0.41
4:3:656:G:H4'	4:3:657:A:H5''	2.02	0.41
4:3:766:C:H2'	4:3:767:C:H6	1.83	0.41
4:3:820:U:H2'	4:3:821:C:O4'	2.20	0.41
4:3:860:C:H4'	4:3:2436:G:N7	2.35	0.41
4:3:955:A:N3	5:4:78:C:O2'	2.54	0.41
4:3:1036:A:H2'	4:3:1037:A:C8	2.55	0.41
4:3:1067:A:N1	4:3:1157:G:C6	2.88	0.41
4:3:1230:U:H2'	4:3:1231:G:H8	1.83	0.41
4:3:1231:G:H2'	4:3:1232:U:H6	1.86	0.41
4:3:1245:G:H4'	53:p:7:LYS:HZ1	1.85	0.41
4:3:1269:C:H2'	4:3:1270:C:C6	2.56	0.41
4:3:1367:G:H3'	56:s:60:ARG:NH1	2.36	0.41
4:3:2321:C:O2'	42:d:35:VAL:HG11	2.20	0.41
4:3:2384:A:N6	51:n:98:TYR:CG	2.89	0.41
4:3:2557:G:H2'	4:3:2558:G:H8	1.85	0.41
4:3:2819:C:C2	4:3:2820:G:C8	3.09	0.41
4:3:2873:G:H2'	4:3:2874:C:C6	2.55	0.41
5:4:89:A:C4	5:4:90:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:177:G:H2'	6:5:178:U:C6	2.56	0.41
6:5:259:A:H2'	6:5:260:C:C5	2.56	0.41
6:5:333:U:H2'	6:5:334:A:C8	2.56	0.41
6:5:398:G:H5'	18:C:73:ARG:NH2	2.36	0.41
6:5:614:U:H2'	6:5:615:G:H8	1.86	0.41
6:5:1093:A:H2'	6:5:1094:C:C6	2.55	0.41
6:5:1191:U:H2'	6:5:1192:C:C6	2.55	0.41
6:5:1325:U:H2'	6:5:1326:C:H6	1.86	0.41
10:9:409:ALA:HA	10:9:474:TYR:CE2	2.55	0.41
10:9:689:TYR:HB3	10:9:752:TYR:HB3	2.03	0.41
7:AB:46:LEU:HD23	7:AB:50:ILE:HD11	2.01	0.41
15:AE:10:DG:O4'	38:Z:119:PRO:CD	2.63	0.41
20:E:124:ASN:O	20:E:126:GLU:N	2.50	0.41
21:F:8:LYS:HA	21:F:8:LYS:HD3	1.94	0.41
21:F:28:VAL:HG11	21:F:100:LEU:CD1	2.51	0.41
24:I:14:ILE:HD11	24:I:104:LEU:HD13	2.02	0.41
24:I:30:LYS:O	24:I:33:GLU:HG3	2.20	0.41
27:L:23:PHE:HB3	27:L:66:GLU:HB2	2.02	0.41
29:N:68:LYS:HD3	29:N:75:TYR:CD1	2.56	0.41
38:Z:553:ILE:CD1	38:Z:1270:THR:HG23	2.51	0.41
39:a:231:SER:HA	39:a:240:HIS:HB3	2.03	0.41
40:b:53:SER:HB2	40:b:78:THR:OG1	2.21	0.41
40:b:56:THR:HB	40:b:78:THR:HG22	2.02	0.41
41:c:4:LEU:HD11	41:c:127:LEU:N	2.36	0.41
41:c:54:THR:O	41:c:58:VAL:HG23	2.19	0.41
42:d:37:ASN:O	42:d:38:MET:HE2	2.21	0.41
46:i:28:LEU:HD21	46:i:103:LEU:HD21	2.03	0.41
50:m:17:THR:O	50:m:18:VAL:C	2.64	0.41
50:m:26:LEU:CD1	50:m:78:LEU:HD13	2.50	0.41
55:r:10:VAL:C	55:r:100:SER:HG	2.25	0.41
55:r:12:ILE:O	55:r:101:SER:OG	2.25	0.41
4:3:27:U:H2'	4:3:28:G:C8	2.55	0.41
4:3:609:U:H2'	4:3:610:G:H8	1.86	0.41
4:3:627:U:H2'	4:3:628:A:C8	2.55	0.41
4:3:647:G:O3'	41:c:185:LYS:NZ	2.54	0.41
4:3:764:G:C8	39:a:215:LYS:HD3	2.56	0.41
4:3:772:C:H4'	4:3:801:U:H4'	2.03	0.41
4:3:945:U:H2'	4:3:946:A:H8	1.85	0.41
4:3:947:A:H2'	4:3:948:A:C8	2.56	0.41
4:3:1077:G:C6	4:3:1149:G:C6	3.07	0.41
4:3:1167:U:O2'	4:3:1168:A:O5'	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1652:A:N1	50:m:3:TYR:HE2	2.18	0.41
4:3:1701:G:O2'	4:3:1998:U:O4	2.36	0.41
4:3:1798:A:O3'	39:a:213:ILE:HB	2.20	0.41
4:3:1845:C:N4	4:3:1905:U:H2'	2.35	0.41
4:3:2166:U:H2'	4:3:2167:G:H8	1.86	0.41
4:3:2553:G:H2'	4:3:2554:U:H6	1.85	0.41
6:5:588:U:H2'	6:5:589:U:H6	1.86	0.41
6:5:664:A:H2'	6:5:665:G:H8	1.84	0.41
6:5:1298:U:H2'	6:5:1299:C:C6	2.56	0.41
6:5:1424:C:H2'	6:5:1425:A:O4'	2.21	0.41
9:8:440:PHE:CE1	9:8:456:PHE:CD1	3.09	0.41
10:9:1141:GLN:OE1	10:9:1142:PRO:HD2	2.21	0.41
10:9:1350:ALA:N	38:Z:368:PHE:CE1	2.89	0.41
12:AA:64:TYR:CE1	12:AA:66:GLY:HA2	2.56	0.41
16:AF:10:TRP:CB	16:AF:133:LEU:HD12	2.49	0.41
16:AF:45:LEU:HD12	16:AF:98:TYR:CE2	2.55	0.41
16:AF:108:TRP:CD1	16:AF:112:ARG:NH2	2.89	0.41
18:C:97:LEU:O	18:C:101:VAL:HG23	2.21	0.41
40:b:47:TYR:HB2	40:b:85:ARG:CZ	2.50	0.41
62:y:27:LEU:HD12	62:y:28:SER:N	2.32	0.41
63:z:36:LYS:O	63:z:47:HIS:NE2	2.49	0.41
1:0:35:ARG:NH2	4:3:182:C:O3'	2.54	0.41
4:3:101:C:H4'	4:3:103:G:C4	2.55	0.41
4:3:140:G:N2	4:3:143:A:H62	2.18	0.41
4:3:291:G:C2	4:3:292:G:C5	3.08	0.41
4:3:525:A:C6	4:3:1312:A:N6	2.89	0.41
4:3:720:A:O2'	4:3:808:U:O4	2.27	0.41
4:3:1268:U:H2'	4:3:1269:C:C6	2.56	0.41
4:3:2324:A:H1'	42:d:125:ARG:CZ	2.51	0.41
4:3:2770:U:H2'	4:3:2771:G:O4'	2.20	0.41
5:4:26:C:H2'	5:4:27:A:C8	2.55	0.41
6:5:471:A:H2'	6:5:472:G:C8	2.56	0.41
6:5:596:U:H4'	22:G:98:TYR:HD1	1.86	0.41
8:7:55:U:C2	8:7:59:A:N7	2.89	0.41
10:9:161:ILE:HG23	10:9:184:CYS:SG	2.61	0.41
10:9:647:ASP:HB3	38:Z:834:SER:HB3	2.02	0.41
10:9:1200:PHE:CE1	38:Z:864:ILE:HA	2.56	0.41
10:9:1306:LEU:HA	38:Z:408:VAL:HG12	1.93	0.41
10:9:1375:GLY:HA3	13:AC:159:ASP:OD2	2.20	0.41
13:AC:136:MET:HG2	13:AC:140:ILE:HD12	2.02	0.41
13:AC:173:LYS:HB2	13:AC:207:TRP:CZ3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:H:82:ARG:HA	23:H:85:ILE:HG12	2.02	0.41
38:Z:490:PRO:HG3	38:Z:551:ARG:HG3	2.03	0.41
38:Z:956:PRO:HG2	38:Z:959:SER:OG	2.21	0.41
39:a:12:SER:O	39:a:12:SER:OG	2.38	0.41
49:l:15:VAL:HG11	49:l:96:VAL:HG21	2.03	0.41
57:t:78:ASP:OD2	57:t:81:ALA:HB3	2.21	0.41
58:u:77:SER:OG	58:u:78:ASP:N	2.52	0.41
4:3:35:U:O4	4:3:483:A:N7	2.54	0.41
4:3:38:G:H4'	4:3:487:C:C4	2.56	0.41
4:3:63:U:C2	60:w:41:PRO:HB2	2.56	0.41
4:3:167:A:H2'	4:3:168:A:O4'	2.21	0.41
4:3:173:C:N4	4:3:174:A:H62	2.19	0.41
4:3:226:A:C8	4:3:456:G:H4'	2.56	0.41
4:3:291:G:H2'	4:3:292:G:C8	2.56	0.41
4:3:404:C:H2'	4:3:405:C:H6	1.86	0.41
4:3:483:A:O4'	4:3:485:A:N6	2.53	0.41
4:3:519:A:H3'	4:3:520:C:H6	1.86	0.41
4:3:744:U:H2'	4:3:745:U:C6	2.56	0.41
4:3:764:G:H5'	4:3:765:A:H5''	2.02	0.41
4:3:894:G:H3'	4:3:895:G:C8	2.56	0.41
4:3:1082:A:H2'	4:3:1145:G:N1	2.36	0.41
4:3:1106:G:H21	4:3:1124:G:H2'	1.86	0.41
4:3:1119:A:P	4:3:1119:A:H8	2.44	0.41
4:3:1140:U:H2'	4:3:1141:U:C6	2.56	0.41
4:3:1336:A:H2'	4:3:1337:G:O4'	2.21	0.41
4:3:1477:A:C6	4:3:1489:G:C6	3.08	0.41
4:3:1513:A:O2'	4:3:1514:U:O4'	2.21	0.41
4:3:1592:A:H4'	4:3:1593:U:H3'	2.03	0.41
4:3:1613:A:H3'	4:3:1614:G:H8	1.86	0.41
4:3:1701:G:C6	4:3:1998:U:H3'	2.56	0.41
4:3:1802:C:H2'	4:3:1803:U:C6	2.56	0.41
4:3:1999:G:H5'	4:3:2001:C:H41	1.85	0.41
4:3:2080:C:OP1	39:a:236:ASN:ND2	2.54	0.41
4:3:2082:U:OP2	4:3:2246:G:O2'	2.24	0.41
4:3:2363:C:H2'	4:3:2364:A:C4	2.56	0.41
4:3:2388:C:H2'	4:3:2389:A:H8	1.86	0.41
4:3:2513:G:O2'	4:3:2514:U:O5'	2.33	0.41
4:3:2530:U:H1'	4:3:2572:A:C2	2.56	0.41
4:3:2661:U:H3'	4:3:2662:A:H8	1.86	0.41
6:5:130:G:H2'	6:5:131:G:C8	2.55	0.41
6:5:172:C:H2'	6:5:173:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:562:U:OP2	26:K:12:ARG:NH1	2.53	0.41
6:5:663:G:C6	6:5:737:U:O2	2.74	0.41
6:5:727:G:C5	6:5:728:G:H1'	2.56	0.41
6:5:821:U:H2'	6:5:822:A:C8	2.56	0.41
6:5:1065:G:O2'	11:A:118:THR:HG21	2.21	0.41
6:5:1133:A:H5'	6:5:1134:C:C6	2.56	0.41
6:5:1289:U:O2'	6:5:1334:A:N3	2.47	0.41
6:5:1409:A:H2'	6:5:1410:A:H8	1.86	0.41
6:5:1411:A:H2'	6:5:1412:C:C6	2.56	0.41
7:6:93:ASP:HA	7:6:96:PHE:CD2	2.55	0.41
8:7:19:G:N7	8:7:56:U:O2'	2.47	0.41
8:7:20:G:O3'	8:7:58:G:N2	2.54	0.41
9:8:796:ALA:HA	9:8:923:LEU:CD2	2.51	0.41
10:9:150:PHE:CE1	10:9:625:LYS:HA	2.56	0.41
10:9:342:ARG:NH1	10:9:345:LYS:HD3	2.33	0.41
10:9:647:ASP:HB3	38:Z:834:SER:CB	2.51	0.41
10:9:653:TYR:CD1	10:9:737:ARG:NH2	2.89	0.41
10:9:658:PRO:HD3	38:Z:868:PHE:HE2	1.85	0.41
10:9:1002:SER:N	13:AC:109:LYS:CB	2.84	0.41
10:9:1054:GLN:NE2	10:9:1256:ASP:OD1	2.53	0.41
7:AB:73:MET:HE3	7:AB:143:PHE:CG	2.54	0.41
7:AB:283:ARG:CD	13:AC:49:VAL:HG21	2.40	0.41
7:AB:304:ARG:O	13:AC:81:PHE:HZ	2.02	0.41
13:AC:156:THR:H	38:Z:76:ILE:HG22	1.86	0.41
13:AC:290:TRP:CD2	13:AC:296:LYS:CE	3.03	0.41
14:AD:26:DT:OP1	14:AD:26:DT:H3'	2.20	0.41
17:B:33:TRP:HB3	17:B:60:ARG:CZ	2.51	0.41
17:B:44:PHE:HD2	17:B:56:VAL:HG21	1.85	0.41
18:C:183:GLU:O	18:C:187:LEU:HG	2.21	0.41
20:E:101:ASN:O	20:E:103:LYS:N	2.54	0.41
22:G:116:ILE:O	22:G:123:MET:N	2.39	0.41
23:H:74:PHE:CD2	23:H:75:THR:HG23	2.56	0.41
27:L:10:PRO:HB2	27:L:13:LYS:HZ2	1.86	0.41
28:M:56:VAL:O	28:M:57:LYS:HE2	2.20	0.41
30:O:3:MET:N	30:O:3:MET:SD	2.94	0.41
30:O:46:GLU:OE1	30:O:72:LEU:HD12	2.20	0.41
31:P:65:GLU:HA	31:P:75:PHE:HD1	1.86	0.41
35:T:18:PHE:HA	35:T:21:VAL:HG22	2.02	0.41
35:T:24:GLU:HG3	35:T:27:ARG:NH1	2.35	0.41
36:U:36:GLU:HG2	36:U:99:VAL:HG12	2.03	0.41
38:Z:775:LYS:HE2	38:Z:1035:GLY:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:884:LYS:HG3	38:Z:1029:MET:HE2	2.03	0.41
40:b:225:GLN:NE2	52:o:84:PRO:HG3	2.36	0.41
41:c:197:LEU:HD23	41:c:198:LEU:N	2.35	0.41
42:d:13:ALA:HA	42:d:28:VAL:HG11	2.03	0.41
43:e:3:LYS:HB3	43:e:4:ILE:H	1.61	0.41
45:h:98:MET:O	45:h:102:LYS:HB2	2.21	0.41
50:m:74:ASP:HB3	50:m:77:GLN:OE1	2.21	0.41
50:m:82:LEU:O	50:m:86:VAL:HG22	2.21	0.41
51:n:52:LEU:HD13	51:n:84:LEU:HD13	2.02	0.41
52:o:19:LYS:HD2	52:o:82:HIS:HA	2.03	0.41
54:q:2:HIS:HB2	54:q:13:LEU:HD11	2.03	0.41
55:r:110:ASN:N	55:r:110:ASN:OD1	2.54	0.41
59:v:36:CYS:O	59:v:47:ARG:HA	2.21	0.41
63:z:23:LYS:HZ3	63:z:25:VAL:HA	1.85	0.41
1:0:5:TYR:HD1	4:3:823:A:H2	1.69	0.41
4:3:47:G:H4'	4:3:48:G:H5'	2.03	0.41
4:3:983:A:H2'	4:3:984:C:H6	1.86	0.41
4:3:1327:G:H4'	4:3:1328:A:O5'	2.21	0.41
4:3:1603:A:H2'	4:3:1604:A:O4'	2.21	0.41
4:3:1980:G:H2'	4:3:1981:U:C6	2.55	0.41
4:3:2259:G:O2'	4:3:2457:U:O2	2.23	0.41
4:3:2336:A:H61	4:3:2395:U:H3	1.69	0.41
4:3:2625:U:O4	4:3:2626:A:N6	2.54	0.41
6:5:23:G:H2'	6:5:24:C:C6	2.56	0.41
6:5:271:G:H5'	31:P:17:LYS:HD3	2.03	0.41
6:5:398:G:H4'	6:5:618:U:H3	1.85	0.41
6:5:736:U:O2'	29:N:39:HIS:CD2	2.73	0.41
6:5:949:G:N7	6:5:950:C:N4	2.69	0.41
7:6:106:LEU:N	7:AB:319:HIS:ND1	2.69	0.41
11:A:37:TRP:HA	11:A:205:ASN:HB3	2.03	0.41
11:A:177:ILE:HA	11:A:199:VAL:O	2.21	0.41
13:AC:37:ALA:HA	13:AC:122:LEU:HD23	2.03	0.41
16:AF:19:ASP:CG	16:AF:91:ASN:HD22	2.29	0.41
16:AF:108:TRP:CZ3	16:AF:130:PRO:CG	3.04	0.41
22:G:13:ASP:N	22:G:13:ASP:OD1	2.54	0.41
22:G:95:LEU:HD13	26:K:4:ILE:HD13	2.03	0.41
22:G:116:ILE:HA	22:G:136:GLU:O	2.20	0.41
25:J:28:SER:OG	25:J:33:ASN:N	2.54	0.41
25:J:54:TYR:O	25:J:58:ILE:HG12	2.21	0.41
27:L:10:PRO:HG2	27:L:13:LYS:HD2	2.02	0.41
30:O:67:PHE:CD2	30:O:72:LEU:HD13	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:S:39:ILE:HG23	34:S:76:LEU:HD12	2.03	0.41
42:d:8:TYR:HA	42:d:12:ILE:HG12	2.02	0.41
43:e:61:LEU:O	43:e:65:LYS:N	2.47	0.41
43:e:124:LEU:HB3	43:e:136:ILE:HD11	2.03	0.41
44:f:10:SER:OG	44:f:14:LYS:NZ	2.31	0.41
53:p:31:TYR:CZ	53:p:35:LYS:HD2	2.56	0.41
4:3:174:A:C2	4:3:175:A:C5	3.08	0.40
4:3:205:C:H1'	4:3:255:A:H2	1.86	0.40
4:3:256:G:H2'	4:3:257:C:C6	2.57	0.40
4:3:531:G:C4	4:3:532:A:C8	3.08	0.40
4:3:595:U:H2'	4:3:605:A:H1'	2.03	0.40
4:3:598:G:H2'	4:3:599:U:C6	2.56	0.40
4:3:615:G:O2'	4:3:616:G:H5'	2.21	0.40
4:3:621:U:H2'	4:3:622:U:C6	2.55	0.40
4:3:1202:A:H2'	4:3:1203:G:H8	1.86	0.40
4:3:1227:C:H2'	4:3:1228:G:C8	2.56	0.40
4:3:1391:U:C2	4:3:1392:G:C8	3.08	0.40
4:3:1742:C:H2'	4:3:1743:U:C6	2.57	0.40
4:3:1852:G:H2'	4:3:1853:G:C8	2.56	0.40
4:3:2483:C:N4	4:3:2537:G:N2	2.69	0.40
4:3:2590:G:C2	4:3:2591:G:N2	2.88	0.40
4:3:2661:U:OP2	4:3:2662:A:O2'	2.29	0.40
4:3:2699:C:H2'	4:3:2700:C:C6	2.56	0.40
4:3:2791:U:H2'	4:3:2792:C:C6	2.55	0.40
6:5:665:G:H1'	29:N:43:ASN:HD22	1.86	0.40
6:5:815:G:N2	6:5:817:U:O2'	2.54	0.40
6:5:1011:A:H1'	6:5:1193:U:O2'	2.22	0.40
6:5:1046:A:H2	17:B:197:GLY:HA2	1.85	0.40
6:5:1477:A:O2'	6:5:1478:A:H3'	2.21	0.40
8:7:2:G:H1	8:7:74:A:H62	1.68	0.40
10:9:1200:PHE:CD1	38:Z:863:THR:C	2.99	0.40
10:9:1288:GLU:HG2	10:9:1292:TRP:CZ2	2.56	0.40
10:9:1325:VAL:HG22	38:Z:443:ILE:HD13	2.03	0.40
11:A:84:PHE:HA	11:A:177:ILE:HG22	2.02	0.40
7:AB:283:ARG:CZ	13:AC:79:ASP:OD2	2.69	0.40
13:AC:290:TRP:CG	13:AC:296:LYS:CD	2.92	0.40
19:D:97:ARG:HB2	19:D:98:LYS:HZ2	1.86	0.40
19:D:111:VAL:HB	19:D:112:PRO:HD3	2.02	0.40
23:H:106:THR:OG1	23:H:107:THR:N	2.53	0.40
26:K:78:THR:HG22	26:K:110:ILE:HG13	2.03	0.40
40:b:17:PHE:HB3	52:o:17:GLN:HE22	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:c:38:VAL:O	41:c:41:GLU:HG3	2.22	0.40
41:c:174:ASN:ND2	41:c:175:ILE:HG13	2.37	0.40
44:f:67:LYS:HA	44:f:70:GLU:OE1	2.21	0.40
49:l:41:TRP:CD1	49:l:41:TRP:N	2.89	0.40
58:u:39:LYS:HD2	58:u:45:ILE:HG21	2.03	0.40
2:1:25:TYR:HD1	4:3:2400:A:H4'	1.86	0.40
4:3:38:G:N3	4:3:486:G:O2'	2.54	0.40
4:3:549:A:H2'	4:3:550:A:C8	2.57	0.40
4:3:580:U:OP1	4:3:1249:A:O2'	2.21	0.40
4:3:759:U:C4	4:3:760:G:C5	3.09	0.40
4:3:1103:G:H4'	4:3:1105:A:H62	1.86	0.40
4:3:1625:G:H2'	4:3:1626:C:C6	2.57	0.40
4:3:2337:U:H2'	4:3:2338:G:C8	2.56	0.40
4:3:2557:G:O2'	4:3:2558:G:H5'	2.21	0.40
4:3:2624:C:H2'	4:3:2625:U:C6	2.56	0.40
4:3:2845:U:C2	4:3:2846:A:C8	3.10	0.40
6:5:248:U:H2'	6:5:249:U:C6	2.56	0.40
6:5:554:C:N4	6:5:555:G:O6	2.54	0.40
6:5:737:U:H5'	29:N:39:HIS:CD2	2.55	0.40
6:5:827:C:H2'	6:5:828:U:C6	2.56	0.40
6:5:1055:G:H1'	6:5:1165:G:H21	1.87	0.40
6:5:1137:C:H2'	6:5:1138:U:C6	2.56	0.40
6:5:1365:U:H2'	6:5:1366:U:C6	2.57	0.40
6:5:1390:G:H2'	6:5:1391:A:C8	2.56	0.40
6:5:1447:U:H2'	6:5:1448:A:H8	1.86	0.40
9:8:511:ARG:NH1	9:8:902:ILE:HD12	2.36	0.40
10:9:265:LEU:HD23	10:9:276:LEU:CD1	2.51	0.40
21:F:26:ILE:HG21	21:F:39:GLN:NE2	2.37	0.40
26:K:16:LYS:HA	26:K:16:LYS:HD3	1.97	0.40
27:L:79:HIS:HA	27:L:82:GLU:OE1	2.20	0.40
34:S:26:THR:O	34:S:30:THR:HG23	2.21	0.40
39:a:125:GLU:HB2	44:f:89:TYR:CE1	2.56	0.40
49:l:37:THR:OG1	49:l:128:THR:HB	2.20	0.40
50:m:104:GLY:O	50:m:113:MET:HE2	2.21	0.40
52:o:4:ILE:C	52:o:6:LYS:HZ2	2.26	0.40
53:p:100:LYS:HD3	53:p:100:LYS:HA	1.59	0.40
55:r:39:THR:HA	55:r:40:PRO:HD3	1.88	0.40
1:0:39:ARG:NE	4:3:494:G:O2'	2.55	0.40
4:3:166:A:H2'	4:3:167:A:C8	2.56	0.40
4:3:201:A:H2	4:3:2442:A:H62	1.70	0.40
4:3:255:A:O5'	4:3:255:A:H8	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:343:A:H1'	4:3:363:G:N3	2.36	0.40
4:3:487:C:O2	4:3:489:A:N6	2.55	0.40
4:3:495:U:H2'	4:3:496:A:H8	1.87	0.40
4:3:725:G:N2	4:3:807:U:O2	2.35	0.40
4:3:730:G:H2'	4:3:731:A:H8	1.86	0.40
4:3:738:U:H3	4:3:763:G:H1	1.69	0.40
4:3:784:A:H4'	4:3:1301:G:N3	2.37	0.40
4:3:794:G:H2'	4:3:795:G:C8	2.55	0.40
4:3:992:G:O3'	4:3:993:A:H8	2.04	0.40
4:3:1263:G:H2'	4:3:1264:U:C6	2.56	0.40
4:3:1841:U:H4'	4:3:1842:G:H5'	2.03	0.40
4:3:1872:U:C2	4:3:1882:G:N1	2.90	0.40
4:3:2264:G:H2'	4:3:2265:U:C6	2.57	0.40
4:3:2513:G:H2'	4:3:2584:G:H1	1.86	0.40
4:3:2748:A:H2'	4:3:2749:A:C8	2.57	0.40
4:3:2793:U:H2'	4:3:2794:U:C6	2.56	0.40
4:3:2823:A:C6	4:3:2832:G:C6	3.09	0.40
5:4:49:G:O2'	5:4:50:C:O4'	2.20	0.40
6:5:31:U:H3	6:5:551:A:H61	1.69	0.40
6:5:1038:G:OP1	28:M:4:LYS:HE3	2.20	0.40
6:5:1209:C:H2'	6:5:1210:U:O4'	2.21	0.40
6:5:1495:C:H2'	6:5:1496:G:C8	2.56	0.40
9:8:835:PHE:CD1	9:8:920:VAL:HG21	2.57	0.40
10:9:150:PHE:CZ	10:9:625:LYS:HA	2.56	0.40
10:9:659:ILE:HD11	38:Z:867:TYR:CE1	2.56	0.40
7:AB:193:TYR:HB2	7:AB:209:LEU:HD11	2.03	0.40
13:AC:334:VAL:HG12	13:AC:342:ILE:HD13	2.03	0.40
17:B:87:LYS:O	17:B:91:GLN:OE1	2.39	0.40
22:G:15:VAL:HG21	22:G:138:LEU:HD12	2.03	0.40
24:I:50:THR:O	24:I:52:LYS:HG3	2.21	0.40
25:J:19:SER:N	25:J:22:ASN:O	2.54	0.40
33:R:42:PRO:HD3	33:R:67:VAL:HG21	2.03	0.40
37:V:5:LEU:HD23	37:W:20:ILE:HG23	2.04	0.40
42:d:92:ARG:HA	42:d:96:MET:SD	2.62	0.40
47:j:3:SER:O	47:j:6:THR:OG1	2.38	0.40
49:l:3:GLN:HE22	49:l:93:TRP:NE1	2.19	0.40
53:p:106:ASN:HA	53:p:109:VAL:HG12	2.03	0.40
2:1:2:LYS:HE3	4:3:246:G:O2'	2.21	0.40
4:3:329:G:H2'	4:3:330:A:H8	1.86	0.40
4:3:342:G:C2	4:3:536:A:N7	2.90	0.40
4:3:573:A:H2'	4:3:574:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:596:G:C6	4:3:2025:C:C2	3.09	0.40
4:3:806:A:H2'	4:3:807:U:C6	2.57	0.40
4:3:965:U:H2'	4:3:966:U:C6	2.57	0.40
4:3:1117:U:H2'	4:3:1118:U:O4'	2.21	0.40
4:3:1391:U:H2'	4:3:1392:G:C8	2.56	0.40
4:3:1647:A:N6	4:3:1651:C:H2'	2.36	0.40
4:3:1821:G:H2'	4:3:1822:A:C8	2.57	0.40
4:3:1838:A:H2'	4:3:1839:C:H6	1.87	0.40
4:3:2160:U:H2'	4:3:2161:G:C8	2.56	0.40
4:3:2590:G:C2	4:3:2591:G:C2	3.09	0.40
4:3:2637:A:N3	4:3:2898:A:N6	2.70	0.40
6:5:408:U:H1'	6:5:409:G:H2'	2.04	0.40
6:5:960:C:H5'	6:5:964:A:H5'	2.04	0.40
6:5:983:G:N2	6:5:1012:A:H8	2.18	0.40
6:5:1131:A:C4	6:5:1132:G:C8	3.10	0.40
8:7:57:C:H3'	8:7:58:G:H8	1.86	0.40
9:8:206:LEU:CD2	9:8:480:LYS:HA	2.52	0.40
10:9:567:GLY:HA3	16:AF:31:LYS:CD	2.49	0.40
10:9:1136:SER:HA	10:9:1146:LEU:CD1	2.51	0.40
10:9:1370:ILE:HB	38:Z:94:ILE:HG23	2.03	0.40
12:AA:27:PHE:CE2	12:AA:53:TYR:HD2	2.39	0.40
7:AB:96:PHE:CZ	7:AB:159:GLN:OE1	2.75	0.40
7:AB:166:PHE:N	7:AB:182:ASP:OD1	2.44	0.40
13:AC:131:ALA:C	13:AC:171:THR:C	2.86	0.40
13:AC:183:LYS:HZ2	13:AC:245:GLY:C	2.22	0.40
30:O:58:LYS:HB3	30:O:64:ARG:HH12	1.84	0.40
31:P:23:THR:HG22	31:P:46:GLN:OE1	2.21	0.40
36:U:157:VAL:HG22	37:X:28:PHE:CD2	2.56	0.40
38:Z:141:PHE:HA	38:Z:236:ILE:HD11	2.03	0.40
49:l:17:TYR:HD1	49:l:41:TRP:NE1	2.19	0.40
49:l:42:ILE:HD12	49:l:126:PRO:HG2	2.03	0.40
53:p:43:LYS:HZ3	54:q:73:HIS:C	2.25	0.40
59:v:16:ASN:ND2	59:v:25:THR:H	2.19	0.40
1:0:2:LYS:HE3	4:3:722:C:H4'	2.04	0.40
4:3:80:U:O4	4:3:109:G:O6	2.39	0.40
4:3:227:A:H5'	4:3:228:A:H5'	2.03	0.40
4:3:319:G:C6	4:3:390:A:C6	3.09	0.40
4:3:436:G:N7	59:v:56:ARG:NH1	2.69	0.40
4:3:490:A:H3'	4:3:491:A:C8	2.57	0.40
4:3:679:A:N1	4:3:2377:A:O2'	2.48	0.40
4:3:985:A:N6	4:3:1005:G:O6	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1418:U:C2	4:3:1423:A:N6	2.89	0.40
4:3:1760:G:N2	4:3:1762:A:H5''	2.36	0.40
4:3:2003:C:H4'	4:3:2004:G:O4'	2.20	0.40
4:3:2364:A:H2	4:3:2370:G:N1	2.19	0.40
4:3:2538:A:C5	43:e:160:TYR:HE1	2.39	0.40
4:3:2821:U:O2'	4:3:2841:A:H1'	2.21	0.40
5:4:30:U:C2	5:4:49:G:N2	2.89	0.40
6:5:40:G:H2'	6:5:41:C:C6	2.56	0.40
6:5:398:G:H2'	6:5:399:C:C6	2.56	0.40
6:5:546:G:H2'	6:5:547:C:C6	2.56	0.40
6:5:881:G:C2	6:5:905:U:O2	2.74	0.40
6:5:1225:A:C6	6:5:1226:A:C6	3.10	0.40
6:5:1400:A:H61	6:5:1450:C:N4	2.20	0.40
7:6:102:VAL:O	7:6:104:PRO:HD3	2.22	0.40
9:8:789:TYR:CD1	9:8:789:TYR:C	3.00	0.40
10:9:348:VAL:HG13	10:9:353:ILE:HB	2.03	0.40
10:9:615:HIS:HB3	10:9:852:SER:HB2	2.03	0.40
10:9:1288:GLU:OE2	38:Z:893:ARG:CZ	2.70	0.40
7:AB:56:PHE:CE1	7:AB:156:TYR:HB3	2.56	0.40
13:AC:183:LYS:HD3	13:AC:245:GLY:HA2	1.86	0.40
17:B:189:LEU:HD12	17:B:202:LYS:HE2	2.04	0.40
18:C:103:ARG:HA	18:C:103:ARG:HD3	1.86	0.40
20:E:13:LEU:HD12	20:E:17:GLN:NE2	2.36	0.40
23:H:90:LEU:HD23	23:H:90:LEU:HA	1.89	0.40
25:J:77:LEU:HB3	25:J:103:ILE:HG13	2.03	0.40
35:T:41:ARG:O	35:T:44:GLU:HG3	2.21	0.40
38:Z:1181:SER:HB2	38:Z:1197:LEU:HD21	2.02	0.40
46:i:60:ILE:HG23	46:i:131:ASP:HA	2.02	0.40
46:i:134:ASN:OD1	46:i:134:ASN:N	2.54	0.40
48:k:82:LEU:HA	48:k:85:ILE:HG22	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/47 (96%)	44 (98%)	1 (2%)	0	100	100
2	1	57/59 (97%)	54 (95%)	3 (5%)	0	100	100
3	2	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
7	6	304/327 (93%)	301 (99%)	3 (1%)	0	100	100
7	AB	308/327 (94%)	305 (99%)	3 (1%)	0	100	100
9	8	895/944 (95%)	849 (95%)	37 (4%)	9 (1%)	12	49
10	9	1389/1391 (100%)	1355 (98%)	33 (2%)	1 (0%)	48	83
11	A	238/240 (99%)	222 (93%)	16 (7%)	0	100	100
12	AA	87/89 (98%)	85 (98%)	2 (2%)	0	100	100
13	AC	358/366 (98%)	350 (98%)	6 (2%)	2 (1%)	21	59
16	AF	158/160 (99%)	155 (98%)	1 (1%)	2 (1%)	9	42
17	B	213/215 (99%)	196 (92%)	17 (8%)	0	100	100
18	C	201/203 (99%)	191 (95%)	10 (5%)	0	100	100
19	D	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
20	E	165/167 (99%)	147 (89%)	18 (11%)	0	100	100
21	F	152/154 (99%)	135 (89%)	17 (11%)	0	100	100
22	G	139/141 (99%)	125 (90%)	14 (10%)	0	100	100
23	H	126/128 (98%)	115 (91%)	11 (9%)	0	100	100
24	I	99/101 (98%)	87 (88%)	12 (12%)	0	100	100
25	J	112/114 (98%)	105 (94%)	7 (6%)	0	100	100
26	K	134/136 (98%)	125 (93%)	9 (7%)	0	100	100
27	L	116/118 (98%)	104 (90%)	12 (10%)	0	100	100
28	M	58/60 (97%)	56 (97%)	2 (3%)	0	100	100
29	N	81/83 (98%)	81 (100%)	0	0	100	100
30	O	78/80 (98%)	70 (90%)	8 (10%)	0	100	100
31	P	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
32	Q	63/65 (97%)	51 (81%)	12 (19%)	0	100	100
33	R	82/84 (98%)	73 (89%)	9 (11%)	0	100	100
34	S	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
35	T	51/53 (96%)	50 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	U	159/161 (99%)	154 (97%)	4 (2%)	1 (1%)	21	59
37	V	27/29 (93%)	27 (100%)	0	0	100	100
37	W	27/29 (93%)	27 (100%)	0	0	100	100
37	X	27/29 (93%)	27 (100%)	0	0	100	100
37	Y	27/29 (93%)	27 (100%)	0	0	100	100
38	Z	1274/1276 (100%)	1252 (98%)	21 (2%)	1 (0%)	48	83
39	a	283/285 (99%)	266 (94%)	17 (6%)	0	100	100
40	b	227/229 (99%)	213 (94%)	14 (6%)	0	100	100
41	c	208/210 (99%)	197 (95%)	11 (5%)	0	100	100
42	d	173/175 (99%)	160 (92%)	13 (8%)	0	100	100
43	e	174/176 (99%)	166 (95%)	8 (5%)	0	100	100
44	f	143/145 (99%)	125 (87%)	18 (13%)	0	100	100
45	h	126/128 (98%)	114 (90%)	12 (10%)	0	100	100
46	i	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
47	j	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
48	k	146/148 (99%)	139 (95%)	7 (5%)	0	100	100
49	l	134/136 (98%)	124 (92%)	10 (8%)	0	100	100
50	m	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
51	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
52	o	113/115 (98%)	102 (90%)	11 (10%)	0	100	100
53	p	112/114 (98%)	108 (96%)	4 (4%)	0	100	100
54	q	97/99 (98%)	90 (93%)	7 (7%)	0	100	100
55	r	137/139 (99%)	134 (98%)	3 (2%)	0	100	100
56	s	90/92 (98%)	88 (98%)	2 (2%)	0	100	100
57	t	109/111 (98%)	104 (95%)	5 (5%)	0	100	100
58	u	84/86 (98%)	81 (96%)	3 (4%)	0	100	100
59	v	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
60	w	96/108 (89%)	89 (93%)	7 (7%)	0	100	100
61	x	42/44 (96%)	35 (83%)	7 (17%)	0	100	100
62	y	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
63	z	48/50 (96%)	47 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	10736/10965 (98%)	10226 (95%)	494 (5%)	16 (0%)	49	83

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	8	398	LEU
16	AF	95	ARG
9	8	43	GLY
9	8	265	GLY
9	8	376	LYS
9	8	400	SER
10	9	582	LYS
38	Z	1035	GLY
9	8	504	PRO
36	U	106	MET
9	8	81	ASN
9	8	378	ASN
13	AC	3	ASN
13	AC	10	ASN
16	AF	17	VAL
9	8	259	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	40/40 (100%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
7	6	269/285 (94%)	262 (97%)	7 (3%)	40	62
7	AB	272/285 (95%)	265 (97%)	7 (3%)	40	62
9	8	766/808 (95%)	741 (97%)	25 (3%)	33	55
10	9	1213/1213 (100%)	1188 (98%)	25 (2%)	47	65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	A	212/212 (100%)	211 (100%)	1 (0%)	81	83
12	AA	83/83 (100%)	79 (95%)	4 (5%)	23	44
13	AC	327/327 (100%)	322 (98%)	5 (2%)	57	72
16	AF	140/140 (100%)	134 (96%)	6 (4%)	26	47
17	B	180/180 (100%)	180 (100%)	0	100	100
18	C	181/181 (100%)	181 (100%)	0	100	100
19	D	123/123 (100%)	123 (100%)	0	100	100
20	E	150/150 (100%)	150 (100%)	0	100	100
21	F	131/131 (100%)	131 (100%)	0	100	100
22	G	123/123 (100%)	123 (100%)	0	100	100
23	H	111/111 (100%)	111 (100%)	0	100	100
24	I	95/95 (100%)	95 (100%)	0	100	100
25	J	91/91 (100%)	91 (100%)	0	100	100
26	K	117/117 (100%)	114 (97%)	3 (3%)	40	62
27	L	100/100 (100%)	99 (99%)	1 (1%)	68	78
28	M	47/47 (100%)	47 (100%)	0	100	100
29	N	76/76 (100%)	76 (100%)	0	100	100
30	O	69/69 (100%)	69 (100%)	0	100	100
31	P	73/73 (100%)	73 (100%)	0	100	100
32	Q	56/56 (100%)	56 (100%)	0	100	100
33	R	74/74 (100%)	74 (100%)	0	100	100
34	S	70/70 (100%)	70 (100%)	0	100	100
35	T	49/49 (100%)	49 (100%)	0	100	100
36	U	129/129 (100%)	129 (100%)	0	100	100
37	V	26/26 (100%)	26 (100%)	0	100	100
37	W	26/26 (100%)	26 (100%)	0	100	100
37	X	26/26 (100%)	26 (100%)	0	100	100
37	Y	26/26 (100%)	26 (100%)	0	100	100
38	Z	1113/1113 (100%)	1100 (99%)	13 (1%)	63	75
39	a	241/241 (100%)	241 (100%)	0	100	100
40	b	186/186 (100%)	186 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	c	182/182 (100%)	182 (100%)	0	100	100
42	d	150/150 (100%)	150 (100%)	0	100	100
43	e	153/153 (100%)	153 (100%)	0	100	100
44	f	123/131 (94%)	123 (100%)	0	100	100
45	h	102/102 (100%)	102 (100%)	0	100	100
46	i	126/126 (100%)	126 (100%)	0	100	100
47	j	103/103 (100%)	103 (100%)	0	100	100
48	k	123/123 (100%)	123 (100%)	0	100	100
49	l	113/113 (100%)	113 (100%)	0	100	100
50	m	105/105 (100%)	105 (100%)	0	100	100
51	n	96/99 (97%)	96 (100%)	0	100	100
52	o	101/101 (100%)	101 (100%)	0	100	100
53	p	100/100 (100%)	100 (100%)	0	100	100
54	q	90/90 (100%)	90 (100%)	0	100	100
55	r	116/116 (100%)	116 (100%)	0	100	100
56	s	82/82 (100%)	82 (100%)	0	100	100
57	t	96/96 (100%)	96 (100%)	0	100	100
58	u	69/69 (100%)	69 (100%)	0	100	100
59	v	58/58 (100%)	58 (100%)	0	100	100
60	w	87/95 (92%)	87 (100%)	0	100	100
61	x	41/41 (100%)	41 (100%)	0	100	100
62	y	48/48 (100%)	45 (94%)	3 (6%)	16	37
63	z	47/47 (100%)	47 (100%)	0	100	100
All	All	9408/9498 (99%)	9308 (99%)	100 (1%)	63	76

All (100) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	6	34	PHE
7	6	50	ILE
7	6	58	LEU
7	6	59	SER
7	6	106	LEU
7	6	208	HIS

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Mol	Chain	Res	Type
7	6	297	LEU
9	8	3	LEU
9	8	13	LEU
9	8	33	SER
9	8	206	LEU
9	8	218	SER
9	8	250	THR
9	8	337	LEU
9	8	375	THR
9	8	377	ASP
9	8	385	ASP
9	8	402	ASP
9	8	500	LEU
9	8	505	LEU
9	8	508	THR
9	8	509	LEU
9	8	673	HIS
9	8	733	THR
9	8	752	LEU
9	8	797	LEU
9	8	810	LEU
9	8	821	THR
9	8	824	LEU
9	8	904	LEU
9	8	934	TRP
9	8	936	SER
10	9	135	LEU
10	9	187	LEU
10	9	204	ILE
10	9	258	VAL
10	9	265	LEU
10	9	284	THR
10	9	310	GLU
10	9	314	LEU
10	9	334	LEU
10	9	355	LEU
10	9	408	LEU
10	9	428	VAL
10	9	446	PHE
10	9	459	VAL
10	9	514	ILE
10	9	554	LEU

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Mol	Chain	Res	Type
10	9	585	LEU
10	9	673	LEU
10	9	863	LEU
10	9	988	VAL
10	9	1037	ASP
10	9	1137	THR
10	9	1149	LEU
10	9	1179	LEU
10	9	1386	PHE
11	A	51	HIS
12	AA	5	TYR
12	AA	8	LEU
12	AA	10	SER
12	AA	57	LEU
7	AB	34	PHE
7	AB	50	ILE
7	AB	58	LEU
7	AB	59	SER
7	AB	106	LEU
7	AB	297	LEU
7	AB	319	HIS
13	AC	22	THR
13	AC	61	LEU
13	AC	121	LEU
13	AC	122	LEU
13	AC	181	LEU
16	AF	17	VAL
16	AF	19	ASP
16	AF	45	LEU
16	AF	62	LEU
16	AF	92	LEU
16	AF	141	LEU
26	K	120	VAL
26	K	121	GLU
26	K	122	LYS
27	L	91	HIS
38	Z	174	LEU
38	Z	192	ILE
38	Z	219	LEU
38	Z	268	SER
38	Z	281	LEU
38	Z	493	LEU

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Mol	Chain	Res	Type
38	Z	757	LEU
38	Z	843	SER
38	Z	937	VAL
38	Z	1092	VAL
38	Z	1197	LEU
38	Z	1218	ILE
38	Z	1278	LEU
62	y	47	MET
62	y	48	TYR
62	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (132) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	44	GLN
7	6	174	ASN
7	6	190	HIS
9	8	215	ASN
9	8	453	ASN
9	8	641	GLN
9	8	642	GLN
9	8	658	ASN
9	8	819	GLN
9	8	836	GLN
9	8	868	ASN
9	8	894	ASN
9	8	932	ASN
10	9	63	ASN
10	9	132	ASN
10	9	179	GLN
10	9	210	GLN
10	9	349	HIS
10	9	413	HIS
10	9	477	ASN
10	9	616	GLN
10	9	624	ASN
10	9	652	GLN
10	9	804	GLN
10	9	841	GLN
10	9	842	HIS
10	9	883	ASN
10	9	901	ASN

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Mol	Chain	Res	Type
10	9	1033	ASN
10	9	1115	HIS
10	9	1140	ASN
10	9	1192	HIS
10	9	1223	HIS
10	9	1253	HIS
10	9	1273	GLN
10	9	1304	GLN
11	A	52	ASN
11	A	63	GLN
11	A	66	GLN
11	A	70	ASN
11	A	97	ASN
11	A	98	ASN
11	A	192	ASN
12	AA	54	GLN
7	AB	40	ASN
7	AB	86	GLN
7	AB	184	ASN
7	AB	287	HIS
7	AB	305	ASN
7	AB	319	HIS
13	AC	6	ASN
13	AC	7	HIS
13	AC	300	ASN
16	AF	113	ASN
17	B	6	ASN
17	B	47	ASN
17	B	193	GLN
19	D	190	ASN
19	D	193	HIS
20	E	17	GLN
20	E	36	GLN
20	E	106	GLN
21	F	85	GLN
22	G	56	ASN
23	H	77	GLN
24	I	74	ASN
26	K	59	ASN
26	K	86	ASN
26	K	88	GLN
26	K	90	HIS

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Mol	Chain	Res	Type
27	L	40	ASN
29	N	13	GLN
29	N	39	HIS
31	P	5	GLN
32	Q	82	HIS
33	R	47	ASN
34	S	20	ASN
34	S	43	ASN
34	S	46	ASN
35	T	8	ASN
36	U	16	HIS
36	U	57	ASN
38	Z	137	GLN
38	Z	143	ASN
38	Z	296	ASN
38	Z	314	GLN
38	Z	355	ASN
38	Z	374	HIS
38	Z	402	ASN
38	Z	500	HIS
38	Z	820	ASN
38	Z	906	HIS
38	Z	968	GLN
38	Z	1018	GLN
38	Z	1082	ASN
38	Z	1190	HIS
38	Z	1192	HIS
38	Z	1213	ASN
39	a	62	ASN
39	a	159	GLN
39	a	209	ASN
40	b	178	ASN
41	c	104	ASN
41	c	108	HIS
42	d	7	HIS
43	e	6	ASN
43	e	54	GLN
43	e	63	GLN
43	e	68	HIS
43	e	72	ASN
46	i	51	GLN
46	i	61	ASN

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Mol	Chain	Res	Type
46	i	138	GLN
48	k	36	GLN
49	l	14	ASN
49	l	113	GLN
50	m	59	ASN
50	m	117	GLN
51	n	75	GLN
53	p	85	HIS
54	q	69	ASN
55	r	52	ASN
55	r	94	ASN
56	s	5	ASN
56	s	19	ASN
57	t	33	GLN
57	t	64	GLN
58	u	64	ASN
59	v	6	GLN
59	v	16	ASN
62	y	19	HIS
63	z	18	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
4	3	2875/2878 (99%)	733 (25%)	25 (0%)
5	4	103/105 (98%)	34 (33%)	5 (4%)
6	5	1490/1493 (99%)	348 (23%)	6 (0%)
8	7	75/76 (98%)	25 (33%)	2 (2%)
All	All	4543/4552 (99%)	1140 (25%)	38 (0%)

All (1140) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
4	3	12	A
4	3	14	U
4	3	15	A
4	3	17	G
4	3	29	G
4	3	37	G
4	3	47	G
4	3	48	G

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Mol	Chain	Res	Type
4	3	51	A
4	3	53	G
4	3	54	A
4	3	63	U
4	3	65	A
4	3	73	A
4	3	75	A
4	3	76	A
4	3	77	G
4	3	82	G
4	3	86	A
4	3	92	U
4	3	102	A
4	3	103	G
4	3	112	A
4	3	115	U
4	3	116	C
4	3	119	A
4	3	120	A
4	3	121	U
4	3	122	G
4	3	126	C
4	3	129	U
4	3	132	G
4	3	141	A
4	3	143	A
4	3	148	U
4	3	165	U
4	3	178	A
4	3	180	A
4	3	184	A
4	3	185	U
4	3	186	A
4	3	187	C
4	3	188	G
4	3	200	A
4	3	208	A
4	3	219	G
4	3	220	A
4	3	226	A
4	3	230	G
4	3	232	A

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Mol	Chain	Res	Type
4	3	234	G
4	3	237	A
4	3	245	U
4	3	246	G
4	3	252	G
4	3	254	G
4	3	256	G
4	3	269	A
4	3	270	G
4	3	276	A
4	3	284	U
4	3	287	G
4	3	295	U
4	3	296	U
4	3	297	G
4	3	298	U
4	3	299	A
4	3	309	A
4	3	310	U
4	3	312	U
4	3	314	G
4	3	315	A
4	3	319	G
4	3	325	G
4	3	334	A
4	3	336	C
4	3	341	G
4	3	345	A
4	3	346	G
4	3	347	C
4	3	351	G
4	3	357	A
4	3	358	A
4	3	363	G
4	3	364	A
4	3	367	G
4	3	369	C
4	3	374	A
4	3	380	A
4	3	401	G
4	3	402	A
4	3	403	U

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Mol	Chain	Res	Type
4	3	404	C
4	3	409	A
4	3	410	G
4	3	411	U
4	3	422	A
4	3	425	U
4	3	426	U
4	3	432	G
4	3	437	A
4	3	439	U
4	3	440	C
4	3	441	U
4	3	447	G
4	3	448	A
4	3	449	C
4	3	457	U
4	3	460	G
4	3	464	A
4	3	465	A
4	3	466	A
4	3	467	U
4	3	480	C
4	3	482	G
4	3	484	U
4	3	485	A
4	3	487	C
4	3	491	A
4	3	492	C
4	3	495	U
4	3	500	U
4	3	501	G
4	3	509	G
4	3	514	A
4	3	515	A
4	3	516	A
4	3	517	G
4	3	519	A
4	3	527	A
4	3	540	A
4	3	543	U
4	3	544	U
4	3	545	C

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Mol	Chain	Res	Type
4	3	565	C
4	3	566	G
4	3	567	U
4	3	581	A
4	3	582	A
4	3	583	U
4	3	595	U
4	3	596	G
4	3	599	U
4	3	601	U
4	3	605	A
4	3	606	G
4	3	607	U
4	3	608	A
4	3	610	G
4	3	616	G
4	3	620	G
4	3	623	A
4	3	636	U
4	3	637	U
4	3	638	A
4	3	663	A
4	3	668	A
4	3	670	G
4	3	673	A
4	3	681	A
4	3	682	A
4	3	689	U
4	3	690	U
4	3	691	G
4	3	694	U
4	3	695	G
4	3	701	A
4	3	702	U
4	3	705	A
4	3	706	C
4	3	712	A
4	3	721	G
4	3	722	C
4	3	730	G
4	3	737	U
4	3	740	A

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Mol	Chain	Res	Type
4	3	752	C
4	3	761	G
4	3	763	G
4	3	764	G
4	3	765	A
4	3	769	A
4	3	775	C
4	3	782	U
4	3	790	U
4	3	792	G
4	3	798	G
4	3	799	A
4	3	800	C
4	3	801	U
4	3	810	G
4	3	811	G
4	3	815	G
4	3	816	A
4	3	817	A
4	3	819	U
4	3	820	U
4	3	824	A
4	3	825	U
4	3	827	G
4	3	828	A
4	3	829	A
4	3	840	G
4	3	841	C
4	3	846	U
4	3	847	C
4	3	850	G
4	3	854	A
4	3	855	A
4	3	862	U
4	3	863	U
4	3	865	A
4	3	873	G
4	3	881	A
4	3	882	C
4	3	883	A
4	3	893	A
4	3	895	G

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Mol	Chain	Res	Type
4	3	902	U
4	3	903	A
4	3	904	C
4	3	906	G
4	3	917	G
4	3	918	G
4	3	931	G
4	3	932	U
4	3	944	U
4	3	947	A
4	3	949	C
4	3	951	C
4	3	977	A
4	3	980	C
4	3	981	A
4	3	982	G
4	3	989	G
4	3	991	G
4	3	993	A
4	3	995	A
4	3	997	G
4	3	1009	A
4	3	1013	G
4	3	1016	A
4	3	1019	A
4	3	1021	C
4	3	1022	C
4	3	1024	A
4	3	1026	A
4	3	1027	U
4	3	1032	A
4	3	1042	C
4	3	1044	C
4	3	1045	A
4	3	1049	U
4	3	1055	A
4	3	1061	A
4	3	1068	U
4	3	1075	G
4	3	1080	A
4	3	1081	A
4	3	1083	A

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Mol	Chain	Res	Type
4	3	1092	A
4	3	1095	U
4	3	1096	U
4	3	1100	U
4	3	1102	A
4	3	1105	A
4	3	1106	G
4	3	1113	U
4	3	1124	G
4	3	1125	U
4	3	1129	U
4	3	1140	U
4	3	1145	G
4	3	1147	G
4	3	1150	U
4	3	1151	U
4	3	1155	G
4	3	1157	G
4	3	1162	A
4	3	1165	U
4	3	1167	U
4	3	1168	A
4	3	1169	A
4	3	1170	C
4	3	1171	G
4	3	1176	U
4	3	1177	A
4	3	1178	A
4	3	1184	U
4	3	1186	A
4	3	1203	G
4	3	1204	A
4	3	1208	A
4	3	1209	U
4	3	1210	A
4	3	1212	C
4	3	1215	G
4	3	1217	G
4	3	1222	A
4	3	1226	G
4	3	1234	U
4	3	1236	G

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Mol	Chain	Res	Type
4	3	1248	A
4	3	1250	A
4	3	1251	G
4	3	1252	C
4	3	1255	G
4	3	1256	A
4	3	1257	G
4	3	1259	A
4	3	1266	G
4	3	1268	U
4	3	1278	G
4	3	1279	U
4	3	1280	G
4	3	1281	A
4	3	1283	A
4	3	1285	U
4	3	1286	G
4	3	1292	A
4	3	1293	U
4	3	1301	G
4	3	1302	C
4	3	1303	U
4	3	1304	U
4	3	1322	A
4	3	1323	A
4	3	1326	C
4	3	1328	A
4	3	1329	U
4	3	1341	U
4	3	1342	C
4	3	1343	C
4	3	1349	C
4	3	1353	G
4	3	1360	U
4	3	1361	U
4	3	1369	U
4	3	1370	A
4	3	1371	G
4	3	1372	U
4	3	1378	C
4	3	1393	A
4	3	1396	A

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Mol	Chain	Res	Type
4	3	1400	U
4	3	1406	A
4	3	1412	A
4	3	1414	C
4	3	1423	A
4	3	1424	U
4	3	1425	U
4	3	1426	C
4	3	1431	A
4	3	1436	C
4	3	1444	C
4	3	1445	U
4	3	1448	U
4	3	1455	A
4	3	1456	C
4	3	1462	A
4	3	1463	G
4	3	1466	U
4	3	1467	U
4	3	1480	A
4	3	1481	U
4	3	1483	G
4	3	1487	U
4	3	1508	G
4	3	1510	A
4	3	1513	A
4	3	1515	A
4	3	1518	C
4	3	1519	A
4	3	1528	G
4	3	1534	A
4	3	1541	A
4	3	1546	U
4	3	1548	A
4	3	1549	U
4	3	1550	G
4	3	1558	A
4	3	1559	A
4	3	1571	G
4	3	1572	U
4	3	1577	A
4	3	1580	G

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Mol	Chain	Res	Type
4	3	1583	G
4	3	1584	U
4	3	1585	A
4	3	1589	A
4	3	1592	A
4	3	1603	A
4	3	1612	U
4	3	1615	G
4	3	1616	G
4	3	1618	U
4	3	1619	A
4	3	1632	C
4	3	1641	A
4	3	1642	G
4	3	1643	A
4	3	1644	A
4	3	1647	A
4	3	1648	A
4	3	1651	C
4	3	1659	C
4	3	1669	A
4	3	1670	U
4	3	1681	G
4	3	1682	C
4	3	1694	A
4	3	1695	G
4	3	1697	C
4	3	1698	A
4	3	1699	A
4	3	1702	A
4	3	1706	C
4	3	1707	U
4	3	1708	G
4	3	1727	U
4	3	1732	A
4	3	1733	G
4	3	1737	G
4	3	1747	G
4	3	1748	U
4	3	1761	C
4	3	1763	G
4	3	1764	U

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Mol	Chain	Res	Type
4	3	1769	A
4	3	1770	A
4	3	1771	C
4	3	1772	G
4	3	1780	A
4	3	1785	U
4	3	1788	A
4	3	1790	U
4	3	1791	A
4	3	1794	A
4	3	1807	C
4	3	1808	C
4	3	1815	U
4	3	1816	A
4	3	1821	G
4	3	1822	A
4	3	1823	U
4	3	1824	G
4	3	1827	U
4	3	1836	A
4	3	1837	C
4	3	1842	G
4	3	1844	C
4	3	1854	A
4	3	1855	A
4	3	1857	G
4	3	1876	G
4	3	1891	A
4	3	1906	G
4	3	1907	A
4	3	1910	G
4	3	1913	G
4	3	1920	A
4	3	1921	C
4	3	1934	A
4	3	1936	G
4	3	1937	G
4	3	1938	U
4	3	1943	A
4	3	1944	A
4	3	1945	A
4	3	1947	U

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Mol	Chain	Res	Type
4	3	1948	C
4	3	1951	A
4	3	1956	G
4	3	1960	A
4	3	1962	U
4	3	1971	G
4	3	1977	A
4	3	1978	U
4	3	1979	G
4	3	1988	A
4	3	1998	U
4	3	1999	G
4	3	2000	U
4	3	2007	U
4	3	2010	A
4	3	2011	G
4	3	2020	A
4	3	2022	A
4	3	2025	C
4	3	2028	G
4	3	2030	A
4	3	2037	A
4	3	2038	A
4	3	2040	A
4	3	2041	C
4	3	2043	C
4	3	2050	G
4	3	2057	C
4	3	2058	G
4	3	2062	C
4	3	2063	G
4	3	2067	A
4	3	2068	G
4	3	2069	A
4	3	2070	C
4	3	2076	G
4	3	2080	C
4	3	2083	U
4	3	2084	A
4	3	2087	G
4	3	2099	U
4	3	2100	G

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Mol	Chain	Res	Type
4	3	2106	G
4	3	2107	A
4	3	2110	U
4	3	2111	U
4	3	2112	A
4	3	2114	C
4	3	2118	U
4	3	2123	A
4	3	2124	A
4	3	2126	A
4	3	2127	G
4	3	2128	G
4	3	2131	G
4	3	2132	G
4	3	2133	A
4	3	2138	U
4	3	2140	G
4	3	2151	G
4	3	2157	A
4	3	2164	G
4	3	2166	U
4	3	2171	A
4	3	2172	A
4	3	2180	U
4	3	2181	A
4	3	2184	A
4	3	2189	U
4	3	2192	U
4	3	2193	U
4	3	2195	U
4	3	2196	G
4	3	2197	U
4	3	2198	G
4	3	2199	C
4	3	2200	U
4	3	2201	G
4	3	2202	U
4	3	2206	A
4	3	2211	G
4	3	2212	U
4	3	2219	U
4	3	2220	A

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Mol	Chain	Res	Type
4	3	2222	C
4	3	2231	A
4	3	2233	A
4	3	2246	G
4	3	2247	G
4	3	2257	U
4	3	2258	G
4	3	2274	A
4	3	2276	A
4	3	2277	A
4	3	2287	G
4	3	2288	G
4	3	2291	U
4	3	2294	A
4	3	2295	A
4	3	2296	A
4	3	2297	G
4	3	2305	C
4	3	2313	U
4	3	2316	G
4	3	2317	A
4	3	2319	A
4	3	2327	U
4	3	2328	A
4	3	2330	A
4	3	2332	U
4	3	2333	G
4	3	2341	G
4	3	2342	U
4	3	2343	A
4	3	2344	A
4	3	2345	G
4	3	2351	U
4	3	2353	G
4	3	2355	C
4	3	2358	U
4	3	2362	A
4	3	2391	G
4	3	2393	C
4	3	2397	G
4	3	2410	C
4	3	2411	C

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Mol	Chain	Res	Type
4	3	2414	U
4	3	2415	A
4	3	2417	G
4	3	2430	C
4	3	2433	A
4	3	2434	A
4	3	2435	C
4	3	2436	G
4	3	2437	G
4	3	2438	A
4	3	2442	A
4	3	2443	A
4	3	2447	A
4	3	2448	C
4	3	2449	U
4	3	2455	G
4	3	2477	A
4	3	2483	C
4	3	2484	A
4	3	2486	A
4	3	2488	C
4	3	2489	G
4	3	2492	G
4	3	2497	U
4	3	2498	G
4	3	2499	U
4	3	2500	U
4	3	2503	G
4	3	2505	A
4	3	2506	C
4	3	2507	C
4	3	2509	C
4	3	2511	A
4	3	2512	U
4	3	2513	G
4	3	2514	U
4	3	2515	C
4	3	2516	G
4	3	2526	A
4	3	2527	U
4	3	2528	C
4	3	2539	A

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Mol	Chain	Res	Type
4	3	2543	G
4	3	2558	G
4	3	2560	U
4	3	2570	U
4	3	2574	A
4	3	2577	G
4	3	2580	A
4	3	2581	C
4	3	2587	U
4	3	2590	G
4	3	2593	U
4	3	2594	C
4	3	2595	A
4	3	2596	A
4	3	2597	A
4	3	2605	G
4	3	2606	A
4	3	2610	A
4	3	2611	G
4	3	2618	C
4	3	2619	C
4	3	2621	U
4	3	2622	A
4	3	2623	U
4	3	2629	G
4	3	2631	G
4	3	2637	A
4	3	2638	G
4	3	2642	G
4	3	2644	U
4	3	2647	A
4	3	2649	G
4	3	2653	G
4	3	2654	U
4	3	2655	U
4	3	2664	U
4	3	2668	A
4	3	2669	G
4	3	2675	C
4	3	2689	C
4	3	2693	U
4	3	2694	A

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Mol	Chain	Res	Type
4	3	2697	C
4	3	2698	U
4	3	2703	U
4	3	2708	G
4	3	2715	C
4	3	2722	G
4	3	2732	A
4	3	2734	C
4	3	2737	G
4	3	2738	U
4	3	2741	A
4	3	2747	U
4	3	2752	G
4	3	2756	A
4	3	2761	A
4	3	2765	A
4	3	2772	A
4	3	2773	A
4	3	2774	A
4	3	2786	A
4	3	2788	U
4	3	2799	U
4	3	2800	U
4	3	2801	U
4	3	2804	C
4	3	2806	A
4	3	2809	A
4	3	2811	G
4	3	2812	U
4	3	2813	A
4	3	2814	A
4	3	2815	G
4	3	2822	C
4	3	2824	A
4	3	2828	C
4	3	2837	U
4	3	2839	A
4	3	2853	U
4	3	2854	A
4	3	2856	G
4	3	2863	G
4	3	2870	U

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Mol	Chain	Res	Type
4	3	2871	G
4	3	2872	A
4	3	2876	G
4	3	2884	C
4	3	2888	U
4	3	2889	U
4	3	2890	G
4	3	2895	A
4	3	2897	G
4	3	2898	A
4	3	2899	C
5	4	9	C
5	4	10	C
5	4	11	A
5	4	13	G
5	4	14	U
5	4	15	C
5	4	16	G
5	4	23	A
5	4	25	A
5	4	28	C
5	4	33	U
5	4	38	U
5	4	39	U
5	4	40	U
5	4	41	C
5	4	42	G
5	4	48	A
5	4	49	G
5	4	50	C
5	4	51	A
5	4	54	U
5	4	55	A
5	4	60	C
5	4	71	A
5	4	74	G
5	4	77	G
5	4	78	C
5	4	88	G
5	4	89	A
5	4	98	A
5	4	99	A

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Mol	Chain	Res	Type
5	4	103	C
5	4	106	A
5	4	108	C
6	5	6	C
6	5	8	G
6	5	9	A
6	5	10	G
6	5	33	A
6	5	40	G
6	5	48	C
6	5	49	C
6	5	52	A
6	5	55	C
6	5	56	A
6	5	58	G
6	5	67	U
6	5	85	U
6	5	86	A
6	5	94	A
6	5	95	C
6	5	100	G
6	5	101	A
6	5	103	U
6	5	105	A
6	5	106	C
6	5	107	A
6	5	111	A
6	5	114	C
6	5	115	A
6	5	116	A
6	5	117	U
6	5	120	A
6	5	128	A
6	5	129	U
6	5	130	G
6	5	134	G
6	5	136	U
6	5	145	G
6	5	147	A
6	5	149	G
6	5	159	U
6	5	167	A

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Mol	Chain	Res	Type
6	5	168	A
6	5	169	G
6	5	179	U
6	5	186	A
6	5	190	A
6	5	197	A
6	5	198	A
6	5	200	G
6	5	218	U
6	5	219	A
6	5	220	U
6	5	230	G
6	5	236	C
6	5	239	A
6	5	241	C
6	5	242	A
6	5	243	G
6	5	247	G
6	5	259	A
6	5	260	C
6	5	262	G
6	5	263	C
6	5	270	A
6	5	285	G
6	5	286	C
6	5	294	A
6	5	295	G
6	5	302	A
6	5	311	A
6	5	323	A
6	5	324	C
6	5	325	A
6	5	326	C
6	5	328	G
6	5	340	A
6	5	341	C
6	5	342	G
6	5	344	G
6	5	345	A
6	5	348	C
6	5	349	A
6	5	350	G

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Mol	Chain	Res	Type
6	5	352	A
6	5	359	A
6	5	363	U
6	5	364	U
6	5	368	C
6	5	373	A
6	5	377	A
6	5	381	C
6	5	384	G
6	5	385	A
6	5	386	U
6	5	393	A
6	5	394	U
6	5	402	G
6	5	409	G
6	5	410	A
6	5	412	G
6	5	417	U
6	5	418	U
6	5	420	A
6	5	423	U
6	5	425	G
6	5	426	U
6	5	432	U
6	5	436	U
6	5	440	U
6	5	445	A
6	5	446	A
6	5	449	A
6	5	451	G
6	5	452	A
6	5	453	C
6	5	456	U
6	5	457	A
6	5	461	G
6	5	464	A
6	5	471	A
6	5	473	A
6	5	476	U
6	5	477	U
6	5	478	G
6	5	481	U

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Mol	Chain	Res	Type
6	5	482	G
6	5	488	U
6	5	493	A
6	5	504	A
6	5	507	A
6	5	509	C
6	5	510	U
6	5	515	G
6	5	516	C
6	5	517	C
6	5	524	C
6	5	525	G
6	5	527	G
6	5	529	U
6	5	530	A
6	5	531	A
6	5	543	C
6	5	545	A
6	5	548	G
6	5	557	A
6	5	558	U
6	5	560	U
6	5	562	U
6	5	569	U
6	5	570	A
6	5	571	A
6	5	574	C
6	5	575	A
6	5	585	G
6	5	586	G
6	5	594	A
6	5	595	G
6	5	608	G
6	5	616	C
6	5	619	A
6	5	628	A
6	5	638	A
6	5	639	A
6	5	646	A
6	5	650	A
6	5	653	G
6	5	662	G

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Mol	Chain	Res	Type
6	5	663	G
6	5	683	G
6	5	684	A
6	5	699	A
6	5	700	G
6	5	715	A
6	5	716	C
6	5	718	A
6	5	719	G
6	5	720	U
6	5	721	G
6	5	726	A
6	5	729	C
6	5	744	U
6	5	745	U
6	5	746	A
6	5	752	G
6	5	753	C
6	5	763	A
6	5	791	A
6	5	793	C
6	5	796	A
6	5	802	C
6	5	809	G
6	5	811	A
6	5	812	A
6	5	814	C
6	5	815	G
6	5	818	A
6	5	825	A
6	5	826	G
6	5	829	G
6	5	836	C
6	5	849	A
6	5	858	A
6	5	864	U
6	5	866	A
6	5	867	A
6	5	870	A
6	5	875	G
6	5	879	G
6	5	883	A

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Mol	Chain	Res	Type
6	5	885	U
6	5	895	A
6	5	907	A
6	5	908	A
6	5	910	C
6	5	911	G
6	5	921	G
6	5	922	G
6	5	929	C
6	5	930	A
6	5	934	G
6	5	953	A
6	5	954	A
6	5	955	U
6	5	956	U
6	5	958	G
6	5	964	A
6	5	966	A
6	5	970	A
6	5	971	A
6	5	972	A
6	5	973	A
6	5	978	A
6	5	984	A
6	5	987	U
6	5	988	G
6	5	1000	A
6	5	1001	A
6	5	1010	A
6	5	1011	A
6	5	1013	C
6	5	1014	A
6	5	1015	U
6	5	1016	A
6	5	1033	U
6	5	1037	A
6	5	1044	G
6	5	1045	C
6	5	1046	A
6	5	1047	U
6	5	1056	U
6	5	1057	C

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Mol	Chain	Res	Type
6	5	1072	G
6	5	1074	U
6	5	1075	G
6	5	1076	U
6	5	1085	G
6	5	1086	U
6	5	1092	A
6	5	1101	A
6	5	1107	U
6	5	1109	U
6	5	1113	U
6	5	1119	C
6	5	1120	A
6	5	1121	U
6	5	1122	U
6	5	1123	G
6	5	1124	U
6	5	1128	G
6	5	1133	A
6	5	1134	C
6	5	1135	U
6	5	1141	U
6	5	1144	A
6	5	1154	A
6	5	1155	A
6	5	1158	A
6	5	1159	A
6	5	1163	A
6	5	1171	A
6	5	1172	A
6	5	1173	A
6	5	1187	U
6	5	1188	A
6	5	1189	U
6	5	1199	U
6	5	1200	G
6	5	1201	C
6	5	1211	A
6	5	1215	U
6	5	1223	A
6	5	1225	A
6	5	1235	C

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Mol	Chain	Res	Type
6	5	1243	A
6	5	1245	A
6	5	1254	A
6	5	1255	A
6	5	1260	U
6	5	1261	A
6	5	1271	U
6	5	1272	C
6	5	1273	A
6	5	1274	G
6	5	1276	U
6	5	1279	G
6	5	1291	C
6	5	1296	C
6	5	1297	G
6	5	1298	U
6	5	1312	G
6	5	1319	U
6	5	1320	A
6	5	1323	A
6	5	1333	C
6	5	1335	G
6	5	1337	U
6	5	1338	A
6	5	1339	U
6	5	1340	G
6	5	1343	G
6	5	1344	C
6	5	1353	C
6	5	1354	G
6	5	1356	U
6	5	1359	C
6	5	1373	A
6	5	1374	C
6	5	1381	U
6	5	1394	G
6	5	1400	A
6	5	1404	U
6	5	1408	A
6	5	1415	G
6	5	1417	U
6	5	1421	A

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Mol	Chain	Res	Type
6	5	1427	U
6	5	1429	G
6	5	1430	G
6	5	1457	G
6	5	1466	U
6	5	1467	A
6	5	1468	A
6	5	1471	C
6	5	1474	A
6	5	1480	G
6	5	1481	U
6	5	1490	G
6	5	1496	G
6	5	1504	G
6	5	1505	G
8	7	3	G
8	7	9	U
8	7	11	G
8	7	16	G
8	7	17	U
8	7	18	C
8	7	19	G
8	7	20	G
8	7	21	U
8	7	22	A
8	7	38	G
8	7	42	C
8	7	44	U
8	7	48	U
8	7	49	C
8	7	53	A
8	7	54	G
8	7	57	C
8	7	58	G
8	7	59	A
8	7	60	U
8	7	63	U
8	7	71	A
8	7	72	C
8	7	76	C

All (38) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
4	3	309	A
4	3	410	G
4	3	425	U
4	3	500	U
4	3	513	A
4	3	688	U
4	3	881	A
4	3	996	A
4	3	1048	A
4	3	1082	A
4	3	1209	U
4	3	1255	G
4	3	1327	G
4	3	1583	G
4	3	1588	A
4	3	1820	U
4	3	1920	A
4	3	2180	U
4	3	2504	C
4	3	2506	C
4	3	2513	G
4	3	2604	U
4	3	2668	A
4	3	2764	U
4	3	2897	G
5	4	10	C
5	4	50	C
5	4	54	U
5	4	59	A
5	4	70	G
6	5	294	A
6	5	417	U
6	5	448	A
6	5	1075	G
6	5	1123	G
6	5	1373	A
8	7	16	G
8	7	19	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
13	AC	3
15	AE	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AC	292:GLU	C	293:ASP	N	8.91
1	AC	143:VAL	C	144:GLY	N	6.10
1	AC	215:ASP	C	216:SER	N	3.12
1	AE	22:DA	O3'	23:DC	P	1.38

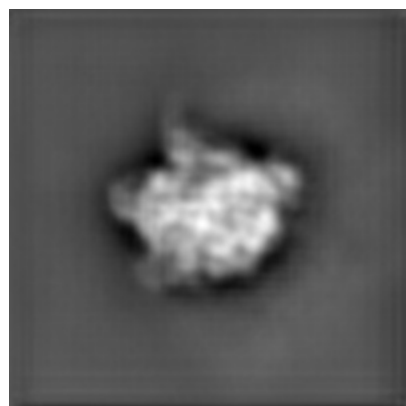
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-53676. These allow visual inspection of the internal detail of the map and identification of artifacts.

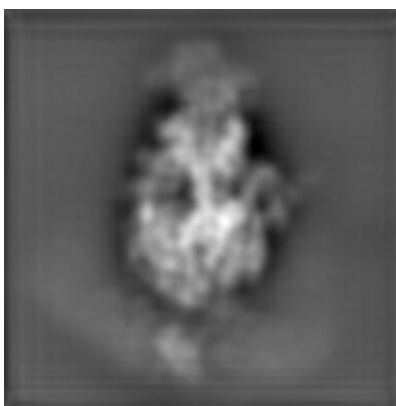
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

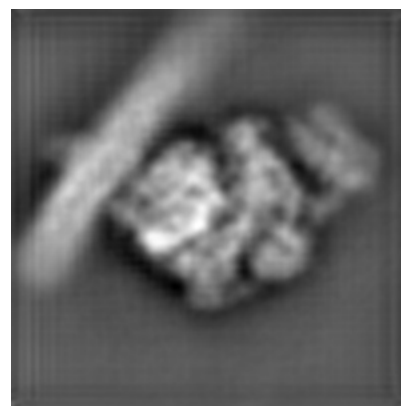
6.1.1 Primary map



X

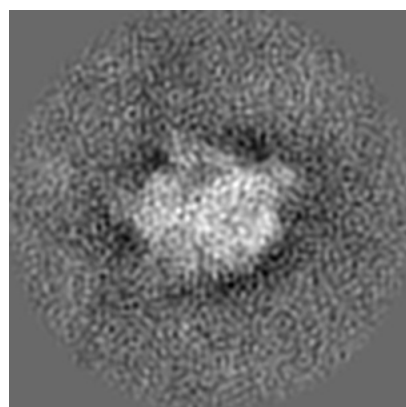


Y

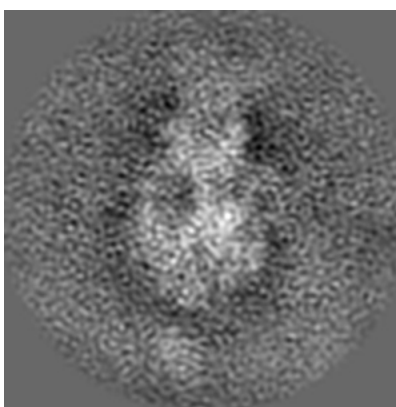


Z

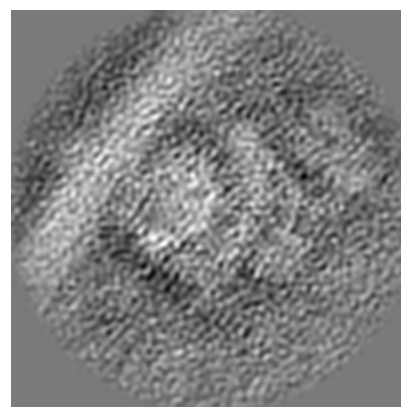
6.1.2 Raw map



X



Y

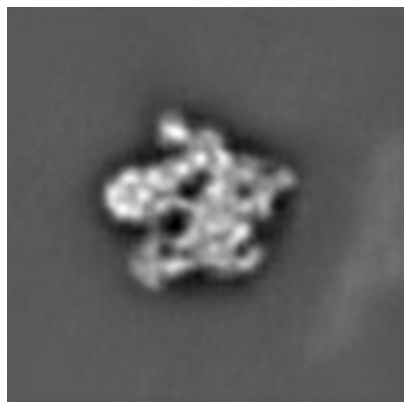


Z

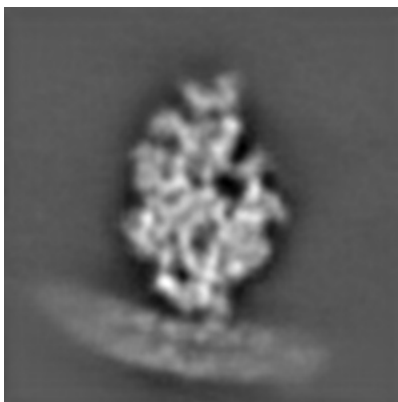
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

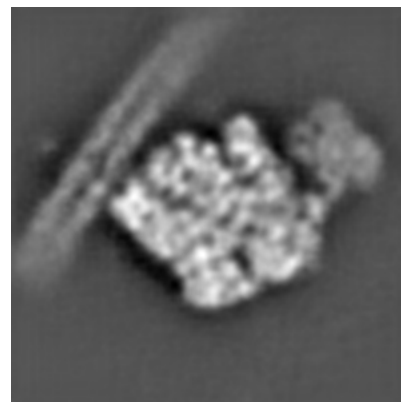
6.2.1 Primary map



X Index: 50

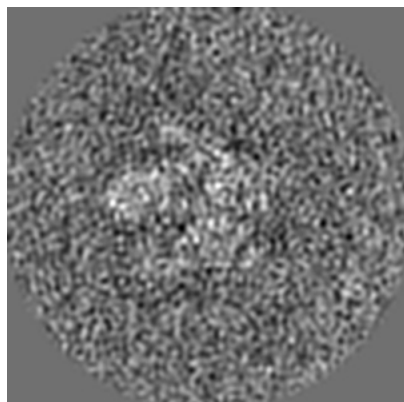


Y Index: 50

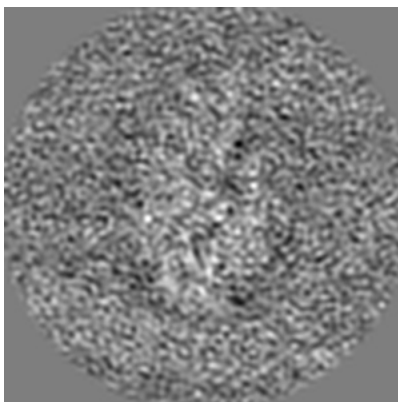


Z Index: 50

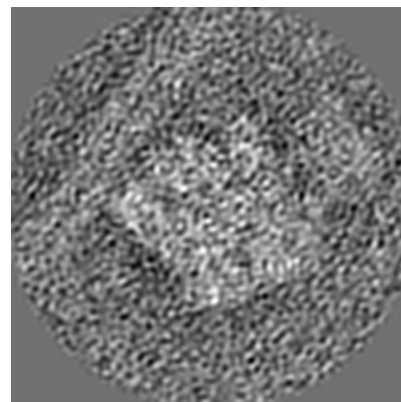
6.2.2 Raw map



X Index: 50



Y Index: 50

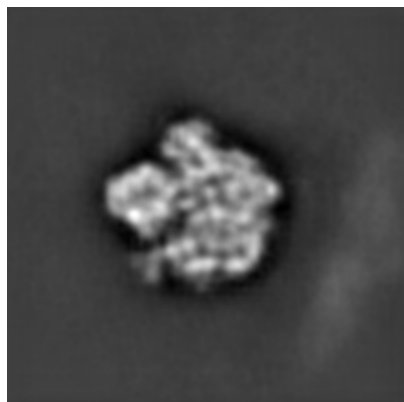


Z Index: 50

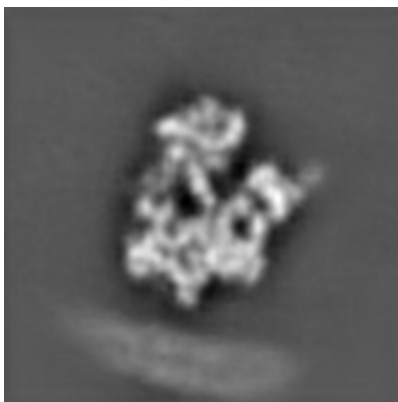
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

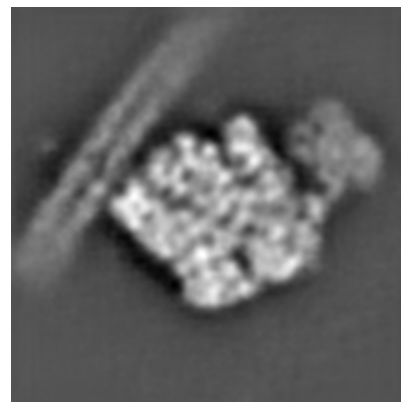
6.3.1 Primary map



X Index: 47

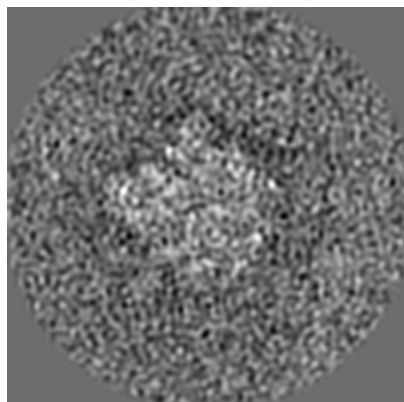


Y Index: 42

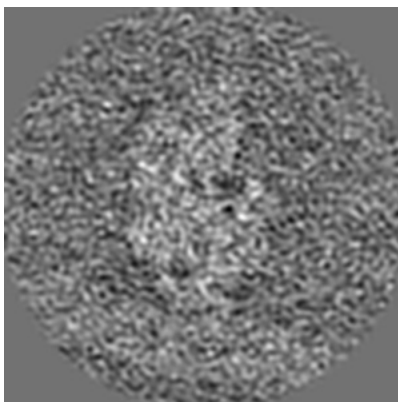


Z Index: 50

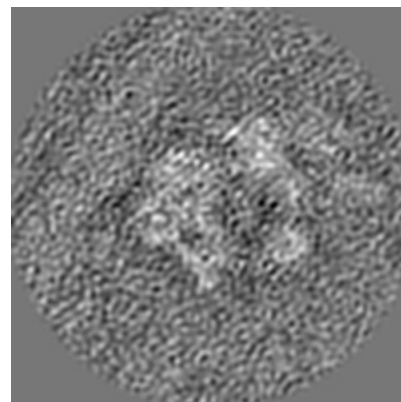
6.3.2 Raw map



X Index: 46



Y Index: 51

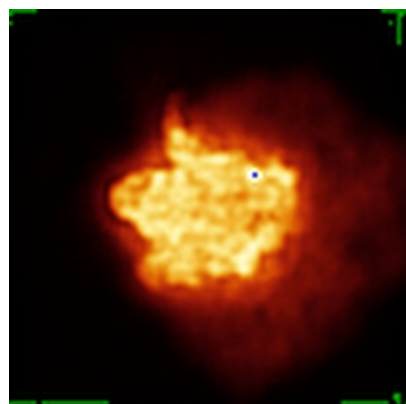


Z Index: 58

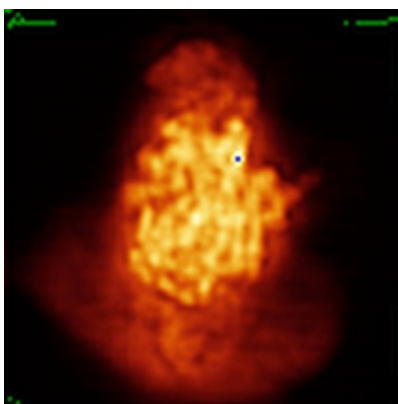
The images above show the largest variance slices of the map in three orthogonal directions.

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

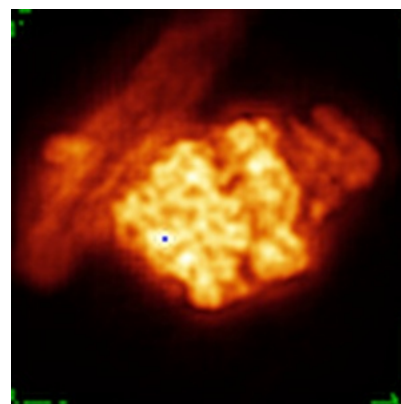
6.4.1 Primary map



X

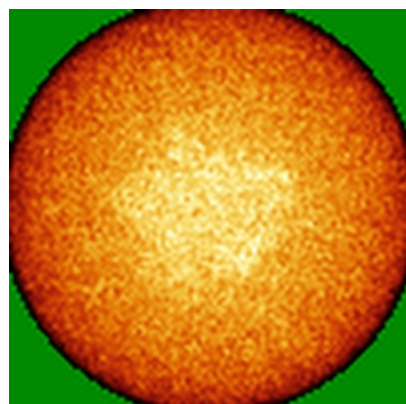


Y

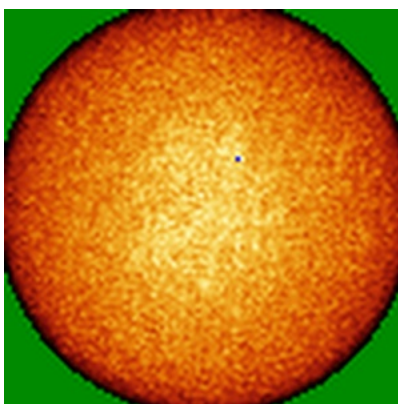


Z

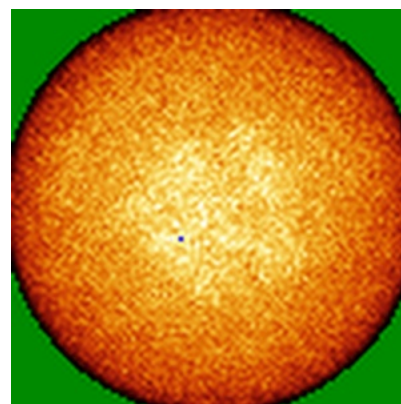
6.4.2 Raw map



X



Y

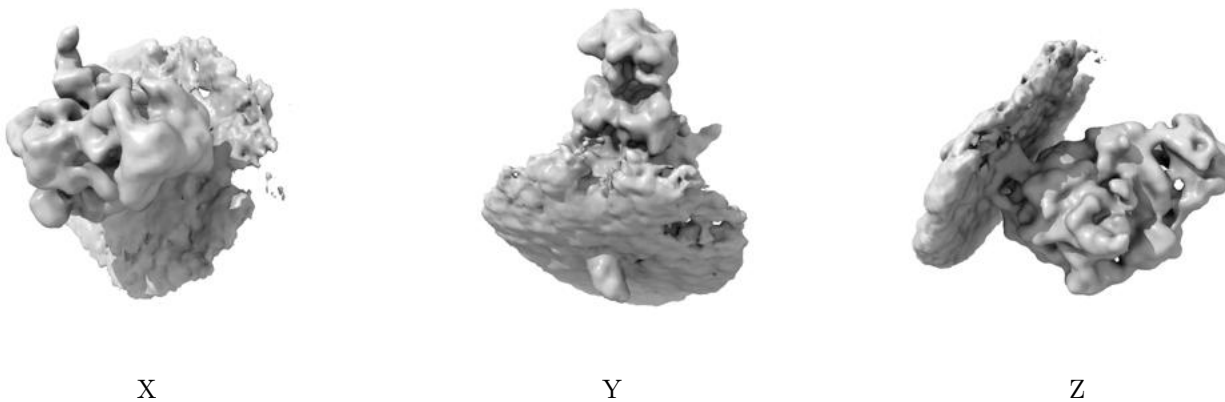


Z

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

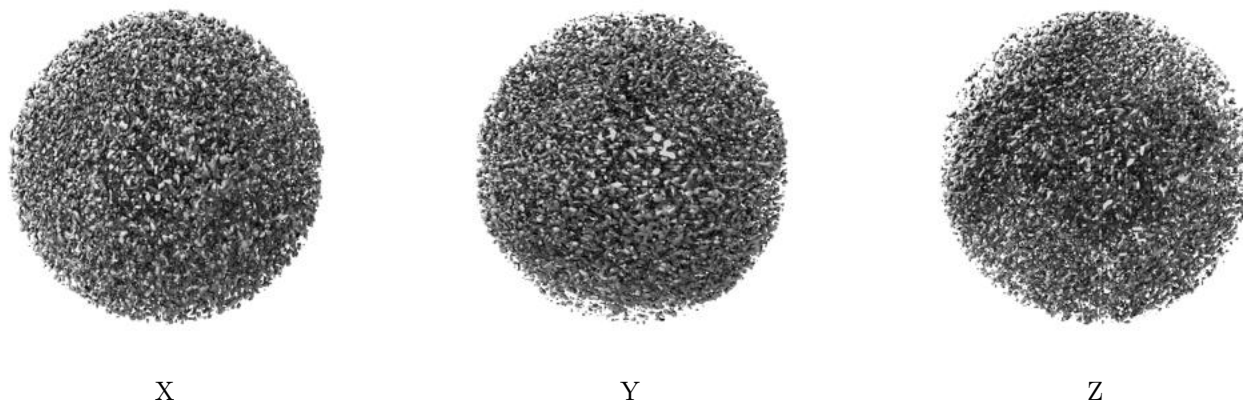
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.162. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

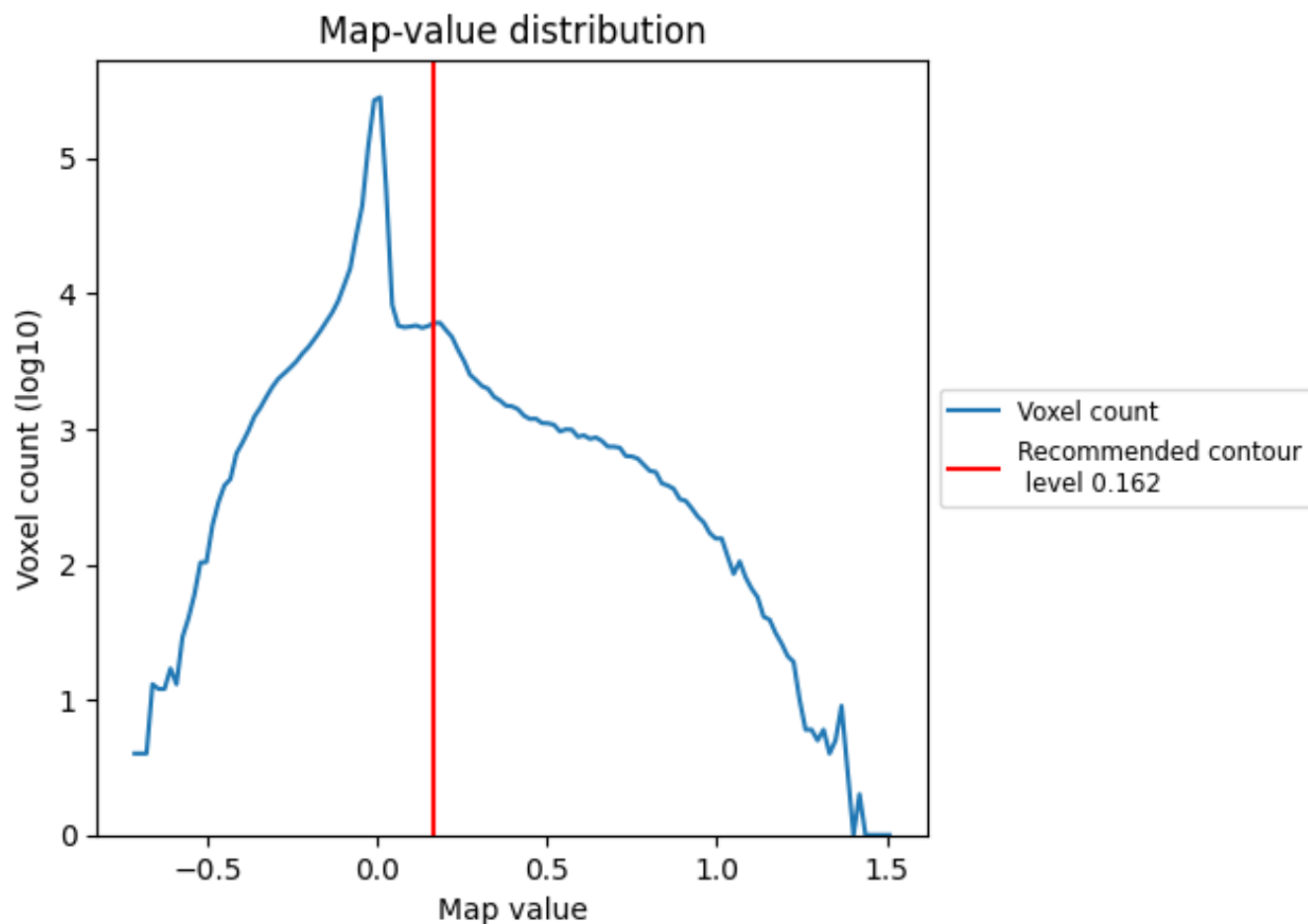
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

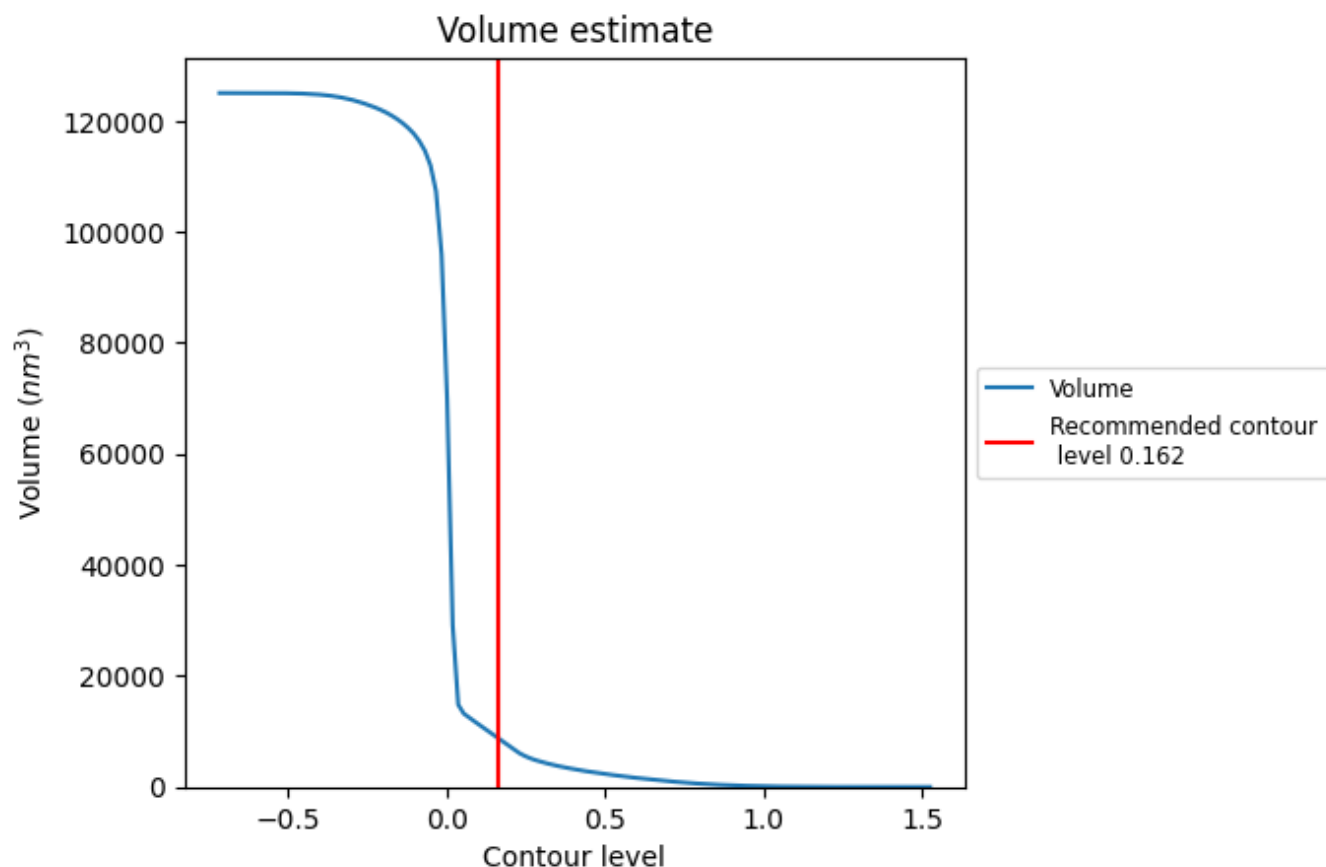
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

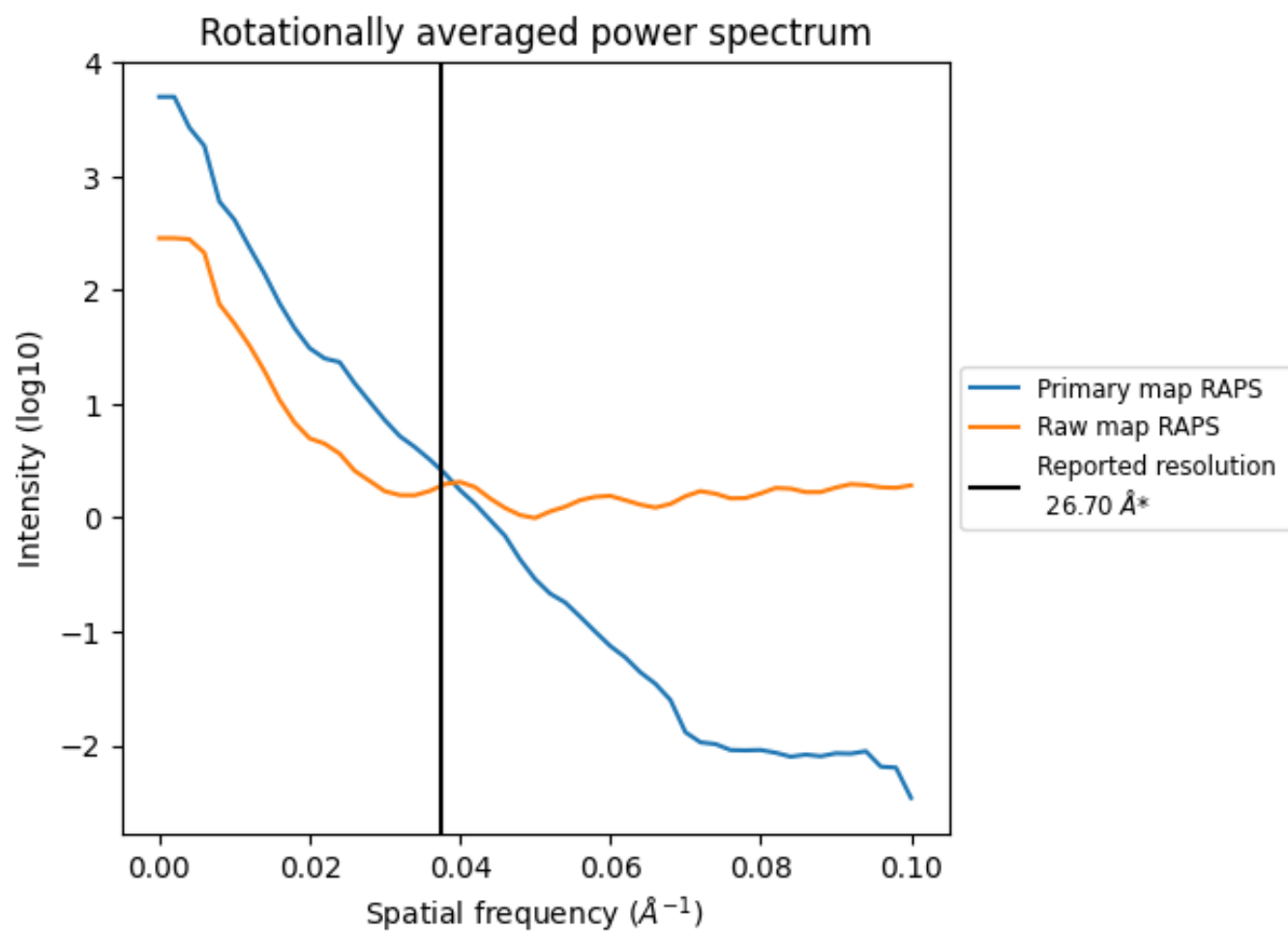
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 8809 nm^3 ; this corresponds to an approximate mass of 7957 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

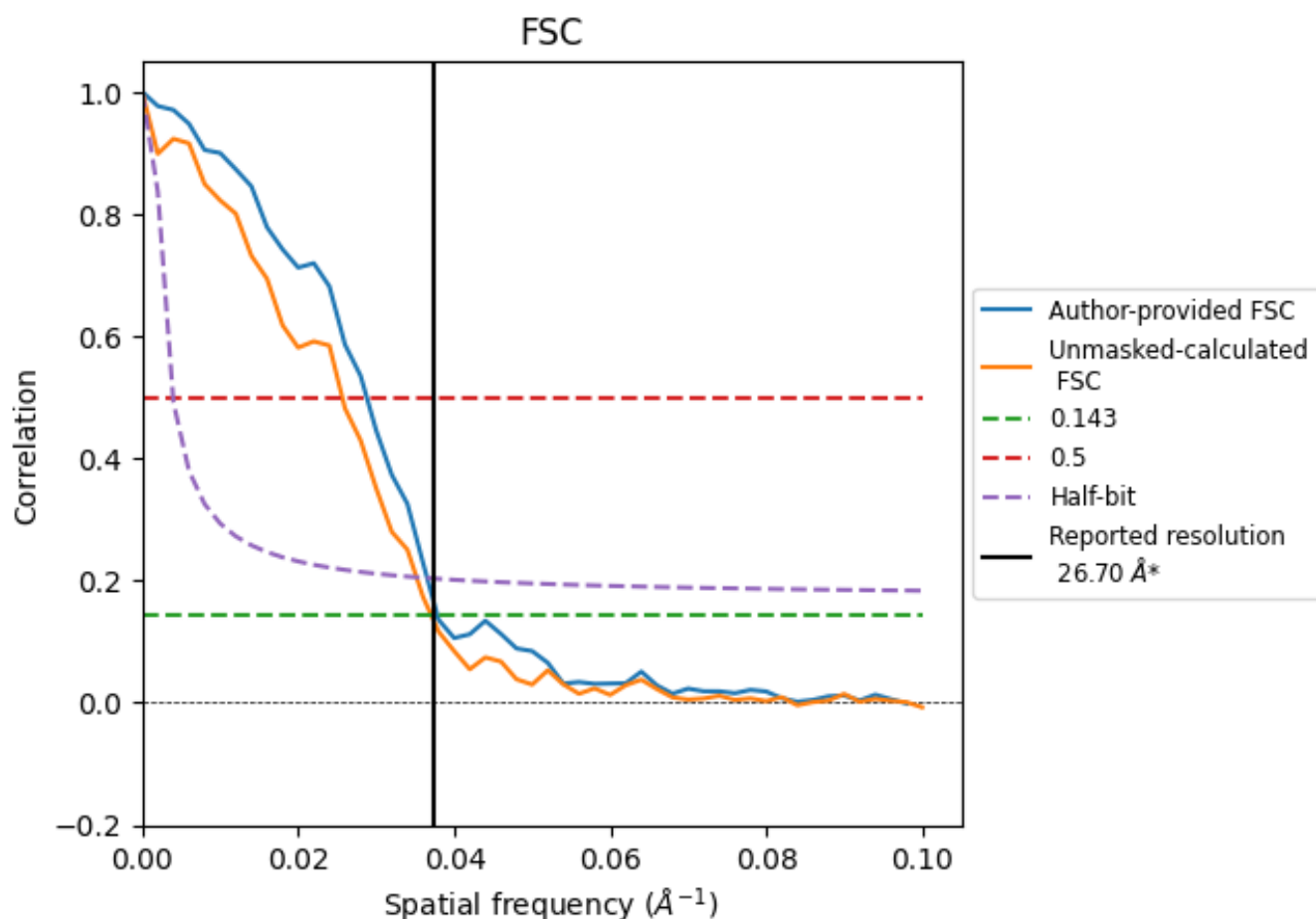


*Reported resolution corresponds to spatial frequency of 0.037 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.037 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

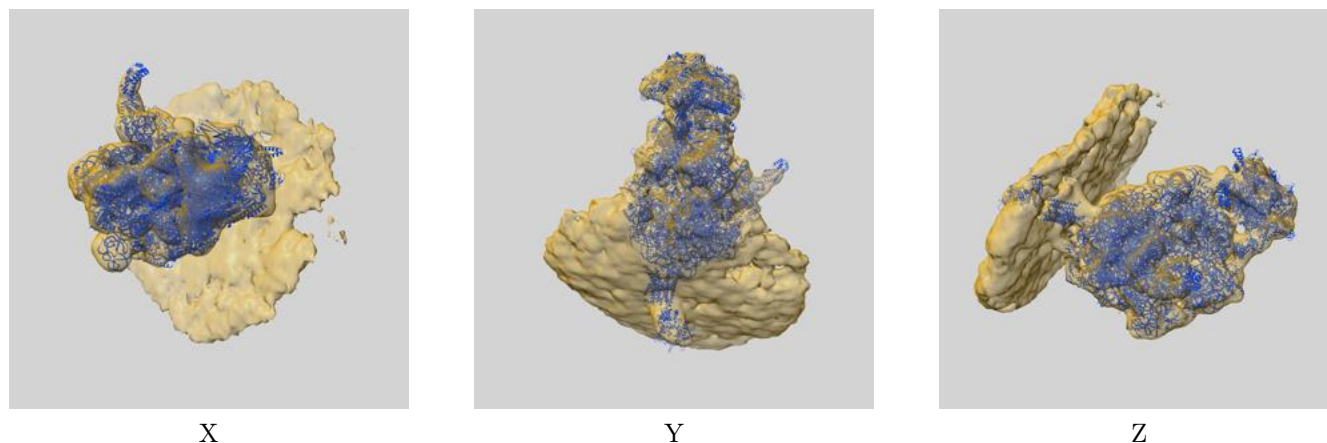
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	26.70	-	-
Author-provided FSC curve	26.46	34.72	27.32
Unmasked-calculated*	26.95	39.06	28.41

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

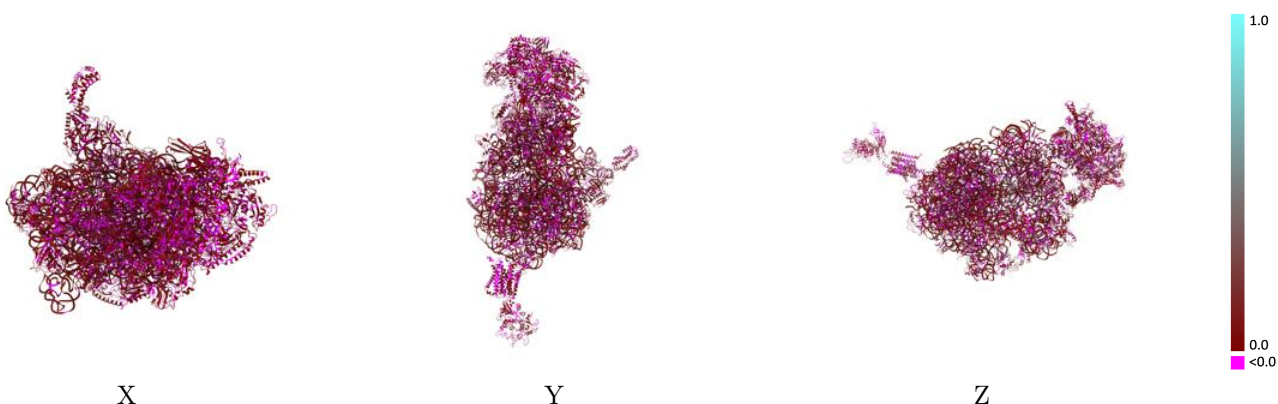
This section contains information regarding the fit between EMDB map EMD-53676 and PDB model 9SL7. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)



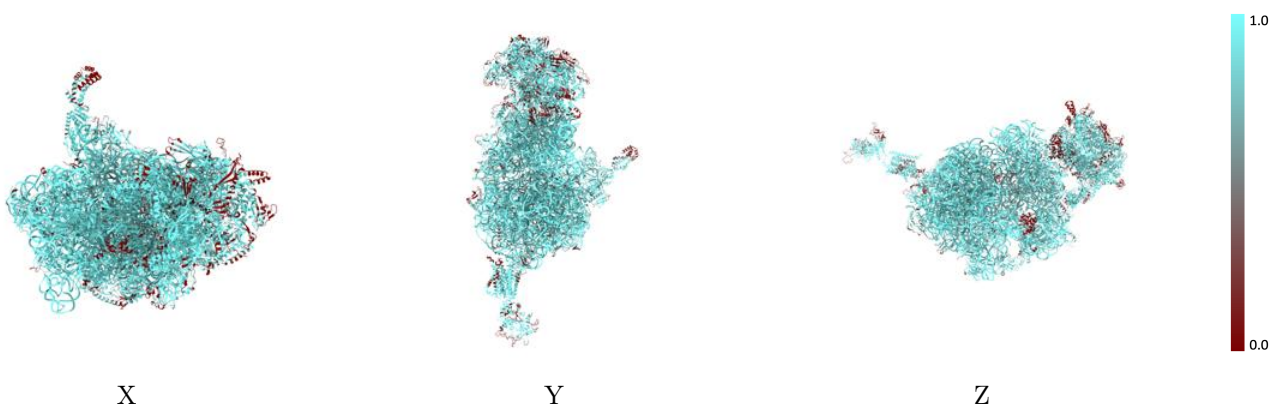
The images above show the 3D surface view of the map at the recommended contour level 0.162 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



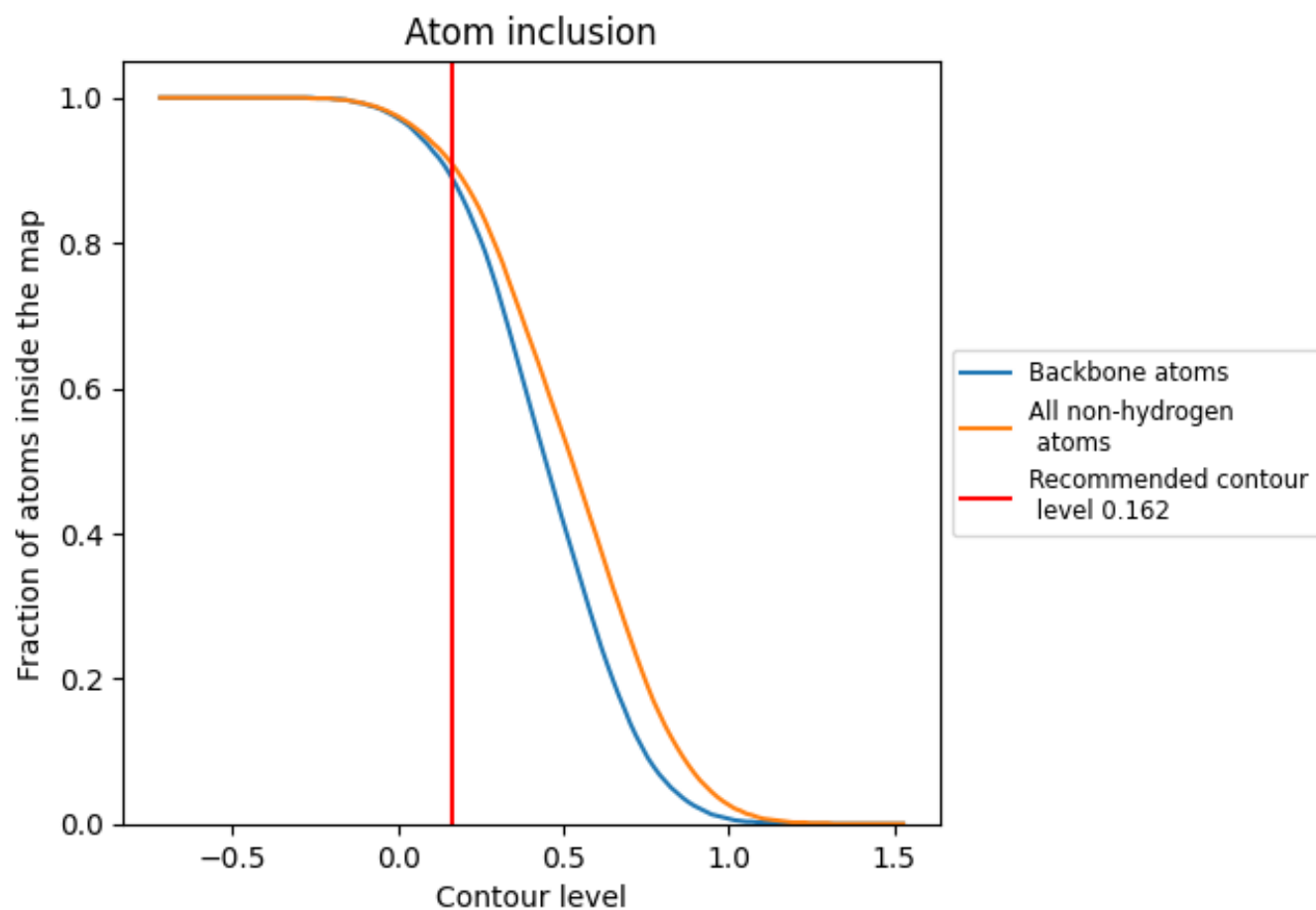
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.162).

9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 91% 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 (0.162) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9100	 0.0500
0	 0.9400	 -0.0500
1	 1.0000	 -0.0300
2	 0.9800	 -0.0170
3	 0.9890	 0.0680
4	 0.9990	 0.0860
5	 0.9860	 0.0700
6	 0.7820	 0.0430
7	 0.9170	 0.0820
8	 0.7540	 0.0290
9	 0.7330	 0.0270
A	 0.7880	 0.0440
AA	 0.7820	 0.0580
AB	 0.7180	 0.0420
AC	 0.8350	 0.0560
AD	 0.8900	 0.0440
AE	 0.9580	 0.0880
AF	 0.8620	 0.0600
B	 0.9430	 0.0320
C	 0.8880	 0.0030
D	 0.8380	 0.0280
E	 0.7500	 0.0400
F	 0.9120	 0.0330
G	 0.9560	 0.0320
H	 0.9200	 0.0290
I	 0.9170	 0.0340
J	 0.7940	 0.0170
K	 0.8110	 0.0290
L	 0.9220	 0.0260
M	 0.9710	 -0.0930
N	 0.9030	 0.0350
O	 0.9630	 -0.0070
P	 0.9090	 0.0160
Q	 0.9980	 0.0250
R	 0.8430	 0.0580



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Chain	Atom inclusion	Q-score
S	 0.9290	 0.0130
T	 0.9170	 0.0230
U	 0.8220	 0.0490
V	 0.9010	 0.1110
W	 0.7280	 0.0710
X	 0.2500	 0.0370
Y	 0.0000	 0.0310
Z	 0.7660	 0.0370
a	 0.9700	 0.0100
b	 0.9320	 0.0290
c	 0.8810	 0.0290
d	 0.9310	 0.0270
e	 0.8660	 0.0370
f	 0.5810	 0.0190
h	 0.9090	 0.0640
i	 0.9550	 0.0210
j	 0.6670	 -0.0030
k	 0.8630	 0.0130
l	 0.7910	 0.0190
m	 0.9840	 0.0100
n	 0.9550	 0.0080
o	 0.8450	 0.0250
p	 0.9760	 -0.0120
q	 0.8860	 0.0300
r	 0.8200	 0.0180
s	 0.9510	 0.0180
t	 0.5210	 -0.0210
u	 0.9440	 0.0150
v	 0.9430	 -0.0310
w	 0.7420	 0.0180
x	 0.9940	 0.1000
y	 0.8920	 0.0050
z	 0.9570	 -0.0040